

City of Biddeford
Planning Board
October 03, 2018 6:00 PM City Hall
Council Chambers,

1. PLEDGE OF ALLEGIANCE

2. DECLARATION OF QUORUM/VOTING MEMBERS

3. ADJUSTMENTS TO THE AGENDA

4. PLANNER'S BUSINESS

5. CONSENT AGENDA

- 5.A. A. Consideration of Minutes: September 5, 2018
[September 5, 2018.doc](#)

6. UNFINISHED BUSINESS

7. NEW BUSINESS

- 7.A. A. 2018.25 Public Hearing, take comments, and make recommendations to the City Council regarding a proposed amendment to allow the Building Inspector to approve decreased setbacks of down to 10 feet for utility buildings and structures construction in Industrial Zones.

[Utility Setbacks in Industrial Zones for PH.docx](#)

[Utility Setbacks Proposal Memo to PB 100318.docx](#)

- 7.B. B. 2018.24 Conceptual Subdivision Review for South Street Village, LLC to divide the property into 4 lots (3 new building lots) located at 26 Old Hollis Road (Tax Map 7, Lot 7-3) in the SR-1 zone.

[2018.24 South St Village 4 Lots Concept SR 100318.docx](#)

8. OTHER BUSINESS

- 8.A. A. Remove from Table Item 2018.21 "Dog Day Care" as a land use, allow them as a Conditional Use in the MSRD-3 Zone west of Route 1 (Elm Street), and consider Performance Standards related to them.

- 8.B. B. Discussion of MSRD-2

- 8.C. C. Comprehensive Plan

[2018 Comprehensive Plan Draft Date 100318.pdf](#)

9. ADJOURN

The Board reserves the right to halt official business at 9:30 p.m. Items not heard at tonight's meeting shall be rescheduled to the next meeting of the Board. All materials pertaining to items on the agenda are available for public review at the Biddeford Planning Department, second floor, Biddeford City Hall during normal business hours.



CITY OF BIDDEFORD

PLANNING DEPARTMENT

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PLANNING BOARD MINUTES

Date: Wednesday, September 5, 2018
Time: 6:00 PM
Location: Council Chambers, City Hall

1. PLEDGE OF ALLEGIANCE
2. DECLARATION OF QUORUM/VOTING MEMBERS

A. Quorum Present: Chair Larry Patoine, William Southwick, Matthew Boutet, Clement Fleurent, Roch Angers, Sean Tarpey (Alt non-voting member).
Chair Patoine – As of tonight Chico Potvin will no longer be on the Planning Board as he resigned. Roch will be a voting member.

3. ADJUSTMENTS TO THE AGENDA
4. PLANNER'S BUSINESS
5. CONSENT AGENDA
- A. Consideration of Minutes: July 18, 2018

MOTION:

- Southwick – Motion: to Approve Consent Agenda.
- Boutet – Second.
- Chair Patoine – Call for Vote – Unanimous Approval (4-0) all in favor.

6. UNFINISHED BUSINESS
7. NEW BUSINESS

A. 2018.18 Public Hearing, take comments, and make recommendations to the City Council regarding a proposed amendment to change a certain area of the City from R-1A and R-3 to a new R-1-B Zone with different dimensional standards.

Greg Tansley, City Planner: Brief report.
Discussion between the Board and Staff.

MOTION:

- Southwick – Motion: to recommend the Zoning Change pass at the City Council.
- Boutet – Second.
- Chair Patoine – Call for Vote – Vote 3-1, Southwick, Boutet, Angers in favor with Fleurent opposed – Motion passed.

B. 2018.19 Public Hearing, take comments, and make recommendations to the City Council regarding a proposed amendment to change a certain area of the City from R-2 to MSRD-2 Zone.

Greg Tansley, City Planner: Brief report.
Discussion between Board and Staff.

MOTION:

- Southwick – Motion: to recommend the Zoning Change pass at the City Council.
 - Boutet – Second.
 - Chair Patoine – Call for Vote – Unanimous Approval (4-0) all in favor.
- C. 2018.21 Public Hearing, take comments, and make recommendations to the City Council regarding a proposed amendment to define “Dog Day Care” as a land use, allow them as a Conditional Use in the MSRD-3 Zone west of Route 1 (Elm Street), and consider Performance Standards related to them.

Greg Tansley, City Planner: Brief report.

Tim Sevigny: Talked about a need for one in our area, the building layout, separate areas. 1 person for every 15 dogs, outdoor park, grooming, and a restaurant.

Sharon Binette, Ward 3: Worked at Pawz N Around for 5 years. Talked about how they keep records, how they handle the dogs, how they had different areas for they different age groups and cleaning of the facility.

Dave Morty: Smell is his big concern.

Boards concerns: Noise, dog waste, record keeping, parking and how many dogs.

Rick Hull: There are standards available out there to go by.

Tim Sevigny: We going to have a dog shuttle that will run twice in the morning and at night.

Discussion between Board and Staff.

MOTION:

- Southwick – Motion: to table the item to allow Staff to further research some issues as discussed by the Planning Board for future discussion by the Planning Board.
 - Angers – Second.
 - Chair Patoine – Call for Vote – Unanimous Approval (4-0) all in favor.
- D. 2018.23 Conceptual Site Plan Review/Subdivision Review/Contract Zone #18 for Saxon Partners to develop 240 residential rental units located off the Barra Road (Tax Map 2, Lots 43-1 & 42-1, Tax Map 7, Lot 15) in the I-3 and R-3 zones.

Greg Tansley, City Planner: Brief report.

Bill Thompson, BH2M Engineers: Brief presentation.

Mary Brown: Garages?

Bill Thompson, BH2M Engineers: No.

Ralph Croteau, Abutter: The size of the project, traffic, evaluation of surrounding properties. Has there been a study done to see if this needed.

James Benoit, Residential Development for Saxon Partners: The object of the project is to cater to the hospital staff.

Mike Eon, Land Owner: Looking into a conservation easement. No planning on putting in a road.

MOTION:

- Southwick - Motion: to determine that the proposed project is a Major Subdivision.
- Boutet – Second.
- Chair Patoine – Call for Vote – Unanimous Approval (4-0) all in favor.

- E. 2018.22 Amendment to a Previously Approved Subdivision (Autumn Acres) for September Koteles to split the lot at 48 Mountain Road (Tax Map 2, Lot 66) in the RF zone.

Greg Tansley, City Planner: Brief report.

September Koteles: Looking to split the lot to build a small house.

Mark Girouard, Abutter: Drainage.

Discussion between Board and Staff.

MOTION:

- Southwick – Motion: to approve the amendment to a previously approved subdivision for September Koteles related to the Autumn Acres Subdivision, approve the findings of fact, and sign the plans based on the conditions recommended by Staff in its report dated August 29, 2018.
- Boutet – Second.
- Chair Patoine – Call for Vote – Unanimous Approval (4-0) all in favor.

- F. 2018.20 Conditional Use Permit/Site Plan Review for Five Star Holdings, LLC to convert the old Journal Tribune Building to a climate controlled self-storage facility located at 457 Alfred Street (Tax Map 17, Lot 7) in the I-3 zone.

Patrick Donahue, Five Star Holdings: Here to answer questions.

Greg Tansley, City Planner: Brief report.

Discussion between Board, Staff and applicant.

MOTION:

- Southwick – Motion: to grant the waiver for Full Site Plan Review.
- Boutet – Second.
- Chair Patoine – Call for Vote – Unanimous Approval (4-0) all in favor.

MOTION:

- Southwick – Motion: to approve the Conditional Use Permit for the Five Star Holdings, LLC at Tax Map 17, Lot 7 and approve the findings of fact based on the conditions recommended by Staff in its report dated August 29, 2018.
- Boutet – Second.
- Chair Patoine – Call for Vote – Unanimous Approval (4-0) all in favor.

8. OTHER BUSINESS

A. MSRD-2 Density Discussion

Discussion between Board and Staff.

Chair Patoine – I just want to take this time to recognize Mr. Potvin for his service and how he'll be missed.

9. ADJOURN

MOTION:

- Southwick – Motion: to Adjourn
- Boutet- Second.
- Chair Patoine – Call for Vote – Unanimous Approval (4-0) all in favor.

	<u>Planning Board Chair</u>	<u>Date</u>
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0		
0	These minutes are summary and are not intended to be verbatim. Archived meetings are viewable on the City's website: www.biddefordmaine.org .	

FOR PUBLIC HEARING OCTOBER 3, 2018:

Part III (Land Development Regulations), Article V (Establishment of Zones), Table B (Dimensional Requirements):

Zoning District	Minimum Setback, Feet**			
	From Major R.O.W.	From Other R.O.W	Side	Rear
I-1 O	40 <u>S</u>	30 <u>S</u>	25 E, <u>S</u>	25 E, <u>S</u>
I-2 O	40 <u>S</u>	30 <u>S</u>	25 E, <u>S</u>	25 E, <u>S</u>
I-3 O	40 <u>S</u>	30 <u>S</u>	25 E, <u>S</u>	25 E, <u>S</u>

NOTES for Table B:

- E. All buildings and structures shall be set back at least 50 feet from any zone in which residential dwellings are an allowed use, except as otherwise provided in this Table.
- S. The Building Inspector may allow a lessening of setback requirements, to no less than ten (10) feet, for utility buildings and structures to facilitate utility infrastructure improvements. Any such buildings or structures built under this provision shall be removed when no longer used for such necessary utility infrastructure.



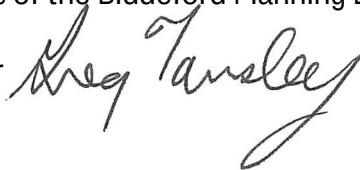
2018.25

CITY OF BIDDEFORD
PLANNING DEPARTMENT

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PLANNING BOARD REPORT

TO: Larry Patoine, Chair & Members of the Biddeford Planning Board

FROM: Greg Tansley, AICP, City Planner 

DATE: September 26, 2018

RE: NEW BUSINESS ITEM #A - 2018.25 Public Hearing, take comments, and make recommendations to the City Council regarding a proposed amendment to allow the Building Inspector to approve decreased setbacks of down to 10 feet for utility buildings and structures construction in Industrial Zones.

MEETING DATE: October 3, 2018 @ 6:00 PM

The proposal before the Board for a public hearing (and possible recommendation to the City Council) has come through Staff conversations with representatives of FMI (Fiber Materials, Inc.) at 5 Morin Street in the Biddeford Industrial Park. They need to make electrical upgrades on their site, and according to FMI representatives, they cannot locate these buildings/structures to comply with the front setbacks from Morin Street.

In discussing the situation with City Staff, Staff have developed the attached language that would provide for exceptions to the setbacks for utility buildings and structures in the Industrial Parks. Such a reduction could be approved by the Code Enforcement Office for such installations, similar to the exceptions allowed for disability compliance structures.

1. STAFF RECOMMENDATION

Staff recommends the Board listen to any public comment and make a recommendation back to the City Council for or against the proposed zoning change.

2. SAMPLE MOTIONS:

Motion to recommend/not recommend the Zoning Change pass at the City Council.

ATTACHMENTS

1. Proposed Amendment Language



CITY OF BIDDEFORD PLANNING DEPARTMENT

2018.24

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PLANNING BOARD REPORT

TO: Larry Patoine, Chair & Members of the Biddeford Planning Board

FROM: Greg Tansley, AICP, City Planner

DATE: September 26, 2018

RE: NEW BUSINESS ITEM #B – 2018.24 Conceptual Subdivision Review for South Street Village, LLC to divide the property into 4 lots (3 new building lots) located at 26 Old Hollis Road (Tax Map 7, Lot 7-3) in the SR-1 zone.

MEETING DATE: OCTOBER 3, 2018

1. INTRODUCTION

Saxon Partners is proposing to create four (4) lots off of South Street. The address for the parent parcel is 26 Old Hollis Road. The existing house at 26 Old Hollis Road would be on its own lot. Three (3) new house lots would be created with frontage on South Street.

Since the proposal does not create five (5) or more lots, does not involve the creation of a new road, and does not extend sewer or water mains it is considered to be a “minor” subdivision.

2. PROJECT DATA/INFORMATION

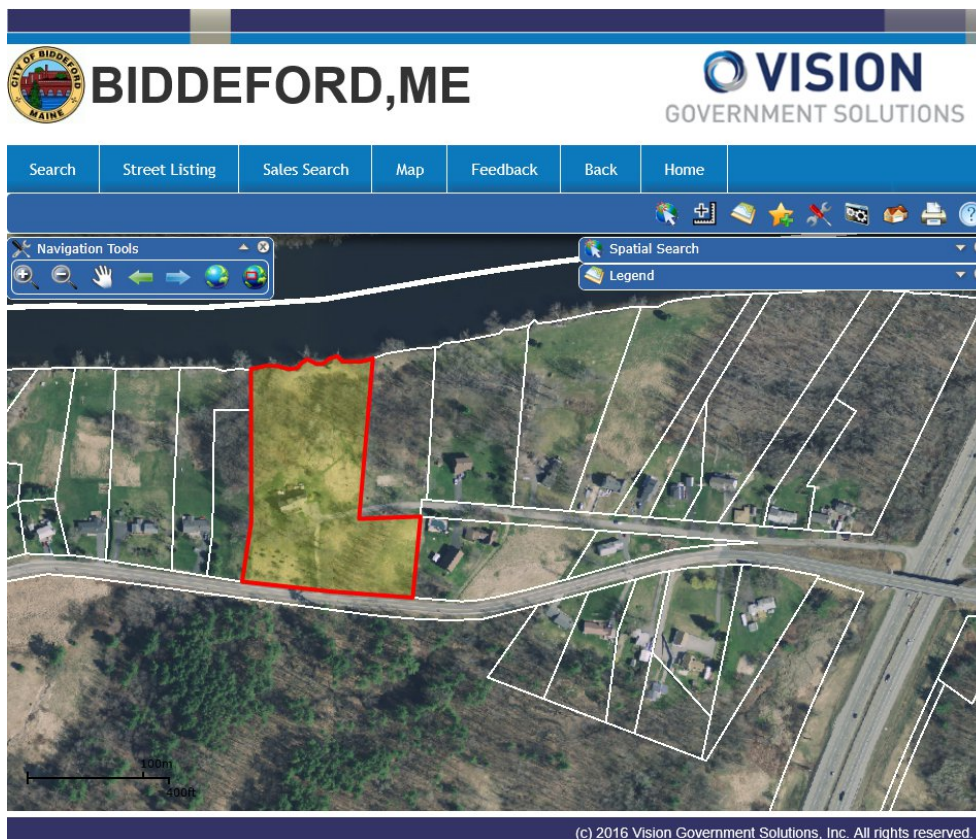
	<i>SUBJECT</i>	<i>DATA/INFORMATION</i>
1.	Applicant:	South Street Village, LLC 762 Main Street South Portland, ME 04106
2.	Owner of Property:	South Street Village, LLC 762 Main Street South Portland, ME 04106
3.	Agent:	Richard Potvin 150 Guinea Road

		Biddeford, ME 04005
4.	Surveyor:	Dow and Coulombe 13 Park Street Saco, ME 04072
	Project Location:	26 Old Hollis Road
5.	Project Tax Map #/Lot #:	Tax Map 7, Lot 7-3
6.	Existing Zoning:	SR-1
7.	Overlay Zoning:	Limited Residential (250' off the Saco River) – New lots are not located in a Shoreland Zone
8.	Existing Use:	Single-family Home
9.	Proposed Use:	3 New House Lots fronting on South Street
10.	Approvals Required:	Minor Subdivision
11.	Uses in the Vicinity:	Residential, Vacant Land
12.	Parcel Size:	4.189 Acres
13.	Number of Lots/Units in Subdivision:	4 Lots (including existing house lot)
14.	Minimum Lot Size Required: Provided:	20,000 square feet Lot 5-1: 21,054 square feet Lot 5-2: 20,232 square feet Lot 5-3: 20,016 square feet Lot 5-4 (Existing House Lot): 2.782 acres
15.	Frontage Required: Provided:	100 feet Lot 5-1: 21,054 square feet Lot 5-2: 20,232 square feet Lot 5-3: 20,016 square feet Lot 5-4 (Existing House Lot): 2.782 acres
16.	Front Setback Required: Provided:	40 feet 40 feet
17.	Side Setbacks Required: Provided:	10 feet 10 feet
18.	Rear Setback Requires: Provided:	10 feet 10 feet
19.	Height Requirements: Provided:	Maximum 35' Maximum 35'
20.	Water Supply:	Maine Water
21.	Sewerage Disposal:	Individual Subsurface Disposal Systems
22.	Solid Waste Disposal:	City of Biddeford
23.	Fire Protection:	City of Biddeford
24.	Floodplain Status:	AE off Saco River – No development proposed in vicinity of AE Zone
25.	Wetland/Surface Water Impacts:	None.
26.	Soil Study Provided:	TBD
29.	Ownership of Road:	South Street is a City Road

34.	Estimated Site Development Costs:	N/A
35.	Financial Capacity Letter:	N/A
36.	Waivers Needed:	a. TBD
37.	Waivers Granted:	a. TBD
38.	Variances Needed for Approval:	None.
39.	Other Permits Obtained:	None.
40.	Other Non-City Permits Required:	TBD
41.	Covenants, By-laws, Restrictions Required by the Planning Board:	None.
42.	LDR Attachment A: Fess Paid:	TBD
43.	Planning Board Review History: Conceptual Review:	October 3, 2018 Meeting Date (Journal Tribune posting September 25, 2018; Posted in City Hall September 24, 2018; Mail Notices to all abutters within 250' sent September 24, 2018 – 7 notices sent).

3. EXISTING CONDITIONS

The proposal site is comprised of 3 parcels of land (or parts thereof) of the end of Barra Road. The site is undeveloped.



Proposed new three (3) house lots are to the right in the following photos:



4. PROJECT PROPOSAL

Four (4) Lot Subdivision. One existing house to remain off Old Hollis Road. Three (3) new house lots to be created with frontage on South Street.

5. PUBLIC COMMENT

October 3, 2018 Meeting Date (Journal Tribune posting September 25, 2018; Posted in City Hall September 24, 2018; Mail Notices to all abutters within 250' sent September 24, 2018 – 7 notices sent).

As of close of business September 25, 2018 the following Public Comments have been received regarding the public hearing notice regarding the proposed project:

- No comments have been received.

6. STAFF REVIEW

- a. ZONING: SR-1 – Single Residential is a Permitted Use in the SR-1 Zone.
- b. REVIEW STANDARDS: Dimensional Requirements, Subdivision Review.
- c. WAIVERS: TBD
- d. OUTSTANDING ITEMS TO BE ADDRESSED PRIOR TO SUBMISSION OF A PRELIMINARY APPLICATION PACKAGE:
 - 1) Provide test pit locations on the plan as well as HHE-200 forms.
 - 2) Add necessary utility easements to the plan (electric, water, etc.).
 - 3) Indicate on plan that existing gravel drive to South Street to be eliminated.
 - 4) Indicate proposed driveway locations on plan for three (3) house lots on South Street.
 - 5) Provide location of existing water main in South Street on Plan.
 - 6) Indicate location of proposed water services to three (3) new house lots, and method on constructing said water services (e.g., boring under South Street).
 - 7) Note 8: "Frint" should say "Front".
 - 8) Show setback lines for all lots on Plan.
 - 9) At a minimum add LiDAR 2' contours to the plan.
 - 10) How is drainage accommodated in South Street?
 - 11) Review existing vegetation along South Street. There is a good buffer along a portion of it. Can this be preserved to maintain a treeline along South Street?
 - 12) Are there any stone walls on the three (3) new house lots or any archaeological sites to be aware of?
 - 13) The three (3) proposed new house lots appear to pitch towards South Street yet there is little discernable drainage along the north side of

South Street. How will drainage off the new lots be accommodated so as not to impact South Street?

- 14) If the Board agree to grant simultaneous Preliminary and Final plan approval at a subsequent Planning Board Meeting, a note to such effect needs to be added to the plan.
- 15) Staff will have additional comments upon further review.

7. STAFF RECOMMENDATION

Minor vs. Major Subdivision: By definition the project proposal is a Minor Subdivision:

Sec. 66-31. Major subdivisions.

Major subdivisions are: those projects that propose to develop any type of additional roadways, whether public or private; or extend public water or sewer lines; where five or more lots are proposed; or are considered planned unit developments.

Sec. 66-32. Minor subdivisions.

Minor subdivisions shall be any subdivision not meeting the requirements for a major subdivision

Listen to public comment and offer feedback on the project proposal. Recommend the Board find that the proposal is a Minor Subdivision.

8. NEXT STEPS/SUGGESTED ACTIONS

The applicant will need to submit a Preliminary Subdivision Application in order to move the project forward. Note the Board may grant simultaneous Preliminary and Final Plans approval where the purposes of subdivision review will not be reduced. If so, a note needs to be added to the plan as such.

9. SAMPLE MOTIONS

A. Motion to determine that the proposed project is a Minor Subdivision.

ATTACHMENTS

1. Applicant's conceptual application submittal, including plan entitled "Amended Subdivision Plan of THE LEVESQUE PROPERTY" dated September 10, 2018.

CITY OF BIDDEFORD COMPREHENSIVE PLAN

_____, 201__

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SECTION 1: INTRODUCTION

SECTION 2: POPULATION AND DEMOGRAPHICS

“This is a very difficult question. If you take a look at the aging population and demographics, we are going to have a big increase in the number of health care jobs needed in the state and in the country.” - Dave Obey, former Member of the U.S. House of Representatives - Wisconsin.

1. What is happening?

A. Background:

The population is the total number of inhabitants of any defined geographic area or group of areas, such as a State, County, Municipality, or a uniquely defined area or subset. Demography is the study of human populations and includes measurements of age, income, and education. In other words, demographics describe the population. This Section of the Comprehensive plan looks at both population and demographics both for Biddeford itself as well as how it compares to the State, the County, and two unique subsets of the State:

1. The first subset is the Labor Market of Biddeford defined here to consist of those municipalities whose boundaries touch within a 15-mile radius of Exit 32 of the Maine Turnpike. This area is included for comparison purposes because of the economic importance it has for Biddeford, both in terms of available labor as well as consumer spending. The 15-mile labor market area defined herein includes the following municipalities:

- Alfred
- Arundel
- Biddeford
- Buxton
- Cape Elizabeth
- Dayton
- Gorham
- Hollis
- Kennebunk
- Kennebunkport
- Lyman
- Old Orchard Beach
- Portland

- Saco
 - Sanford
 - Scarborough
 - South Portland
 - Waterboro
 - Wells
 - Westbrook
2. The second subset includes those municipalities classified as “cities” with a similar total population as Biddeford’s: those with a population greater than 15,000 but not including Portland. This comparison is useful to understand how Biddeford relates to communities with similar public service and fiscal demands. All of these Maine municipalities are classified as “Service Center Communities” which are defined by certain characteristics related to four (4) criteria including level of retail sales, jobs-to-workers ratio, the amount of federally assisted housing, and the volume of service sector jobs. These communities, which we will hereafter refer to as “Peer Group” (PG), include:
- Auburn
 - Augusta
 - Bangor
 - Biddeford
 - Brunswick
 - Lewiston
 - Saco
 - Sanford
 - South Portland
 - Waterville
 - Westbrook

B. Population

According to the 2010 U.S. Census, Biddeford’s population was 21,277, which makes it the sixth largest municipality in the State in terms of population. In comparison to its labor market area (LMA), Biddeford’s population is the third largest, next to Portland and South Portland. Table 2-1 shows Biddeford LMA ranked from largest in population to least, based on 2010 populations. It also demonstrates changes in population from 2000.

Table 2-1. Population Totals for Biddeford's 15-Mile Labor Market Area Communities – Ranked by Population

Municipality	County	2010 Population	Change from 2000	% Change from 2000	2000 Population
Portland	Cumberland	66,194	1,945	3.0%	64,249
South Portland	Cumberland	25,002	1,678	7.2%	23,324
Biddeford	York	21,277	335	1.6%	20,942
Sanford	York	20,798	-8	0.0%	20,806
Scarborough	Cumberland	18,919	1,949	11.5%	16,970
Saco	York	18,482	1,660	9.9%	16,822
Westbrook	Cumberland	17,494	1,352	8.4%	16,142
Gorham	Cumberland	16,381	2,240	15.8%	14,141
Kennebunk	York	10,798	322	3.1%	10,476
Wells	York	9,589	189	2.0%	9,400
Cape Elizabeth	Cumberland	9,015	-53	-0.6%	9,068
Old Orchard Beach	York	8,624	-232	-2.6%	8,856
Buxton	York	8,034	582	7.8%	7,452
Waterboro	York	7,693	1,479	23.8%	6,214
Lyman	York	4,344	549	14.5%	3,795
Hollis	York	4,281	167	4.1%	4,114
Arundel	York	4,022	451	12.6%	3,571
Kennebunkport	York	3,474	-246	-6.6%	3,720
Alfred	York	3,019	522	20.9%	2,497
Dayton	York	1,965	160	8.9%	1,805

Source: U.S. Census 2000, 2010

Although Biddeford is the third largest municipality in the LMA, its rate of change in population since 2000 is relatively little in both real numbers (335 persons) and percentage change (1.6%). Table 2-2 re-ranks the LMA communities in terms of rate of change over the ten-year period between 2000 and 2010.

Table 2-2. Population Totals for Biddeford's 15-Mile Labor Market Area Communities – Ranked by % Change from 2000 to 2010

Municipality	County	2010 Population	Change from 2000	% Change from 2000	2000 Population
Waterboro	York	7,693	1,479	23.8%	6,214
Alfred	York	3,019	522	20.9%	2,497
Gorham	Cumberland	16,381	2,240	15.8%	14,141
Lyman	York	4,344	549	14.5%	3,795
Arundel	York	4,022	451	12.6%	3,571
Scarborough	Cumberland	18,919	1,949	11.5%	16,970
Saco	York	18,482	1,660	9.9%	16,822
Dayton	York	1,965	160	8.9%	1,805

Westbrook	Cumberland	17,494	1,352	8.4%	16,142
Buxton	York	8,034	582	7.8%	7,452
South Portland	Cumberland	25,002	1,678	7.2%	23,324
Hollis	York	4,281	167	4.1%	4,114
Kennebunk	York	10,798	322	3.1%	10,476
Portland	Cumberland	66,194	1,945	3.0%	64,249
Wells	York	9,589	189	2.0%	9,400
Biddeford	York	21,277	335	1.6%	20,942
Sanford	York	20,798	-8	0.0%	20,806
Cape Elizabeth	Cumberland	9,015	-53	-0.6%	9,068
Old Orchard Beach	York	8,624	-232	-2.6%	8,856
Kennebunkport	York	3,474	-246	-6.6%	3,720

Source: U.S. Census 2000, 2010

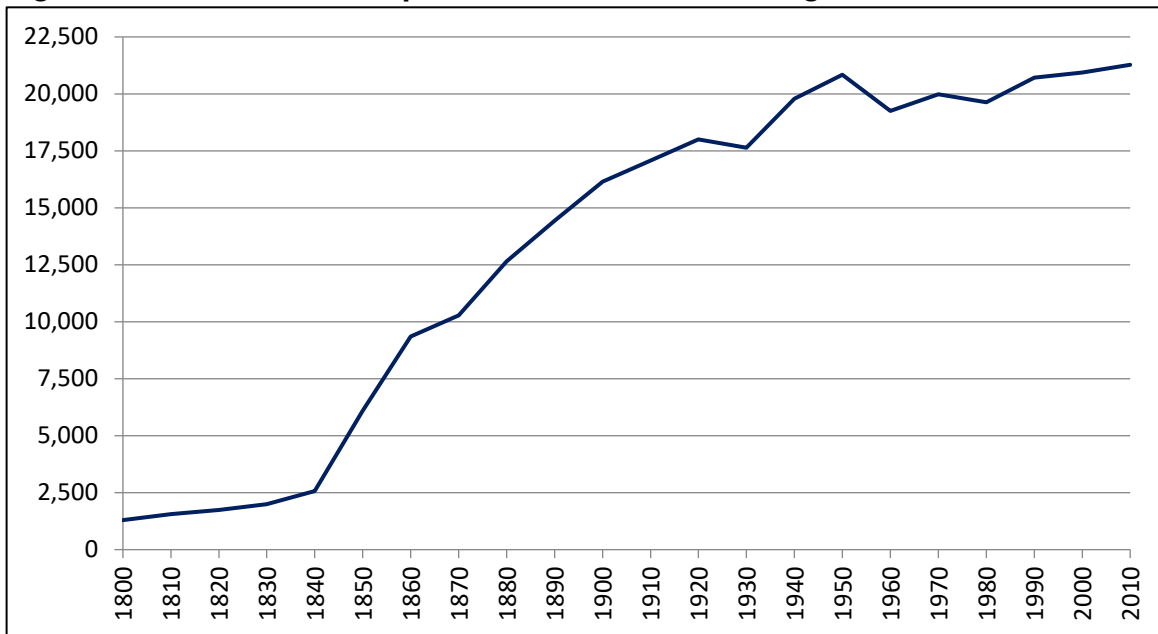
As mentioned above, Biddeford is a “Service Center Community” by definition. The other subset for comparison other than Biddeford’s LMA is the similar sized Service Centers outlined above and presented in Table 2-3 in rank order of percent change between 2000 and 2010.

Table 2-3. Population Totals for Biddeford’s Peer Group Service Center Communities – Ranked by % Change from 2000 to 2010

Municipality	County	2010 Population	Change from 2000	% Change from 2000	2000 Population
Saco	York	18,482	1,660	9.9%	16,822
Westbrook	Cumberland	17,494	1,352	8.4%	16,142
South Portland	Cumberland	25,002	1,678	7.2%	23,324
Bangor	Penobscot	33,039	1,566	5.0%	31,473
Augusta	Kennebec	19,136	576	3.1%	18,560
Lewiston	Androscoggin	36,592	902	2.5%	35,690
Biddeford	York	21,277	335	1.6%	20,942
Waterville	Kennebec	15,722	117	0.7%	15,605
Sanford	York	20,798	-8	0.0%	20,806
Auburn	Androscoggin	23,055	-148	-0.6%	23,203
Brunswick	Cumberland	20,278	-894	-4.2%	21,172

Source: U.S. Census 2000, 2010

In fact, looking at Biddeford’s population back to when Biddeford was first incorporated in 1855, the City experience significant growth in population until 1950, at the height of mill activity. From 1950 on, Biddeford growth in population has fluctuated little. Figure 1-1 demonstrates the long-term population growth pattern of the City of Biddeford in population totals from 1800 through 2010.

Figure 2-1. Biddeford's Population Year's 1800 through 2010

Source: U.S. Census

Biddeford has shown relatively little in the percentage of population growth when compared to York County and the State of Maine:

Table 2-4. Population Totals for Biddeford, York County, and the State of Maine 2000-2010.

Geography	2010 Population	Change from 2000	% Change from 2000	2000 Population
Biddeford	21,277	335	1.6%	20,942
York County	197,131	10,389	5.6%	186,742
State of Maine	1,328,361	53,438	4.2%	1,274,923

Source: U.S. Census 2000, 2010

As shown above, in Figure 2-1, Biddeford's population trends have demonstrated little measurable change in the last 60 years. The State of Maine Governor's Office of Policy and Management has developed population projections for municipalities in the State of Maine. Population projections for the City of Biddeford indicate a decline in population from now (2010 Population 21,277) through the year 2030 (Predicted Population 20,078).

Table 2-5 compares population predictions for the communities within the 15-Mile Biddeford LMA, with the exception of Saco. Predictions indicate that the highest rate of population growth would occur in those communities outside of the larger "urban" centers that for the most part lack an established, older downtown. In other words, if predictions hold true, the suburban communities away from the

coast (aside from Scarborough Wells) will experience the greatest rate of growth. The coastal communities, again with the exception of Saco, in the Biddeford LMA, are all predicted to experience little or declining growth over the next 15 to 20 years. Overall, the LMA (as defined) is predicted to experience low population growth, again, however, for the most part in smaller more suburban and rural communities.

Table 2-5. Population Projections for Biddeford’s 15-Mile Labor Market Area Communities – Ranked by Predicted % Change from 2014 to 2034

Municipality	County	Observed	Projections		% Change		% Change
		2014	2024	2034	2014-2024	2024-2034	2014-2034
Wells	York	9,997	10,818	11,446	8.2%	5.8%	14.5%
Arundel	York	4,172	4,447	4,635	6.6%	4.2%	11.1%
Kennebunk	York	11,177	11,867	12,331	6.2%	3.9%	10.3%
Gorham	Cumberland	16,976	17,995	18,587	6.0%	3.3%	9.5%
Saco	York	19,009	19,957	20,497	5.0%	2.7%	7.8%
Hollis	York	4,403	4,600	4,712	4.5%	2.4%	7.0%
Scarborough	Cumberland	19,515	20,434	20,879	4.7%	2.2%	7.0%
Dayton	York	2,017	2,108	2,151	4.5%	2.0%	6.6%
Kennebunkport	York	3,548	3,669	3,713	3.4%	1.2%	4.7%
Sebang	Cumberland	1,764	1,823	1,839	3.3%	0.9%	4.3%
Cape Elizabeth	Cumberland	9,236	9,490	9,534	2.8%	0.5%	3.2%
Westbrook	Cumberland	17,890	18,340	18,367	2.5%	0.1%	2.7%
Old Orchard Beach	York	8,746	8,854	8,789	1.2%	-0.7%	0.5%
South Portland	Cumberland	25,432	25,736	25,444	1.2%	-1.1%	0.0%
Alfred	York	3,056	3,078	3,031	0.7%	-1.5%	-0.8%
Buxton	York	8,130	8,170	8,044	0.5%	-1.5%	-1.1%
Waterboro	York	7,764	7,762	7,594	0.0%	-2.2%	-2.2%
Lyman	York	4,384	4,376	4,276	-0.2%	-2.3%	-2.5%
Sanford	York	20,881	20,649	19,967	-1.1%	-3.3%	-4.4%
Portland	Cumberland	66,672	65,814	63,378	-1.3%	-3.7%	-4.9%
Biddeford	York	21,310	20,942	20,119	-1.7%	-3.9%	-5.6%
Total LMA		286,079	290,929	289,333	1.7%	-0.5%	1.1%

Source: *Maine Population Outlook to 2034, Governor’s Office of Policy and Management, November 2016.*

Table 2-6 examines population projections for the Peer Group Service Center Communities. Of the peer group, projections indicate that in total there will be a decrease in population, with only 3 of the 11 communities experiencing any population growth. The only real marked growth is predicted in Waterville and

Saco. Significant population declines are predicted elsewhere, especially in Augusta and Biddeford.

Table 2-6. Population Projections for Biddeford's Peer Group Service Center Communities – Ranked by Predicted % Change from 2014 to 2034

Municipality	County	Observed	Projections		% Change		% Change
		2014	2024	2034	2014-2024	2024-2034	2014-2034
Waterville	Kennebec	16,147	17,258	18,151	6.9%	5.2%	12.4%
Saco	York	19,009	19,957	20,497	5.0%	2.7%	7.8%
Westbrook	Cumberland	17,890	18,340	18,367	2.5%	0.1%	2.7%
South Portland	Cumberland	25,432	25,736	25,444	1.2%	-1.1%	0.0%
Auburn	Androscoggin	22,902	22,874	22,475	-0.1%	-1.7%	-1.9%
Bangor	Penobscot	32,635	32,576	31,863	-0.2%	-2.2%	-2.4%
Lewiston	Androscoggin	36,300	36,111	35,330	-0.5%	-2.2%	-2.7%
Sanford	York	20,881	20,649	19,967	-1.1%	-3.3%	-4.4%
Brunswick	Cumberland	20,425	20,207	19,479	-1.1%	-3.6%	-4.6%
Biddeford	York	21,310	20,942	20,119	-1.7%	-3.9%	-5.6%
Augusta	Kennebec	18,712	17,945	16,962	-4.1%	-5.5%	-9.4%
Total Peer Group		251,643	252,595	248,654	0.4%	-1.6%	-1.2%

Source: *Maine Population Outlook to 2034, Governor's Office of Policy and Management, November 2016*

Lastly, population projections for the State of Maine as a whole indicate a slight decline (Table 2-7 below). York County, however, is expected to experience slight growth, but not in its largest communities of Biddeford and Sanford as shown in Table 4-6 above.

Table 2-7. Population Projections for Biddeford, York County, and the State of Maine 2014 to 2034

Geography	Observed	Projections		% Change		% Change
	2014	2024	2034	2014-2024	2024-2034	2014-2034
Biddeford	21,310	20,942	20,119	-1.7%	-3.9%	-5.6%
York County	200,608	204,866	204,906	2.1%	0.0%	2.1%
State of Maine	1,330,256	1,330,903	1,305,910	0.0%	-1.9%	-1.8%

Source: *Maine Population Outlook to 2034, Governor's Office of Policy and Management, November 2016*

Of interest is that City Staff do not necessarily agree with the predictions for Biddeford based on what is happening in reality, particularly with fast growth in

the Mill District. The Portland Area Comprehensive Transportation System (PACTS) recently completed its own population growth model to 2040 that indicates that by 2040 Biddeford will reach population 23,651 that represents a 10% increase.

C. Age and Sex

The term “median” defines the middle of something, like the median strip of a divided highway. If, when discussing a set of measurements like age, all the values are line up in order, the middle value represents the median. This method is a convenient way to divide data into two equal parts, one part less than the median and the other part greater than the median.

Biddeford’s population is relatively young compared to its LMA, York County, and the State, but is growing older. As shown in Table 2-8, however, Biddeford’s population is aging at a slower rate than most of the communities in the LMA, York County as a whole, and the State of Maine. All communities, however, are aging. According to the Maine Development Foundation, all of Maine is aging rapidly. In 1970, the median age in the State was 28.6 years. By 2000, median age had increased to 38.6 years. In 2010, the median age in the state had increased to 42.7 years. In contrast, the median age in the United States as of the 2010 Census was 37.2 years.

Table 2-8. Median Age for Biddeford’s 15-Mile Labor Market Area Communities – Ranked by % Change from 2000 to 2010

Geography	2010 Population	Median Age 2000	Median Age 2010	Difference	% Change 2000 to 2010
Old Orchard Beach	8,624	40.1	47.8	7.7	19.2%
Dayton	1,965	34.6	40.5	5.9	17.1%
Kennebunk	10,798	41.3	48.2	6.9	16.7%
Arundel	4,022	37.3	42.9	5.6	15.0%
Scarborough	18,919	38.8	44.5	5.7	14.7%
Lyman	4,344	37.9	43.3	5.4	14.2%
Saco	18,482	37.2	41.9	4.7	12.6%
Kennebunkport	3,474	46.0	51.8	5.8	12.6%
Wells	9,589	43.3	48.5	5.2	12.0%
Hollis	4,281	36.8	40.9	4.1	11.1%
Buxton	8,034	37.4	41.5	4.1	11.0%
Gorham	16,381	34.3	38.0	3.7	10.8%
Sanford	20,798	36.6	40.5	3.9	10.7%

Waterboro	7,693	33.3	36.6	3.3	9.9%
Cape Elizabeth	9,015	43.1	46.8	3.7	8.6%
Alfred	3,019	42.2	45.7	3.5	8.3%
Biddeford	21,277	36.4	38.3	1.9	5.2%
Westbrook	17,494	37.8	39.4	1.6	4.2%
South Portland	25,002	37.9	39.4	1.5	4.0%
Portland	66,194	35.7	36.7	1.0	2.8%
York County	197,131	38.5	43.0	4.5	11.7%
State of Maine	1,328,361	38.6	42.8	4.2	10.9%

Source: U.S. Census 2000, 2010

Table 2-9 presents the Peer Group summary with respect to Median Age and change over time. There is a considerable difference between the Service Center communities with respect to change between 2000 and 2010, from a high in Brunswick of 14% and a low in Lewiston where Median Age actually decreased (likely due to the influx of younger immigrant peoples to the community).

Table 2-9. Median Age for Biddeford's Peer Group Service Center Communities – Ranked by % Change from 2000 to 2010

Municipality	2010 Population	Median Age 2000	Median Age 2010	Difference	% Change 2000 to 2010
Brunswick	Cumberland	36.3	41.4	5.1	14.0%
Saco	York	37.2	41.9	4.7	12.6%
Sanford	York	36.2	40.5	4.3	11.9%
Augusta	Kennebec	40.3	43.2	2.9	7.2%
Biddeford	York	36.4	38.3	1.9	5.2%
South Portland	Cumberland	37.6	39.4	1.8	4.8%
Westbrook	Cumberland	37.8	39.4	1.6	4.2%
Auburn	Androscoggin	38.3	39.9	1.6	4.2%
Waterville	Kennebec	35.6	36.8	1.2	3.4%
Bangor	Penobscot	36.1	36.7	0.6	1.7%
Lewiston	Androscoggin	37.6	37.4	-0.2	-0.5%

Source: U.S. Census 2000, 2010

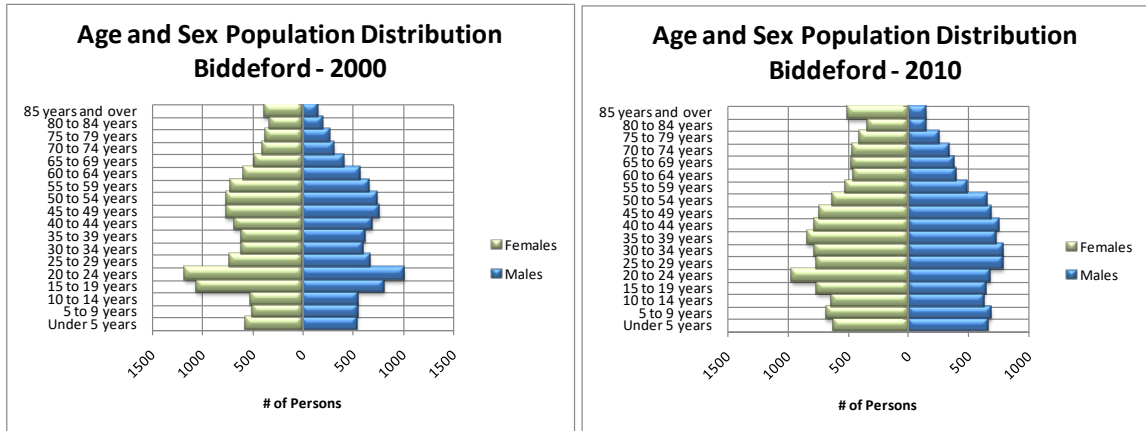
Another way to describe the age of the population is through Age and Sex Distribution using cohorts. Quite often, this is displayed with population pyramids. The following pages show the population distributions by sex for Biddeford, York County, and the State of Maine from 2000 through 2010. Although York County and the State of Maine share a similar “shape” it is noticeable that Biddeford's is different.

In York County and the State of Maine in 2000, the largest bulge in population was for the ages 35-49 for both sexes. This bulge shifted to 45-59 in 2010, indicating a steady aging of the population over the 10-year period. The 20-34 age cohorts, however, remained relatively smaller than the other “working age” cohorts did in both 2000 and 2010.

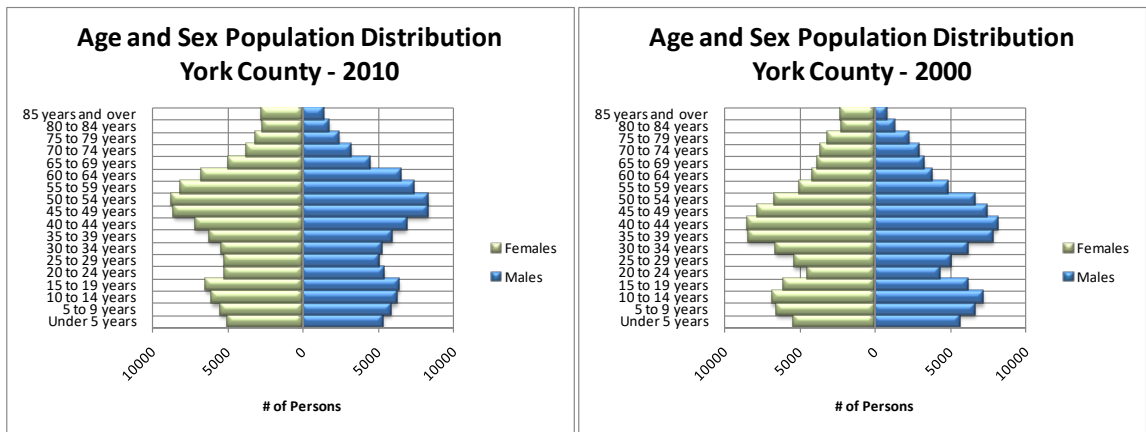
In Biddeford in 2000, there was a significant spike in the population aged 15-24, while the rest of the population was more uniformly distributed. In 2010, the entire population appears more evenly distributed than it does for York County and the State of Maine. This more uniform distribution in the younger populations is indicative of a lower median age than that of the State and County. Biddeford also has a noticeable ‘bulge’ in the population of people 20-49 in 2010. The largest single age cohort as of the 2010 Census is that of persons in the 20-to-24-year-old age group.

Figures 4-2. Population Distribution Charts for Biddeford, York County, and the State of Maine, 2000 and 2010 (Source U.S. Census 2000, 2010).

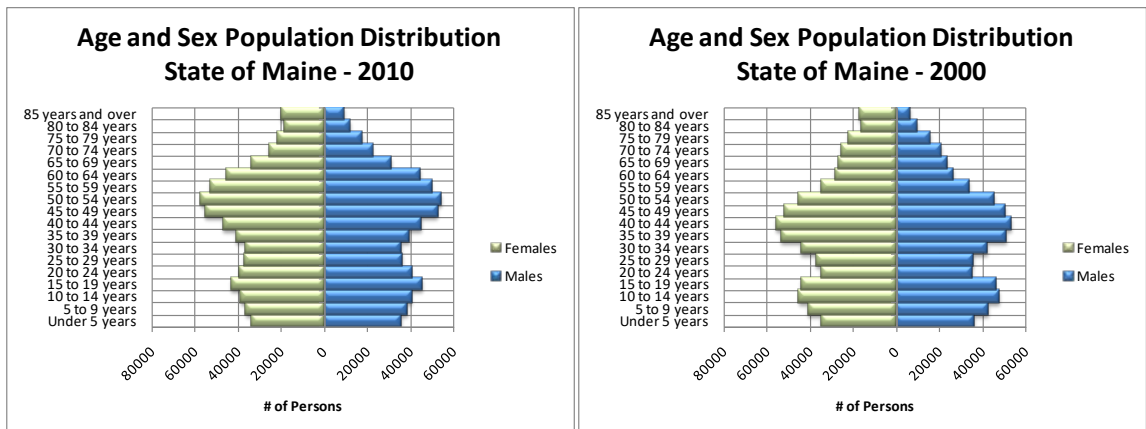
City of Biddeford:



York County:



State of Maine:



D. Households and Average Household Size

Table 2-10 represents the number of households and average household size, as reported from 1980, 1990, 2000, and 2010 US Census, for Biddeford, York County and the State of Maine. As can be seen, in each of the Biddeford, York County, and the State of Maine the total number of households has steadily increased over the 40-year period (with the exception of 2000-2010 for Biddeford where there was a slight decline in a total number of households). The Average Household Size, however, has steadily declined. For Biddeford, the increase in the number of households as a percentage is only slightly above the rate of decline in average household size (21.5% and -13.9% respectively), while these differences in the rate of change for York County and the State of Maine are significantly more marked.

Table 2-10. Number of Households for Biddeford, York County, and the State of Maine 1980, 1990, 2000 and 2010

<i>Geography</i>	1980 # of Households	1990 # of Households	% Change 1980 - 1990	2000 # of Households	% Change 1990 - 2000	2010 # of Households	% Change 2000 - 2010	% Change 1980 - 2010
Biddeford	7,077	7,956	12.4%	8,636	8.5%	8,598	-0.4%	21.5%
York County	49,648	61,848	24.6%	74,563	20.6%	81,009	8.6%	63.2%
State of Maine	395,184	465,312	17.7%	518,200	11.4%	557,219	7.5%	41.0%

Source: U.S. Census 1980, 1990, 2000, 2010

Table 2-11. Average Household Size for Biddeford, York County, and the State of Maine 1980, 1990, 2000 and 2010

<i>Geography</i>	1980 Average Household Size	1990 Average Household Size	% Change 1980 - 1990	2000 Average Household Size	% Change 1990 - 2000	2010 Average Household Size	% Change 2000 - 2010	% Change 1980 - 2010
Biddeford	2.67	2.49	-6.7%	2.32	-6.8%	2.30	-0.9%	-13.9%
York County	2.81	2.67	-5.0%	2.47	-7.5%	2.40	-2.8%	-14.6%
State of Maine	2.85	2.64	-7.4%	2.39	-9.5%	2.32	-2.9%	-18.6%

Source: U.S. Census 1980, 1990, 2000, 2010

Note: The trend of increasing to the number of households was predicted in the 1999 Comprehensive Plan, but the Plan was silent with respect to predicting trends related to the decrease in household size that for Biddeford has had a pronounced impact on stagnant population growth.

Lastly, Table 2-12 displays the total number of households, family households, and household size throughout Biddeford's LMA. Generally speaking, aside from Old Orchard Beach, the larger the community in terms of the number of households, the less the percentage of family households (people living alone or with non-relatives) and the greater percentage of non-family households. Biddeford, as well as other Service Center communities (Sanford, Westbrook, South Portland, and Portland) has a relatively high number of households, but a relatively low percentage of family households.

Table 2-12. Number of Households, Number of Family Households, Percentage of Family Households, and Average Household Size for Biddeford's 15-Mile Labor Market Area Communities – Ranked by % Family Households 2010

Municipality	County	2010 Population	# Households (HHs)	# Family HHs	% Family HHs	Average HH Size
Dayton	York	1,965	712	547	77%	2.76
Lyman	York	4,344	1,660	1269	76%	2.62
Waterboro	York	7,693	2,775	2095	75%	2.77
Hollis	York	4,281	1,668	1216	73%	2.56
Buxton	York	8,034	3,108	2254	73%	2.58
Cape Elizabeth	Cumberland	9,015	3,616	2620	72%	2.49
Gorham	Cumberland	16,381	5,719	4064	71%	2.59
Arundel	York	4,022	1,659	1109	67%	2.56
Wells	York	9,589	4,120	2734	66%	2.30
Kennebunkport	York	3,474	1,578	1039	66%	2.20
Alfred	York	3,019	1,175	769	65%	2.33
Saco	York	18,482	7,623	4925	65%	2.38
Kennebunk	York	10,798	4,689	2996	64%	2.27
Sanford	York	20,798	8,500	5417	64%	2.41
Scarborough	Cumberland	18,919	1,917	1143	60%	2.48
Westbrook	Cumberland	17,494	7,568	4456	59%	2.30
Biddeford	York	21,277	8,598	4972	58%	2.30
South Portland	Cumberland	25,002	10,877	6197	57%	2.24
Old Orchard Beach	York	8,624	4,454	2106	47%	1.93
Portland	Cumberland	66,194	30,725	13324	43%	2.07

Source: U.S. Census 2010

Note: "Family households" consist of a householder and one or more other people related to the householder by birth, marriage, or adoption. They do not include same-sex married couples even if the marriage was performed in a state issuing marriage certificates for same-sex couples. Same-sex couple

households are included in the family households category if there is at least one additional person related to the householder by birth or adoption. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. "Nonfamily households" consist of people living alone and households which do not have any members related to the householder.

E. Median Household Income, % of Individuals Below Poverty, and Proportional Make-up of Households by Income

Table 2-13 displays Median Household income for Biddeford, York County, and the State of Maine. The dollar values are in 2012 inflation-adjusted dollars. The data is based on the American Community Survey which is an estimate based on a sample, which is why these values cannot/should not be compared directly to the year 2000 U.S. Census similar figures which are not based on a sample and are not an estimate. The pattern of Highest to lowest median income based on the 2000 U.S. Census is similar with York County being the highest, followed by the State of Maine and then Biddeford with Median Household Incomes of \$43,630, \$37,240, and \$34,976 respectively.

Table 2-13. Median Household Income and Poverty Levels (% Individuals Below Poverty) for Biddeford, York County, and the State of Maine – 2011-2015 5-Year Estimate

Geography	2011-2015 Median Household Income	Individuals Below Poverty
Biddeford	\$46,940	18.2%
York County	\$57,919	9.8%
State of Maine	\$49,331	13.9%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

As is expected, there is a correlation between median household income and poverty levels. Biddeford with the lowest median household income has a high poverty level, and York County as a whole having the highest median household income has the lowest overall poverty level.

In comparing Biddeford to its 15-mile LMA (Table 4-13), its estimated 2011-2015 median household income is the fifth lowest of the group (\$46,940), while Cape Elizabeth's was the highest (\$101,068). This represents a significant difference in median household income between the two, of \$54,128. In other words, the median household income in Cape Elizabeth is more than twice that of Biddeford. Each town immediately contiguous to Biddeford, being

Kennebunkport, Arundel, Dayton, and Saco, had significantly higher estimated median household incomes, with a difference of at least \$10,000 per year.

Again, there is a strong correlation between median household income and individuals in poverty. In the LMA Portland had the highest estimated individuals below the poverty levels in the LMA (19.7%), followed by Biddeford (18.2%), Sanford (18.1%), and Westbrook (17.4%). Aside from Scarborough, the top seven communities with respect to median household income had poverty levels of below 5%.

Table 2-14. Median Household Income and Poverty Levels (% Individuals Below Poverty) for Biddeford's 15-Mile Labor Market Area Communities – Ranked by Median Household Income – 2011-2015 5-Year Estimate

Municipality	County	Median Household Income	Individuals Below Poverty
Cape Elizabeth	Cumberland	\$101,068	4.00%
Dayton	York	\$78,750	4.20%
Scarborough	Cumberland	\$77,361	6.10%
Gorham	Cumberland	\$72,851	4.30%
Kennebunkport	York	\$74,167	2.60%
Kennebunk	York	\$70,920	4.40%
Lyman	York	\$64,295	3.40%
Buxton	York	\$64,052	7.60%
Hollis	York	\$61,895	7.60%
Waterboro	York	\$61,732	7.40%
Saco	York	\$57,715	10.00%
Arundel	York	\$57,644	9.00%
Wells	York	\$57,250	4.00%
South Portland	Cumberland	\$54,598	13.80%
Alfred	York	\$49,156	11.90%
Biddeford	York	\$46,940	18.20%
Portland	Cumberland	\$46,280	19.70%
Westbrook	Cumberland	\$44,588	17.40%
Old Orchard Beach	York	\$44,205	13.40%
Sanford	York	\$44,040	18.10%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Table 2-15 below examines estimated (2011-2015) median household income and poverty levels amongst Biddeford's Peer Group of Service Center Communities. Biddeford is located fourth from the top with respect to median

household income and poverty. All communities in the group have a poverty level 10% or above, with Bangor having the highest at 26.2%. The range between the highest median income and the lowest in the peer group is considerably lower (\$24,464) than what was found in the LMA group (\$57,028).

Table 2-15. Median Household Income and Poverty Levels (% Individuals Below Poverty) for Biddeford's Peer Group Service Center Communities – Ranked by Median Household Income – 2011-2015 5-Year Estimate

Municipality	County	Median Household Income	Individuals Below Poverty
Saco	York	\$57,715	10.00%
Brunswick	Cumberland	\$53,737	11.40%
South Portland	Cumberland	\$54,598	13.80%
Biddeford	York	\$46,940	18.20%
Auburn	Androscoggin	\$46,760	16.10%
Westbrook	Cumberland	\$44,588	17.40%
Sanford	York	\$44,040	18.10%
Augusta	Kennebec	\$39,544	19.70%
Lewiston	Androscoggin	\$37,500	23.10%
Bangor	Penobscot	\$35,674	26.20%
Waterville	Kennebec	\$33,251	20.60%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

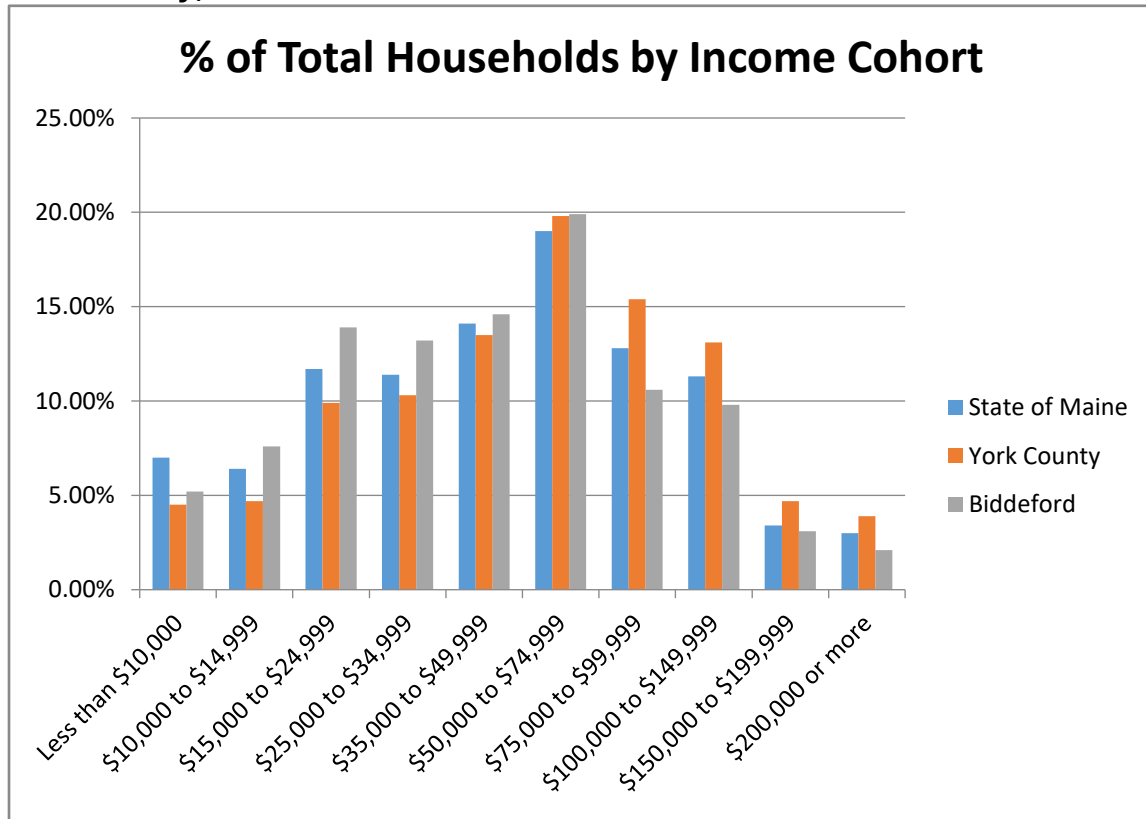
Table 2-16 compares the number of household in the various income brackets established by the U.S. Census Bureau. Biddeford has a higher percentage of households with lower incomes than the State and York County, as well as a lower percentage of households with higher incomes than either the State or Your County. Figure 2-3 below displays the overall distribution graphically.

Table 2-16. Proportional Make-up of Households by Income for Biddeford, York County, and the State of Maine – 2011-2015 5-Year Estimate

	<i>Maine</i>		<i>York County</i>		<i>Biddeford</i>	
<i>Income Range</i>	<i># of Households</i>	<i>% of Total # of Households</i>	<i># of Households</i>	<i>% of Total # of Households</i>	<i># of Households</i>	<i>% of Total # of Households</i>
Less than \$10,000	38,574	7.0%	3,733	4.5%	444	5.2%
\$10,000 to \$14,999	35,182	6.4%	3,855	4.7%	643	7.6%
\$15,000 to \$24,999	64,636	11.7%	8,108	9.9%	1,181	13.9%
\$25,000 to \$34,999	63,270	11.4%	8,467	10.3%	1,117	13.2%
\$35,000 to \$49,999	78,147	14.1%	11,109	13.5%	1,236	14.6%
\$50,000 to \$74,999	104,896	19.0%	16,284	19.8%	1,691	19.9%
\$75,000 to \$99,999	70,627	12.8%	12,667	15.4%	900	10.6%
\$100,000 to \$149,999	62,321	11.3%	10,774	13.1%	831	9.8%
\$150,000 to \$199,999	18,808	3.4%	3,887	4.7%	263	3.1%
\$200,000 or more	16,823	3.0%	3,243	3.9%	181	2.1%
Total Households	553,284	100.0%	82,127	100.0%	8,487	100.0%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Figure 2-3. Proportional Make-up of Households by Income for Biddeford, York County, and the State of Maine – 2011-2015 5-Year Estimate



Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

F. Education

The latest data available through the American Community Survey (ACS) 5 Year Estimates for 2011-2015 indicates that persons in Biddeford have relatively less Educational Attainment than do those in the County and State as a whole (Table 2-17).

Table 2-17. Educational Attainment for Persons 25 Years Old and Over for Biddeford, York County, and the State of Maine – 2011-2015 5-Year Estimate

Geography	Population 25 Years Old and Over	
	High School Graduate or Higher	Bachelor's Degree or Higher
Biddeford	88.4%	24.3%
York County	92.3%	30.5%
State of Maine	91.6%	29.0%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Similarly, when compared to the 15-mile LMA communities, Biddeford again demonstrates relatively low Educational Attainment as shown in Table 2-18.

Table 2-18. Educational Attainment for Persons 25 Years old and Over for Biddeford's 15-Mile Labor Market Area Communities – Ranked by % High School Graduate or Higher – 2011-2015 5-Year Estimate

Municipality	Population 25 Years Old and Over	
	High School Graduate or Higher	Bachelor's Degree or Higher
Cape Elizabeth	98.9%	64.2%
Kennebunkport	97.2%	54.9%
Kennebunk	96.6%	51.5%
Scarborough	96.2%	48.0%
Gorham	95.7%	43.0%
South Portland	95.4%	41.7%
Hollis	95.3%	21.7%
Wells	94.5%	34.4%
Dayton	93.2%	26.4%
Portland	92.5%	46.2%
OOB	92.5%	29.2%
Saco	92.2%	31.9%
Waterboro	92.1%	18.3%
Lyman	91.8%	21.3%
Buxton	91.3%	22.1%
Westbrook	91.2%	26.9%
Alfred	91.1%	21.5%
Arundel	89.6%	24.1%
Biddeford	88.4%	24.3%
Sanford	87.7%	21.4%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Lastly, examining the same data for Biddeford Peer Group Service Centers, again it appears the Biddeford residents lag behind several service center municipalities in Educational Attainment for both those with a High School Graduation as well as a Bachelor's Degree or higher (Table 2-19).

Table 2-19. Attainment for Persons 25 Years old and Over for Biddeford's Peer Group Service Center Communities – Ranked by % High School Graduate or Higher – 2011-2015 5-Year Estimate

Municipality	Population 25 Years Old and Over	
	High School Graduate or Higher	Bachelor's Degree or Higher
South Portland	95.4%	41.7%
Brunswick	93.7%	43.1%
Saco	92.2%	31.9%
Bangor	91.4%	29.0%
Westbrook	91.2%	26.9%
Waterville	89.5%	26.6%
Auburn	88.9%	25.5%
Augusta	88.5%	24.9%
Biddeford	88.4%	24.3%
Sanford	87.7%	21.4%
Lewiston	85.5%	16.3%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

G. Seasonal Population

Seasonal populations can play an important role regarding both a demand for public services as well as an impact on the local economy. There is, however, no widely accepted method for estimating seasonal populations. Charles Lawton, Senior Economist for the public policy research firm *Planning Decisions*, in a June 26, 2011 article in the Portland Press Herald roughly estimated Maine's Seasonal Population by multiplying the number of seasonal residences in Maine by the average household size for Maine. The methodology also assumes a portion of vacant housing units could be rented seasonally. Table 4-17 uses this methodology for Biddeford, but further assumes the same 2.3 persons for every hotel/motel room and campsite in the City of Biddeford. The result is an estimated 2,222 seasonal residents in Biddeford, which represents a summer population of approximately 23,499 (approximately a 10% increase from Biddeford's year-round population of 21,277 in 2010).

Table 4-17. Seasonal Population Estimate - 2010

	Seasonal Housing Units *	Hotel Rooms and Camp Sites	Total Other Vacant Housing Units	10% Vacant Housing Units	Total Units Available for Seasonal Visitors	Average Household Size *	Estimated Seasonal Population
Biddeford	667	219	799	80	966	2.3	2,222

Source: U.S. Census 2010

H. University Population

Biddeford is unique, however, in that it is home to the University of New England (UNE). The Census Bureau (https://www.census.gov/population/www/cen2010/resid_rules/resid_rules.html) uses the concept of “Usual Residence” when determining where people should be counted:

“Planners of the first U.S. decennial census in 1790 established the concept of “usual residence” as the main principle in determining where people were to be counted. This concept has been followed in all subsequent censuses and is the guiding principle for the 2010 Census. Usual residence is defined as the place where a person lives and sleeps most of the time. This place is not necessarily the same as the person’s voting residence or legal residence.”

As such, students at UNE living on-campus or off-campus (in Biddeford) are counted in the total population of Biddeford. According to the University of New England, in 2014 the number of on-campus students was 1,388. The importance of this is that although most likely leave in the summer, that exodus is largely countered by the increase in the summer population discussed above.

2. What does it mean for Biddeford?

A. Population Change:

Recent population trends have shown that Biddeford’s population has remained relatively stable (increased 1.6% between 2000 and 2010), while many of the communities within its Labor Market Area (LMA) have increased in population. This indicates a sprawling growth pattern for populations around Biddeford in places like Waterboro, Alfred, Gorham, Lyman, Arundel, and Scarborough (all having increases in population between 2000 and 2010 of more than 10%).

Predictions by the Governor's Office of Policy and Management through 2030 are that Biddeford's population will actually decline by 5.6%. Biddeford's LMA, however, is predicted to increase in population by 2.5% by 2030. As the next Chapter of the Plan will demonstrate, more people commute into Biddeford for work than do live and stay in Biddeford for work. If trends continue and the predictions come true, this commuting phenomenon may continue, having implications for the local transportation system.

B. Age Distribution, Housing, and Municipal Services.

As in the State and County, Biddeford's Median Age is increasing, although not nearly as quickly. All communities in the LMA saw an increase in median age between 2000 and 2010, although most were aging faster than Biddeford (1.9 years) except for Westbrook (1.6 years), South Portland (1.5 years) and Portland (1.0 Years). Biddeford's median age is relatively low for the LMA at 38.3. For comparison, the median age in York County is 43 and the State is 42.8.

Based on the age distributions in Biddeford, the bulge is in the younger populations of 20-49, with the largest group being between 20-24 years old. This is contrary to the State and York County where the bulge in the populations are between 45-59 years old.

The number of households has steadily increased in Biddeford over time, yet the average household size has steadily declined. This would indicate smaller families either as children grow up and leave or as new residents are having fewer children. An aging population would also influence this trend. Biddeford has recently seen an increase in the redevelopment of its mills with small apartment housing or condominiums catering to one and two-person families. This is indicative in that Biddeford has a relatively low percentage of Family Households (households with one person living alone or households comprised of unrelated persons) compared to the LMA with only South Portland, Old Orchard Beach, and Portland having a lower percentage.

Overall, it can be expected that there would be a stable or declining school population. Based on recent growth trends and an emphasis on Downtown/Mill District Growth and increase in demand for municipal services in the Downtown area is anticipated, although solid waste collection likely will not be affected due to the multi-family nature of the growth.

C. Median Household Income:

Biddeford has a significantly lower Median Household Income than does York County. This may be indicative of smaller household sizes and more single income households, coupled with a job market characterized by lower paying jobs. Biddeford households have the lowest median household within its LMA. There is also a relatively high level of poverty in Biddeford.

D. Education:

Biddeford has lower percentages than the State and County of those people which have graduated from High School and/or have achieved a Bachelor's Degree or higher. This is also generally the case when compared to LMA communities as well as its Peer Group of Service Center communities. A low level of educational attainment in Biddeford means that many persons in the city lack the skills needed to be competitive in the job market and may require alternative education programs. Low skill level hinders productivity, keeping income growth low. In contrast, higher income levels attract skilled workers that feed local growth.

E. Seasonal Population:

Biddeford has a relatively high seasonal population due to seasonal homes in the coast occupied only in the summer months. The estimate of 2,000-2,400 seasonal residents might indicate that Biddeford's peak summer population is likely 10% higher than that reported to the Census. As discussed above regarding UNE, its student population (on- and off-campus) may actually counter this seasonal population so that Biddeford's actual summer population remains close to its Census population of 21,277. The seasonal population, however, likely demands different services and can have different impacts on the local economy than a year-round population and a university population.

F. Daytime Population:

Major employers in the City of Biddeford that create an influx of daytime population likely include Southern Maine Health Care, University of New England and the four business parks. Since both of these facilities are located outside of Downtown, traffic on major roads may be negatively impacted by their continued growth.

SECTION 3: ECONOMY

“The time to repair the roof is when the sun is shining.” – John F. Kennedy - State of the Union Address. January 11, 1962

1. What is happening?

A. Background:

The relationship between available raw materials and the labor force has always been an important factor in Biddeford's economy. Timber, waterpower and a safe harbor were the basis of the early shipbuilding and sawmilling industries. This drew farm labor from the surrounding area into the City. As America began to industrialize in the 1800's, Biddeford became a leading manufacturing center of textiles supported by the available waterpower and a coincident surge of immigrants, first from Ireland and later from Quebec, Canada.

Textile manufacturing continued to be part of Biddeford's economic base well into the next century but at a reduced scale. As the industry declined in the 1950's, Biddeford's unemployment rose and people left the City in search of other employment. Downtown Biddeford flourished with activity during its manufacturing heyday. With the decline in activity in the mills, a drop in population and the recent development of suburban shopping centers and commercial strip development, the downtown area experienced a decline from its high point in the 1950's.

Since then, the City's economic well-being has varied, rising and falling with the times, between and within the following the sectors:

- Mixed-uses within the Downtown and the Mill District;
- Industry outside of the Mill District;
- Retail;
- Offices;
- Institutions;
- The Creative Economy; and
- Lodging.

1. Mixed-uses within the Downtown and the Mill District:

Until the 1950's, Downtown Biddeford, including the Mill District, was truly a mixed-use environment. As industry thrived in the Textile and Manufacturing Mills, Downtown was busy with retail and banking, and employees (much of the population) lived in either Downtown itself or in close proximity to Downtown. Beginning in the 1950's, however, several things began to influence Biddeford Downtown and Mill District towards decline. Manufacturers such as the Saco-Lowell Shops and York (Bates) Manufacturing began looking south for cheaper labor and materials and by 1960 both had closed their shops.

A few manufacturers did remain, however. Most notably the Westpoint-Pepperell Mill that produced the Vellux blanket finally shut its doors and in 2009, the last of the large manufacturers in the Mill District, was gone.

As the decline in manufacturing and textiles was occurring, other things were occurring both within Biddeford and beyond. Within Biddeford, the rise of the automobile from the 1950s on increased citizen mobility and both residential and commercial suburbanization began to occur. Strip retail plazas began to develop along Routes 1 and 111, and subdivisions were built to attract families to locations outside of the Downtown area, as did employment opportunities.

In 1970, the United States Post Office relocated to Alfred Street where it remains today. Aside from the Biddeford Pool Post Office, the Alfred Road Post Office is the only Post Office in Biddeford and draws a considerable amount of activity into the Downtown Area.

In 1975, the City re-established attention to its Downtown and established the Downtown Development Commission (DDC) which had a principal function to "Encourage and promote the expansion and development of existing commercial firms downtown and to promote and encourage the location of new commercial firms downtown". The DDC has and continues to be a City Commission, members of which can only be Biddeford Residents.

In 1978, a Downtown Action Plan was adopted which took into consideration such issues as parking, aesthetics, historic preservation, economic trends and revitalization, traffic and building conditions.

In 2004, the Heart of Biddeford (HoB) was founded as a 501(c)(3) devoted to revitalizing Downtown Biddeford. In 2006 HoB was designated a *Main Street Community* by the Maine Downtown Center (a program of the Maine Development Foundation). The HoB is managed through a four-pillar system that includes design (Historic Preservation), economic change, events, and organization. A principal characteristic that distinguishes HoB from the DDC is that members of the HoB do not have to be Biddeford residents, allowing building and business owners who live elsewhere a way in which to influence downtown efforts. The DDC also tends to focus on physical improvement projects that are developed and funded by the City.

As early as 1990, Biddeford's Zoning Ordinance contained provisions for a Biddeford Historical Zone and established a Biddeford Historic Zone Commission which reviewed and approved projects that needed a "building or other permit" within that zone.

Sometime between 1990 and 1999, however, the Historical Zone Commission's role had become only that of an Advisory Body and the Commission itself had effectively been dismantled. In 1999, the City's new Comprehensive Plan outlined that Historic Zones should be created and that a new Historical Zone Commission should be appointed. By early 2002, a new Historic Preservation Commission was appointed, but the Historic Preservation Ordinance still only gave the Commission advisory powers when reviewing projects that needed building or other permits.

In the December of 2003 Biddeford Blankets, in what is now known as North Dam Mill, closed its doors leaving approximately 200 people out of work. The closure, however, did make available approximately 230,000 SF of vacant mill space available for purchase and re-use, which subsequently has redeveloped into a nearly fully occupied mixed-use development.

In 2004, Reny's, Biddeford's last downtown department store, announced it would be relocating to a shopping plaza in Saco, a signal to many of an end to what had once been a vibrant retail center serving the workers and residents of Downtown and the Biddeford Mills.

In many ways, however, the loss of Biddeford Blankets and Reny's served as a launching pad for the retooling of Biddeford's Downtown into a growing place with modern residences, unique restaurants, boutiques, artists, and niche (boutique) manufacturing.

In June 2004, the City adopted the Alfred-Andrews Road Municipal Development and Tax Increment Financing District and adopted a development program under that District directing future property taxes generated by “The Shops at Biddeford Crossing” and other nearby development projects (see “Retail” below) to the Biddeford Downtown Area for economic development related activities.

In December 2008 the Biddeford-Saco Mills Historic District was added to the National Register of Historic Places thus enabling eligible properties to access Historic Tax Credits as a financing tool for redevelopment projects within the District. Subsequently, in December 2009 the Biddeford Main Street Historic District was added to the National Register of Historic Places.

In the June 2009 West Point Stevens, Inc., the last large textile manufacturer in Biddeford’s Mill District, closed its doors, leaving approximately 120 more mill workers suddenly jobless. Similar to the closure of Biddeford Blankets, the West Point Stevens closure made available a significant amount of floor area (approximately 674,055 SF) vacant and available for redevelopment, which is currently occurring under the name of the Pepperell Mill Campus.

In 2009, Biddeford completed a Mill District Master Plan, funded in part by the U.S. Economic Development Agency. This Plan was timely in that as noted above, West Point Stevens, Inc., ceased operating that same year. The Plan was created in order to develop significant City and private redevelopment initiatives in the Mill District. Numerous state and federal grants have been awarded for various community development projects, many of which were offspring from the 2009 Mill District Master Plan.

In summer 2011, a 4-year process was completed resulting in an end product *Downtown Master Plan*. The plan was a joint project of the City of Biddeford, the Heart of Biddeford, and the Orton Family Foundation. Although the Plan covers many elements that are discussed throughout this Comprehensive Plan, the overarching Vision for Downtown is of a center where people live, work, and shop.

Currently, Biddeford is experiencing a resurgence of what could be considered niche or boutique manufacturing in the Mill Buildings. Textiles, for example, has returned to the Mills in *Angelrox*, a clothing design and manufacturing firm that has relocated from Brooklyn, NY. As another

example, *Hyperlite Mountain Gear* has also located in the Mills, manufacturing ultralight backpacks, shelters, tents, and equipment.

In 2014, the City of Biddeford purchased and closed the Maine Energy Recovery Facility (MERC), located in the Mill District since the 1980s, which had long been seen as an impediment for further Downtown and Mill District redevelopment. Following its closure and demolition, the City enlisted *Camoine Associates* to conduct a Market Analysis and Feasibility Study for the redevelopment of 3 Lincoln Street, which formerly housed MERC.

2. Industry Outside of the Mill District:

As discussed above, from the 1800's on, aside from farming and forestry and related industries such as shipbuilding, industry in Biddeford was largely focused within the large mills in Downtown Biddeford along the Saco River. With a decline in the Mills beginning in the 1950's, Biddeford began to adjust and look for ways to attract other industries. In the 1960's, Biddeford formed an Economic Improvement Commission to encourage new industrial activity in the City. This Commission is still active today (2017).

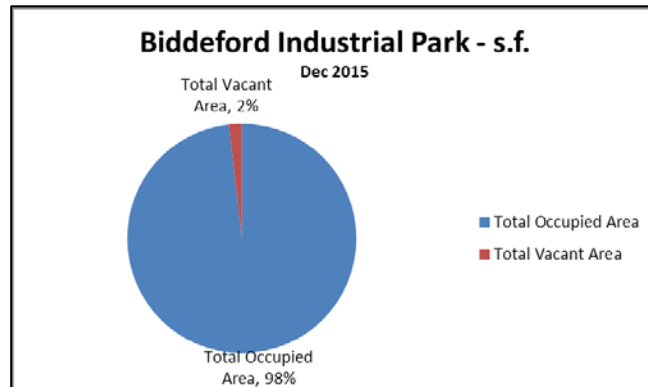
The first City-owned industrial park was established in 1967 (the Biddeford Industrial Park). Two other Industrial Parks were constructed through the 1970's: The Alfred Road Industrial Park and the Airport Industrial Park (built in 3 phases). Currently, all 3 Industrial Parks are nearly fully built out, without much available space to accommodate new industrial and business uses. Currently, the bulk of Biddeford's industrial uses and employment are located in the Industrial Parks, although other industrial uses do exist in areas, generally in close proximity to these Parks.

The Biddeford Industrial Park:

The Biddeford Industrial Park (BIP) is the City's first industrial park and comprises approximately 92 acres of land. As of December 2016 the status of the BIP was as follows:

- 13 buildings
- 21 business firms
- Approximately 400 full or part-time jobs
- 2% vacancy rate

Figure 3-1. Occupied and Vacant Floor Area (Square Feet) in the Biddeford Industrial Park as of December 2016.



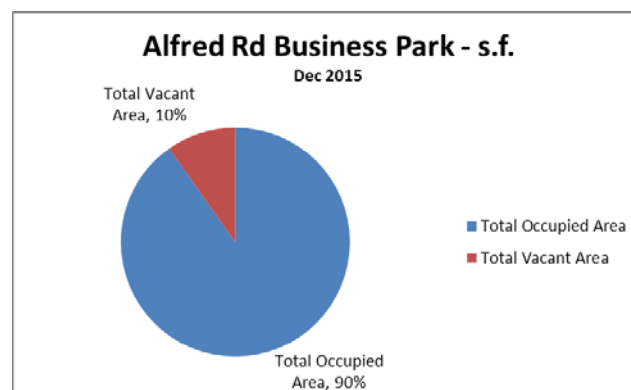
Source: Biddeford Economic Development Department, December 2016

The Alfred Road Industrial Park:

The Alfred Road Industrial Park is primarily composed of properties on Pomerleau Street, off Barra Road and Arena Drive. It is built on approximately 34 acres of land and houses a mix of uses, not all purely “industrial”. For example, the Biddeford-Saco-Old Orchard Beach Transit Committee’s (Shuttlebus-ZOOM) offices, maintenance facility, and bus yard are located in the Park. The current status of the Alfred Road Industrial Park is as follows:

- 13 buildings
- 13 business firms
- Approximately 225 full or part-time jobs
- 10% vacancy rate

Figure 3-2. Occupied and Vacant Floor Area (Square Feet) in the Alfred Road Industrial Park as of December 2016.



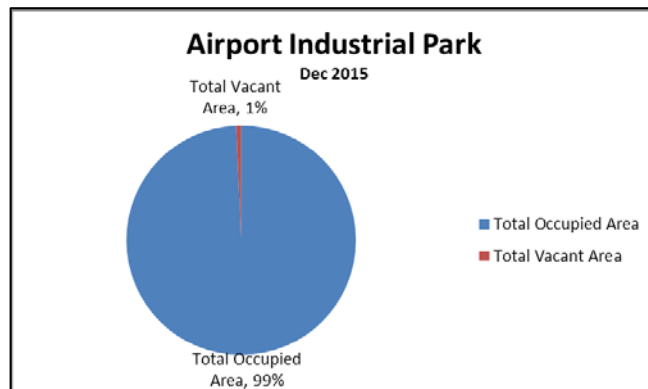
Source: Biddeford Economic Development Department, December 2016.

The Airport Industrial Park:

The Airport Industrial Park The city's largest and most active business park and is located on 168 acres of land. Currently, there are:

- 25 buildings
- 26 business firms
- Approximately 900 full or part-time jobs
- 1% vacancy rate

Figure 3-3. Occupied and Vacant Floor Area (Square Feet) in the Airport Industrial Park as of December 2016.



Source: Biddeford Economic Development Department, December 2016.

J.J. Nissen Baking Company:

In 1998, J.J. Nissen Baking Company (later Interstate Brands Corporation, then Hostess Brands, and then Flowers Baking Company) constructed a 260,000 square foot manufacturing facility off of the Biddeford Connector (Precourt Street) to the Maine Turnpike. Operating as Interstate Brands Corporation the bakery went through bankruptcy beginning in 2004, emerging in 2009 as Hostess Brands. In November 2012, however, following bankruptcy, Interstate Baking Company shut down leaving approximately 370 people out of work. Hostess Brands was acquired by Flowers Foods in 2013 but has not re-opened the manufacturing facility in Biddeford.

This facility was purchased in 2016 by Stag, Biddeford LLC and now a large portion of the building and site is leased out to FedEx Ground as a distribution facility employing approximately 36 full- and part-time workers.

For the most part, the parks are full and thriving. There are very limited areas to attract new manufacturing or business development other than the mills, nor are there areas that these mill manufacturing companies can expand to, should they desire.

3. Retail/Services outside of the Downtown (including Restaurants):

Until the 1950's Downtown was the center of retail activity in Biddeford. With the rise of the automobile, suburbanization, and the beginning of the decline of the Mills, retail began to move outside of Downtown in the typical form of strip plazas along the Route 1 (Elm Street) and Route 111 (Alfred Street) corridors. In chronological order, major retail centers/business that came into Biddeford include: Five Points Shopping Plaza at the corner of Elm Street and Alfred Street (1950), Mardens (1967), Five Points Shopping Center on Alfred Street (1978), Hannaford (1983), Shaw's (1997), Wal-Mart (1995) Biddeford Gateway Plaza (Home Depot, Kohls, and Applebees) (2000) and the Shops at Biddeford Crossing (2007). The following is a detailed list of the larger retail centers constructed in Biddeford from 1950 on, including each centers floor area and assessed value:

Table 3-1. Larger Retail Centers/Facilities in Biddeford constructed between 1950 and 2014 (approximately)

Commonly Known As Name	Address	Approximate Year Built	Assessed Value (2016)	Approximate Square Feet (Gross)
Five Points Shopping Plaza	380 Elm Street (Corner of Elm St. and Alfred St.)	1950	\$ 2,124,100	23,539
Mardens	435 Elm Street	1967	\$ 2,757,700	65,800
Five Points Shopping Center	416-420 Alfred Street	1978	\$ 9,634,000	153,000
Hannaford	313 Elm Street	1983	\$ 5,180,200	62,025
Home Depot	50 Gateway Plaza	2000	\$ 9,004,800	119,500
Kohls/Applebees	25-75 Gateway Plaza	2014/2000	\$ 8,587,000	71,015
Target	430 Mariner Way	2007	\$11,349,700	136,033
Biddeford Crossing	Shops Way and Mariner Way	2007	\$40,761,700	351,303

Indicating the relative strength of these commercial centers and retail in the City of Biddeford, some of the above have undergone significant renovations/redevelopment since their initial construction:

- In 2008-2009 Five Points Shopping Plaza went through a major face-lift renovation project, including some demolition, and made way for the construction of a new CVS Pharmacy pad site.
- In 2004 Five Points Shopping Center added a Ninety-Nine Restaurant pad in its parking lot. Similarly, in 2008 a Tim Horton's pad site and a Kennebunk Savings Bank pad site were also constructed within the center's parking lot adjacent to Route 111 (Alfred Street). Both of these pad sites are now occupied by different tenants than those that originally occupied the buildings.
- Following a general recession in 2008 Biddeford Crossing saw several stores and restaurants close, including the major anchor Lowe's, as well as secondary anchors Best Buy and Linen's N' Things. However, in 2013 the Shops at Biddeford Crossing saw a significant change as Demoulas purchased the center from the existing owners and filled the vacant Lowe's space with Maine's first Market Basket Supermarket. Market Basket opened in August 2013 and currently has approximately 315 full and part-time employees (55 Full-time, 260 Part-time).
- Most recently, due to structural issues with the development site, Kohl's Department Store was demolished and rebuilt. It reopened summer 2014 with a smaller floor area (approximately 65,000 square feet) on the same parcel of land in a slightly different location.

Other smaller retail projects have occurred from 2000 on. Examples include:

- Advance Auto Parts on Alfred Street
- NAPA Auto Parts off Route 1/Elm Street at Digital Drive
- Party Plus/Taylor Rental on Elm Street
- Biddeford Savings Bank/Ply It again Sports on Alfred Street
- Taco Bell/Jiffy Lube on Alfred Street
- The reconstruction of Rite Aid at the corner of Elm Street and Alfred Street (Five-Points)
- CVS Pharmacy at Five-Points
- Starbucks at Five-Points
- Five Star Auto Sales on Alfred Street (Biddeford's largest Auto Sales business)
- Cumberland Farms and Town Fair Tire on Alfred Street across from the Shops at Biddeford Crossing
- Biddeford Savings Bank plaza located at the corner of Alfred Street and West Cole Road.

In 2016, a new strip plaza, called Biddeford Shoppes, opened on Alfred Road across from Biddeford Crossing and now offers Dunkin Donuts, Five Guys restaurant, Mattress Firm, Firehouse Subs, U.S Cellular, GameStop, and SportsClips.

4. Offices:

Downtown Biddeford has traditionally been the focal point for businesses including financial and insurance institutions, law offices, and other professional offices. In fact, unlike the shifts in industry and retail to more suburban locations, with recent adjustments back into the Mill District and Downtown, the downtown area remains the center of office activity with one exception: medical offices.

Although many of the financial institutions have changed names over time, in Downtown Biddeford there remains Biddeford Savings Bank, Bangor Savings Bank, People's United Bank, and Ocean Communities Federal Credit Union. Just outside of Downtown is TD Bank, at Five Points (the corner of Alfred Street and Elm Street) is People's Choice Credit Union, and on Alfred Street near Southern Maine Health Care (formerly Southern Maine Medical Center) Biddeford Savings Bank has a branch office.

Downtown Biddeford is the home of York County District Court, which continues to draw the legal profession to Downtown due to its proximity. Currently, there are approximately 15 persons employed in Downtown Biddeford working in the legal sector. This will be changing as the State looks to consolidate all York County Courthouse operations onto Elm Street at the former Pate parcel currently owned by the City of Biddeford.

In 2017, the Maine State Administrative Office of the Courts completed a purchase and sale agreement with the City of Biddeford for a 12.7-acre parcel of land located at 511 Elm Street. This parcel, along with a 15-acre adjacent parcel at 384 Hill Street will be used to construct a new consolidated York County Courthouse, a \$65 million project. When completed, the new courthouse will employ approximately 70 workers. More than 500 persons will visit the courthouse each workday. These parcels have now been sold for the York County Courthouse project.

Another particularly notable professional office in Downtown Biddeford is Oak Point Associates, an Engineering and Architectural design firm that employees approximately 75 workers in Downtown Biddeford. Oak Point Associates has been in Biddeford since 1979.

Southern Maine Health Care:

As noted above, the medical field employment cluster has moved out of the downtown, for the most part, and has consolidated out in the Route 111/interchange area. It has, in turn, driven the development in the Robert Dodge business park. In Biddeford, the largest of these medical offices is Southern Maine Health Care (SMHC) who is Biddeford's largest employer with approximately 1,887 jobs (1,478 Full-time, 409 Part-time). Taken from their website (<http://www.smhc.org/about-smhc>), SMHC's history dates back to 1906 when Webber Hospital was originally formed.

Southern Maine Health Care (SMHC) is a nationally accredited, award-winning not-for-profit healthcare system based in Biddeford offering a comprehensive array of services including:

- A full-service medical center and 24-hour emergency department in Biddeford;
- A full-service medical center and 24-hour emergency department in Sanford;
- More than 20 offices located in Biddeford, Kennebunk, Old Orchard Beach, Saco, Sanford and Waterboro;
- An active medical staff of 172 physicians and an affiliated medical staff of 122 physicians;
- A multi-specialty physician services group, SMHC Physicians, comprising more than 125 physicians providing comprehensive primary and specialty services in communities throughout southern Maine;
- Non-emergency Walk-In Care centers in three communities – Kennebunk, Saco, and Waterboro;
- Centers for Breast Care, Sleep Disorders and Wound and Ostomy Care;
- Behavioral health services;
- Eldercare services;

- A full range of diagnostic services, including radiologic, nuclear medicine, interventional radiology, ultrasound, computerized chromatography scanning, and MRI; and
- Extensive rehabilitation services from physical, occupational and speech therapy to sports performance enhancement.

SMHC was formed on January 1, 2014, when Southern Maine Medical Center in Biddeford, which has provided medical care to the Biddeford communities since 1906, merged with Goodall Hospital in Sanford to become Southern Maine Health Care, the fifth largest healthcare system in Maine. SMHC is a member of MaineHealth, a family of leading high-quality healthcare organizations working together to make Maine communities the healthiest in America.

Today, SMHC has an extensive footprint in the Biddeford community with the Biddeford Medical Center at 1 Medical Center Drive, SMHC Physicians at 9 Healthcare Drive, the new Edward J. McGeachey Medical Office Building at 46 Barra Road, the Partial Hospitalization Program at 235 Main Street in downtown Biddeford, SMHC Dermatology at 26A West Cole Road and TravelWell at 2 Medical Center Drive.

SMHC has a significant economic impact on Biddeford and the communities of southern Maine, paying more than \$154 million annually for salaries and wages and employing 2200 people, many of them residents of Biddeford. With total operating revenues of almost \$249 million, SMHC is the largest employer in York County, Maine's southernmost county.

SMHC's care has been recognized as among the state's and nation's best, achieving the state's highest rating for patient safety, and national recognition as the Top Performer on Key Quality Measures® by The Joint Commission. SMHC's nurses were nationally recognized for nursing excellence by the American Nurses Credentialing Center. SMHC's Cancer Program also achieved Accreditation with Commendation, the highest level awarded.

Robert G. Dodge Business Park:

Many other medical offices and services have chosen to locate in close proximity to SMHC, located at 1 Medical Center Drive, close to the Maine

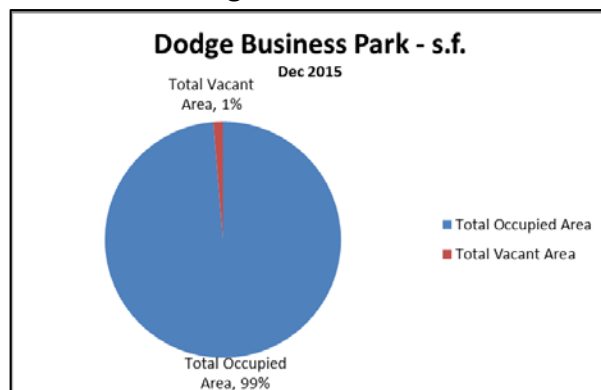
Turnpike (I-95). Of particular interest has been the development of the Robert G. Dodge Business Park (RGDBP), named after the late longtime Economic Development Director for the City of Biddeford. The RGDBP is located on 51 acres of land off Alfred Road and is convenient to the SMHC hospital itself that is on the south side of Alfred Road. The RGDBP was built in in the early 2000s and was envisioned as a multi-sector higher-end business park. Instead, aside from the Holiday Inn Express, all development so far has been medical-related.

SMHC has recently opened a 42,000 SF medical office facility in the RGDBP and leases another 51,000 SF facility in the Park. Counseling Services, Inc. occupies a 14,000 SF medical office building and owns another vacant lot for possible future expansion. Martin's Point Health Care has constructed a 7,800 SF facility in the RGDBP as well. Finally, another lot in the park houses a 12,000 SF medical office with four (4) separate medical office spaces.

What was originally envisioned as a multi-sector business park has in fact turned into a medical office park, seemingly in large part to its proximity to SMHC's facilities.

- 6 buildings, one under construction
- 8 firms/organizations
- Approximately 250 full or Part time jobs
- 1% vacancy rate (of built property)

Figure 3-4. Occupied and Vacant Floor Area (Square Feet) in the Robert G. Dodge Business Park as of March 2015.



Source: Biddeford Economic Development Department, December 2016

5. Institutions:

The University of New England (UNE):

The University of New England (UNE) is the key educationally based institution in Biddeford (other than the local school district). Formerly St. Francis College, UNE has seen continued growth in its facilities, faculty, and students since 2000. Reflecting on the continued growth of the campus through the 1980's and 1990's, and anticipating future growth moving forward, the 1999 Biddeford Comprehensive Plan recommended that the City of Biddeford adopt a new Institutional Zone Ordinance that would require the UNE to develop a 5-Year Master Plan for review and approval by the City. Only development projects included in the Master Plan can be executed by UNE. The Ordinance was adopted and UNE submitted its first Campus Master Plan.

In 2016, UNE employed 998 workers in Biddeford, serving more than 2,000 students here. It is also a direct pipeline in terms of workforce development, capable of filling many positions at Southern Maine Med.

6. The Creative Economy:

What is the "Creative Economy"? Although there are varied definitions for the term, this section will focus on the "Creative Economy" as it pertains to cultural resources. The New England Foundation for the Arts commissioned a research paper entitled *The Creative Economy: A New Definition* in 2007¹. This research paper redefined the Creative Economy to represent what the authors refer to as "the cultural core":

*Therefore, our definition of the creative economy is represented by the "cultural core". It includes occupations and industries that focus on the production and distribution of cultural goods, services and intellectual property. Excluded are products or services that are a result of non-culturally-based innovation or technology.*²

The authors break down the cultural core into occupations and industries.

¹ DeNatale, Douglas and Gregory H. Wassall. "The Creative Economy: A New Definition". New England Foundation for the Arts. 2007.

² Ibid. Page 10.

The report Appendix provides an extensive list of what they deem qualifies as core occupations, those being occupations that directly produce and/or distribute cultural goods, regardless of industry. For example, core occupations include architects, historians, history teachers, librarians, craft artists, fashion designers, actors, dancers, musicians and singers, music directors and composers, editors, photographers, desktop publishers, watch repairers, bookbinders, jewelers, makeup artists, and radio operators.

Industries include those that are involved in the production and/or distribution of cultural goods and services. The report Appendix provides an extensive list of what they deem qualifies as core industries, but by way of example this category includes: screen printing, book printing, audio and video equipment manufacturing, jewelry manufacturing, jewelry wholesalers and stores, radio and television stores, bookstores, art dealers, museums, newspaper publishers, sound recording studios, interior design services, architectural services, commercial photography, dance companies, historical sites, and theater companies.

In 2013 the Maine Department of Labor estimated that of the total employment in Maine (582,430 employed), 14,020 were employed in industries defined as being part of the Creative Economy if using the Standard Occupational Classification Codes identified in the DeNatale and Wassall report referenced above. See Table 3-2 below.

Although employment in the Creative Economy in the Portland-South Portland-Biddeford Metropolitan Area and Cumberland County as a proportion of total employment are fairly consistent with those for the State of Maine as a whole (2.29%, 2.49%, and 2.41% respectively), York County appears to have a relatively low proportion (1.00%).

At this time City Staff has been unable to locate data for the City of Biddeford alone in order to provide a relative comparison in order to place Biddeford in context with these other geographic areas. It is suspected that Biddeford's contribution to the Creative Economy is significantly higher in Employment than that estimated for York County as a whole.

Table 3-2. Occupational Employment Estimates based on Standard Occupational Classification (SOC) Codes for Core Creative Economy Employment, 2013.

2013 Maine DOL Estimates	Total Employment	Estimated Employment in Creative Economy	% Estimated Employment in Creative Economy
State of Maine	582,340	14,020	2.41%
Bangor Metropolitan Area	63,290	730	1.15%
Lewiston-Auburn Metropolitan Area	46,730	200	0.43%
Portland-South Portland-Biddeford Metropolitan Area	197,620	4,520	2.29%
Cumberland County	178,460	4,440	2.49%
York County	65,780	660	1.00%

Source: Maine Department of Labor. "Occupational Employment and Wage Estimates, 2013". <http://www.maine.gov/labor/cwri/oes.html>. Accessed 03/24/2015.

When examining employment clusters, a key sister of this industry is the emerging food-based industry. This industry, in conjunction with arts, culture and entertainment, is actually a key part of the workforce. Programs that encourage their joint marketing and cooperation are critical to the downtown's future.

7. Lodging:

At the time of this Plan Biddeford does not have a significant amount of lodging facilities (i.e., hotels, motels, and bed and breakfasts) available:

- Holiday Inn Express – 45 Barra Road – 69 Rooms
- D'Alaires – 528 Elm Street – 8 Rooms, 15 Cottages
- Sleepy Hollow – 297 Elm Street – 25 Rooms
- America's Best – 2 Pomerleau Street – 19 Rooms
- Biddeford Motel – 560 Elm Street – 17 Rooms, 2 Cottages

In total, there are 138 Rooms and 17 Cottages available for rent in Biddeford. A web survey of Air B&B (Bed and Breakfast) on March 28, 2017, also

indicates that there are approximately 16 properties available for short-term leases in Biddeford.

Recently the Biddeford Planning Board approved a new Downtown Mixed-Use project in the Lincoln Mill. As proposed, phase one will include 180-luxury apartments. Phase two will be an adjacent, stand-alone approximately 30-room boutique-style hotel. Other possibilities, including the redevelopment of the Thatcher building, are possible to serve this visitor group.

B. Size of Labor Force:

The size of the labor force (civilian), those persons working or seeking work, can be used to shed in light into the relative proportion of a total population that is participating in the workforce. It can also be used to gauge unemployment levels. The following section uses American Community Survey 5-Year Estimates to information to describe both of these conditions, comparing Biddeford to York County and State, comparing Biddeford to its 15-Mile Labor Market Area, and comparing Biddeford to its Peer Group. The 15-Mile Labor Area communities and the Peer Group communities were defined in Section 4: Population and Demographics, of this Plan.

1. Civilian Labor Force as a Percent of Total Population:

According to the U.S. Census American Community Survey Biddeford estimated Civilian Labor Force was estimated at 12,221. The working-age population here is 17,745. This translates to 68.9% of Biddeford's working age population in the Civilian Labor Force. This is a relatively high percentage compared to both York County (67.0%) and the State of Maine (63.4%). For comparison purposes, the labor participation rate for the United States as of 2015 was 63.7%. Coupling this with the information provided in Table 3-3 it appears that Biddeford has a relatively large segment of its population either working or looking for work, and a relatively large proportion of the labor force in Biddeford is working, compared to York County and the State of Maine.

Table 3-3. Civilian Labor Force Estimates Compared to Total Population Estimates for Biddeford, York County, and the State of Maine – 2011-2015 5-Year Estimate

Geography	Estimated Total Population	Population 16 Years and over	Civilian Labor Force	% of Pop. 16 years and over in the Civilian Labor Force
Biddeford	21,289	17,745	12,221	68.9%
York County	199,684	164,121	109,950	67.0%
State of Maine	1,329,100	1,098,075	696,184	63.4%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Comparing Biddeford (68.9%) to the LMA as a whole (67.5%) indicates that Biddeford has only slightly higher labor participation rate (Table 3-4) than the Labor Market Area. Biddeford is near the median of 68.8%. The span between the highest (Buxton at 74.6%) and the lowest in the LMA (Wells at 56.5%) is pronounced.

Table 3-4. Civilian Labor Force Estimates Compared to Total Population for Biddeford's 15-Mile Labor Market Area Communities – Ranked by Percent of Population 16 Years and Over in the Civilian Labor Force – 2011-2015 5-Year Estimate

Geography	County	Estimated Total Population	Population 16 Years and Over	Civilian Labor Force	% of Pop. 16 years and over in the Civilian Labor Force
Buxton	York	8,106	6,690	4,994	74.6%
Hollis	York	4,377	3,498	2,581	73.8%
Dayton	York	1,973	1,639	1,204	73.5%
Gorham	Cumberland	16,834	13,447	9,819	73.0%
Arundel	York	4,127	3,372	2,429	72.0%
South Portland	Cumberland	25,304	20,945	14,932	71.3%
Saco	York	18,874	15,650	11,101	70.9%
Portland	Cumberland	66,490	56,368	39,309	69.7%
Lyman	York	4,375	3,535	2,460	69.6%
Biddeford	York	21,289	17,745	12,221	68.9%
Waterboro	York	7,756	5,833	4,010	68.7%
Scarborough	Cumberland	19,348	15,558	10,418	67.0%
Kennebunk	York	11,051	9,228	6,052	65.6%
Westbrook	Cumberland	17,754	14,792	9,669	65.4%

Cape Elizabeth	Cumberland	9,157	7,499	4,897	65.3%
Kennebunkport	York	3,535	2,962	1,934	65.3%
Sanford	York	20,864	16,416	10,256	62.5%
Alfred	York	3,054	2,631	1,580	60.1%
Old Orchard Beach	York	8,697	7,780	4,610	59.3%
Wells	York	9,869	8,534	4,819	56.5%
Total LMA		282,834	234,122	157,967	67.5%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Finally, Table 3-5 compares Biddeford (68.9%) to its Peer Group of Service Center Communities. The indication is that Biddeford has a higher percentage of the total population in the Civilian Labor Force than does the Peer Group average (64.3%). There are two Peer Group communities that have noticeably higher percentages, in fact, than the rest of the group, those communities are Saco (70.9%), South Portland (71.3%).

Table 3-5. Civilian Labor Force Estimates Compared to Total Population for Biddeford's Peer Group Communities – Ranked by Percent of the Population 16 Years and Over in the Civilian Labor Force – 2011-2015 5-Year Estimate

Geography	County	Estimated Total Population	Population 16 Years and Over	Civilian Labor Force	% of Pop. 16 years and over in the Civilian Labor Force
South Portland	Cumberland	25,304	20,945	14,932	71.3%
Saco	York	18,874	15,650	11,101	70.9%
Biddeford	York	21,289	17,745	12,221	68.9%
Westbrook	Cumberland	17,754	14,792	9,669	65.4%
Auburn	Androscoggin	22,916	18,289	11,854	64.8%
Lewiston	Androscoggin	36,356	29,672	18,785	63.3%
Sanford	York	20,864	16,416	10,256	62.5%
Brunswick	Cumberland	20,378	17,376	10,753	61.9%
Bangor	Penobscot	32,695	27,335	16,685	61.0%
Augusta	Kennebec	18,772	15,563	9,441	60.7%
Waterville	Kennebec	15,989	13,419	7,552	56.3%
Total Peer Group		251,191	207,202	133,249	64.3%

Source: U.S. Census, American Community Survey 2011-2015 Estimate

2. Civilian Labor Force Estimates and Employment:

According to the U.S. Census American Community Survey, Biddeford's estimated Civilian Labor Force was at 12,221, of which 11,541 were employed and 680 were unemployed. This represents a slightly smaller unemployment rate as York County, but a noticeably lower rate than the State of Maine as a whole (Table 3-6).

Table 3-6. Civilian Labor Force Estimates for Biddeford, York County, and the State of Maine – 2011-2015 5-Year Estimate

Geography	Civilian Labor Force	Employed	Unemployed	% Unemployed
Biddeford	12,221	11,541	680	5.6%
York County	109,950	103,506	6,444	5.7%
State of Maine	696,184	648,687	47,497	6.8%

Source: U.S. Census, American Community Survey 2011-2015 Estimate

In terms of Biddeford's 15-Mile LMA, Biddeford, with an estimated unemployment of 5.6%, falls slightly below that of the LMA as a whole (5.7%) and below the median (5.9%). The LMA percentage unemployment ranges greatly, from a high of 8.1% in Old Orchard Beach to 2.6% in Cape Elizabeth. The three communities with the highest estimated percentage unemployed are Old Orchard Beach, Sanford, and Westbrook (8.1%, 7.6%, and 7.6% respectively) two of the three communities with the lowest unemployment rates are in Cumberland County. Cape Elizabeth has the lowest estimated percentage unemployed at 2.6%.

Table 3-7. Civilian Labor Force Estimates for Biddeford's 15-Mile Labor Market Area Communities – Ranked by % Unemployed – 2011-2015 5-Year Estimate

Geography	County	Civilian Labor Force	Employed	Unemployed	% Unemployed
Old Orchard Beach	York	4,610	4,237	373	8.1%
Sanford	York	10,256	9,472	784	7.6%
Westbrook	Cumberland	9,669	8,930	739	7.6%
Alfred	York	1,580	1,469	111	7.0%
Waterboro	York	4,010	3,730	280	7.0%
Portland	Cumberland	39,309	36,663	2,646	6.7%
Kennebunk	York	6,052	5,666	386	6.4%
Kennebunkport	York	1,934	1,811	123	6.4%

Hollis	York	2,581	2,417	164	6.4%
South Portland	Cumberland	14,932	14,050	882	5.9%
Lyman	York	2,460	2,315	145	5.9%
Buxton	York	4,994	4,707	287	5.8%
Biddeford	York	12,221	11,541	680	5.6%
Wells	York	4,819	4,586	233	4.8%
Dayton	York	1,204	1,155	49	4.1%
Arundel	York	2,429	2,332	97	4.0%
Gorham	Cumberland	9,819	9,455	364	3.7%
Saco	York	11,101	10,751	350	3.2%
Scarborough	Cumberland	10,418	10,114	304	2.9%
Cape Elizabeth	Cumberland	4,897	4,772	125	2.6%
Total LMA		159,295	150,173	9,122	5.7%

Source: U.S. Census, American Community Survey 2011-2015 Estimate

When comparing Biddeford to the Peer Group, however, Biddeford at 5.6% estimated unemployed civilian labor force is relatively low (the second lowest of the Peer Group) compared to the Peer Group as a whole (7.2%) as well as the median (7.6% - Westbrook). Waterville, with a much higher rate than other Peer communities (see Table 3-8), significantly skews the Peer Group total higher and there is no community with an exceptionally low rate, like Cape Elizabeth (see Table 3-7 above) which can balance the overall Peer Group rate. This is a typical characteristic of older, service center communities.

Table 3-8. Civilian Labor Force Estimates for Biddeford's Peer Group Communities – Ranked by % Unemployed – 2011-2015 5-Year Estimate

Geography	County	Civilian Labor Force	Employed	Unemployed	% Unemployed
Waterville	Kennebec	7,552	6,552	1,000	13.2%
Bangor	Penobscot	16,685	15,135	1,550	9.3%
Lewiston	Androscoggin	18,785	17,323	1,462	7.8%
Augusta	Kennebec	9,441	8,716	725	7.7%
Sanford	York	10,256	9,472	784	7.6%
Westbrook	Cumberland	9,669	8,930	739	7.6%
Auburn	Androscoggin	11,854	11,067	787	6.6%
Brunswick	Cumberland	10,753	10,078	675	6.3%
South Portland	Cumberland	14,932	14,050	882	5.9%
Biddeford	York	12,221	11,541	680	5.6%
Saco	York	11,101	10,751	350	3.2%
Total Peer Group		133,249	123,615	9,634	7.2%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

C. Employed Labor Force by Industry:

The following three tables show employment by industry. Biddeford is compared to York County, the State of Maine, Biddeford's 15-Mile Labor Market Area, and Biddeford's Peer Group. These tables show not only the number of workers employed in each industry but also the share each industry makes up in the overall economy of each geography. In Biddeford, the strongest industry is Educational Services, Health Care and Social Assistance, where 24.6% of workers are employed. This is understandable; as shown later in this chapter, Southern Maine Health Care and the University of New England are Biddeford's top two employers. This industry also has a similar share of the labor force in York County, the State of Maine, the LMA, and the Peer Group. However, Manufacturing and retail sectors also remain important sectors to the community. The arts and food industry is strong as well, offering a base on which to build upon. These six industry groups are ones in which Biddeford should look to further strengthen.

Table 3-9. Civilian Labor Force Estimates by Industry for Biddeford, York County, and the State of Maine – 2011-2015 5-Year Estimate

Geography	Civilian Employed Population 16 Years and Older	Agriculture, Forestry, Fishing and Hunting, and Mining	Construction	Manufacturing	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance and Insurance, and Real Estate and Rental and Leasing	Professional, Scientific, and Management, and Administrative and Waste Management Services	Educational Services, and Health Care and Social Assistance	Arts, Entertainment, and Recreation, and Accommodation and Food Services	Other Services, except Public Admin.	Public Admin.
Biddeford	11,541	49	854	1,276	320	1,530	457	254	806	857	2,794	1,608	419	326
York County	103,506	1161	7,212	13,032	2,588	13,031	3,708	2,013	7,144	9,389	25,487	10,044	4,234	4,463
State of Maine	648,687	16,539	44,905	60,551	14,886	87,062	24,363	11,470	39,970	55,953	178,206	57,726	28,833	28,223
Biddeford	11,541	0.42%	7.40%	11.06%	2.77%	13.26%	3.96%	2.20%	6.98%	7.43%	24.21%	13.93%	3.63%	2.82%
York County	103,506	1.12%	6.97%	12.59%	2.50%	12.59%	3.58%	1.94%	6.90%	9.07%	24.62%	9.70%	4.09%	4.31%
State of Maine	648,687	2.55%	6.92%	9.33%	2.29%	13.42%	3.76%	1.77%	6.16%	8.63%	27.47%	8.90%	4.44%	4.35%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Table 3-10. Civilian Labor Force Estimates by Industry for Biddeford’s 15-Mile Labor Market Area Communities (No Ranking) – 2011-2015 5-Year Estimate

Geography	County	Civilian Employed Population 16 Years and Older	Agriculture, Forestry, Fishing and Hunting, and Mining	Construction	Manufacturing	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance and Insurance, and Real Estate and Rental and Leasing	Professional, Scientific, and Management, and Administrative and Waste Management Services	Educational Services, and Health Care and Social Assistance	Arts, Entertainment, and Recreation, and Accommodation and Food Services	Other Services, except Public Admin.	Public Admin.
Sanford	York	9,472	104	589	1,588	200	1,321	262	188	466	709	2,252	933	499	361
Old Orchard Beach	York	4,237	48	205	531	42	422	177	117	300	458	944	725	140	128
Waterboro	York	3,730	12	257	478	195	350	159	50	358	156	1,021	258	162	274
Westbrook	Cumberland	8,930	95	593	667	340	1,200	240	142	1,015	890	2,224	951	302	271
Portland	Cumberland	36,663	196	1,421	2,546	904	4,140	962	1,052	3,066	4,647	10,388	4,698	1,708	935
Buxton	York	4,707	0	275	762	85	875	208	106	183	486	998	327	295	107
Dayton	York	1,155	11	117	165	36	148	27	36	108	66	282	82	30	47
Kennebunk	York	5,666	58	339	559	164	447	158	226	525	662	1,556	655	117	200
Hollis	York	2,417	29	204	415	61	257	77	37	269	160	561	111	69	167
Alfred	York	1,469	12	153	239	107	149	81	36	46	94	334	79	75	64
Arundel	York	2,332	106	163	261	67	276	92	76	273	116	624	166	44	68
Biddeford	York	11,541	49	854	1,276	320	1,530	457	245	806	857	2,794	1,608	419	326
Saco	York	10,751	49	685	1,085	151	1,539	407	244	877	940	2,838	1,163	346	427
Kennebunkport	York	1,811	75	93	99	30	84	9	91	188	177	443	348	93	81
Gorham	Cumberland	9,455	42	446	752	281	1,338	299	128	1,010	1,011	2,850	708	327	263
South Portland	Cumberland	14,050	139	550	1,017	251	2,039	359	394	1,213	2,039	3,558	1,526	706	259
Lyman	York	2,315	81	191	288	30	225	163	26	97	277	589	215	36	97
Scarborough	Cumberland	10,114	51	380	714	397	1,794	430	254	1,261	1,072	2,412	735	296	318
Wells	York	4,586	0	234	533	19	485	86	52	465	389	1,164	639	156	364
Cape Elizabeth	Cumberland	4,772	66	220	285	163	350	79	87	715	771	1,452	202	258	124
Total LMA		150,173	1,223	7,969	14,260	3,843	18,969	4,732	3,587	13,241	15,977	39,284	16,129	6,078	4,881
Biddeford %		100.0%	0.42%	7.40%	11.06%	2.77%	13.26%	3.96%	2.12%	6.98%	7.43%	24.21%	13.93%	3.63%	2.82%
LMA %		100.0%	0.81%	5.31%	9.50%	2.56%	12.63%	3.15%	2.39%	8.82%	10.64%	26.16%	10.74%	4.05%	3.25%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Table 3-11. Civilian Labor Force Estimates by Industry for Biddeford’s Peer Group Communities (No Ranking) – 2011-2015 5-Year Estimate

Geography	County	Civilian Employed Population 16 Years and Older	Agriculture, Forestry, Fishing and Hunting, and Mining	Construction	Manufacturing	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance and Insurance, and Real Estate and Rental and Leasing	Professional, Scientific, and Management, and Administrative and Waste Management Services	Educational Services, and Health Care and Social Assistance	Arts, Entertainment, and Recreation, and Accommodation and Food Services	Other Services, except Public Admin.	Public Admin.
Waterville	Kennebec	6,552	23	387	334	165	1,064	274	18	352	390	2,175	831	311	228
Lewiston	Androscoggin	17,323	172	1,134	2,100	330	2,277	577	384	1,200	1,391	4,882	1,290	979	607
Sanford	York	9,472	104	589	1,588	200	1,321	262	188	466	709	2,252	933	499	361
Augusta	Kennebec	8,716	81	407	364	309	1,147	415	143	443	807	2,226	840	375	1,159
Westbrook	Cumberland	8,930	95	593	667	340	1,200	240	142	1,015	890	2,224	951	302	271
Auburn	Androscoggin	11,067	98	492	1,093	296	1,665	563	214	911	777	3,003	1,233	365	357
Bangor	Penobscot	15,135	63	689	392	242	2,467	546	356	753	1,039	5,383	1,885	853	467
Brunswick	Cumberland	10,078	145	583	596	163	1,358	269	115	562	867	3,414	1,122	579	305
Biddeford	York	11,541	49	854	1,276	320	1,530	457	245	806	857	2,794	1,608	419	326
Saco	York	10,751	49	685	1,085	151	1,539	407	244	877	940	2,838	1,163	346	427
South Portland	Cumberland	14,050	139	550	1,017	251	2,039	359	394	1,213	2,039	3,558	1,526	706	259
Total Peer Group		123,615	1,018	6,963	10,512	2,767	17,607	4,369	2,443	8,598	10,706	34,749	13,382	5,734	4,767
Biddeford %		100.0%	0.42%	7.40%	11.06%	2.77%	13.26%	3.96%	2.12%	6.98%	7.43%	24.21%	13.93%	3.63%	2.82%
Peer Group %		100.0%	0.82%	5.63%	8.50%	2.24%	14.24%	3.53%	1.98%	6.96%	8.66%	28.11%	10.83%	4.64%	3.86%

Source: U.S. Census, American Community Survey 2011-2015 Estimate.

D. General Description of Major Employers in Biddeford and Local Area:

Table 3-12. Largest Biddeford Employers (non-City), September 2016.

Employer Name	Type of Employer	Total Number of Employees
Southern Maine Health Care	Health Care	1,324
University of New England	Institution	998
Market Basket	Retail	350
Wal-Mart	Retail	265
AVX Tantalum	Manufacturing	243
Hannaford	Retail	186
Fiber Materials Inc.	Manufacturing	160
Southridge Rehabilitation	Health Care	152
Home Depot	Retail	150
Maine Behavioral Healthcare	Health Care	130

Source: Telephone Survey by Brad Favreau the week of September 30, 2016

The top employers in Biddeford reflect industry by employment as shown in the previous tables. As of 2016, the top ten employers here (shown above) are all in the three industries, 'Education Services, Health Care and Social Assistance,' 'Manufacturing,' and 'Retail Trade,' that employ the greatest share of the total Civilian Labor Force in Biddeford.

With approximately 661 workers, the City of Biddeford employs approximately 5.3% of the labor force.

Table 3-13. Biddeford Employees by Location as of May 2017.

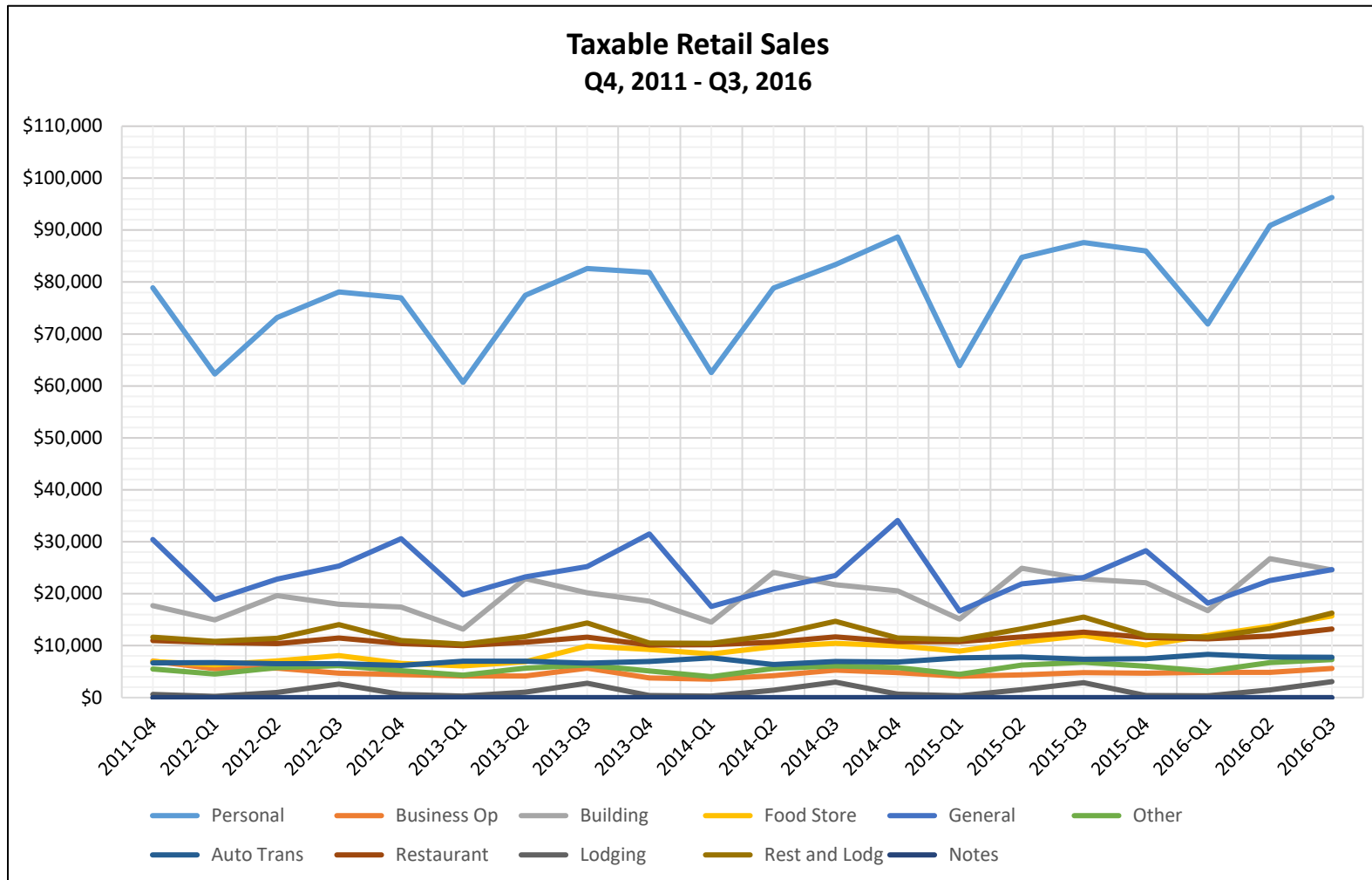
City of Biddeford	Total Number of Employees
City Hall (Includes Cable Access)	68
School Department	388
Public Works	72
Recreation	5 FT/ Seas/P/T 95
Police	83
Fire	45

Source: Human Resources Department, May 2017

E. Taxable Retail Consumer Sales:

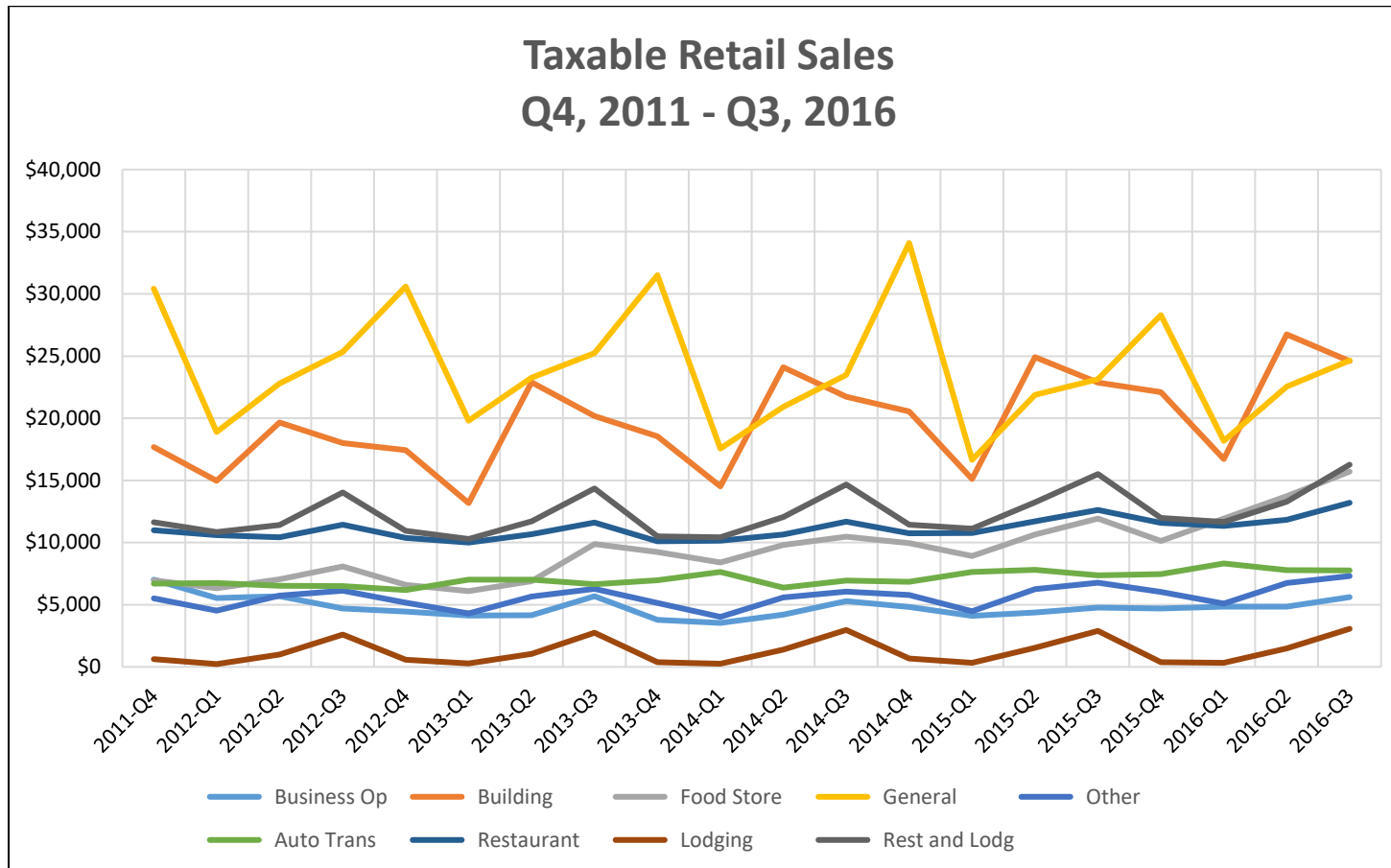
Figure 3-5 on the following page provides an indication of Taxable Retail Sales for Biddeford for the five-year period from fourth quarter 2011 to the third quarter of 2016. Figure 3-5 clearly indicates that Personal Taxable Retail Sales far exceed any other category of retail sales for every quarter. It also indicates a clear pattern in lower sales in the 1st quarter than in any other quarter.

Figure 3-6 removes Personal Retail Sales from the chart in order to allow a better visualization of the other categories. For most quarters within this time period, General Retail Sales surpassed Building Retail Sales and has remained the strongest since (other than Personal Retail Sales).

Figure 3-5. Taxable Retail Sales in Biddeford from 2004 to the 2nd Quarter of 2014.

Source: Maine Revenue Service

Figure 3-6. Taxable Retail Sales in Biddeford from 2004 to the 2nd Quarter of 2014 (Not Including Personal Retail Sales).



Source: Maine Revenue Service

F. Commuter Patterns:

In examining commuting information, it can first be helpful to understand how Biddeford residents commute (i.e., by what means of transportation). The U.S. Census Bureau American Community Survey provides 5-Year Estimates of this information for 2011-2015.

Table 3-14 compares Biddeford to the State and York County. Biddeford's Mean Travel Time (22.5 minutes) is estimated to be slightly below that of the State as a whole (23.6 minutes), and significantly below that of York County (27.8 minutes).

Compared to the Labor Market Area, Biddeford is closer to the median travel time of 24.75 minutes. The shortest travel time, 18.4 minutes, is in Portland while the longest is in Waterboro at 44.3 minutes. The span of travel times in the LMA is 25.9 minutes. Among the Peer Group communities, Biddeford mean travel time is greater than the median time (19.9 minutes in Auburn) but significantly shorter than in Sanford, where the mean travel time is 27.1 minutes. The span of travel time among the Peer Group is 12.4 minutes.

Biddeford residents spend less time, on average, commuting to and from work than do residents of other communities in the LMA, but a greater amount of time as compared to the Peer Group communities.

Commuters in Biddeford rely somewhat less on driving alone to work than commuters in other communities. Here, 73% of commuters drive alone, as compared with a median rate of 81% in the Labor Market Area, in a range is 86% to 67%. Among Peer Group communities, the median rate of driving alone to work is 76%, in a range of 82% to 67%. On average, Biddeford residents are more likely to take advantage of carpools, walking or 'other means' to travel to work than other communities in both the LMA or Peer Group.

Table 3-14. Commuting Means of Transportation for Biddeford, York County, and the State of Maine – 2011-2015 5-Year Estimate

Geography	Workers 16 Years and Older	Car, Truck, or Van - Drove Alone	Car, Truck, or Van - Carpooled	Public Transportation	Walked	Other Means	Worked At Home	Mean Travel Time (Minutes)
Biddeford	11,206	8,176	1,253	31	885	349	512	22.5
York County	101,696	80,987	9,972	704	2,475	1,397	6,161	27.8
State of Maine	635,475	495,743	65,287	4,032	25,475	10,451	34,487	23.6

Source: U.S. Census, American Community Survey 2011-2015 Estimate

Table 3-15. Commuting Means of Transportation (%) for Biddeford, York County, and the State of Maine – 2011-2015 5-Year Estimate

Geography	Workers 16 Years and Older	Car, Truck, or Van - Drove Alone	Car, Truck, or Van - Carpooled	Public Transportation	Walked	Other Means	Worked At Home
Biddeford	11,206	72.96%	11.18%	0.28%	7.90%	3.11%	4.57%
York County	101,696	79.64%	9.81%	0.69%	2.43%	1.37%	6.06%
State of Maine	635,475	78.01%	10.27%	0.63%	4.01%	1.64%	5.43%

Source: U.S. Census, American Community Survey 2011-2015 Estimate

Table 3-16. Commuting Means of Transportation for Biddeford's 15-Mile Labor Market Area Communities – Ranked by Estimated Mean Travel Time (Least to Greatest) – 2011-2015 5-Year Estimate

Geography	County	Workers 16 Years and Older	Car, Truck, or Van - Drove Alone	Car, Truck, or Van - Carpooled	Public Transportation	Walked	Other Means	Worked At Home	Mean Travel Time (Minutes)
Portland	Cumberland	36,318	24,467	3,106	1,121	4,413	1,145	2,066	18.4
Scarborough	Cumberland	9,955	8,467	679	93	119	65	532	19.4
South Portland	Cumberland	13,916	11,034	1,371	234	293	312	672	19.5
Cape Elizabeth	Cumberland	4,688	3,807	261	16	79	91	434	20.1
Westbrook	Cumberland	8,724	7,162	779	289	131	81	282	21.3
Arundel	York	2,309	1,919	145	12	46	78	109	21.8
Kennebunk	York	5,516	4,716	283	1	41	0	475	22
Biddeford	York	11,206	8,176	1,253	31	885	349	512	22.5
Saco	York	10,506	8,464	1,257	116	187	55	427	23.2
Old Orchard Beach	York	4,155	3,333	332	81	84	67	258	23.5
Gorham	Cumberland	9,294	7,163	1,152	29	399	151	400	24.7
Wells	York	4,417	3,652	376	30	107	34	218	24.8
Sanford	York	9,318	7,258	1,115	116	150	174	505	27.1
Kennebunkport	York	1,788	1,407	157	21	25	43	135	29.5
Lyman	York	2,285	1,835	222	18	18	59	133	29.9
Dayton	York	1,146	985	68	0	1	4	88	31.5
Alfred	York	1,437	1,199	99	6	5	64	64	31.6
Buxton	York	4,634	3,923	386	0	0	34	291	32.4
Hollis	York	2,352	1,950	258	7	19	0	118	33
Waterboro	York	3,712	3,008	468	0	28	36	172	44.3
Total LMA		147,676	113,925	13,767	2,221	7,030	2,842	7,891	N/A

Source: U.S. Census, American Community Survey 2011-2015 Estimate

Table 3-17. Commuting Means of Transportation (%) for Biddeford's 15-Mile Labor Market Area Communities – Ranked by % “Car, Truck or Van – Drove Alone” Greatest to Least – 2011-2015 5-Year Estimate

Geography	County	Workers 16 Years and Older	Car, Truck, or Van - Drove Alone	Car, Truck, or Van - Carpooled	Public Transportation	Walked	Other Means	Worked At Home
Dayton	York	1,146	86.0%	5.9%	0.00%	0.09%	0.4%	7.7%
Kennebunk	York	5,516	85.5%	5.1%	0.02%	0.74%	0.0%	8.6%
Scarborough	Cumberland	9,955	85.1%	6.8%	0.93%	1.20%	0.7%	5.3%
Buxton	York	4,634	84.7%	8.3%	0.00%	0.00%	0.7%	6.3%
Alfred	York	1,437	83.4%	6.9%	0.42%	0.35%	4.5%	4.5%
Arundel	York	2,309	83.1%	6.3%	0.52%	1.99%	3.4%	4.7%
Hollis	York	2,352	82.9%	11.0%	0.30%	0.81%	0.0%	5.0%
Wells	York	4,417	82.7%	8.5%	0.68%	2.42%	0.8%	4.9%
Westbrook	Cumberland	8,724	82.1%	8.9%	3.31%	1.50%	0.9%	3.2%
Cape Elizabeth	Cumberland	4,688	81.2%	5.6%	0.34%	1.69%	1.9%	9.3%
Waterboro	York	3,712	81.0%	12.6%	0.00%	0.75%	1.0%	4.6%
Saco	York	10,506	80.6%	12.0%	1.10%	1.78%	0.5%	4.1%
Lyman	York	2,285	80.3%	9.7%	0.79%	0.79%	2.6%	5.8%
Old Orchard Beach	York	4,155	80.2%	8.0%	1.95%	2.02%	1.6%	6.2%
South Portland	Cumberland	13,916	79.3%	9.9%	1.68%	2.11%	2.2%	4.8%
Kennebunkport	York	1,788	78.7%	8.8%	1.17%	1.40%	2.4%	7.6%
Sanford	York	9,318	77.9%	12.0%	1.24%	1.61%	1.9%	5.4%
Gorham	Cumberland	9,294	77.1%	12.4%	0.31%	4.29%	1.6%	4.3%
Biddeford	York	11,206	73.0%	11.2%	0.28%	7.90%	3.1%	4.6%
Portland	Cumberland	36,318	67.4%	8.6%	3.09%	12.15%	3.2%	5.7%
Total LMA		147,676	77.2%	9.3%	1.50%	4.76%	1.9%	5.3%

Source: U.S. Census, American Community Survey 2011-2015 Estimate

Table 3-18. Commuting Means of Transportation for Biddeford's Peer Group Communities – Ranked by Estimated Mean Travel Time (Least to Greatest) – 2011-2015 5-Year Estimate

Geography	County	Workers 16 Years and Older	Car, Truck, or Van - Drove Alone	Car, Truck, or Van - Carpooled	Public Transportation	Walked	Other Means	Worked At Home	Mean Travel Time (Minutes)
Bangor	Penobscot	14,942	11,365	1,578	222	782	319	676	14.7
Augusta	Kennebec	8,551	6,927	669	21	308	307	319	17.1
Waterville	Kennebec	6,350	4,239	765	0	873	263	210	17.4
Brunswick	Cumberland	10,045	7,407	709	17	1,034	288	590	18.9
South Portland	Cumberland	13,916	11,034	1,371	234	293	312	672	19.5
Auburn	Androscoggin	10,769	8,001	1,762	42	456	206	302	19.9
Lewiston	Androscoggin	16,872	12,221	2,158	90	1,401	521	481	20.0
Westbrook	Cumberland	8,724	7,162	779	289	131	81	282	21.3
Biddeford	York	11,206	8,176	1,253	31	885	349	512	22.5
Saco	York	10,506	8,464	1,257	116	187	55	427	23.2
Sanford	York	9,318	7,258	1,115	116	150	174	505	27.1
Total Peer Group		121,199	92,254	13,416	1,178	6,500	2,875	4,976	N/A

Source: U.S. Census, American Community Survey 2011-2015 Estimate

Table 3-19. Commuting Means of Transportation for Biddeford's Peer Group Communities – Ranked by % “Car, Truck or Van – Drove Alone” Greatest to Least – 2011-2015 5-Year Estimate

Geography	County	Workers 16 Years and Older	Car, Truck, or Van - Drove Alone	Car, Truck, or Van - Carpooled	Public Transportation	Walked	Other Means	Worked At Home
Westbrook	Cumberland	8,724	82.1%	8.9%	3.3%	1.5%	0.9%	3.2%
Augusta	Cumberland	8,551	81.0%	7.8%	0.2%	3.6%	3.6%	3.7%
Saco	Kennebec	10,506	80.6%	12.0%	1.1%	1.8%	0.5%	4.1%
South Portland	York	13,916	79.3%	9.9%	1.7%	2.1%	2.2%	4.8%
Sanford	York	9,318	77.9%	12.0%	1.2%	1.6%	1.9%	5.4%
Bangor	Penobscot	14,942	76.1%	10.6%	1.5%	5.2%	2.1%	4.5%
Auburn	Androscoggin	10,769	74.3%	16.4%	0.4%	4.2%	1.9%	2.8%
Brunswick	Cumberland	10,045	73.7%	7.1%	0.2%	10.3%	2.9%	5.9%
Biddeford	York	11,206	73.0%	11.2%	0.3%	7.9%	3.1%	4.6%
Lewiston	Androscoggin	16,872	72.4%	12.8%	0.5%	8.3%	3.1%	2.9%
Waterville	Kennebec	6,350	66.8%	12.0%	0.0%	13.7%	4.1%	3.3%
Total Peer Group		121,199	76.1%	11.1%	1.0%	5.4%	2.4%	4.1%

Source: U.S. Census, American Community Survey 2011-2015 Estimate

The following figure describes inflow and outflow of workers for Biddeford in 2011. Only 2,181 workers that live in Biddeford stayed in Biddeford for work. Almost 3 times as many (5,954) that live in Biddeford commute elsewhere for employment. Biddeford experiences a significant inflow in comparison, with 8,366 workers living outside of Biddeford coming to Biddeford for employment.

Figure 3-7. Inflow and Outflow of Labor for Biddeford, Maine, 2011.



Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2011.

Table 3-20 includes all 2011 employment in Biddeford and where people originated who worked in Biddeford. As might be expected, the majority of those workers coming from outside of Biddeford live in Saco, but a significant number also come from Portland, Sanford, and Kennebunk.

Table 3-20. Origin of Commuting to/within Biddeford, 2011

Origin Location	County	# of Workers	%
Biddeford	York	2,181	20.68%
Saco	York	1,117	10.59%
Portland	Cumberland	552	5.23%
Sanford	York	471	4.47%

Kennebunk	York	342	3.24%
Old Orchard Beach	York	329	3.12%
Waterboro	York	314	2.98%
Lyman	York	309	2.93%
Arundel	York	285	2.70%
Scarborough	Cumberland	266	2.52%
South Portland	Cumberland	237	2.25%
Wells	York	191	1.81%
Westbrook	Cumberland	170	1.61%
Buxton	York	158	1.50%
Gorham	Cumberland	157	1.49%
Kennebunkport	York	133	1.26%
Dayton	York	129	1.22%
Hollis	York	122	1.16%
Standish	Cumberland	97	0.92%
Alfred	York	95	0.90%
Limington	York	92	0.87%
Windham	Cumberland	91	0.86%
Lewiston city	Androscoggin	83	0.79%
Limerick	York	68	0.64%
Naples	Cumberland	67	0.64%
Cape Elizabeth	Cumberland	59	0.56%
North Berwick	York	57	0.54%
Brunswick	Cumberland	54	0.51%
Lebanon	York	52	0.49%
All Other Locations		2,269	21.5%
Total		10,547	100%

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2011.

G. Home Occupations:

Home Occupations are scattered throughout Biddeford with difficulty in quantifying the exact amount.

2. What does it mean for Biddeford?

1. Change Over Time:

Biddeford's economy has experienced a significant change since the City took the initiative to buy out (and close) the Maine Energy Recovery Company (MERC) at 3 Lincoln Street. Although Mill redevelopment was already in

progress it arguably received a further jump-start with the buyout of MERC. Currently, the Downtown/Mill District is 45% occupied in terms of square footage of built space. The Lincoln Mill proposed project, once constructed, will represent a further economic restructuring within the downtown adding to a healthy mix of workforce and market-rate housing and restaurant space.

Route 1 (Elm Street) from 5-Points to the Connector (Precourt Street) is also now poised for significant redevelopment as a result of the planned York County Courthouse consolidation on the former Pate parcel at 511-515 Elm Street. The City should begin planning for this redevelopment by reevaluating the zoning of the B-2 Zone in this area.

Route 1 from the Connector to Arundel is largely developed with light industrial and automobile related uses and has not been a topic for discussion amongst City Staff. Route 1 from 5-Points north similarly has not been a topic of discussion since it largely developed with occasional commercial uses and residential uses, although from South Street to the Saco City line is a subject for significant transportation projects including the realignment/reconstruction of the South Street/Elm Street intersection and a RiverWalk crossing at Gooch Street.

Route 111 (Alfred Road/Street) from Downtown to 5-Points similarly has not been a topic of discussion since it is largely residential with a scattering of commercial uses. From 5 Points to The Shops at Biddeford Crossing, however, is a major commercial corridor for the City. This corridor is largely built out, but there have been some recent redevelopment projects including a Starbucks, a Jiffy Lube/Taco Bell, Play it Again Sports and Biddeford Savings Bank, as well as United Growth which has built a multi-tenant shopping plaza across from Biddeford Crossing. Overall, however, it is largely fully developed and has likely peaked. The only real potential for development either commercial or retail is west of Biddeford Crossing where there is not, however, sewer and water service.

Biddeford has also experienced an explosion of sorts of medical office related uses around Southern Maine Health Care, primarily in the Robert G. Dodge Business Park. Coupled with the University of New England, these medical uses and the University represent significant employers, economic engines in Biddeford outside of the Downtown and future partnerships with growth potential. Development of workforce to serve these industries is critical (as it is with modern textiles, high tech companies (including manufacturing) and the arts-based industry.

2. Priorities Moving Forward:

Biddeford's historic downtown and mill district are cornerstones of its revitalization and Biddeford has a strong Historic Preservation Ordinance to protect the historic architecture and buildings that contribute to its unique, historic character. The Downtown and Mill District have both experienced significant redevelopment over the past 10-15 years, but are both poised for significant further economic growth through such opportunities presented with the 3 Lincoln Street property (former MERC site) and vacant or underutilized mill and downtown space. The continued residential and mixed use development in these areas present perhaps the best opportunities for sustainable economic growth moving forward.

With the planned consolidated York County Courthouse on Route 1/Elm Street at the former Pate parcel, Route 1 between Five Points and the Arundel Townline is positioned well for significant redevelopment. Land uses to complement the Courthouse are a focal point of Biddeford's priority for this area. The land use ordinances should be updated to reflect this area as a redevelopment corridor and the potential for quality, higher density commercial, service, and mixed use development.

Biddeford also has opportunities for further development/redevelopment along the Route 11 Corridor between Five-Points and the Arundel Townline to the west. The Andrews Road area and the land to the north along the Turnpike also present opportunities for mixed-use development that should be explored.

Biddeford's Industrial/Business Parks, other than the Robert G. Dodge Park, although fully developed, are aging. Opportunities for redevelopment should be explored and encouraged. Ensuring adequate infrastructure and services, including transit, is required. Given Biddeford's existing Industrial/Business Parks are fully developed, the City should also explore the additional of additional business park opportunities such as those presented by the "Maggie Mae" parcels off Elm Street and available City-owned lands off of Andrews Road.

3. Tourism, Culture, and Recreation Opportunities for Economic Growth:

Tourism to this point has not been a major economic force in Biddeford. There are many seasonal homes on the Coast but they are just that – family seasonal homes. However, it is a goal to make the City more destination-oriented. There are a number of critical attributes that can serve that transition:

- The development of a mill museum, with tours to take advantage of the tremendous history and experience of the canals;
- The expansion of the theater and its experience;
- The continued growth and housing of the cultural heritage experience here in Biddeford and York County;
- The growth of the arts and foodie industries within the downtown and mill district;
- The development of transit and trail systems to connect the downtown urban experience with the natural resources of the community; including:
 - o The Riverwalk,
 - o The Eastern Trail,
 - o Biddeford Pool and the preservation areas,
 - o Rachel Carson
- The growth and expansion of UNE as a division 1-2 University;
- The Recreation Section of this plan (Section 8) discusses many of the special events that occur in Biddeford, through the recreation department and the Ice Hockey Arena;
- See also the Historic, Archaeological, and Cultural Resources Section of this Plan (Section XX) for a detailed discussion of those resources contributing to economic growth and sustainability in Biddeford.

4. Home Occupations:

The place of work is transitioning. Home Occupations have and will continue to be an important part of Biddeford's Economy. They are expected to play a more important role moving forward especially with the rise of online commerce and younger "millennials" looking for flexible work opportunities. The community should work to blend the development of home-based businesses with workshare spaces similar to that of Think Tank.

5. Industrial and Commercial Opportunities:

While industries in the Biddeford area are trending towards 5-6 clusters, the place to do that work is running out. The arts, creative economy and small manufacturing can continue to re-use the mill space. Industries that are growing or are in need of more modern commercial or industrial space, however, will not find much available in Biddeford. As mentioned above, the four parks are essentially full. The Robert G. Dodge Business Park is nearing capacity and the Airport Industrial Park (Phase 1 and 2), the Biddeford

Industrial Park, and the Alfred Road Industrial Park are all fully built out. Most of the land available for future commercial and industrial development is marginal or is not currently serviced by public sewer and/or water (i.e., Alfred Road west of the Shops at Biddeford Crossing). The greatest potential for new industrial and commercial development is the redevelopment of existing built parcels along Route 1 and Route 111 south and west of 5-Points, where public utilities currently exist, as well as the development of the “Maggie Mae” parcels and the potential for new mixed use development off Andrews Road along the Turnpike towards South Street.

6. Public Facilities:

Public Facilities in Biddeford are discussed in detail and Section 7 of this Plan. In general, as mentioned above, the B-2 Zone west of Biddeford Crossing is not currently serviced by sewer and water. Three-phase power runs throughout Biddeford as does broadband and fiber networks. The main lines for fiber include Elm Street from Precourt Street south, Hill Street, West Street, Route 111 and Alfred Street, and Elm Street from 5-Points north to the Saco City line. The community shares access to the “3 Ring Binder”. One real advantage that the community could make use of is the fact that the Mill district and hence a portion of the downtown, could exist as a public utility in and of itself and exist off the grid. With future changes in energy technology, UNE could take advantage of a similar system.

7. The Effective Use of Tax Increment Financing (TIF):

All of the development to this point, the Biddeford Crossing and Mill District in particular, have been supplemented through very creative, proactive use of TIF funding. TIF funding has enabled the redevelopment projects in North Dam Mill, the Mills at Pepperell, the Mill at Saco Falls, and the Lofts at Saco Falls. Without credit enhance TIFs for these projects, they may not have materialized. TIF funding has also been instrumental in infrastructure projects to support redevelopment of the Mill District and the Downtown, for projects such as sidewalk and lighting improvements as well as the RiverWalk.

8. Downtown and the Mill District:

Biddeford's historic downtown and mill district are cornerstones of its revitalization and Biddeford has a strong Historic Preservation Ordinance to

protect the historic architecture and buildings that contribute to its unique, historic character. It is a story that Biddeford is well positioned to tell.

9. Regional Integration:

As mentioned above, Biddeford is and will remain a regional Service Center community. The planned consolidated York County Courthouse will further reinforce Biddeford's role in the region. Together with the City of Saco, the two communities represent the third largest regional center in the state of Maine.

The Southern Maine Planning and Development Commission (SMPDC) Comprehensive Economic Development Strategy (CEDS) for 2014-2015 recognizes the important, but challenging role that the service centers in the region have:

The relatively higher wealth of the coastal labor markets masks pockets of economic distress, particularly in the region's service center communities. Regional Service Centers have been identified by the former Maine State Planning Office as the economic hubs of the state, attracting people to work, shop, and do business. At the same time, they face higher levels of economic distress, including rising tax burdens, aging infrastructure, declining populations, and waning downtowns. As the economic hubs of the region, service center communities have shouldered the greatest job losses in the region. Almost every coastal service center – Kittery, Biddeford, Saco – in addition to the entire city of Sanford, contain areas where the per capita income is below 80% of the national average, meeting EDA's economic distress criteria.

Biddeford's overall plan is to change the character of its economy from one of "distress" to one of "success". The implementation of this Comprehensive Plan is intended to achieve this goal by continuing to partner with regional agencies such as SMPDC and the Southern Maine Finance Authority to improve the city's economy by bringing people and quality employment to the City.

3. What Are We Going To Do Now?

Summary:

Biddeford remains the service center community for its labor market region and for this part of southern Maine. As such, it both imports and exports workers and is required to maintain an infrastructure in support of business development. In this role, the community houses six significant economic clusters from which to build (health and education, retail, manufacturing, arts, entertainment and food, and professional management (followed closely by construction). Each has a key role to play, whether it as at Biddeford Crossing, the four business parks, including the hospital, or with the downtown and Mill District.

This, of course, requires a financial commitment to maintain infrastructure support. The community does this through the creative use of TIFs, which will require monitoring and adjustments and the establishment of a capital improvement program. Outside of the community, both for-profit and non-profit development will continue and will, from time to time, need the assistance of the community to coordinate the acquisition of funds for future development.

Biddeford operates within the context of a larger regional center that includes the City of Saco. Together, they are the third largest regional center in the state. They are in turn heavily influenced by the Portland and Portsmouth markets, who at this time are growing at phenomenal rates. As a result, Biddeford has become a very attractive, affordable solution to locating within those markets. At the time of this Comprehensive Plan update, Biddeford and Saco, together, can play a very crucial role in their regional success and the redevelopment of the downtown and Mill District.

A. Goals:

1. Promote an economic climate that increases job opportunities and overall economic well-being.
2. Support desirable development activity, reflecting Biddeford's role in the region as a service center community.

B. Policies and Strategies (who should do it; when):

- Policy 1: Promote and support Downtown Biddeford, including the Mill District, as the historic, cultural, commercial, and the mixed-use core of the City.
- Strategy 1a: Support and encourage locally owned and operated businesses within Downtown Biddeford (Planning and Development Department; on-going).
- Strategy 1b: Assist continued Mill District redevelopment, as this area of the city, is a major driver of economic activity (Planning and Development Department; on-going).
- Strategy 1c: Revise current Land Use Ordinances to reflect contemporary standards and approaches that encourage redevelopment in a mixed-use, walkable and transit-accessible central city (Planning and Development Depart, Planning Board; on-going).
- Strategy 1d: Support and implement recommendations developed through the Mayor's Downtown Task Force initiative, such as the creation of a Downtown Development District and Gateways enhancement (City Manager; Planning and Development Department; 1-3 years).
- Strategy 1e: Continue to advance the City's redevelopment efforts of 3 Lincoln Street (the former Maine Energy Recovery Company site) through marketing and direct communications with prospective developers (Planning and Development Department; 1-2 years).
- Strategy 1f: Continue financial support for initiatives that support an overall Downtown Improvement Program such as those by the Heart of Biddeford and the Downtown Development Commission (City Manager, City Council; on-going in the annual budget).
- Strategy 1g: Continue efforts to enhance the Downtown and Mill District with public improvement projects such as the RiverWalk, sidewalk and lighting improvements, traffic calming, and parking improvements through the use

of various financial means such as, but not limited to, Tax Increment Finance Districts, bonding, Community Development Block Grants (CDBG), available grants, and the City's general fund (Planning and Development Department, Public Works Department; on-going).

Strategy 1h: Continue to support and fund efforts that enhance the promotion and marketing of Downtown through festivals and events such as the Biddeford-Saco Art Walk and River Jam festival (City Council; on-going).

Strategy 1i: Continue to explore ways in which to better integrate the University of New England with the Downtown (Planning and Economic Development Department; 1-2 years).

Strategy 1j. Continue to support efforts of the Biddeford Cultural Coalition which advocates a strong role of arts and heritage in the city's economy (City Council, Planning and Development Department, Heart of Biddeford; on-going).

Policy 2: Promote the Route 111 Corridor from Five Points to the Arundel Townline as a regional commercial and service focus area of the City.

Strategy 2a: Continue to recognize Maine Turnpike Exit 32 as a nucleus for regional goods and services including those related to the medical field and Southern Maine Health Care, retail/restaurants businesses, and the legal services business associated with the planned consolidated courthouse on Route 1/Elm Street (Planning and Development Department, Public Works Department; on-going).

Strategy 2b: Review its current Ordinances to encourage redevelopment of existing lower density commercial areas in the desired scale, design, and intensity. Examples might include minimum height

requirements and floor area ratios (FAR's) (Planning and Development Department; 1-2 years).

Strategy 2c: Explore and support opportunities for mixed-use redevelopment to complement existing land uses within the corridor (Planning and Development Department; on-going).

Strategy 2d: Support transit priority initiatives to efficiently and effectively serve employment and services along the corridor as well as access to the Robert G. Dodge and Alfred Road Business Parks, Exit 32, the Park and Ride lot, and the ZOOM Turnpike Express commuter bus (Planning and Development Department, Shuttlebus-ZOOM; 1-3 years).

Strategy 2e: Encourage opportunities for the redevelopment of properties within, and adjacent to, the Alfred Road Business Park (Planning and Development Department; on-going).

Strategy 2f: Continue to explore opportunities for a new business park off Route 111 in the Andrews Road area (Planning and Development Department; 1-3 years).

Strategy 2g: Ensure infrastructure needs are met to attract and retain land uses including, but not limited to, public sewer and water, roads, and sidewalks (City Council, Public Works Department, Planning and Development Department; on-going).

Policy 3: Establish a "Tech Place" business incubator program that utilizes out existing institutional structure, manufacturing and development clusters, and City network to create Biddeford as a "maker" community to develop in.

Strategy 3a: Reach out to the University of New England to identify the clusters and areas they would like to partner in (Planning and Development Department; present to 1 year).

- Strategy 3b: Reach out to Business Park companies to identify the clusters and areas they would like to partner in (Planning and Development Department; present to 1 year).
- Strategy 3c: Develop a local network of partners to provide resources and guidance to emerging entrepreneurs/makers (Planning and Development Department; on-going).
- Strategy 3d: Formalize the clusters around which “Tech” places will focus (Planning and Development Department, present to 1 year).
- Policy 4: Encourage the redevelopment of the existing uses along Route 1 (Elm Street) from Five Points to the Arundel Town Line, especially in light of recently planned York County Courthouse consolidation on the former “Pate” parcel.
- Strategy 4a: In areas and land under control of the City, such as the Maggie Mae parcels off Route 1, continue to ensure prospective businesses are professional in nature and of high value to the City and its residents (Planning and Development Department; on-going).
- Strategy 4b: Encourage redevelopment of the Airport Industrial Park with uses generating quality employment opportunities as well as with businesses that complement the Biddeford Municipal Airport (Planning and Development Department, Airport Manager, (Planning and Development Department; on-going).
- Strategy 4c: Ensure infrastructure needs are met to attract and retain land uses including, but not limited to, public sewer and water, roads, and sidewalks (City Manager (CIP), Public Works Department; on-going).
- Strategy 4d: Support transit initiatives to better support the businesses workforce needs within the Biddeford

Industrial Park and Airport Industrial Park (Planning and Development Department, Shuttlebus-ZOOM; 1-3 years).

Policy 5: Focus economic development initiatives that support Biddeford's capacity to continue to build upon and thrive as a regional service center community.

Strategy 5a: Promote Biddeford with its capacity for technology including the growth and expansion of high-speed fiber telecommunications network (Planning and Development Department; on-going).

Strategy 5b: Continue to provide a financial commitment towards Planning and Development Staff and Initiatives (City Manager, City Council; on-going annual budget).

Strategy 5c: Continue to coordinate and participate with regional development corporations such as the Biddeford-Saco Chamber of Commerce, Southern Maine Finance Authority (SMFA), and Southern Maine Planning and Development Commission (SMPDC), as well as with the City of Saco, to support desired economic development (Planning and Development Department; on-going).

Strategy 5d: Design and implement a Business Retention and Expansion plan which creates a program that will be widely accepted and recognized for its relationship between the private sector and the City (Planning and Development Department; present-1 year).

Strategy 5e: Continue to support and fund the Southern Maine Finance Authority (SMFA) revolving loan program for business improvements (Planning and Development Department; on-going).

Policy 6: Support the Biddeford Municipal Airport as a valuable infrastructure asset in the City.

- Strategy 6a: Work with airport stakeholders to determine the appropriate role for the airport in economic development and job creation (Planning and Development Department; on-going).
- Strategy 6b: Coordinate work with the upcoming airport expansion and identify appropriate uses and activities that may lie within the airport's boundaries (Airport Manager, Planning and Development Department; 1-3 years).
- Policy 7: Support efforts to strengthen neighborhoods surrounding Downtown whose residents can support the economic vitality of Downtown through a live, work, play commitment (see also Housing).
- Strategy 7a: Revise Ordinances to encourage increased residential density surrounding the downtown (Planning and Development Department, Planning Board; 1-2 years).
- Strategy 7b: Explore incentives to encourage condominium development in areas of increased density surrounding the Downtown (Planning and Development Department, Planning Board; present-2 years).
- Strategy 7c: Support the outreach efforts of the Neighborhood Planning Committee to improve the neighborhoods immediately adjacent to downtown (Planning and Development Department; on-going).
- Policy 8: Support Biddeford's Working Waterfront economy through such implementation measures discussed in "Section 12: Marine Resources". This should include newly acquired deep-water river access and the further development of the clam-flats and fishing industries (see Section 12: Marine Resources).
- Policy 9: Support the rural resource-based economy including forestry and agriculture through such implementation measures

discussed in “Section 9: Agriculture and Forestry” (see Section 9: Agriculture and Forestry).

SECTION 4: HOUSING

“A house is a home when it shelters the body and comforts the soul.” Phillip Moffitt.

1. What is happening?

A. Background.

The home is the foundation of any community. It is the physical structure that ties people to place more than any other building type. The availability of decent and affordable housing, for people of all income levels, is a fundamental requirement of a thriving community. Assessing a community’s housing stock in a comprehensive plan ensures that future housing needs are addressed before issues of supply, quality and cost become problematic. The availability of a wide diversity of housing types contributes to a community’s vibrancy and economic success.

Housing is intricately linked to the local economy in several ways. Demographics help to determine the type and price range of a community’s housing stock, but employment opportunities also play a key role. Prospective businesses seek new locations where good quality housing, contributing to the quality of life, is readily available. Also, people from outside a community are drawn in if available homes, either for sale or rent, are considered good values. Finally, a stable housing stock provides a stable property tax base, upon which so many local services, like schools and infrastructure needs, depend. Some economic goals in the comprehensive plan that are tied to housing include supporting mixed-use redevelopment in the City’s Mill District and supporting both market rate and workforce housing initiatives.

Yet affordability continues to be a problem in Maine. In recent years housing costs have risen faster than household incomes, despite the fact that housing values (rent and ownership) remain below the regional market. Higher land prices, excessive lot sizes, low-density zoning, stringent infrastructure requirements and increasing housing value markets to the north and south of Biddeford have driven up the cost of housing, excluding many people of limited means.

This chapter examines the existing condition of housing in Biddeford, its affordability and availability, especially for lower-income households. The inventory of housing is divided into three sections: first, an overview of Biddeford’s

demographic and housing tenure profile; second is a look at the number and type of housing units available, and third is an assessment of affordability.

B. General Housing and Household Characteristics

1. Housing Units and Household Size.

Since the 2000 Decennial Census, the population of Biddeford has changed little. Approximately 21,000 persons inhabit the city. While the overall population has remained relatively stable since 2000, the number of housing units has grown noticeably, as has the number of households. Understandably, the average household size has fallen slightly.

Table 4-1. Population, Housing Units, Households, Household Size, and Occupancy Characteristics, Biddeford, 2000-2010

	2000	2010	% Change 2000-2010
Population	20,942	21,277	1.60%
Housing Units	9,631	10,064	4.50%
Households	8,636	8,598	-0.44%
Average Household Size	2.32	2.30	-0.86%
Owner Occupied Rate	48.60%	49.20%	0.60%
Renter Occupied Rate	51.40%	50.80%	-0.60%

Source: U.S. Census, 2000, 2010.

Table 4-2. Occupancy Characteristics (Housing Tenure) for Biddeford, York County, and the State of Maine

Geography	# of Occupied Housing Units	Owner Occupied Housing Units	% Owner Occupied	Renter Occupied Housing Units	% Renter Occupied
Biddeford	8,487	3,949	46.5%	4,538	53.5%
York County	82,127	60,089	73.2%	22,038	26.8%
State of Maine	553,284	393,595	71.2%	159,289	28.8%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Table 4-3. Housing Tenure % for Biddeford's 15-Mile Labor Market Area Communities – Ranked by % Owner Occupied - 2011-2015 5-Year Estimate

Municipality	County	% Owner Occupied	% Renter Occupied
Dayton	York	92.0%	8.0%
Waterboro	York	91.9%	8.1%
Lyman	York	91.5%	8.5%
Cape Elizabeth	Cumberland	89.0%	11.0%
Buxton	York	85.9%	14.1%
Kennebunkport	York	85.1%	14.9%
Alfred	York	85.0%	15.0%
Wells	York	83.7%	16.3%
Hollis	York	82.1%	17.9%
Gorham	Cumberland	81.8%	18.2%
Scarborough	Cumberland	78.3%	21.7%
Kennebunk	York	77.0%	23.0%
Arundel	York	77.0%	23.0%
Sanford	York	64.2%	35.8%
Saco	York	63.2%	36.8%
Westbrook	Cumberland	61.0%	39.0%
Old Orchard Beach	York	59.3%	40.7%
South Portland	Cumberland	57.4%	42.6%
Biddeford	York	46.5%	53.5%
Portland	Cumberland	43.4%	56.6%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Table 4-4. Housing Tenure % for Biddeford's Peer Group Service Center Communities – Ranked by % Owner Occupied - 2011-2015 5-Year Estimate

Municipality	County	% Owner Occupied	% Renter Occupied
Brunswick	Cumberland	67.7	32.3
Sanford	York	64.2	35.8
Saco	York	63.2	36.8
Westbrook	Cumberland	61.0	39.0
South Portland	Cumberland	57.4	42.6
Auburn	Androscoggin	56.0	44.0
Augusta	Kennebec	51.8	48.2
Lewiston	Androscoggin	48.4	51.6
Waterville	Kennebec	47.5	52.5
Biddeford	York	46.5	53.5
Bangor	Penobscot	43.8	56.2

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

2. Housing Stock.

Table 4-5. % Housing Units per Structure for Biddeford, York County, and the State of Maine - Ranked by % Multi-family (3 or more units) - 2011-2015 5-Year Estimate

Municipality	1-Unit Detached	1-Unit. Attached	2 Units	Multi-family	Mobile Home	Boat, RV, Van, Etc.
Biddeford	49.1%	2.2%	16.5%	30.8%	1.3%	0.0%
York County	68.7%	2.8%	7.3%	13.7%	7.5%	0.1%
State of Maine	69.7%	2.2%	5.1%	14.1%	8.8%	0.0%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Table 4-6. % Housing Units per Structure for Biddeford's 15-Mile Labor Market Area Communities – Ranked by % Multi-family (3 or more units) - 2011-2015 5-Year Estimate

Municipality	1-Unit Detached	1-Unit. Attached	2 Units	Multi-family	Mobile Home	Boat, RV, Van, Etc.
Portland	36.8%	6.5%	9.7%	46.6%	0.3%	0.0%
Old Orchard Beach	40.8%	7.2%	8.2%	31.8%	11.4%	0.5%
Biddeford	49.1%	2.2%	16.5%	30.8%	1.3%	0.0%
Westbrook	50.3%	6.6%	8.4%	30.5%	4.1%	0.1%
South Portland	54.4%	6.7%	9.4%	29.5%	0.0%	0.0%
Saco	58.3%	4.1%	12.0%	22.8%	2.8%	0.0%
Sanford	57.1%	1.0%	13.1%	22.1%	6.4%	0.2%
Kennebunk	69.8%	9.3%	6.5%	12.6%	1.8%	0.0%
Scarborough	75.8%	5.5%	3.7%	11.2%	3.8%	0.0%
Wells	64.3%	3.5%	6.0%	8.3%	17.7%	0.1%
Alfred	64.0%	2.6%	3.6%	7.2%	22.7%	0.0%
Kennebunkport	83.1%	4.4%	2.2%	7.0%	3.2%	0.0%
Gorham	77.6%	2.8%	7.0%	6.1%	6.5%	0.0%
Cape Elizabeth	86.2%	6.3%	1.8%	5.7%	0.0%	0.0%
Buxton	76.1%	1.4%	4.8%	5.6%	12.0%	0.0%
Hollis	82.9%	0.8%	2.7%	5.2%	8.4%	0.0%
Waterboro	85.8%	1.2%	0.5%	3.2%	9.3%	0.0%
Arundel	70.1%	2.4%	4.1%	2.9%	20.4%	0.0%
Lyman	78.4%	0.5%	1.7%	1.3%	18.0%	0.0%
Dayton	87.3%	0.8%	2.3%	0.6%	9.0%	0.0%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Table 4-7. % Housing Units per Structure for Biddeford's Peer Group Service Center Communities – Ranked by % Multi-family (3 or more units) - 2011-2015 5-Year Estimate

Municipality	1-Unit Detached	1-Unit. Attached	2 Units	Multi-family	Mobile Home	Boat, RV, Van, Etc.
Bangor	41.4%	3.6%	10.0%	40.1%	4.8%	0.0%
Lewiston	44.9%	1.2%	11.2%	39.0%	3.6%	0.0%
Augusta	49.8%	1.5%	8.1%	35.4%	5.3%	0.0%
Waterville	46.1%	2.4%	15.0%	33.0%	3.4%	0.0%
Biddeford	49.1%	2.2%	16.5%	30.8%	1.3%	0.0%
Auburn	50.0%	3.7%	13.1%	30.6%	2.6%	0.0%
Westbrook	50.3%	6.6%	8.4%	30.5%	4.1%	0.1%
South Portland	54.4%	6.7%	9.4%	29.5%	0.0%	0.0%
Saco	58.3%	4.1%	12.0%	22.8%	2.8%	0.0%
Sanford	57.1%	1.0%	13.1%	22.1%	6.4%	0.2%
Brunswick	53.2%	9.1%	5.6%	19.7%	12.4%	0.1%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

As of the 2010 Census, there were 667 seasonal units in Biddeford. The number of seasonal homes is not available for subsequent years.

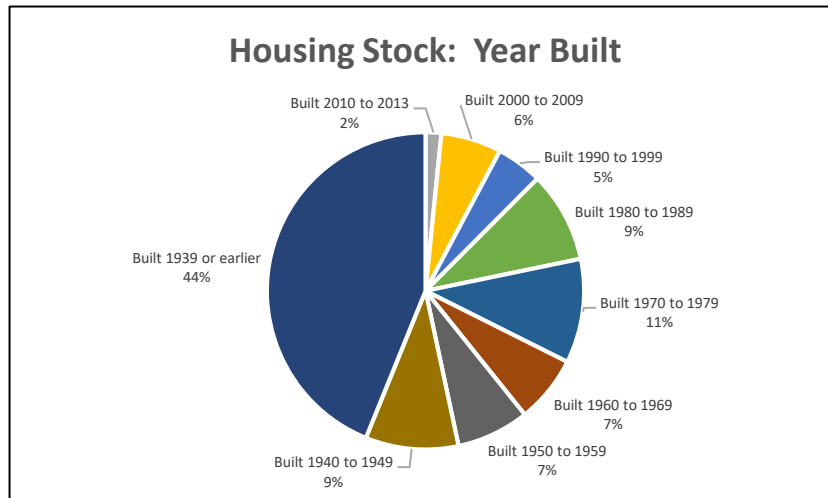
The 2000 and 2010 Decennial Censuses show that the change in overall housing units has been driven by an increase in single-family, detached homes and multi-family (3 or more unit) structures, growing 11.4% and 11.5% respectively. The 2013 5-year Estimates shows a significant drop in multi-family housing units, however; this number will soon increase. As many as 200 new multi-family units will become available by 2017.

The condition of a community's housing stock is a general indicator of its economic vitality and is extremely important to the perception of community character. It determines whether people will want to live in a neighborhood and whether it is cost-effective and feasible to purchase and renovate a home in the community. The age of housing stock provides a general indication of its condition.

Of Biddeford's approximately 10,467 total housing units in 2013, fewer than 1% were built after 2010 and 6.5% were built in the 2000s. A great deal of new residential development created within the past five years (most of which is not accounted for in the American Community Survey estimate) has taken place downtown within the Mill District.

Approximately 20% of the housing units were built in the 1970s and 1980s. Nearly half were built before 1940 (see Figure 4.1). While most of Biddeford's housing stock is in relatively good condition, there are issues with some of the older housing stock (built prior to 1960). These units account for a large proportion of the total housing stock.

Figure 4-1. Age of Housing Stock 2011-2015 5-Year Estimate



Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

As an indicator of “substandard” housing, the 2013 American Community Survey provides an estimate of the presence of complete bathrooms and kitchens (Table X). Compared with York County and the state, Biddeford does not have a significant issue with substandard housing.

Table 4-8. Condition of Housing Stock

Housing Substandard 2015	Biddeford	% of Total Units	York County	% of Total Units	State of Maine	% of Total Units
Lacking complete kitchen facilities	39	0.5%	660	0.8%	5,941	1.1%
Lacking complete plumbing facilities	8	0.1%	260	0.3%	4,411	0.8%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

The Assessor's Office in Biddeford assigns a depreciation code to each property in the city to help determine tax assessment. This code, shown as a grade (Very Good, Good, Average, Fair, and Poor) is based on field observations by city staff and is a good indication of a property's overall condition. The table below suggests that the overall condition of the housing stock in 2017 in Biddeford is quite satisfactory, with more than 90% of residential properties rated Average or better. Only 9.5% of residential properties were rated fair or poor by the Assessor's Office.

Table 4-9. Condition of Housing Stock, 2017

Condition	Percent of Housing Stock
Very Good	9.6%
Good	25.6%
Average	55.3%
Fair	2.6%
Poor	6.9%

3. Affordability.

"Affordable housing" means decent, safe and sanitary dwelling, apartment or other living accommodation of a household whose income does not exceed 80% of the median income for the area as defined by the United States Department of Housing and Urban Development under the United States Housing Act of 1937, Public Law 412, 50 Stat. 888, Section 8, as amended.

In simplest terms, affordability is a question of household income as compared to the cost of housing. A review of the issue in Biddeford must track and compare trends in income levels and the cost of housing, both owned and rented. For some Biddeford residents, the cost of housing can consume an inordinate amount of their income.

Affordable housing for homeowners is defined in Maine's Growth Management Act as housing in which the mortgage payment, taxes, insurance, condominium fees, and utilities do not exceed 33% of the homeowner's gross income. For renters, the standard is 30% of gross income for rent and utilities.

An overarching objective for Biddeford is to ensure a supply of housing that is affordable to all households, especially those in the "very low-income" and "lower-income" households. Also defined are "moderate-income" households, which have incomes of between 80% and 150% of the median income in the

county. These income groups are based on York County “median household incomes” as defined in Table 4-10 below. As such, ensuring the availability of housing for those households that earn less than \$46,335 (in 2015) is an important consideration in Biddeford’s housing policies.

Table 4-10. Income Groups, 2015

Income Group	Median Household Income or Range
Biddeford Median Household Income	\$46,940
York County Median Household Income	\$57,919
Very Low Income Group (50% of Median Household Income for York County)	Less than \$28,960
Low Income Group (>50% - 80% of Median Household for York County)	\$28,961 - \$46,335
Moderate Income Group (>80% - 150% of Median Household Income for York County)	\$46,336 - \$86,879

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

As discussed in Section 2 of this plan, the median income based on the U.S. Census, American Community Survey 2011-2015 5-Year Estimate for Biddeford was \$46,940. Based on this, approximately half of Biddeford households are considered to be Very Low or Low-income households.

In terms of the portion of household income absorbed by housing, housing costs impose a significant burden for renters in Biddeford. Housing costs here exceed 30% of annual household income for nearly one in every two renters. For households in most income levels, the percentage of households that exceed the 30% threshold is similar in both Biddeford and Maine overall. However, a far greater portion of households in Biddeford with annual income between \$20,000 and \$35,000, 24.6%, exceed the threshold than throughout Maine, 14.5%. At this income level, renting households in Biddeford are much more sensitive to housing costs than those households in Maine at the same income level.

Housing costs are easier to bear for homeowners than for renters (see Table 4-11). Where 55.6% of renters at all income levels exceed the 30% threshold, only 28.5% of homeowners do the same. Within each discrete income group, less than 10% of homeowners exceed the threshold, which generally reflects the state. Interestingly, for homeowners in Biddeford with incomes exceeding \$50,000, a greater portion pays more than 30% of income in housing costs than

throughout Maine. Some homeowners in the upper-income levels might “overbuy” somewhat, drawn to the costliest homes in the city. The lack of affordable housing, especially for renters of low or very low incomes, is a serious problem in Biddeford.

Table 4-11. Percent of Households for Which Housing Costs Exceed 30% of Household Income, 2015

	Biddeford	Maine
Renter-Occupied Housing Units		
Income less than \$20,000	24.2%	27.3%
\$20,000 - \$34,999	24.4%	14.7%
\$35,000 - \$49,999	5.6%	3.9%
\$50,000 - \$74,999	1.8%	1.4%
\$75,000 or more	0.2%	0.2%
Owner-Occupied Housing Units		
Income less than \$20,000	7.2%	8.4%
\$20,000 - \$34,999	7.8%	7.0%
\$35,000 - \$49,999	2.1%	4.9%
\$50,000 - \$74,999	6.8%	4.2%
\$75,000 or more	3.9%	2.1%

Source: U.S. Census, American Community Survey 2011-2015 5-Year Estimate

Affordability Indices

The Rental Affordability Index is the ratio of 2-Bedroom Rents, Affordable at Median Renter Income, to the Average 2-Bedroom Rent. An index of less than 1 indicates that the area is generally unaffordable – i.e., a renter household earning area median renter income could not cover the cost of an average 2-bedroom apartment (including utilities) using no more than 30% of gross income. In this case, Biddeford is similar to York County and Maine: the rental market is generally unaffordable to those making the median income or less (see Table 4-12). The average rent in Biddeford is higher than the rest of Maine but tends to be lower than the average rent in York County.

Table 4-12. Rental Affordability Index, 2016

Geography	Index	Average 2 BR rent with utilities	Renter Household Median Income	Income needed to afford average 2 BR rent	2 BR rent affordable to median income
Biddeford	.79	\$986	\$31,118	\$39,445	\$778
York County	.93	\$946	\$35,151	\$37,830	\$879
State of Maine	.85	\$872	\$29,588	\$34,873	\$740

Source: Maine State Housing Authority, 2016

The Homeownership Affordability Index is the ratio of Home Price Affordable at Median Income to Median Home Price. Like the Rental Affordability Index, an index of less than 1 suggests that the area is generally unaffordable - i.e., a household earning area median income could not cover the payment on a median-priced home (30-year mortgage, taxes, and insurance) using no more than 28% of gross income. In 2016, homes prices in Maine and in York County were affordable in general (see Table 4-13). In Biddeford, however; houses were not affordable to those making the median income or less.

Table 4-13. Biddeford Homeownership Affordability, 2016

	Index	Median Home Price	Median Household Income	Income needed to afford median home price	Home price affordable to median income
Biddeford	.71	\$207,450	\$44,369	\$62,545	\$147,069
York County	.93	\$228,900	\$60,271	\$64,542	\$213,754
State of Maine	.97	\$184,000	\$50,990	\$52,545	\$178,552

Source: Maine State Housing Authority, 2016

Whether renting or buying a home in Biddeford, many residents face difficulty affording a home here (Tables 4-14 and 4-15). More than half of renting households are unable to afford the average rent and utilities of a 2-bedroom housing unit. Buying a home is even more difficult; 57.2% of households in Biddeford are unable to afford a home selling at the median price.

Table 4-14. Renter Households Unable to Afford Average 2 Bedroom Rent, 2016

	Percent of Households Facing Unaffordability	Number of Households Facing Unaffordability	Total Renter Households	Average 2 BR rent with utilities	Income needed to afford average 2 BR rent
Biddeford	61.8%	2,709	4,381	\$986	\$39,445
York County	52.8%	11,725	22,199	\$946	\$37,830
State of Maine	57.4%	92,705	161,601	\$872	\$34,873

Source: Maine State Housing Authority, 2016

Table 4-15. Households Unable to Afford Median Home, 2016

	Percent of Households Facing Unaffordability	Number of Households Facing Unaffordability	Total Households	Median home price	Income needed to afford median home
Biddeford	63.4%	5,495	8,667	\$207,450	\$62,585
York County	53.8%	45,241	84,098	\$228,900	\$64,542
State of Maine	52.5%	296,967	565,157	\$184,000	\$52,545

Source: Maine State Housing Authority, 2016

The three measures discussed here, the percent of households spending more than 30% of income on shelter, renter and homeowner affordability indices, and the percent of households unable to afford the average rent or median home price in Biddeford all indicate that affordability is a growing concern. As indicated below, according to the Maine State Housing Authority, in 2013 there were a total of 1,060 affordable housing units in Biddeford.

Table 4-16. Supply of Affordable Housing, 2013

Housing - Subsidized Units, 2013	Biddeford	York County	State of Maine
Disabled Units	80	146	1,097
Family Units	287	1,313	12,015
Housing Choice Vouchers	360	1,278	9,778
Senior Units	314	1,832	15,234
Special Needs Units	19	193	1,202
Total	1,060	4,762	39,326

Source: Maine State Housing Authority

Homeless Assessment.

Directly related to the lack of affordability is the ultimate measure of homelessness. In January of 2018, the community conducted a survey of homelessness. The following important data points from this “point in time” survey:

17 adult unsheltered and 1 youth unsheltered:

- 11 Male and 7 Female
- There were 4 children staying with adults (young children are in addition to the number of total homeless)
- 7 stayed in their vehicles
- 5 in abandoned or vacant building
- 2 in the street
- 1 in the woods
- 3 – other or refused to answer but said the place they stayed has no heat or running water
- Of those of the 18 that answered:
 - 11 had physical disabilities
 - 9 had chronic health problems
 - 9 had mental health problems
 - 6 had developmental problems
 - 8 were victims of domestic violence at some time in their lives
 - 3 had or in the past had alcohol abuse problems
 - 4 had or in the past had drug abuse problems
 - 6 were between the ages of 23 and 34
 - 4 were between the ages of 38 and 48
 - 6 were between the ages of 55 and 68

16 adults are couch-surfing or are in unstable housing and 5 youths are in unstable housing:

- 14 male and 7 Female
- There were 8 children staying with adults (young children are in addition to the number of total homeless)
- 3 stayed at a motel/hotel
- 1 at a emergency shelter
- 14 at a friend or relative’s house

- 2 Other/undefined
- Of those of the 21 that answered:
 - 7 had physical disabilities
 - 6 had chronic health problems
 - 9 had mental health problems
 - 4 had developmental problems
 - 9 were victims of domestic violence at some time in their lives
 - 2 had or in the past had alcohol abuse problems
 - 4 had or in the past had drug abuse problems
 - 9 were between the ages of 18 and 33
 - 5 were between the ages of 40 and 53
 - 6 were between the ages of 54 and 62

Observations at the survey sites included that people are working if they are physically and mentally able. Everyone thanked the volunteers for checking to see if they had stable housing. When asked about obstacles to their work and housing needs, several people stated that transportation was an issue in that if they did not have a car and worked the late shift there was no public transportation home. In addition, the requirement of first and last month's rent and a security deposit is more than their budgets can afford. They have the rent but are lacking additional finances to secure a rental unit.

2. What does it mean for Biddeford?

A. Housing Demand.

After decades of minimal population growth, Biddeford is now poised for noticeable increases in the number of people who live here. By 2022, Biddeford's population is expected to grow by more than 5%. This magnitude of growth is striking, since Biddeford has essentially the same size population as in 1950. This level of growth has not been experienced in Biddeford within such a short period of time since the mid-twentieth century.

The number of new housing units will likely grow accordingly, especially in the Downtown area and Mill District conversions will add hundreds of new housing units over the next 24 to 36 months. The number of new households created may nevertheless place strain on the availability of housing. The trend in recent decades is of smaller household size. One- or two-person households vastly outnumber larger households in Biddeford as elsewhere; therefore, more housing units may be needed to shelter Biddeford's growing population than ever before,

especially for smaller household sizes. Anecdotally, housing in the Portland, Maine area is growing costlier and many households are being driven south to the Saco/Biddeford area by unaffordability. This trend will only drive demand for housing here, and the supply and demand of good housing will likely drive housing costs higher in Biddeford over the next five or more years.

B. Housing Affordability.

As indicated above, perhaps the most pressing concern regarding housing in Biddeford is affordability. In the York County rental market, Biddeford is the least affordable community, according to the Maine State Housing Authority. Homeownership is a bit less onerous, but still difficult as compared to some nearby communities. This problem may be due to a median income that is noticeably lower than in other communities. The median income of renter households is especially low. However, affordability here in Biddeford may be reflective of the tight housing market throughout the greater Portland, Maine metropolitan area.

C. Affordable Housing Demands.

Additional low- and moderate-income and senior housing will be needed in Biddeford. Approximately 62% of renter households here are unable to afford the average 2-bedroom apartment. Low- and moderate-income housing communities here typically maintain a waiting list for available units. As a service center community, these needs will be met locally by encouraging developers to take advantage of federal and state incentives (e.g. affordable housing tax credits) to create new affordable housing units.

D. Seasonal Housing.

In Biddeford, although there remains some seasonal housing, the supply is limited and appears to be constant over time (approximately 650 units since 2000). According to the U.S. Census Bureau, "Seasonal, Recreational, or Occasional Use" units are "vacant units used or intended for use only in certain seasons or for weekends or other occasional use throughout the year. Seasonal units include those used for summer or winter sports or recreation, such as beach cottages and hunting cabins. Seasonal units also may include quarters for such workers as herders and loggers. Interval ownership units, sometimes called shared-ownership or timesharing condominiums, also are included here." Since the number of seasonal units remains fairly constant, the impact of any conversions is likely minimal to the City.

E. Regulatory Impediments/Incentives to Affordable Housing.

Existing local land use regulations do not impede the ability for housing developers to construct new affordable/workforce housing. Further, they do not impeded the ability for existing developments to convert to affordable/workforce housing. Regulations, however, do not incentivize affordability. The City should explore ways in which more affordable housing can be incentivize. The City should also explore ways to reduce the cost of housing to avoid additional costs of constructing housing being pushed onto households for both rental and home ownership

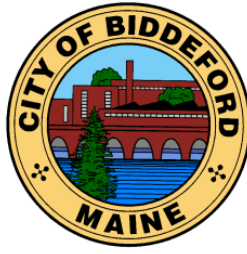
F. Other Issues - Housing Stock, Housing Age, and Homelessness.

Overall, the condition of the housing stock here is fundamentally good. Just 6% of single-family units are in only fair or poor condition. However, this number jumps to more than one-fifth of rental housing units, raising some concern about the housing stock. This means a large portion of the rental stock is sub-par and likely in need of some repair. Condition of housing may be a function of age. The housing stock here in Biddeford is among the oldest in the nation. The median year built here is 1946 as compared with 1977 for the nation as a whole.

In particular, the median age of housing units, especially for rental housing units in census tracts 252.01 and 252.02, is quite old. These areas are Downtown and the surrounding neighborhoods around Downtown. With housing of this age comes inevitable inconsistencies between current building codes and conditions of housing units. Biddeford Code Enforcement Office is conducting inspections of downtown multi-family housing units during 2017 and 2018 for violations of Life Safety codes. However, with housing stock of this age, not all housing units can meet modern building codes.

The supply and demand for affordable, quality housing in the Downtown area has also resulted in recent concerns regarding homelessness. With the increased competition for housing at higher market rates, it is likely that homelessness will continue to increase. This issue should be monitored, in terms of both sheer number and the reasons why individuals or households have become homeless. Solutions may need to be developed.

The following pages contain the “Housing Assessment and Market Analysis” most recently completed by the City of Biddeford in March 2018.



City of Biddeford, Maine

Housing Assessment and Market Analysis

March, 2018

Executive Summary

After decades of minimal population growth, Biddeford is now poised for noticeable increases in the number of people who live here. Over the next five years alone, forecasters anticipate the population will grow by more than 5%. This magnitude of growth is striking, since Biddeford has essentially the same size population as in 1950.

The number of new housing units will likely grow accordingly, especially in the downtown area where Mill District conversions will add hundreds of new housing units over the next 24 to 36 months. The number of new households created may nevertheless place strain on the availability of housing. The trend in recent decades is of smaller household size. One- or two-person households vastly outnumber larger households in Biddeford as elsewhere; therefore, more housing units may be needed to shelter Biddeford's growing population than ever before.

Overall, the condition of the housing stock here is fundamentally good. Just 6% of single-family units are in only fair or poor condition. However, this number jumps to more than one-fifth of rental housing units, raising some concern about the housing stock. Condition of housing may be a function of age. The housing stock here in Biddeford is among the oldest in the nation. The median year built here is 1946 as compared with 1977 for the nation as a whole.

Perhaps the most pressing concern regarding housing in Biddeford is affordability. In the York County rental market, Biddeford is the least affordable community, according to the Maine Housing Authority. Homeownership is a bit less onerous, but still difficult as compared to some nearby communities. This problem may be due to a median income that is noticeably lower than in other communities. The median income of renter households is especially low. However, affordability here in Biddeford may be reflective of the tight housing market throughout the greater Portland, Maine metropolitan area.

Demographic Profile

The overall population in Biddeford has barely changed in decades. While the United States grew almost 10% from 2000 to 2010 alone, Biddeford's population grew just 1.6% over the same period of time. Over this same decade, Maine grew at a rate of 4.2% and York County grew at 5.6%. However, because of steady redevelopment of Biddeford's Mill District over the past five years, including an expected increase in the number of housing units here, the population may begin to burgeon.

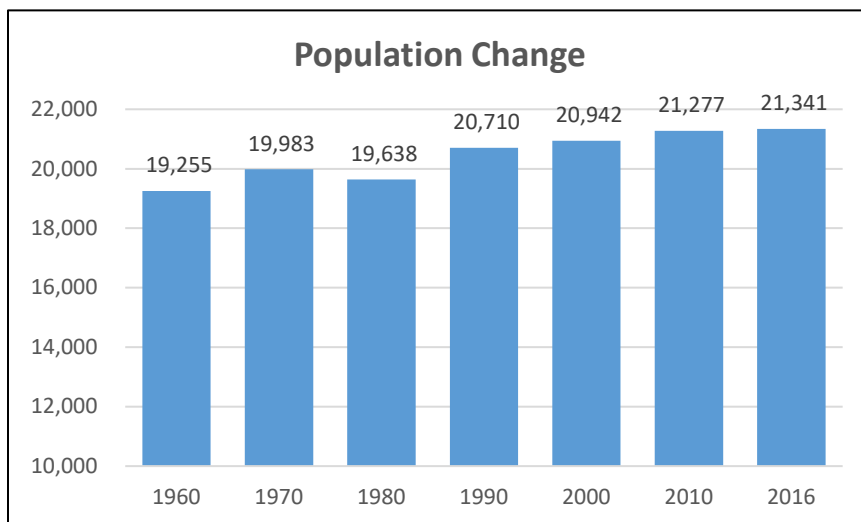
Biddeford is a young community. While Maine is the oldest state in the United States in terms of median age, Biddeford skews young, almost ten years younger than Maine. Millennials, those individuals born between 1982 and 2000 (as defined by the U.S. Census Bureau) make up an important part of Biddeford and so their needs and influence will be increasingly felt throughout the community, especially as this cohort is seen as more civic minded than other age cohorts.

More than nine-tenths of Biddeford residents are white, with African Americans and Asians making up the majority of other races in the city. According to the 2015 American Community Survey, 5.5% of the population is foreign-born.

Biddeford is not a wealthy community, with a median household income that falls behind the national, state, and county medians, and a poverty rate that rises above those same geographies. This, in part, may be due to a comparatively low educational attainment that is a full four percentage points lower than the York County level. But Biddeford residents are willing and able to work. The labor participation rate is more than five percentage points higher here than the national rate.

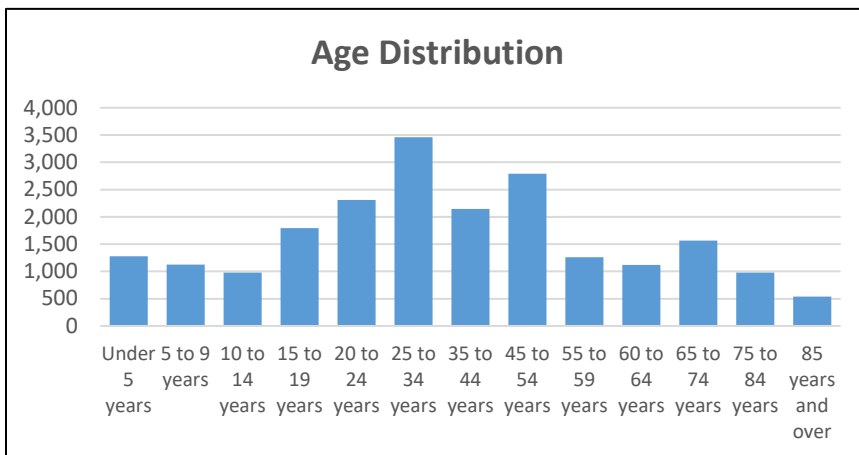
Biddeford has experienced major job losses over a period of decades. The textile mills, the source of employment and wealth in this community for more than a century, began closing in the 1960s, with the last manufacturer closing in 2009. This legacy of economic uncertainty lingers. However, with reinvigorated population growth, a young populace, and the willingness to work, Biddeford will overcome the lagging demographic measures. Seven demographic measures have been examined here:

Total population in Biddeford has remained relatively flat over the past five decades, increasing just 10.8% since 1960. In contrast, the population of York County has increased 103.6% over the same time period.

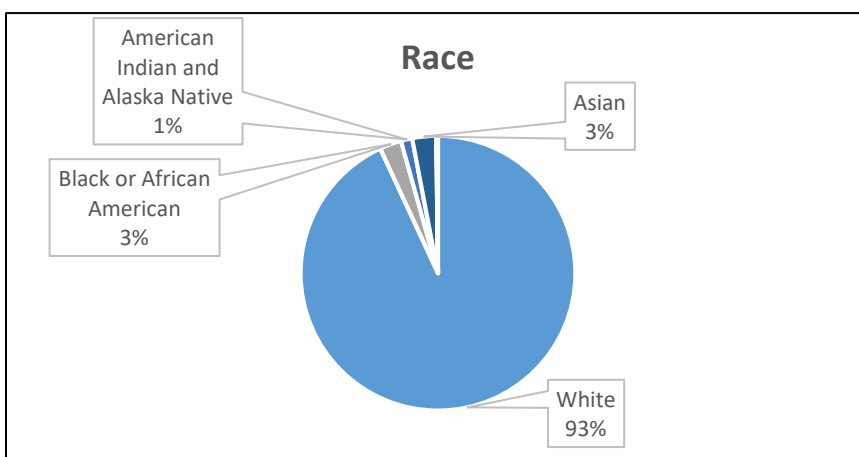


Source: U.S. Census Bureau, 2016
American Community Survey 5-Year Estimate

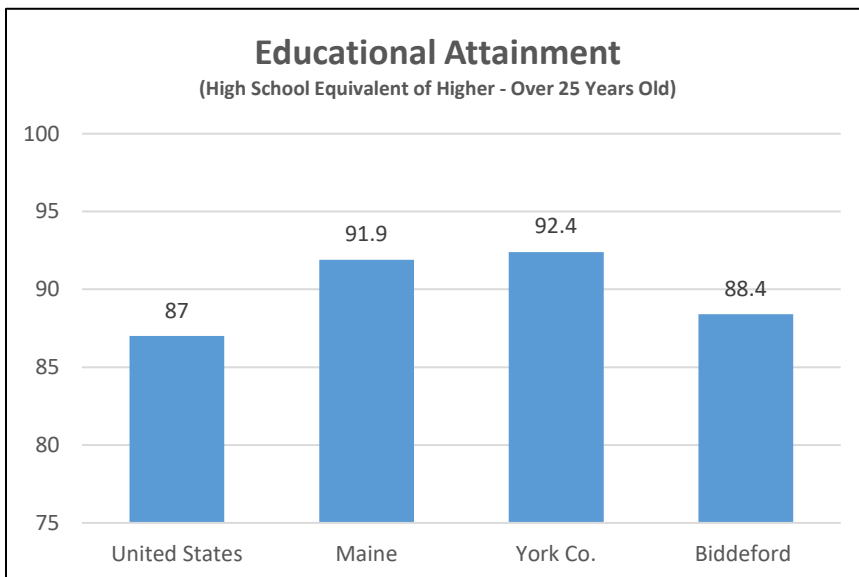
Biddeford is a comparatively young community. The largest age cohort in Biddeford is the 25 to 34 year old age group. **Median age here is 33.8 years.** In York County, median age is 44.4 years.



Like the rest of Maine, Biddeford is overwhelmingly white. **Just 7% of the population is a race other than white.** In York County, 98.1% of the population is white.

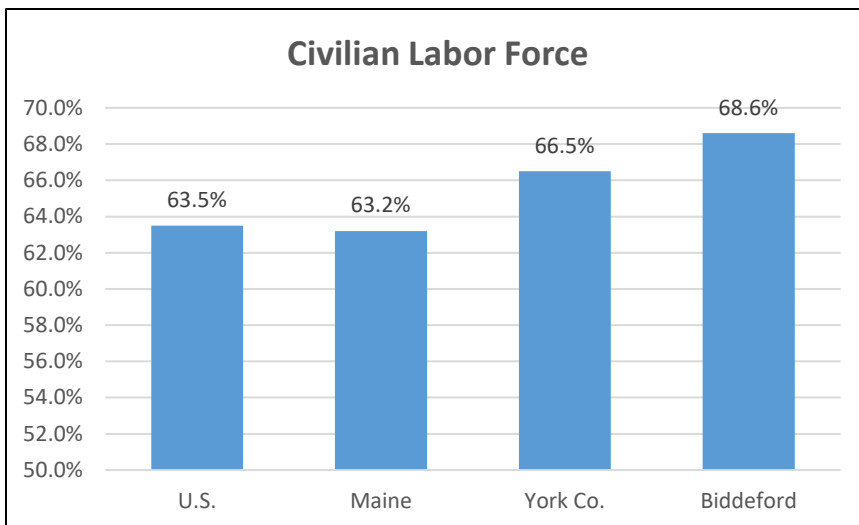


Educational attainment in Biddeford is lower than in both York County and in the rest of Maine, with 88.4% of the population 25 year old and above have at least high school equivalency. This is 4 percentage points lower than in York County. Educational attainment here is 1.4% higher than the overall United States.

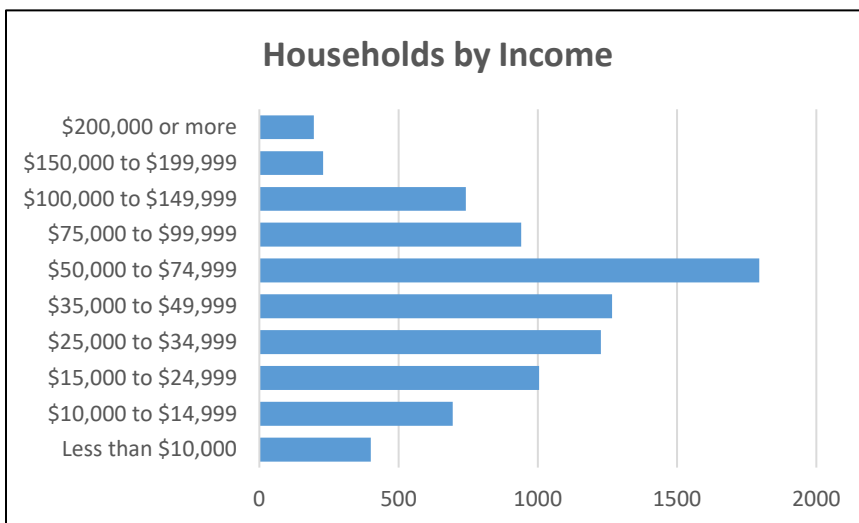


Source: U.S. Census Bureau, 2016 American Community Survey 5-Year Estimate

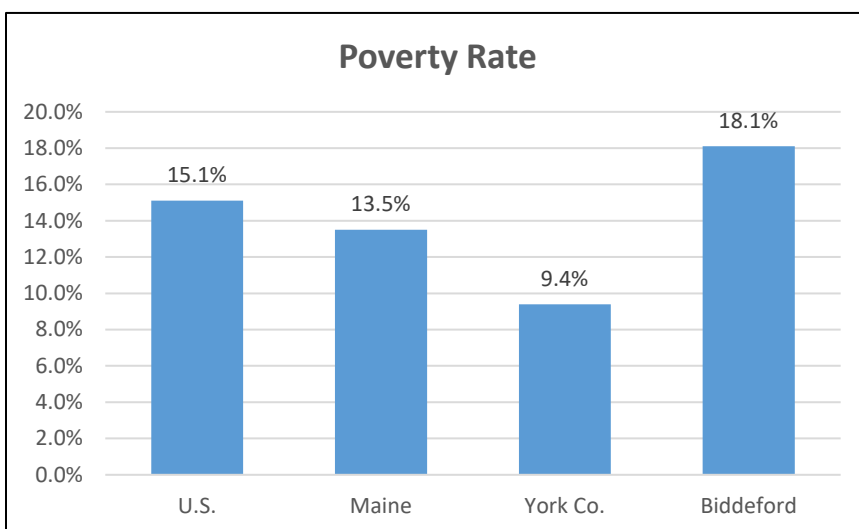
A greater portion of the population here is in the labor force as compared to York County, Maine and the U.S., and is **an indication of a strong local workforce**. This is especially true when seen in conjunction with the unemployment rate (just 3.0% as of Jan. 2018 according to the Maine Center for Workforce Research and Information).



The median household income in Biddeford is **\$47,265**. This is 25% lower than York County (\$59,132), and 7.5% lower than the State of Maine (\$50,826). Just over one-fifth of households here earn income from \$50,000 to \$74,999. Almost 5% earn less than \$10,000 per year. Just over 2% earn more than \$200,000 per year.



Biddeford has a higher poverty rate than York County, Maine and the U.S. **More than 18% of all people are living in poverty**. The rate of families living in poverty is noticeably lower, at 10.0%



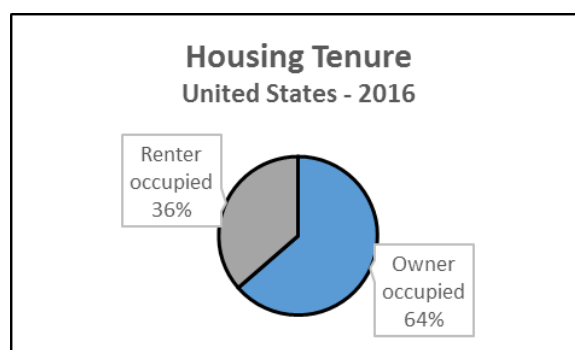
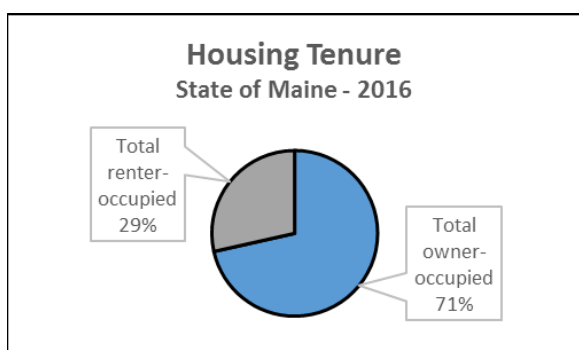
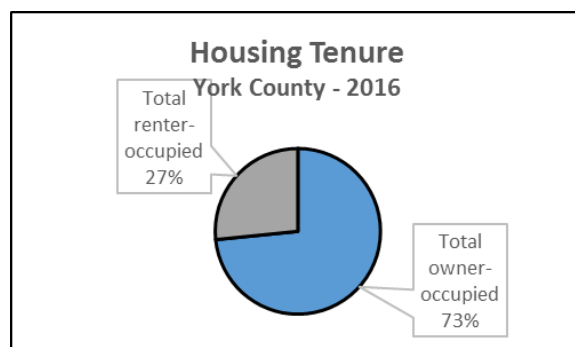
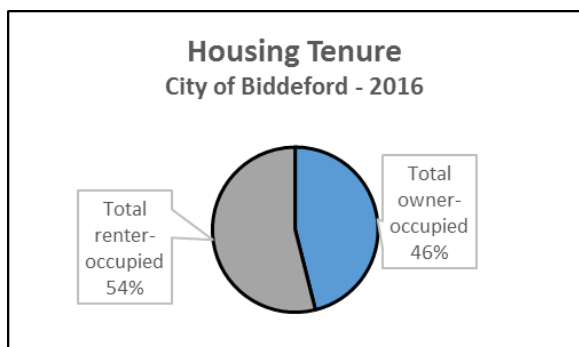
Source: U.S. Census Bureau, 2016 American Community Survey 5-Year Estimate

Existing Conditions

Housing Tenure

More than half of the households in Biddeford rent their homes. In York County more than one quarter of households rent and in the State of Maine 28.5% of households rent. The rental rate is high here as compared to the overall United States, where 36% of households rent their homes.

	City of Biddeford		York County		State of Maine	
	# of units	%	# of units	%	# of units	%
Total occupied	8,493	100.0%	82,588	100.0%	551,109	100.0%
Total owner-occupied	3,914	46.1%	60,617	73.4%	393,966	71.5%
Total renter-occupied	4,579	53.9%	21,971	26.6%	157,143	28.5%



The greatest concentration of renter-occupied housing are located downtown, in census tracts 252.01 and 252.02. About three-quarters of all occupied housing units in these tracts are renter-occupied.

Source: U.S. Census Bureau, 2016 American Community Survey 5-Year Estimate.

Biddeford Housing Assessment and Market Analysis, March 2018

These tracts comprise almost 60% of all housing units in Biddeford. Outside of the downtown area, where about 40% of all housing units are located, is predominantly owner-occupied.

	Tract 251 West	Tract 252.01 Downtown West	Tract 252.02 Downtown East	Tract 253 East	Tract 254 Coast
Total Housing Units	1,512	2,330	3,574	1,145	1,299
Total occupied	1,436	2,238	3,123	1,079	617
Total owner-occupied	80.2%	20.8%	28.6%	86.7	76.2%
Total renter-occupied	19.8%	79.2%	71.4%	13.3%	23.8%

Biddeford is a city of renters.

Households by Age of Head of Household

More head of households are aged 25 to 34 years than any other age group.

Age of Head of Household	2000	2010	2016	% Change '00 – '10	% Change '10 – 16	York County % Change '10 – '16
Under 25	640	639	542	-0.2%	-15.2%	-31.0%
25 - 34	1,592	1,300	1,737	-18.3%	33.6%	12.8%
35 - 44	1,796	1,442	1,137	-19.7%	-21.2%	-13.4%
45 - 54	1,588	1,722	1,632	8.4%	-5.2%	-8.2%
55 - 64	1,093	1,526	1,444	39.6%	-5.4%	9.4%
65 - 74	1,007	968	978	-3.9%	1.0%	24.9%
75 - 84	710	723	720	1.8%	-0.4%	5.5%
85 +	210	278	303	32.4%	9.0%	4.8%
Total HHs	8,636	8,598	8,493	-0.4%	-1.2%	1.9%

Of the 8,493 households in Biddeford in 2016, the greatest growth has taken place among households headed by 25 to 34 year-olds. This cohort grew by 33.6% while many other age groups experienced slow or negative growth. This contrasts sharply with the period 2000 to 2010 when the greatest growth was seen in the 55 to 64 year-old age group. This change may be explained in terms of median age: median age has fallen in Biddeford in the years 2010 to 2016, from 38.3 years to 33.8 years. According to a June 21, 2017 article in the *New York Times*, the median age of first-time home buyers is 32 years. With more than 20% of the occupied housing units in Biddeford headed by 25 to 34 year olds, this group may place additional demand on owner-occupied housing here, changing the make-up of housing tenure discussed above.

Source: 2000 Decennial Census
 2010 Decennial Census
 2016 American Community Survey 5-Year Estimate.
 ESRI

Housing Types

Fewer than half of all housing units in Biddeford are single unit dwellings, whether detached or attached. In contrast, more than 70% of all housing units in York County and the State of Maine are single-unit structures. Also, a larger share of total housing units in Biddeford are multi-family structures as compared to York County and the State of Maine. In particular, two- and 3-4 - unit structures make up more than 30% of all housing units here.

	City of Biddeford		York County	State of Maine
	# of Units	% of Total	% of Total	% of Total
Total	9,860	100.0%	100.0%	100.0%
1 unit, detached	4,695	47.6%	69.2%	70.0%
1 unit, attached	191	1.9%	2.8%	2.3%
2 unit	1,561	15.8%	7.2%	5.1%
3 or 4 unit	1,578	16.0%	5.9%	5.6%
5 to 9 unit	902	9.1%	3.7%	3.7%
10 to 19 unit	111	1.1%	1.5%	1.6%
20 to 49 unit	419	4.2%	1.8%	1.7%
50 or more unit	213	2.2%	1.1%	1.4%
Mobile Home	190	1.9%	6.8%	8.5%
Other (Boat, RV, Van)	0	0.0%	0.0%	0.0%

Mobile homes make up less than 2% of the housing units in Biddeford, which is a noticeably lower rate than in York County or the State of Maine.

Biddeford Housing Assessment and Market Analysis, March 2018

The housing in the western, eastern, and coastal portions of Biddeford is predominately single-family, while housing downtown is predominantly multi-family.

	Tract 251 West	Tract 252.01 Downtown West	Tract 252.02 Downtown East	Tract 253 East	Tract 254 Coast
Total	1,512	2,330	3,574	1,145	1,299
1 unit, detached	73.9%	25.6%	23.5%	88.1%	87.1%
1 unit, attached	2.2%	2.6%	0.8%	4.1%	1.7%
2 unit	9.3%	16.2%	27.2%	1.6%	4.0%
3 or 4 unit	2.2%	24.0%	26.9%	0.0%	1.7%
5 to 9 unit	9.7%	15.2%	10.8%	0.0%	1.3%
10 to 19 unit	1.0%	1.6%	1.6%	0.0%	0.0%
20 to 49 unit	1.7%	13.2%	2.1%	0.0%	0.8%
50 or more unit	0.0%	1.5%	4.4%	0.0%	1.6%
Mobile Home	0.0%	0.0%	2.7%	6.2%	1.7%
Other (Boat, RV, Van)	0.0%	0.0%	0.0%	0.0%	0.0%

Source: 2016 American Community Survey 5-Year Estimate.

Housing Type by Tenure

The portion of owner-occupied housing units that are 1-unit, detached (single-family) is the same in Biddeford as in York County and the State of Maine.

Owner-Occupied Housing Units	City of Biddeford		York County	State of Maine
	# of Units	% of Total	% of Total	% of Total
Total	3,914	100.0%	60,617	393,966
1 unit, detached	3,312	84.6%	84.2%	84.2%
1 unit, attached	130	3.3%	3.2%	2.3%
2 unit	269	6.9%	2.7%	2.0%
3 or 4 unit	64	1.6%	1.4%	1.0%
5 to 9 unit	40	1.0%	0.5%	0.3%
10 to 19 unit	0	0.0%	0.1%	0.1%
20 to 49 unit	12	0.3%	0.2%	0.1%
50 or more unit	0	0.0%	0.2%	0.1%
Mobile Home	87	2.2%	7.3%	9.8%
Other (Boat, RV, Van)	0	0.0%	0.1%	0.0%

But a much smaller portion renters in Biddeford occupy single-family homes than in York County of the State of Maine. The majority of renters in Biddeford occupy multi-unit structures.

Renter-Occupied Housing Units	City of Biddeford		York County	State of Maine
	# of Units	% of Total	% of Total	% of Total
Total	4,579	100.0%	21,971	157,143
1 unit, detached	534	11.7%	26.1%	24.9%
1 unit, attached	48	1.0%	2.6%	3.1%
2 unit	1,047	22.9%	20.0%	14.4%
3 or 4 unit	1,310	28.6%	19.7%	19.3%
5 to 9 unit	845	18.5%	13.3%	13.9%
10 to 19 unit	111	2.4%	4.2%	5.6%
20 to 49 unit	381	8.3%	6.0%	6.3%
50 or more unit	213	4.7%	4.2%	5.3%
Mobile Home	90	2.0%	3.8%	7.2%
Other (Boat, RV, Van)	0	0.0%	0.1%	0.0%

Like the City overall, the majority of owner-occupied housing units in each census tract are single-family homes. In Census Tracts 251, 253, and 254 the rate of owner-occupied housing units that are 1-unit,

Biddeford Housing Assessment and Market Analysis, March 2018

detached exceeds 90%. In the downtown tracts, the rate is somewhat lower, but this can be expected, because of the high number of multi-units structure in this part of the city relative to single-family homes.

Owner-Occupied Housing Units	Tract 251 West	Tract 252.01 Downtown West	Tract 252.02 Downtown East	Tract 253 East	Tract 254 Coast
Total	1,152	465	892	935	470
1 unit, detached	90.1%	81.3%	67.4%	90.2%	96.2%
1 unit, attached	2.9%	4.5%	3.3%	4.1%	1.9%
2 unit	3.6%	11.4%	17.6%	1.9%	0.0%
3 or 4 unit	0.0%	2.8%	5.7%	0.0%	0.0%
5 to 9 unit	3.5%	0.0%	0.0%	0.0%	0.0%
10 to 19 unit	0.0%	0.0%	0.0%	0.0%	0.0%
20 to 49 unit	0.0%	0.0%	1.3%	0.0%	0.0%
50 or more unit	0.0%	0.0%	0.0%	0.0%	0.0%
Mobile Home	0.0%	0.0%	4.7%	3.9%	1.9%
Other (Boat, RV, Van)	0.0%	0.0%	0.0%	0.0%	0.0%

Similarly, renters are most likely to occupy multi-unit structures in the downtown census tracts, while the rate of renter-occupied single family housing units is higher in the census tracts west and east of downtown. Put simply, renters in each census tract occupy the type of housing that is most available; downtown most units are in multi-family structures, outside of downtown most units are single-family homes.

Renter-Occupied Housing Units	Tract 251 West	Tract 252.01 Downtown West	Tract 252.02 Downtown East	Tract 253 East	Tract 254 Coast
Total	284	1,773	2,231	144	147
1 unit, detached	20.1%	10.8%	4.7%	69.4%	55.1%
1 unit, attached	0.0%	2.2%	0.0%	6.3%	0.0%
2 unit	25.4%	18.3%	28.1%	0.0%	15.0%
3 or 4 unit	12.0%	27.2%	35.0%	0.0%	8.2%
5 to 9 unit	37.3%	19.9%	17.3%	0.0%	0.0%
10 to 19 unit	5.3%	2.1%	2.6%	0.0%	0.0%
20 to 49 unit	0.0%	17.4%	2.8%	0.0%	7.5%
50 or more unit	0.0%	2.0%	7.0%	0.0%	14.3%
Mobile Home	0.0%	0.0%	2.5%	24.3%	0.0%
Other (Boat, RV, Van)	0.0%	0.0%	0.0%	0.0%	0.0%

Source: 2016 American Community Survey 5-Year Estimate

Age of Housing Stock

Biddeford's housing stock is old. As of 2016, almost half (44.4%) of all housing units were built in 1939 or earlier. The median year built here is 1946. This is 32 years older than in York County and 28 years older than in Maine. Nationally, the median year built was 1977 as of 2016.

Year Built	City of Biddeford		York County	State of Maine
	# of Units	% of Total	% of total	% of total
Built 1939 or earlier	4,378	44.4%	22.4%	24.9%
Built 1940 to 1949	895	9.1%	5.0%	4.9%
Built 1950 to 1959	632	6.4%	6.3%	7.3%
Built 1960 to 1969	686	7.0%	5.7%	7.3%
Built 1970 to 1979	1,049	10.6%	14.1%	14.2%
Built 1980 to 1989	833	8.4%	17.8%	14.7%
Built 1990 to 1999	579	5.9%	12.1%	12.2%
Built 2000 to 2009	589	6.0%	14.9%	13.0%
Built 2010 to 2013	210	2.1%	1.6%	1.4%
Built 2014 or later	9	0.1%	0.2%	0.2%
Total	9,860	100.0%	100.0%	100.0%
Median Year Built	1946		1978	1974

Not surprisingly, the oldest housing stock in Biddeford is in the downtown area. In both census tract 252.01 and 252.02 the median age of a housing unit was 77 years old. In the outlying three tracts, the median age is between 40 years old and 48 years old.

Year Built	Tract 251 West	Tract 252.01 Downtown West	Tract 252.02 Downtown East	Tract 253 East	Tract 254 Coast
Built 1939 or earlier	19.5%	65.7%	52.1%	19.0%	36.5%
Built 1940 to 1949	8.5%	6.1%	10.9%	5.6%	13.1%
Built 1950 to 1959	5.0%	4.3%	10.1%	2.3%	5.2%
Built 1960 to 1969	6.6%	7.9%	4.2%	12.0%	8.7%
Built 1970 to 1979	15.4%	4.9%	8.1%	25.1%	9.5%
Built 1980 to 1989	15.7%	2.9%	9.1%	9.0%	7.7%
Built 1990 to 1999	12.2%	0.9%	4.1%	12.5%	6.7%
Built 2000 to 2009	10.6%	3.5%	1.4%	13.8%	10.6%
Built 2010 to 2013	6.4%	3.8%	0.0%	0.0%	1.9%
Built 2014 or later	0.0%	0.0%	0.0%	0.8%	0.0%
Total	1,512	2,330	3,574	1,145	1,299
Median Year Built	1978	1939	1939	1974	1970

Source: 2016 American Community Survey 5-Year Estimate

Biddeford Housing Assessment and Market Analysis, March 2018

Owner-occupied housing units in Biddeford are as old as all housing units here, with the same median year built of 1946.

Year Built Owner-Occupied	City of Biddeford		York County	State of Maine
	# of Units	% of Total	% of total	% of total
Built 1939 or earlier	1,036	26.5%	16.7%	21.2%
Built 1940 to 1949	361	9.2%	4.3%	4.3%
Built 1950 to 1959	374	9.6%	5.8%	7.1%
Built 1960 to 1969	329	8.4%	5.3%	6.9%
Built 1970 to 1979	576	14.7%	14.9%	14.3%
Built 1980 to 1989	432	11.0%	19.5%	15.1%
Built 1990 to 1999	397	10.1%	14.3%	13.9%
Built 2000 to 2009	343	8.8%	17.0%	15.2%
Built 2010 to 2013	57	1.5%	2.1%	1.6%
Built 2014 or later	9	26.5%	0.2%	0.3%
Total	3,914	100.0%	100.0%	100.0%
Median Year Built	1946		1978	1974

However, the owner-occupied housing units in Census Tract 252.01 is older still, with 1939 as the median year built. More than half of all owner-occupied housing in this tract was built in 1939 or earlier. The newest housing is found to the west of downtown in tract 251, where the median age of occupied housing was 39 years old.

Year Built Owner-Occupied	Tract 251 West	Tract 252.01 Downtown West	Tract 252.02 Downtown East	Tract 253 East	Tract 254 Coast
Built 1939 or earlier	16.4%	56.8%	36.5%	17.2%	20.4%
Built 1940 to 1949	6.9%	16.6%	12.2%	6.8%	6.8%
Built 1950 to 1959	6.6%	9.0%	23.9%	2.0%	5.1%
Built 1960 to 1969	4.8%	9.2%	5.2%	12.7%	14.0%
Built 1970 to 1979	16.8%	5.8%	7.2%	24.0%	14.5%
Built 1980 to 1989	16.9%	2.6%	9.9%	8.9%	11.5%
Built 1990 to 1999	16.0%	0.0%	1.6%	14.3%	13.8%
Built 2000 to 2009	11.8%	0.0%	3.6%	13.0%	11.3%
Built 2010 to 2013	3.9%	0.0%	0.0%	0.0%	2.6%
Built 2014 or later	0.0%	0.0%	0.0%	1.0%	0.0%
Total	1,152	465	892	935	470
Median Year Built	1979	1939	1951	1975	1973

Source: 2016 American Community Survey 5-Year Estimate

Biddeford Housing Assessment and Market Analysis, March 2018

Renter-occupied housing across the city is seven years older than both own-occupied housing units and the total of all housing, both owner- and renter-occupied, with a median year built of 1939, which is 25 years older than in York County and 28 years older than in Maine.

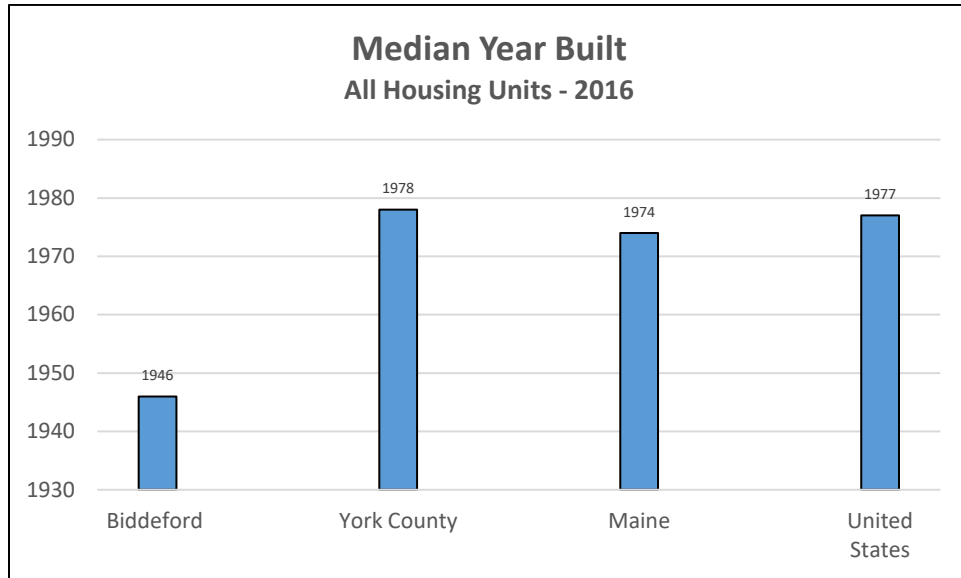
Year Built Renter-Occupied	City of Biddeford		York County	State of Maine
	Year Built	% of Total	% of total	% of total
Built 1939 or earlier	2,557	55.8%	36.0%	31.6%
Built 1940 to 1949	347	7.6%	5.8%	5.9%
Built 1950 to 1959	179	3.9%	5.7%	7.0%
Built 1960 to 1969	322	7.0%	6.0%	7.5%
Built 1970 to 1979	430	9.4%	15.0%	15.6%
Built 1980 to 1989	287	6.3%	12.7%	14.4%
Built 1990 to 1999	167	3.6%	6.5%	8.7%
Built 2000 to 2004	150	3.3%	10.5%	7.8%
Built 2005 or later	140	3.1%	1.5%	1.3%
Total	4,579	100.0%	100.0%	100.0%
Median Year Built	1939		1964	1967

Similar to owner-occupied housing, the oldest renter-occupied housing is in the downtown area. Renter-occupied housing units in both census tracts 252.01 and 252.02 have a median year built of 1939. The tracts just east and west of downtown are about three decades newer, but interestingly, the median year built for renter-occupied housing in the coastal tract was 1949 as of 2016, 24 years older than owner-occupied housing in the same tract.

Year Built Renter-Occupied	Tract 251 West	Tract 252.01 Downtown West	Tract 252.02 Downtown East	Tract 253 East	Tract 254 Coast
Built 1939 or earlier	27.8%	66.2%	54.8%	21.5%	34.7%
Built 1940 to 1949	0.0%	3.7%	11.4%	0.0%	17.7%
Built 1950 to 1959	0.0%	3.3%	5.1%	4.9%	0.0%
Built 1960 to 1969	15.8%	8.0%	4.7%	12.5%	8.2%
Built 1970 to 1979	14.1%	5.0%	10.1%	43.8%	8.8%
Built 1980 to 1989	15.1%	3.1%	7.2%	4.9%	15.0%
Built 1990 to 1999	0.0%	1.1%	5.9%	6.3%	4.8%
Built 2000 to 2004	8.8%	4.6%	0.8%	6.3%	10.9%
Built 2005 or later	18.3%	5.0%	0.0%	0.0%	0.0%
Built 1939 or earlier	0.0%	0.0%	0.0%	0.0%	0.0%
Total	284	1,773	2,231	144	147
Median Year Built	1975	1939	1939	1973	1949

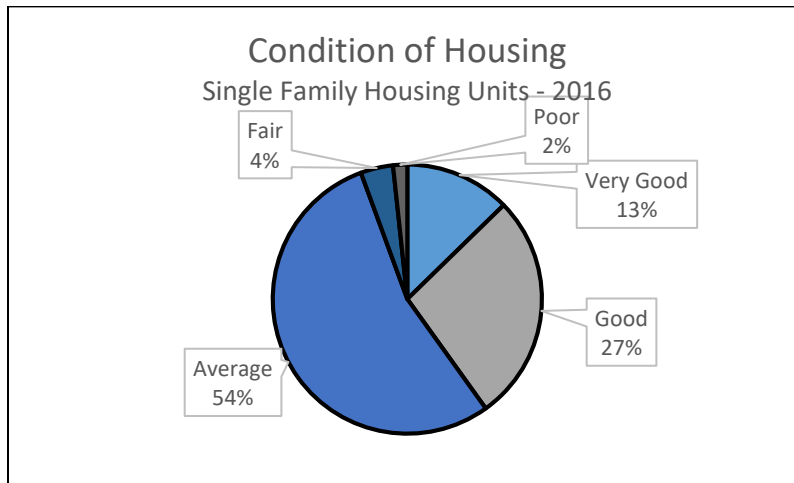
Source: 2016 American Community Survey 5-Year Estimate

The housing stock in Biddeford is decades older than in York County, the State of Maine, or the overall United States.

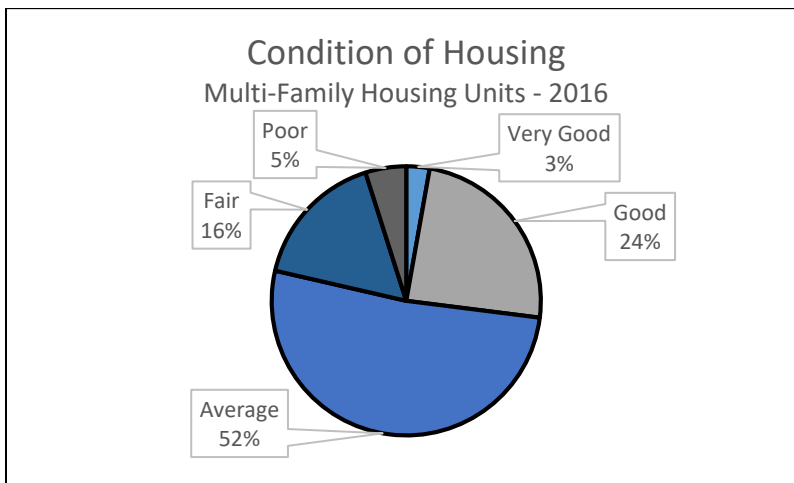


Condition of Housing Stock

Older housing like that in the City of Biddeford tends to have more problems with maintenance, energy efficiency, electrical and plumbing failures, and general deterioration. However, according to the Biddeford Assessing Department, 94% of single-family housing units were in average or better condition.



Among multi-family structures, 79% were in average or better condition.



Source: Biddeford Assessing Department

Biddeford Housing Assessment and Market Analysis, March 2018

Other indicators show that Biddeford has a lower rate of housing that lack complete plumbing, kitchen facilities or heat than in either York County or Maine.

Indicator	City of Biddeford		York County	State of Maine
	# of Units	% of Total	%	%
Lack complete plumbing	8	0.1%	0.3%	0.5%
Lack complete kitchen	34	0.3%	0.6%	0.7%
No Bedrooms	121	1.2%	1.7%	2.8%
No heat	33	0.3%	0.1%	0.2%

Source: 2016 American Community Survey 5-Year Estimate

Vacancy Rates

As of 2016, the overall vacancy rate in Biddeford was low compared to York County and the State of Maine. Here, 13.9% of all housing units were unoccupied, as compared to 23.0% in York County and 24.2% in Maine. However, despite being a coastal community, Biddeford has a far lower rate of seasonal housing than either York County or Maine, with seasonal rates of 6.2%, 17.4% and 15.6%, respectively. Fewer seasonal housing units will naturally be reflected in the overall vacancy rate in Biddeford.

As a sign of a strong housing market here in Biddeford, the homeowner vacancy rate was just 0.7% compared to 1.5% in York County and 2.0% in Maine. Rental vacancy rates were similarly low, Just 5.4% in Biddeford. In contrast, the rental vacancy rate was 6.8% in York County and 6.4% in Maine.

Vacancy Rates	City of Biddeford		York County		State of Maine	
	Total # of Units	%	Total # of Units	%	Total # of Units	%
Total Housing Units	9,860	100.0%	107,298	100.0%	727,127	100.0%
Seasonal Housing Units	615	6.2%	18,669	17.4%	124,523	15.6%
Year-round Housing Units	9,245	93.8%	88,629	82.6%	602,604	84.4%
Homeowner Vacancy Rate	---	0.7%	----	1.5%	----	2.0%
Rental Vacancy Rate	---	5.4%	----	6.8%	----	6.4%
Total Vacant	1,367	100.0%	24,710	100.0%	176,018	100.0%
Vacant for Sale	27	2.0%	919	3.7%	7,904	4.5%
Vacant for Rent	260	19.0%	1,622	6.6%	10,869	6.2%
Rented or Sold, Not Occupied	45	3.3%	292	1.2%	4,426	2.5%
For Seasonal Use	615	45.0%	18,669	75.6%	124,523	70.7%
For Migrant Workers	0	0.0%	19	0.1%	261	0.1%
Other Vacant	420	30.7%	3,189	12.9%	28,035	15.9%

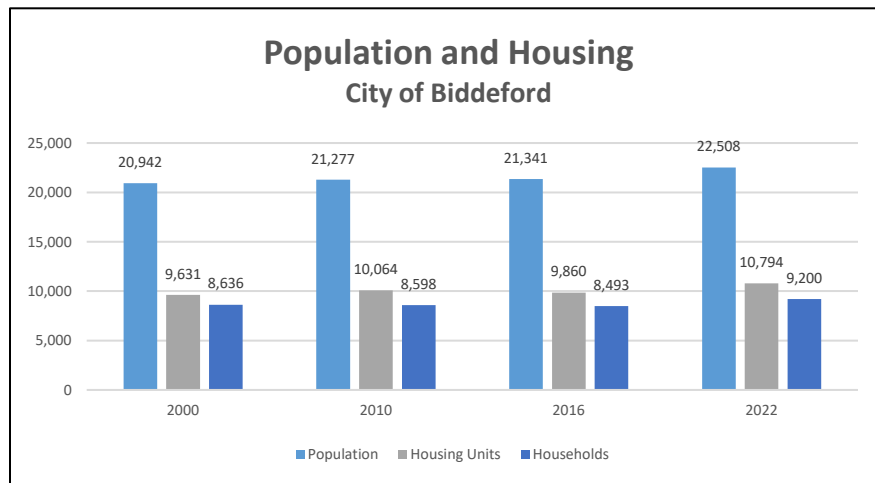
Source: 2016 American Community Survey 5-Year Estimate

Housing Demand

The population of Biddeford has increased just 1.9% from 2000 to 2016. During that period of time the overall number of housing units in Biddeford has grown faster than the population, by a rate of 2.3%. While the population is projected to grow faster by 2022, the projected number of new housing units will be great enough to meet the higher demand, other things being equal.

City of Biddeford			Estimate	Projection	% Change		
	2000	2010	2016	2022	'00 – '10	'10 – '16	'16 – '22
Population	20,942	21,277	21,341	22,508	+ 1.6%	+ 0.3%	+ 5.5%
Housing Units	9,631	10,064	9,860	10,794	+ 4.5%	- 2.0%	+ 9.5%
Households	8,636	8,598	8,493	9,200	- 0.4%	-1.2%	+ 8.3%
Avg. HH Size	2.32	2.30	2.36	2.28	- 0.9%	+ 2.6%	-3.4%

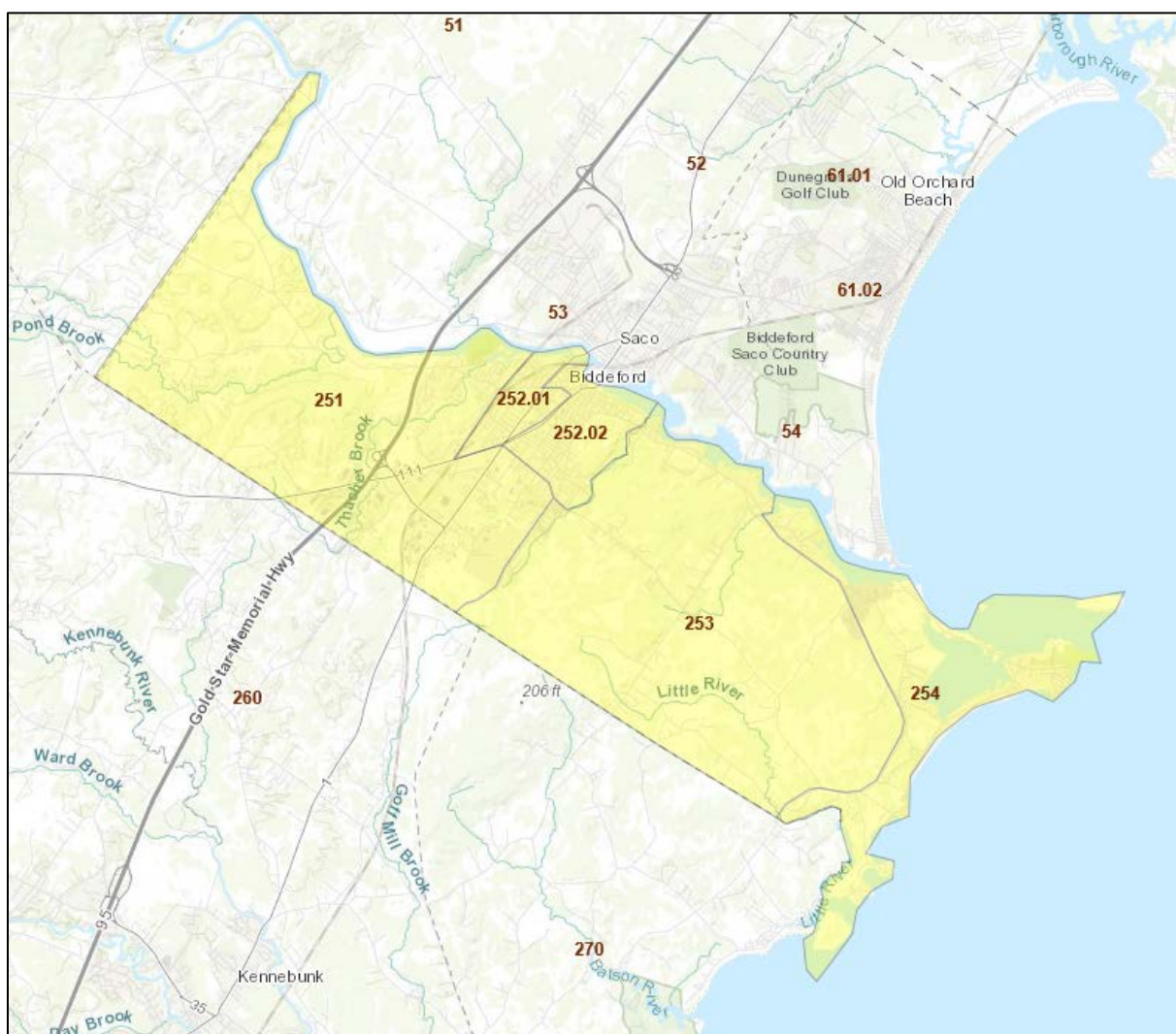
Also, the number of households (occupied housing units) has fallen 1.7% from 2000 to 2016 reducing demand for both existing and new housing units. However, by 2022 a 5.5% projected increase in population, a projected increase of households and a falling average household size may drive demand for housing. **While the supply of housing is now sufficient to meet demand, changing demographics in the coming decade, may put new pressure on demand for housing.**



Source: 2000 Decennial Census
 2010 Decennial Census
 Source: U.S. Census Bureau, 2016 American Community Survey 5-Year Estimate.
 ESRI

Demand in Census Tracts

Growth will not take place evenly across the five census tracts in Biddeford. In Census Tracts 251, 252.01, and 253, population is expected to grow by less than 10% by 2022. The population of census tract 252.02 is expected to fall by almost 4%. But the population change in census tract 252.02 may be greater than these projections indicate. This census tract comprises Biddeford's Mill District, the area of the city with about 20 former mill buildings where rapid growth over the past five years has taken place. While projections indicate the number of housing units will fall here by 0.6%, almost 250 new housing units have been added since 2010 and an additional 230 will open by 2020. Because of the density of buildings in this area of the city, it will likely be the driver of population increases over the next decade. In the coastal census tract 254, population is projected to grow by more than 21% by 2022. **These two areas of Biddeford will likely see the greatest increases in population in the coming years: the urban core and the coastal region.**



Source: U.S. Census Bureau, 2016 American Community Survey 5-Year Estimate.

Biddeford Housing Assessment and Market Analysis, March 2018

Census Tract 251			Estimate	Projection	% Change		
	2000	2010	2016	2022	'00 – '10	'10 – '16	'16 – '22
Population	3,577	3,800	3,589	3,915	+ 6.2%	-5.6%	+9.1%
Housing Units	1,380	1,585	1,512	1,658	+ 14.9%	-4.6%	+9.7%
Households	1,334	1,477	1,436	1,545	+10.7%	-2.8%	+7.6%
Avg. HH Size	2.67	2.57	2.49	2.53	-3.7%	-3.1%	+1.6%

Census Tract 252.01			Estimate	Projection	% Change		
	2000	2010	2016	2022	'00 – '10	'10 – '16	'16 – '22
Population	5,930	5,123	5,001	5,446	-13.6%	-2.4%	+ 8.9%
Housing Units	2,847	2,532	2,330	2,445	-11.1%	-7.9%	+ 4.9%
Households	2,689	2,319	2,238	2,487	-13.8%	-3.5%	+ 11.1%
Avg. HH Size	2.11	2.10	2.18	2.08	-0.5%	3.8%	-4.6%

Census Tract 252.02			Estimate	Projection	% Change		
	2000	2010	2016	2022	'00 – '10	'10 – '16	'16 – '22
Population	6,835	6,966	7,679	7,378	1.9%	10.2%	-3.9%
Housing Units	3,151	3,478	3,574	3,553	+ 10.4%	+ 2.8%	-0.6%
Households	2990	3,068	3,123	3,280	2.6%	1.8%	+ 5.0%
Avg. HH Size	2.28	2.27	2.45	2.25	-0.4%	7.9%	+ 8.2%

Source: 2000 Decennial Census
2010 Decennial Census
U.S. Census Bureau, 2016 American Community Survey 5-Year Estimate.
ESRI

Biddeford Housing Assessment and Market Analysis, March 2018

Census Tract 253			Estimate	Projection	% Change		
	2000	2010	2016	2022	'00 – '10	'10 – '16	'16 – '22
Population	2,737	2,934	2,917	3,141	7.2%	-0.6%	+ 7.7%
Housing Units	996	1,181	1,145	1,287	+ 18.6%	-3..0%	+ 12.4%
Households	959	1,113	1,079	1,209	16.1%	-3.1%	+12.0%
Avg. HH Size	2.64	2.51	2.55	2.48	-4.9%	1.6%	-2.7%

Census Tract 254			Estimate	Projection	% Change		
	2000	2010	2016	2022	'00 – '10	'10 – '16	'16 – '22
Population	1,863	2,454	2,155	2,628	+ 3.12%	+ 1.2%	+ 21.9%
Housing Units	1,257	1,288	1,299	1,408	+2.5%	+ 0.9%	+ 8.4%
Households	664	621	617	679	-6.5%	-0.6%	+ 10.0%
Avg. HH Size	2.20	2.21	1.98	2.22	0.5%	-10.4%	+12.1%

Source: 2000 Decennial Census
2010 Decennial Census
2016 American Community Survey 5-Year Estimate.
ESRI

Affordability

According to data provided by Maine Housing Authority for 2017, housing in Biddeford is among the least affordable in York County.

Homeowner Affordability Index

The Affordability Index compares the median income in a community to the income needed to afford the median home price in that community. For all of York County, the median income is 83% of the income needed to afford the median home price. In Biddeford, median income is just 65% of that needed to afford the median home price, which in 2017 was \$234,900. A household with the median income here can afford a home priced at \$151,780, and the income needed to afford the median home price is \$71,752. In York County, Ogunquit is the least affordable community and Waterboro is the most affordable. Alfred's index is the median, at 0.90.

	Index	Median Home Price	Median Income	Income Needed to Afford Median Home Price	Home Price Affordable to Median Income
York County	0.83	\$255,000	\$60,328	\$72,440	\$212,364
Ogunquit (least affordable)	0.41	\$580,000	\$62,829	\$152,482	\$238,984
Biddeford	0.65	\$234,900	\$46,362	\$71,752	\$151,780
Cornish (median)	0.90	\$160,750	\$40,962	\$45,634	\$144,292
Waterboro (most affordable)	1.24	\$183,000	\$64,427	\$51,954	\$226,935

Households Unable to Afford Median Home

The portion of a community's households unable to afford the median-price home is another measure of home affordability. In Biddeford, almost three-quarters of households do not have the income to afford the median-priced home. In York County, only Kittery, Old Orchard Beach, and Wells have a greater percentage of households unable to afford a median priced home. In Saco, Biddeford's neighboring community, 67.8% of households are unable to afford the median priced home, making it just somewhat more affordable. By this measure, Waterboro is again the most affordable in York County.

Source: Maine Housing Authority

Biddeford Housing Assessment and Market Analysis, March 2018

	Households Unable to Afford Median Home		Total Households	Median Home Price	Income Needed to Afford Median Home	
	Percent	Number			Annual	Hourly
York County	61.9	52,189	84,322	\$255,000	\$72,440	\$34.83
Wells (least affordable)	76.1	3,340	4,389	\$339,000	\$91,399	\$43.94
Biddeford	71.1%	6,153	8,653	\$234,900	\$71,752	\$34.50
Lyman (median)	59.2%	1,036	1,751	\$242,500	\$67,503	\$32.45
Waterboro (most affordable)	37.9%	1,128	2,975	\$183,000	\$51,954	\$24.98

Rental Affordability Index

Of the 12 towns or cities in York County examined by Maine Housing Authority for rental affordability, Biddeford is the least affordable. Median Income for rental households lags behind that needed to afford the average 2 bedroom rent. Here, the renter household median income is just 77% that needed to afford the average 2 bedroom rent. Looked at another way, the renter household median income is \$9,283 less per year than the income needed to afford the average 2 bedroom rent.

	Index	Average 2 Bdrm Rent w/Utilities	Renter Household Median Income	Income Needed to Afford Average 2 Bdrm Rent	2 Bdrm Rent Affordable to Median Income
York County	0.95	\$947	\$35,834	\$37,890	\$896
Biddeford (least affordable)	0.77	\$1,009	\$31,067	\$40,350	\$777
Median	1.05	\$1,090	\$45,907	\$43,585	\$1,148
North Berwick (most affordable)	1.48	\$864	\$51,135	\$34,560	\$1,278

In terms of households, 61.5%, or 2,688, of Biddeford's rental households are unable to afford the average 2 bedroom housing unit. The average rent for a 2 bedroom unit is among the highest in York County, but Biddeford's rental household median income is among the lowest, reinforcing Biddeford's place as unaffordable in the housing market. North Berwick is the most affordable community in York County to rent housing.

Source: Maine Housing Authority

Biddeford Housing Assessment and Market Analysis, March 2018

	Households Unable to Afford Average 2 Bdrm Rent		Total Renter Households	Average 2 Bdrm Rent (w/ Utilities)	Income Needed to Afford Average 2 Bdrm Rent	
	Percent	Number			Annual	Hourly
York County	52.1%	11,586	22,256	\$947	\$37,890	\$18.22
Biddeford (least affordable)	61.5%	2,688	4,371	\$1,009	\$40,350	\$19.40
Median	47.7%	418	876	\$929	\$37,170	\$17.87
North Berwick (most affordable)	36.7%	131	357	\$864	\$34,560	\$16.62

Whether considering homeownership or simply renting an apartment, housing in Biddeford is demonstrably less affordable than other communities in York County.

Biddeford Housing Assessment and Market Analysis, March 2018

Overview of Affordable and Subsidized Housing

Biddeford has many affordable and/or subsidized rental housing units, however, the available supply falls short of strong demand.

Housing - Subsidized Units, 2013	Biddeford	York County	Maine
Disabled Units	80	146	1,097
Family Units	287	1,313	12,015
Housing Choice Vouchers	360	1,278	9,778
Senior Units	314	1,832	15,234
Special Needs Units	19	193	1,202
Total	1,060	4,762	39,326

Supply of Affordable and Subsidized Housing

Housing Complex	Population	Management	No. of Units	Wait list Aug 2015
Alfred Street	Elderly & disabled	Phoenix Management	20 subsidized	1 bdrm -15 2 bdrm-16
Avignon Apts.	Families	York County Shelters	8 subsidized	n/a
Emery School Apts.	Elderly (55 or older)	Avesta Housing	24 1 Bdrm: \$598 - \$727 2 Bdrm: \$718 - \$873	1 bdrm-29 2 bdrm-10
Five Graham Street	Elderly (62 or older)	Avesta Housing	35 subsidized Rent based on 30% of household adjusted income	1 bdrm-37
Forest Green Apts.	Families	Phoenix Management	40 subsidized	2 bdrm-12 3 bdrm-20 4 bdrm-7
Hill Street Terrace	Families	Avesta Housing	12 subsidized Rent based on 30% of household adjusted income	2 bdrm-66
Ledgewood Apts.	Elderly (62 and over) & disabled	Christopher Cimino	60	25
Pierson Lane	Families	Phoenix Management	68 subsidized	2 bdrm-12 3 bdrm-19
Presidential Apts.	Elderly & disabled	Phoenix Management	45 subsidized	1 bdrm-20 2 bdrm-2

Biddeford Housing Assessment and Market Analysis, March 2018

Housing Complex	Population	Management	No. of Units	Wait list Aug 2015
Prospect Manor	Elderly & disabled	Mack Brothers	50 subsidized	20
Riverbend Apts.	Families	Realty Resources	28 \$365.00 – \$906.00 / Rent Based on Income Limits	n/a
St. Andre’s Apts.	Elderly & disabled	Diocesan Bureau of Housing	35 subsidized	n/a
Summer Block	Elderly, disabled; families	Phoenix Management	32 subsidized	1 bdrm-15 2 bdrm-15
The Mill at Saco Falls	Families	Saco Falls Management	40 Rent based on 30% of household adjusted income	1 bdrm-16 2 bdrm-6 3 bdrm-3
The Lofts at Saco Falls	Families	Saco Falls Management	70 Rent based on 30% of household adjusted income	

The waiting list for those properties listed above that were able to supply data appears substantial, and indicates that significant unmet demand for affordable housing in Biddeford exists. It must be noted, however, that some portion of those households which appear on these waiting lists may have found other accommodations since placing his or her name on that list. Therefore, the absolute number of affordable units in demand may be somewhat smaller than the list here suggests. Also, although some management companies, e.g. Avesta Housing, pre-qualify households before placing them on a waiting list; others do not. Some households on a waiting list will not meet income restrictions and will be disqualified once he or she is verified for an available unit. This population may remain in need of affordable housing. Anecdotally, the length of time a household may wait for an open unit can be as long as two to three years, based on comments made by property management companies.

Impediments

Housing demand

Population is expected to increase by 5.5% from 2016 to 2022. This level of growth has not been experienced in Biddeford within such a short period of time since the mid-twentieth century. While there are hundreds of new housing units planned for Biddeford's Mill District for the next 24 to 36 months, a low household size (2.37) means supply may not meet demand in the coming decade. Anecdotally, housing in the Portland, Maine area is growing costlier and many households are being driven south to the Saco/Biddeford area by unaffordability. This trend will only drive demand for housing here.

Age of housing stock

The median age of housing units especially for rental housing units in census tracts 252.01 and 252.02, here in Biddeford is quite old. With housing of this age comes inevitable inconsistencies between current building codes and conditions of housing units. Biddeford Code Enforcement Office is conducting inspections of downtown multi-family housing units during 2017 and 2018 for violations of Life Safety codes. However, with housing stock of this age, not all housing units can meet modern building codes.

Condition of Housing Stock

Condition of housing in Biddeford is good, particularly for owner-occupied units. Still, fully 21% of renter-occupied units are in only fair or poor condition, according to Biddeford Assessing Department. This means a large portion of the rental stock is sub-par and likely in need of some repair.

Affordability

Supply and demand of good housing will likely drive housing costs higher in Biddeford over the next five or more years. Biddeford is a coastal community, and in the Biddeford Pool area of the city and along its lengthy beaches, even modest homes are well beyond median priced. Rental units in the downtown area of the city, once seen as among the most affordable in Southern Maine are no longer easily attained by lower income households. Indeed, the waiting list maintained by many communities for affordable and subsidized housing units is a marker that many households are priced out of the market-rate rental market.

Goals, Objectives and Actions

Goal

Provide an adequate supply of decent housing in Biddeford.

Objective 1: Increase the supply of safe and adequate affordable housing for low- to moderate-income persons.

Actions: 1. Consider revisions to the City's zoning and land use standards that would provide incentives, e.g. density bonuses, for the development of affordable housing.

Timeline: Year 1

Milestone: A new ordinance is now being developed by the Planning Department that will allow density bonuses in zone MSRD-2 allowing for 1 residential unit for every six-hundred and fifty square feet of existing living space when a property is proposed for redevelopment/renovation and currently at or below the established fiscal year quality grade rating according to the City Assessor's records. The property would need to be redeveloped/renovated in such a manner as to bring the quality grade rating above the established median.

2. In partnership with other public/private parties, explore the adaptive re-use and redevelopment of non-residential properties, e.g. mills and churches, into affordable and sheltered housing.

Timeline Years 1 through 5

Milestone: The City will continue to provide funding for a housing program with the Biddeford Housing Authority that will seek to purchase and rehabilitate various non-residential buildings into affordable and sheltered housing when available.

Objective 2: Preserve and upgrade the city's housing stock serving low- to moderate-income persons.

Actions: 1. Consider establishment of low interest loan programs to help finance the rehabilitation of the City's downtown housing stock.

Timeline: Year 1

Milestone: Establishment of a Business Assistance Program for the downtown for slum and blight which will address safety and health issues and encourage new investment in housing in the downtown.

2. Undertake a systematic and concentrated program of code enforcement to ensure life safety standards are met and to prevent blighting influences on neighborhoods.

Timeline: Years 1 through 5

Milestone: Continue to enforce the Disorderly Housing Ordinance so that Code Enforcement continues to be included in the eliminating of blighted buildings and unsafe living conditions.

3. Encourage participation by landlords in the Biddeford Landlords Association and encourage partnerships that provide resources for both landlords and tenants.

Timeline: Years 1 through 5

Milestones: Revitalization of the Biddeford Landlords Association by the Biddeford Housing Authority, and assistance/resources with building issues through the Biddeford Neighborhood Planning Committee and established neighborhoods.

Objective 3: Increase opportunities for homeownership for low and moderate income persons.

Actions: 1. Consider a partnership with other public/private organizations to pool resources to help finance home ownership, e.g. down payments, loan assistance, mortgage interest rate write-downs, and other financing mechanisms.

Timeline: Years 1 and 2

Milestones: Provide for a program with the Biddeford Housing Authority to provide low to moderate potential homebuyers with a grant program for gap financing to purchase a multiunit building (2 to 4 units) where they must reside.

Description of Vulnerability to Natural Hazard Risks and Broadband Needs

Natural Hazard Risks

Biddeford participates in several preparedness plans in the event of natural hazards. The City's Code Enforcement Office is tasked with being a part of and implementing the York County, Maine Hazard Mitigation Plan. The City also has its own internal action plan for documenting and responding to natural hazards. The two most probable natural hazards are flooding from the Saco River and ice storms. In the case of the Saco River, there are two potential scenarios that would lead to flooding. One, if the river were to become over full from rain runoff, and two, if the dam in Dayton would breach or break. In both cases, the two low to moderate-income Census tracts 252.01 and 252.02 would be affected to some degree since they are situated along the river. A small section of Census tract 252-01 is a small connected island off of Diamond Street. This island would be under 6 feet of water if the dam breached or broke. There is a total of 26 minutes to evacuate. Rescue and evacuation plans are in place to meet this deadline. When the river swells due to excessive rainfall, the City's Code Office monitors the rising waters and keeps citizens informed. If there was a dam breach, the downtown would see minor flooding but sections of the mill district would flood. In regards to ice storms, the City has two warming shelters with generators at the Biddeford Middle School and High School. There is also the Saco Regional Shelter on Franklin Street in Saco, which is the old Armory.

Action: Continue to monitor for potential flooding and keep public projects cited in mitigation plans moving forward that improve access to these areas and help prevent flooding.

Broadband Needs

It is estimated in Biddeford that 10 percent or less of residents are part of broadband or fiber optic lines. Most of Biddeford is on DSL lines or copper lines that are much slower and that need constant upgrading. In addition, the further away from the main infrastructure of these lines the slower the speed. The broadband infrastructure is currently predominantly scattered throughout the downtown. Broadband access is crucial to attracting businesses who rely on high speed Internet. For the City, emergency and other services rely on broadband as well. For residents, the access to broadband is necessary for school and work, as well as other needs. The lack of broadband access is not the only challenge facing Biddeford residents. A number of low to moderate-income households lack even DSL Internet. To help address this The Seeds of Hope Neighborhood Center provides a program called Biddeford OpenNet that provides unlimited access to wireless Internet to 225 households who are low income. In addition, the consultation with GWI.Net, a telecommunications company, stated that a core detriment to the City moving forward with support and use of broadband was due to the need for more technological literacy for Biddeford residents.

Action: Continue to support the expansion of broadband availability in Biddeford.

Action: Continue to support the Seeds of Hope and the expansion of wireless Internet to additional low-income households.

Conclusion

The housing market in Biddeford is changing as demographic shifts here and throughout the Portland Maine Metropolitan Statistical Area place new demands on existing housing. The most important concern facing Biddeford now is increasing unaffordability of clean, decent housing for both renters and owners. Low-income households especially face challenges finding and keeping safe, affordable housing. The existing supply of affordable and subsidized housing here is now longer adequate, given strong demand for such housing units.

However, Biddeford officials are working to achieve the overarching goal of the U.S. Department of Housing and Urban Development: to provide an adequate supply of decent housing in Biddeford. This goal will be accomplished by encouraging public/private partnerships to re-purpose other building types into housing, and delivering creative financing options that allow low- to moderate-income households to become first-time homebuyers. With focused attention to the goal and objectives outlined here, Biddeford's housing market will be better balanced over the coming five to ten years.

3. What Are We Going To Do Now?

A. Goals:

1. To encourage and promote affordable, decent housing opportunities for all Maine citizens.
2. To provide an adequate supply of decent housing in Biddeford.

B. Policies and Strategies (who should do it; when):

Policy 1: Increase the supply of safe and adequate affordable housing for low- to moderate-income persons (i.e., Biddeford's and the regions "workforce" population).

Strategy 1a: Consider revisions to the City's zoning and land use standards that would provide incentives (e.g., density bonuses) for the development of affordable housing with a goal of a minimum of 1 in every 10 units constructed be affordable (Planning and Development Department; 1 year).

Strategy 1b: Continue to re-examine growth area land use regulations to increase density and decrease lot size, setbacks and road widths to encourage the development of affordable/workforce housing.

Strategy 1c: In partnership with other public/private entities, such as the Biddeford Housing Authority, explore the adaptive re-use and redevelopment of non-residential properties, e.g. mills and churches, into affordable and sheltered housing (Planning and Development Department, Biddeford Housing Authority; 1-5 years).

Strategy 1d: Maintain and promote Biddeford's Accessory Dwelling Unit (ADU) Ordinance to provide affordable housing throughout Biddeford.

Policy 2: Preserve and upgrade the city's housing stock serving low- to moderate-income persons.

- Strategy 2a: Consider establishment of low interest loan programs to help finance the rehabilitation of the City's downtown housing stock (Planning and Development Department; 1 year).
- Strategy 2b: Undertake a systematic and concentrated program of code enforcement to ensure life safety standards are met and to prevent blighting influences on neighborhoods (Code Enforcement Department; 1-5 years).
- Strategy 2c: Encourage participation by landlords in the Biddeford Landlords Association and encourage partnerships that provide resources for both landlords and tenants (Planning and Development Department, Biddeford Housing Authority, Biddeford Neighborhood Planning Committee; 1-5 years).
- Policy 3: Increase opportunities for homeownership for low- to moderate-income persons.
- Strategy 3a: Consider a partnership with other public/private organizations to pool resources to help finance home ownership, e.g. down payments, loan assistance, mortgage interest rate write-downs, and other financing mechanisms (Planning and Development Department, Biddeford Housing Authority; 1-2 years).
- Strategy 3b: Maintain and promote Biddeford's Accessory Dwelling Unit (ADU) Ordinance to provide supplemental income to property owners.
- Strategy 3c: Maintain Biddeford's current Mobile Home Park overlay districts to allow for mobile home/manufactured housing parks in the City pursuant to 30-A M.R.S.A. §4358(3)(M) and 30-A M.R.S.A. §4358(2).
- Strategy 3d: Encourage densification in the neighborhoods immediately around downtown with condominium residential development and redevelopment to

encourage home ownership and stability as well as meet the needs of young adults, retirees, and the elderly.

Strategy 3e: Amend the Zoning Ordinance to allow for back-lot development with driveways rather than requiring 1-Lot Private Roads.

Strategy 3f: Amend the Zoning Ordinance to allow for shared driveways rather than requiring 2-Lot Private Roads.

Strategy 3g: Review and amend (if appropriate) the Rural-Farm zoning to provide density bonuses in cluster subdivisions that achieve certain preservation goals, such as providing permanent open space and/or natural resource preservation.

SECTION 5: HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

“What do high-paying jobs, billions in private investment, and historic buildings have in common? Together, they are revitalizing communities all across America.” - National Trust Community Investment Corporation, a Subsidiary of National Trust for Historic Preservation.

1. What is happening? (Conditions and Trends)

A. History:

The following chronological history of Biddeford is taken from various sources, including the Biddeford Comprehensive Plan of 1999. Other sources include:

- McArthur Library. *An Introduction to Biddeford's History*. 1944
McArthur Public Library, Biddeford, ME.
- Butler, Charles, L., Jr. *Images of America: Biddeford*. 2003.
Charleston, S.C.: Arcadia Pub.
- Downs, Jacques. *The Cities on the Saco*. C.1985. Norfolk, VA:
Donning Co.
- Wingate, Thomas J. Marginalia, 1849-1870's from his copy of
George Folsom's *History of Saco and Biddeford*. 1830.
Transcribed and annotated by Roy P/Fairfield, May 1999.
- Conference on the French in New England, Acadia, and Quebec.
The French in New England, Acadia, and Quebec. NEAPQ Center,
UMO, various authors.
- Robinson, David and Elizabeth Tanefis. *Postcard History Series,
The Saco River*. 2010. Charleston, S.C.: Arcadia Pub.
- Yorke, Dane. *A History and Stories of Biddeford*. 1994
(Reprinted). McArthur Public Library, Biddeford, ME.

- Pre 1600's: A local tribe inhabits the west bank around the mouth of the Saco River.
- 1603: The first recorded European visit to the Saco is by 23 year old Bristol Captain Martin Pring, who sails into the river looking for sassafras and upon finding none, leaves the area.
- July 1605: The French explorer Samuel de Champlain drops anchor in the river "Chouacoet" (pronounced "Shwaco") and notes the existence of a sizable Armouchiquois Indian village on the heights behind Jordan Point where the University of New England is now located. His map also indicates that today's Biddeford Pool has not been formed³.
- 1606: Pring returns and records the river's name "Shawakatoc", his rendering of the Indian title "Chouacoet".
- 1607: The Sokoki village on the "Chouacoet" is burned by Indians from the north.
- 1616-1617: Captain Richard Vines, agent of Sir Ferdinando Gorges of the Plymouth Company, spends the winter with 32 men on Leighton's Point at Biddeford Pool in 6 cabins. For this reason the area is called "Winter Harbor" for the next 150 years.
- 1626: There are four permanent settlers according to Court records.
- June 1630: Vines secures a patent from Gorges (who has gained personal title to the "Province of Maine") for a piece of land extending from Cape Porpoise to the Saco River and stretching from the coast "eight miles upriver", which includes today's Biddeford. The terms of the patent includes settling the area with immigrants and establishing trade. They traded fish, lumber and produce for salt marsh hay, corn, and livestock. Trade was with the Massachusetts Bay Colony of England, providing a good, solid economy.
- 1653: The Province of Maine is seized and annexed by the Massachusetts Bay Colony.
- 1653: The first two sawmills on the Saco are licensed by the Massachusetts Bay Colony.
- 1653: The "King's Highway" is built from Kittery to Falmouth.

³ See Page X below for more information about the "Chauacoet Site".

- 1664: The Saco Region is returned to the grandson of Ferdinando Gorges.
- 1665: Massachussetts Bay Colony's authority over the Province of Maine is dissolved by King Charles II, thereby reestablishing Maine's independence.
- 1675: Drunken English seamen came upon an Abenaki (Sokoki) tribeswoman in a canoe on the Saco River. They decided to try to test the theory that Native American children are born with the animal instinct to swim by either grabbing the baby and throwing it into the River or intentionally overturning the canoe. The child died afterwards. The seamen did not know that the woman was the wife of the Abenaki tribe's chief, Squando. It is rumored that following this event Squando entered the Saco Rive and cursed the waters saying "three white men will die on the river every year". The Abenaki responded by joining the first Indian conflict (King Phillip's War), from which they had previously refrained, by making several attacks on Winter Harbor. It is said that this incident brought on 30 years of Indian warfare in Maine.
- 1675-1713: The settlements at Winter Harbor and around the mouth of the Saco are embroiled in the second and third Indian Wars. Indian power wanes with end of the third war in 1713.
- 1677: When the Massachusetts Bay Colony threatens to retake control in 1678, Gorges sells the patent (to Massachusetts) before it is seized.
- 1688: Biddeford settlers are wiped out by Native Americans.
- 1718: Saco Valley settlements adopt the name of Biddeford, which was applied to the entire area from Arundel (Kennebunkport) to Scarborough. The name came from Biddeford (sic), Devonshire, England where many of the early settlers originated.
- 1720: The First Parish Congregational Church was organized.
- 1750: A fourth ferry is licensed at the falls.

- 1759: At the time of his death, William Pepperell of Kittery holds title to one-fifth of all land on the west (Biddeford) side of the river. The Pepperell family will continue to influence the area through the present day.
- 1760: Court begins to sit in Biddeford in the fall.
- 1762: The east side of the river implements its own government and is called Pepperellborough (later to be called Saco). Pepperellborough has a population of 540; Biddeford has a population of 629.
- 1762: The first bridge is built with the proceeds of a public drawing and spans the river from Saco to Indian Island (now Factory Island).
- 1767 Thomas Cutts builds a toll bridge from Cutts' Island (formerly Indian Island), to Biddeford. Cutts uses his strategic position and as a ship owner, a merchant, a lumber mill operator and ship builder, becomes the wealthiest man in town.
- 1787: The first mail arrives by wagon.
- 1789: A Post Office is established in Biddeford.
- Early 1790's: Captain Seth Spring and Captain Moses Bradbury begin building on Spring's Island at the falls, rivaling Cutts' Island.
- 1794: A sawmill is put up on Spring's Island.
- 1796: Biddeford's second church is built – the Meetinghouse on Crescent Street.
- 1805: Pepperellborough is legally renamed Saco.
- 1811: An iron works is put up on Cutts' Island by Cutts and Bostonian Josiah Calef.
- 1820's: The village at the falls ("Falls Village") has upwards of seventeen (17) lumber mills, at least two (2) grist mills, other shops, warehouses, docks and services. Except for the shipyards at

Biddeford Pool, the center of activity is on Spring's Island and Cutts' Islands in Saco.

1825: The property and mills on Cutts' Island are sold to Josiah Calef who helps form the Saco Manufacturing Company. By 1826, they have constructed the largest cotton mill in America, which does not begin production until 1829, bringing them into heavy debt. The final disaster strikes in 1830 when the Saco Manufacturing mill burns.

1825: A 60-foot tall stone tower was built on Stage Island as a government navigation marker.

1830: The combined population of Biddeford and Saco is 5,213, with more than three fifths of it in Saco.

1831: Massachusetts investors buy Cutts' Island and the mill remnants and form York Manufacturing Company.

1837: The Board of Directors of York Manufacturing sets up the Saco Water Power Company to supply their mills with power.

1839: York Manufacturing Company is operating three mills with 1000 employees. The Saco Water Company is operating "separately" but generally in tandem with York Manufacturing.

1840's: Two new related mill companies are formed: Laconia Company and Pepperell Manufacturing Company. These will dominate the economy of the two towns for the next century.

1840: Six underground tunnels are built which carry water to the Lincoln Street mill.

1842: The first railroad engine comes into town on the new Portland, Saco and Portsmouth Railroad.

1845: Israel Shevenell, Biddeford's first permanent French-Canadian settler, arrives on foot from Canada.

1847-1855: The rapid growth of Roman-Catholic Irish immigrants from

Boston and Newburyport begins replacing the traditional "farm girl" labor. Dormitories and boarding houses are replaced with tenements. Between 1850 and 1860 the population in Saco grows by 429 while the population in Biddeford grows by 3,245. By 1850 Biddeford was the largest town in York County.

- 1848: The first Biddeford High School is built on Washington Street.
- 1848: The fire company was started.
- 1850: The first telegraph office comes to Biddeford.
- 1854: Gas streets lights are installed.
- 1855: Biddeford gets city status to defeat the exasperations of the old town meeting process. Daniel Eton Sommes is elected the first mayor of Biddeford. Sommes came from New Hampshire and started a newspaper and varnish factory. He built the Sommesville neighborhood in Saco and the first Sommesville bridge connecting that neighborhood to Spring's Island in Biddeford.
- 1860: The cornerstone is laid for the new City Building and City Hall is dedicated.
- 1860: The original City Theater opens in October "with a play depicting slavery in the Southern states – appropriate on the eve of the Civil War"⁴.
- 1860's: Following the end of the Civil War, although the textile industry was the heart of the Biddeford economy, Biddeford also became known for both ice harvesting and granite quarrying.
- 1863: The first tax-supported, free public library in any Maine city begins with a donation of 3,000 books from the York Mechanics Institute (The York Mechanics Institute was a movement that evolved out of Britain and whose purpose was to educate workers about newer methods of manufacturing developed during the Industrial Revolution).

⁴ City Theater Website: www.citytheater.com. Accessed March 2015.

- 1870: St. Joseph's Parish is organized and church construction began.
- 1870's: The French-Canadians begin arriving in large numbers.
- 1880: More than 35 homes in Biddeford and Saco have telephones.
- 1884: The Biddeford Union becomes the Biddeford Daily Journal.
- 1855: By 1855 Biddeford had a Post Office, a Bank, a Hotel, and Six Mills with 70,000 spindles and 2,000 employees.
- 1883: Dedication of St. Joseph's Church on Elm Street, which was Maine's tallest building until the 1960's.
- Late 1880's: French-Canadians are used for labor and as strike breakers.
- 1887: Electric lights are installed.
- 1888: The second Biddeford High School replaces the first.
- 1888: The first horse trollies run between Saco and Biddeford.
- 1890: The Biddeford and Saco Water Company provided public water to the cities.
- 1890's: Death rate becomes highest in State of Maine from communicable diseases.
- 1890's: Biddeford and Saco install hydrants and have completely professional fire departments.
- 1892: The trollies are electrified and run until 1939.
- 1894: The City Building (City Hall), including the Opera House (City Theater) is destroyed by fire.
- 1896: In January the rebuilt Opera House (City Theater) reopens and it becomes a focal point for cultural events including the popular vaudeville performances.

- 1896: Biddeford purchases approximately 30 acres of Clifford Park for \$1,500.00. In 1915, the City builds a playground but the park runs down until the mid-1970's when it is restored and modernized.
- 1902: McArthur Public Library opens at its present location, donated by Robert McArthur and dedicated to him on October 13, 1902.
- 1907: York Heat and Light Company builds a plant on Water Street.
- 1908: Sommesville Fire consumed over 15 acres in Biddeford and Saco.
- 1910: Albert Marcille, Biddeford's first French mayor, is elected. Since then, elections have been overwhelmingly dominated by French Democrats.
- Mid-1940's: The York Manufacturing Company is bought by Bates Manufacturing Company of 1940's Lewiston.
- 1947: Fires break out due to a severe drought and Southern Maine is so hard hit that Saco and Biddeford take nearly a decade to recover from the damages.
- 1956: Bates Manufacturing Company with its York Division is taken over by Consolidated Textiles and the York division is shut down.
- 1960's: Saco-Lowell, a descendent of the old Saco Water Power Company, also closes its plants. Of the three major mills, only the Pepperell Mills remains.
- 1960's: Biddeford Industrial Development Corporation purchases the Saco-Lowell buildings to lease to new tenants.
- 1961: Construction on the third Biddeford High School on Maplewood Avenue is completed and the High School was ready for occupancy early in 1961. The second High School becomes the Junior High School.
- Mid-1960's: Pepperell merges with West Point of Georgia to fend off a takeover (becoming West Point Pepperell).
- 1963: The City Theater closes, succumbing to the competition of movie theaters and drive-in theaters.

- 1970's: The Rotary Club constructs a park on top of an abandoned dump. "Vest pocket" parks also appear in unused lots.
- 1973: Biddeford City Hall (and City Theater which was used by the City at the time as a storage facility) was designated as a Historic Site on the National Register of Historic Places.
- 1977: The Biddeford Daily Journal buys the Sanford Tribune and becomes the Biddeford Journal Tribune.
- 1978: The City Theater reopens and begins to experience a resurgence in popularity.
- 1980's: Some old mill buildings are partially converted into office/retail space, while others lie vacant. For the most part, only the West Point Pepperell Mills and Biddeford Textiles (which was located in North Dam Mill) remain of what was once Biddeford's largest industry, textile manufacturing.
- 1987: Maine Energy Recovery Company (MERC) goes into operation on a limited basis.
- 1998: Biddeford, with assistance from the Maine Historic Preservation Commission, completes "A Reconnaissance Level Architectural Survey of Downtown Biddeford, Maine" which serves as the basis for a new Historic Preservation Ordinance adopted in 2003, albeit the new Ordinance required only an "Advisory Opinion" from the Biddeford Historic Preservation Commission regarding demolition and alterations to structures throughout the Downtown.
- Late 1990's: The City Theater begins to see renovations and modern upgrades following its 100th Anniversary in 1996.
- 2003: Biddeford Textile (now known as North Dam Mill) closes shop leaving approximately 200 mill workers out of work and approximately 230,000 square feet of additional vacant mill space.
- 2004: Reny's, Biddeford's last Downtown Department Store, closes.

- 2004: The Heart of Biddeford was formed, which is a Maine Street Maine community and is largely grounded in principles of historic preservation and downtown revitalization.
- 2005: The Twin Cities Cultural Planning Committee is formed.
- 2006: Saco and Biddeford complete a “Twin Cities Cultural Plan” establishing a vision whereby both Downtown Saco and Biddeford, including the Mill District(s), can play a prominent role in the future promotion and enhancement of arts and culture in the two cities.
- 2008: The Biddeford-Saco Mills District Historic District was added to the National Register of Historic Places.
- 2009: West Point Stevens (formerly West Point Pepperell) closes its doors signaling the end of the large textile industry that once so dominated Biddeford and Saco. This closing put another 120 mill workers out of work and left vacant approximately 675,000 square feet of mill space.
- 2009: The Biddeford Main Street Historic District was added to the National Register of Historic Places.
- 2009: Biddeford completes a Mill District Master Plan which was intended to set the stage for major redevelopment efforts of the largely vacant Biddeford Mill District (aside from North Dam Mill and various scattered small businesses/industries).
- 2010: Engine, Biddeford's only arts-driven non-profit is founded with its mission *“To make arts-driven programming, cultural development, and sustainable creative entrepreneurialism an explicit community value and civic priority in Biddeford.”* Its *“Manifesto”* is as follows:
- We believe that commerce follows culture.
That art should integrate, not alienate.
And that art, in its fullest expression, not only impacts individuals but transforms communities.*
- 2010: The Mill at Saco Falls project is completed redeveloping a portion of what was referred to as River Dam Millyard into 66 units of

housing.

- 2011: North Dam Buildings #17 and #18 are fully occupied with a mix of uses including 100 residences and multiple small businesses and services.
- 2011: Biddeford, partnering with the Heart of Biddeford and the Orton Family Foundation complete a 4-year process of developing a Downtown Master Plan which highlights the history of Biddeford's Downtown and focuses on revitalizing the Downtown based on what people cherish the most about the area.
- 2013: Biddeford adopts a new Historic Preservation Ordinance which protects important (contributing) historic structures throughout downtown from demolition and alteration and ensures alterations to non-contributing structures do not negatively impact surrounding historic resources. No longer is the Historic Preservation Commission's review "Advisory", but now they must issue a "Certificate of Appropriateness" based on the United States Secretary of the Interior's Standards for Rehabilitation, among other criteria.
- 2013: The Mills at Pepperell campus begins significant redevelopment efforts in what is referred to as Building #13, including the reintroduction of small textile industries, light manufacturing, services, and food/drink manufacturers and establishments.
- 2014: The City of Biddeford purchases the Maine Energy Recovery Company and closes the incinerator down, paving the way for what many see as future full-redevelopment of the Mill District.
- 2014: Biddeford and Saco complete construction of a new pedestrian bridge connecting Biddeford's RiverWalk at North Dam mill with Saco (Factory) Island and the AMTRAK Station.
- 2014: A new project, the Lofts at Saco Falls, to redevelop another portion of River Dam Millyard into 80 residential units is approved for funding.
- 2014: A previously approved 100 unit residential project with 77,000

square feet of research/lab space in Lincoln Mill is amended to instead create 96 residential units along with an 81 seat hotel, a 150 seat restaurant, and a 65 seat restaurant.

2015: The Lincoln Mill project is further amended to now create 181 apartments, a 107 seat restaurant, a 10,000 square foot gym, and 18,000 square feet of commercial space.

2016: The Lofts at Saco Falls is occupied.

B. Existing Historical, Archaeological, and Cultural Resources:

1. Historic Sites on National Register of Historic Places are presented in Table 5-1 (Note all "National Registration of Historic Places" documentation is available as an Appendix to this Plan).

Table 5-1. Biddeford Historic Sites on the National Register of Historic Places, 2017

Name	Address	Approx. Year Built	Year Added to the National Register
First Parish Meeting House	Old Pool Road	1758	1972
Biddeford City Hall, Including City Theater	205 Main Street	1895	1973
U.S. Post Office	35 Washington Street	1914	1973
Fletcher's Neck Lifesaving Station	Ocean Avenue	1874	1974
James Montgomery Flagg House	St. Martin's Lane	1910	*1980
John Tarr House	29 Ferry Lane	c. 1730	1980
Dudley Block	28-34 Water Street	1848	1982
St. Joseph's School	Birch Street	1887	1984
Wood Island Light Station	Wood Island	1808	1988
Biddeford-Saco Mills Historic District	See Map	Various	2008

Biddeford Main Street Historic District	See Map	Various	2009
Emery School	116 Hill Street	1912	2011
St. Andre's Parish	41 Sullivan Street	1900	2015
Timber Point	1-2 Timber Point Road	1931-1954	2016

Source: *National Register of Historic Places.*

* *The James Montgomery Flagg House was demolished November 15, 2013.*

First Parish Meeting House.

The First Parish Meeting House is located on Old Pool Road. Built in 1759, the first Parish Meeting House was constructed for the purposes of holding public meetings. In 1840, it underwent remodeling. The belfry was removed, the galleries along the sides were taken down, the pulpit lowered and the sounding board removed. The Meeting House has remained unchanged since this time. It is owned by the Biddeford Historical Society and is used for public and private meetings. The Meeting House is in serious need of repair as the structure is plagued with dry rot and the foundation continues to deteriorate.

Biddeford City Hall, including City Theater.

Biddeford City Hall is located at 205 Main Street and is the most prominent building in the downtown. Originally built in 1860 it was destroyed by fire and rebuilt in 1894, when rebuilt the building was designed by John Calvin Stevens a noted Maine architect. The building was added the National Historic Register in 1973 and is part of Biddeford's Main Street Historic District.

City Hall is a large three and a half story brick building with a clock tower and belfry. The first floor is faced with granite which was saved from the original 1860s building. Each floor features different window structures and décor. The tower is built in three sections. The first section rises from the ground to two stories above the roof of the building. This section is topped with a heavy dentil cornice which in turn is topped with a balustrade. The next section is the clock housing which is constructed of wood over timber framing, this section as well was decorated with heavy dental cornice and balustrade. Above this is an open belfry which is

topped with 10 12 foot high columns which support the dome. It should be noted that all of the balustrades have been removed because of their poor condition and so they would not fall to the street.

City Hall and its clock tower are a significant part of Biddeford's skyline and an icon of the city.

City Hall is also home to City Theater, which originally opened in 1860 as an opera house within City Hall. After the fire that destroyed City Hall, it was decided by the city to rebuild City Theater as well. Over the years as entertainment had changed and opera gave way to vaudeville, minstrel shows, and community pageants. The introduction of talking movies in the late 1920's began the transition from opera house to Movie Theater. In 1955 improvements were made to enhance movie going and the name of the opera house was officially changed to Biddeford's City Theater. In the 1990's City Theater began a full interior restoration project which was completed in the early 2000's and is a popular venue for the Performing Arts, drawing crowds locally , regionally and beyond.

The building is owned by the City and is in poor shape. Although the heating system has been replaced major work is needed to repair the clock tower. In 2009 stabilization work was done to the tower to keep water from deteriorating more of the structure framing of the tower and to shore up the bell. The building is also in need of new windows throughout, re-pointing of the brick work, and upgrades to the electrical and fire alarm systems as well as installing a sprinkler system. An effort should be made to bring the interior back to a historically correct look as part of any renovation work.

Former U.S. Post Office.

The former U.S. Post Office is located at 35 Washington Street and was built in 1914. It is an excellent example of period (20th Century) architecture utilizing masonry construction of brick with granolithic quoins, lintels and arches. The original tin roof was replaced with copper in 1939. The main entrance and secondary entrance were also remodeled in 1939 to eliminate the original revolving doors and to replace them with swinging doors, vestibule and vestibule doors. For the most part, however, the building remains as originally built. The building was used by the Maine District Court while it was building a new facility across the street. Following use by the Maine District Court, it was used off and on by

various small businesses, but has largely been vacant.

Fletcher's Neck Life Saving Station.

Located at 18 Ocean Avenue, Biddeford Pool, Fletcher's Neck Life Saving Station was built in 1874 and served as one of the first five life-saving stations established in Maine and New Hampshire by the Revenue Marine Bureau. It is a small one and a half story gable roofed building of frame construction. Most of the first story was used for storage of the 1,000 pound life boat. There was a room behind this area where seamen could sit during off-duty hours. The half story contained a room for the keeper and a dormitory for six men. The building is privately owned and being restored. It has been moved off its original site, closer to the road. Biddeford Pool's Life Saving Station remains as a small scale example of stick-style architecture as well as a coastal landmark of considerable maritime significance.

James Montgomery Flagg House.

The James Montgomery Flagg House **was** located on St. Martin's Lane, Biddeford Pool. It was built in 1910 and as of 1999 was identified as having been completely unaltered, privately owned, and in good condition. The house was of frame construction, with one and a half stories, gabled roof, two brick chimneys, stucco finish and a field-stone foundation. The house served as the summer residence for illustrator, James Montgomery Flagg (1877-1960) who became best known for his illustration of the "I Want You" Uncle Sam recruiting poster.

By 2013 the house had fallen into significant interior and exterior disrepair. The principal reason the house was on the Historic Register was due to the preponderance of murals located on the interior of the house painted by Flagg. The owner of the house was represented by a Maine architect who had determined that the house would cost more to renovate than to build new, and that the owner intended to preserve the murals and include them in the design of a new house on the property. The house was demolished on November 15, 2013.

John Tarr House.

The John Tarr House is located at 29 Ferry Lane and was built around

1730. It is one of the State's earliest surviving dwellings. Its exterior displays characteristics typical of the low-posted Cape Cod style house with central chimney, central entrance and five-bay facade. Another entrance of indeterminate date faces south. The most significant feature of the house is the kitchen which has completely wainscoted walls and ceiling and internal sliding wooden shutters. Presently, there are very few other examples of this type of work. The house is privately owned and is in good condition.

Dudley Block.

The Dudley Block is located between 28 -34 Water Street. It was built in 1848 and is a large, substantial commercial building in the Greek revival style. The three and a half story block is of brick construction with gable roof, 6/6 fenestration and granite trim and foundation. Each shop has its own single-door entrance between two store windows. The windows above the first story carry simple granite lintels typical of the period. The block is privately owned and despite minor storefront and internal alterations over the years, the original architectural theme is still there.

St. Josephs School.

St. Joseph's School is located at Birch Street. It was built in 1882 and served as a parochial school for a large Franco-American population. It is a rectangular three-story red brick building with a full fourth story contained beneath a steeply-pitched mansard roof. There is a one story brick shed-roofed exterior projection, rectangular in plan, appended to the southwest corner of the building. A four story rectangular brick stair tower at the north end of the building was added in 1916. The structure is set on a cut granite foundation and is characterized by a sparse Romanesque detailing. Over time, the entire building has been renovated. It is privately owned and utilized as an apartment building. The school is one of the principal monuments of the French-Canadian immigration to the State and the City of Biddeford.

Wood Island Light Station.

Wood Island Light Station is located on the east side of Wood Island. It was built in 1808 and consists of a conical granite light tower connected via a long narrow passageway to a two story frame, gambrel lightkeeper's

house. The light tower is 47 feet tall and supports an iron walkway with railing and a centrally placed ten-sided lantern. The original keeper's house was built in 1858 and was a one and a half story, three bay frame dwelling sheathed in clapboards. In 1890, the roof was raised, a porch added and the ell height increased to from today's keeper's house. There is a stone oil house to the southwest of the Station, built in 1903, which consists of a gable roof and a door surmounted by a narrow ventilator opening at one end. The property is owned by the U.S. Coast Guard and the light station has been equipped with an automatic beacon. The property and buildings are in good shape.

The Friends of Wood Island Lighthouse (FOWIL) was formed in 2003 and is a Chapter of the American Lighthouse Foundation. It was formed specifically to preserve and restore the Wood Island Light Station. Although Maine Audubon Society owns most of Wood Island, the Coast Guard still owns the lighthouse. FOWIL became involved when the Coast Guard was looking for a nonprofit group to repair, maintain, restore and preserve Wood Island Lighthouse, which it still actively does today.

Biddeford-Saco Mill District Historic District.

The Biddeford-Saco Mills Historic District was added to the National Register of Historic Places in December 2008. It is roughly bounded Pearl Street, Lincoln Street, York Street, Laconia Street, Main Street (Biddeford), and Main Street and Gooch Street in Saco. It is characterized by its significance in the industrial history of Biddeford and its architecture which is a mix of Mid-19th Century/Greek Revival, Late Victorian/Italianate, and Modern Movement/Tanate.

According to the National Register of Historic Places nomination form,

"The Biddeford/Saco Mills Historic District is a cohesive collection of historic manufacturing buildings situated on roughly 38 acres of land flanking the Saco River. The district includes 13 properties in the city of Biddeford and the entirety of, or portions of six properties within the Saco city limits and is located adjacent to the downtown commercial areas of both cities. The river, which separates the two municipalities, runs through the district roughly north to south, with Biddeford on the west bank and Saco to the east.

The properties in Saco are located on a small island in the river, historically known as Cutts Island then Factory Island, but now referred to as Saco Island. There are 42 contributing resources and one non-contributing resource within the district limits.”

Biddeford Main Street Historic District.

The Biddeford-Saco Mills Historic District was added to the National Register of Historic Places in December 2008. It is roughly bounded Pearl Street, Lincoln Street, York Street, Laconia Street, Main Street (Biddeford), and Main Street and Gooch Street in Saco. The buildings are generally characterized as being in good condition and that they retain adequate integrity so as to represent their significance as components of a mid-nineteenth to mid-twentieth century downtown.

According to the National Register of Historic Places nomination form,

“The Biddeford Main Street Historic District consists of 62 buildings, three parks, and one monument along Main Street, Jefferson Street, Adams Street, Franklin Street, Washington Street, Alfred Street, Elm Street, and Water Street in downtown Biddeford, York County, Maine. There are 50 new contributing resources and eleven non-contributing resources within the district, as well as three properties that were previously listed in the National Register and also contribute to the current district. The non-contributing resources were either constructed after the period of significance or are older buildings that have undergone modern facade renovations and no longer retain sufficient integrity to contribute to the district. Biddeford's Main Street is a concentration of predominantly attached commercial buildings that served as the central business district for the City of Biddeford and the surrounding area beginning around 1846. The buildings form a cohesive grouping that conveys the significance of the district as the commercial and social center of the City of Biddeford from 1846 through 1952.”

Emery School.

The Emery School is located at 116 Hill Street was placed on the National Register of Historic Places on November 18, 2011. It was nominated for placement on the National Register by a developer who subsequently sought for and obtained Federal and State Historic Tax Credits to assist in converting the Emery School into 24 Residential Apartments.

The Emery School was constructed in 1912 and is located in close proximity to Biddeford's Downtown. It was constructed as a "union" school consolidating four (4) nearby public grammar schools. It is a Georgian Revival style two-story red brick building, rectangular in shape, built on a low concrete foundation and was designed by the Portland architectural firm Miller & Mayo. It is named after Thomas H. Emery, a beloved school teacher from 1865 to 1890.

The Emery School was removed from the Biddeford public school system in the 1990s. In 1993 it was occupied by St. Louis Childcare, which remained until 2007. It remained vacant until it was redeveloped into 24 residential units with its first occupants moving in July 2012. It has been fully restored in compliance with the Department of the Interior Rehabilitation Standards as a "Certified Rehabilitation project" and remains in excellent condition today.

2. Historic Resources under Consideration in 1999.

The following resources were identified as being under consideration for nomination to the National Register of Historic Places according to the Biddeford Comprehensive Plan of 1999:

Pepperell Manufacturing and Mill Complex.

The Pepperell Manufacturing & Mill complex, bounded by Lincoln, York, Laconia and Main Streets and the Saco River, was identified in 1999 for consideration for inclusion in the National Register of Historic Places. It was surveyed by the Maine Historic Preservation Commission. Incorporated in 1844, Pepperell Manufacturing Company became a reality in 1851. In 1899 it purchased what had been the independent Laconia Mills (founded 1844) to its immediate east and it became Pepperell's

Laconia Division. In 2009 when the Biddeford-Saco Mills District Historic District was placed on the National Register of Historic Places the Pepperell Mill Complex was consequently placed on the Historic Register as it falls within the District's boundaries.

The Saco-Lowell Shops.

The Saco-Lowell Shops are bounded by Gooch, Smith and Pearl Streets and the Saco River, were the most important manufacturers of textile machinery in the country during the late 19th and early 20th century. Maine Energy Recovery Company (MERC) occupied a portion of the Saco-Lowell property until 2014 when the City of Biddeford bought and closed the facility. The shops were characteristic of Greek Revival, Second Empire and later Nineteenth Century architectural styles and have differing roof styles. The shops are built from reinforced concrete and brick. The smaller buildings are occupied by a small manufacturer and appear to be in relatively good condition. The largest remaining large building known often as the Saco-Lowell Mill along the railroad tracks is virtually vacant other than a small auto repair shop but is in good structural condition.

St. Andres Parish:

From http://www.state.me.us/mhpc/national_register/recent_listings.shtml March 2017.

"St. Andre's Roman Catholic parish is a complex containing five buildings (church, school, convent, rectory and garage) located just southeast of downtown Biddeford. Erected starting in 1900, three of the four principal buildings – the rectory, convent and church – contribute to the significance of the historic district. Stylistically the church is Romanesque, the rectory is Second Empire-style and the convent and (non-contributing) former school were built in the Colonial Revival Style. St. Andre's parish is significant in the area of Ethnic Heritage for its association with the French-Canadian community in Biddeford. The complex is also significant under in the area of Architecture as a collection of well-designed early 20th century buildings that collectively form a noteworthy example of a Roman Catholic parish complex. The church is also important as a local example of the work of Boston architects Chickering & O'Connell, representing an important component of the firm's work. The period of

significance for the parish runs from 1900, the date of earliest construction, to 1965, the National Park Service 50-year cut-off date for National Register listing."

Timber Point:

From http://www.state.me.us/mhpc/national_register/recent_listings.shtml
March 2017.

"The Charles and Louise Parsons Ewing estate, commonly known as "Timber Point," is significant under National Register Criterion C as it embodies the distinctive characteristics of its type and period, illustrating an impressive interpretation of the Maine coastal summer estate which not only combined contemporary trends but the personal taste of the designer, owner, and master architect, Charles Ewing and approached with an eye of a practicing artist with an appreciation of European and American traditions. At Timber Point, Charles Ewing established an estate in the style of those established during the late nineteenth and early twentieth centuries. Timber Point retains much of its architectural integrity and remains relatively unaltered from the time of construction. Fourteen contributing resources are located on the Timber Point property including ten buildings: the main house, a garage, a laundry house, a greenhouse/potting shed, a paint shed, a bath house and boat house, a pool changing house, a truck garage, and a hose shed as well as four structures: a tennis court, a concrete swimming pool, pool pump footings, the remains of a lifeboat. There are two non-contributing structures: a seawall and the foundation footings of an Alfred Shaker village barn moved to the property from Alfred in 1938 and more recently relocated off the estate. The main house, garage, and laundry clearly represent the work of a master and the contributing structures help to illustrate the range of outbuildings that comprise an unusually good example of a period summer estate. Although several of the associated outbuildings and structures are deteriorated or in ruins, taken together they represent a full picture of a summer estate. The district conveys its historic associations and possesses integrity of location, design, setting, materials, and workmanship. The period of significance for the district begins in 1931 when the earliest extant structures were constructed and extends to 1954, the year of Charles Ewing's death."

Biddeford Summer Cottages:

In the Biddeford Comprehensive Plan of 1999 the following summer cottages (Table 5-2) at Biddeford Pool were identified as having been surveyed and recognized as being historically important.

Table 5-2. Biddeford Summer Cottages of Historical Significance in the 1999 Biddeford Comprehensive Plan

Cottage Name	Address	Year Built	Condition
Dr. Celce Cottage	42 Ocean Ave.	1914	Good
Ball Cottage	South Point on Ocean Ave.		Good
Lewis LaFrance Cottage	South Point on Ocean Ave.		Good
E.H. Friedrich Cottage	South Point on Ocean Ave.		Good
St. Martin's-in-the-Fields Episcopal Church	9 St.Martin's Ln.	1880	Good
Blake Cottage	11 St. Martin's Ln.	1900	Good
McCree Cottage	15 St. Martin's Ln.	1900	Good
Diblee Cottage	St. Martin's Ln.		Good
Brookmire Cottage	25-26 St. Martin's Ln.	2014	Good
Cook Cottage	23 St. Martin's Ln.	1900	Good
Black House	45 Lester B. Orcutt Blvd.	1880	Good
Chandler Robbins House	41 Lester B. Orcutt Blvd.	1911	Good
St. Brendan's Catholic Church	40 Lester B. Orcutt Blvd	1900	Good
Foster House	39 Lester B. Orcutt Blvd.	1900	Good
Fowler House	37 Lester B. Orcutt Blvd.	1917	Good
"Moreland"	35 Lester B. Orcutt Blvd.	1900	Good

Phillip James House	33 Lester B. Orcutt Blvd.	1880	Good
Clark Cottage	28 Lester B. Orcutt Blvd.	1900	Good
"Lilacs"	23 Lester B. Orcutt Blvd	1900	Good
"Harborside"	16 Bayview Ave.	1850	Good
"Stonecliffe"	15-21 Stone Cliff Road	1900	Good
Casino at Stonecliffe	Stone Cliff Rd.		Good
"Auldstocke"	11-13 Stone Cliff Rd.	1900	Good
Abenakee Club	2 Stone Cliff Rd.	1900	Good
Marie Joseph Spritual Center	10 Evans Rd.	1880	Fair
W.F. Ethering Cottage	Elizabeth Road		Good

Source: *Biddeford Comprehensive Plan, 1999*

3. Existing Inventory of Historic Archaeological Sites.

The Maine Historic Preservation Commission has provided an inventory of Historic Archaeological Sites for Biddeford, as of April 2014 (Table 8-4).

Table 5-3. Biddeford Inventory of Historic Archaeological Site, April 2014.

Site Name	Site #	Site type	Periods of Significance
Winter Harbour	ME 041-001	Settlement	1616-1617, 1630-1675, 1708-1775
Saco Fort	ME 041-002	Military, Fort	1676-1725 (1693-1708)
Fleetwing	ME 041-003	Wreck, Schooner	March 2, 1891
Anahuac	ME 041-004	Wreck, Screw	April 15, 1923.
George and Albert	ME 041-005	Wreck, Schooner	November 17, 1887
Marshall Perrin	ME 041-006	Wreck, Schooner	November 16, 1907
Fred Tyler	ME 041-007	Wreck, Schooner	October 27, 1920

Roger Drury	ME 041-008	Wreck, Schooner	January 12, 1918
Biddeford Pool Dugout Canoe	ME 041-009	Wreck, Canoe	c. 1630 to 1900
Biddeford Pool Wharf	ME 041-010	Wharf	c. 1750- c. 1800
Thomas Williams	ME 041-011	Domestic	c.1636 - c.1689
Richard Hitchcock	ME 041-012	Domestic	c.1636 - 1676 or 1689
Edward's Farm #1	ME 041-013	Domestic	c. 1636- c. 1689
Hitchcock's Point #1	ME 041-014	Structure, Unidentified	c. 1770
Hitchcock's Point #2	ME 041-015	Structure, Unidentified	c. 1850
Stackpole - Jordan	ME 041-016	Domestic	c. 1717 - present
'Hiawatha'	ME 041-017	Wreck, Schooner	November 1860
'William and Harris'	ME 041-018	Wreck, Schooner	November 1840
'Game Cock'	ME 041-019	Wreck, Schooner	1867
'Rara Avis'	ME 041-020	wreck, gas screw	1893-1918
'Washington'	ME 041-021	Wreck, Schooner	1856
'Nellie Grant'	ME 041-022	Wreck, Schooner	1869
'C.N. Gilmore'	ME 041-023	Wreck, Schooner	1876-1925
'Valetta'	ME 041-024	Wreck, Schooner	Wrecked on Wood Island on October 28, 1909.
'Queen of the West'	ME 041-025	Wreck, Schooner	1898
Wood Island Lighthouse	ME 041-026	Lighthouse	Original light house station built in 1808
'Livelihood'	ME 041-027	Wreck, Schooner	November 28, 1925
'Augusta'	ME 041-028	Wreck, Schooner	Information Not Provided
'Jessie Lena'	ME 041-029	Wreck, Schooner	March 13, 1912

Source: State of Maine

According to the Biddeford Comprehensive Plan of 1999, the Richard Hitchcock site (ME 041-02) located at Biddeford Pool is of particular interest. It was first discovered in 1987 by Emerson Baker as part of a survey of review process for the then proposed Edward's Farm Subdivision. Limited test excavations revealed a large site, consisting of three structures. The first structure was a burnt dwelling that appeared to date to mid-seventeenth century. The second structure, located several hundred feet to the north, included a stone foundation which dated to the latter seventeenth century. The third structure, located 70 feet northwest of the first structure, included a light scattering of artifacts such as brick fragments, hand-forged nails and fieldstones. As of 1999, 8,359 artifacts had been collected from the Richard Hitchcock site. The Hitchcock site remains one of the most important early sites in Maine. It is the only known well preserved seventeenth-century homestead on the Saco River.

Recently it was announced that the Biddeford Pool Dugout Canoe (ME 041-009) which was found in 1986 would be returning to Biddeford from where it had been stored at Plymouth Plantation in Plymouth, Massachusetts. The canoe has been relocated to Winslow, Me and is in storage awaiting the finding of a permanent home in Biddeford.

4. Existing Inventory of Prehistoric Archaeological Sites.

There are nine prehistoric archaeological sites known in Biddeford. Eight of these may be significant or are known to be significant. Several of the sites known to be significant are located on the campus of the University of New England (UNE). These sites are villages or farmsteads that were still present and inhabited when the area was visited by Samuel de Champlain in 1604.

The Maine Archaeological Society, Inc. published an article of interest in Spring of 2006 that reviews the "Chouacoet Site" which is located on the UNE campus⁵. According to the article's author, Richard J. Lore, Samuel de Champlain visited the Chouacoet Site near the mouth of the Saco River and found an Armouchiquois Indian village. Champlain provided the following account of this visit:

⁵ Robert J. Lore, "Adaptations in the Edge Environment: Faunal Analysis of an Armouchiquois Indian Village". (2006). *Maine Archaeological Society Bulletin*. Volume 46, Number 1, Spring 2006.

“These people shave their hair on the top of their heads rather high up and wear the rest very long, combing and twisting it in the back in various ways very neatly with feathers that they fasten to the head. They paint their faces black and red, like other savages that I have seen. They are an active people, with well-formed bodies. Their weapons are pikes, clubs, bows and arrow, on the end of which some put the tail of a fish called the signoc (horseshoe crab), others use bone, and still others have them all of wood. They till and cultivate the ground, which we have not seen before. Instead of ploughs they have an instrument of wood, very strong, made like a spade. The inhabitants of this country call this river the Chouacoet”.

For more information about the “Chouacoet” site it is recommended that the article by Robert J. Lore cited herein be consulted except that in the University of New England Master Plan for 2008-2012 and it is noted that UNE has in the past conducted several archaeological surveys on their campus particularly in the planning phases for its Marine Science and Research Center. These studies resulted in a number of positive test pits along with Saco River. During construction a number of sites were monitored and some artifacts were recovered. In future surveys related to development projects it is noted in the master plan that the majority of the rest of the site of proposed development on the campus as having been “extensively disturbed” and no further significant archaeological resources have been discovered.

All other known sites are located on islands or on the banks of the Saco River.

5. Historic Preservation and Economic Development.

In a 2011 economic impact report for Maine Preservation titled *The Economic and Fiscal Impact on Maine of Historic Preservation and The State Historic Preservation Tax Credit* (http://mainepreservation.org/historic_tax_credits) Planning Decisions examined the impact historic rehabilitation projects had between 2007 and 2011. The report notes that this was a recession period of the economy which had a significant negative impact on the construction industry in Maine for this period. For example, unemployment in the construction sector rose from 6.5% to 14.2%, housing starts fell in half, and commercial construction activity severely declined.

During the same period, however, the report notes that the value of historic rehabilitation activity increased from \$7 million in 2007 to \$40 million in 2011. Further, in 2011 alone, tax credit sponsored Historic Rehabilitation were anticipated to support nearly 800 Maine jobs and \$30 million of income.

Further, according to this same report 25, historic tax credit rehabilitation projects were anticipated to have been completed between 2007 and the end of 2011, with an anticipated increase in Maine's property tax base by \$135 Million. Further, these projects , although there will be an resulting in an estimated \$3.5 million lost to the State from through the tax credit, would add \$2.6 million in additional State income and sales tax revenues and an additional \$1.9 million in municipal property tax revenues.

Other Economic Benefits, which are difficult to Quantify according to the report, include:

- Every \$1 spent on Historic Rehabilitation goes in a higher proportion to Maine crafts people than those out of State, than \$1 spent on new construction (I.e., Maine workers benefits more); and
- Another benefit is that since the Maine tax credit is typically coupled with the 20% Federal Historic tax credit, which can attract out of State investors thereby bringing money into Maine and promoting Economic Development.

Lastly, the economic impact report cites the benefit Historic Rehabilitation can have on a neighborhood and Main Street:

"When a Historic Building is fixed in a neighborhood, it stimulates investment and enterprise from neighboring property owners, creating new jobs and more revenue to local government. A rehabilitated historic building on Main Street brings customers to other downtown businesses and improves the image and "Brand" of the community."

Other reports have documented the impact of Historic Tax Credits nationwide and can be found through the Advisory council on Historic Preservation at <http://www.achp.gov/economic-taxcredits.html>.

Aside from the above impacts of historic rehabilitation projects using Historic Tax Credits, there are other noted impacts of historic preservation. In the July-August 2014 bi-monthly journal of the National Alliance of Preservation Commission “The Alliance Review” an article entitled *Historic Districts and Economics – Recent Lessons* discusses some of the other benefits of historic preservation related to historic districts. These include⁶:

- An increase in property values;
- An increase in property values appreciation rates;
- A decline in foreclosure rates;
- Support for neighborhoods with “walkability” as cited by The *American Journal of Preventative Medicine* which noted “Neighborhoods built a half century or more ago were designed with “walkability” in mind. And living in them reduces an individual’s risk of becoming overweight or obese”.

Rypkema concludes that:

The ways to measure the contribution of local historic districts to the economy and the quality of life in a community continue to expand. The good news is this contribution is consistently positive. These economic and economics-once-removed arguments for local historic districts need to become part of the advocacy efforts to maintain existing districts and create new ones.

6. Existing and Potential Threats to Identified Historic and Archaeological Resources.

Lack of Preservation and Restoration Funds.

Funding for the maintenance and restoration of historic and archaeological resources remains very low for private, non-profit, and governmental property owners.

⁶ Rypkema, Donovan. “Historic Districts and Economics – Recent Lessons”. The Alliance, a Bi-monthly Journal of the National Alliance of Preservation Commissions. July-August 2014.

Another threat to the physical integrity, quality and/or existence of historical and archeological resources is the buying and selling of identified properties. As ownership changes hands, the use of that particular piece of property may change. Instead of preservation, the historical resource could be altered or even destroyed for development purposes. The demolition of the James Flagg Montgomery House on St. Martin's Lane in 2014 is a perfect, but sad, example of this. The house had become so deteriorated over time that it was the owner's opinion it was no longer economically viable to restore the home. Private owners may not have the funds to maintain historical resources and selling the property or demolishing/altering historic properties may prove to be more beneficial to personal interests.

Although there may be interest in preserving other historic resources such as Biddeford City Hall and its Clock Tower, limited municipal funds make it politically difficult. Without an influx of either grant monies or private donations, it appears Biddeford's iconic City Hall Clock Tower may continue to deteriorate over time.

Survey Data Limitations:

A lack or deficiency of survey data regarding Biddeford's historical and archeological resources is another problem. In 1998 the City of Biddeford completed a "Reconnaissance Level Architectural Survey" of the downtown area. This was completed prior to the adoption of the Main Street Revitalization Districts (MSRDs) and subsequent Historic Preservation Ordinance (updated in 2013) which identified each of the three (3) MSRDs as Historic Districts. As a result, not all buildings and structures in a Historic District were surveyed, resulting in an incomplete survey in terms of Biddeford's Historic Districts. Also, since this was a "reconnaissance" level survey, it was restricted to field evaluations and did not include historic research beyond what information was readily available at the time.

Since the Study was completed in 1998 many things have changed particularly related to the condition of many buildings and structures. The study should be updated and the study area should be expanded to at least the extent of the current MSRD District boundaries.

Regarding Archaeological data, the information provided above by the

Maine Historic Preservation Commission is the only available data for Biddeford.

Limited Education and Outreach Resources:

The Biddeford Historic Preservation commission currently has a budget of only \$500 to cover training and other activities. There is very little available for education and outreach to better protect Biddeford's historic places and structures.

7. Existing Arts and Cultural Facilities and Events.

In 2006 Saco and Biddeford developed a "Twin Cities Cultural Plan". This Plan included an "Arts and Cultural Inventory". This section updates that Inventory specific to Biddeford and includes the following categories of information:

- Arts and Cultural Facilities;
- Arts and Cultural Programs;
- Arts and Cultural Events;

A. Arts and Cultural Facilities;

*McArthur Library*⁷.

McArthur Library welcomes more than 115,000 visitors and circulates over 120,000 items each year. Located at 270 Main Street, the Library holds over 500 programs annually (in which nearly 10,000 people participate).

The mission of McArthur Library is to connect the Biddeford community with materials, programs, services, and informational and cultural resources needed to lead fuller, better, and richer lives. McArthur Library is also home to the Biddeford Historical Society and the Franco-American Genealogical Society collections.

McArthur Library cards are available for free to all individuals who live, work, or attend school (including UNE) in the City of Biddeford.

⁷ Source: Jeff Cabral, McArthur Library Executive Director, March 2015.

Cards are also available to homeschooling families who have the appropriate State documentation. For non-residents, the annual fee (as of Spring 2015) for a McArthur Library card is \$30.00. People can also register for a Portland Public Library card at McArthur Library.

McArthur Library is a member of the Minerva network in Maine, which includes over 50 public, academic, and school libraries. McArthur Library cardholders can request items from these libraries if they are not currently on our shelves, and the items will be delivered to McArthur for pick up.

The Library offers a wide range of popular reading and research materials, including fiction, non-fiction, and Large Print – more than 59,000 printed volumes. The Library is home to rich and educational children's and parenting collections and a teen collection that includes everything from the latest bestsellers to anime and manga.

McArthur has free Wi-Fi, more than 20 public computers for accessing the Internet, as well as printing, photocopying and fax services. The Library offers dedicated children's and teen spaces for study or recreational reading, quiet space for research, meeting rooms available to the community, a popular adult book group, museum passes for families, literacy software, and a local history collection of enormous depth and value, including genealogy resources, postcards, maps, historic photographs, and many other resources.

The collection includes e-reading devices that may be borrowed, more than 7,000 e-book titles, and 4,200 downloadable audiobooks. The Library's extensive audio-visual collection includes more than 9,000 items including audiobooks, music CDs, DVDs (mainstream movies, television series, and documentaries) and video games. The Library also offers for loan recreational items such as snowshoes and lawn games. The collection includes daily and weekly newspapers (local, regional and national) for use in the Library, and a wide variety of magazines that can be borrowed.

The McArthur Library staff is available in person, by phone, or via e-mail to assist with reference questions and research projects of all kinds, and can assist you in providing access to MARVEL, a database collection that includes thousands of newspapers, magazines, journals and research material, including examples such as maps, encyclopedias, resume writing and job hunting assistance, the latest medical, legal and financial information.

McArthur is staffed by 10 full-time employees, as well as several part-timers and volunteers. The annual budget for 2014/15 is \$950,000. 43% of the annual budget (or \$410,000) is provided by the City of Biddeford. The City of Biddeford's continued annual support of the library and its services means that McArthur Library is one of the oldest tax-supported libraries in New England, and the oldest in the state of Maine.

Regular free programs include story times for all ages, family story times, a variety of teen and adult events, technology training for adults, and summer reading programs for babies to adults.

Current (Spring 2017) Hours

Mon: 9:30 am – 8 pm Thu: 9:30 am – 8 pm
Tues: 9:30 am – 8 pm Fri: 9:30 am – 5 pm
Wed: 9:30 am – 8 pm Sat: 9:30 am – 3:30 pm
Phone: (207) 284-4181
Website: www.mcarthurlibrary.org
email: reference@mcarthur.lib.me.us

McArthur Library History

Between 1855 and 1856, the York Mechanics Institute of Saco moved its reading room to the counting house of the Saco Water Machine Shop in Biddeford (the York Mechanics Institute was a movement that evolved out of Britain and whose purpose was to educate workers about newer methods of manufacturing developed during the Industrial Revolution). This would better suit the needs of its members, since most lived in Biddeford. In May 1862, the

Institute voted to donate the library to the City of Biddeford if the city would house and care for the books. The City agreed.

In October 1863, the Biddeford Public Library was first opened to the public. It was located in a room within the City Building, and the first Librarian was Octavus Dearing. The Library was open to "All inhabitants of the City of Biddeford, above the age of sixteen years; and any person not an inhabitant of Biddeford, who shall be a benefactor to the Library to an amount not less than twenty dollars." Members were allowed to take out one book at a time (no more than three per household) for one week, and could renew books only once. The Library was open "for delivery of books every Saturday from 2 till 5 in the afternoon, and from 6 till 9 in the evening" and owned about 1600 books.

When the City Building burned down in 1894, the Mayor recommended that a private association assume the responsibility of maintaining a public library for the benefit of the city's residents.

In 1895, the Biddeford Library and Reading Room Association was formed by the City with the purpose of establishing a public library and reading room. In 1902, the Association would take over the management and operations of the Library from the City, and today, still exists as the McArthur Library Association.

Many people contributed time, money and effort to the Library during the transition between 1895 and the opening of the building in October 1902. Key benefactors included: Robert McArthur, for whom the Library was named, was an agent of the Pepperell Mill, and he purchased the Pavilion Congregational Church (coincidentally built in 1863, the same year as the Library opened in the City Building) on Main Street to house the Library; Elizabeth Stevens, a former Laconia Mill worker, who left her life savings of \$3500 toward the establishment of a public reading room; and Estelle Tatterson, whose efforts led to McArthur's reading room for children.

Robert McArthur himself was an Irish immigrant who had started working in a Rhode Island mill as a bobbin boy at the age of eight. He was a self-educated man whose belief in the importance of a public library to provide all citizens with opportunities for advancement was so strong that he gave both the funds to purchase the library's current home and monies to provide for its

maintenance. His gift was repeated by both of his daughters, Jane Owen and Lena McArthur.

Over the course of time, the Library has existed in multiple buildings and there have been additions and renovations to its current home in the 1960s, 1990s, and most recently in 2010. There have been seventeen City Librarians, now known as Directors. Since 1863, the citizens of the City of Biddeford have been served by the staff and resources of a committed and proud public library service.

City Theater.

Biddeford City Theater is located adjacent to Biddeford City Hall on Main Street. It is managed by City Theater Associates, Inc., which is a non-profit organization, housed with the Theater. Its mission is “to foster an appreciation for the performing arts by using creative avenues to increase community involvement.”

The following history of City Theater is taken from its website at www.citytheater.org.

The City of Biddeford purchased land in the late 1840's at the corner of Adams and Main Streets, and at that site planned the first building exclusively for the city government. It was to house all municipal offices, as well as the original opera house. The opera house opened in October 1860 with a play depicting slavery in the Southern states - appropriate on the eve of the Civil War. An era of theatrical history began for the city of Biddeford. Edwin Booth, Joseph Jefferson, and Pat Rooney appeared over the years before appreciative audiences.

On December 30, 1894, a raging fire destroyed the entire city building. An emergency city council meeting was called for on Jan. 2, 1895. From that initial session until the final architectural designs were completed, the question of whether or not to rebuild the opera house was hotly debated. Finally, the dispute over building a

performance arts center was settled in favor of the arts, and the planning of a larger and more structurally sound facility was initiated. Maine architect, John Calvin Stevens, designed a richly ornamented opera house in the colonial revival style, complete with horseshoe balcony. A large brass chandelier with glass shades showcased the stenciled ceilings. The rebuilt opera house reopened January 20th, 1896 and quickly resumed its role as a cultural focal point in York County. A favorite among audiences was vaudeville, with Biddeford as an important stop on its circuit. Dramatic performances by stage immortals like the Barrymores, along with minstrel shows, community pageants and plays were popular offerings. Local director and actor J.J. Salvas entertained audiences with his portrayal of various characters. Illustrated songs were also well-liked. One such performance ended tragically and remains a part of City Theater's folklore. On Halloween Eve, 1904 singer Eva Gray collapsed and died after her third encore of the song "Goodbye, Little Girl, Goodbye". The beautiful 33 year old died backstage from heart failure with her 3 year old daughter present. Many since have referred to Eva as the theater's resident "ghost".

Soon films began to gain popularity, and when talkies were introduced in 1928, live theater was nearly eclipsed. The opera house became a movie house in the 1930's. The grand days of vaudeville were over except for the occasional appearance of an act between films.

Renamed City Theater in 1955, interior improvements were started. The lobby and its staircase were paneled, new poster display cases were built along with a projection booth, and a permanent cinemascope screen was put in place. The transition from opera house to Movie Theater was neither easy nor graceful.

Television and drive-ins won the battle over movie

houses and in 1963 City Theater closed. From 1971-74 it was used as a storage facility for the city. Ironically in 1973 City Theater, as part of Biddeford City Hall, was recognized and listed as a Historical Landmark with the National Trust. That being said, in 1975 a load of sand was dumped in the middle of the venerable old facility, turning the orchestra pit into a horseshoe pit, but not everyone thought the theater should suffer this fate.

In 1977 the newly incorporated City Theater Associates began a move to reopen City Theater. Through a lot of hard work and community volunteerism, the theater reopened in 1978 with the internationally acclaimed Norman Luboff Choir. The theater received a face lift, but was still in dire need of upgrades and restoration. The public supported the theater and attendance grew as plays, musicals, concerts, dance recitals, and community events graced the stage.

In 1996 the theater celebrated its 100th year anniversary and was awarded a gift of new seats from the city of Biddeford. Soon a combination of funding received from federal, state, municipal, private, and business sources put restoration efforts into full motion. The highlights of this effort include a new marquee along with restored and reproduced stenciling on the theater's lobby walls, house walls, and ceiling. The theater also received modern updates to its lighting and sound system, a digital projector and the installation of a new heating and air conditioning system. Old buildings demand constant maintenance and the upgrades continue. Today, efforts are underway to re-point exterior brickwork, along with making necessary upgrades to the fly system (most of the pulleys and pin rail area above the stage are original), stage floor, costume room, and public restrooms.

The Marble Block

The Marble Block, located at 129 Main Street, is planned as a cultural center featuring space for creative enterprises and endeavors including artist studios, performances, exhibitions, craft, arts education, and entrepreneurialism. The major tenant will be Engine, an arts non-profit located in Biddeford. More information is available at <http://www.TheMarbleBlock.org>.

Biddeford Middle School Auditorium/Performing Arts Center.

Located at the Biddeford Middle School on Hill Street and Tiger Way, this is a 900-seat auditorium designed for both students and the community. It is well suited for Performing Arts and Film. The projection screen is approximately 20' wide and 16' high.

Little Theater at the High School.

Located at the Biddeford High School Little Theater seats 300. The projection screen at Little Theater is approximately 16' wide and 12' high

Engine.

Engine was established in 2010 and was “Founded on the belief that artistic expression and creative vibrancy are the gateway to cultural, social, and economic revitalization, Engine – the only arts-driven nonprofit in Biddeford - is [a] leadership and advocacy organization committed to designing, launching, and promoting community-based arts programming” (Source: <http://feedtheengine.org/about/mission>). Engine’s Mission is “To make arts-driven programming, cultural development, and sustainable creative entrepreneurialism an explicit community value and civic priority in Biddeford.”

Engine partners with the UNE to hold student and faculty art shows at its Main Street gallery at 265 Main Street in Biddeford and also organizes an ArtWalk on the final Friday of every month. Engine has plans to relocate to the Marble Block into the former Reny’s Building once renovations are completed.

Maine FabLab.

Maine FabLab was created by *Engine* in 2013 and is housed at Engine at 265 Main Street. According to *Engine*, “A FabLab is a place where anyone can go to make [almost] anything! It’s a fabrication laboratory with digital tools, but more importantly, an open-access, shared, safe learning environment that embraces the idea of failing better.” More information on Maine FabLab can be found at www.mainefablab.org.

B. Arts and Cultural Programs

Biddeford + Saco Arts + Culture Alliance.

Taken from its website at www.biddefordsacoartsculture.com the “Biddeford+Saco Arts+Culture Alliance (BSACA) formed in 2013 and is comprised of arts and culture organizations and institutions, along with members of the business and arts community. The mission of the group is to promote the Biddeford and Saco area as an arts and cultural tourism destination.” It is presently being reconstituted, and will begin activities shortly.

Biddeford Public Art Committee.

An advisory sub-committee of Engine, formed with the mission to guide the City in procuring and maintaining public art.

Arts@UNE.

The University of New England offers three (3) Arts and Communications Programs: Art Education; Art and Design Media; and Communications. They also offer an Art Design Minor as well as a Minor in Art Therapy. Art Education is the study of theory and practice of education to prepare students to teach art at the elementary or secondary school level. Art and Design Media focuses on the foundational skills related to art media as well as new technological media. Communications concentrates on educating students on strategies employed in the fields of communications, journalism, public relations, and technology/new

media. Finally, the Minor in Art therapy integrates psychology and the arts to promote healing and overall well-being for individuals with mental and physical disabilities.

At the Biddeford Campus the Arts and Communications Department along with Student Affairs organizes a variety of art events, including concerts at the Alford Café, poetry readings and gallery exhibits at the Campus Center. UNE also collaborates with *Engine* which hosts student and faculty art shows as well as organizes the arts walk on the last Friday of every month. More information on Arts@UNE can be found at <http://www.une.edu/cas/art> including an online student gallery.

Heartwood College of Art.

The Heartwood College of Art has recently (2014) relocated and is now in North Dam Mill at 2 Main Street and offers a Masters of Art (MA) / Masters of Fine Art (MFA). It is self-described as offering “the only true low residency (as opposed to full time) program in the State of Maine.” In other words, students continue to work outside of the College while working towards the MA/MFA at the College.

Biddeford Adult Education.

Biddeford Adult Education offered through the Biddeford School Department is located at 64 West Street. It offers personal enrichment classes that include Arts and Crafts, Cooking, Music, and Dance. Activities are generally located at The Learning Center at 189 Alfred Street. More information is available at www.biddeford.coursestorm.com.

Biddeford Museum in the Streets.

The Museum in the Streets is a walking tour of Downtown Biddeford and follows a series of signs highlighting important historical features in the heart of Biddeford. It was developed by the Biddeford Historical Society.

Biddeford Mills Museum.

The owners of Pepperell Mill Campus became inspired to form a museum after purchasing the WestPoint Stevens complex in 2009 and seeing countless rooms filled with corporate records and machinery of the once-thriving business. They enlisted the support of a steering committee—consisting of educators, historical society members, McArthur Public Library staff, and local business leaders—in December 2010.

News that a group was establishing a museum devoted to the history of the mills spread throughout the community, and soon many former mill employees (often referred to as “mill veterans” or “mill alumni”) came out to support the project. Groups of Biddeford High School students also played a formative role in the creation of the Museum by designing the first historical tours of the Pepperell Mill Campus.

The Biddeford Mills Museum (BMM) officially became a 501(c)(3) in 2011. It is overseen by a dynamic board of directors who are devoted to seeing the Biddeford Mills Museum find a permanent space in Biddeford where they can display and care for their collections and offer interactive exhibits and walking tours that tell the history of the mills and the pivotal role they played in shaping Biddeford.

In just four years, the Biddeford Mills Museum has created a strong presence in the community and has successfully engaged mill veterans, area youth, and visitors, ranging from children to senior citizens, through its programming and events. BMM has a dedicated group of volunteers, many of whom are mill veterans. They meet as a group to share mill history research and to work on fundraising projects.

The Museum continues to work digitally cataloguing its collection through the use of collections management software. Depending on site availability, BMM has offered historic tours of the mills to school groups and visitors during some seasons. Representatives from the Museum have also offered courses on mill history as part of the Biddeford Adult Education program and are available to give ‘virtual tour’ presentations for local groups.

Biddeford Mills Museum actively utilizes social media and traditional media outlets to promote itself. BMM has both a Facebook page and a website. The Museum has collaborated with the Saco Museum (just over the river in Saco, Maine) and has made connections with staff and board members at Maine Historical Society (Portland), Museum L-A (Lewiston, Maine), the Franco-American Cultural Center at University of Maine in Orono, and the American Textile History Museum (Lowell, Massachusetts).

BMM is poised for an exciting future. It continues to make great strides towards achieving its goals of establishing a permanent exhibit space, developing permanent stopping points in the Pepperell Mill Campus as part of the Museum's popular walking tours, adding to its invaluable collection of oral histories with former mill workers, and harnessing the mounting enthusiasm of its many volunteers and the community-at-large in its mission to celebrate the history of the mills and share these valuable stories through compelling exhibitions.

More information is available at www.biddefordmillsmuseum.org

Biddeford Pool Union Church.

The Biddeford Pool Union Church offers a variety of cultural opportunities including poetry readings and its Summer Speaker Series. The 2014 Speaker Series was the church's 13th such series.

C. Arts and Cultural Events:

Chalk on the Walk.

Chalk on the Walk was an annual arts, culture and children's event in Downtown Biddeford that turns Biddeford's streets and sidewalks into canvasses for young and old, amateur and professional, artists to express themselves with chalk. It also included children's games and play areas and was held in September. Chalk on the Walk has now morphed into "Chalk While You Rock" during the RiverJam Festival (see below).

WinterFest.

In 2013 Biddeford hosted its inaugural WinterFest, which was highlighted by the placement of snow on Adams Street. Now held annually, the weekend serves as an umbrella for events for all ages. The weekend generally includes “Winter Wild Olympics,” a dog sledding, sledding on Adams Street, a Comedy Show at City Theater, musical entertainment in City Theater, skating at the West Brook Skating Rink, and other winter-oriented events.

Biddeford + Saco RiverJam Festival

Biddeford’s first RiverJam Festival was held in September 2014. It involved a weekend of music at a variety of different venues throughout Downtown Biddeford, both indoors and outdoors. The event now bridges Biddeford and Saco with daytime events in Mechanics Park and evening dance music, food trucks, a beer tent and more on Saco Island. The weekend also features art-related events and will include a boat building festival as well as a youth Battle-of-the-Bands in

Music in the Park.

Music in the Park is a weekly evening summer concert series held in Shevenell Park on Main Street Wednesday evenings, hosted by Heart of Biddeford.

Music on Main Street is a daytime summer concert series that occurs over five weeks in the park next to Biddeford Savings Bank, and hosted by Biddeford Savings Bank.

La Kermesse Franco-Americaine Festival.

La Kermesse if Biddeford summer Franco-American Festival. Traditionally held at St. Louis Field, it was moved to Mechanics Park in 2013 and to the Biddeford High School in 2014. It is a multi-cultural festival featuring food, culture, music, a parade, and fireworks. Its goal is to maintain the area’s strong Franco-American heritage.

Biddeford + Saco ArtWalk.

The Biddeford + Saco ArtWalk occurs on the last Friday of every month from April through October. Artists in Biddeford originated in April 2007. Subsequent events were organized by community members and The Heart of Biddeford. Since 2009 the ArtWalk has been organized by *Engine*, a local arts non-profit. Saco joined the ArtWalk in 2013.

D. “The Creative Economy”.

What is the “Creative Economy”? Although there are varied definitions for the term, this section will focus on the “Creative Economy” as it pertains to cultural resources. The New England Foundation for the Arts commissioned a research paper entitled *The Creative Economy: A New Definition* in 2007⁸. This research paper redefined the Creative Economy to represent what the authors refer to as “the cultural core”:

*Therefore, our definition of the creative economy is represented by the “cultural core”. It includes occupations and industries that focus on the production and distribution of cultural goods, services and intellectual property. Excluded are products or services that are a result of non-culturally-based innovation or technology.*⁹

The authors break down the cultural core into occupations and industries. The report Appendix provides an extensive list of what they deem qualifies as core occupations, being those occupations that directly produce and/or distribute cultural goods, regardless of industry. For example, core occupations include architects, historians, history teachers, librarians, craft artists, fashion designers, actors, dancers, musicians and singers, music directors and composers, editors, photographers, desktop publishers, watch repairers, bookbinders, jewelers, makeup artists, and radio operators.

⁸ DeNatale, Douglas and Gregory H. Wassall. “The Creative Economy: A New Definition”. New England Foundation for the Arts. 2007.

⁹ Ibid. Page 10.

Industries include those that are involved in the production and/or distribution of cultural goods and services. The report Appendix provides an extensive list of what they deem qualifies as core industries, but by way of example this category includes: screen printing, book printing, audio and video equipment manufacturing, jewelry manufacturing, jewelry wholesalers and stores, radio and television stores, book stores, art dealers, museums, newspaper publishers, sound recording studios, interior design services, architectural services, commercial photography, dance companies, historical sites, technology based products and theater companies.

In 2013 the Maine Department of Labor estimated that of the total employment in Maine (582,430 employed), 14,020 were employed in industries defined as being part of the Creative Economy if using the Standard Occupational Classification Codes identified in the DeNatale and Wassall report referenced above. See Table 5-4 below.

Although employment in the Creative Economy in the Portland-South Portland-Biddeford Metropolitan Area and Cumberland County as a proportion of total employment are fairly consistent with those for the State of Maine as a whole (2.29%, 2.49%, and 2.41% respectively), York County appears to have a relatively low proportion (1.00%).

At this time City Staff have been unable to locate data for just the City of Biddeford in order to provide a relative comparison in order to place Biddeford in context with these other geographic areas. It is suspected that Biddeford's contribution to the Creative Economy is significantly higher in Employment (%) than that estimated for York County as a whole.

Table 5-4. Occupational Employment Estimates based on Standard Occupational Classification (SOC) Codes for Core Creative Economy Employment, 2013.

2013 Maine DOL Estimates	Total Employment	Estimated Employment in Creative Economy	% Estimated Employment in Creative Economy
State of Maine	582,340	14,020	2.41%
Bangor Metropolitan Area	63,290	730	1.15%
Lewiston-Auburn Metropolitan Area	46,730	200	0.43%
Portland-South Portland-Biddeford Metropolitan Area	197,620	4,520	2.29%
Cumberland County	178,460	4,440	2.49%
York County	65,780	660	1.00%

Source: Maine Department of Labor. "Occupational Employment and Wage Estimates, 2013".

<http://www.maine.gov/labor/cwri/oes.html>. Accessed 03/24/2015.

2. What does it mean for Biddeford? (Analyses)

1. Historic Settlement Patterns.

Biddeford largely reflects its historic settlement patterns especially as related to Downtown, Pool Street, and Biddeford Pool. An obvious exception is the UNE site that was once established as a Native American village. Some suburbanization has resulted in residential growth spreading out from the Center of the City both towards the Maine Turnpike to the west and Guinea Road to the east along Pool Street and West Street.

The densest development in the City remains in the historic Downtown and surrounding area. Recent trends in redevelopment of the vacant Mill Building into Mixed-Use Commercial/Residential uses are solidifying Downtown as Biddeford continued settlement center.

2. Existing Historic Protection Measures.

Historic Preservation Ordinance:

The City of Biddeford adopted a new Historic Preservation Ordinance on April 16, 2013. Unlike previous Historic Preservation Ordinances in the city which were largely advisory only, the new ordinance represents the city's strongest attempt at preserving historical buildings and structures in the downtown area. The ordinance's purpose is stated as follows:

"The purpose of this ordinance is to promote the educational, cultural, economic and general welfare of the City of Biddeford by providing a legal framework within which the residents of the City can protect historic and architectural heritage historically significant areas, landmarks and sites while accepting compatible new construction."

A Historic Preservation Commission administers the ordinance and is staffed by the City Planner. Minor projects (for the most part signs) are reviewed by the City Planner and Chair of the Commission who can act on them quickly without need for public notice. Larger projects are required to go through Commission review which provides abutter notification of proposals and broader public input into the decision-making process.

Prior to any project moving forward with building or sign permits the reviewing authority must first issue a Certificate of Appropriateness indicating that a proposed activity complies with the evaluation standards set forth in the ordinance. Although all properties in the Historic Districts are subject to the Ordinance, there is higher scrutiny over those properties that have been included in what is known as the "Official Listing of Historically Contributing Buildings or Structures."

The City should revisit its Ordinance for Certified Local Government (CLG) compliance if it wishes to become a CLG. Becoming a CLG will open up funding opportunities to complete a better survey of historic properties in Biddeford as well as better delineate the historic districts than simply using what is in place today being the zoning districts.

The Commission receives a small amount of funding from the City (in

Fiscal Year 2019 was \$800) which is used for the most part for Commission training.

Federal Historic Tax Credits:

Often referred to as Historic Preservation Tax Incentives, Federal historic Tax Credits are a community revitalization tool that supports the rehabilitation of historic and older buildings. It is administered by the National Park Service and Internal Revenue Service, in partnership with State Historic Preservation Offices. They are not just about preservation, however, since their use generates employment and enhance property values, while supporting the redevelopment of older properties.

Tax credits operate differently than tax deductions. Tax deductions decrease the amount of income that is subject to taxation. Tax credits, however, lower the amount of tax owed.

There are two (2) Tax Credits available – a 20% tax credit and a 10% tax credit.

- The 20% rehabilitation tax credit equals 20% of the amount spent in a *certified rehabilitation of a certified historic structure*. The 20% credit can be used for projects that include offices, commercial use, industrial or agricultural uses, or for rental housing.

A certified historic structure is one which certified by the National Park Service either through its individual inclusion on the national Register of Historic Places or it is a structure located in a registered historic district and certified by the National Park Service as contributing to the historic significance of that district. See Table 5-1 above for eligible structures and districts in Biddeford.

A certified rehabilitation is a rehabilitation of a *certified historic structure* that is approved by the National Park Service as being consistent with the historic character of the property, and where applicable, the district in which it is located. Although some alterations to the building may occur, the project must not damage, destroy, or cover materials or features, whether interior or exterior, that help to define the building's historic character.

Eligibility also depends on the ability for a project to meet Internal Revenue Service requirements such that the building must be *depreciable* (i.e., it must be used in a trade or business or held for the production of income). Further, the rehabilitation must be *substantial* (i.e., during 24-month period selected by the taxpayer, the rehabilitation expenditures must exceed the greater of \$5,000 or the adjusted basis of the building and its structural components. The adjusted basis is generally the purchase price, minus the cost of the land, plus the improvements already made, minus the depreciation already taken.

- The 10% rehabilitation tax credit equals 10% of the amount spent to rehabilitate a non-historic building built before 1936. Unlike the 20% credit, the 10% credit can only be applied buildings for non-residential uses, although hotels are considered an eligible use. The rehabilitation must also meet the *substantial* requirement outlined above.

Additional requirements for the 10% credit include:

- A minimum of 50% of the building's external walls existing at the time of the rehabilitation must remain in place as external walls; and
- A minimum of 75% of the building's existing external walls must remain in place as either external or interior walls; and
- A minimum of 75% of the buildings internal structural framework must remain in place.

State Historic Tax Credits:

Maine State Historic Tax Credits are referred to as the "State Rehabilitation Tax Credit". The Maine Historic Preservation Commission (also referred to as the Maine State Historic Preservation Office) administers the program in consultation with the Department of Administrative and Financial Services, Bureau of Revenue Services. Maine's State Historic Rehabilitation Tax Credit Program Includes two Rehabilitation Credits as well as a "bonus" credit for projects involving affordable housing.

- The "Substantial Rehabilitation Credit" is a 25% State credit for any

rehabilitation that also qualifies for the 20% Federal credit. The rehabilitation must meet all of the requirements of the Federal tax incentive program.

- The "Small Project Rehabilitation Credit." Is a 25% State credit for the rehabilitation of certified historic structures with certified qualified rehabilitation expenditures of between \$50,000 and \$250,000. This credit is available to entities that do not claim the federal rehabilitation credit. Applicants must meet all federal tax code qualifications except the substantial investment requirement.
- The "Affordable Housing Rehabilitation Credit Increase" is a "bonus" credit wherein the State Substantial Rehabilitation Credit and the Small Project Rehabilitation Credit may be increased to 30% if the rehabilitation project results in the creation of a certain amount of affordable housing. The Maine State Housing Authority (MSHA) identifies eligibility requirements for affordable housing components.

There is a "per project" state credit cap of \$5 million. State credits are fully refundable, 25% of the credits must be claimed in taxable year in which the property is placed in service, and 25% must be taken in each of the next three (3) taxable years. Only rehabilitation expenditures incurred between January 1, 2008 and December 31, 2023 are eligible for the credit.

Completed and Proposed Historic Tax Credit Projects:

The following three projects in Biddeford have been successfully completed using Historic Tax Credits:

Table 5-5. Completed Projects Using Historic Tax Credits, as of January 2015.

Project Name	Address	Year	Development Cost	Use
The Mill at Saco Falls	100 Saco Falls Way	2010	\$ 11,100,000.00	Residential
Commercial Use	265 Main Street	2012	\$ 1,931,898.00	Commercial
The Lofts at Saco Falls	24 Pearl Street/110 Saco Falls Way	2015	\$ 15,000,000.00	Residential

Southern Maine Affordable Housing	41 Sullivan Street	2015	\$ 1,789,000.00	Residential
Emery School	116 Hill Street	2012	\$ 4,245,638.00	Residential

Source: The National Trust for Historic Preservation.
<http://www.preservationnation.org/>. 2014.

Three other projects have been approved by the Biddeford Planning Board and are, or soon will be, under construction that are utilizing Historic Tax Credits, as follows:

Table 5-6. Proposed Projects Using Historic Tax Credits, as of January 2015.

Project Name	Address	Year	Development Cost (Estimate)	Use
The Lincoln Hotel and Lofts	17 Lincoln Street	2015	\$ 55,000,000.00	Mixed Residential - Commercial

Biddeford Historical Society:

The Biddeford Historical Society is a volunteer group and is a distinct corporation of the State of Maine "to establish, maintain, and conduct an historical and archives society": with the purpose of "collecting, discovering, procuring, and preserving data, records, objects and landmarks touching the history" of the State of Maine and the City of Biddeford.

According to its website (through <http://www.mcarthurpubliclibrary.org>)

"the Biddeford Historical Society is the secondary depository for the early records of the City of Biddeford, and has records from 1628 to 1932. These records include the minutes of Town Meetings from 1653 to 1855, the minutes of the Board of Common Council and the Board of Aldermen from 1855 to 1932 and tax records from 1653 to 1932. The Society has, in addition to this, the records of local organizations, banks, building committees and veterans' groups. There is also a collection of memorabilia, personal diaries and scrapbooks. All the vital statistics of Old Saco and the Town of Biddeford

have been transcribed and are available for research on request.”

In Fiscal Year 2015 the City of Biddeford provided \$7,500 of funding to the Historical Society.

Certified Local Government (Recommended to pursue in the Comprehensive Plan of 1999):

Becoming a Certified Local Government is another way in which a municipality can promote the protection and preservation of historical resources. A Certified Local Government (CLG) is a municipality which has been certified by its State Historic Preservation Officer to have established a historic preservation commission and a historic preservation/protection program meeting Federal and State standards. According to the National Park Service (<http://www.nps.gov/clg/>) the CLG Program is based on the concept of *Preservation through Partnership* where local, State, and Federal governments work together in the Federal Preservation Program to help communities save the irreplaceable historic character of places.

Once a CLG, the municipality can apply for specific financial assistance to preserve historic properties such as buildings, structures, sites, neighborhoods and other areas of historic and cultural importance. States are required to give a minimum of 10% of their funding from the Federal Historic Preservation Fund to CLG's. CLG grants from the State of Maine can be used for a wide variety of projects including surveys, National Register nominations, rehabilitation work, creating design guidelines, operating educational programs, and for training, among other projects.

CLG's also have access to technical assistance directly through the Maine State Historic Preservation Office (SHPO) for support of the local Commission, training, and other general assistance.

As a CLG, responsibilities include maintaining a local Historic Preservation Commission (which Biddeford has) and to follow certain other State and Federal requirements such as surveying local properties, providing for public participation and enacting historic preservation ordinances that meet minimum Federal standards. In return, aside from the above-

mentioned access to financial and technical assistance, Biddeford could further its preservation efforts and experience continued economic, environmental, and social benefits. According to the National Park Service, studies show that historic districts maintain higher property values, less population decline, more walkability, and greater sense of community.

3. Existing Site Plan, Subdivision and Conditional Use Regulations, and Institutional Master Plan Requirements.

Site Plan Review Regulations:

Site Plan Review (Part III: Land Development Regulations, Article XI: Site Plan Review) generally applies to multifamily and nonresidential site development of a certain scale, and can be conducted either through the Planning Board or the Staff Review Committee. Under Section 3 (Intent and purpose) it is identified that Site Plan Review provisions are intended, among other things, for the “protection of historic and archaeological resources”.

Submitted Site Plans are required to show existing (and proposed) stonewalls and graveyards as well as historic and/or archaeological resources. In the design criteria section (Section 5.B.4.a.1), it is noted that where building design is reviewed, the following criteria exists:

“1. Buildings shall be designed to blend harmoniously with the surrounding structures in the neighborhood. New structures should be designed so as to complement the style of the abutting older structures. A photograph, architectural rendering or other representation of the proposed structure must accompany the application for site review”.

Finally, the specific review criteria is as follows (Section 5.B.4.m):

“Historic and archaeological resources. If any portion of the site has been identified as containing historic or archaeological resources, the development shall include appropriate measures for protecting these resources, including but not limited to modification of the proposed

design of the site, timing of construction, and limiting the extent of construction.”

As it stands, it appears that under Site Plan Review historic and archaeological resources are a consideration are intended to be preserved, but there is no requirement that studies be performed. As such, only know such resources would likely be considered in the review process.

Subdivision Regulations:

The Biddeford Subdivision Ordinance (Chapter 66) defines *Historic or Archaeological Resources* as follows: “Areas identified by a governmental agency such as the Maine Historic Preservation Commission or the City of Biddeford Comprehensive Plan as having significant value as a historic or archaeological resource”.

Under Section 66-3 one of the purposes of the regulations is to protect historic and archaeological resources. It is also identified that the regulations promote the protection of “cultural resources outlined in the Comprehensive Plan”.

One element of required information on all subdivision plans is historic and/or archaeological resources along with a description of such resources. The regulations allow the Planning Board to require studies be performed, but of the list of eight (8) examples of such studies, historic and/or archaeological studies are not included, but the list is not to be limited to only those eight (8) examples. It also allows for a third-party expert review of any studies, to be paid for by the applicant.

Under design standards, a finding includes that all subdivisions will not have an adverse impact on historic sites and that projects can be required to protect such resources through such means as altering the design of the site, modifying the timing of construction, or limiting the extent of construction.

Conditional Uses:

The City of Biddeford has identified certain uses in various zones as warranting special review either through the Planning Board or Staff Review Committee (or in limited cases the Code Enforcement Office). In the standards for Conditional Uses, the following relates to historic preservation:

“11. The proposed use would not have an adverse impact on the immediate neighborhood or the community relative to architectural design, scale, bulk and building height, identity and historical character, or visual integrity, which could be avoided by reasonable modification of the proposal;”

As such, those uses (but only those uses) that are identified as Conditional Uses are considered in relation to their surrounding historic character under this section of the Biddeford Zoning Ordinance (Part III: Land Development Regulations, Article VII: Conditional Uses).

Institutional Master Plan Requirements:

The University of New England is required to submit and have approved an Institutional Master Plan outline a conceptual development program for the campus over a 5-Year period. One of the requirements of the Existing Conditions Section of the Plan is as follows:

“An historic and archeological resources inventory and analysis showing the location of any known historic or archeological resources and any area with potential as an area of historic or archeological significance within those areas of the campus that are already developed or where development activities including clearing or filling are proposed or that will be potentially impacted by proposed development activities. This shall include a plan at the same scale as the existing conditions plan.”

In each of the UNE Master Plans submitted and approved an archaeological inventory and analysis has been provided resulting in artifact recovery from the Chouacoet Site during the construction of the Marine Science Center.

4. The loss of the James Montgomery Flagg House in 2013 demonstrates that privately owned Historic Properties can be at risk. Larger facilities have, however, been protected through their redevelopment and the use

of Historic Tax Credits. As noted earlier, there is a lack of funding for preservation projects at the Federal, State, and local levels.

The City Hall Clock Tower and City Hall itself are perhaps the most visible and at risk structures in Downtown Biddeford. Since they are publicly owned, Historic Tax Credits have no benefit to the City of Biddeford for this particular resource. In order to protect them, Biddeford would need to alternative funding through other grants or the direct allocation of local tax dollars.

3. What do we want to do about it?

A. Goals:

1. To preserve the State's and Biddeford's historical, archaeological, and cultural resources.
2. To provide assistance to citizens, property owners, and developers in preserving historical, archaeological, and cultural resources.
3. To enhance the local creative economy through the promotion of local arts and culture.
4. To ensure that existing and future cultural facilities and events support the needs of the people of Biddeford.

B. Policies and Strategies (who should do it; when):

Policy 1: Protect to the greatest extent practicable the significant historic resources in Biddeford.

Strategy 1a: Revise the Historic Preservation Ordinance (HPO) to qualify for Certified Local Government (CLG) status (Planning and Development Department, Planning Board, City Council; 6 months-1 year).

Strategy 1b: Become CLG certified (Planning and Development Department, City Council; 1 year or as the qualification process permits, whichever is sooner).

Strategy 1c: Upon CLG certification, seeks funds to begin a comprehensive community survey of historic buildings and structures in Biddeford, starting with priority areas

most at risk to loss (Planning and Development Department; from CLG certification to 5 years).

- Strategy 1d: Ensure the Land Development Regulations, including the subdivision review regulations, require known historic resources and archeological sites and areas sensitive to prehistoric archeology, be identified and that developers take appropriate measures to protect those resources, including but not limited to, modification of the proposed site design, construction timing, and/or extent of excavation.
- Policy 2: Educate citizens and property owners about the value of historical, archaeological, and cultural preservation.
- Strategy 1a: Promote and support Downtown Biddeford, including the Mill District, as the historic and cultural core of the City (City Council, Planning and Development Department; on-going).
- Strategy 2b: Continue to support the efforts of the Biddeford Historical Society, the Biddeford Historic Preservation Commission, and other entities such as the Biddeford Mills Museum, in promoting Biddeford's history and historic resources (City Council, Planning and Development Department; on-going)
- Policy 3: Educate existing and new property owners and business tenants about the Biddeford Historic Preservation Ordinance and process.
- Strategy 3a: Develop informational resources (e.g., a brochure, website, etc.) to disseminate information about Biddeford Historic Preservation Program (Planning and Development Department; 1-2 years).
- Policy 4: Support arts and culture facilities, events and the "creative economy" throughout Biddeford.
- Strategy 4a: Continue to support and fund efforts that enhance the promotion and marketing of Downtown through festivals and events such as the Biddeford-Saco Art Walk and River Jam festival (City Council, Planning and Development Department, Heart of Biddeford; on-going).

- Strategy 4b: Continue to support efforts of the Biddeford Cultural Coalition, which advocates a strong role of arts and heritage in the city's economy (City Council, Planning and Development Department, Heart of Biddeford; on-going).
- Strategy 4c: Continue to support McArthur Library and its contribution to the arts and culture realm in Biddeford.
- Strategy 4d: Support the creation of a Biddeford Public Art Program and the development of a Public Art Master Plan.

SECTION 6: TRANSPORTATION

“Restore human legs as a means of travel. Pedestrians rely on food for fuel and need no special parking facilities.” Lewis Mumford

1. What is happening?

A. Background

Roads, streets, and other means of transportation are often referred to as the city’s circulation system. This system is necessary to move people, goods, and services from one part of the city to another, into the city, out of the city, and through the city.

The highway system also provides access to private property. Roads may be thought of as the framework upon which the city is built. In addition to these functions, the highway system is also the setting from which we view much of the city. The views from the roads in the city, including views of fields, forests, the ocean, and the places where people live and work all form the visual impressions of our community. The efficiency of our city, the value of our land, and how we view and experience our surroundings are all affected by the highway system and how well it carries out often conflicting roles.

Many of the problems associated with highways in any city are a result of one or both of these basic flaws: (1) their inability to carry out all of their roles equally well, and (2) their inability to carry out these roles and provide a type of service for which they were never designed or built.

The following section is intended to provide the information necessary to develop a management plan for Biddeford’s future transportation system. It begins with a summary of Biddeford’s road classification and maintenance responsibilities. The next section includes a detailed summary of the city’s highway corridor priorities and roadway customer service levels. Following this section is a summary of public transportation in the city. Next, this inventory will discuss Biddeford’s parking capacity and sidewalk infrastructure. The next section will look into the Biddeford Municipal Airport, followed by a section about passenger rail service in the city. Finally, this transportation inventory will wrap up with information about the Biddeford RiverWalk and multi-modal transportation, including complete streets.

B. Road Classification & Maintenance Responsibility

1. Federal Functional Classification

As previously mentioned in the introduction to this chapter, many of the problems associated with highways are the result of the fact that the highways' roles often conflict with one another, and highways do not perform all functions equally well. Also, the highways of today are often expected to perform functions and carry the type of and amount of traffic for which they were never designed. Therefore, it is important to understand the function of the highways in Biddeford to prevent their misuse and possible safety problems. From a standpoint of function, roads and streets can be classified into three (or more) functional classifications. For the purposes of this Section, roadways in Biddeford have been classified into the following:

- Arterial roads;
- Collector roads; and
- Local roads.

Map 6-2 displays the classifications of roads in Biddeford based on these three (3) categories), which are described below.

Arterials

MaineDOT defines arterials as roadways that provide long-distance connections between towns and regional centers. Volumes of traffic typically range from 5,000 to 30,000 vehicles per day. Arterials are classified as either *principal arterials* or *minor arterials*. MaineDOT further classifies principle arterials into *interstates*, *other freeways and expressways*, *rural*, and *urban*.

Primary Arterial:	Interstate is a continuous route that has trip lengths and volumes indicative of substantial statewide or interstate travel.
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Principal Arterial:	Other freeways and expressways is a divided roadway with partial (freeway) or full (expressway) control-of-access.
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Rural Principal Arterial:	Serves as a corridor suitable for substantial statewide or interstate travel between larger population centers.
Urban Principal Arterial:	A route that carries through traffic and most of the trips entering / leaving a federally-designated urban area.
Minor Arterial:	Classified as a series of continuous routes (1,315 miles in Maine) that should be expected to provide for relatively high overall travel speeds with minimum interference to through movement. Much like principal arterials, minor arterials are further classified into rural and urban.

Arterials in Biddeford include:

- *Principle Arterials (Interstate):* I-95 / Maine Turnpike
- *Principle Arterial / Other Freeway:* None
- *Other Principle Arterials:* Route 111 (west of the Biddeford Connector)
- *Minor Arterials:* Route 111 (between the Biddeford Connector and Route 1), Route 1, and the Biddeford Connector

It is at the arterial level where the conflict between the traffic service function of the highway and the land or property service function is most extreme. As traffic volumes increase and land use intensifies, this conflict also increases. For example, more users attempt to enter and exit a collector, which may cause other users delay and safety issues. There are essentially four ways to mitigate conflicts from causing possible safety issues and/or congestion on arteries intended to move vehicles:

- Provide additional highways, which is often not feasible due to land acquisition needs and cost;
- Physically provide additional capacity in the highway (e.g., add additional lanes), which again is often not financially feasible (or desirable);
- Better manage the existing capacity of arterials through reducing the amount of users on the system (e.g., through transportation

demand management alternatives such as providing transit, encouraging car/ride share, encouraging employers to stagger work hours to off-peak start and end times; and

- Manage the access to the existing arterial highways through eliminating or reconfiguring access points to and from the arterial (see below for more information on Access Management).

Collectors

Collectors typically connect local or residential neighborhoods to arterials. Collectors are typically highly travelled roads that users associate most with from an aesthetic and experiential aspect. These roadways are the locations from which many of us view our community.

Traffic is *collected* from local roads and delivered to arterial roadways, which are designed for higher speed and improved mobility. Typically, traffic volumes on collector roads range from 1,000 to 5,000 vehicles per day. Like arterials, MaineDOT further divides classification of collectors into *major* and *minor* collectors. MaineDOT requires driveway and entrance permits for all collector roads.

Collector roads in Biddeford include:

- *Major Collectors*: Route 111 (east of Route 1), May Street, Lincoln Street, Pine Street, Main Street (east of Route 1), South Street (east of Route 1), Jefferson Street (south of South Street), Graham Street (south of Route 111), Precourt Street (east of Route 1), Hill Street, and Pool Street
- *Minor Collectors*: South Street (west of Route 1), West Street, and Main Street west of Route 1

Local Roads

Local roads and streets provide access to individual parcels of land. Moving traffic is only of secondary importance. Volumes typically carry up to 1,000 vehicles per day. All roads not classified by MaineDOT as arterial or collectors are considered local roads. Local roads may be town-owned or private and it's important for towns to make that distinction. Local roads and streets are also a part of the residential (and sometimes commercial and industrial) design features. The curves,

straight sections, street trees, landscaping, street lighting, and so forth can provide a strong element of community aesthetics. Local roads and streets also provide the sites for building.

Local Roads in Biddeford include:

- All of the roadways not classified above are considered to be local

2. Maintenance Responsibilities

There are four different jurisdictional categories used to classify how roads are maintained:

- State Highways
- State-Aid highways
- Local roads
- Private roads

The fourth category, private roads, indicate that they are roads that are neither maintained nor owned by the City or the State. Please refer to map 6-3 to see these jurisdictional categories in map form.

State Highways are a system of connected main highways throughout Maine that primarily serve arterial or through traffic. State Highways are primarily maintained by MaineDOT. The exceptions are the State Highways located in Urban Compact Areas (see page XX for more information on urban compact areas), which are maintained by the municipality.

State Highways in Biddeford include:

- Route 1 (Elm Street)
- Route 111 (Alfred Street/Road) west of Route 1
- The “Biddeford Connector” (i.e., Precourt Street)

State-Aid highways are those highways not included in the system of the state highways that primarily serve as collector and feeder routes. These highways also generally connect local service roads to state highways. Commonly, State-Aid Highways in the rural areas are maintained by MaineDOT during the summer and by the municipality during the winter. Any State-Aid Highways in the urban compact area are maintained by the City.

State-Aid Highways in Biddeford include:

- Route 111 (east of Route 1)
- Route 208 (east of Route 9)
- South Street
- Main Street
- Market Street
- Lincoln Street
- May Street
- Jefferson Street (south of South Street)
- Pool Street
- Hill Street
- West Street
- Precourt Street
- Landry Street (between Precourt Street and Hill Street / Marcel Avenue)

Urban Compact Areas are those in which the population, according to the last U.S. Census,

- Exceeds 7,500 people; or
- Has less than 7,500 people but more than 2,499 people, and in which the ratio of people whose place of employment is in a given municipality to employed people residing in that same municipality is 1.0 or greater, and when the municipality has not opted-out.

The specific location of Biddeford's Urban Compact Area can be found on Map 6-4. More information on Urban Compact Areas can be found at MaineDOT's website at www.maine.gov/mdot.

"Compact" or "Built-up sections" means a section of the highway where structures are closer than 200 feet apart for a distance of $\frac{1}{4}$ of a mile. Under the rules of the Urban Compact Areas, the City of Biddeford and MaineDOT each have the maintenance responsibilities identified in Table 6-1.

Table 6-1. Urban Compact Maintenance Responsibilities.

City of Biddeford	MaineDOT
Winter Snow and Ice Control	Route and Designation Signs
Pothole Repair	Bridge and Minor Span Maintenance
Pavement Markings per MUTCD (Centerline, Arrows, Words, Symbols, Crosswalks, and Edge Lines)	Speed Limit Signs on State or State Aid Highways when first installed or when changed due to MaineDOT Review
Traffic Signs per MUTCD (Regulatory, Warning, and Advisory)	Pavement overlays greater than 1 inch thick and do improve strength
Ditching	Reconstruction of roadways
Driveway and Cross Culvert Cleaning, Repair, and Replacement	
Catch Basin Cleaning and Repair	
Surface Treatments i.e. Sand Seals, Chip Seals, Crack Sealing, Asphalt Shimming, Thin Overlays (typically less than 1 inch thick and do not improve strength)	
Traffic Signal Maintenance	
Guardrail Installation or Repair	
Railroad Signs and Pavement Markings	
Brush Cutting, Erosion Control, Mowing, Herbicide Application	
Tree Pruning or Removal	
Retaining Walls	
Sidewalk Maintenance	
Dust Control, Street Sweeping	

Local roads are not included in the State Highway and State-Aid Highway systems. They are primarily maintained by the City and serve as local service roads providing access to adjacent land. The City of Biddeford is responsible for maintenance of local roads and all State Highways and State-Aid Roads that are included in the Urban Compact Area.

C. Access Management.

For improved safety and speed preservation along the state's highways, the MaineDOT has developed a set of access management rules in response to legislation concerned with arterial capacity, poor drainage, and the high number of driveway-related crashes. Access Management balances safe access to property with “mobility,” or traffic flow. In order to achieve this balance, anyone installing a driveway or entrance along a roadway must get a permit from MaineDOT. State law mandates that even if the intention is to “change use” of an entrance (i.e. from strictly residential to residential and small business) a permit must be obtained from MaineDOT and the City of Biddeford. Further, recent amendments to the law state that local building permits (including subdivisions) involving access to property on a state or state-aid highway may not be issued without first having a MaineDOT permit approved. Additionally, any new or changed driveways or entrances on state or state-aid highways located outside of urban compact areas must meet specifications described in MaineDOT’s set of rules in order to obtain a permit. The rules regulate sight distance, corner clearance, spacing, width, setbacks, parking, drainage, and mitigation requirements.

The rules define mobility corridors as corridors that connect service centers (towns/cities that provide consumer services for surrounding, typically smaller communities) and/or urban compact areas and carry at least 5,000 vehicles per day along at least 50% of the corridor's length.

In Biddeford, the mobility corridors include the non-urban compact portions of the following roads:

- Basic safety standards apply to all State Highways and State-Aid Highways. This includes the non-urban compact area portions of South Street, Pool Street, and West Street.
- Major collector and Arterial standards provide more detailed design standards for entrances into major collector and arterial roads. Entrances are access that serves 50 or more trips per day. This includes the non-urban compact area portions of Pool Street.
- Mobility corridors connect service centers and/or urban compact areas and carry at least 5,000 vehicles per day along at least 50 percent of the corridors length. There are no mobility corridors in Biddeford.
- Retrograde arterials are mobility corridors where the number of crashes related to a driveway or entrance exceeds the statewide average for arterials with the same posted speed. There are no retrograde arterials in

Biddeford.

Please refer to the *Access Management Highway Classification* map (Map 6-X) to see these in map form.

D. Highway Corridor Priorities & Customer Service Level

1. MaineDOT Highway Corridor Priorities

The MaineDOT Highway Corridor Priorities are based on a ranking system. The following Table 6-2 outlines the priority system for the current roadway system. The Corridor Priorities are based on federal functional classification, regional economic significance, heavy haul truck use and relative regional traffic volumes. Further, the MaineDOT Highway Corridor Priorities are directly linked to the MaineDOT Customer Service Levels that can be found on pages 6-X in this Section.

Priority Corridor Roads in Biddeford include:

- *Priority 1:* I-95 / Maine Turnpike, Route 1, and Route 111 (west of Route 1)
- *Priority 2:* Route 111 (east of Route 1) and Route 9 (north of Route 111)
- *Priority 3:* Biddeford Connector
- *Priority 4:* Pool Street
- *Priority 5:* South Street, Market Street, Lincoln Street, May Street, Main Street (west of Route 9), Hill Street, West Street, Graham Street (south of Route 111), Route 208 (east of Route 9), Precourt Street, and Landry Street (between Precourt Street & Hill Street / Marcel Avenue)
- *Priority 6:* All other local roads not listed above

Please refer to the *Highway Corridor Priorities* map (Map 6-X) to see these in map form.

Table 6-2. MaineDOT definitions of Highway Priorities:

Priority	Definition
Priority 1 Roads	These roads include the Maine Turnpike, the interstate system and key principal arterials like Route 1 in Aroostook County, the Airline (Route 9), Route 2 west of Newport, and Route 302. The 1,400 miles of Priority 1 roads represent only 7 percent of the miles, but carry fully 40 percent of all vehicle miles traveled in Maine.
Priority 2 Roads	These roads total about 940 miles. They are non-interstate, high value arterials that represent about 4 percent of the total miles of road but carry 11 percent of overall traffic.

Priority 3 Roads	These roads generally are the remaining arterials and most significant major collector highways. These 2,050 miles represent only 9 percent of miles, but carry 19 percent of the traffic.
Priority 4 Roads	These roads generally are the remainder of the major collector highways, often also part of Maine's unique state aid system, in which road responsibilities are shared between the state and municipalities. These 1,900 miles represent about 8 percent of total miles, and carry 10 percent of the traffic.
Priority 5 Roads	These roads are 2,500 miles of minor collector highways, almost all on the state aid system. They represent 11 percent of miles, but carry only 7 percent of traffic.
Priority 6 Roads	These roads are local roads and streets, and are the year-round responsibility of our municipal partners. Though they carry just 13 percent of the statewide traffic, these 14,300 miles make up 61 percent of the total miles.

2. MaineDOT Customer Service Levels

Similar to the Highway Corridor Priorities, the Customer Service Level is prioritized on three criteria: safety, condition, and service. Each criterion has several factors that are included in the overall rating of each category. Roads and road segments are given an A-F rating with A being the best and F being the worst. To get a better idea of the customer service levels for each road/node, including specific sections of roadways listed below, visit the MaineDOT Customer Service Level webpage at <http://maine.gov/mdot/about/assets/hwy/#undefined2>.

Customer Service Level – Safety:

Most roads in Biddeford are classified in the A or B category. There are small sections of Route 111, Route 208, and Main Street in the C category. This is primarily due to crash history, pavement width, and pavement rutting. Sections of South Street and West Street are in the D category. This is primarily due to crash history and pavement width on these roads. A significant portion of South Street is in the F category. This is primarily due to crash history and pavement width. Please refer to the *Customer Service Level – Safety* map (Map 6-X) to see these in map form.

MaineDOT uses the following criteria to rate Customer Service Level – Safety:

Table 6-3. MaineDOT Customer Service Level Criteria for Safety.

Customer Service Criteria	Category	Definition
Crash History	Safety	This measure includes the two types of motor vehicle crashes most likely related to the highway- head-on and run-off road crashes. The A-F scale compares these crash rates with the statewide average.
Paved Roadway Width	Safety	This measure compares total paved width (lane plus shoulder) with minimum acceptable widths by Highway Corridor Priority (not new design standards). If a highway segment fails this minimum, the Safety Customer Service Levels for that segment is decreased one letter grade.
Pavement Rutting	Safety	This measure looks at wheel path rutting, since excessive rutting holds water and contributes to hydroplaning and icing in winter. The A-F scale set points vary by Highway Corridor Priority, and are based on hydroplane tests.
Bridge Reliability	Safety	This measure is pass/fail. If a highway segment contains a bridge with a Condition Rating of 3 or less (excluding non-overpass decks), the Safety Customer Service Level is decreased one letter grade. These bridges are safe, but may require increased inspection or remedial work that could affect traffic flow.

Customer Service Level – Condition:

Most roads in Biddeford are classified in the A or B category. There is a section of Route 208 in the C category. This is primarily due to ride history. There is a very small section of Route 1 in the D category. This is primarily due to ride quality. A small section of Route 9 in the downtown is in the F category along with small sections of Route 1. This is primarily due to ride quality. Please refer to the *Customer Service Level – Safety* map (Map 6-X) to see these in map form.

Table 6-4. MaineDOT Customer Service Level Criteria for Condition:

Customer Service Criteria	Category	Definition
Pavement	Condition	This measure uses the Pavement Condition Rating

Condition		(PCR), a 0-5 scale that is composed of International Roughness Index, rutting, and two basic types of cracking. The A-F scale varies by Highway Corridor Priority.
Roadway Strength	Condition	This measure uses the results of the falling weight deflectometer, a device that estimates roadway strength. The A-F scale is uniform across Highway Corridor Priority, since even low-priority roads must support heavy loads in Maine's natural resource-based economy.
Bridge Condition	Condition	This measure converts the 0-9 national bridge inventory (NBI) condition ratings to pass or fail; it is uniform across Highway Corridor Priority.
Ride Quality	Condition	This measure uses the International Roughness Index (IRI), which is expressed in inches per mile of deviation. IRI is the nationally accepted standard for passenger comfort, and the A-F scale varies by Highway Corridor Priority.

Customer Service Level – Service:

Most roads in Biddeford are classified in the A or B category. There are sections of Route 1, Route 9, Route 111, the Biddeford Connector, West Street, and Pool Street in the C category. This is primarily due to congestion. Small sections of Route 111 and May Street are in the D category. This is also primarily due to congestion on these roads. There are small sections of Route 111, Route 1, and Route 9 in the downtown in the F category. This is primarily due to congestion as well. Please refer to the *Customer Service Level – Safety* map (Map 6-5) to see these in map form.

Table 6-5. MaineDOT Customer Service Level Criteria for Service:

Customer Service Criteria	Category	Definition
Posted Road	Service	Each year MaineDOT posts more than 2,000 miles of road during spring thaw to protect their longevity, but some posted roads directly affect Maine's economy. Road segments that are permanently posted get a D, those with seasonal postings get a C.

Posted Bridge	Service	This measure uses load weight restrictions to arrive at an A-F score that varies by Highway Corridor Priority.
Congestion	Service	This measure uses the ratio of peak traffic flows to highway capacity to arrive at an A-F score for travel delay. Peak summer months are specifically considered to capture impacts to Maine's tourism industry. This scale is uniform across Highway Corridor Priority, since tourist travel is system-wide and sitting in traffic affects customer service similarly on all roads.

- E. Location and overall condition of roads, bridges, sidewalks, and bicycle facilities, including any identified deficiencies or concerns.

The City's transportation infrastructure is identified on **Map 6-X** of this Plan.

Sidewalks

Pedestrians are a part of every roadway environment and attention should be paid to their presence. Sidewalks are the primary facility provided to meet their needs and care must be taken when designing a pedestrian network to account for all users. These include children, the elderly, people with strollers, and pedestrians with physical and mental disabilities, including impairments that require the use of wheelchairs and other assistive devices.

There are 114.4 miles (604,086 feet) of sidewalk in Biddeford. The Public Works Department is responsible for the majority of the sidewalk maintenance and has set up a database that includes:

- Street name (location of sidewalk)
- Length of sidewalk (feet and miles)
- Surface
- Tax map (location of sidewalk)
- Rating of sidewalk

Bicycle Network

Bicyclists have the same mobility needs as any other road user. Increasingly, land use and transportation planners are recognizing bicycles as a viable transportation mode. While recreation is still the primary use of a bicycle, more people are beginning to cycle as a way to commute to work and run errands. Cyclists should be included in all phases of transportation planning including new

road design, construction, and rehabilitation (for more on this, see the Complete Streets section below).

Maine bicycling laws generally give bicyclists the same rights and responsibilities as motor vehicle operators. Bicyclists may use public roads, and they must obey traffic laws such as stopping at red lights and stop signs, yielding to pedestrians at crosswalks, and yielding to traffic when entering a road from a driveway. Motorists are required to give at least three feet of clearance when passing bicyclists.

Any segment of roadway having a paved shoulder of at least four feet wide is generally considered appropriate for bicycle travel. As highways are improved and upgraded, the town will encourage adequate shoulder widths and bicycle lanes when necessary in order to safely accommodate bicycle travel.

The Eastern Trail:

F. Identify potential on and off-road connections that would provide bicycle and pedestrian connections to neighborhoods, schools, waterfronts and other activity centers.

G. Major Traffic Generators in Biddeford.

The following represent the current major traffic generators, both vehicular and pedestrian, in Biddeford.

Table 6-6. Major Traffic Generators in Biddeford (in no particular order), September 2018

Generator	Peak Hours
Biddeford Crossing	Daytime Hours, peaks in the evening and on weekends
Walmart Plaza	Daytime Hours, peaks in the evening and on weekends
University of New England	September to May, peaks in morning (7-9) and afternoon (3-6)
Biddeford High School	September to May, peaks in morning (7-8) and afternoon (3-5)
Robert G. Dodge Business Park	Year-round, peak in AM (7-9) and PM (4-6)
Airport Industrial Park	Year-round, peak in AM (7-9) and PM (4-6)
Biddeford Industrial Park	Year-round, peak in AM (7-9) and PM (4-6)
Mill at Pepperell/NorthDam Mill	Year-round, peak in AM (7-9) and PM (4-6), but steady throughout the day.

H. Identify policies and standards for the design, construction and maintenance of public and private roads.

I. Municipal Parking

There are many different areas in downtown Biddeford that offer parking. According to the *Downtown Parking Study* developed by Rich & Associates, Inc. in October 2012, there are 1,427 total parking spaces in downtown Biddeford (see the study area below – Figure 6-1).

Figure 6-1. The Study Area for the October 2012 Downtown Parking Study



Source: Rich & Associates, Inc., October 2012

Table 6-4: Parking Supply Summary

On-Street Parking Totals	367 (26%)
Public Off-Street Parking Totals	276 (19%)
Public Parking Totals	643 (45%)
Private Parking Totals	784 (55%)
Total Parking in Study Area	1,427

Source: Rick & Associates, Inc., October 2012

The *Downtown Parking Study* also included information about turnover and occupancy within the downtown study area. A study of the public and private parking was completed on Thursday, October 27, 2011 from 8:00 a.m. to 6:00 p.m. The turnover and occupancy study was an observation of both public and private on-street and off-street parking in the core downtown. The table below includes the results of the study.

Table 6-5: Parking Occupancy in the Downtown Core, October 27, 2011

	# of Spaces Observed	8:00 a.m. - 6:00 p.m.	% Occupied	10:00 a.m. - 12:00 p.m.	% Occupied	12:00 p.m. - 2:00 p.m.	% Occupied	2:00 p.m. - 4:00 p.m.	% Occupied	4:00 p.m. - 6 p.m.	% Occupied
Public On-Street Totals	424	198	47%	226	53%	244	58%	244	58%	199	47%
Public Off-Street Totals	301	142	47%	178	59%	182	60%	173	57%	148	49%
Public Combined Totals	725	340	47%	404	56%	426	59%	417	58%	347	48%
Private Off-Street Totals	1257	376	30%	543	43%	543	43%	517	41%	450	36%
Overall Totals	1982	716	36%	947	48%	969	49%	934	47%	797	40%

Source: Rick & Associates, Inc., October 2012

The table below includes the results of the turnover findings of the two-hour on-street parking spaces.

Table 6-6: Parking Turnover Summary in the Downtown Core, October 27, 2011

Parking Turnover Summary (By Type)	On-Street 2 Hour or Less Parking
Vehicles that remained less than 2 hours	406 (80.8%)
Vehicles that remained between 2 and 4 hours	60 (11.9%)
Vehicles that remained between 4 and 6 hours	13 (2.5%)
Vehicles that remained between 6 and 8 hours	20 (3.9%)
Vehicles that remained between 8 and 10 hours	3 (less than 1%)
Total number of vehicles analyzed (8:00 a.m. - 6:00 p.m.) in 2 hour stalls	502
Total number of 2 hour stalls analyzed	300

Source: Rich & Associates, Inc., October 2012

In 2018 the City of Biddeford completed a Downtown Parking Management Plan which was subsequently adopted by the City Council. The Plan essentially updated the data from the Rich and Associates Study and developed framework for managing parking in the Downtown moving forward. Here is the Executive Summary from that Plan:

J. Biddeford Municipal Airport

The Biddeford Municipal Airport is owned and maintained by the City of Biddeford. It is located two miles south of the downtown area. The airport is open to the public and private airplanes are allowed to take off and land there at no cost. There is one runway measuring 3,000 feet by 75 feet. Prices and fees at the Biddeford Municipal Airport are as follows:

Landing Fee: \$0.00

Tiedown Rates:

Overnight: \$3.00

1 Week: \$10.00

2 Weeks: \$15.00

3 Weeks: \$20.00

Monthly: \$25.00

Terminal Hangar A (Heated Hangar):

Daily: \$20.00

2 Weeks: \$200.00

Monthly: \$300.00

Terminal Hangar B (Cold Storage Hangar):

Daily: \$10.00

2 Weeks: \$125.00

Monthly: \$200.00

100LL Fuel Self-Service: \$4.30 / gallon

Please refer to the *Location of the Biddeford Municipal Airport* map (Map 6-X) to see the location of the airport in map form.

K. Public Transportation

ShuttleBus-Zoom:

ShuttleBus-Zoom is a public transportation system that serves Saco, Biddeford, and Old Orchard Beach. The following options are available:

- *ShuttleBus Local*

The Tri-City area of Saco, Biddeford and Old Orchard Beach is serviced by two buses. Local 1 begins at Southern Maine Health Care (SMHC) in Biddeford to start its daily run along the Route 1 (Elm Street) corridor to Saco and Old Orchard Beach. Local 2 also begins at SMHC in Biddeford and travels along Route 111 (Alfred Street) to Saco and Old Orchard Beach.

- *ShuttleBus Intercity to Portland*

Starts at SMMC in Biddeford and makes stops in Biddeford, Saco, Old Orchard Beach, Scarborough, South Portland, and Portland.

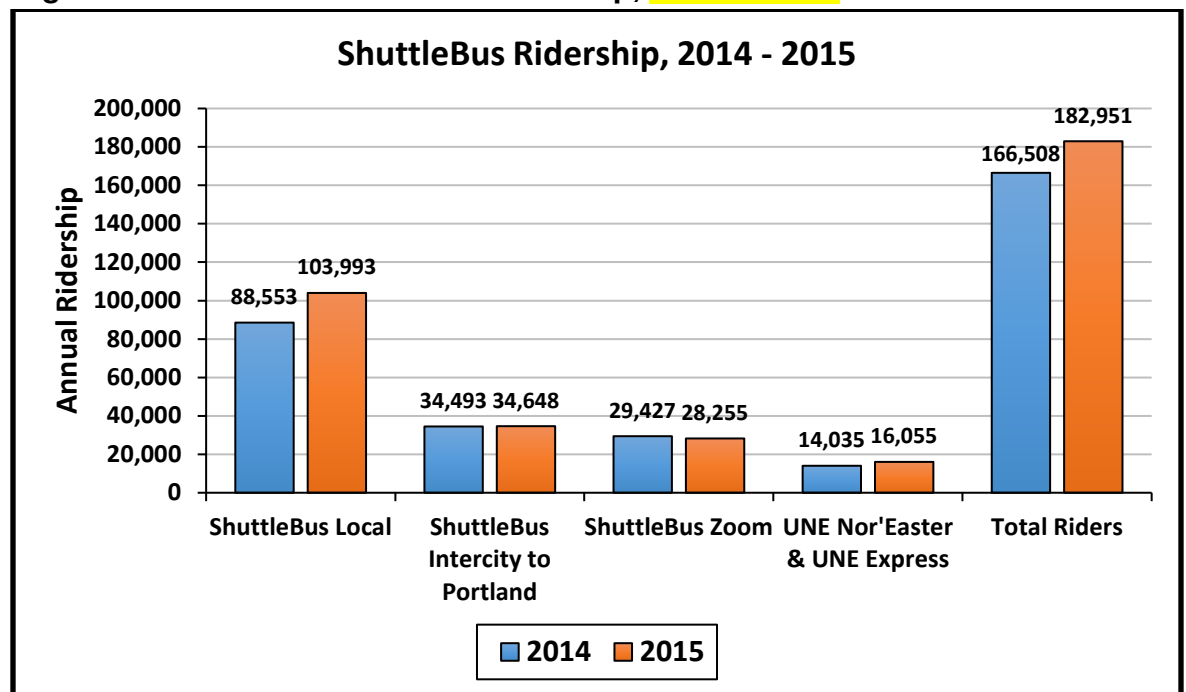
- *Zoom Turnpike Express*

Provides commuter service from the Commuter Service Park & Ride Lot in Biddeford, located on Route 111 near Maine Turnpike Exit 32 and the Commuter Service Park & Ride Lot in Saco, located on Industrial Park Road near Maine Turnpike Exit 36 to Downtown Portland.

- *UNE Nor'Easter & UNE Express Bus*

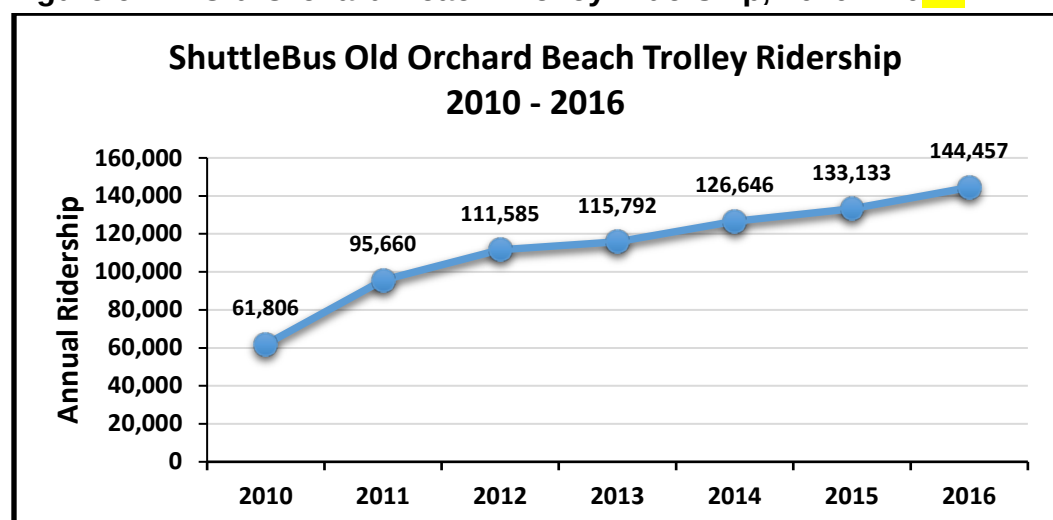
Provides bus service from the University of New England (UNE) to downtown Biddeford and Saco. Available to UNE students, faculty, staff, and the general public.

Figure 6-1 helps to illustrate the ridership of the ShuttleBus Local, ShuttleBus Intercity to Portland, ShuttleBus Zoom, and the UNE Nor'Easter / UNE Express routes in 2014 and 2015. All of the routes, with the exception of the ShuttleBus Zoom increased their ridership between 2014 and 2015. The total ridership increased by nearly 10% between 2014 and 2015.

Figure 6-1. ShuttleBus ZOOM Ridership, 20XX – 20XX

Source: ShuttleBus, 2015

ShuttleBus-ZOOM also operates a seasonal trolley service in both Old Orchard Beach and Saco. Figure 6-2 below helps to illustrate the ridership of the ShuttleBus Old Orchard Beach Trolley for the years 2010 – 2016. The ridership has increased each year since 2010, with an increase of nearly 134% between 2010 and 2016.

Figure 6-2: Old Orchard Beach Trolley Ridership, 2010 – 20XX

Source: ShuttleBus, 2016

Please refer to the *Public Transportation Routes* map (Map 6-X) to see these routes in map form.

For more information about ShuttleBus-Zoom visit their website:
www.shuttlebus-zoom.com

York County Community Action Corporation:

York County Community Action Corporation (YCCAC) provides scheduled and on-demand transportation services for eligible residents throughout York County. Programs include bus transportation to / from Biddeford along the Wave service. The Wave service links to the ShuttleBus Local and Zoom routes. Additionally YCACC provides service for shopping and medical appointments for York County residents on a weekly basis.

For more information about YCCAC visit their website:
www.yccac.org/index.php/programs/transportation

L. Existing and Proposed Marine and Rail Terminals in Biddeford

The primary boat launching sites (other than carry-in) in Biddeford are located at Rotary Park, Rumery's Boatyard, Marblehead, and Biddeford Pool Village. There are no proposed such facilities other than a carry-in canoe/kayak launch at Mechanics Park.

M. Public Ferry Service and Private Boat Transportation Support Facilities.

There no such facilities in Biddeford other than Rumery's Boatyard which provides boat manufacturing and maintenance services.

N. Passenger Rail

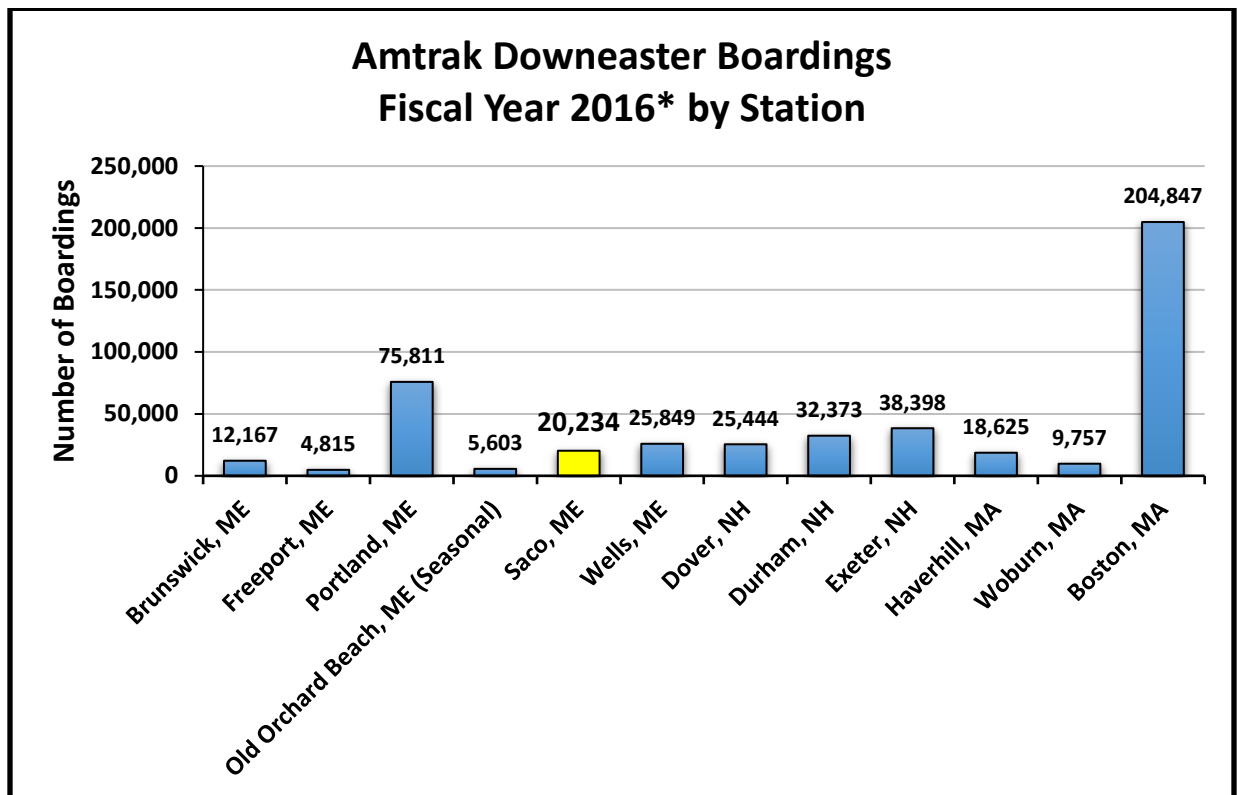
Amtrak Downeaster

The Amtrak Downeaster runs from Boston, Massachusetts to Brunswick, Maine. The train stops within walking distance of downtown Biddeford at the Saco Transportation Center located on Saco Island.

Amtrak Downeaster Station, Saco, Maine

Source: SMPDC Photograph, 2016

The Amtrak Downeaster provides five northbound and southbound passenger trains on a daily basis during the week and on the weekend. Figure 6-3 illustrates the number of boardings at each of the Amtrak Downeaster stations during Fiscal Year 2016. Saco had a total of 20,234 boardings during this time period.

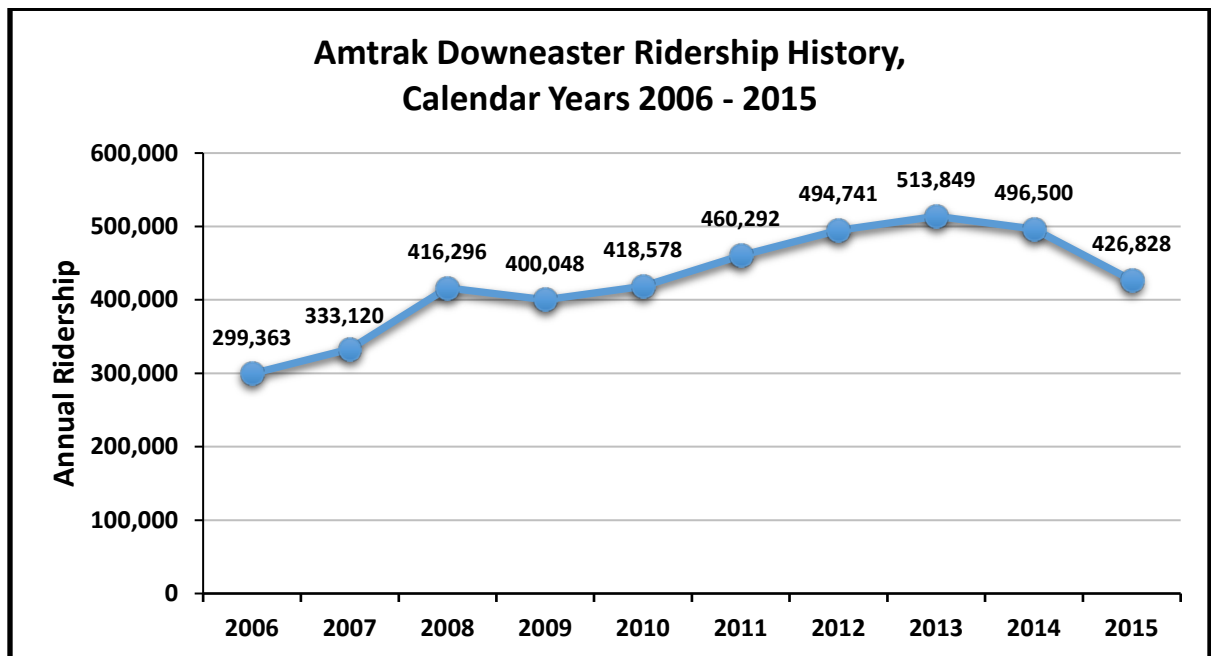
Figure 6-3: Amtrak Downeaster Boardings by Station, Fiscal Year 2016

Source: Northern New England Passenger Rail Authority, 2016

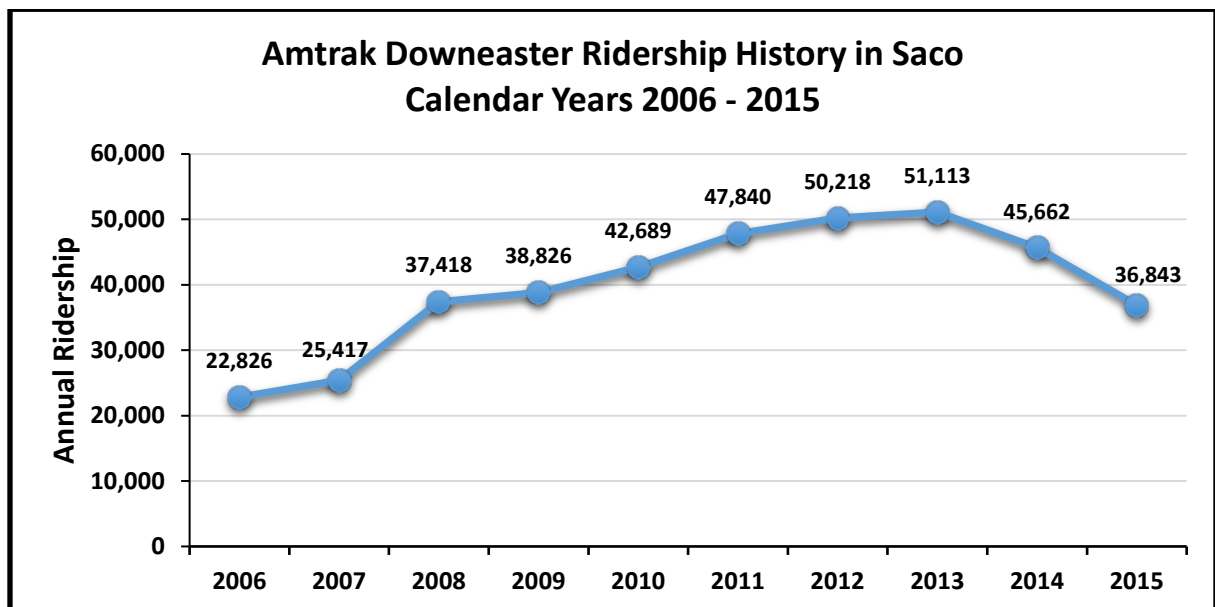
* **Note:** Fiscal Year 2016 is July 1, 2015 – June 30, 2016.

Figure 6-4 illustrates the Amtrak Downeaster's historical ridership between 2006 and 2015. 2013 had the highest ridership with 513,849 people boarding the train, while 2006 had the least ridership with 299,363 people riding the train. In 2015, there were 127,465 more boardings than in 2006.

Figure 6-5 illustrates the Amtrak Downeaster's historical ridership at the Saco station between 2006 and 2015. 2013 had the highest ridership with 50,113 people boarding the train, while 2006 had the least ridership with 22,123 boarding the train. In 2015, there were 14,720 more boardings than in 2006. Please note that there was a four month major maintenance project to replace ties in 2015 which impacted the ridership that year. During this four month project, all mid-day trains did not run.

Figure 6-4: Amtrak Downeaster Ridership, 2006-2015

Source: Northern New England Passenger Rail Authority, 2015

Figure 6-5: Amtrak Downeaster Ridership – Saco Station, 2006-2015

Source: Northern New England Passenger Rail Authority, 2015

Please refer to the *Location of the Saco Amtrak Downeaster Station* (Map 6-X) to see the location of the station in map form.

For more information about the Amtrak Downeaster visit their website:

www.amtrakdowneaster.com

O. Biddeford Municipal Airport.

From: <https://www.biddefordmaine.org/2246/Municipal-Airport>

The Biddeford Municipal Airport is a public use airport, owned and operated by the City of Biddeford. It is conveniently located within the Airport Industrial Park, less than three miles from downtown Biddeford and just two miles from the highway.



The airport has one airstrip; Runway 6/24 which is 3,011 feet long and 75 feet wide with instrument approach procedures for RWY 6, which consists of an RNAV (GPS) and VOR approach procedures. There are two aprons available for pilots to tie down and one hangar available for pilots to rent space, on a monthly basis, for their aircraft.

P. Biddeford RiverWalk

The Biddeford RiverWalk is an evolving project intended to connect Mechanics Park on Water Street to the Diamond Match Park project (future) and points west including the Eastern Trail. To date, the RiverWalk project connects Mechanics Park to the City of Saco via a concrete walkway 135 foot pedestrian bridge over the Saco River to Saco Island, thus connecting to Saco's RiverWalk. The RiverWalk also continues through the North Dam Mill complex to Laconia Plaza located on the Saco River. The City of Biddeford recently completed a master plan that conceptually lays out the future RiverWalk from Laconia Plaza to the

Diamond Match site via alternate routes along the river, with potential further connections to the City of Saco via two additional pedestrian bridges. In 2016 the City completed, with the assistance of Wright-Pierce Engineers, a RiverWalk Master Plan Update.

[Insert Map Here – Need latest from Wright-Pierce]

Update to discuss current status.

Q. Complete Streets

Mainers need streets that are safe and inviting for everyone. Our streets allow children to get to school and parents to get to work. They bring together neighbors and draw visitors to neighborhood stores. These streets ought to be designed for everyone, whether young or old, on foot or bicycle, in a car or in a bus, but too often they are designed primarily for motor vehicles. Communities across the State of Maine and the country are adopting complete streets policies that result in safer and more accessible streets for all users.

Complete Streets are designed and operated to enable safe access for all users: pedestrians, bicyclists, motorists, and public transportation users of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They also allow buses to run on time and make it safe for people to walk to and from train stations. Cities and towns in Maine, large or small, can begin building a safer and more welcoming street network by adopting a Complete Streets Policy and then ensuring its full implementation. So far, eight communities in Maine have adopted a local Complete Streets Policy.

A Complete Streets Policy does not dictate a one-size fits all approach. A Complete Street in a rural area will look quite different from one in an urban area. Both are designed to balance safety and convenience for everyone using the road. A Complete Street may include sidewalks, bike lanes, paved shoulders, comfortable and accessible bus stops, safe crosswalks, median islands, curb extensions (bump-outs), narrower travel lanes, and more.

By adopting a Complete Streets Policy, communities direct planners, engineers, and other professionals to routinely design and operate the entire right of way to enable safe access for all users, regardless of age, ability, or mode of transportation. This means that every transportation project will make the street

network better and safer for drivers, transit users, pedestrians, and bicyclists, making our community a better place to live and visit.

The following communities in Maine have adopted a Complete Streets Policy:

- Portland
- Lewiston
- Auburn
- Bath
- Fort Kent
- Cape Elizabeth
- Windham
- Scarborough
- Yarmouth

A comprehensive Complete Streets Policy should:

- Include a vision for how & why the community wants to complete its streets
- Specify all users to include pedestrians, bicyclists and transit passengers of all ages and abilities, as well as trucks, buses, and automobiles
- Apply to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right of way
- Make specific exceptions and sets a clear procedure that requires high-level approval of exceptions
- Encourage street connectivity and aim to create a comprehensive, integrated, connected network for all modes of transportation
- Be understood by all agencies to cover all roads
- Direct the use of the latest and best design guidelines while recognizing the need for flexibility in balancing user needs
- Direct that Complete Streets solutions will complement the context of the community
- Establish performance standards with measureable outcomes
- Include specific next steps for implementation of the policy

Examples of Complete Streets in Southern Maine



Main Street, Downtown Saco



Main Street, Downtown Ogunquit



Route 1, South Portland



Route 1, South Portland



Main Street, Downtown Kennebunk



Forest Avenue, Portland

2. What does it mean for Biddeford? (Analyses)

A. Significant Transportation System Concerns Affecting Biddeford and Plans in Place to Mitigate Those Concerns.

- Intersection issues, being congestion and/or safety related, exist at the following locations:
 - o Exit 32, primarily traffic heading east onto the Turnpike and existing traffic from the turnpike, primarily heading west on Route 111
 - o Precourt Street and Route 1 (Elm Street), especially traffic heading north on Elm Street and turning left onto Precourt Street.
 - o Five Points Intersection (all directions)
 - o Main Street and Route 1 (Elm Street), primarily traffic on Route 1 and pedestrian traffic in and around the intersection.
 - o Main Street and the Lincoln Street/Adams Street Intersection, primarily speed related on Main Street and back-ups on Lincoln Street.
 - o Main Street and the Alfred Street Intersection, especially for pedestrians and left-turning traffic from Alfred Street onto Main Street.
 - o Main/Hill/Adams Street Intersection, primarily traffic on Water Street turning left onto Main Street and traffic on Main Street turning left onto either Water Street or Hill Street.
- Continued vehicular and pedestrian/bicycle conflicts remain in the Downtown, particularly on Main Street with in adequate visible crosswalks and a lack of traffic calming.
- The Eastern Trail is an asset to the City of Biddeford and regional bicycle travelers. It continues to present a significant problem (safety and a deterrent for use) between Thornton Academy in Saco and Southern Main Health Care in Biddeford where the Eastern Trail travels on-road. This is especially the case where the trail route diverts onto Route 1 between Lincoln Street in Saco and Main Street in Biddeford.
- With continued redevelopment of the Mill District continued transportation improvements (vehicular, transit, bicycle, and

pedestrian), need to continue to be developed. Access, for example, from the 3 Lincoln Street area to Saco Island and the Amtrak Station remains a challenge that needs to be explored. Further, connections to Exit 32 and 36 from the Mill District and Downtown need to be planned for and implemented, both for automobiles and improved transit service.

B. Major Conflicts Between State Highways and Local Roads.

One of the largest challenges between local roads and State highways is between Main Street and Route 1 (Elm Street) and Route 111 (Alfred Street). Although Main Street is a local street, it operates much as a thoroughfare for travelers through Biddeford to and from Saco and points beyond.

C. Sidewalks.

- The sidewalk network in the built areas of Biddeford is well connected, although in poor condition in many places.
- Americans with Disabilities act compliance is also lacking in many areas.
- Many newer residential developments are required to only provide a sidewalk on one side of a road, which although does provide pedestrian access off the vehicular travel lane, is not necessarily ideal.
- There is a significant gap in pedestrian facilities from the Turnpike Exit 32 to the Shops at Biddeford Crossing. Route 1 (Elm Street) south of the Connector also lacks any pedestrian facilities.
- Sidewalks in Downtown have been, and continue to be, a focus of incremental sidewalk improvements:
 - o Improvements have already completed on Main Street from Main/Hill/Water to Lincoln/Adams Street.
 - o Plans are in place to continue these improvements from Lincoln/Adams Street through to Elm Street (Route 1) in the next couple of years.
 - o Lincoln Street is currently under construction and includes sidewalk improvements from Main Street to Saco Falls Way.
 - o There are no current plans for any other sidewalk improvements Downtown, although they are needed particularly on Alfred Street and Adams Street.

- D. How are walking and bicycling integrated into the community's transportation network (including access to schools, parks, and other community destinations)?

The sidewalk system in urban Biddeford is fairly well established with sidewalks connecting all public schools with many in-town residential neighborhoods. Bicycling not so much, aside from the discouraged use of sidewalks for bicyclists and narrow paved shoulders, there are no real on-road bicycle facilities to speak of, such as dedicated bike lanes.

- E. How do state and regional transportation plans relate to your community?

Biddeford, as well as Saco, have focused on the concept that there are three pillars related to the transportation network that directly relates to growth and development. These three pillars connect Exit 32, Exit 36, and the Mill District. Numerous studies and plans have been developed over time, either by State agencies, PACTS/SMPDC, Biddeford-Saco-Old Orchard Beach Transit, and the two communities emphasizing these pillars regarding transportation network improvements.

- F. What is the community's current and approximate future budget for road maintenance and improvement?

The Fiscal Year 2019 (FY19) Capital Paving Program for the City of Biddeford allots only \$1.5 Million. The future allocations do not change for the following four (4) FY's through FY23. Specific road improvement allocations in Grnait Point Road (FY19 - \$730,000) and Route 1 (FY20 - \$500,000).

- G. Are there parking issues in the community? If so what are they?

There is a perception of parking issues in the Downtown area as the Downtown and Mill District continue to redevelop, although there is parking availability current both at night and during daytimes (see DRAFT Parking Management Plan completed by the City of Biddeford in August 2018 which reflects a point-in-time inventory of parking). With the District Courthouse leaving Downtown in the next couple of years, parking dynamics will likely change. So too will the parking perception change if the City moves forward with the construction of a parking garage at the 3 Lincoln Street site.

- H. If there are parking standards, do they discourage development in village or downtown areas?

The existing off-street parking were designed to require reasonable off-street parking be provided in the downtown for development projects. They are also designed with flexibility in mind, allowing for exceptions to the suburban standards for parking where the need may not exist and where available alternatives exist (such as nearby off-street parking). The flexibility built in to urban parking standards such as those that currently exists in Biddeford has been a source of contention of late with some Elected Officials, so much so that the City Council in 2018 enacted a moratorium prohibiting development projects from obtaining waivers for off-street parking. The flexible standards should, however, remain in place to allow development in an urban area to continued unhindered by the decades old suburban parking standards currently in place.

- I. Do available transit services meet the current and foreseeable needs of community residents? If transit services are not adequate, how will the community address the needs?

Transit services are currently not at capacity (i.e., the busses are not full), but need to be realigned to meet existing and future needs. The Shuttlebus-ZOOM system is preparing to launch a new “pulse” system in Summer 2019 where all local routes will begin and end at the Saco Transportation Center.

- J. If the community hosts or abuts any public airports, what coordination has been undertaken to ensure that required airspace is protected now and in the future? How does the community coordinate with the owner(s) of private airports?

The Biddeford Municipal Airport is the only airport in Biddeford. There is no private airport in Biddeford. Coordination of airport needs is through the Airport Manager and through the implementation of the most recently adopted Airport Master Plan. The last Airport Master Plan was completed in 2005 and is still being implemented, although its implementation is close to completion. Upon completion a new Airport Master Plan effort should be undertaken.

K. Land-side or water-side transportation facilities needs.

See the Recreation and Marine Resources sections of this plan (Sections 8 and 12 respectively).

L. Local access management and/or traffic permitting measures.

The City of Biddeford does not issue traffic permits except in a de facto way through the course of development review by the Planning Board. Chapter 62 of the Biddeford Code of Ordinances governs “Streets, Sidewalks, and Other Public Places”, which although does not refer to “access management”, does contain access limitations for curb cuts on public roads.

M. Local road design standards and Biddeford’s desired land use pattern.

The local land use pattern in Biddeford is more reflective of the zoning than the road design standards. The standards do not necessarily require interconnectivity of roadways and encourages dead-end road designs. This is an issue that should be explored based on Biddeford’s desired future land use pattern.

N. Local road design standards and bicycle and pedestrian transportation.

The local road design requirements govern the standards (design and construction) that apply to proposed public and private streets. They are primarily vehicle oriented, except that a sidewalk is required for any public street (regardless of the number of lots served) or any private street if the private street serves more than 10 lots. For a public street, the requirement can be waived by the City Council prior to acceptance.

Private streets serving 10 or more lots also need a sidewalk on one side of the street.

There are no specific provisions for bicycles in the design standards for public or private streets.

A Complete Streets Policy for Biddeford should be developed and adopted by the City Council.

O. Dead end streets and compact land use design.

The cluster subdivision ordinances are the only provisions that are meant to encourage more compact subdivision design, although in many cases do exactly the opposite. They do the opposite by encouraging longer winding, and more expansive roads that would otherwise be necessary. They standards should be re-written to provide density bonuses for projects that meet certain subdivision design goals, and as such, encourage better design in the long term.

3. What do we want to do about it?

A. Goals:

1. To plan for, finance and develop an efficient system of public facilities and services to accommodate Biddeford's anticipated growth, economic development, and changing demographics.

B. Policies and Strategies (who should do it; when):

Policy 1: To prioritize community and regional needs associated with safe, efficient, and optimal use of transportation systems.

Strategy 1a: Initiate or actively participate in regional and state transportation efforts through Maine Department of Transportation (MaineDOT), Portland Area Comprehensive Transportation Areas System (PACTS), Southern Maine Planning and Development Commission, Biddeford-Saco-Old Orchard Beach Transit, Easter Trail Management District, Northern New England Passenger Rail Association, and other appropriate agencies.

Policy 2: To safely and efficiently preserve or improve the transportation system.

Strategy 2a: Maintain inventory of existing streets and their status. (Ongoing)

Strategy 2b: Continue to update and maintain the City's Capital Improvement Program (CIP) related to public expenditures on the City's transportation network.

Policy 3: To promote public health, protect natural and cultural resources, and enhance livability by managing land use in ways that maximize the efficiency of the transportation system and minimize increases in vehicle miles traveled.

Strategy 3a: Maintain, enact or amend ordinance standards for subdivisions and for public and private roads as appropriate to foster transportation-efficient growth patterns and provide for future street and transit connections.

Policy 4: To meet the diverse transportation needs of residents (including children, the elderly and disabled) and through travelers by providing a safe, efficient, and adequate transportation network for all types of users (motor vehicles, pedestrians, bicyclists).

Strategy 4a: Maintain, enact or amend local ordinances as appropriate to address multi-modal transportation demands and needs, or avoid conflicts with:

- a. Policy objectives of the Sensible Transportation Policy Act (23 M.R.S.A. §73);
- b. State access management regulations pursuant to 23 M.R.S.A. §704; and
- c. State traffic permitting regulations for large developments pursuant to 23 M.R.S.A. §704-A.

Strategy 4b: Adopt a Complete Streets Policy for Biddeford.

Policy 5: To promote fiscal prudence by maximizing the efficiency of the state or state-aid highway network.

Strategy 5a:

Policy 6: The City shall aim to maximize parking efficiency within the City without compromising safety or maintenance efforts.

Strategy 6a: Maintain, and adjust as necessary, the City's Parking Demand Management strategy (On-going).

Policy 7: The City shall aim to maintain the existing level of service and facilities at the Municipal Airport.

Strategy 7a: Upon completion of the implementation of the 2005 Airport Master Plan the City should begin development of the next Airport Master Plan Update.

SECTION 7: PUBLIC FACILITIES AND SERVICES

“We never know the worth of water, till the well is dry.” *Thomas Fuller, Gnomolgia: Adagies and Proverbs. 5451. 1732.*

1. What is happening?

A. Public Water Supply:

There are approximately 6,160 customers in Biddeford that are served by Public Water Supplies from either Maine Water (formerly the Biddeford and Saco Water Company) or by the Kennebunk, Kennebunkport and Wells (KKW) Water District. A map of the City's water supply systems is included as **Map 7-X**.

1. *Maine Water:*

Maine Water (formerly the Biddeford and Saco Water Company) was established by Legislative Charter in the early 1980's. The system consists of a treatment plant, pump stations, distribution lines, fire hydrants, standpipes and a storage reservoir. In 2017 Maine Water constructed a new water supply facility south of South Street in Biddeford.

According to its website (www.mainewater.com) Maine Water supplies water to approximately 32,000 customers in Maine. This includes approximately 5,530 customers in Biddeford. “Customers” represent account holders. Since account holders may include one entity which has within it multiple-tenants, it does not represent total number of “units” served by Maine Water.

Table 7-1: Maine Water District Customers in Biddeford.

	# of Annual Customers (Accounts)
Residential Customers (Accounts)	4,548
Commercial Customers (Accounts)	983
Total Customers	5,531

Source: *Maine Water, Customer Service Supervisor, July 2018*

The website reports the following information regarding Maine Water:

Table 7-2. Maine Water Service Information.

Information	Numbers
Water Customers	32,000
Water Treatment Facilities	11
Wells	14
Miles of Water Main	544
Public Water Systems (PWSIDs)	12
Employees	70

Source: Maine Water: www.mainewater.com, May 2018.

Maine Water obtains its water from the Saco River. The two water intakes are located approximately 1 1/2 miles upstream from the dams in Biddeford and Saco. The Maine Water treatment plant is located approximately 1 1/2 miles west of the center of Downtown Biddeford. It was built in 1884, modernized in 1936, and has been continually updated since that time.

2. Kennebunk, Kennebunkport and Wells Water District:

The Kennebunk, Kennebunkport and Wells Water District (KKWWD) was established in 1921 by the Maine Legislature. The District obtains its water from the Branch Brook in Kennebunk. The quantity of water which can be obtained from Branch Brook is limited and in the 1980's KKWWD installed a new line from Kennebunk to Biddeford. This enabled KKWWD to be able to bulk purchase treated water from Maine Water in times of peak water demand.

As of May 2018, KKWWD provided water to six-hundred and thirty-five (635) Biddeford customers ranging from Timber Point to Biddeford Pool (See Table X). Of the 635 customers, 612 are residential customers and 23 are commercial customers.

KKWD service area is limited by charter and policy to the land areas east of Route 9.

Table 7-3. KKW Water District Customers.

	# of Annual Customers	# of Seasonal Customers
Residential Customers	390	222
Commercial Customers	9	14
Total Customers	399	236

Source: KKW Water District, Front Office Supervisor, May 17, 2018

B. Sewerage:

1. City of Biddeford Public Sewer:

The Wastewater Division within the Department of Public Works is responsible for collection and treatment of wastewater within the City of Biddeford (with the exception of the University of New England which has its own Wastewater collection system and treatment plant and private septic systems). The Wastewater Division is responsible for the Water Street Treatment Facility, Combined Sewer Overflow (CSO) Tank, Biddeford Pool Stone Cliff Road Wastewater Treatment Facility, 24 wastewater pumpstations, seven (7) combined sewer overflows, over 200,000 feet (37 miles) of sanitary sewer lines and combined sewer/stormwater lines.

In the mid 1960's, the City created a Sewer Commission and charged it with the oversight of the sewer department and sewer issues. This commission was active for a short time and then became inactive for many years. In 1990, the City Council reactivated the Board and changed its name to the Wastewater Management Commission (WWMC).

The City privatized the operation and maintenance of the wastewater treatment facilities in November 1991. In 2011 the City of Biddeford reassumed full responsibility for the operation and maintenance of the wastewater treatment facilities.

The geographical service area of coverage and location of City of Biddeford Wastewater Treatment is shown on **Map in Appendix XX**. According to the *Maine Department of Environmental Protection Annual Report for 2017* the following characterizes the City's Wastewater and Combined Sewer System:

Table 7-4. City of Biddeford Wastewater and Combined Sewer System Characteristics:

Current sewered population:	15,000
Current number of residential users (connections to sewer):	4,089
Current number of commercial/industrial users (connections to sewer):	460
Current number of Combined Sewer Overflow (CSO) locations:	7
Total sewer footage (feet):	209,000
Current total combined sewer footage (feet):	124,773
Current percentage of combined sewer to total sewer (%):	59.7

Source: *Maine Department of Environmental Protection Annual Report for 2017*

Water Street Wastewater Treatment Facility:

The City's treatment plant on Water Street was originally constructed in 1964. The plant was designed for a treatment capacity of 2.64 million gallons per day (MGD) and provides secondary treatment with an activated sludge process. **It's current capacity is XXXXX MGD. The Water Street Treatment Plant currently serves 15,000 customers, 4,080 of which are residential and approximately 300 of which are non-residential. Approximately XX,XXX households are served by public sewer of which's sewerage is treated at the Water Street Treatment Plant.**

Prior to the design and construction of a significant upgrades to the Water Street Treatment Plant in the late 1990's it was identified that the existing plant received flow well above its intended capacity. Using historical flow data future flows and loadings were anticipated to accommodate future anticipated residential and non-residential over the next twenty years. This analysis formed the basis for the design of the upgrades to the Water Street Treatment Plant.

During the fall of 1996, the City requested bids for the construction of a treatment plant upgrade as defined in the Final Facilities Plan and Construction Documents. Construction of the upgrade was completed in the in the fall of 1999.

Since then the City has installed a press, additional screens, blowers, and sludge mixing equipment.

Biddeford Pool (Stonecliff Road) Wastewater Treatment Facility:

The City's treatment plant on Stonecliff Road was constructed in 1989. The plant was designed for 30,000 gallons per day (GPD) and provides secondary treatment with a Rotating Biological Contractor (RBC). In conjunction with the construction of the Stonecliff Road Treatment Plant

the City constructed a new sanitary sewer collection system in the village area of Biddeford Pool. The RBC plant receives flow from this new sanitary collection system. There is a separate storm drainage system which collects street runoff water and discharges it directly to the ocean waters. The activated sludge is transported to the treatment plant on Water Street for processing.

The current volume of dry weather flow received at the RBC plant is well under its design capacity for biological treatment. Seasonal fluctuations in residential population in the Biddeford Pool area accounts for corresponding variations in flows received at the RBC plant. During the periods of heaviest residential population the plant receives flows that are approximately 60% of its design capacity. The condition of the plant is good and its performance has been excellent, consistently meeting permit requirements.

Pump Stations:

The City owns and is responsible for 24 pump stations located throughout the City. These stations collect and pump wastewater to the treatment plant sites from areas which cannot be served by gravity sewers. Many of these stations were originally built in the early 1960's when the Water Street Treatment Plant was constructed. Starting in the 1990's the City began replacing older pump stations based on an established schedule.

Others have been built since that time as part of Industrial Park Developments, residential subdivision development, and through extensions of the sanitary sewer system. The City of Biddeford is responsible for the operation and maintenance of these pump stations. The following is a listing of City pump stations:

Table 7-5. City of Biddeford Pump Stations.

Lift/Pump Stations Locations
Airport Industrial Park
Bernard Avenue
Biddeford Textile
FMI Pump Station (Industrial Park North)
SHAPE
Former Nissen Bakery

Home Depot
Thatcher Brook
Ponderosa Lane
Parkside Drive #1
Parkside Drive #2
Winding Creek
Granite Street North
Granite Street South
Horrigan's Court
Lafayette Street
Main Street
Maple Street
Marcel Avenue
Marmont Pump Station (Industrial Park South)
Staples Street
Treatment Plant
Webber Hospital (SMMC)
Yates Street

Source: *City of Biddeford Wastewater Department, August 2018.*

Collection System:

The City's collection system for wastewater is made up of sanitary sewers and combined sewers. Sanitary sewers carry only wastewater. Combined sewers carry wastewater and stormwater. The City's collection system is separated into two separate systems, one serving the central urban area discharging into the Water Street treatment plant and one serving the village area of Biddeford Pool discharging into the Stonecliff Road treatment plant. The City is responsible for the operation and maintenance of the City collection system.

Much of the collection system remains quite old and requires considerable maintenance to insure operability and to minimize impacts on other facilities such as the road surface above the system.

The Biddeford Pool sewer system is comprised of separate sanitary sewers which discharge into the Stone Cliff Road treatment plant. Until 1989, the system was an old combined system built from the 1800's on with discharges into the ocean. In 1989 the City constructed a new sanitary sewer collection system and turned the old system into a storm drain system. There is approximately 8,800 linear feet of sanitary sewers in this system.

2. *The University of New England (UNE) Treatment Plant off Hills Beach Road:*

University of New England Treatment Plant, Hills Beach Road The University of New England (UNE) constructed its own treatment plant in 1990. The plant is located on the UNE campus and serves the University's various facilities exclusively. The plant's operation and maintenance requirements are the responsibility of the University. The plant effluent is discharged to the Saco River. Sludge from the plant is transported to the City's Water Street treatment plant for processing. The plant is licensed and monitored by the Maine DEP and the United States EPA Region 1.

C. Solid Waste:

1. Municipal Solid Waste (i.e., "trash"):

From 1987 through 2013 municipal solid waste (MSW) in Biddeford was disposed of at Maine Energy Recovery Company (MERC) which was located at 3 Lincoln Street in Downtown Biddeford. In 2013 MERC was closed through a negotiated deal with the City of Biddeford. Since MERC's closure, the City of Biddeford has disposed of its solid waste (other than recycling) through the Casella Transfer Station in Westbrook, ME. The City of Biddeford still pick picks up the MSW curbside at qualifying properties defined as:

1. All single family residential properties;
2. All residential properties with apartment buildings having 5 or less units; and
3. Grandfather commercial apartment buildings.

To be grandfathered the following two (2) conditions must be met:

1. The City was picking up solid waste (trash) at that property prior to July 1, 2013; and
2. The property is still owned by the same owner that owned it on July 1, 2002

Upon a change in ownership, the grandfathered status of qualifying properties is lost and the City will no longer service that property.

Also in 2013 the City engaged Casella and implemented a curbside zero-sort recycling program throughout Biddeford. Between 2013 to current solid waste tonnage has significantly decreased as recycling tonnage has increased (see Figure X and Table X below).

2. Recycling:

Before 2013, Biddeford's recycling center was only located at the Department of Public Works on 371 Hill Street in the Airport Industrial Park. It was a drop-off, volunteer program that operated seven days a week from 7 am to 5 pm, Monday through Friday and 8am-4 pm, Saturday and Sunday. In 1994, 35.7% of the total municipal solid waste (MSW) stream was recycled by the City of Biddeford. The following items were eligible for recycling: green, clear and brown glass, newsprint, office and computer paper, cardboard, corrugated cardboard, aluminum, tin, #1, #2 and #3 plastics, scrap metal, motor oil, leaves, christmas trees and small shrubs, bushes and tree limbs.

In 2013 the City engaged Casella and implemented a curbside zero-sort recycling program throughout Biddeford.

Acceptable recyclables for the zero-sort curbside recycling program (blue recycling containers) include:

- | | |
|-----------------------------|----------------------------|
| • Newspaper | • Catalogs |
| • Glossy inserts | • Office paper |
| • Magazines | • Wet-strength paper board |
| • Telephone books | • Milk / juice cartons |
| • Junk mail | • Brown paper bags |
| • Tissue paper | • Aluminum containers |
| • Cardboard and paper board | |
| • Glass | |
| • Plastics #1-7 | |
| • Aluminum cans | |
| • Bi-metal cans | |
| • Unmarked rigid plastics | |

Need to discuss the most recent issues with contamination.

The City of Biddeford still operates the Recycling Center and Transfer Station at 371 Hill Street. Materials accepted there include the following:

- Cardboard
- Newspaper
- Milk jugs
- Office paper
- Plastics #1 & #2
- Tin cans
- Metal
- Batteries
- Brush
- Leaves
- Grass clippings
- Motor oil
- Tires
- Furniture
- Bulky waste
- Carpeting
- Mattresses
- Wood debris
- Televisions
- Computers
- Computer monitors
- Computer accessories.

The City also had a curbside leaf collection for residents that is done for one week in November. The leaves are taken to the local landfill for leaf composting.

3. Household Hazardous Waste:

Household Hazardous Waste (HHW) in Biddeford is collected and disposed of through an HHW Day at the Department of Public Works yard at 371 Hill Street. This annual event is typically offered in September of every year. Biddeford residents can also dispose of HHW at through HHW days held in Saco, Scarborough, and Old Orchard Beach.

Accepted HHW:

Unneeded household hazardous waste in sealed containers (use original containers when possible), including the following:

- Oil Paints
- Stains, Thinners & Strippers
- Solvents & Varnishes
- Adhesives, Glues, Resins
- Waste Fuels (Kerosene, Gasoline)
- Engine Degreaser, Brake Fluid
- Transmission Fluid
- Poisons, Insecticides, Weed Killers
- Wood Preservatives
- Hobby Supplies, Artist Supplies
- Photo Chemicals, Chemistry Sets
- Cleaners, Spot Removers
- Swimming Pool Chemicals
- Dry Cell Batteries
- Aerosol Cans
- Pesticides
- Nicad Batteries
- Hearing Aid (Button) Batteries
- Driveway sealer
- PCB ballasts
- Asbestos

Unacceptable HHW:

- Latex Paint – dry and throw away
- Unknown Compressed Gas Cylinders
- Ammunition, Fireworks, Explosives
- Prescription Medicines/Syringes
- Infectious & Biological Waste
- Radioactive Waste

In 2017 the following HHW was collected and transported out of Biddeford for disposal:

- Over 300 gallons of Liquids/Solids
- 169 Compact Fluorescent Lamps for Recycling
- 3,296 Lamps/Foot for Recycling
- 1 Circline Lamp for Recycling

D. Stormwater Management

Stormwater Management issues within the City are not restricted to a specific geographic area of the City but are found city-wide. Stormwater management efforts for the City are under the direction of the Manager of City Services. The Engineering, Wastewater, and Public Works Departments are responsible for the implementation of stormwater management practices, as directed by the Manager of City Services.

Planning, design work, inspections, reviews, and technical analysis of stormwater management issues are efforts performed by the Engineering Department. The maintenance and repair of stormwater management facilities is the responsibility of the Public Works and Wastewater Departments. Other City Departments play vital roles in the City's stormwater management practices. The Planning Office reviews proposed development in the City. The Police, Fire, and Emergency Management Departments are vital during times of public emergencies related to stormwater. The Code Enforcement Department enforces laws and regulations as they relate to stormwater management. Compliance with regulatory requirements and permits is the responsibility of the Manager of City Services.

The City's existing stormwater management facilities consist of combined sewer/combined sewer overflows (CSO), storm drains, catchbasins/field inlets, culverts, ditches, and drainageways. The central urban area between the Maine Turnpike and West Brook contains all of these facilities. The rural areas to the East and West of the central urban area contain storm drains, catch basins/field inlets, culverts, ditches and drainageways but do not contain any combined sewers/CSO.

Combined Sewers & Combined Sewer Overflows:

Combine sewers transport wastewater and stormwater either directly to the wastewater treatment plant on Water Street or to a lift station which then pumps the wastewater and stormwater to the Water Street treatment plant. Combined sewers are the oldest portions of the collection system and generally service the older sections of the central urban area. There are approximately 150,682 linear feet of combined sewers in the City. Combined sewer systems have "relief" points which discharge combined sewerage directly to the receiving stream or river during wet weather events. These "relief" points are called Combined Sewer Overflows (CSO). There are 14

licensed CSOs discharge points in the City. Table 5-2 provides a listing of the CSO discharge points.

The City is presently working with the Maine DEP and the U. S. EPA, Region 1, on the implementation of a CSO Master Plan which defines the City's plan for addressing stormwater management issues as they relate to CSO activity in the central urban area. The central urban area has been undergoing a series of sewer separation projects since the early 1980's. These projects have been accomplished as part of the Community Development Block Grants (CDBG) as well as local funds earmarked for CSO work. As of 1996, approximately 25% of the combined system has been separated (this is reflected in the linear footage of combined sewers identified above).

These separated areas contain storm drains which keep the stormwater separated from the wastewater and discharge independently of the City's sanitary and combined sewer system. This serves the purpose of reducing CSO activity as well as adding capacity at the Water Street treatment plant. Since 1990, the City has implemented nine separation projects which have removed 2,067,207 GPD of stormwater from the combined sewer system, based upon a three month storm. The three month storm being the basis for determining removal quantities as defined by the EPA and DEP. The City has four remaining separation projects to be implemented within its CSO program. These are scheduled for completion on a sequential basis between now and the year 2000. These projects are projected to remove an additional 1,610,000 GPD of stormwater from the combined sewer system. The City's CSO Master Plan also calls for a two million gallon (MG) CSO Storage Tank to be constructed at the White's Wharf CSO location. This tank will capture CSO activity at that location and pump it back up to the Water Street treatment plant after the conclusion of the wet weather event which causes the CSO activity. This tank is scheduled for construction during 1997 as it is also a regulating factor for the flows to the Water Street treatment plant both during construction of the upgrade of that plant as well as after its completion.

In 1997 the City will implement a system wide CSO Compliance Monitoring Program. This program will monitor and record CSO activity, combined sewer system flows, volumes, and precipitation data. The data will be utilized in the calibration of a SWMM: model of the City's combined and sanitary sewer systems. The SWMM: model will then be used to define any future CSO projects that may be required for the control of CSO activity and stormwater management.

These projects may range from separation projects to additional storage tank projects. It is anticipated that storage tanks will be required at the Horrigan Court, Bradbury, and Rumery's CSO locations. The monitoring data will give the City approximately four years of real data on which to base any future decisions. The following is a list of CSO locations:

Table 7-6. Combined Sewer Overflows (CSOs), 2018.

Combined Sewer Overflows (CSOs) - 2018	Environmental Protection Agency Number	Receiving Waters
Bradbury Street	004	Saco River
Western Avenue	005	Saco River
Horrigan Court	006	Saco River
Route One	007	Saco River
Water Street Treatment Plant	009	Saco River
Rumery's Boatyard	013	Saco River
Lafayette Street Pump Station	014	Saco River

Source: City of Biddeford Wastewater Department, August 2018.

Storm Drains:

There are approximately 45,000 linear feet of storm drains within the City. Storms drains transport stormwater directly to a discharge point at a receiving river, stream, brook, ditch, drainageway, wetland, swamp, marsh, or pond. Presently, these discharge points are allowed by the regulatory agencies. However, there has been talk for some time that the regulatory agencies would be requiring the treatment of stormwater prior to its discharge to the receiving water. The City is incorporating this potential future requirement within its design of new storm drain systems so that the installation of treatment facilities can be effectuated in the most efficient manner when and if it becomes feasible and/or the requirements become law.

Catchbasins:

There are over 1,400 documented catchbasins that are owned by, and are the responsibility of, the City of Biddeford. Catchbasins collect stormwater

from street surfaces, parking lots, paved areas, lawn areas, ditches, and drainageways and transport that storm water to the storm drains or combined sewers, whichever is in the immediate area.

Culverts:

Culverts allow the passage of stormwater through developed areas and across roadways and other features for drainage purposes. There are approximately 220 culverts which are owned by, and the responsibility of, the City of Biddeford. This represents an increase of approximately 70 culverts since year 2000. The Maine Department of Transportation (MDOT) has responsibility for culverts located outside the MDOT Compact lines. Biddeford is serviced by Division 6 of MDOT with its headquarters located in Scarborough. Driveway culverts are the responsibility of the property owner served by the culvert as established within the Code of Ordinances of the City.

Ditches and Drainageways:

Ditches and drainageways transport stormwater in an open channel to a discharge point at a receiving catch basin/field inlet, river, stream, brook, wetland, swamp, marsh, or pond. The City has numerous ditches and drainageways to control stormwater. The majority of these are located outside the central urban area. Most are to control runoff of stormwater from road surfaces and developed areas.

E. Project Canopy:

The Project Canopy Committee aims to promote and enhance the quality of life for citizens of Biddeford through an appreciation and knowledge of the value of trees in an urban landscape ecosystem. Its purpose is “to promote and enhance the quality of life by planting trees along our streets, in our parks, in our neighborhoods and developing new green space.” The Project Canopy Committee has an annual budget of \$5,000. The maintenance of all street trees falls under the purview of the Department of Public Works, Parks Maintenance Division.

F. Public Safety

1. Fire and Emergency Rescue:

Central (Alfred Street) Fire Station:

Fire protection in Biddeford is provided by the Central Fire Station. The station was built and completed in September 1990 and is located at 152 Alfred Street. It is manned 24 hours a day. There is a call force sub-station at Biddeford Pool. The Central Fire Station provides fire, EMS, and specialty rescue services to the community on a 24 hour basis.

In FY 2017, the Fire Department operated with an annual budget of 4.8 million dollars. There are 43 full-time firefighters, including a Chief, Assistant Chief, Deputy Chief and an Officer Manager. All full-time firefighters are cross trained on both fire and EMS, 31 of our members are paramedics. Career personnel are split over four separate shifts.

Central Station also has a call force Division with twenty two call-force firefighters and four support positions to include a Chaplin, museum curator, Medical Director and a photographer. Some of these members are paid call firefighters and some of them are volunteer.

All fire, ambulance, rescue and emergency calls are received by the 911 Dispatcher located at the Biddeford Police Station. The average response time to in town incidents from Central Station is about 4 minutes, although we have response times to some areas of the city that are 10 to 14 minutes.

The City has automatic aid agreements with Old Orchard Beach, Goodwin Mills, Scarborough, Saco, Arundel and Kennebunkport. Additionally the department has mutual aid agreements with other communities within the county and with Emergency Management.

In 2017, the City of Biddeford Fire Department responded to 5,368 emergencies. In addition, the responsibilities of the Department include public education lectures, fire prevention details, inspections of commercial structures, and review of proposed construction plans. Additionally, we also have a Fire Investigation Team, Fire-Setter Program for juveniles, Technical Rescue Team, and a Peer Support Team.

In 2013, the Insurance Services Office (ISO), located in Massachusetts, evaluated Biddeford's overall fire protection system according to the Grading Schedule for Municipal Fire Protection. The grading system is based on the City's Fire Department and water resources. ISO uses a scale of 1- 10 with 1 being the best rating and 10 being the worst. Biddeford's current ISO rating is a 2 - 8/B.

Biddeford Pool Station:

The Biddeford Pool Call Force operate a 3-bay substation at Biddeford Pool. A Biddeford Pool sub-station was first established by the Tiger Company about 1910 as an 11-volunteer fire company to provide fire protection services to the Biddeford Pool area. The impetus for the formation of the company and the continuation of the Volunteers was the slow response time from the Central Station. Currently the City of Biddeford owns the land and the Biddeford Pool Association owns the building. During the past years, the City has given Biddeford Pool several trucks and pays call force salaries for the members. Alarms turned in at the Pool sub-station are also received at the central Dispatch Center (911). Units from Central Station respond to all incidents throughout the city. Currently the only apparatus at this station is a 1995 industrial style 1500 GPM class a pumper with 1,000 gallon water tank. This station has four members and is supervised by a District Chief.

Table 7-7. Biddeford Fire Department's Major Equipment, January 2018.

Year	Make	Assigned To/As	Type
2008	E-ONE	Central	Pumper
2008	E-ONE	Central	Pumper
2005	E-ONE	Central	Pumper
2003	Rescue 1	Central	Rescue
2013	E-ONE	Central	Aerial
1995	Central States	Biddeford Pool	Pumper
2017	PL Custom	Central	Ambulance
2016	PL Custom	Central	Ambulance
2012	PL Custom	Central	Ambulance

Source: City of Biddeford Fire Department, May 2018.

2. Police Department:

Note: Much of the following material is taken from, or paraphrased from, the Biddeford Police Department 2017 Annual Report which was released May 1, 2018.

Overview

Police protection in Biddeford is provided on a 24 hour basis by the Biddeford Police Department located at 39 Alfred Street. The Police Department is not only responsible for the general law enforcement function within Biddeford but also maintains, supervises and operates the Police, Fire and Emergency Services Communications Center. The Communication Center serves not only Biddeford Police, Fire and Emergency Services needs but also receives and transfers Saco's E-9111 calls and dispatches Fire and EMS for Alfred, Arundel, Dayton, Lyman, and Waterboro.

Police Staffing:

At the end of 2017, the Departments agency's authorized staffing totaled 78 positions. The actual headcount at the end of the year was comprised of 53 sworn positions and 25 non-sworn. Our sworn personnel averaged 12.4 years of BPD service and nonsworn averaged 9.7 years. The average age for sworn personnel was 43 and 41 for non-sworn. Sworn officers were 96% male and non-sworn employees were 56% female. During 2017, four officers graduated from the Maine Criminal Justice Academy and two employees were awaiting to begin the academy in January 2018. Of the two awaiting to begin the academy, one was a non-sworn female who will be joining the sworn ranks upon graduating in May of 2018.

During the year, employees collectively spent 5,200 hours training to maintain their applicable job required certifications and continuous development. Four new officers also spent a collective 2,880 hours at the Maine Criminal Justice Academy to attain their law enforcement certifications. Additionally, 5,065 hours were spent in Field Training Programs by a new dispatcher, new officers or experienced officers newly hire.

Organizational Structure:

The Biddeford Police Department is organized into 7 divisions: Communications and Records; Special Services; Patrol; Criminal Investigation; Street Crimes Unit; State and Federal Forces; and Information Technology.

Communications and Records is currently managed by Deputy Chief JoAnne Fisk and is responsible for Biddeford's communications, records management, and court processing. Biddeford is one of the twenty-six Public Safety Answering Points (PSAP) in Maine. The PSAP serves all of Biddeford's public safety departments and six other communities on a 24 hours a day and 7 days a week basis. The PSAP answers and transfers Saco's E-911 calls and dispatches Fire and EMS for Alfred, Arundel, Dayton, Lyman, and Waterboro.

Special Services is currently managed by Lieutenant Ricky Doyon and is responsible for the investigation of domestic violence, traffic and parking enforcement, crash reconstruction, school resource officers, professional standards and accreditation, training, recruitment, code enforcement liaison, grant administration, facilities management, and departmental safety.

Patrol is currently managed by Lieutenant Normand Allaire and is responsible for the overall protection of lives and property, maintaining law and order, and the responding to requests for emergency and non-emergency requests for service from our department.

Criminal Investigation is currently managed by Sergeant Philip Greenwood and has the responsibility to investigate, obtain information and evidence, and ultimately solve all major crimes within our community with the exception of homicide cases. Under Maine law, homicides are investigated by the Maine State Police, the Portland Police Department, or the Bangor Police Department.

Street Crimes Unit is currently managed by Sergeant Steven Gorton and is responsible for the proactive identification of criminal activity that has significant impact on our community's quality of life. SCU works closely with CID and the state and federal task forces. SCU's goal is to target criminal activity before a crime is reported and has the prime responsibility for our community policing strategy.

State and Federal Forces is currently managed by Sergeant Peter Mador and is a long term enforcement enhancement strategy employed by our department. As a service community, much of the criminal activity in Biddeford is linked to the broader statewide and New England wide activity. Departmental assignments to federal and state tasks forces increases the investigative horse power Biddeford has for these wider based crimes. Sergeant Mador is the supervisor of MDEA's District I which covers York County.

Information Technology is currently managed by William Gooch. It is a one person Department which also assists Information Technology located in City Hall.

Communications:

Biddeford's Communication Center is one of the twenty-six Public Safety Answering Points (PSAP) in the State of Maine. The Department is staffed with fifteen dispatchers and serves all of the public safety departments of Biddeford and the six other communities on a 24 hours a day and 7 days a week basis. The Biddeford PSAP staff answers and transfers Saco's E-911 calls and dispatches Fire and EMS for Alfred, Arundel, Dayton, Lyman, and Waterboro. The City of Biddeford receives \$253,000 annually from the other communities for this service.

During 2017, the total calls handled by the PSAP were 7% lower (49,882 calls) than in 2015 (53,347 calls) and 2016 (53,723 calls). As in prior years, PSAP calls were the heaviest during the 3:00 p.m. to 6:00 p.m. timeframe and the slowest call period was during the 10:00 p.m. to 7:00 a.m. period. With few exceptions, most of the communities saw a decline in the number of calls for services.

The PSAP executed Emergency Medical Dispatch (EMD) for roughly 5,100 calls during 2017; a slight increase over the number of calls in 2015 and 2016.

Calls for Police:

During 2017 the number of calls for police services in Biddeford declined by 11% compared to 2016. Calls originating from the public increased 3% while calls initiated by officers or the agency declined 20%.

The decline in calls initiated by officers or the agency was primarily due to reductions in the number of traffic stops as well as beach and park checks.

Multiple unit responses accounted for 23% of the 2017 calls for service. On average, the two prior years were 9%. Multiple units respond to calls for domestic violence, major crashes, in progress crimes, deaths, and other critical incidents. The increase in 2017 was the result of fewer single unit response calls for the traffic stops and beach and park checks. In absolute terms, multiple unit responses in 2015, 2016, and 2017 were relatively unchanged and averaged 7,400 calls per year.

Use of Force:

During 2017, 31 officers filed 132 Use of Force reports related to 79 incidents. 51 of the incidents involved arrests and 28 of the reports involved non-crime incidents.

The use of physical tactics accounted for 77% of the use, tasers were used 15% of the time (laser-only 16 times and probes were deployed 5 times), and the display of firearms accounted for the remaining 7%. No firearms were discharged during 2017.

Non-crime incidents typically involve calls for service related to threatened or attempted suicide, mental illness, welfare checks, etc.

Each Use of Force report is subsequently reviewed to determine if the use was consistent with the department's policy and standard operating procedure. Of the total 132 reports filed in 2017, there was only 1 incident that did not comply with our agency's policy and in that case, remedial training of the officer was completed. No complaints related to the use of force by officers were filed by the public during 2017.

Offenses:

In 2017, the number of offenses declined by 5.2% from the previous year (2016). In comparison, between 2015 and 2016 the number of offenses decreased by 9.5%. A portion of the total reduction in offenses was due to the change in Maine law related to marijuana. However, Drug/Narcotic felony and misdemeanor offenses also were significantly down.

Arrests:

The number of arrests and charges in 2017 continued to exhibit the declining trend of recent years. Drug related arrests exhibited the most significant decline in 2017. A portion of this change is related to the change in the Maine marijuana laws. However, felony charges related to drugs declined 62% and misdemeanor

charges declined 42%.

Traffic:

Fair and consistent traffic enforcement is one of the most significant tasks that a law enforcement agency can do to save lives and to prevent bodily and financial injury in its community. Our traffic specialists and patrol officers focused on enforcement, education, and accident reconstruction.

During 2017, officers conducted 10,078 traffic stops; averaging of just over 27 stops per day. Non-Biddeford residents comprised about two thirds of the traffic in 2017; consistent with the historical percentage. During traffic

stops, officers issued 3 warnings to every citation; reflecting our agency's focus on the educational aspect of traffic stops. 13 crash reconstructions were completed in 2017; 16 were completed in 2016 and 18 in 2015.

Parking:

2,113 parking tickets were issued in 2017 (net of tickets waived or voided) and the fines that were associated with those tickets totaled \$55,270.

The totals for both tickets issued and fines were the highest in 2017 when compared to recent years. The increases resulted from the elimination for the ticket forgiveness program in July, a significantly higher number of tickets associated to snow events, and a doubling of tickets issued for violation of beach permits. Additionally, fines were increased by the Biddeford City Council during 2017.

Domestic Violence:

Domestic Disturbance calls experienced a 3% reduction in 2017 as compared to 2016. Domestic Violence related arrests however increased by over 4% during the same time period. Alcohol and/or drugs were confirmed to have been involved in 32% of calls involving a domestic disturbance in 2017. Drug and/or alcohol use was confirmed to have been involved in 42% of the arrests.

In 2017, 75% of the victims were female. 57% of the victims were the girlfriend to the defendant. The average age of the victims was 33 years-old; with ages ranging from 7 to 71 years-old. On average, victims reported the crime only 45% of the time.

Unlike many Maine communities, Biddeford fortunately continues to have had no fatalities resulting from domestic violence incidents since the inception of our Pro-Active Domestic Violence Response Team (PRT). During 2017, an officer was assigned as a full time, dedicated Domestic Violence Investigator replacing the PRT assignment of patrol officers. Our dedicated resources as well as our community's willingness to report potential domestic violence, as exhibited by the high non-crime calls, allows our department to intervene and de-escalate

situations before crimes happen or worst, death or serious injury occur.

Drugs:

The number of drug related arrests decreased significantly in 2017. Felony and misdemeanor arrests decreased as the result of the

continuous focus of our Street Crimes Unit, along with all members of our department. Additionally,

summons for civil charges decreased significantly due to the change in Maine's marijuana laws. Maine DEA arrests in Biddeford were roughly at the same level as in 2016 but down significantly from the years prior to 2016.

The impact of the enforcement efforts can be seen in the 2017 arrest charges; felony charges decreased by over 60%, misdemeanors by over 40% and civil charges decreased by over 65%.

In addition to enforcement efforts, the Saco Biddeford Opiate Outreach Initiative (SBOOI) has had a significant impact for both communities. During 2017, the initiative reached out to 349 individuals, met with 159 of them, and 90 of those individuals followed through with an assessment. Ultimately, 112 treatment placements were made for 80 individuals.

In 2017, BPD collected 1,684 pounds of unused or outdated medications for destruction by the U.S. DEA. The drugs were collected through the year via the MedReturn unit in our lobby and during the drug take back events held in April and October of each year.

Properly disposing of drugs that are no longer needed is a significant action to prevent the potential abuse of medications by those who shouldn't have them and prevents the negative and toxic effects on our environment.

Known overdoses in Biddeford showed a small reduction in 2017 compared to prior years. The Biddeford Fire and Police Departments collectively saw a 16% reduction in the number of individuals who were administered NARCAN. Additionally, the average number of doses administered was the lowest since 2011.

Non-crime:

In addition to responding to and investigating criminal offenses and conducting traffic and parking enforcement, a very significant portion of the department's resources are dedicated to responding to calls for service. These are non-criminal in nature and/or are crime preventive activities.

Officers must spend significant time on non-crime calls to understand the totality of an incident. Often, considerable time is spent using their crisis

training to de-escalate and calm situations to ensure that those situations do not turn into criminal incidents.

Officers perform CPR until EMS arrives and if the immediacy necessitates, they administer NARCAN to victims of overdoses. When battling the clock to locate missing persons or those threatening suicide, officers and dispatchers work together to research records and files for information.

Members of our agency make every effort to help those with mental health issues or are in some form of crisis. Officers spend a considerable amount of time on the phone with SMHC or Maine Behavioral Health at incident scenes. A significant number of transports of individuals for crisis evaluation occur every week.

When a request to check the welfare of a child, an adult, or a report of a missing person is received, officers persistently pursue locating and checking on the individual so they can take any necessary action to help the person. Often, officers accompany DHHS staff to locations or assist the agency in developing safety plans for those at risk.

Responding to an attended or unattended death not only involves the investigation of the scene and coordination with other units or agencies, often leading to the most difficult task for any officer, notifying the next of kin.

We assist the public when their vehicles are disabled along a roadway or they have been involved in a motor vehicle accident. We also conduct property checks for home and business owners either when scheduled or when open doors or windows are reported.

Officers perform court ordered check-ins that are required based on bail conditions that have been established.

They also conduct sex offender registrations.

Many calls ultimately are determined to be civil issues between two or more parties with officers attempting to mediate and direct them to the appropriate service agency or organization.

Officers respond to a plethora of calls such as noise disturbances that often are determined to be normal multi-unit housing noise, false alarms, lost or found items, animal complaints, parking complaints, domestic calls that are determined to be only verbal in nature, debris in roadway, follow-up to misuse of 911, and they serve legal paperwork.

Additionally, officers make regular community contacts at public events and at our various schools and make presentations to businesses, organizations, and groups.

During 2017, over 10,000 calls for police services were for non-criminal issues.

Accreditation:

In early 2016, the Biddeford Police Department, with the approval of the City Council, committed to achieving national accreditation from the Commission on Accreditation for Law Enforcement Agencies (CALEA). CALEA was established by members of law enforcement in 1979 and it issued the first accreditation award in 1984. It currently has two levels of accreditation, basic and advanced, and BPD is initially seeking the basic tier accreditation. The commission is comprised of 21 commissioners who are police chiefs, county sheriffs, state and county directors of public safety, a city councilor, a city manager, a state senator, a state supreme court justice, and a college professor of criminal justice.

A CALEA accreditation means that an agency is managed by using a comprehensive, uniform written directive system and generates the necessary reporting and analysis to make fact-based and well informed decisions. An accredited agency uses best practice policies and procedures, adapted to what is best for the specific agency, and demonstrates a voluntary commitment to excellence in law enforcement. The agency has contingency and preparedness plans in place to address unusual incidents and events, whether they are the result of nature or man. Accreditation means that an agency is fundamentally doing what it says it does (minimizes any variation in the performance of duties) and it is verified by outside, independent assessors.

CALEA's specific goals are to:

- strengthen crime prevention and control capabilities;
- formalize essential management procedures;
- establish fair and non-discriminatory personnel practices;
- improve the quality and delivery of service;
- solidify interagency cooperation and coordination, and
- increase community and staff confidence in the agency.

BPD will be formally assessed by CALEA during April 8th, 9th, and 10th of 2018. The BPD was invited to a formal accreditation hearing in Grand Rapids, Michigan in late July 2018. The outcome of the hearing was that the Biddeford Police Department joined a select group of only 5% of law enforcement agencies that are nationally accredited.

Now that accreditation has been achieved, BPD will be required to submit annual reporting to provide proof that it remains in compliance with the national standards and will be required to complete rigorous on-site assessments every four years.

G. Power and Communications

1. Power

Electricity in the City of Biddeford is supplied by Central Maine Power. Three-phase power is currently supplied to the Robert G. Dodge Business Park, the Biddeford Industrial Park, and the Airport Industrial Park. Three-phase power may also be provided elsewhere in Biddeford, although exactly where it is currently located is somewhat unknown.

2. Natural Gas

Natural Gas in Biddeford is provided by Unitil. A Map of Natural Gas distribution in Biddeford is provided in Map #XX. Unitil's Granite State Transmission Line runs through Biddeford from Arundel to the Saco River and is part of a major transmission line running through Southern Maine.

Local distribution lines convey natural gas throughout the downtown area as depicted on the Map, from Highland Avenue to the west, down Graham Street to feed the Central Fire Station on Alfred Street (fed from Graham Street), the Mill District, and the Water Street Sewage Treatment Plant to the east.

Local distribution lines also supply natural gas to the Wal-mart area, the Robert G. Dodge Business Park, the YMCA on Pomerleau Street, 5-Points Shopping Center across from Edwards Avenue, the Biddeford Industrial Park, and the Airport Industrial Park.

3. Telecommunications

Cellular service is widely available throughout Biddeford via a series of telecommunication facilities. Towers are located off Andrews Road, Hill Street (inactive), Downtown at 3 Lincoln Street, at Keely Way, off Oak Ridge Road, and at the Kennebunk-Kennebunkport-Wells Water District tower off Pool Street.

Fiber service is also available throughout many areas of Biddeford supplied by various entities including GWI.

H. Education

1. Overview of Biddeford Public Schools:

There are six schools in the Biddeford Public School System:

- Biddeford High School (Grades 9-12)
- Biddeford Regional Center of Technology (Grades 9-12)
- Biddeford Middle School (Grades 6-8)
- Biddeford Intermediate School (Grades 4-5)
- Biddeford Elementary (Primary) School (Grades 1-3)
- John F. Kennedy School (Grades Pre-school to Kindergarten)

As indicated below in Table 7-8 total enrollment in Biddeford's Public Schools has been steadily declining over the past ten (10) years. For the period 2008/2009 to 2017/2018 the total enrolled population in the Biddeford Public School system has declined by 285 students or 10.4%. In comparison, all reported Maine public school enrollment declined by only 4.9% for the same period (Table 7-8).

Table 7-7. Enrollment for all Biddeford Public Schools, Academic Years 2008/2009 to 2017/2018.

Academic Year	Students	% Change from Previous Year
2008/2009	2,731	-
2009/2010	2,669	-2.3%
2010/2011	2,595	-2.8%
2011/2012	2,610	+0.6%

2012/2013	2,529	-3.1%
2013/2014	2,477	-2.1%
2014/2015	2,449	-1.1%
2015/2016	2,430	-0.8%
2016/2017	2,409	-0.9%
2017/2018	2,446	+1.5%
Change (2008/2009) - (2017/2018)	-285	-10.4%

Source: *Maine Department of Education, July 2018*
<https://www.maine.gov/doe/data/student/enrollment.html>.

**Table 7-8. Enrollment for all State of Maine Public Schools,
Academic Years 2008/2009 to 2017/2018.**

Academic Year	Students	% Change from Previous Year
2008/2009	192,181	-
2009/2010	190,122	-1.1%
2010/2011	188,133	-1.0%
2011/2012	186,453	-0.9%
2012/2013	185,033	-0.8%
2013/2014	183,545	-0.8%
2014/2015	182,205	-0.7%
2015/2016	181,876	-0.28%
2016/2017	179,854	-1.1%
2017/2018	182,711	+1.6%
Change (2008/2009) - (2017/2018)	-9,470	-4.9%

Source: *Maine Department of Education, July 2018*
<https://www.maine.gov/doe/data/student/enrollment.html>.

In addition to the Biddeford public schools there is one remaining Catholic parochial school. St. James School, founded in 1992, is located at 25 Graham Street and enrolls kindergarten through eighth grade. Based on the previous Comprehensive Plan St. James School had 485 students enrolled in the 1994-95 school year. Since then, St. James School enrollment in Biddeford has declined dramatically to 79 students enrolled in the 2017-2018 school year (Source: Maine Department of Education, July 2018 (<https://www.maine.gov/doe/data/student/enrollment.html>)).

2. Biddeford High School (Grades 9-12)

Biddeford High School is located at 10-20 Maplewood Avenue. The buildings are located on a parcel of 8.7 acres in size on the west side of Maplewood Avenue. The athletic facilities are located on the east side of Maplewood Avenue on an 8 acre parcel of land.

The High School was originally constructed in 1961. An addition was built in 1973 and the Biddeford Regional Vocational School was added in 1969. The High School (not including the Regional Center of Technology) was fully renovated to new in 2011/2012. As part of those renovations three (3) additions were constructed including a new music/band room, and enclosed elevator and stairway, and a new media center and offices. The building was also brought into Americans with Disabilities Act (ADA) compliance and ninety-percent (90%) of the lighting was installed/replaced with LED lighting.

Table 7-9 indicates a trend of significantly declining enrollment figures (-15.6%) for Biddeford High School from 2008/2009 to 2017/2018 academic years. This decline represent a significant greater relative decline than for both total Biddeford school and schools statewide.

Table 7-9. Enrollment for Biddeford High School, Academic Years 2008/2009 to 2017/2018.

Academic Year	Students	% Change from Previous Year
2008/2009	917	-
2009/2010	893	-2.6%

2010/2011	845	-5.4%
2011/2012	848	+0.4%
2012/2013	813	-4.1%
2013/2014	798	-1.8%
2014/2015	801	+0.4%
2015/2016	777	-3.0%
2016/2017	785	+1.0%
2017/2018	774	-1.4%
Change (2008/2009) - (2017/2018)	-143	-15.6%

Source: *Maine Department of Education, July 2018*

(<https://www.maine.gov/doe/data/student/enrollment.html>).

Prior to the renovation, the High School was woefully overpopulated. The problem was so severe that the district ran afoul of requirements for square feet per student, and the New England Association of Schools and Colleges threatened to not accredit the school--a revocation of accreditation is extraordinarily rare. During the school's peak enrollment years, teachers were working out of carts and sometimes doubled up in learning spaces. The recent renovation helped improve the instructional space and cure many of the schools' ills (ranging from HVAC to accessibility to modern science laboratories). However, the renovation is essentially the same footprint as the original high school. In consultation with the high school principal, we believe that the school could grow comfortably by 10-15%, and at a maximum 40%. That said, the district's central/business/special education offices are housed in the high school proper, and would need to relocate. The city is greying, and as long as planners and developers continue to focus on senior housing (e.g., Carriage House) and single and two-bedroom dwellings, the demographics of the schools may not change much. The construction of a "development" of 3 bedroom homes in the \$300-350k price range would help stabilize our transient student population.

3. Regional Center of Technology

The Regional Center of Technology (RCOT) is located on the same grounds as the High School. The RCOT was constructed in 1969 and 2016 the 1st Floor offices and 1st Floor of the classroom wing of the facility was fully

renovated, including Americans with Disabilities Act compliant improvements to the restrooms.

The Mission of the ROTC is as follows:

“Biddeford Regional Center of Technology’s mission is to ensure that students acquire academic, career and industry-recognized technical skills that will prepare them for successful and accelerated entry into the workforce and post-secondary education.”

Source:

<https://sites.google.com/a/biddefordschooldepartment.org/biddeford-regional-center-of-technology/>

4. Biddeford Middle School (Grades 6-8)

The Biddeford Middle School, located at 25 Tiger Drive off of Hill Street, was erected in 1988. This school is located on behind the Intermediate School off of Hill Street. The Middle School and Intermediate School parcels combined amount to 47 acres in size. The current Middle School was built new and was completed in 2006. Ninety-percent (90%) of the lighting in the Middle School is LED lighting.

As demonstrated below in Table 7-10, in the past ten years the Middle School has seen a decline in enrollment (-4.5% or 28 students). Compared to the High School (-15.6%) and Biddeford Schools in general (-10.4%) the Middle School experienced relatively less of a decline. The Middle School’s decline in enrollment, however, is comparable to that of Maine Schools in general (-4.9%).

Table 7-10. Enrollment for Biddeford Middle School, Academic Years 2008/2009 to 2017/2018.

Academic Year	Students	% Change from Previous Year
2008/2009	616	-
2009/2010	607	-1.5%
2010/2011	593	-2.3%
2011/2012	597	+0.7%
2012/2013	573	-4.0%

2013/2014	579	+1.0%
2014/2015	534	-7.8%
2015/2016	567	+6.2%
2016/2017	548	-3.4%
2017/2018	588	+7.3%
Change (2008/2009) - (2017/2018)	-28	-4.5%

Source: *Maine Department of Education, July 2018*

(<https://www.maine.gov/doe/data/student/enrollment.html>).

The 2006 construction of the middle school has provided adequate space for the student population we serve. That said, as with the high school, as the needs of the students we serve continue to grow and vary, we regularly repurpose instructional spaces into "time out" rooms or physical therapy spaces or speech therapy labs. Our Middle School principal believes that the capacity of the building is up to +20% without impact to special services.

5. Biddeford Intermediate School (Grades 4-5)

The Biddeford Intermediate School, located at 335 Hill Street in front of the Middle School. The Middle School and Intermediate School parcels combined amount to 47 acres in size. The Intermediate School was constructed in 1988 and few improvements had been made to it since such as the installation of a new hot water heater, the removal of all of the portable classrooms, and the creation of a new playground.

Enrollment has also declined percentage-wise at the Intermediate School, dropping by 18.1% over the last 10 years (Table 7-11). The decrease is significantly greater than the decrease experienced for all Biddeford Public Schools (-10.9%) and all Maine Schools (-4.9%).

Table 7-11. Enrollment for Biddeford Intermediate School, Academic Years 2008/2009 to 2017/2018.

Academic Year	Students	% Change from Previous Year
2008/2009	414	-

2009/2010	411	-0.7%
2010/2011	366	-10.9%
2011/2012	377	+3.0%
2012/2013	380	+0.8%
2013/2014	364	-4.2%
2014/2015	374	+2.7%
2015/2016	356	-4.8%
2016/2017	356	0.0%
2017/2018	339	-4.8%
Change (2008/2009) - (2017/2018)	-75	-18.1%

Source: *Maine Department of Education, July 2018*

(<https://www.maine.gov/doe/data/student/enrollment.html>).

The Intermediate school is a candidate for redevelopment. Our current assessment is that the building could be expanded with an additional level of classrooms, so that in the event the Kennedy school were to be shuttered, a realignment of grade spans at BPS and BIS could potentially absorb the shift.

6. Biddeford Primary School (Grades 1-3)

Biddeford Primary School opened its doors in December of 1990 with the closing of Emery School. The school is located at 320 Hill Street on 16 acres of land across from the Biddeford Intermediate School. Very little has been done to the Primary School other than general maintenance. Roof repairs and renewal has been accomplished, painting, and the conversion to all LED lighting represent the bulk of the significant work done.

Enrollment at the Primary School has decreased significantly percentage-wise (Table 7-12), dropping 15.2% or 91 students over the past 10 years, again significantly greater than the decrease experienced for all Biddeford Public Schools (-10.9%) and all Maine Schools (-4.9%).

Table 7-12. Enrollment for Biddeford Primary School, Academic Years 2008/2009 to 2017/2018.

Academic Year	Students	% Change
2008/2009	600	-3.8%
2009/2010	529	-11.8%
2010/2011	583	+10.2%
2011/2012	572	-1.9%
2012/2013	565	-1.2%
2013/2014	532	-5.8%
2014/2015	556	+4.5%
2015/2016	525	-5.6%
2016/2017	537	+2.3%
2017/2018	509	-5.2%
Change (2008/2009) - (2017/2018)	-91	-15.2%

Source: *Maine Department of Education, July 2018*
<https://www.maine.gov/doe/data/student/enrollment.html>.

The BPS is currently at 530 students and is considered to be at full capacity. A recent school committee policy capped class sizes; whereas classes had as many as 22 or 23 students in 2008, the current average is +/-17 across the school's 29 instructional spaces. That said, as with other schools in the district, as the needs of the students we serve continue to grow and vary, we regularly repurpose instructional spaces into "time out" rooms or physical therapy spaces or speech therapy labs. The principal's assessment is that the primary school could be reconfigured as a 3-5 school should the Kennedy school be shuttered, but not without expense: the school is built for "small bodies," that is, with many 39" hallways, small toilet facilities, etc. It is universally considered to be a great design for a senior citizens' home and a terrible elementary school layout. The gym and cafeteria are both grossly undersized, and parking is tight.

7. John F. Kennedy Memorial School (Grades Early (Pre) Kindergarten and Kindergarten)

The John F. Kennedy Memorial School, located at 64 West Street on a parcel of land 11.67 acres in size at the corner of Hill Street and West Street. It was constructed in 1964-1965 and very little has been done to it since then. It is the last school building that relies on oil for heat. Within JFK two (2) classrooms are dedicated to the Headstart Program (see below).

Enrollment trends are shown in Table 7-13 and represent a significant increase of over 28% students over the past 10 years.

Increase in immigrant, refugee and migrant students

- Addition of 70+/- pre-K students in 2017
- One additional headstart classroom being added SY18-19
- Parents who move from the city borders during the kindergarten year are reticent to interrupt their child's education, and often fail to self-report and continue to transport their students to JFK. Parents often see pre-K and K as daycare--if they continue to work in Biddeford, it's "easier" to leave the student at the Kennedy Center.

Table 7-13. Enrollment for Biddeford John F. Kennedy Memorial School, Academic Years 2008/2009 to 2017/2018.

Academic Year	Students	% Change from Previous Year
2008/2009	184	-
2009/2010	229	+24.5%
2010/2011	208	-9.2%
2011/2012	216	+3.8%
2012/2013	198	-8.3%
2013/2014	204	+3.0%
2014/2015	184	-9.8%
2015/2016	205	+11.4%
2016/2017	183	-10.7%

2017/2018	236	+29.0%
Change (2008/2009) - (2017/2018)	+52	+28.3%

Source: *Maine Department of Education, July 2018*

(<https://www.maine.gov/doe/data/student/enrollment.html>).

Biddeford has examined the 53-year-old John F. Kennedy Kindergarten Center several times over the years. The building became the Kindergarten Center in 2005 based on the new construction of Biddeford Middle School. Prior to 2005 the school had several different configurations of elementary grade levels. Oak Point Associates conducted a comprehensive building study in 2005 and detailed the physical plant's myriad needs, totally 25% of the building's replacement cost value. No action was taken at the time based on the declining enrollments and an atrophy of local manufacturing jobs, dozens of which shuttered operations in the mid-2000s. [SEE APPENDIX 6]

The school department re-engaged the firm in 2016 for the purpose of creating an updated building needs analysis to better understand the immediate, intermediate, and long-range capital investments required to keep the building operational. The Superintendent and School Committee were interested in determining how to best service the building, and how to work with the community to make a determination about the building's future.

Oak Point Associates has undertaken a building study of the John F. Kennedy Memorial School. As part of the study, Oak Point Associates has evaluated the facilities through visual inspections (February 2016), discussions with the school department, analysis of available drawings, and evaluation of previous reports. The evaluations are based upon the coordination of this information with current building codes (IBC), Life Safety Codes (NFPA), accessibility guidelines (ADA), indoor air quality standards (ASHRAE), and additional requirements from the State of Maine.

The chief concerns of the architects and engineers from Oak Point is that Kindergarten students have to access classrooms on a second floor and are housed in a building not designed or suitable for early childhood education, lacks appropriate code compliance, has no fire suppression system, and has major priority 1 and priority 2 needs.

The 2016 Oak Point study leaves the school department with questions about how (and whether it is economically responsible) to invest north of \$6,000,000 to upgrade a 53-year old school that doesn't have room for universal Pre-K.

The School Department made application with the state of Maine to fund a potential closing of JFK and addition on an existing building to accommodate students currently served in that space. The grant was unsuccessful, and will likely require public investment.

8. Special Education

There are two (2) Special Education facilities associated with the schools, one behind the Primary School and the other behind the Intermediate School. Nothing is done to these buildings other than ordinary maintenance.

According to its website (<https://biddefordschools.me/special-education/>):

"Children eligible for special education include those children with disabilities who have autism, deaf-blindness, developmental delay, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, visual impairment, or deafness and who, because of such an impairment, need special education services."

9. Alternative Pathways Center

Alternative Pathways is located at 73 Bacon Street in space rented from the Biddeford Housing Authority. Its mission is "to give alternative learners an opportunity to obtain a Biddeford High School diploma through coursework that is individualized, project-based and combined with pre-vocational training, work experience and social and emotional learning."

10. Headstart and Early Headstart

The Head Start (3-5 year olds) and Early Head Start (6 week to 3 year olds) programs provide free high-quality, early childhood education and child care for income-qualified families. Headstart is located in two places in Biddeford

– the John F. Kennedy School (see above) and at 2 Stone Street. Early Headstart is only located at 2 Stone Street.

11. Adult Education

The Biddeford Adult Education Office is located in the J. Richard Martin Community Center at 189 Alfred Street. This program provides educational opportunities for lifelong learning to citizens of Biddeford and beyond.

According to its website (<http://biddeford.maineadulted.org/about/>) there are five (5) major categories of educations offered, as follows:

Career Advancement Improvement - there are many different types of courses to help you improve or advance in your job; or help you get a job. We offer Healthcare Training, Certificate Program, Business & Skills Training, Tools & Trades, Computers & Technology, and Workforce Training.

English Learners of Other Languages (ELL) - this prepares non-native English learners with advanced skills to communicate in English, to improve job skills and to further their academic studies.

Family Literacy/Early Childhood - these courses give people the guidance, support, and training necessary to improve their literacy skills and the literacy skills of their family.

HiSET/High School Diploma - we offer you a choice on how you would like to achieve your High School Diploma.

- *HiSET (formerly known as GED) is a series of five tests covering writing, science, math, literature and arts, and social studies. These tests require the test taker to apply reading, math, language, and critical thinking skills. Tests are taken one at a time, and can*

be taken in any order. Passing the HiSET test series allows you to earn your High School Equivalency Diploma (HSED).

- *High School Diploma offers academic classes and individualized programs is an opportunity for adults who have not completed high school to earn their diploma.*

Enrichment - *includes classes to learn skills in cooking, musical instruments, crafting, personal finance and so much more. We encourage you to travel with us on a variety of day trips we have.*

12. Biddeford Public School Support Services

Groundskeeping at the school facilities is accomplished by the School Department itself. Snowplowing, on the other hand, is contracted out. All internal maintenance of the facilities is done by the School Department except for HVAC maintenance which is contracted out. Custodial services in the schools is handled by the School Department. The School Department also owns its own busses which are maintained by the Biddeford Department of Public Works.

13. Community Bicycle Center

The Community Bicycle Center (CBC) is located at 45 Granite Street. According to its website (<http://communitybike.net/>) its “4,777 square foot facility includes dedicated fitness space, a tinkering/art lab, an educational bike repair shop, and 6.3 acres of trails and green space in the backyard quarry abutting Clifford Park.” The CBC is a nonprofit organization whose mission and vision are as follows:

Mission

The Community Bicycle Center exists to provide youth enrichment opportunities for personal growth through bicycling-related activities.

Vision

As a result of engagement with Community Bicycle Center’s programming and staff, youth will develop beliefs, attitudes, skills, and actions to be

successful in relationships, educational pursuits, future employment, health, and civic engagement.

14. Biddeford Public School Costs

Table 7-14. Biddeford Education Budget Totals, Fiscal Years 2009 to 2018.

Fiscal Year (Academic Year)	Expenses Budget (\$)
2009 (2008/2009)	30,152,208
2010 (2009/2010)	29,234,540
2011 (2010/2011)	27,433,657
2012 (2011/2012)	28,095,803
2013 (2012/2013)	29,234,650
2014 (2013/2014)	29,722,198
2015 (2014/2015)	33,638,250
2016 (2015/2016)	33,977,428
2017 (2016/2017)	35,100,964
2018 (2017/2018)	36,016,446
\$ Change FY 2009 - FY 2018	5,864,238
% Change FY 2009 - FY 2018	19.4%

Source: Terry Gauvin, Biddeford School Department, July 2018.

The cost to operate the School Department and Biddeford's schools has consistently risen over the past ten (10) years. This expense increase is inverse to student enrollment in Biddeford's schools (Figure 7-13). Total education expenses has increased 19.4% while total enrollment in Biddeford's Public Schools has decreased 10.4%.

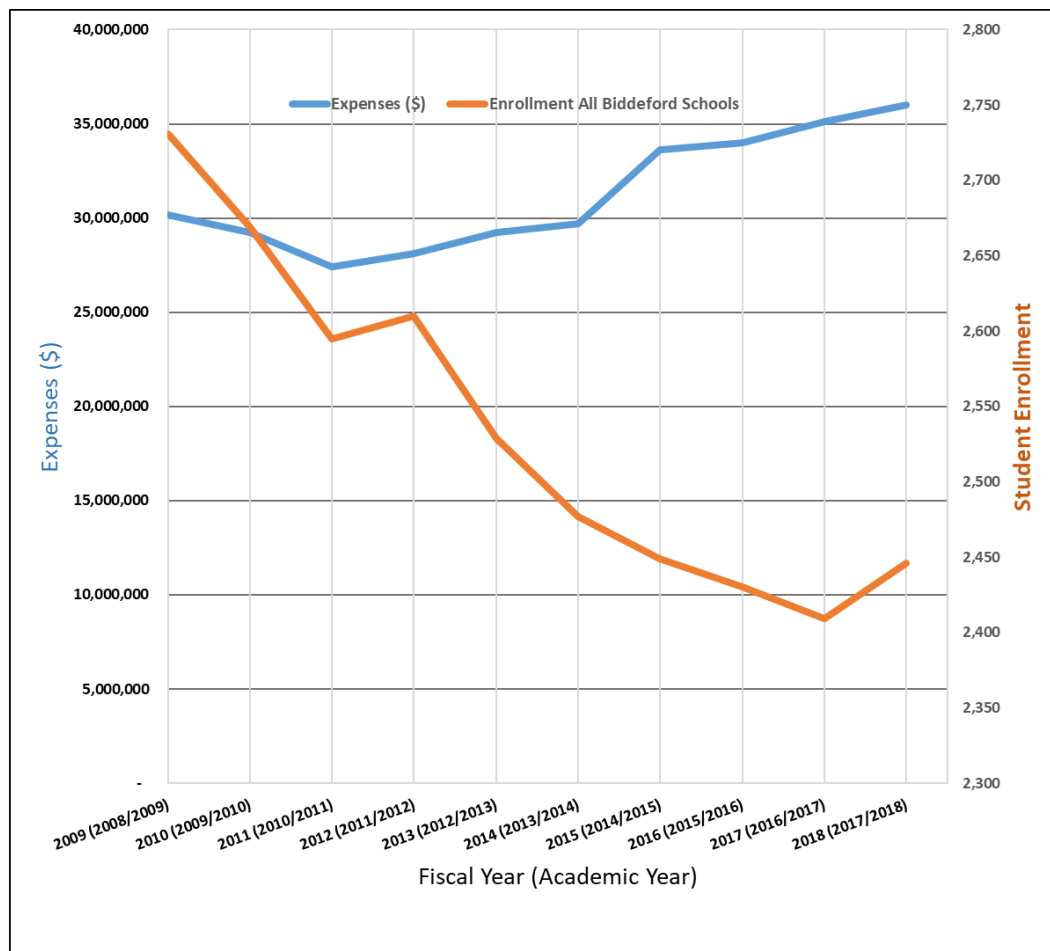
The School Administration is of the opinion it has been remarkably disciplined with its' budget, and the increases to the taxpayer in the last 5 years have been essentially 1%. School expenses, like those of all districts, have grown

in the last ten years. Based on the information provided here (Figure 7-1), it looks like about 17% in the last ten years. In that same time, CPI is up 16.18%. So the budget increase is essentially on pace with inflation. No other district in southern Maine can say that. Other factors:

1. Debt Service
2. Health care cost
3. Increased city valuation = decreased state subsidy

Prior the current School Administration, annual increases to the taxpayer were certainly higher.

Figure 7-1. Biddeford Public Schools Expenditures vs. Enrollment, Fiscal Years 2009 to 2018



15. University of New England

Offering a scenic 576-acre campus along the shores of the Saco River in Biddeford, a suburban campus just minutes from the downtown, a campus in Portland, Maine and a trailblazing study-abroad campus in Tangier, Morocco, the University of New England (UNE) is Maine's largest private university. More than 13,000 students benefit from its uniquely experiential approach each academic year. UNE houses Maine's only medical and dental colleges as part of a comprehensive health education mission that includes pharmacy, nursing, and an array of health professions programs. UNE is also nationally recognized for its excellent programs in the marine sciences, environmental sciences, biological sciences, social sciences, business, the humanities, and the arts.

History

The University of New England's rich history reflects the determination, creativity, and resourcefulness of the people of its home state. The foundation for UNE was laid on the site of its present-day Biddeford Campus in 1939 when Franciscan monks formed the College Seraphique. Initially a high school and junior college for boys of Quebecois decent, that institution became St. Francis College in 1952. In 1978, the College of Osteopathic Medicine opened on the Biddeford Campus and merged with St. Francis to form the University of New England. In 1996, UNE merged with Portland's Westbrook College, absorbing the history and proud alumni body of an institution founded in 1831 as Westbrook Seminary. In 2014, UNE opened a state-of-the-art study-abroad campus in Tangier, Morocco.

Economic Profile

As the University of New England has grown, its role as an economic driver for the state of Maine has continued to expand. A 2016 report by the Portland-based research firm Planning Decisions, Inc. assessed UNE's annual economic impact on Maine in excess of \$1 billion.

- UNE manages a \$230 million annual budget.
- UNE employs 1,016 full-time and 350 half-time employees.
- UNE holds financial credit ratings of A3 by Moody's Investors Service and A- from Fitch Ratings.

- UNE's Moving Forward campaign raised more than \$61.6 million between 2007 and 2017.
- As of 2017, UNE's endowment and investments were valued at \$70 million.
- UNE has added or renovated more than 1 million square feet on its campuses since 2007.
- Ninety-eight percent of UNE undergraduates receive some type of financial aid.

Academics

UNE offers more than 40 undergraduate and 32 graduate/professional degree programs in relevant and needed fields. Its six colleges provide students with a variety of educational experiences and research opportunities with an emphasis on experiential learning, global learning, and cross-disciplinary collaboration. UNE's six colleges include the College of Arts and Sciences, the College of Dental Medicine, the College of Osteopathic Medicine, the College of Pharmacy, the Westbrook College of Health Professions, and the College of Graduate and Professional Studies. UNE also houses eight centers and institutes in support of research and scholarship, including the Center for Excellence in Neuroscience, the Center for Excellence in Aging and Health, the Center for Excellence in Health Innovation, the Center for Excellence in the Marine Sciences, the Center of Biomedical Research Excellence for the Study of Pain and Sensory Function, the Interprofessional Education Collaborative, the Center for the Enrichment of Teaching and Learning, and UNE NORTH: The Institute for North Atlantic Studies. In 2017, the New England Association of Schools and Colleges (NEASC) awarded UNE a 10-year accreditation, the highest-possible award.

Recognition

The Brookings Institution ranks UNE first among Maine's colleges and universities for improving students' career earnings. The Princeton Review's 2018 edition of its "Best 382 Colleges" guide, includes UNE among the top 15 percent of four-year colleges and universities in the U.S. The Chronicle of Higher Education ranks UNE as the ninth fastest-growing private nonprofit university in the country offering master's degree programs. U.S. News & World Report includes UNE among the "Best Universities" in the North.

Community Engagement

UNE's two Maine campuses offer an ever-expanding array of events and spaces where members of the wider community gather, learn, and recreate together. The annual George and Barbara Bush Distinguished Lecture Series, for example, presents an occasion for Biddeford residents to share in the wisdom leading thinkers bring to campus, while the annual Brain Fair enables local youth to learn about brain safety from UNE's student neuroscientists. Whether visiting campus for one of these events or to attend a different lecture or panel discussion, swim at the indoor pool, workout at the fitness center, enjoy a skate at the ice arena, or participate in a summer camp or sports clinic, the opportunities abound. Local residents also visit campus to cheer on UNE's 17 varsity athletic teams, which compete at the National Collegiate Athletic Association (NCAA) Division III level. The hub of UNE Athletics in Biddeford is the Harold Alfond Forum, which offers a 900-seat NHL-size hockey rink, a 1,200-seat basketball court, and an adjacent football field. UNE students also venture into the wider community regularly, sharing their expertise in schools, clinical settings, and local businesses while gaining valuable practical experience in their intended fields.

I. Health

1. Southern Maine Health Care

Southern Maine Health Care (SMHC) is a nationally accredited, award-winning not-for-profit health care system offering a comprehensive array of medical care and services to residents and seasonal visitors in York County. SMHC is the fifth largest health care system in Maine and the second largest member of MaineHealth, a leading health care system ranked among the nation's top 100 integrated health care delivery networks. MaineHealth has 11 members in Maine and New Hampshire.

SMHC has been providing medical care to the community since 1906. In 1979 the current facility located near Exit 32 of the Maine Turnpike was opened. Since that time the main building has been expanded and numerous medical office buildings have been added to the Biddeford campus. Today, SMHC is the largest York County-based employer in Maine and one of the largest employers in Biddeford.

The scope of SMHC's services in York County include: a full-service medical center in Biddeford and emergency departments in Biddeford and in Sanford. A multi-specialty physician services group, called SMHC Physicians, comprised of more than 200 physicians providing comprehensive primary and

specialty services; four non-emergency Walk-In Care Centers; Centers for Cancer Care, Breast Care, Sleep Disorders, Sports Performance and Wound and Ostomy Care; behavioral health; eldercare services and a wide range of diagnostic and rehabilitation services in more than 40 offices located in Biddeford, Kennebunk, Saco, Sanford and Waterboro.

Services located in Biddeford include:

1 Medical Center Drive

- Full-service Medical Center
- 24-hour Emergency Department and Emergency Mental Health Unit
- Operating suites providing inpatient and day surgery procedures
- Two Medical/Surgical Care Units
- Special Care Unit
- York County's only inpatient Mental Health Unit
- Birthing Suite
- Cardiopulmonary Gym
- Center for Breast Care
- Joint Replacement Program
- Occupational Health – WorkWell
- Weight Loss Surgery Program
- Wound and Ostomy Care Center
- Laboratory Services
- Radiology Services (CT Scans, Interventional Radiology, Mammography, MRI, Nuclear Medicine, PET Scans, Ultrasound, X-ray)
- Rehabilitation Services (Physical, Occupational and Speech Therapy)

2 Medical Center Drive

- Infectious Disease – TravelWell

9 Healthcare Drive

- Cardiac and Vascular Services
- Gastroenterology
- Laboratory Services
- Pediatrics
- Pulmonology
- Radiology Services
- Rehabilitation Services
- Surgery
- Weekend Clinic
- Women's Health

24 West Cole Road

- Urology

26 West Cole Road

- Cancer Care and Blood Disorders
- Dermatology

46 Barra Road

- Endocrinology
- Internal Medicine
- Neurology
- Orthopedics and Sports Medicine
- Palliative Care
- Podiatry
- Rehabilitation Services

235 Main Street

- Partial Hospital Program (mental health and substance abuse)

2. Martin's Point Health Care

Martin's Point Health Care Center in Biddeford is located at 61 Barra Road in the Robert G. Dodge Business Park. The Biddeford location offers family medicine (primary care), laboratory services, and osteopathic medicine. It is currently open 6 days a week as follows:

Monday and Wednesday:	8:00 AM – 7:30 PM
Tuesday, Thursday, and Friday:	8:00 AM – 5:00 PM
Saturday:	9:00 AM – 4:00 PM

3. Planned Parenthood

Planned Parenthood, located on 281 Main Street, is a not-for-profit health care center that, according to its Biddeford Website

(<https://www.plannedparenthood.org/health-center/maine/biddeford/04005/biddeford-health-center-2943-91770>)

offers the following services to adults:

- Abortion Referral
- Birth Control
- HIV Testing
- LGBT Services
- General Health Care

- Men's Health Care
- Morning-After Pill (Emergency Contraception)
- Pregnancy Testing and Services
- Sexually Transmitted Diseases (STDs) Testing, Treatment, and Vaccines
- Women's Health Care

The office is currently open Monday 9:00 AM – 6:00 PM, Tuesday 8:30 AM – 2:00 PM, Thursday 9:00 AM – 5:00 PM, Friday 9:00 AM – 5:00 PM. Appointments can be made over the phone or online.

4. Elderly Health Care Services

As the percentage of people in Biddeford it is important that adequate health care and living services be available to those residents in need. Biddeford and Saco are home to a variety of health care resources and assistance programs for the elderly.

Below is a brief listing of some of the services available in Biddeford and Saco:

Adult Nursing Homes:

- St. Andre Health Care Facility, 407 Pool Street, Biddeford
- Southridge Rehabilitation and Living Center, 173 South Street, Biddeford
- York Manor, 15 Amherst Street, Biddeford
- Seal Rock Healthcare, 88 Harbor Drive, Saco
- Atlantic Heights, 100 Harbor Drive, Saco
- Evergreen Manor, 328 North Street, Saco

Adult Day Care Services and Other Services:

- Truslow Adult Day Care Center, 333 Lincoln Street, Saco
- Visiting Nurses of Southern Maine, 15 Industrial Park Road, Saco
- Southern Maine Agency on Aging

I. Cultural Facilities/Events

For a listing of Cultural Facilities and Events see the Historic and Cultural Resources Section of this Plan.

J. Other Municipal Facilities/Services

City Hall:

City Hall is located at 205 Main Street in Downtown Biddeford. City Hall includes the following Departments and sub-offices:

- Assessing
- Chief Operating Officer
 - o Facilities Management
 - o Geographic Information Systems (GIS)
 - o Information Technology (IT)
 - o Community Television (located at 15 Columbus Way)
 - o Recreation (located at the J. Richard Martin Community Center at 189 Alfred Street)
- City Clerks
 - o General Assistance
- City Manager
- Codes Enforcement
- Finance and Tax Collection
- Human Resources
- Planning and Development
 - o Economic Development
 - o Community Development
 - o Planning

Assessing:

The Assessor's Office is currently located on the 2nd Floor of City Hall and currently consists of two full-time staff including an Assistant Assessor and an Administrative Assistant. There is one part-time staff being the City Assessor who shares their time between the City of Biddeford and the City of Saco. This Office is responsible for assessing all real and personal property in the City of Biddeford.

Chief Operating Officer (COO):

The COO is one of many Department Heads that reports to the City Manager. The COO supervises the Facilities Management Department, Geographic Information Systems, Information Technology, Public Access Television (Community TV), and the Recreation Department. The COO is also the Environmental Codes Officer.

Facilities Management:

Facilities Management has its own Department Director with five (5) people reporting to them: two (2) Building Maintenance employees, the Biddeford Municipal Airport Manager, and two (2) part-time custodians. Janitorial Services in City Hall are currently contracted out.

Geographic Information Systems:

The Geographic Information System (GIS) administrator was formerly in the Engineering Office but through restructuring was moved to perform his/her duties under the COO.

Information Technology:

City Hall houses one (1) Information Technology personnel who shares responsibilities with the Information Technology administrator at the Police Department.

Community Television (Public Access):

The Community Television Department is located at 15 Columbus Way off Pool Street. It is staff with a full-time Director and seven (7) Public Access Assistants.

Recreation:

The Recreation Department operates out of 189 Alfred Street at the J. Richard Martin Community Center. Regular employees include the Director, three (3) Recreation Programmers, and an Administrative Assistant. Aside from Lifeguards, there are also three (3) part-time seasonal workers and one part-time worker. See the Recreation section of this Plan for more information about the responsibilities and programs under the Recreation Department.

City Clerks:

The City's Clerks Office is located on the Ground Floor of City Hall and is accessible either directly off Main Street or through City Hall via the elevator. The City Clerk's Office also contains the Deputy City Clerk/Deputy Tax Collector and the General Assistance Office (see below).

Current Staffing includes a City Clerk, a Deputy City Clerk/Deputy Tax Collector, and three (3) Account Clerks.

The City Clerk's Office currently is responsible for the following:

- Receipt, retention, maintenance and sales of all vital records (births, deaths & marriages); preparation of monthly report and payment to the State
- Sales of sporting licenses (fishing, hunting, etc); preparation of monthly reports and payment to the State
- Sales of annual dog licenses; preparation of monthly reports and payment to the State
- Sales of annual beach permits
- Sales of annual commercial & recreational shellfish licenses
- Collection of annual mooring fees and maintenance of mooring applications (includes preparation and mailing of reminder notices each January)
- Collection of Code Enforcement Office fees when their Administrative Assistance is absent
- Collection of real estate and personal property taxes and sewer fees
- Collection and processing of annual business licenses – new and renewal (includes preparation and mailing of reminder notices each licensing year)
- Administration of oaths; notarization of documents; Dedimus Justice services (City Clerk only)
- Registration of all motor vehicles – new and renewal
- Registration of boats, ATVs and snowmobiles – new and renewal
- Bi-weekly preparation of Council Meeting agendas and packets; uploading council packet documents on the City's website; attendance at all council meetings as the Clerk of the Council
- Coordinates and ensures all publication of meeting agendas, bid notices and other public notices as necessary
- Preparation and electronic transmission of Council agendas, meeting minutes and supplements to the Code of Ordinances in hard copy and on the City's website
- Preparation of monthly Policy Committee and Capital Projects Committee meeting agendas and meeting packets.
- Retention of the City's Committees/Commissions/Boards agendas and meeting minutes electronically and on the City's website
- Coordination of yearly update/supplement of Biddeford's Code of Ordinances with/to General Code
- Maintains committee/commission/board applications and helps to coordinate appointments
- Everything regarding voter registration and the election process – which of course includes preparing for and conducting as many School Budget Validation Elections as is necessary to pass the school budget each year.

General Assistance:

The General Assistance Department is currently located on the 1st Floor of City Hall and consists of two (2) employees, the General Assistance Administrator and a Caseworker. This Department addresses a variety of needs within the community. The two major functions are to administer the [General Assistance Program](#) (GA) and to provide our residents with resource information.

The General Assistance Program that assists eligible Biddeford residents, for a limited period of time, who are unable to provide basic necessities essential to maintain themselves or their families. Eligibility is determined according to income and other guidelines which are established by Department of Health and Human Services policy and Maine state statutes.

Payment for rent, utilities, food, and other basic necessities are issued to vendors in voucher form. Vouchers must be signed and returned for reimbursement.

City Manager:

The City Manager is the Chief Executive Officer for the City and is currently located on the 1st Floor of City Hall. The City Manager has an Executive Assistant within the office. Also directly reporting to the City Manager is the Chief Operating Office located in the same suite of offices.

Codes Enforcement and Building Inspector's Office:

Seven (7) employees make up this Office, including the Codes Enforcement Officer (CEO) who is also the City of Biddeford's Emergency Management Director. Under the CEO is an Assistant CEO, two (2) Life Safety Inspectors, an Electrical Inspector, a Patrol Office assigned to the office by the Police Department, and an Administrative Assistant. This Office issues building permits, electrical and plumbing permits, handles complaints regarding various codes within the City, enforces City codes and is the primary staff for the Zoning Board of Appeals which handles zoning variances and certain judgements and administrative appeals.

Finance and Tax Collection:

The Finance Department is currently located on the Ground Floor of City Hall. The Department currently contains the following employees: A Finance Director, a Staff Accountant, a Comptroller, a Finance Clerk, and the Tax Collector. The Deputy Tax Collector is formally a part of the City Clerk's Office and shares that role as being also the Deputy City Clerk. General Department responsibilities include the following:

- Provide financial reporting to the Finance Committee, the City Council, and the public.
- Bill and track the collections of sewer user fees, property taxes and place liens on delinquent accounts, both real estate and sewer use.
- Work with other city departments to assure proper asset control measures are in place with emphasis on separation of duties.
- Work closely with the City Manager in annual budget preparation work.
- Work with independent outside auditors to provide all source documents and supporting detail to allow them to conduct a full and thorough audit which leads to an opinion regarding the general purpose financial statements representing the City of Biddeford's financial position.
- Report the results of our annual audit to all municipal rating organizations such as Moody's and Standard and Poor's (S&P).
- Forecast cashflow and invest in secure (rated "AAA" by S&P and "Aaa" by Moody's) institutional instruments balancing the daily cash requirements of the city with the goal of maximizing the return for the citizens of Biddeford.
- Conduct internal audits of various departments at differing times of the year.
- Provide guidance to all city departments regarding elements of accounting and controls.
- Audit and review all source journals for accuracy and completeness. Create, post, and file any recurring or general journal entries as may be required.
- Consolidate all school department financial activity including a monthly school/city reconciliation which allows for the publication of monthly internal general purpose financial statements detailing all Individual Fund and Account Group Statements including the city's:
 - o General Fund
 - o Special Revenue Funds
 - o Capital Projects Funds
 - o Proprietary Funds
 - o Fiduciary Funds
- Provide financial information to citizens and constituents.

- Assure tight controls over all municipal disbursements via the weekly warrant process which, provides for review by the Mayor, City Manager, and Member(s) of the Finance Committee.

Human Resources:

The Human Resources Department consists of a full-time Director and a part-time assistant. The Director's position is currently vacant. The Human Resources Department provides a wide range of internal services and assistance to the City's various departments as well as service and assistance to numerous outside entities.

The services and assistance provided includes:

- Benefits administration
- Collective bargaining agreement negotiations and administration
- Orientation
- Payroll
- Recruitment
- Training

The Human Resources Department also serves as the City's liaison for liability insurance issues.

Planning and Development:

The Planning and Development Department is located on the 2nd Floor of City Hall and includes the Planning and Development Director, the City Planner, and Economic Development Coordinator, the Community Development Coordinator (CDBG), and an Administrative Assistant.

Economic Development:

The Planning and Development Director, with the assistance of the Economic Development Coordinator, is primarily responsible for working with local businesses to promote economic growth, developing and implementing grant-funded projects to foster economic growth and/or community cohesiveness, working with City organized volunteer committees on issues such as downtown revitalization and waterfront development, solicitation/recruitment of business opportunities, and increasing City-wide social activities.

Community Development Coordinator (CDBG):

The Community Development Coordinator encompasses the development of "quality of life" for City of Biddeford residents. Some roles includes the administration of the following:

- Downtown programs that improve the look and self image of a community
- Implementation of social service programs
- Long range planning
- Public facility improvements
- Redevelopment of vacant lots into pocket parks
- Revitalization of neighborhoods

City Planning:

The responsibilities of the City Planning Office include reviewing development proposals and ensuring they are in alignment with current zoning ordinances and the Comprehensive Plan goals, assisting applicants through the development review process, working in cooperation with the Planning Board and coordinating the interests of other City Departments, coordinating the City's Historic Preservation Program, and updating the City's Land Use Regulations. The City Planner also takes on Special Projects for the City of Biddeford.

Public Works Department - Engineering

The Engineering Office is currently structured within the Public Works Department and the City Engineer position is overseen by the Public Works Director. The Engineering Office is located on the 3rd Floor of City Hall and is only accessible via the elevator.

This office currently has three full-time staff including the City Engineer, a Staff Engineer, and a Survey Technician/Draftperson. The primary responsibilities of the Engineering Office are to conduct survey work for the Public Works Department; conduct CAD drafting; design and oversee the construction of sewers, roads, sidewalks, and drainage; and performs general engineering services for the City.

Department of Public Works:

The Department of Public Works is located at 371 Hill Street. Although many of the functions of Public Works have been discussed above, aside from

Engineering (described above) Public Works is comprised of seven (7) divisions as follows:

Vehicle Maintenance:

This division is responsible for the purchase and upkeep of all City vehicles and equipment.

Street Maintenance:

This division includes, but is not limited to, street and sidewalk spot repair, storm drain maintenance and repair, traffic/street sign installation and maintenance, placement of pavement markings, right of way maintenance, implementation of weed and dust control programs and the implementation of the Capital Paving Program. This also funds the winter street maintenance operations.

Solid Waste Management

Operations include the curbside collection of household trash, the [Recycling Center](#) and Transfer Station efforts, the Recycling educational efforts, the annual Household Hazardous Waste Collection and the maintenance of our closed landfill including the monitoring of our system of test wells surrounding the landfill site.

Parks Maintenance

Includes all athletic fields, beaches, parks and playgrounds. This division is also responsible for the maintenance of the Downtown district and all City trees and planting areas, maintenance of the City Cemetery and Nursery, as required, and in the winter season the maintenance (plowing and de-icing) of sidewalks, City parking lots and City buildings (after hours).

Waste Water Operations and Maintenance

This division is responsible for the operation, maintenance and repair of the sanitary sewer system, the combined sewer system, the 23 sewerage pump stations, the CSO capture tank at Mechanics Park, the Biddeford Pool Waste Water Treatment Plant and the Waste Water Treatment Plant on Water Street.

Industrial Pretreatment Program

The City of Biddeford has authority to establish and administer an industrial pretreatment program. The program is funded by industrial sewer user fees.

Cemetery Maintenance

Operation and maintenance of Woodlawn Cemetery.

Biddeford Municipal Airport:

The Biddeford Municipal Airport has one (1) Airport Manager who reports to the City Manager. The airport is a public use airport, owned and operated by the City of Biddeford. It is located within the Airport Industrial Park, less than three miles from downtown Biddeford and just two miles from the highway.

The airport has one airstrip; Runway 6/24 which is 3,011 feet long and 75 feet wide with instrument approach procedures for RWY 6, which consists of an RNAV (GPS) and VOR approach procedures. There are two aprons available for pilots to tie down and one hangar available for pilots to rent space, on a monthly basis, for their aircraft.

2. What does it mean for Biddeford? (Analyses)

1. Municipal Services and Future Changes in Population and Demographics.

- a. Aging population
- b. Immigrant population
- c. School system bubble?

2. Shared Services.

- a. Shared Assessor
- b. Shared Animal Control Officer

3. Wastewater Management (Public sewer)

- a. Current and Future Issues.
- b. Is the sanitary district extension policy consistent with the Future Land Use Plan as required by (38 M.R.S.A. §1163), or will it be?

4. Public Water

Current and Future Issues

- a. Expansions and Extensions? If so, have suitable sources been identified and protected? Is the water district extension policy consistent with the Future Land Use Plan?

5. On-site Septic and Water

If the town does not have a public sewer or water system, is this preventing the community from accommodating current and projected growth?

- a. Growth Areas served by Public Sewer and/or Water.
- b. Septic systems and on-site wells.

6. Stormwater system maintenance.

- a. Adequately maintained?
- b. Maintenance needs?

7. Stormwater System – Future needs due to development.

8. Is school construction or expansion anticipated during the planning period? Are there opportunities to promote new residential development around existing and proposed schools?

- a. No. Accommodating an more diverse student population is, however.
- b. New Construction/Expansion not so much as improvements to existing facilities.

9. Is the community's emergency response system adequate? Are improvements needed?

a. EMS/Fire/PD

10. Is the solid waste management system meeting current needs? Is the community reducing the reliance on waste disposal and increasing recycling opportunities? Are improvements needed to meet future demand?

- a. Contamination a significant concern/issue.

11. Are improvements needed in the telecommunications and energy infrastructure?

- a. Fiber.
- b. 3-way Power
- c. 5G Technology

12. Are local and regional health care facilities and public health and social service programs adequate to meet the needs of the community?

- a. Yes.
- b. Aging Population.

13. Will other public facilities, such as town offices, libraries, and cemeteries accommodate projected growth?

14. To what extent are investments in facility improvements directed to growth areas?

15. Does the community have a street tree program?

- a. Project Canopy
- b. Public Works Department

3. What do we want to do about it?” (Policies and Strategies)

A. Goals:

1. To plan for, finance and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development.

B. Policies and Strategies (who should do it; when)

Policy 1: To efficiently meet identified public facility and service needs.

Strategy 1a: Identify any capital improvements needed to maintain or upgrade public services to accommodate the community’s anticipated growth and changing demographics.

Strategy 1b: Continue to explore opportunities for regional collaboration of services.

Policy 2: To provide public facilities and services in a manner that promotes and supports growth and development in identified growth areas.

Strategy 2a: Strive to locate new public facilities comprising at least 75% of new municipal growth-related capital investments in designated growth areas.

Strategy 2b: Encourage the Biddeford Public Works Department (Wastewater Division), MaineWater, and Kennebunk-Kennebunkport-Wells Water District to coordinate planned service extensions with the Future Land Use Plan.

SECTION 8: RECREATION AND OPEN SPACE

“Life is best enjoyed when time periods are evenly divided between labor, sleep, and recreation...all people should spend one-third of their time in recreation which is rebuilding, voluntary activity, never idleness.” Brigham Young.

“Leave all the afternoon for exercise and recreation, which are as necessary as reading. I will rather say more necessary because health is worth more than learning.” Thomas Jefferson.

1. What is happening? (Conditions and Trends)

A. Background:

The City of Biddeford has many recreational opportunities open to residents and visitors. With eighteen parks including three salt water beaches, seven recreational facilities and ten other recreational-type facilities, Biddeford supports a strong recreational environment. As the population grows and/or changes demographically (refer to Demographics), however, the demand and need for recreational options evolves.

B. Current Biddeford Recreation Department Staffing:

The Biddeford Recreation Department currently has the following Full Time Staff:

Recreation/Teen Center Director. The Department Director oversees the Recreation Department as a whole including all lifeguards. The Director is also responsible for the following:

- Is the Beach Manager for Maine Healthy Beaches Program;
- Is responsible for the maintenance and custodial staff for park buildings;
- Oversees the Teen Center staff;
- Drives the Recreation Department bus when necessary for the youth, teen and senior programs;
- Conducts administrative assistant duties for the operation of the office;
- Is the lead staff person assigned to the Recreation Commission to work on policy level issues.

- Is responsible for developing and submitting an annual budget for the Department as a whole; and
- Manages the approved budget throughout the year.

Youth & Family Services Program Coordinator. The Coordinator oversees youth Non Sport programs. Programs include youth enrichment classes, Cub Care afterschool program, Early Dismissal programs, community events, Halloween and Easter programs, day camp, and vacation camps. The Coordinator is also responsible for submitting an annual budget for the Department and managing the approved budget throughout the year.

Youth Sports Coordinator. The Youth Sports Coordinator manages programs such as soccer, basketball, field hockey, and wrestling. The Coordinator is also responsible for managing volunteers and part-time seasonal staff. Scheduling of parks, fields, and summer sports camps. The Coordinator also submits the budget for their function of the Department on an annual basis.

Adult and Outdoor Programs Coordinator. The Adult and Outdoor Programs Coordinator ages 18 plus, adult sports (volleyball, softball), outdoor programs such as canoeing, kayaking snowshoeing. Drives bus when needed. Coordinates field preparation after 3 p.m. and on weekends. Assist with community events such as River Jam and Winter Fest. The Coordinator also submits budget for their function of the Department on an annual basis.

Director of the Ross Center and 50 Plus Club. The Ross Center and 50 Plus coordinator manages and directs programs, excursions, and other activities for the seniors and works with the 50 Plus Club as staff support. This position also manages volunteers and the program assistant for the Ross Center. The Director also submits the budget for their function of the Department on an annual basis.

The Department also currently has the following Part-Time Staff:

2 Teen Center Supervisors. The Teen Center Supervisors carry out the Teen Center program and provide supervision for the center.

1 Program Assistant. The Program Assistant assigned to the Ross Center and 50 Plus Club programs provides support to the Director of the Ross Center both administratively and programmatically.

1 Program Assistant, Cub Care and Day Camp Assistant to the Youth & Family Services Coordinator. Assist with programming and oversight of staff and program participants.

Seasonal Employees and Volunteers:

Due to seasonal (summer) Recreation Programs and demands, the Department also employs between 50 and 55 seasonal employees. It also benefits from the assistance of approximately 200 volunteers throughout the year.

C. Current Recreational Facilities in Biddeford:

1. Biddeford's Beaches, Open Spaces, and Parks:

Biddeford City Square. Biddeford City Square is located adjacent to City Hall at 205 Main Street. It is a public space where activities such as the Christmas tree lighting and Winter Fest occurs.

Condition: N/A – City Square is essentially a location within the sidewalk.

Needs: None.

Biddeford Pool Beach/Gilbert R. Boucher Memorial Park. Located off Beachhouse Lane this is a large sandy beach that offers opportunities for swimming general beach activities. Small boats may also be able to be launched at this location via hand-carry. There is a bathhouse for changing and restrooms. The City of Biddeford provides lifeguards during the summer months. There is parking available (approximately 100 cars). Seasonal beach parking permits are required for the summer months.

Condition: Bathhouse - Good; Walkways - Good

Needs: Additional Parking is needed. Walkway improvements to reduce the grade from the sea wall to the beach are needed. The grass area of the upper lot should be investigated for invasive species control.

Biddeford River Walk. The Biddeford River Walk is an evolving project intended to connect Mechanics Park on Water Street to the Diamond Match Park project (future) and points west including the Eastern Trail. To date the River Walk project connects Mechanics Park to the City of Saco via a concrete walkway 135 foot pedestrian bridge over the Saco River to

Saco Island, thus connecting to Saco's River Walk. The River Walk also continues through the North Dam Mill complex to Laconia Plaza located on the Saco River. The City of Biddeford has recently completed a master plan that conceptually lays out the future River Walk from Laconia Plaza to the Diamond Match site via alternate routes along the river, with potential further connections to the City of Saco via two additional pedestrian bridges. In 2016, the City completed, with the assistance of Wright-Pierce Engineers, a River Walk Master Plan Update.

Condition: Excellent

Needs: Seating on the Overlook by Main Street. Implementation of the 2016 Master Plan Update.

Cannon Park. Cannon Park is located at the northwest corner of the intersection of Main Street and Lincoln Street. Currently there is limited public access to Cannon Park it is maintained by the Department of Public Works.

Condition: Very Good

Needs: None Known

Canopy Park. Located at 65 Bacon Street between Pierson's Lane and Sullivan Street this small passive park features intersecting walkways, benches, and trees/landscape in this dense residential neighborhood.

Condition: Very Good

Needs: None Known

Clifford Park. This park owned by the city of Biddeford now comprises approximately 160 acres of land, most of which is undeveloped, but contains a significant trail system. The front of the park located at 130 Pool Street contains a playground, basketball court, two tennis courts, mini skate park, horseshoe pits, picnic areas and tables, and a trailhead. There is also parking available for up to 34 vehicles and seasonal restrooms.

Condition: Very Good

Needs: Trail work is required to conform to the purchase agreement. The tennis courts need resurfacing. Story Walk and Mini Skatepark upgrades needed. Need to improve seasonal park monitoring. Basketball court needs resurfacing. Additional picnic tables should be acquired to address capacity issues. Security cameras suggested. Trail marking improvements needed.

Diamond Match Park. This park is not yet constructed but a Master Plan completed in July 2010. The parcel of land is owned by the city of Biddeford now comprises approximately 9.8 acres of land that is undeveloped.

Condition: N/A – Undeveloped Vacant Land.

Needs: Implementation of the July 2010 Master Plan.

Fortunes Rocks Beach. Located approximately 1 mile southwest of Biddeford Pool, this large two mile long sandy beach offers opportunities for swimming and general beach activities. Small boats may also be able to launch at this location via hand-carry. Many people also use this area for surfing. There are seasonal portable bathrooms and the City of Biddeford provides lifeguards in the summer months. There is some on street parking available (approximately 50 cars). Seasonal beach parking permits are required for the summer months.

Condition: Very Good

Needs: Additional Parking

FOAV Court Park. Located on FOAV Court between Bacon St., Chapel Street this small pocket park serves the immediate residential neighborhood.

Condition: Good

Needs: None

Liberty Park. Liberty Park is a small park located at the corner of Main Street and Hill Street. It is primarily used as a passive space with limited seating.

Condition: Fair

Needs: Rehab of this park is overdue. Ground work is required as tree roots have caused the ground to become uneven.

Mechanics Park. Mechanics Park is located at the corner of Main and Water Streets. It features a walking path down to a River Overlook and great views of the Saco River. It also contains a gazebo where events such as weddings occasionally occur, picnic tables and seating, bicycle parking, and a fitness station. Parking is available on Water Street as well as at what is referred to as the Gas House parking lot adjacent to the Wastewater Treatment Plant. It is a well used passive park with quite a bit of open green space. Future plans include additional walking trails along the river and a possible carry-in canoe and/or kayak launch.

Condition: Upper level - Very Good; Lower Level - Fair to Poor.

Needs: Lower Level is in need of major repairs to the wall between the park and river. A sink hole has developed making one section of the lower level hazardous. The iron fencing is in need of maintenance to extend its lifespan. The remainder of the park needs a solution to overgrown vegetation creating potential unsafe areas for visitors. Purchase of a piece of property between the Current Park and former CMP piece is desirable to create a singular park along the river. Security cameras suggested.

Memorial Park (Mayfield). Memorial Park is located at 130 May Street and is one of the city's most used Park. It contains a sizable playground (approximately 8000 ft.² in size), two Little League fields, one softball field,

recreational hall, one basketball court, and three tennis courts, tennis wall, Learning Trail and seasonal restrooms. There is very limited parking available at most parking is accomplished on May Street and other surrounding local streets.

Condition: Recreation Hall - Fair; Fields - Very Good; Playground - Very Good; Tennis wall - Fair; Tennis Courts - Good.

Needs: Recreation Hall needs a new roof, new windows. The rest rooms should be reconfigured so both may be accessed from the field side. Playground needs equipment to meet needs of toddlers.

Lighting upgrades for the tennis courts to reduce electric usage. Safety netting along right field line at the boys LL field to protect pedestrians and traffic. Roof needs to be replaced on the Recreation Hall. Handicapped access to the middle field dugouts needed to accommodate the Challenger T-Ball program.

Middle Beach. Middle Beach is located opposite of Bridge Road at its intersection with Mile Stretch Road. Is a flat sandy beach and the City of Biddeford provides lifeguards in the summer months. There are no restrooms at Middle Beach. There is a limited amount of parking available (approximately 25 cars) on Beach Avenue directly across from Bridge Road. Seasonal beach parking permits are required for the summer months.

Condition: Very Good

Needs: Additional parking and the control of invasive species.

Park in the Pines. Park in the Pines is a small passive park located at 194 Hills Beach Road. It offers tremendous views of Biddeford Pool and its wildlife. It also provides access to the pool for hand-carried boats such as canoes and kayaks. Park includes a Bocce Ball Court. There are no parking or restroom facilities at this park.

Condition: Very Good

Needs: Volunteers have requested a water source to maintain plants and flowers within the park.

Pierson's Lane Playground. This is a small neighborhood playground intended for younger children ages 6 to 12. There is also a small community garden located here. The playground is located at 38-40 Pierson's Lane, just north of Bacon Street.

Condition: Good

Needs: A fence between the properties adjacent to the park to help maintain park cleanliness. Additional playground equipment needed for toddlers. Fence repairs needed. Security cameras recommended.

Rotary Park. Rotary Park is a popular park located at 550 Main Street on the Saco River. It is 72 acres in size and features walking trails, two playgrounds, the softball field with lights, youth football field, the teen center, a dog park, Skate Park, picnic tables and grills, a sand volleyball court, disc golf course, and a beach access for swimming in the Saco River. It also features a boat launch for access to this non-tidal portion of the Saco River. Further, Rotary Park is a popular location for winter sledding with its hilly terrain.

Condition: Bathhouse - Good; Teen Center - Very Good

Needs: Bathhouse expansion would be helpful in order to add a family restroom and changing area. Dog Park-lights recommended. Certain sections of the swimming area need to attention, as the clay has become a hazard. Projects laid out in the 2009 Master Plan to should be addressed. Invasive species located throughout the park (2016 report) need attention to reduce future issues. Security Cameras recommended. Martel Field backstop needs replacing. Minor fence repairs needed. Light poles need to be assessed for in ground condition. Safety bleachers added, safety netting along left field line.

Shevenell Park. This pocket passive park located at 149 Main Street in the heart of Downtown Biddeford is a popular park for residents, visitors, and employees in the downtown area. It has seating available with seasonal tables and chairs, benches, and houses the popular Music in the Park series.

Condition: Fair

Needs: The Park is overdue for an upgrade. Similar issue with the grounds as with Liberty Park where the root system of the mature trees have caused the ground to become uneven making it a hazard in spots. Security Cameras suggested.

St. Louis Field. St. Louis field located at 284 Hill St. contains two full size baseball fields and additional all-purpose grassed areas. One of the baseball fields has restrooms and lights. Unorganized activities can occur here but require a field permit from Recreation Department.

Condition: Fields - Very Good; Building - Fair.

Needs: St. Louis Building needs new exterior doors, new garage door, exterior trim work and the girls restroom needs to be ADA compliant. Needs a new boiler. Bleachers need safety rails or replacement. The backstops needs replacing. Safety fencing along West Street and Prospect to protect property, pedestrians and vehicles. Chain link fencing needs replacing on the Prospect, Hill and West Street sides. Fields I and II need irrigation. Security Cameras recommended. Additional netting along Lamontagne property.

Staples Street Beach. Staples St., Beach is located at the end of Staples Street in Biddeford Pool is a small rocky beach that is maintained by the Biddeford Pool Improvement Association. There is no parking available so access is pedestrian only.

Condition: N/A - Natural rocky beach.

Needs: None that can be met.

Town Landing. Town Landing is a laid out city street, approximately 15 feet wide, that provides access to the Saco River from Hills Beach Road within the UNE campus.

Condition: Fair

Needs: For the public to be able to access this location signage/demarcation needed.

Veterans Memorial Park. This park is located at the corner Pool Street and Alfred Street (2 Pool Street). It is largely grass and landscape with a monument and several flagpoles.

Condition: Excellent

Needs: None Known

Vines Landing. Vines Landing is located at the westerly end of Lester B. Orcutt Boulevard at what is locally referred to as “the gut”. It is a passive park with a gravel boat launch and features great scenic views of Biddeford Pool, the Atlantic Ocean, and Wood Island Lighthouse. There is limited parking available at Vines Landing.

Condition: Very Good

Needs: Concrete boat ramp.

Washington Street Park. Located at 75 Washington Street this pocket park of approximately 800 to 900 ft.² in size is immediately adjacent to the Washington Street parking lot at the corner of Washington Street and Jefferson Street. It has a hardscape surface with landscaping around it and bench for sitting.

Condition: Very Good

Needs: None Known

Waterhouse Field. Waterhouse Field is a large football field located at the corner of Prospect Street and West Street. The facilities include restrooms, a large concession stand, and meeting space in a separate building. Waterhouse Field is owned and operated by the Waterhouse Field Alumni Association and is largely used only for high school athletic programs.

Condition: Poor

Needs: From the Portland Press Herald, December 26, 2016: *“The field needs new bleachers, lights, light poles, new locker rooms and a scoreboard and sound system. The grass field also needs to be replaced as it is not wide enough to be used as a regulation soccer and lacrosse field. Officials are looking to replace it with an artificial surface.”* **Note;** Bleachers replaced in 2017.

West Brook Skating Rink. West Brook Skating Rink is located at 234 Pool Street and owned by the City of Biddeford but continues to be operated by the West Brook Skating Rink Association. It has offered low-cost public skating options since the 1920's.

Condition: Good

Needs: Erosion issues remain along Pool Street.

William A. Doran Sr. Field. This field located at the corner of Main Street and South Street features a full size softball field, a small playground, and used by the Biddeford High School Field Hockey Program. Parking is available adjacent to the softball field. Invasive species study past the outfield fence recommended.

Condition: Field - Very Good; Playground - Poor

Needs: Playground requires updating. Pump House needs replacing and fence repairs. Backstop replacement.

Williams Court Park. Located at the corner of Williams Court and South Street this relatively new neighborhood park features open green space, park benches, a small natural landscape play area, and a community garden.

Condition: Very Good

Needs: Reseeding for grass growth.

2. Other Biddeford Recreational Facilities:

Biddeford High School. Located at 20 Maplewood Avenue the Biddeford High School offers a football field, running track, and two gymnasiums. Aside from student activities other activities that currently occur at the High School facilities include, but are not limited to, the following:

Condition: Indoor Facilities: Excellent

Outdoor Facilities: Poor/Fair

Needs: The track needs resurfacing and will need to be replaced within the next 5 five years.

Biddeford Ice Arena. The Biddeford Ice Arena is owned by the City of Biddeford and is located at 14 Pomerleau Street. The arena hosts a number of youth and adult hockey events as well as provide for public skating.

Condition: N/A – Privately Operated

Needs: Unknown

Biddeford Intermediate/Middle School. The Biddeford Intermediate and Middle School is located at 335 Hill Street. At the school complex there is a baseball diamond and two softball fields, a football field, and outdoor basketball courts. Within the school there is also a gymnasium. Aside from student activities other activities that currently occur at the

Intermediate and Middle School facilities include, but are not limited to, the following:

Condition: Indoor Facilities: Good

Outdoor Fields and Ball Diamonds: Poor

Needs: Outdoor facilities in need of renovation, particularly the Ball Diamonds.

Biddeford Primary School. Biddeford Primary School is located practically across the street from the Intermediate and Middle School at 320 Hill Street. The Primary School features one Little League field and a gymnasium. Aside from student activities other activities that currently occur at the Primary School facilities include, but are not limited to, the following:

Condition: Indoor Facilities: Good

Outdoor Field: Poor

Needs: The outdoor field is in need of renovation.

J. Richard Martin Community Center. The Community Center is located at 189 Alfred Street. The facility managed by the Biddeford Recreation Department and is currently the home of such tenants and uses as:

- The Biddeford Recreation Department Offices;
- The Ross Senior Center;
- The Meals on Wheels Kitchen;
- SARSSM, Sexual Assault Response Services of Southern Maine;
- Adult Education;
- LaKermesse;
- Auditorium;
- Gymnasium; and
- Classrooms
- Biddeford High School Cheering

An assortment of programs are offered at the community center including but not limited to fitness, yoga, bingo and other games, basketball, and martial arts.

Condition: Good

Needs: See Oakpoint Report. Some major items include; heating system replacement (at minimum the two boilers), window replacement, parking lot paving and playground improvements.

Kennedy (JFK) School. Kennedy school is located at the intersection of West Street and Hill Street across from St. Louis Field and is Biddeford's kindergarten school. The facilities here are largely used by the school and include three (3) basketball courts and two (2) playgrounds.

Condition: Undetermined

Needs: Undetermined

Teen Center at Rotary Park. The Teen Center at 550 Main Street offers pool tables, air hockey, foosball, video games, wi fi, computers for center use, electronic darts, library, cooking projects, board games and more. Occasionally the Teen Center offers transportation to the Maine Mall for shopping and browsing. On Wednesdays, Thursday and Friday the Recreation Department provides transportation to the Teen Center located at Rotary Park from BMS.

Condition: Very Good

Needs: None at this time.

3. Other Recreational Facilities and Open Spaces/Partners:

Blandings Park Wildlife Sanctuary. Blandings Park Wildlife Sanctuary was founded in 2006 as a public charity 501 (c) 3 grass roots land trust. It is located off Pool Street at Blandings Way approximately one (1) mile east of Downtown Biddeford. The Sanctuary now has over 200+ acres of

valuable wildlife habitat preserved which consists of a network of trails with a trails map available online (www.bpws.org) or at the trailhead.

Eastern Trail. The off-road section of the Eastern Trail, part of the East Coast Greenway, begins at Southern Maine Health Care at West Cole Road and continues through to the Town of Arundel. This off-road portion of the trail from West Cole Road to the Arundel Town Line is a gravel trail maintained by the City of Biddeford Public Works Department. North of West Cole Road the Eastern Trail is on-road following Barra Road across Thatcher Brook through Cathedral Oaks and down South Street and Main Street to Route One where it then proceeds North crossing into the City of Saco. There are conceptual thoughts about an off-road connection with Saco which would run parallel of existing railroad bridge over the Saco River.

East Point Sanctuary. It's point sanctuary is owned by Maine Audubon and is located on the far eastern tip of Biddeford Pool - it is located directly North East of the Abanakee Golf Club. There is virtually no parking here and no restrooms but it is very well known for wildlife viewing, particularly birds.

Kennebunkport Conservation Trust. The Kennebunkport Conservation Trust owns .92 acres of land at 501 West Street and has a conservation easement over 99 acres of land at 880 Pool street (City of Biddeford Open Space Plan, November, 2012).

Marblehead Boat Launch. Marblehead boat launch is a State of Maine facility located off Pool Street. It is heavily used particularly in the summer months. Restrooms provided. There are two boat ramps and a pier at this location, which makes it an ideal location for boat launching into the Saco River. There is parking for approximately 60 vehicles including trailers.

Rachel Carson National Wildlife Refuge (U.S. Fish and Wildlife Service). In Maine the "Rachel Carson National Wildlife Refuge was established in 1966 in cooperation with the State of Maine to protect valuable salt marshes and estuaries for migratory birds. Located along 50 miles of coastline in York and Cumberland counties, the refuge consists of eleven divisions between Kittery and Cape Elizabeth. It will contain approximately

14,600 acres when land acquisition is complete. The proximity of the refuge to the coast and its location between the eastern deciduous forest and the boreal forest creates a composition of plants and animals not found elsewhere in Maine. Major habitat types present on the refuge include forested upland, barrier beach/dune, coastal meadows, tidal salt marsh, and the distinctive rocky coast.”

Source: https://www.fws.gov/refuge/rachel_carson/about.html.

In Biddeford there are two divisions of the Rachel Carson National Wildlife Refuge: the Biddeford Pool Division and the Little River Division. The Biddeford Pool Division controls property on the west side of Biddeford Pool off Old Pool Road. The Little River Division controls several properties on the east side of Little River in Granite Point including Timber Point and Timber Island. At the southernmost extent of Granite point Road there is a small parking area which leads to what is referred to as Timber Point Trail which runs along the west side of Timber Point. At low tide Timber Island can be accessed from the southernmost tip of this trail.

Rachel Carson’s total acreage between the Little River Division and the Biddeford Pool Division is approximately 244.55 acres (City of Biddeford Open Space Plan, November, 2012).

Saco Valley Land Trust. Saco Valley Land Trust owns or has easements on over 725 acres of land scattered throughout Biddeford (City of Biddeford Open Space Plan, November, 2012).

South Point Sanctuary. South Point Sanctuary includes a pathway that runs from 7th Street southwest and ultimately to Biddeford Pool Beach. The land is owned and maintained by the Biddeford Pool Land Trust.

Wood Island. Wood Island is home to a Maine Audubon Nature Preserve as well as the U.S. Coast Guard’s Wood Island Lighthouse. The Nature Preserve is approximately 30 acres in size and offers opportunities for walking and nature viewing including wildlife.

Yates Street Park. Yates Street Park is located next to Vines Landing in Biddeford Pool. As a park that was established by the Biddeford Pool Land Trust upon donation of the land from its former. It is a passive park with great views of Biddeford Pool is suitable for picnicking and birdwatching. Parking is very limited in the area.

York County YMCA. The northern York County YMCA is located at 3 Pomerleau Street. According to their website “The YMCA of Southern Maine has many programs and services that promote youth development, healthy living, and social responsibility at all branches. Programs and services unique to our Northern York County Branch include the Full Day Child Care Center, Camp Sokokis summer day camp, home of the Manta Rays swim team, hiking and walking trails, and high & low ropes courses.”

Community Bicycle Center. The Community Bicycle Center is located at 45 Granite Street and it exists to provide youth enrichment opportunities for personal growth through bicycling-related activities.

4. Public Access Points to Surface Waters:

Biddeford Pool Beach/Gilbert R. Boucher Memorial Park. Located off Beach house Lane this is a large sandy beach that offers opportunities for swimming general beach activities. Small boats may be launched at this location via hand-carry. There is a bathhouse for changing and restrooms. The City of Biddeford provides lifeguards in the summer months. There is a substantial amount of parking available (approximately 100 cars). Seasonal beach parking permits are required for the summer months. Beach wheel chair available first come first serve.

Condition: Bathhouse - Good; Walkways - Good

Needs: Additional Parking needed. Walkway improvements to reduce the grade from the sea wall to the beach needed. The grass area of the upper lot should be investigated for invasive species control. Bathhouse floor replacement.

Biddeford RiverWalk. The Biddeford RiverWalk is an evolving project intended to connect Mechanics Park on Water Street to the Diamond

Match Park project (future) and points west including the Eastern Trail. To date the RiverWalk project connects Mechanics Park to the City of Saco via a concrete walkway 135 foot pedestrian bridge over the Saco River to Saco Island, thus connecting to Saco's RiverWalk. The RiverWalk also continues through the North Dam Mill complex to Laconia Plaza located on the Saco River. The City of Biddeford's recently completed a master plan that conceptually lays out the future RiverWalk from Laconia Plaza to the Diamond Match site via alternate routes along the river, with potential further connections to the City of Saco via two additional pedestrian bridges. In 2016 the City completed, with the assistance of Wright-Pierce Engineers, a RiverWalk Master Plan Update.

Condition: Excellent

Needs: Seating on the Overlook by Main Street. Implementation of the 2016 Master Plan Update.

Diamond Match Park. This park is not yet constructed but a Master Plan was completed in July 2010. The parcel of land is owned by the city of Biddeford now comprises approximately 9.8 acres of land that is undeveloped.

Condition: N/A – Undeveloped Vacant Land.

Needs: Implementation of the July 2010 Master Plan.

East Point Sanctuary. It's point sanctuary is owned by Maine Audubon and is located on the far eastern tip of Biddeford Pool - it is located directly North East of the Abanakee Golf Club. There is virtually no parking here and no restrooms but it is very well known for wildlife viewing, particularly birds.

Condition: N/A

Needs: None known.

Fortunes Rocks Beach. Located approximately one mile southwest of Biddeford Pool, this large two mile long sandy beach offers opportunities

for swimming general beach activities. Small boats may also be able to be launched at this location via hand-carry. Many people also use this area for surfing. There are seasonal portable bathrooms and the City of Biddeford provides lifeguards in the summer months. There is on street parking available (approximately 50 cars). Seasonal beach parking permits are required for the summer months.

Condition: Very Good

Needs: Additional Parking

Marblehead Boat Launch. Marblehead boat launch is a State of Maine facility located off Pool Street. It is heavily used particularly in the summer months. Restrooms provided. There are two boat ramps and a pier at this location which makes it an ideal location for boat launching into the Saco River. There is parking for approximately 60 vehicles including trailers.

Condition: N/A – State Owned

Needs: Unknown

Mechanics Park. Mechanics Park is located at the corner of Main Street and Water Street. It features a walking path down to a River Overlook and great views of the Saco River. It also contains a gazebo where events such as weddings occasionally occur, picnic tables and feeding seating, bicycle parking, and a fitness station. Parking is available on Water Street as well as at what is referred to as the Gas House parking lot adjacent to the Wastewater Treatment Plant. It is a well-used passive park with quite a bit of open green space. Future plans include additional walking trails along the river and a possible carry-in canoe and/or kayak launch.

Condition: Upper level - Very Good; Lower Level - Fair to Poor.

Needs: Lower Level is in need of major repairs to the wall between the park and river. A sink hole has developed making one section of the lower level hazardous. The remainder of the park needs a solution to overgrown vegetation creating potential unsafe areas for visitors. Purchase of a piece of property between the Current Park and former CMP piece is

desirable to create a singular park along the river. Security cameras recommended.

Middle Beach. Middle Beach is located opposite of Bridge Road at its intersection with Mile Stretch Road. Is a flat sandy beach and the City of Biddeford provides lifeguards in the summer months. There are no restrooms at Middle Beach. There is a limited amount of parking available (approximately 25 cars) on Beach Avenue directly across from Bridge Road. Seasonal beach parking permits are required for the summer months.

Condition: Very Good

Needs: Additional parking and the control of invasive species.

Park in the Pines. Park in the Pines is a small passive park located at 194 Hills Beach Road. It offers tremendous views of Biddeford Pool and its wildlife. It also provides access to the pool for hand-carried boats such as canoes and kayaks. Park includes a Bocce Ball Court. There are no parking or restroom facilities at this park.

Condition: Very Good

Needs: Volunteers have requested a water source to maintain plants and flowers within the park.

Rachel Carson National Wildlife Refuge (U.S. Fish and Wildlife Service). In Maine the “Rachel Carson National Wildlife Refuge was established in 1966 in cooperation with the State of Maine to protect valuable salt marshes and estuaries for migratory birds. Located along 50 miles of coastline in York and Cumberland counties, the refuge consists of eleven divisions between Kittery and Cape Elizabeth. It will contain approximately 14,600 acres when land acquisition is complete. The proximity of the refuge to the coast and its location between the eastern deciduous forest and the boreal forest creates a composition of plants and animals not found elsewhere in Maine. Major habitat types present on the refuge include forested upland, barrier beach/dune, coastal meadows, tidal salt marsh, and the distinctive rocky coast.”

Source: https://www.fws.gov/refuge/rachel_carson/about.html.

In Biddeford there are two divisions of the Rachel Carson National Wildlife Refuge: the Biddeford Pool Division and the Little River Division. The Biddeford Pool Division controls property on the west side of Biddeford Pool off Old Pool Road. The Little River Division controls several properties on the east side of Little River in Granite Point including Timber Point and Timber Island. At the southernmost extent of Granite point Road there is a small parking area which leads to what is referred to as Timber Point Trail which runs along the west side of Timber Point. At low tide Timber Island can be accessed from the southernmost tip of this trail.

Condition: N/A

Needs: None Known

Rotary Park. Rotary Park is a popular park located at 550 Main Street on the Saco River. It is 72 acres in size and features walking trails, two playgrounds, the softball field with lights, youth football field, the teen center, a dog park, Skate Park, picnic tables and grills, a sand volleyball court, and a beach for access for swimming in the Saco River. It also features a boat launch for access to this non-tidal portion of the Saco River. Further, Rotary Park is a popular location for winter sledding with its hilly terrain.

Condition: Bathhouse - Good; Teen Center - Very Good

Needs: Bathhouse expansion would be helpful in order to add a family restroom and changing area. Dog Park-lights recommended. Certain sections of the swimming area need to be addressed as the clay has become a hazard. Projects laid out in the 2009 Master Plan should be addressed. Invasive species located throughout the park (2016 report) need to be addressed. Security Cameras needed. Martel Field backstop needs replacing. Minor fence repairs needed.

South Point Sanctuary. South Point Sanctuary includes a pathway that runs from 7th Street southwest and ultimately to Biddeford Pool Beach. The land is owned and maintained by the Biddeford Pool Land Trust.

Condition: N/A

Needs: None Known

Staples Street Beach. Staples St., Beach is located at the end of Staples Street in Biddeford Pool is a small rocky beach that is maintained by the Biddeford Pool Improvement Association. There is no parking available so access is pedestrian only.

Condition: N/A

Needs: None Known

Town Landing. Town Landing is a laid out city street, approximately 15 feet wide, that provides access to the Saco River from Hills Beach Road within the UNE campus.

Condition: Fair

Needs: For the public to be able to access this location signage/demarcation is necessary.

Vines Landing. Vines Landing is located at the westerly end of Lester B. Orcutt Boulevard at what is locally referred to as “the gut”. It is a passive park with a gravel boat launch and features great scenic views of Biddeford Pool, the Atlantic Ocean, and Wood Island Lighthouse. There is limited parking available at Vines Landing.

Condition: Very Good

Needs: Boat ramp

Wood Island. Wood Island is home to a Maine Audubon Nature Preserve as well as the U.S. Coast Guard's Wood Island Lighthouse. The Nature Preserve is approximately 30 acres in size and offers opportunities for walking and nature viewing including wildlife.

Condition: N/A

Needs: None Known

Yates Street Park. Each Street Park is located next to Vines Landing in Biddeford Pool. As a park that was established by the Biddeford Pool Land Trust upon donation of the land from its former. It is a passive park with great views of Biddeford Pool is suitable for picnicking and birdwatching. Parking is very limited in the area.

Condition: N/A

Needs: None Known

D. Current Recreation Programs in Biddeford:

The Recreation Department offers a wide variety of programs for youth, teens, adults, 50 Plus and senior populations. The programs change from time to time depending on the needs of the community. The following is an example of regular, ongoing programs operated by the Department:

Youth Sports. The Department offers an assortment of youth sports programs including the following:

- In spring and summer there are a variety of camps including soccer, basketball, tennis, golf, baseball, and field hockey.
- In the autumn, the Department offers soccer, flag football, field hockey, and basketball.
- In winter there is basketball and wrestling.

Youth & Family Enrichment. Youth enrichment activities offered including:

- In spring and summer there is an Easter Egg Hunt, April Vacation Camp, and Summer Day Camp.
- In fall and winter there are Early Dismissal Programs, Universal Recreation, afterschool classes such as Mad Science and Arts &

Crafts, a Youth Halloween Party, a Holiday Party, February Vacation Adventure, Pet Pals, Theatre Camp and Cub Care.

Teens. The Teen Center at Rotary Park offers the following activities for teens depending on the season:

- In the autumn, winter, and spring the Teen Center offers a safe place for youth to relax and take part in a variety of activities. The Center offers computer use, homework assistance; free Wifi, pool tables, foosball, lounge area, snack bar, special events, and trips. It also offers leadership activities such as Teen Center Committee and MYAN Conference. Transportation close to home offered at day's end and there is no cost to use the center or its transportation.
- The Middle School runs to the Teen Center are available October to June, Wednesdays-Friday. The Recreation bus brings students to the center.
- Summer there is an Outdoor Summer Bonanza Camp Program as well as other sports camps.

Adults (18+). The Recreation Department also offers many opportunities for adults in Biddeford, including the following:

- From autumn through winter there are women's and men's volleyball leagues, coed soccer, pickle ball drop-in volleyball, fall softball, Kayak rolling clinics, Saco River canoe and kayak trips, and self-defense and fitness classes such as kettlebell and spinning.
- In the spring and summer there are men's softball and coed softball leagues, fitness classes, canoe and kayak programs, pickle ball, spinning and self-defense classes.

50 Plus. For those a little older there is also a variety of opportunities available to them through the Recreation Department, such as:

- Year round activities include:
 - o Local trips for such activities as bingo, theatre shows, shopping, fall fairs, as well as mystery trips.
 - o Overnight trips are also offered.
- The Ross Center offers a variety of games such as Wii, bridge, scrabble, and chess. There is also a book club and knitting club as well as other clubs as they arise. Fitness classes as well as enrichment classes such as wreath making, informational topics such as Medicare minutes and a defensive driving course. The Ross Center also provides for indoor walking and coordinates Eastern Trail walks.
- The 50 Plus Club was 900+persons strong in 2017 and features monthly luncheons and entertainment, a newsletter, indoor horseshoes. The 50 Plus Club is run by a Board of Directors.

Special Events.

- The Recreation Department also participates in the planning, support and implementation of the Family Fun Festival (formally known as the Bacon St. Festival), Winterfest, as well as the downtown Trick or Treating and Christmas Tree Lighting celebration and River Jam Festival.

E. Challenges to Access to Water Resources.**1. Atlantic Ocean – Granite Point/Timber Point.**

Other than Timber Point, recently incorporated into the Rachel Carson National Wildlife Refuge (U.S. Fish and Wildlife Service) holdings, there is no public access available to the Atlantic Ocean in the Granite Point/Timber Point area of Biddeford. Properties abutting the Atlantic Ocean in this area are privately owned and there is virtually no public parking available in the area.

2. Atlantic Ocean – Fortunes Rocks.

Located approximately 1 mile southwest of Biddeford Pool, Fortunes Rocks Beach is a large two (2) mile long sandy beach offers opportunities to the public for swimming and general beach activities. Small boats may also be able to be launched at this location via hand-carry. Many people also use this area for surfing. There are seasonal portable bathrooms and the City of Biddeford provides lifeguards in the summer months. There is some on-street parking available (approximately 50 cars). Seasonal beach parking permits are required for the summer months. The largest challenge here is limited public parking.

3. Atlantic Ocean – Mile Stretch.

Middle Beach is located opposite of Bridge Road at its intersection with Mile Stretch Road and is the only public access available to the Atlantic Ocean in the vicinity of Mile Stretch Road until further north at the Biddeford Pool Beach/Gilbert R. Boucher Memorial Park. Is a flat sandy beach and the City of Biddeford provides lifeguards in the summer months. There are no restrooms at Middle Beach. There is a limited amount of parking available (approximately 25 cars) on Beach Avenue directly across from Bridge Road. Seasonal beach parking permits are required for the summer months. The primary challenge to public access here is limited parking.

4. Atlantic Ocean – Hills Beach.

There is very limited access to the beach at Hills Beach due to limited access points and limited available parking.

5. Atlantic Ocean – Biddeford Pool.

There are many opportunities for public access to the Atlantic Ocean in the Biddeford Pool area. A primary challenge, like many other areas in Biddeford, is largely the limited parking that is available given the demand for access, especially at Biddeford Pool Beach/Gilbert R. Boucher Memorial Park. East Point Sanctuary provides excellent visual access opportunities, Vines Landing provides a boat launch, and Wood Island provides an area for a boat pull-in as well as a walking trail with visual access to the Ocean.

6. Biddeford Pool.

The interior portion of Biddeford Pool, often referred to as “Back Bay”, has limited public access opportunities. Park in the Pines off Hills Beach road offers visual access and very limited access for carry-in boating. Vines Landing also provides access to “Back Bay” and includes a boat launch.

7. Little River.

There are no formal public access locations for Little River (tidal) and it would be challenging to create such public access due to the tidal marsh characteristics of this area.

8. Saco River (Tidal).

From the falls in Downtown Biddeford to the Atlantic Ocean there are limited public access points to the River. Marblehead Boat Launch (State of Maine) provides the greatest opportunity directly along the Saco River, but in summer month's experiences very high demand. Town Landing at the University of New England is little known and is defined on the ground (i.e., most people would not know it existed, and if they did, may not be able to locate it).

9. Saco River (Non-tidal).

Other than visual access to the Saco River up-river of the falls, Rotary Park provides the only physical access to the River. There is a boat launch and opportunities for swimming in the Saco River here at the beach.

10. Other Significant Water Bodies.

There are three ponds (although not classified as “Great Ponds”) in Biddeford: Lords Pond, Etherington Pond, Wilcox and Lily Pond.

Lords Pond is located between Fortunes Rocks Road, Maddox Pond Road, and Thorndike Avenue. The primary public access to this Pond is visual from either Fortunes Rocks Road or Maddox Pond Road, although there is a publicly owned right-of-way from Thorndike Avenue to the Pond.

Etherington Pond is the largest of the ponds and is located just south of Lords Pond off Fortunes Rocks Road. The primary public access to this Pond is visual from Fortunes Rocks Road although much of that is at times obstructed by vegetation.

Wilcox Pond, located off West Street.

Lily Pond is located further south and again is located off Fortunes Rocks Road. Immediately to the northwest of this Pond is a large parcel of land owned by the Rachel Carson National Wildlife Preserve. Although public access is possible through this parcel, the primary public access to this pond is visual access from the road.

F. Local and Regional Trail Systems.

1. Biddeford RiverWalk.

The Biddeford RiverWalk is an evolving project intended to connect Mechanics Park on Water Street to the Diamond Match Park project (future) and points west including the Eastern Trail. To date the RiverWalk project connects Mechanics Park to the City of Saco via a concrete walkway 135 foot pedestrian bridge over the Saco River to Saco Island, thus connecting to Saco’s River Walk. The River Walk also continues through the North Dam Mill complex to Laconia Plaza located on the Saco River. The City of Biddeford has recently completed a master plan that conceptually lays out the future River Walk from Laconia Plaza to the Diamond Match site via alternate routes along the river, with potential further connections to the City of Saco via two additional pedestrian bridges. In 2016 the City completed, with the assistance of Wright-Pierce Engineers, a RiverWalk Master Plan Update.

2. Blanding's Park Wildlife Sanctuary.

Blandings Park Wildlife Sanctuary founded in 2006 as a public charity 501 (c) 3 grass roots land trust. It is located off Pool Street at Blanding's Way approximately one (1) mile east of Downtown Biddeford. The Sanctuary now has over 200+ acres of valuable wildlife habitat preserved, which consists of a network of trails with a trails map available online (www.bpws.org) or at the trailhead.

3. Clifford Park.

This park owned by the city of Biddeford now comprises approximately 160 acres of land, most of which is undeveloped, but contains a significant trail system. The front of the park is located at 130 Pool Street where the trailhead is located. There is parking available for up to 34 vehicles and restrooms.

4. Eastern Trail.

The off-road section of the Eastern Trail, part of the East Coast Greenway, begins at Southern Maine Health Care at West Cole Road and continues through to the Town of Arundel. A gravel trail maintained by the City of Biddeford. North of West Cole Road the Eastern Trail is on-road following Barra Road across Thatcher Brook through Cathedral Oaks and down South Street and Main Street to Route One where it then proceeds North crossing into the City of Saco. There are conceptual thoughts about an off-road connection with Saco, which would run parallel of existing Railroad Bridge over the Saco River.

5. East Point Sanctuary.

East Point Sanctuary is owned by Maine Audubon and is located on the far eastern tip of Biddeford Pool - it is located directly North East of the Abanakee Golf Club. There is virtually no parking here and no restrooms it is very well known for wildlife viewing, particularly birds.

6. Rachel Carson National Wildlife Refuge (U.S. Fish and Wildlife Service) – Timber Point.

The Little River Division of the Rachel Carson National Wildlife Refuge controls several properties on the east side of Little River in Granite Point including Timber Point and Timber Island. At the southernmost extent of Granite point Road there is a small parking area which leads to what is referred to as Timber Point Trail which runs along the west side of Timber Point. At low tide Timber Island can be accessed from the southernmost tip of this trail.

7. South Point Sanctuary.

South Point Sanctuary includes a pathway that runs from 7th Street southwest and ultimately to Biddeford Pool Beach. The land is owned and maintained by the Biddeford Pool Land Trust.

8. Wood Island.

Wood Island is home to a Maine Audubon Nature Preserve as well as the U.S. Coast Guard's Wood Island Lighthouse. The Nature Preserve is approximately 30 acres in size and offers opportunities for walking and nature viewing including wildlife.

G. Open Space.

In November 2012 The City of Biddeford Open Space Committee completed an Open Space Plan that provided an inventory of Open Space in Biddeford. It includes a complete inventory (as of 2012) of Open Space parcels held by the Biddeford Pool Land Trust, the Biddeford Pool Improvement Association, Blandings Park Wildlife Sanctuary, Rachel Carson National Wildlife Sanctuary, Maine Audubon, Saco Valley Land Trust, The State of Maine, the City of Biddeford, Eastern Trail, Kennebunkport Conservation Trust, River Walk, Maine Coast Heritage Trust, Nature Conservancy, and various other Conservation Easements.

The Open Space Plan can currently be found at:

http://www.biddefordmaine.org/index.asp?SEC=45A349F5-F3F3-4F8E-9BA2-50921852871A&Type=B_BASIC

2. What does it mean for Biddeford? (Analyses)

1. Existing recreational facilities and programs in the community and region and their ability to accommodate projected growth or changes in age groups in Biddeford.
 - a. This question needs to be considered on a yearly basis and asked of the Recreation Commission and staff as part of the larger conversation around recreation programming as the population changes.
2. Need for certain types of services or facilities or to upgrade or enlarge present facilities to either add capacity or make them more usable.

- b. Awareness to improve facilities to be age and handicapped friendly as projects are entertained. With the addition of artificial turf at Waterhouse Field a reevaluation of field needs may be considered.
3. Other recreational facilities will be needed over the next 10 years? Are there certain neighborhoods with specific needs? Overall needs for the city, which are not being met?

Fulfilling the 2009 Master Plan for Rotary Park, in town Dog Park, Relocation options for the Teen Center closer to city center. Community Center upgrades or potential replacement. Erosion concerns at Rotary Beach.

4. Are there any other pressing issues for recreational facilities, ex. lack of parking?
- a. Open field space configured as activity demands require (addressed in Rotary Park Master Plan).
 - b. Additional parking for beach access.
 - c. Replacement of aging van.
 - d. Improvements of the Community Center Playground.
 - e. Erosion Control at Rotary Beach.
 - f. Additional Transportation needs for youth and seniors with increase in programs.

TBD

5. Are important tracts of open space commonly used for recreation publicly owned or otherwise permanently conserved?

Virtually all of the important tracts of opens space land used for recreation in Biddeford are either owned publicly (the United States of America and the Rachel Carson National Wildlife Sanctuary, the State of Maine, or the City of Biddeford) or are owned, or have conservation easements on them, by private non-profits such as Biddeford Pool Land Trust, Biddeford Pool Improvement Association, Blandings Park Wildlife Sanctuary, Maine Audubon, Saco Valley Land Trust, Eastern Trail Management District, Kennebunkport Conservation Trust, and Maine Coast Heritage Trust.

There may be some open space tracts of land that are used informally for such activities as hiking, cross country skiing, or snowmobiling, but these would be used as such by permission of private property owners.

6. Does the community have a mechanism, such as an open space fund or partnership with a land trust, to acquire important open spaces and access sites, either outright or through conservation easements?

The City of Biddeford does not have an open space fund or a formal relationship with a land trust (or similar agency).

7. Does the public have access to each of the community's significant water bodies?

As illustrated above, the public has access to all of Biddeford's water bodies including the Saco River, the Atlantic Ocean at various locations, and Biddeford Pool. Visual access is available to other water bodies including Lords Pond, Etherington Pond, and Lily Pond.

8. Are recreational trails in the community adequately maintained? Are there use conflicts on these trails?

The primary recreational trails in Biddeford encompass the RiverWalk, Clifford Park, the Eastern Trail, and trails not under the responsibility of the City of Biddeford such as those at Timber Point, East Point and South Point Sanctuary, Blanding's Wildlife Sanctuary and Wood Island.

The RiverWalk is well maintained. The RiverWalk is maintained by the Department of Public Works and by volunteers through "Adopt-A-Park" and private property owners (primarily the owners of North Dam Mill/The Mills at Pepperell). Long-term maintenance needs needs to be planned for and budgeted for in order to maintain this important asset for the benefit of the public for years to come.

The Eastern Trail is also well maintained. The Eastern Trail is maintained by the Department of Public Works. Since the recent paving of the Eastern Trail from Cathedral Oaks to Barra Road little maintenance is required of this section.

Clifford Park trails are generally maintained by local volunteer groups. The Department of Public Works also performs some trash pick-up and deals with larger issues such as when there are washouts. The trails are in good condition.

The other trails not owned by the City are maintained by others.

9. Is traditional access to private lands being restricted?

The City is not aware of any such restrictions.

3. What do we want to do about it?"

A. Goals:

1. To promote and protect the availability of outdoor recreation opportunities for all Maine citizens, including access to surface waters.

B. Policies and Strategies (who should do it; when)

Policy 1: To maintain/upgrade existing recreational facilities as necessary to meet current and future needs.

Strategy 1a: The Recreation Department and Commission shall create and maintain a list of recreation needs or develop a recreation plan to meet current and future needs.

Strategy 1b: Work with neighborhood groups to determine neighborhoods specific recreation needs and demands for consideration for future planning and implementation.

Policy 2: To preserve open space for recreational use as appropriate.

Strategy 2a: Provide educational materials regarding the benefits and protections for landowners allowing public recreational access on their property. At a minimum this will include information on Maine's landowner liability law regarding recreational or harvesting use, Title 14, M.R.S.A. §159-A.

Policy 3: To seek to achieve or continue to maintain at least one major point of public access to major water bodies for boating, fishing, and swimming, and work with nearby property owners to address concerns.

Strategy 3a: Complete the RiverWalk and Diamond Match Park property to create better access to waterfront activities for the urban population of Biddeford.

Strategy 3b: Seek funding to implement the Mechanics Park carry-in canoe/kayak boat launch already designed and ready for implementation.

Policy 4: Continue to support and participate in regional recreational groups efforts to enhance recreation opportunities in the Region and in Biddeford.

Strategy 4a: Work with public and private partners to extend and maintain a network of trails for motorized and non-motorized uses. Connect with regional trail systems where possible.

Strategy 4b: Work with an existing local land trust or other conservation organizations to pursue opportunities to protect important open space or recreational land.

SECTION 9: AGRICULTURAL AND FOREST RESOURCES

“Farming looks mighty easy when your plow is a pencil and you're a thousand miles from the corn field.” - Dwight D. Eisenhower

4. What is happening? (Conditions and Trends)

A. Background:

Approximately fifty-three percent (52%) of the City is zoned as Rural-Farm (RF) suitable for agricultural and residential uses, although much of which is forested or scrub land aside from some residential uses which are largely along roadways, although some relatively small residential uses do project off roadways along private and public roads if the RF zone.

B. A map and/or description of the community's farms, farmland, and managed forest lands and a brief description of any that are under threat.

Greg Copeland

C. Farmland, Tree Growth, and Open Space law taxation programs, including changes in enrollment over the past 10 years.

The State of Maine has four (4) "Current Use" programs which offer the property owner a reduction in their assessed value: Farm Land, Open Space, Tree Growth and Working Waterfront. The following narratives (not data) are found at http://www.maine.gov/revenue/propertytax/propertytaxbenefits/current_use.htm.

All four programs are available to the property owner through an application process with the local municipality. Applications must be filed on or before April 1st. Certain criteria must be met for each program in order to be eligible and any future change in the use of the land which would cause disqualification would result in a penalty. It should be noted that land registered under these programs is not protected from development as their current/future owners can remove them from the programs at will.

1. Farmland:

The Program provides for the valuation of land which has been classified as farmland based on its current use as farmland, rather than its potential fair market value for uses other than agricultural. In 2006 Biddeford had 25

parcels amounting to 1,304.23 acres of land enrolled in the Farmland Program (Table 9-1). In 2016, however, Biddeford had 27 parcels of land registered in the Farm Land Program totaling 1,446.17 acres (Table 9-2). As such, between 2006 and 2016 an additional 141.94 acres were added to the Farmland Program in Biddeford.

The average size of the 27 parcels in the Farmland Program in 2016 is 53.6 acres. Collectively, the parcels in the Farm Land Program as of 2016 represent approximately 7.6% of the zoned area of the City.

Under the Program, tax reduction rates vary depending on the different types of farmland classifications.

To be classified as "Farmland", the following requirements must be met:

- **Minimum Size** - The tract must contain at least five (5) contiguous acres. An application can be made for more than one tract of property as long as one of the tracts contains five contiguous acres.
- **Use** - The tract must be used for farming, agriculture, or horticultural activities, but may include woodland and wasteland within the farm unit. (Horticultural means land which is engaged in the production of vegetables, tree fruits, small fruits, flowers, and woody or herbaceous plants.)
- **Income Requirements** - The tract must produce a gross income per year of at least \$2,000.00 in one (1) of the two (2), or three (3) of the five (5) calendar years preceding the date of application for classification. Gross income includes the value of commodities produced for consumption by the farm household.
- **Annual Income Report** - The owner must file annually by April 1st with the assessor a determination of the gross income realized the previous year from acreage classified as farmland.

Table 9-1. Current Use Farmland Parcels in Biddeford, 2006

Owner's Last Name	Owner's First Name	Address	Map	Lot	Acreage
Jerome	Mona & Bradford	463 West St.	4	35-1	60.00
Labonte	Richard D. & Roger E.	697 South St.	1	44	22.50

Girard	Ryan R.	558 South St.	1	17-1	13.00
Girard	Ryan R.	570 South St.	1	23	57.00
Girard	Ryan R.	39 Wadlin Rd.	1	40	39.00
Sherman	Charles A. IV	36 Wadlin Rd.	1	39	96.50
Cote	Roger G. & Claire C.	16 Meetinghouse Rd.	8	37	45.50
Rioux	Denis E. & Daphne	677 South St.	1	43	96.00
Labonte	Richard D. & Jean E.	731 South St.	1	49	17.50
Boisvert	Norman R., Heirs Of	6 Wadlin Rd.	1	33	33.00
Hussey	Betty J.	50 Buzzell Rd.	6	1	4.50
Hussey	Betty J.	43 Buzzell Rd.	1	2	85.50
Girard	Raymond N.	575 South St.	1	25	24.00
Rhames	Richard E.	10 West Loop Rd.	3	36	88.40
Dearborn	Jere L. & Sally S.	9 Buzzell Rd.	1	5	149.54
Dearborn	Jere L. & Sally S.	9 Buzzell Rd.	6	4	15.40
Baker	David L. & Lisa C.	23 Oak Ridge Rd.	4	89	36.00
Desjardins	Gerard	707 South St.	1	45	12.00
Ewing	Esther & Timber Point Trust	1-2 Timber Point Rd.	5	2	93.00
Curro	Andrea	65 Proctor Rd.	3	17	194.00
Lowell	Michael J. & Susan L.	538 South St.	1	79	7.01
Lowell	Michael J. & Susan L.	521 South St.	1	15	37.34
Lowell	Michael J. & Susan L.	501 South St.	2	82-2	5.40
Hussey	Kenneth A. & Sandra M.	134 River Rd.	6	24	16.14
Paquette	Stephen A. & Lynn M.	551 South St.	1	16	66.00
TOTAL					1,304.23

Source: Biddeford Assessing Office

Table 9-2. Current Use Farmland Parcels in Biddeford, 2016

Owner's Last Name	Owner's First Name	Address	Map	Lot	Acreage
Jerome	Mona & Bradford	463 West St.	4	35-1	60.00
Labonte	Richard D. & Roger E.	697 South St.	1	44	22.50
Girard	Ryan R.	558 South St.	1	17-1	13.00
Girard	Ryan R.	570 South St.	1	23	57.00
Girard	Ryan R.	39 Wadlin Rd.	1	40	39.00
Sherman	Charles A. IV	36 Wadlin Rd.	1	39	94.47
Cote	Roger G. & Claire C.	16 Meetinghouse Rd.	8	37	45.50
Rioux	Denis E. & Daphne	677 South St.	1	43	96.00
Labonte	Richard D. & Jean E.	731 South St.	1	49	17.50
Boisvert	Norman R., Heirs Of	6 Wadlin Rd.	1	33	33.00
Hussey	Betty J.	50 Buzzell Rd.	6	1	4.50
Hussey	Betty J.	43 Buzzell Rd.	1	2	85.50
Girard	Raymond N.	575 South St.	1	25	24.00
Rhames	Richard E.	10 West Loop Rd.	3	36	88.40
Dutton	Jeffrey C. and Lois M.	95 River Rd.	6	4	5.40
Baker	David L. & Lisa C.	23 Oak Ridge Rd.	4	89	36.00
Clair	Michael S.	South St.	1	45-1	12.00
Ewing	Esther & Timber Point Trust	1-2 Timber Point Rd.	5	2	13.16

Curro	Andrea	65 Proctor Rd.	3	17	192.07
Lowell	Michael J. & Susan L.	538 South St.	1	79	7.01
Lowell	Michael J. & Susan L.	521 South St.	1	15	37.34
Lowell	Michael J. & Susan L.	501 South St.	2	82-2	5.40
Hussey	Kenneth A. & Sandra M.	134 River Rd.	6	24	16.14
Paquette	Stephen A. & Lynn M.	551 South St.	1	16	66.00
Brown	Alan C.	83 Oak Ridge Rd.	4	66	26.70
York	Miles S.	439 West St.	4	25	330.00
Wing	Lisa M.	1 Moxie Ln.	77	22	21.00
TOTAL					1,446.17

Source: Biddeford Assessing Office

According to the United States Agricultural Census the average size of the 8,173 operating farms in Maine in 2012 was 167 acres. For York County the average size of the 779 farms was 83 acres in 2012. The closest comparison available for Biddeford's agricultural activity is that of the 27 parcels registered in the Farmland Taxation program which had an average size of 53.9 acres.

2. Open Space:

There is no minimum acreage requirement with this program. However, minimum areas and setbacks must be excluded from classification.

The tract must be preserved or restricted in use to provide a public benefit. Benefits recognized include public recreation, scenic resources, game management or wildlife habitat.

The municipal assessor is responsible for determining the valuation placed on Open Space land. In determining the value of open space land, the assessor must consider the sale price that particular parcel of open

space land would command in the open market if it were to remain in the particular category or categories of open space land for which it qualifies.

If an assessor is unable to determine the valuation of a parcel of open space land based on the valuation method above, the assessor may use the Alternate Valuation Method. Using this method, the assessor reduces the fair market value of an open space land parcel by the cumulative percentage reduction for which the land is eligible according to certain categories. Those categories are as follows:

- Ordinary Open Space: 20% reduction
- Permanently Protected: 30% reduction
- Forever Wild: 20% reduction
- Public Access: 25% reduction

In other words, if the property met all of the above requirements, the owner would see a cumulative reduction of up to 95% on the classified land. If the property no longer qualifies as Open Space, then a penalty would be assessed using the same methodology as is used for removal from Tree Growth classification.

In 2006 Biddeford had 12 parcels amounting to 308.96 acres of land enrolled in the Open Space Program (Table 9-3). In 2016, however, Biddeford had 18 parcels of land registered in the Open Space Program totaling 314.73 acres (Table 9-4). As such, between 2006 and 2016, although there were 6 more parcels added to the Program, the increase in acreage was less than 6 acres.

The average size of the 18 parcels in the Open Space in 2016 is 25.75, less than half that of those in the Farmland Program. Collectively, the parcels in the Open Space Program as of 2016 represent approximately 1.6% of the zoned area of the City.

Table 9-3. Current Use Open Space Parcels in Biddeford, 2006

Owner's Last Name	Owner's First Name	Address	Map	Lot	Acreage
Henaire	Robert R.	481 West St.	4	35	8.74
Fortin	Renald A. & Lynn M.	620 South St.	1	27-3	13.00
Cote	Jenney C Et. Al.	1 Cape View Dr.	4	10-1	10.60
Southern Coast Development		Blandings Way	8	39	44.96
Smith	Charles Jr. & Susan	1 Little River Rd.	5	6-1	14.13

Rheult	Elizianne, Heirs Of	46 Meetinghouse Rd.	9	37	17.54
Drumney	Michael P. and Kathleen	390 Pool St.	8	37-3	44.46
Carrier	Susan H. & Peter E.	95 Oak Ridge Rd.	4	59	18.75
Hutchins	Dana B. and Susan M.	Oak Ridge Rd.	4	59-3	30.80
Hutchins	William J.	15 Hutchins Dr.	4	61	11.06
Hutchins	William J. and Lorraine L.	Oak Ridge Rd.	4	59-4	39.45
Davis Farm Estates		Oak Ridge Rd.	4	82-11	55.51
TOTAL					308.96

Source: Biddeford Assessing Office

Table 9-4. Current Use Open Space Parcels in Biddeford, 2016

Owner's Last Name	Owner's First Name	Address	Map	Lot	Acreage
Henaire	Robert R.	481 West St.	4	35	8.74
Fortin	Renald A. & Lynn M.	620 South St.	1	27-3	13.00
Cote	Jenney C. Et. Al.	1 Cape View Dr.	4	10-1	10.60
Smith	Charles Jr. & Susan	1 Little River Rd.	5	6-1	14.13
Rheult	Albert R.	46 Meetinghouse Rd.	9	37	17.54
Drumney	Michael P. and Kathleen	390 Pool St.	8	37-3	44.46
Carrier	Susan H. & Peter E.	95 Oak Ridge Rd.	4	59	18.75
Hutchins	Dana B. and Susan M.	Oak Ridge Rd.	4	59-3	30.80
Hutchins	William J. & Lorraine L.	15 Hutchins Dr.	4	61	11.06
Hutchins	William J. & Lorraine L.	Oak Ridge Rd.	4	59-4	39.45
Denning-Bole	Sara J.	West St.	8	15	8.00

Hussey	Roy C.	54 River Rd.	6	29	3.00
Hussey	Roy C.	62 River Rd.	6	27	56.30
Drumney	Kathleen D.	Pool St.	8	37-10	41.04
York	Miles	724 Pool St.	5	28	32.00
Woodman	Norman Jr. Et. Al.	Ferry Ln.	49	1-1	1.00
Woodman	Norman Revocable	15 Ferry Ln.	49	1	7.00
Kelley	Sue Ellen & Woodman	Ferry Ln.	49	1-2	2.00
TOTAL					314.73

Source: *Biddeford Assessing Office*

3. Tree Growth :

This program provides for the land owner with at least 10 acres of forested land used for commercial harvesting. A Forest Management and Harvest Plan must be prepared and a sworn statement to that effect submitted with the application. Applications include a map of the parcel indicating the forest type breakdown as well as all other areas not classified as tree growth. Each year, the State Tax Assessor determines the 100% valuation per acre for each forest type by county and by year. If the forestland no longer meets the criteria of eligibility or the landowner opts to withdraw from tree growth classification, then a penalty would be determined. Depending upon the length of time that the parcel has been enrolled, the penalty would be an amount between 20 and 30% of the difference between the 100% tree growth value and the fair market value.

Table 9-5. Current Use Tree Growth Parcels in Biddeford, 2006

Owner's Last Name	Owner's First Name	Address	Map	Lot	Acreage
Rhames	Richard E.	West St.	3	32	166.00
Clairs Inc.		475 South St.	2	38	19.00
Haas	Matthew & Sandra	36 Meetinghouse Rd.	9	38	3.00
Hotin	Henry & Maguire Lorraine	46 Old Pool Rd.	9	8-2	22.50
Haas	Matthew & Sandra	Meeting House Rd.	9	38-1	21.00

York	Miles	Pool St.	5	28-1	12.00
Kroll	James J. and Cathy L.	30 Wadlin Rd.	1	38	17.40
Wilson	Heather L.	19 Wadlin Rd.	1	37-1	16.59
Wilson	Diana	Wadlin Rd.	1	38-3	27.50
Rhames	Richard E.	Newtown Rd.	9	18-2	32.90
Rhames	Richard E.	West St.	4	111	58.00
Rhames	Richard E.	50 Proctor Rd.	3	14-4	11.30
Rhames	Richard E.	Pool St.	5	13-3	110.00
Rhames	Richard E.	Proctor Rd.	3	36-1	166.80
Rhames	Richard E.	Proctor Rd.	3	17-3	16.65
Rhames	Richard E.	80 Newtown Rd.	9	18-3	27.20
Rhames	Richard E.	Newtown Rd.	9	18-1	19.20
Rhames	Richard E.	Proctor Rd.	3	10-2	60.00
Rhames	Richard E.	Proctor Rd.	3	40-3	25.30
Clairs Inc.		South St.	1	14-1	370.00
Clairs Inc.		413 South St.	7	8	300.00
Sleeper	Breece E. and Kressey Jane	20 Wadlin Rd.	1	38-1	15.00
York	Miles	724 Pool St.	5	28	20.00
York	Miles	West St.	4	110	37.00
Hayes	Susan & Berg Howard	840 Pool St.	5	13	52.45
Grose	Roger H.	880 Pool St.	5	13-4	99.00
York	Miles	Newtown Rd.	9	18	126.00
York	Miles	439 West St.	4	25	207.00
Payeur	Lisa	Guinea Rd.	77	22	24.00
TOTAL					2,082.79

Source: Biddeford Assessing Office

Table 9-6. Current Use Tree Growth Parcels in Biddeford, 2016

Owner's Last Name	Owner's First Name	Address	Map	Lot	Acreage
Rhames	Richard E.	West St.	3	32	166.00
Clairs Inc.		475 South St.	2	38	16.7
Haas	Matthew & Joyce Cecilia	36 Meetinghouse Rd.	9	38	3.60
Haas	Matthew S.		9	38-1	19.70
Kroll	James J. and Cathy L.	30 Wadlin Rd.	1	38	19.00
Rhames	Richard E.	Newtown Rd.	9	18-2	32.90
Rhames	Richard E.	West St.	4	111	58.00
Rhames	Richard E. (Include with 3/14-3)	50 Proctor Rd.	3	14-4	11.30
Rhames	Richard E.	Pool St.	5	13-3	110.00
Rhames	Richard E.	Proctor Rd.	3	36-1	166.80
Rhames	Richard E. (Include with 3/17-6)	Proctor Rd.	3	17-3	22.05
Rhames	Richard E.	80 Newtown Rd.	9	18-3	27.20
Rhames	Richard E.	Newtown Rd.	9	18-1	19.20
Rhames	Richard E.	Proctor Rd.	3	10-2	60.00
Rhames	Richard E.	Proctor Rd.	3	40-3	25.30
Maine Water Co.		South St.	1	14-1	370.00
Clairs Inc.		413 South St.	7	8	314.00

Sleeper	Jane E. & Knittel Patricia J.	20 Wadlin Rd.	1	38- 1	15.00
Wellesley Group, LLC		840 Pool St.	5	13	52.45
Grose	Roger H.	880 Pool St.	5	13- 4	99.00
Gosnell	Annette Et. Al.	781 Pool St.	5	17- 2	25.00
Rhames	Richard E.	Proctor Rd.	3	14- 3	0.57
Rhames	Richard E.	80 Proctor Rd.	3	15- 2	7.21
Hussey	Roy C.	62 River Rd.	6	27	55.30
Rhames	Richard E.	Proctor Rd.	3	17- 6	54.95
Schaub	Thomas & Janet	Old Pool Rd.	9	8-7	21.00
Dearborn	Jere L. & Sally S.	Buzzell Rd.	1	5-5	120.56
TOTAL					1,892.79

Source: *Biddeford Assessing Office*

As of 2016, there were twenty-seven (27) parcels totaling 1,892.79 acres registered in the Tree Growth Taxation Program in Biddeford, a decrease of one (1) parcel from 2006 and approximately 190 acres (Tables 9-5 and 9-6). The 27 parcels in 2012 had an average size of 70.1 acres. Collectively the parcels in the Program in 2012 represent 9.9% of the City's total area.

4. Discussion:

As can be seen in Table 9-7, the total acreage change in the current use programs in Biddeford between 2006 and 2016 was -42.29 acres. This change represented a decrease in acreage of 1.14%. It should be noted that in some cases like that of Miles York where land was removed from the tree Growth Program and put into Open Space.

Collectively, the total acreage in 2016 represents 19% of the zoned acreage in the City.

Table 9-7. Current Use Program Changes in Biddeford, 2006-2016

Current Use Program	Acreage 2006	Acreage 2016	Acreage Change 2006-2016	% Change 2006-2016
Farmland	1,304.23	1,446.17	+141.94	+10.88%
Open Space	308.96	314.73	+5.77	+1.87%
Tree Growth	2,082.79	1,892.79	-190.00	-9.12%
Working Waterfront	0.00	0.00	0.00	0.00%
TOTAL	3,695.98	3,653.69	-42.29	-1.14%

Source: Biddeford Assessing Office

- D. Community farming and forestry activities (e.g. community garden, farmer's market, or community forest).

There is a Biddeford Farmers' Market referred to as Saco River Market located in the Mills at Pepperell at 40 Main Street. It operates October to May from 9 AMM to 12:30 PM. Available products include baked goods, cheese and other dairy products, eggs, fiber products, fruit, plants, specialty foods, vegetables and various other various products such as goat's milk soap and lotions, blended specialty teas, jams and preserves, pickles and relishes, dried herbs and spices, and sauces and salsas.

There is a small neighborhood garden located at the corner of Pierson's Lane and Bacon Street on a City owned parcel of land. There is also a community garden located at Williams Court Park.

5. What does it mean for Biddeford? (Analyses)

- A. The importance of agriculture and/or forestry to Biddeford.

Although agriculture and forestry activities are important in any society, they play a relatively minor role in Biddeford and its economy. They do however, help to create and rural landscape, provide open space in rural areas, and provide some locally grown agricultural goods.

Overall, their condition seems to be relatively stable as indicated by the slight changes in Current Use Program enrollment discussed above.

- B. Regulatory and/or non-regulatory protection measures.

1. Regulatory:

The City of Biddeford is not currently engaged in any regulatory or non-regulatory steps to protect farming or forest lands except through its Zoning Ordinance.

a. Cluster Developments (Subdivisions)

In Biddeford rural, non-growth areas are defined as being the Rural-Farm (R-F) Zone. The R-F Zone constitutes approximately 52% of Biddeford. Residential subdivisions in the R-F Zone are required to be developed under the “Cluster developments” provisions of the Zoning Ordinance (Article VI, Section 16). The provisions of this section identify the following purposes:

- *The purpose of these provisions is to allow for new concepts of residential, commercial and industrial development where variations of design and dimensional requirements may be allowed, provided that the new net density shall be no greater than that normally permitted in the zoning district in which the development is proposed;*
- *These provisions may be used when considering affordable housing projects; and shall be used when parcels of land sustain significant wildlife habitats or other significant natural features that would be destroyed if ordinary development approaches were used.*
- *Clustered development shall be encouraged as a means of preserving open space and land of value due to the natural resources found on it, limiting the costs and impacts of development, lowering maintenance costs, and reducing impervious surfaces.*

Soils of statewide significance and prime agricultural soils are a consideration under these provisions. Lots in cluster developments may be smaller than that which would otherwise be permitted in the zone, and the corresponding amount of area reduced is required to be put into open space. Under the terms of the Ordinance, “The open space that is preserved as described herein shall be considered for agriculture and natural resource-based uses where appropriate.”

When calculating net density in the R-F Zone these soils are backed-out from the lot size when determining how many lots may be created (Article VI, Section 44). As far as protecting these soils, however, the only provision is that “To the greatest extent possible, buildings shall not be located on these soils.” Forest land is not a factor in calculating net density.

Overall the City's current cluster subdivision provisions may do little to protect viable farmlands and keep them in production since often the open space created is held by a Land Trust or a Homeowner's Association which do not actively farm or manage the forests on these lands. Further, often cluster subdivisions reduce and/or fragment what otherwise may have been viable tracts of land for productive farming and forestry. The City may wish to revisit these standards and evaluate how well they are achieving the stated goals of the Ordinance.

b. Farmland Preservation (Article VI, Section 31)

The Performance Standards in the Zoning Ordinance pertain to "Farmland preservation":

In an effort to promote harmony between agricultural activities and other land use the State of Maine has passed special legislation concerning the proximity and compatibility of land uses (7 M.R.S.A. § 41 through 49). The City of Biddeford understands the importance of agricultural activities to the local economy and the conflict that sometimes arising between residential and other uses in close proximity to working agricultural activities. Therefore the following standards are specified:

A. Structures designed and intended for use as dwelling units, schools and playgrounds/athletic fields, establishments selling or dispensing food such as, restaurants, campgrounds and public picnic areas shall be set back 150 feet from the boundary of land registered with the State of Maine as "farmland."

B. Wherever possible structures as indicated in A above shall be set back from farms not registered with the community or the state at least twice the normal distance.

c. Net Density Calculations (Article VI, Section 44)

These performance standards apply to subdivisions in Biddeford and reduce the net developable acre of parcels of land that contain certain characteristics. Related to agriculture, the following are subtracted from the gross parcel area of a subdivision before calculating the net developable area of the parcel of land:

Soils in the rural farm zone identified by the soils conservation service as being of statewide significance, as prime agricultural soils, and/or as unique soils. These soils are identified on a map prepared by the Southern Maine Regional Planning Commission based on soil conservation service data and available in the City Planning Office, and are listed below:

Soil List

(Taken from map showing soils as developed by SMRPC from OGIS and SCS Data)

<i>Prime agricultural:</i>	<i>On, EmB, BcB, SkB, MaB, AIB</i>
<i>Prime if not flooded:</i>	<i>Po</i>
<i>Prime if irrigated:</i>	<i>CoB, LnB, CrB, AdB</i>
<i>Prime if drained:</i>	<i>Ra, BuB, Ru</i>
<i>Primed if drained and irrigated:</i>	<i>Na</i>
<i>Soils of statewide importance:</i>	<i>BuC, SeB, AIC, EmC</i>

Soil Legend

The first letter, always a capital, is the initial letter of the soil name. The second letter is usually a small letter but is a capital letter if the unit is broadly defined. The third letter, A, B, C, D, or E is the slope class. Most symbols without a letter for slope class are for nearly level soils but four are for units containing miscellaneous areas. The number 2 shows that the soil is eroded.

<i>Symbol</i>	<i>Name</i>
<i>AdB</i>	<i>Adams Loamy sand, 0 to 8% slopes</i>
<i>AIB</i>	<i>Allagash very fine sandy loam, 3 to 8% slopes</i>
<i>AIC</i>	<i>Allagash very fine sandy loam, 8 to 15% slopes</i>
<i>BcB</i>	<i>Becket fine sandy loam, 3 to 8% slopes</i>
<i>BuB</i>	<i>Buxton silt loam, 3 to 8% slopes</i>
<i>BuC</i>	<i>Buxton silt loam, 8 to 15% slopes</i>
<i>CoB</i>	<i>Colton gravelly loamy coarse sand, 0 to 8% slopes</i>
<i>CrB</i>	<i>Croghan loamy sand, 0 to 8% slopes</i>
<i>EmB</i>	<i>Elmwood fine sandy loam, 0 to 8% slopes</i>
<i>EmC</i>	<i>Elmwood fine sandy loam, 8 to 15% slopes</i>
<i>LnB</i>	<i>Lyman fine sandy loam, 3 to 8% slopes</i>
<i>MaB</i>	<i>Madawaska fine sandy loam, 0 to 8% slopes</i>
<i>Na</i>	<i>Naumburg sand</i>
<i>On</i>	<i>Ondawa fine sandy loam</i>

<i>Po</i>	<i>Podunk and Winooski soils</i>
<i>Ra</i>	<i>Raynham silt loam</i>
<i>Ru</i>	<i>Rumney loam</i>
<i>SeB</i>	<i>Scio silt loam, 3 to 8% slopes</i>
<i>SkB</i>	<i>Skerry fine sandy loam, 0 to 8% slopes</i>

If this map indicates the presence of said soils on a parcel proposed for development, or if in the opinion of the York County Natural Resources Conservation Service such soils are likely to be present, the Planning Board shall require a high-intensity soils survey, or a report by a registered soils scientist or a registered professional engineer experienced in geotechnics, in order to determine the location and extent of said soils. To the greatest extent possible, buildings shall not be sited on these soils.

With respect to net density calculations, this approach does very little to preserve farmland. It simply reduces the development potential of a parcel of land. Land that may be considered as worth preserving for agricultural purposes that is part of an overall development proposal may in fact be so fragmented either before or after a development project that its value is marginalized for farming purposes. This approach may need to be revisited if its intent is to preserve quality farmland.

2. Local or Regional Land Trusts

Although not solely protecting agricultural and/or forest lands, the Biddeford Open Space Plan completed in 2012 identified the following “conservation partners” who are either purposefully or indirectly involved in agricultural and/or forest land protection:

- Saco Valley Land Trust;
- Blandings Park Wildlife Sanctuary;
- Rachel Carson National Wildlife Refuge; and
- Maine Coast Heritage Trust;

C. Are farm and forest land owners taking advantage of the state's current use tax laws?

See Section 2 above (Tables 11-2, 11-4, 11-6, and 11-7).

D. Incompatible uses (i.e., residential) effect on normal farming and logging operations?

There have been some complaints from abutting land uses to agriculture and forestry operations over time. Forestry operations, for example, generate noise that abutting land uses have raised concerns about. Some agricultural operations have modified their fertilizer methods (e.g., manure) in response to odor complaints as well.

E. Large tracts of agricultural or forest land – Development Potential and Impacts.

There are some large parcels of forested and/or agricultural lands that have been looked at for development purposes. Examples include the “Claire” parcel off of South Street (413 South Street; Map 7, Lot 8), the City owned parcel off of Andrews Road (50 Andres Road; Map 2, Lot 1) which the City has considered for a possible business park, and the Labonte parcels off of South Street (697 and 731 South Street; Map 1, Lot 44 and Map 1, Lot 49 respectively). The potential impact on the community is unknown and could be viewed in variable ways. For example, the loss of open space (farmland and forested land) could be viewed negatively, but the creation of additional housing or a business park could be viewed as an asset to the City fulfilling an unmet need. Additional housing and a business park, however, could also create additional needs for municipal services.

F. Support for community forestry or agriculture (i.e. small woodlots, community forests, tree farms, community gardens, farmers’ markets, or community-supported agriculture)?

The City of Biddeford is not involved in the only farmer’s market, being the Saco River Market located in the Mills at Pepperell at 40 Main Street.

There is a small neighborhood garden located at the corner of Pierson’s Lane and Bacon Street on a City owned parcel of land. There is also a community garden located at Williams Court Park.

G. City or public woodlands under management, or that would benefit from forest management.

The City owns a parcel of land adjacent to Clifford Park formerly referred to as the “Boutin” piece. The City acquired it several years ago, with help from The Nature Conservancy, and a forest management/maintenance plan was required.

City owned parcels that could benefit from Forest Management Plans include the Diamond Match parcel, a large parcel of land off Andrews Road, Clifford Park itself, and to a lesser extent Rotary Park.

6. What Are We Going to Do Now?

A. Goals:

1. To safeguard the City's agricultural and forest resources from development which threatens those resources.

B. Policies and Strategies (who should do it; when):

Policy 1: To safeguard lands identified as prime farmland or capable of supporting commercial forestry.

Strategy 1a: Consult with the Maine Forest Service district forester when developing any land use regulations pertaining to forest management practices as required by 12 M.R.S.A. §8869 (Planning and Development Department; On-going).

Strategy 1b: Consult with Soil and Water Conservation District staff when developing any land use regulations pertaining to agricultural management practices (Planning and Development Department; On-going).

Strategy 1c: Revisit and evaluate the Cluster Subdivision and Net Density Performance Standards in the Zoning Ordinance for their effectiveness and value with respect to protecting agricultural and forest lands (Planning and Development Department, Planning Board; 1-2 Years).

Strategy 1d: Explore other regulatory means to maintain areas with prime farmland soils as open space to the greatest extent practicable (Planning and Development Department, Planning Board; On-going).

Policy 2: To support farming and forestry and encourage their economic viability.

Strategy 2a: Encourage owners of productive farm and forest land to enroll in the current use taxation programs (Planning and Development Department; 1 Year).

Strategy 2b: Review the Ordinances and consider allowing additional permitted and conditional uses in the Rural Farm Zone on active farm properties to allow for supplemental incomes for farm operators. Ensure at a minimum land use activities such as roadside stands, greenhouses, firewood operations, sawmills, log buying yards, and

pick-your-own operations are permitted. (Planning and Development Department, Planning Board; 1-2 Years).

Strategy 2c: Include agriculture, commercial forestry operations, and land conservation that supports them in local or regional economic development plans (Planning and Development Department; On-going).

Strategy 2d: Consider developing either a Transfer of Development Rights (TDR) and/or Purchase of Development Rights (PDR) programs (Planning and Development Department; 2-4 Years).

SECTION 10: NATURAL RESOURCES

1. What is happening?

A. Background:

Natural resources offer the City of Biddeford's residents, businesses, and visitors numerous recreational, commercial, and quality of life assets. The important natural resources in Biddeford range from the coastal environment along the Atlantic Coast to the forests and streams in Western Biddeford.

This section will discuss those resources in Biddeford with significant value including streams and their watersheds, wetlands and vernal pools, sand dunes, shoreland areas, unfragmented habitat blocks, and both wildlife and plant habitats. Some of the information that may normally be documented in this section may also be covered in other sections of this Comprehensive Plan, and where such overlap may exist, reference will be made to those sections rather than repeating it here.

B. Watersheds in Biddeford:

In 2006 the City of Biddeford enlisted a Consultant (Northern Ecological Associates, Inc.) to conduct a city-wide stream protection study for Shoreland Zoning purposes. As part of this study the major watersheds in Biddeford were identified in Biddeford. In all, ten (10) watersheds were identified within the city limits, with seven of these flowing into the Saco River. One more flows to Biddeford Pool, another to Etherington Pond, and the last to the Atlantic Ocean via Little River. Mile Stretch Road north to Biddeford Pool Village was not identified in the Study as a watershed.

This section provides a brief summary of these watersheds, beginning with a description of the Saco River Watershed. **Map X-X** Provides an illustration of the watersheds described below.

Saco River Watershed.

The Saco River flows out of the White Mountains of New Hampshire, draining a watershed of approximately 1,700 square miles on its journey to the Atlantic Ocean. The watershed is 75 miles long and extends 44 miles at its widest point. As mentioned above, seven (7) watersheds flow into the Saco River. Four (4) watersheds flow to the non-tidal portion of the Saco River, while three (3) others

flow into the tidal portion (estuary) of the Saco River below Saco Falls and Cataract Dam.

Saco River North Watershed.

The Saco River North watershed is relatively small (within the city limits of Biddeford) and encompasses approximately 844 acres (1.32 square miles) of land area within the City of Biddeford. The land uses are very rural in nature and the land is largely wooded and fields with a few relatively small single-family housing subdivisions. There are a handful of small unnamed streams the flow to the Saco River within this watershed. This watershed, however, like the Swan Pond Brook watershed, is upstream of the Maine Water (public water supply) intake.

Swan Pond Brook Watershed.

The Swan Pond Brook watershed is a relatively large watershed encompassing approximately 2,912 acres (4.55 square miles). All of the smaller streams in this watershed flow to Swan Pond Brook after flowing through mostly woodland and farmland. There has been limited residential housing growth in the watershed over time both along existing roads and through the creation of new roads. Swan Pond Brook and its tributaries have been identified by the City as of importance for additional protection through Shoreland Zoning and unlike other streams in the City is buffered with a 250' Resource Protection (RP-1) District. The RP-1 District does not allow new housing, so perhaps the greatest threat to water quality in the watershed is runoff from existing roads, deforestation and timber harvesting practices, and existing agricultural operations. Like the Saco River North watershed, this area flows to the Saco River upstream of the public water supply intake in the non-tidal waters of the Saco River.

Saco River Turnpike.

This watershed is relatively small (approximately 582.5 acres or .91 square miles). It also drains to the non-tidal portion of the Saco River, although downstream from the public water supply intake for Maine Water. It is more densely built than the previous two watersheds discussed, although it is largely single-family housing including the Cathedral Oaks Subdivision. Of additional note is the Maine Turnpike which traverses the watershed.

Thatcher Brook Watershed.

Thatcher Brook watershed is a large area that heavily urbanized with residential, commercial, and industrial uses. It encompasses approximately 3,561 acres (5.57 square miles) and flows to a point just east of Rotary Park. Land in Arundel also flows through this watershed to the Saco River. Due to

the age of many existing uses in the watershed, most notably those uses in the City's industrial parks (all of which are located in the watershed), the watershed has been classified as *impaired* with respect to water quality, although it is not on the Maine Department of Environmental Protection (Maine DEP) *urban impaired* list.

A considerable amount of work was completed in January 2015 with the release of the Thatcher Brook Watershed Management Plan (TBWMP). The TBWMP was a multi-jurisdictional, multi-stakeholder developed plan to document the impairment of the brook and identify means in which such impairment can be addressed leading ultimately to restoration of the brook. The TBWMP (Page 6) characterizes the Thatcher Brook Watershed as follows:

The Thatcher Brook 7.11± square mile watershed includes 5.59± square miles in Biddeford and 1.52± square miles in Arundel (see Figure 2, Watershed Area by Municipality). A tributary to the Saco River, Thatcher Brook is comprised of three distinct segments, Upper Thatcher Brook, Lower Thatcher Brook, and Richardson Brook.

- **Upper Thatcher Brook** begins in a wetland area west of Andrews Road in Biddeford then flows southeast across Route 111 into the Town of Arundel and then passes under the Maine Turnpike before heading northwest back into Biddeford and crossing Route 111 a second time just east of the northbound exit ramp for Exit 32 off Interstate 95 (the Maine Turnpike). A relatively small tributary to Upper Thatcher Brook begins southeast of Terry Lane in Arundel and joins Upper Thatcher Brook just south of Old Alfred Road near the Biddeford town line.
- **Richardson Brook** connects with Upper and Lower Thatcher Brooks to the east of the Maine Turnpike near Exit 32. One tributary to Richardson Brook begins in a large wetland complex in the southeastern portion of the watershed and crosses US Route 1 and several commercial/industrial areas prior to meeting with Richardson Brook in the vicinity of the Eastern Trail west of Morin Street. Several small tributaries to Richardson Brook begin in the developed area around the Biddeford Municipal Airport and traverse several commercial/industrial areas before converging into a single tributary that crosses US Route 1 before meeting the other tributary and forming Richardson Brook.
- **Lower Thatcher Brook** crosses the Maine Turnpike twice before finally passing under Main Street near Biddeford High School before joining the Saco River just upstream of the Saco River Dam at Saco Falls before ultimately flowing into Saco Bay. One relatively small tributary to Lower Thatcher Brook begins at Biddeford Crossing and crosses Route 111 before joining Lower Thatcher

Brook just west of the Maine Turnpike. Another small tributary to Lower Thatcher Brook begins in a developed area south of Route 111 and flows northwest crossing Route 111 and the Maine Turnpike before joining with Lower Thatcher Brook just prior to its final crossing of the Maine Turnpike. Two other small tributaries to Lower Thatcher Brook begin in a developed area near the railroad crossing north of Route 111 and flow northwest through a forested area before joining Lower Thatcher Brook just south of Glaude Avenue.

The Thatcher Brook watershed includes a diverse and complex mix of land uses that is comprised of dense residential, commercial, industrial, agricultural, public/non-profit and forested land. Approximately 2.75 square miles of the watershed is classified as a "regulated area" under the NPDES Phase II Stormwater Program (see Figure 3, NPDES Phase II Regulated Area).

West Brook Watershed.

The West Brook watershed comprises approximately 3,228 acres (5 square miles) of land in the City of Biddeford. It contains much of the older areas of Biddeford and as such is the most densely built up of Biddeford's watersheds. The lower reaches of West Brook, however, is fairly rural in nature although West Brook does run parallel to Parkside by the Falls before reaching the tidal portion of the Saco River.

Dungeon Brook Watershed.

The Dungeon Brook watershed is a relatively small watershed (352 acres or .55 square miles). It includes a mix of relatively low density single-family residential development and open space.

Moors Brook Watershed.

The Moors Brook watershed is the easterly most watershed that flows to the Saco River. It includes much of Guinea Road and the relatively built out streets immediately adjacent to the Saco River such as Tidewater Drive, Ferry Lane, Twin Island Drive, and Crestwood Drive. It also encompasses land to the north of Hills Beach Road occupied by the University of New England. This watershed is fairly large (2,277 acres or 3.56 square miles).

Biddeford Pool Watershed:

The Biddeford Pool watershed includes some areas occupied by the University of New England and the Hills Beach Community, as well as Old Pool Road, Bridge Road and some areas on the west side of Fortunes Rocks Road north of Thorndike Avenue. It is approximately 953 acres (1.5 square miles) in size and flows to Biddeford Pool. Hills Beach is heavily built up but contains a significant amount of sand that allows for infiltration. Mile Stretch Road and Biddeford Pool Village were not included in this watershed.

Etherington Pond Watershed:

The Etherington Pond Watershed is a small watershed (251 acres or .39 square miles) that is separated from the Atlantic Ocean by Fortunes Rocks Road.

Little River Watershed:

The Little River Watershed is the largest watershed in Biddeford aside from the Saco River Watershed. It is approximately 3,685 acres in size (5.76 square miles). It drains to the Atlantic Ocean via Little River, with its outlet at the border between Kennebunkport and Biddeford.

C. Wetlands

Maine Department of Environmental Protection (Maine DEP) in the Natural Resources Protection ACT (NRPA) distinguishes between two types of wetlands: Freshwater and Coastal.

Coastal Wetlands means "all tidal and subtidal lands; all areas with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, flat or other contiguous lowland that is subject to tidal action during the highest tide level for the year in which an activity is proposed as identified in tide tables published by the National Ocean Service. Coastal wetlands may include portions of coastal sand dunes."

"Freshwater wetlands" means freshwater swamps, marshes, bogs and similar areas that are:

- A. Inundated or saturated by surface or groundwater at a frequency and for a duration sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils; and
- B. Not considered part of a great pond, coastal wetland, river, stream or brook.

(Source: May 31, 2018

<http://www.mainelegislature.org/legis/statutes/38/title38sec480-B.html>).

Wetlands (swamps, marshes, and bogs) can be some of the most important nature resource features on the landscape. Wetlands assist in controlling erosion, storing flood waters, recycling nutrients and filtering pollutants, and recharging ground waters. They can also be important habitats for aquatic life, wildlife and plants.

Wetlands in Biddeford and their classification and function(s) has been identified by the Maine Department of Inland Fisheries and Wildlife (MDIF&W) on the *Beginning with Habitat (BwH) Supplementary Map 7 (Wetlands Characterization)* for Biddeford. Although the wetlands classification and functions are described here separately, the best way to interpret the wetlands identified in the BwH Supplementary Map 7 is by viewing the map itself since all wetlands therein are identified by both classification and function simultaneously, including overlaps where wetlands perform more than one function.

Wetland Classifications:

There are five possible classifications of wetlands (defined by the United States Fish and Wildlife Service (FWS) - Source:

<https://www.fws.gov/wetlands/documents/classwet/>) in Biddeford according to BwH Supplementary Map 7:

1. Aquatic Bed (floating or submerged aquatic vegetation, Open Water):

According to FWS: "The Class Aquatic Bed includes wetlands and deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Water regimes include subtidal, irregularly exposed, regularly flooded, permanently flooded, intermittently exposed, semipermanently flooded, and seasonally flooded."

FWS goes on to describe aquatic beds as to “represent a diverse group of plant communities that requires surface water for optimum growth and reproduction. They are best developed in relatively permanent water or under conditions of repeated flooding. The plants are either attached to the substrate or float freely in the water above the bottom or on the surface.”

There are some Aquatic Bed wetlands off the eastern edge of the land of Biddeford Pool, around Wood Island, and within Lord's, Etherington, and Great Pond.

2. Emergent (herbaceous vegetation), Emergent/Forested Mix (wood vegetation > 20 feet tall, Emergent Shrub-Scrub Mix (woody vegetation <20 feet tall);

According to FWS emergent wetlands “are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants. All water regimes are included except subtidal and irregularly exposed.”

(Source:

<https://www.fws.gov/wetlands/documents/classwet/emergent.htm>)

FWS provides the following description: “In areas with relatively stable climatic conditions, Emergent Wetlands maintain the same appearance year after year...Emergent Wetlands are found throughout the United States and occur in all Systems except the Marine. Emergent Wetlands are known by many names, including marsh, meadow, fen, prairie pothole, and slough.”

The majority of emergent wetlands are located in the Granite Point area adjacent to Little River. There is also a sizeable pocket of emergent wetlands identified at the Saco River at the mouth of Dungeon Brook. BwH also identifies emergent wetlands south of Biddeford Pool where an unnamed stream flows into the Pool. Lastly of note is an area of emergent wetlands along Thatcher Brook west and north of the I-95 on/off ramp to I-95 itself.

3. Forested/Forested Shrub-Scrub;

FWS defines forested wetland as being “characterized by woody vegetation that is 6 m tall or taller. All water regimes are included except subtidal.

FWS continues to describe them as being “most common in the eastern United States and in those sections of the West where moisture is relatively abundant, particularly along rivers and in the mountains. They occur only in the Palustrine and Estuarine Systems and normally possess an overstory of trees, an understory of young trees or shrubs, and a herbaceous layer.”

Of the five classifications, the vast majority of wetlands in Biddeford are forested/forested shrub-scrub and are located east of Hill Street. East of Guinea road most have functions 1 and 3 (see below). There is also a fairly large pocket of forested/forested shrub-scrub north of the intersection of Route 11 and Andrews Road.

4. Shrub-Scrub;

According to FWS: “The Class Scrub-Shrub Wetland includes areas dominated by woody vegetation less than 6 m (20 feet) tall. The species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions. All water regimes except subtidal are included.”

FWS goes on further to describe them as representing “a successional stage leading to Forested Wetland, or they may be relatively stable communities. They occur only in the Estuarine and Palustrine Systems, but are one of the most widespread classes in the United States...”

Shrub-scrub wetlands are scattered throughout eastern Biddeford predominantly in the Hill Street area and east to the Coast. Along Thatcher Brook from Arundel to Alfred Road/Route 111.

5. Other (rocky shore, streambed, unconsolidated shore, reef, rocky bottom).

FWS defines these other classifications as follows:

Rocky Shore: The Class Rocky Shore includes wetland environments characterized by bedrock, stones, or boulders which singly or in combination have an areal cover of 75% or more and an areal coverage by vegetation of less than 30%. Water regimes are restricted to irregularly exposed, regularly flooded, irregularly flooded, seasonally flooded, temporarily flooded, and intermittently flooded.

Streambed: The Class Streambed includes all wetland contained within the Intermittent Subsystem of the Riverine System and all

channels of the Estuarine System or of the Tidal Subsystem of the Riverine System that are completely dewatered at low tide. Water regimes are restricted to irregularly exposed, regularly flooded, irregularly flooded, seasonally flooded, temporarily flooded, and intermittently flooded.

Unconsolidated Shore: The Class Unconsolidated Shore includes all wetland habitats having three characteristics: (1) unconsolidated substrates with less than 75% areal cover of stones, boulders, or bedrock; (2) less than 30% areal cover of vegetation other than pioneering plants; and (3) any of the following water regimes: irregularly exposed, regularly flooded, irregularly flooded, seasonally flooded, temporarily flooded, intermittently flooded, saturated, or artificially flooded. Intermittent or intertidal channels of the Riverine System and intertidal channels of the Estuarine System are classified as Streambed.

Reef: The Class Reef includes ridge-like or mound-like structures formed by the colonization and growth of sedentary invertebrates. Water regimes are restricted to subtidal, irregularly exposed, regularly flooded, and irregularly flooded.

Rocky Bottom: The Class Rock Bottom includes all wetlands and deepwater habitats with substrates having an areal cover of stones, boulders, or bedrock 75% or greater and vegetative cover of less than 30%. Water regimes are restricted to subtidal, permanently flooded, intermittently exposed, and semipermanently flooded.

In Biddeford the wetlands associated along Biddeford's Atlantic Ocean Coast (east of the shoreline) and within Biddeford Pool all fall under this "other" classification. North of Hills Beach in the Atlantic Ocean are also classified as "other". Lastly, there is a sizeable area north of Cleaves Street in the Saco River that is classified as "other".

Wetland Functions:

Maine Department of Inland Fisheries and Wildlife (MDIF&W) have also identified four (4) possible functions of these wetlands, with many of Biddeford's wetlands serving multiple functions.

1. **Runoff/Floodflow Alteration** - Wetlands provide natural stormwater control capabilities. As natural basins in the landscape, wetlands are able to receive, detain, and slowly release stormwater runoff. Wetland shelves along stream banks naturally regulate flood waters by providing an area for swollen stream flows to expand and slow, thereby protecting downstream properties. This map assigns Runoff/Floodflow Alteration functions to wetlands that are (a) contained in a known flood zone, (b) associated with a surface water course or waterbody, and (c) with slope <3%.

AND/OR

Erosion Control/Sediment Retention - Wetlands act as natural sponges that can hold water, allowing suspended particles such as sediment to settle out. The dense vegetation in most wetlands helps to stabilize soil and slow water flows, thereby reducing scouring and bank erosion. This map assigns Erosion Control / Sediment Retention functions to wetlands with (a) slope <3%; (b) emergent vegetation; and (c) close proximity to a river, stream, or lake.

2. **Finfish Habitat** - Wetlands with documented finfish populations, including wetlands adjacent to a river, stream, or lake.

AND/OR

Shellfish Habitat - Inland wetlands and streams can directly affect the status of coastal shellfish harvest areas. Fecal coliform bacteria and waterborne nutrients resulting from land use changes away from the coast can travel via surface water to harvestable flats. One failed septic system near a stream could close a mudflat several miles away. Excessive nutrients can reduce water clarity and stimulate epiphytic growth that degrades eelgrass meadows. Conservation of freshwater wetlands and stream buffers in coastal watersheds is a key component in marine resource conservation. This map assigns a Shellfish Habitat function to wetlands within 0.5 miles of (a) identified shellfish habitat, (b) identified shellfish closure areas, or (c) mapped eelgrass beds OR palustrine wetlands directly connected by a stream of <0.5 mile in length to (a) identified shellfish habitat, (b) identified shellfish closure areas, or (c) mapped eelgrass beds.

3. **Plant and Animal Habitat** - Nearly all wildlife species, and many of Maine's plant species, depend on wetlands during some part of their life cycle. For the purposes of this map, wetlands containing open water or emergent vegetation, 3 or more wetland vegetation classes, and within 1/4 mile of a known rare, threatened, or endangered plant or animal occurrence, within 1/4 mile of a mapped significant or essential

habitat, or within 1/4 mile of a rare or exemplary natural community have been assigned this function.

4. Cultural/Educational - Wetlands within 1/4 mile of a boat ramp or school have been assigned this value as these wetlands are likely candidates for use as outdoor classrooms, or similar social benefit. Wetlands rated for other functions listed above may also demonstrate cultural/educational values although not expressly shown.

AND/OR

No Documented Function - The basis of this characterization is high altitude aerial photos. Photo quality often limits the information that can be interpreted from small wetland features, or those with dense canopy cover. Although not assigned a function under this study, ground surveys may reveal that these wetlands have multiple functions and values.

Much of Biddeford's wetlands perform multiple functions as identified on the MDIF&W *Beginning with Habitat (BwH) Supplementary Map 7 (Wetlands Characterization)*. This map should be referred in order to better fully understand Biddeford's wetlands classifications and functions.

D. Wildlife Habitats

The City of Biddeford has many important wildlife resources including Riparian (stream associated) Habitats, Essential Wildlife Habitats, and Significant Wildlife Habitats. Described above, there is often, but not always, overlap between Wetland Habitats and Wildlife Habitats. For example, considering the Atlantic Ocean is considered a Coastal Wetland, many of the wildlife habitats in the coastal area of Biddeford are considered wetland habitats. Deer Wintering Areas and Riparian Habitats, however, do not necessarily represent wetland habitats.

1. Riparian Habitat:

MDIF&W BwH Primary Map 1 (Water Resources and Riparian Habitat) identifies riparian habitats "using common regulatory zones including a 250-foot-wide strip around Great Ponds (ponds ≥ 10 acres), rivers, coastline, and wetlands ≥ 10 acres and a 75-foot-wide strip around streams". This map also notes that "Riparian areas depicted on this map may already be affected by existing land use". That is to say, a riparian habitat may have been identified but, however, there is in fact limited or no habitat due to existing conditions.

Riparian habitats are areas where land and water come together. These areas support a greater diversity of wildlife than nearly all other habitats. In Maine, riparian areas are often associated with deer wintering areas and are primary habitat for furbearers. Riparian habitats are often used as travel corridors between forested areas.

2. Essential Wildlife Habitat:

Essential wildlife habitat areas are those areas that provide habitat that is essential to the conservation of endangered or threatened species. These areas are generally identified through visual species observation and confirmed habitat use. It is important to note that if a project occurs in such areas Maine Department of Inland Fisheries and Wildlife review is required prior to the issuance of any State or local permits.

In Biddeford there are two (2) identified essential wildlife habitats according to BwH Primary Map 2 (High Value Plant & Animal Habitats). Both habitats are identified as either Roseate Tern Nesting Areas (surrounding Beach Island which is located east of South Point at Biddeford Pool) or Piping Plover–Least Tern Nesting, Feeding, and Brooding-Rearing Areas (off Mile Stretch/Fortunes Rocks Beach opposite of Bridge Street).

According to the MDIF&W:

“Roseate Tern essential habitat focuses on nesting areas to maintain breeding habitat and prevent disturbance that may cause nesting failure. A ‘nesting area’ is a locality encompassing all or part of an island used by at least one pair of nesting roseate terns. ‘Nesting’ means the presence of one or more nests, eggs, chicks, or pairs of territorial adult terns between May 15 and August 15.”

Source: *Habitat data layer fact sheet for Roseate Tern*, Maine Department of Inland Fisheries and Wildlife, 650 State Street, Bangor, ME 04401.

“Piping plover and least tern essential habitat focuses on coastal wetlands and sand dune systems to maintain nesting, feeding, and

brood-rearing habitats essential to conserving these species and to minimize human-related disturbance that can cause nest failure. 'Nesting' means the presence of at least one PIPL/LETE nest, egg, or chick. A 'Nesting, feeding and brood-rearing area' is a locality encompassing portions of coastal wetlands and coastal sand dune systems (including sub-tidal, intertidal, beach, and associated salt marshes and wetlands) and is used by at least one pair of nesting PIPL.LETE."

Source: *Habitat data layer fact sheet for Piping Plover and Least Tern Essential Habitats*, Maine Department of Inland Fisheries and Wildlife, 650 State Street, Bangor, ME 04401.

3. Significant Wildlife Habitat:

According to the Natural Resources Protection Act (NRPA), "Significant wildlife habitat" means:

- A. The following areas to the extent that they have been mapped by the Maine Department of Inland Fisheries and Wildlife (MDIF&W) or are within any other protected natural resource: habitat, as defined by the MDIF&W, for species appearing on the official state or federal list of endangered or threatened animal species; high and moderate value deer wintering areas and travel corridors as defined by the MDIF&W; seabird nesting islands as defined by the Department of Inland Fisheries and Wildlife; and critical spawning and nursery areas for Atlantic salmon as defined by the Department of Marine Resources; and
- B. Except for solely forest management activities, for which "significant wildlife habitat" is as defined and mapped in accordance with section 480-I by the MDIF&W, the following areas that are defined by the MDIF&W and are in conformance with criteria adopted by the Department of Environmental Protection or are within any other protected natural resource:
 - (1) Significant vernal pool habitat;
 - (2) High and moderate value waterfowl and wading bird habitat, including nesting and feeding areas; and
 - (3) Shorebird nesting, feeding and staging areas.

(Source: May 31, 2018:

<http://www.mainelegislature.org/legis/statutes/38/title38sec480-B.html>)

According to the MDIF&W BwH Primary Map 2 (High Value Plant & Animal Habitats) Biddeford contains a substantial amount of Significant

Wildlife Habitats, especially in areas east of Hill Street. These significant wildlife habitats have been identified for Biddeford on the BwH map and are presented on **Maps XX-XX**. The following provides a brief description of Significant Wildlife Areas identified for Biddeford:

1. **Candidate Deer Wintering Areas (CDWA's):** These are forested areas that are “possibly used by deer for shelter during periods of deep snow and cold temperatures.”

According to the MDIF&W a DWA “is defined as a forested area used by deer when snow depth in the open/hardwoods exceeds 12 inches, deer sinking depth in the open/hardwoods exceeds 8 inches and mean daily temperatures are below 32 degrees Fahrenheit.” (Source: *Habitat data layer fact sheet for Deer Wintering Areas*, Maine Department of Inland Fisheries and Wildlife, 650 State Street, Bangor, ME 04401).

According to the BwH Primary Map 2 and as shown on Map **XX-XX** there are four identified Candidate Deer Wintering Areas (CDWA's) in Biddeford:

- i. The largest CDWA identified is roughly located between Thatcher Brook and Swan Pond Brook, between Andrews Rd/Route 11 and South Street. It is identified as being approximately 646 acres in size.
- ii. The second largest CDWA is located south and east of Seigny Avenue and is associated with Dungeon Brook. It is shown as being approximately 440 acres in size.
- iii. There is a CDWA also identified west of Route 9/Pool Road and east of Bush Brook which is approximately 246 acres in size.
- iv. The last and smallest CDWA is located south of the intersection of West Street and Newtown Road. It is only approximately 28 acres in size.

According to the last Comprehensive plan (1999) Timber Point was also considered a (Candidate) DWA but in the latest data set from MDIF&W it no longer is included.

2. **Inland Waterfowl/Wading Bird Habitats (IWWH):** Areas for “Freshwater breeding, migration/staging, and wintering habitats for inland waterfowl or breeding, feeding, loafing, migration, or roosting habitats for inland wading birds.”

According to the BwH Primary Map 2 and as shown on Map XX-XX there are many IWWH's throughout Biddeford. This data set represents:

"IWWH that have been rated as high or moderate qualify as NRPA habitats. The IWWH rating is based on the composition of wetland subtypes, acreage and diversity of wetland habitats, interspersions of vegetation and water, and the percent of open water. Polygons represent the wetland footprint plus a 250-foot upland habitat zone used by wildlife associated with the wetland that also provides protection from disturbance".

Source: *Habitat data layer fact sheet for Inland Wading Bird and Water Fowl Habitat*, Maine Department of Inland Fisheries and Wildlife, 650 State Street, Bangor, ME 04401.

Although the sourced fact sheet describes these as "high or moderate" rated habitats, most depicted IWWH's on the BwH Map are in fact either unrated or rated "low". Spatially, these areas can be described generally as follows:

- i. There are six (6) identified IWWH's identified that are west of I-95:
 - Two (2) IWWH's in western Biddeford between Buzzell Road and River Road associated with tributaries to the Saco River (one of which overlaps into Dayton);
 - One (1) IWWH north of South Street associated with Swan Pond Brook;
 - One (1) IWWH north of the intersection of Andrews Road and Route 111 associated with a wetland (red Maple Swamp);
 - One (1) associated with Thatcher Brook and within the easternmost portion of a large Candidate Deer Wintering Area; and
 - One (1) associated with a wetland south of the intersection of Andrews Road and Route 111 (immediately west of Biddeford Crossing).
- ii. There are seven (7) identified IWWH's identified that are between I-95 and Granite Street (and Granite Street Extension):
 - One (1) IWWH overlapping into Arundel located west of Mountain Road associated with Thatcher Brook;

- Three (3) IWWH's clustered around Thatcher Brook and Richardson Brook at or near Exit 32;
 - One (1) along a tributary to Thatcher Brook behind Ocean Lots
 - One (1) along Thatcher Brook from Main Street to the Saco River;
 - One (1) IWWH located south of Granite Street in a large wetland complex. This particular IWWH overlaps with a large area with known wildlife species and identified on the Beginning with Habitat Primary Map 2 as an area with Rare, Threatened, or Endangered Wildlife.
- iii. Between Granite Street and Guinea Road there are also three (3) IWWH's each of which is also located within a large area identified as having Rare, Threatened, or Endangered Wildlife:
- One (1) IWWH north of West Street between Westwood Drive and Cranberry Lane;
 - One (1) large IWWH north of Proctor Road; and
 - One (1) associated with a large, open water, former gravel pit at the end and south of Proctor Road.
- iv. Five (5) IWWH's lie in the area bounded by Guinea Road, Pool Street, and West Street, four (4) of which are identified as having Rare, Threatened, or Endangered Wildlife:
- Two (2) immediately northeast of the intersection of Guinea Road and West Street;
 - Two (2) immediately west of Newtown Road in wetlands close to a tributary to Little River;
 - One (1) in a wetland area associated with Bush Brook.
- v. Seven (7) IWWH's are located east of Guinea Road, south of West Street, and west of Pool Street, as follows:
- Two (2) IWWH's are located in a wetland complex associated with Little River and a tributary to Little River that border on an area identified as having Rare, Threatened, or Endangered Wildlife;

- Another in the same wetland complex to the southeast;
- Two (2) south of Oak Ridge Road in Biddeford's Aquifer Protection Overlay (APO) district.
- One (1) located at the convergence of Bush Brook and Little River; and
- One (1) in a wetland immediately to the east of the convergence of Bush Brook and Little River.

3. **Seabird Nesting Island:** A Seabird Nesting Island is "An island, ledge, or portion thereof in tidal waters with documented nesting seabirds or suitable nesting habitat for endangered seabirds."

According to the BwH Primary Map 2 and as shown on Map XX-XX there are several Seabird Nesting Islands off of Biddeford's coast. This data set is described as follows:

"Seabird nesting islands are defined as island, ledge, or portion thereof in tidal waters that has 25 or more documented nests, adult seabirds associated with nests, or combination thereof (single species or aggregate of different species) in any nesting season since 1976 provided that the island, ledge, or portion thereof continues to have suitable nesting habitat. Alternatively, seabird nesting islands are also defined as an island, ledge, or portion thereof in tidal waters that has one or more documented nests of a seabird that is a Maine endangered or threatened species in any year since 1976 provided that the island, ledge, or portion thereof, continues to have suitable nesting habitat."

Source: *Habitat data layer fact sheet for Seabird Nesting Islands*, Maine Department of Inland Fisheries and Wildlife, 650 State Street, Bangor, ME 04401.

Spatially, these areas can be described generally as follows:

- i. Stage Island;
 - ii. Negro Island;
 - iii. Wood Island;
 - iv. Gooseberry Island; and
 - v. Beach Island.
4. **Shorebird Area:** Shorebird Areas are "Coastal staging areas that provide feeding habitat like tidal mud flats or roosting habitat like gravel bars or sand spits for migrating shorebirds".

According to the BwH Primary Map 2 and as shown on Map XX-XX there are many Shorebird Areas off the coast of Biddeford. This data set represents:

“...areas that are Significant Wildlife Habitat under the Natural Resources Protection Act. This dataset specifically address migratory shorebird coastal staging areas. Staging habitats are areas that meet shorebird feeding and roosting requirements during migration. These areas consist of coastal areas that provide both tidal mud flats rich in invertebrates for feeding and areas such as gravel bars and sand spits for roosting. Extensive field surveys began in 1993 to identify, map, and document use of feeding and roosting areas for shorebirds. Areas are labeled as feeding sites (F), roosting sites (R) or both (B). Polygons boundaries have been modified by the MDEP to align with the state 1:24,000 coastline. Polygons have been modified by Maine Department of Inland Fisheries & Wildlife to include 100’ and 250’ disturbance protection zones around feeding and roosting sites, respectively, and to better align habitat boundaries with natural features based on high resolution, low tide imagery from Maine DMR. Areas of extensive development were clipped from the 250’ disturbance protection zones around roosting areas.”

Source: *Habitat data layer fact sheet for Shorebird Areas*, Maine Department of Inland Fisheries and Wildlife, 650 State Street, Bangor, ME 04401.

The many Shorebird Areas in Biddeford generally described as follows:

- i. Biddeford Pool and the coastal wetlands associated with Biddeford Pool south of Bridge Road;
 - ii. The Coastal Wetland (Atlantic Ocean) areas from Fortunes Rocks Road/Old King’s Highway northeast to Biddeford Pool Beach and outwards to Beach Island;
 - iii. The islands off Biddeford Pool generally referred to as Gooseberry Island, Dansbury Reef, Washman Rock, and Libbyshears; and
 - iv. The immediate coastal area surrounding East Point Sanctuary.
5. **Tidal Waterfowl/Wading Bird Habitat (TWWH):** These are “Breeding, migrating/staging, or wintering areas for coastal waterfowl or breeding, feeding, loafing, migrating, or roosting areas

for coastal wading birds. Tidal Waterfowl/Wading Bird habitats include aquatic beds, eelgrass, emergent wetlands, mudflats, seaweed communities, and reefs.”

TWWH are also described as follows:

“This coastal habitat that supports tidal waterfowl and wading birds is composed of four habitat components: mudflats, salt marshes, eelgrass beds, and mussel bars. Rating of these habitats under NRPA is based on size of the habitat area and proximity to other tidal habitats.”

Source: *Habitat data layer fact sheet for Tidal Wading Bird and Waterfowl Habitat*, Maine Department of Inland Fisheries and Wildlife, 650 State Street, Bangor, ME 04401.

According to the BwH Primary Map 2 and as shown on Map XX-XX there are various TWWH's in Biddeford, including:

- i. Multiple shoreland areas along the Saco River from Downtown to the mouth of the Saco River;
 - ii. The entire area known as Biddeford Pool, including the coastal wetland associated with Biddeford Pool stretching towards Hills Beach Road and south past Bridge Road;
 - iii. All coastal wetland areas north of Hills Beach and Biddeford Pool;
 - iv. The entire Shoreland area stretching from East Point Sanctuary to Elizabeth Road; and
 - iv. The coastal wetlands south of Bridge Road to Bayberry Road.
6. **Significant Vernal Pools (SVP):** SVP are a “pool depression used for breeding by amphibians and other indicator species and that portion of the critical terrestrial habitat with 250 ft of the spring or fall high water mark. A vernal pool must have the following characteristics: natural origin, nonpermanent hydroperiod, lack permanently flowing inlet or outlet, and lack predatory fish.”

The SVP dataset provided by MDIF&W is described as follows:

“This dataset depicts significant vernal pool (SVP) or potentially significant vernal pool (PSVP) habitat. The habitat includes the pool depression used for breeding by amphibians and other indicator species and that portion of the critical terrestrial habitat within 250 feet of the spring or fall high water mark of the depression. SVPs and PSVPs

were mapped and surveyed in the field by Maine Department of Environmental Protection staff, Maine Department of Inland Fisheries and Wildlife biologists, and appropriately trained consultants.

To qualify for protection under the significant wildlife habitat provisions of NRPA, a wetland must meet a two-part definition based on field observations of both its physical (vernal pool) and biological (significant vernal pool) properties. A vernal pool must have the following characteristics: natural origin, temporary to semi-permanent hydroperiod, lack permanently flowing inlet or outlet, and lack predatory fish. A vernal pool qualifies as significant if it meets either the abundance or rarity criteria established in rule. Abundance refers to any one or combination of the following species abundance levels, documented in any given year: Fairy Shrimp (presence), Blue-spotted salamander (10 or more egg masses), Spotted salamander (20 or more egg masses), Wood frog (40 or more egg masses). Rarity relates to a pool with documented use in any given year by statelisted ETSC [Endangered, Threatened, and Special Concern] species that commonly require a vernal pool to complete a critical portion of their life-history. If a vernal pool is deemed non-significant, it is mapped as a point and is available in the vernal pool center point dataset.”

Source: *Habitat data layer fact sheet for Significant Vernal Pools*, Maine Department of Inland Fisheries and Wildlife, 650 State Street, Bangor, ME 04401.

According to the BwH Primary Map 2 and as shown on Map XX-XX there are many identified SVP's in Biddeford:

- i. West of I-95, there are two (2) identified SVP's immediately north of Andrews Road on property owned by the City of Biddeford;
- ii. One identified SVP in the Airport Industrial Park on property formerly owned by the City of Biddeford but sold to the State of Maine as part of the future York County consolidated courthouse project;
- iii. Three identified SVP's at the north end of the Biddeford Airport runway;
- iv. Several SVP's located within Clifford Park;
- v. One southeast of Seigny Avenue;

- vi. Several SVP's located on property owned by the University of New England, between West Street and Pool Road;
- vii. Two (2) located southeast of the intersection of Newtown Road and Pool Road; and
- viii. One located at 46 Old Pool Road.

7. Focus Area – Biddeford/Kennebunkport Vernal Pool Complex:

This focus area (see Map XX-XX) is 16,000 acres in size and is mostly undeveloped forests and wetlands: "The biological significance of this area is primarily a result of the high concentration of pocket swamps and vernal pools in an undeveloped landscape, an increasingly rare occurrence in Maine. The swamps and vernal pools provide habitat to rare species, most notably to Blanding's and spotted turtles, both species found primarily in the southern most part of the state where increasing development is contributing to fragmentation and loss of habitat." (Source: Maine Department of Inland Fisheries and Wildlife, *Beginning with Habitat, Focus Areas of Statewide Significance: Biddeford/Kennebunkport Vernal Pool Complex*, October 2017 Comprehensive Plan Support Documents).

E. Fisheries

Swan Pond Brook, its tributaries, and two unnamed tributaries to the Saco River upstream from where Swan Pond Brook outlets into the Saco River, are all identified by MDIF&W as being likely brook trout habitat. Little River and its tributaries, including Bush Brook, is also identified as a likely brook trout habitat.

According to MDIF&W (Source: MDIF&W: *Forest Management Recommendations for Brook Trout*) brook trout are native to Maine and there are two times the amount of brook trout supporting watersheds in Maine than the other sixteen (16) states that are within the eastern brook trout's range. Little River and Swan Pond Brook (and their tributaries) represent the characteristics conducive to brook trout: "clean, cool, well oxygenated water".

From a habitat perspective, MDIF&W state:

"Stream habitat suitability is maintained by the presence of intact, stable, mature wooded riparian corridors that: conserve forest soils, provide shade to reduce stream warming, protect stream water quality, provide cover for fish,

provide a source of woody debris and leaf litter from mature trees that maintain critical in-stream habitat for fish and the aquatic insects they feed upon (leaves provide the energy source that drives productivity in streams). Floodplain and fringe wetlands associated with streams are a significant source of springs and groundwater discharge that maintain stream flows and cool temperatures during warm low flow summer periods. Protection of these important riparian and wetland functions insures that the overall health of stream habitat and watershed is maintained.”

F. Plant Species and Rare Communities

Biddeford has several types of rare and endangered species of plant life located in the coastal area. Plant communities are important within a community because they offer a diverse habitat for many different types of wildlife. They also provide residents with recreational, commercial and medicinal opportunities.

The Maine's Natural Areas Program (MNAP) has identified five (5) unique plant communities within Biddeford: Red Maple Swamp, Pocket (Hemlock) Swamp, Freshwater Tidal Marsh, Brackish Tidal Marsh, and Salt-hay Saltmarsh.

1. **Red Maple Swamp:** Located west of I-95 between Andrews Road and South Street is a Red Maple-Sensitive Fern Swamp (see Map XX-XX). Its State Ranking is S5 being “Demonstrably secure in Maine.” MNAP describes this community as follows:

“Red maple dominates the somewhat open to nearly closed canopy (20-90% closure), sometimes with a relatively large component (up to 40% cover) of balsam fir, red spruce, or northern white cedar. Green ash and yellow birch are common, but rarely abundant, associates. The maples may be widely spaced with multiple trunks and arching crowns. The shrub layer is patchy; winterberry is common and various other shrubs may be locally abundant. The herb layer is well developed and dominated by herbs, with dwarf shrubs <20% of herb cover. Bluejoint and sensitive fern are characteristic herbs. The bryoid layer is usually <35% cover; peat mosses are typical but do not form extensive, deep carpets as they do in peatlands.”

The following are identified as “Characteristic Plants” being those plants that are frequently found in this community type. Those with an asterisk (*) are often diagnostic of this community.

Canopy:

- Balsam fir
- Gray birch
- Northern white cedar
- Red maple*
- Red spruce

Sapling/shrub:

- Arrowwood*
- Balsam fir
- Gray birch*
- Red spruce
- Speckled alder*
- Winterberry*

Herb:

- Bluejoint*
- Flat-topped white aster*
- Interrupted fern
- Tussock sedge
- Royal fern*
- Sensitive fern*

Bryoid:

- Sphagnum mosses*

The following are “Associated Rare Plants” in the Red Maple Swamp:

- Smooth winterberry holly
- Spicebush
- Swamp saxifrage
- Swamp white oak
- Sweet pepper-bush

Lastly, there are two (2) “Associated Rare Animals” associated with this community:

- Spotted turtle
- Wood Turtle

2. **Pocket (Hemlock) Swamp:** There is a pocket swamp identified in the Airport Industrial Park on land formerly owned by the City of Biddeford. It is associated with a significant vernal pool and has identified within it smooth winterberry holly.

“These forested wetlands may be deciduous or mixed and typically occur as small depressions within an upland landscape. Red maple almost always dominates the canopy and occurs with hemlock and/or black gum. Black gum is an uncommon tree in Maine and is a good indicator of this community. Shrubs may be locally dense and include highbush blueberry and winterberry. The herb layer is variable in extent, and often features large clumps of ferns. In southern Maine, several rare plants are associated with these wetlands.”

The following are identified as “Characteristic Plants” being those plants that are frequently found in this community type. Those with an asterisk (*) are often diagnostic of this community.

Canopy:

- Black gum
- Eastern hemlock
- Red maple
- Yellow birch

Sapling/shrub:

- Highbush blueberry
- Maleberry
- Mountain holly
- Wild-raisin

- Winterberry
- Yellow birch

Dwarf Shrub:

- Lowbush blueberry

Herb:

- Bluejoint
- Cinnamon fern*
- Goldthread
- Long sedge
- Marsh fern
- Northern water-horehound
- Royal fern*
- Three-seeded sedge*

The following are “Associated Rare Plants” in the Red Maple Swamp:

- Mountain laurel
- Smooth winterberry
- Spicebush

Lastly, there are three (3) “Associated Rare Animals” associated with this community:

- Blanding’s turtle
- Spicebush swallowtail
- Spotted turtle

3. **Freshwater Tidal Marsh:** There is one (1) Freshwater Tidal Marsh located in the Saco River just downstream of the Water Street Wastewater Treatment Plant (see **Map XX-XX**). This community has a state ranking of S2: Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline. MNAP describe this community as follows:

“These tidal marshes are dominated by patchy stout herbs, typically a mixture of wild rice, softstem bulrush, and pickerelweed, often covering extensive areas. Mixed in with the tall herbs are lower forbs including several rare species. Some marshes may have mudflats dominated by forbs and low vegetation in patches among the graminoids; many have a very narrow band of low forbs near the high tide/upland interface. Brackish marsh species, such as chair-maker’s rush, may be in these marshes as well, but at least some obligate freshwater plants such as pickerelweed, common arrowhead, sweet flag, and northern water-plantain will also be present. Bryophytes are essentially absent.”

The following are identified as “Characteristic Plants” being those plants that are frequently found in this community type. Those with an asterisk (*) are often diagnostic of this community.

Herb:

- Chair-maker’s rush*
- Common arrowhead
- Eaton’s bur-marigold
- Nodding beggar ticks
- Northern water-plantain
- Parker’s pipewort
- Pickerelweed*
- Softstem bulrush*
- Tidal arrowhead
- Wild rice*

The following are “Associated Rare Plants” in the Red Maple Swamp:

- Beaked spikerush
- Eaton’s bur-marigold
- Long’s bitter-cress
- Parker’s pipewort
- Pygmyweed
- Spongy arrowhead
- Stiff arrowhead
- Water-pimpernel

Lastly, there are four (4) “Associated Rare Animals” associated with this community:

- American oystercatcher
- Black-crowned night-heron
- Least bittern
- Short-eared owl

4. **Brackish Tidal Marsh:** MNAP have identified a Brackish Tidal Marsh north of the intersection of Pool Street and Blanding's Way (see **Map XX-XX**). This community has a state ranking of S3: Rare in Maine (on the order of 20-100 occurrences). MNAP describe this community as follows:

*“Brackish tidal marshes contain both freshwater and brackish water species, often in bands corresponding to tidal exposure. Tall rushes and bulrushes often predominate over extensive mid-elevation flats. At the lower elevations, rosette-forming herbs, such as *lilaeopsis* and tidal arrowhead, may be common on the mudflats. Near the high tide line, there may be a fairly narrow zone of muddy gravel or rock shore sparsely vegetated with low herbs, including some rare species such as *Long’s bitter-cress* or *water-pimpernel*. Sweetgale and poison ivy are often present at the upper fringes of the marsh, at or above the tidal reach.”*

The following are identified as “Characteristic Plants” being those plants that are frequently found in this community type. Those with an asterisk (*) are often diagnostic of this community.

Sapling/shrub:

- Poison-ivy*
- Sweetgale*

Herb:

- Chaffy sedge*

- Chair-maker's rush*
- Common arrow-grass
- Freshwater cordgrass*
- Narrow-leaved cattail
- Northern blue flag
- Smooth cordgrass
- Softstem bulrush
- Wire rush*

The following are "Associated Rare Plants" in a Brackish Tidal Marsh:

- Lilaeopsis
- Parker's pipewort
- Pygmyweed
- Stiff arrowhead
- Water-pimpernel

The following are "Associated Rare Animals" in a Brackish Tidal Marsh:

- American oystercatcher
- Black-crowned night-heron
- Least bittern
- Saltmarsh sharp-tailed sparrow
- Short-eared owl

5. **Salt-hay Saltmarsh:** Salt-hay Marshes

Salt-hay Saltmarshes are located mostly along the coast but also in one location along the Saco River (north-east of Pool Street, southeast of Ferry Lane - see **Map XX-XX**). The marsh that rings Biddeford Pool, for example, is a Salt-hay marsh, as is the marsh associated with Little River between Route 9 and the Atlantic Ocean. This community has a state ranking of S3: Rare in Maine (on the order of 20-100 occurrences). MNAP describes this community as follows:

"These tidal marshes consist of expanses of saltmeadow cordgrass, smooth cordgrass, and/or black-grass. Shrubs are virtually absent, and

the herbaceous cover is usually >85%. Much of the marsh is high marsh, where saltmeadow cordgrass forms meadows, and where black-grass may be dominant at slightly higher elevations. In the low marsh, along creeks or at elevations just below mean high water, smooth cordgrass is abundant. Salt pannes with abundant seashore saltgrass may dot the high marsh; goosetongue may also be locally common. Sea lavender and seaside goldenrod are often found at the upper tidal fringe. The dominant species typically form bands corresponding to tidal inundation zones."

The following are identified as "Characteristic Plants" being those plants that are frequently found in this community type. Those with an asterisk (*) are often diagnostic of this community.

Herb:

- Alkali bulrush
- Black-grass*
- Common arrow-grass*
- Goosetongue*
- Purple-stemmed aster
- Saltmeadow cordgrass*
- Sea milkwort*
- Seashore saltgrass*
- Seaside goldenrod*
- Smooth cordgrass*
- Wire rush*

The following are "Associated Rare Plants" in a Brackish Tidal Marsh:

- Dwarf glasswort
- Lilaeopsis
- Saltmarsh bulrush
- Saltmarsh false-foxglove
- Slender blue flag

The following are "Associated Rare Animals" in a Brackish Tidal Marsh:

- Big bluet
- Black-crowned night-heron
- Laughing gull
- Least tern
- Saltmarsh sharp-tailed sparrow
- Short-eared owl

G. Sand Dune Systems

A sand dune is a hill or ridge composed of wind-blown sand. These dunes are highly

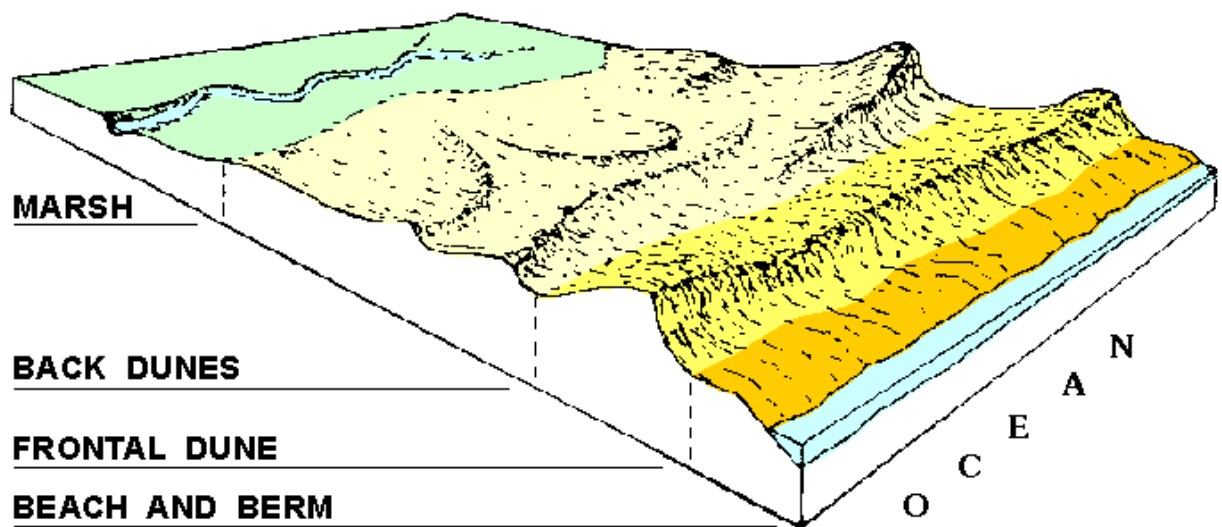
susceptible to wave and wind action. Sand dunes generally consist of frontal dunes and back dunes.

Frontal Dune(s): Frontal dune. The frontal dune is the area consisting of the most seaward ridge of sand and gravel and includes former frontal dune areas modified by development. Where the dune has been altered from a natural condition, the dune position may be inferred from the present beach profile, dune positions along the shore, and regional trends in dune width. The frontal dune may or may not be vegetated with dune vegetation and may consist in part or in whole of artificial fill. In areas where smaller ridges of sand are forming in front of an established dune ridge, the frontal dune may include more than one ridge. The frontal dune includes former frontal dune areas modified by development. Where the dune has been modified by structures, the dune position may be inferred from the present beach profile, dune positions along the shore, and regional trends in dune width.

Back Dunes: Back dunes consist of sand dunes and eolian sand flats that lie landward of the frontal dune or a low energy beach. Back dunes include those areas containing artificial fill over back dune sands or over wetlands adjacent to the coastal sand dune system

Source: Slovinisky, Peter A., and Dickson, Stephen M., 2011, Coastal sand dune geology: Curtis Cove, New Barn Cove, Biddeford, Maine: Maine Geological Survey, Open-File Map 11-99, aerial photo, scale 1:4,800. Maine Geological Survey Maps. 455.
http://digitalmaine.com/mgs_maps/455

Figure X: Sand Dune Systems.



Source: <http://www.maine.gov/dacf/mgs/pubs/online/dunes/dunes-exp.htm>

According to the Maine Geological Society there are generally seven (7) sand dune systems located within the City of Biddeford, as follows:

1. Hills Beach. This system is a sandy beach with approximately 6,500 feet of frontal dunes and back dunes, although the previous Comprehensive Plan identified only approximately 600 feet of frontal dunes. Both the frontal and back dune systems are heavily developed with residential uses.
2. Hills Beach – Fort Hill. There is also a small pocket of frontal dunes (300 feet +/- in length) encompassing the connector road to Fort Hill.

3. Mile Stretch Beach. The Mile Stretch Beach dune system is approximately 7,000 feet +/- long running from South Point to Bridge Road. The Atlantic Ocean side of the beach is a frontal dune that is heavily developed. The Pool side if a back dune system that is also heavily developed.
4. Fortunes Rocks Beach. These sandy beaches are located along the midcoast section of Biddeford and have approximately 2 miles of frontal dune systems. There is significant development in the frontal dune areas. Back dunes exist along the marsh side of the beach until Lord's Pond. There are only frontal dunes from the north side of Lord's Pond until the southern tip of Etherington Pond, where there is a small section of back dunes (400 feet +/-). The back dunes from Bridge Road to Lord's Pond are also heavily developed.
5. Horseshoe Cove. Horseshoe Cove Beach is north of New Barn Cove and Hoyt Neck. It is a sandy beach with approximately 3,000 feet of frontal dunes, with a little more than half of that stretch built-out. Approximately 1,500 feet of back dunes also exist from where the frontal dunes intersect Granite Point Road north which is not built out.
6. New Barn Cove Beach. New Barn Cove is located north of the intersection of Granite Point Road and Bayberry Road. It wraps around up to Sea Spray Drive. . It is made up of ledge and marsh systems. Approximately 1,500 feet make-up the frontal dune and there are structures throughout approximately 500 feet of both the frontal and back dune systems.
7. Curtis Cove Beach. Curtis Cove Beach is located further south of New Barn Cove off of Granite Point Road. It is approximately one-half mile in length. The frontal dune is 2,300 feet long with limited back dunes. There is only one (1) structure in the frontal dune system.

The Maine Natural Resources Protection Act (NRPA: Title 38 M.R.S.A., Chapter 3, Section 480D, 2000) requires that new coastal development will not unreasonably:

1. Interfere with the natural supply or movement of sand within or to the sand dune system;
2. Increase the erosion hazard to the sand dune system;
3. Cause or increase the flooding of the dunes or adjacent properties;

4. Interfere with the natural flow of any surface or subsurface waters;
5. Inhibit the natural transfer of soil from the terrestrial to marine environments;
6. Harm any significant wildlife habitat, threatened or endangered plant habitat, travel corridor, freshwater, estuarine or marine life; or
7. Interfere with existing scenic, aesthetic, recreational, or navigational uses.

Additional NRPA restrictions on development concerning wildlife, water quality, recreation, etc. may apply to some dune areas.

H. Scenic Resources

Scenic resources within a community are attributes that give communities identity and make them appealing places to live. These resources may be specific, extraordinary views or they may be vistas of segments of the community, such as traditional working rural landscape or village centers or historic districts. The City of Biddeford is fortunate to have a diversity of geographical landscapes within the City's boundaries. There are beaches, open areas, islands, harbors, tidal flats, wetlands, historical resources and village centers. As identified in the 1999 Comprehensive Plan, some of the more well-known/familiar scenic areas are as follows:

- Biddeford Pool village
- Wood Island Harbor and various neighboring islands
- Wood Island Lighthouse
- Rachel Carson Wildlife Refuge
- Lily Pond/Etherington Pond
- Curtis Cove, Horseshoe Cove, Fortunes Rock Cove and New Barn Cove
- Fortunes Rock, Fortunes Rock Beach
- Hills Beach
- James Montgomery Flagg House
- Fletcher's Neck Life Saving Station
- Timber Point
- Little River Estuary
- East Point Sanctuary
- Saco River

- Farmlands and open areas

2. What does it mean for Biddeford? (Analyses)

A. Potential Threats to Natural Resources

Throughout this entire section, existing and potential threats to the vast array of natural resources located here in Biddeford have been discussed. These resources, as mentioned, contribute to the overall character of the City and provide enjoyment for residents and tourists. In order for the City to properly manage these areas, it is important that these threats be addressed.

The following is a brief outline of existing and potential threats:

- human impact and disturbance through commercial, residential or recreational uses
- point and non-point source pollution runoff
- deforestation or over-harvesting of resources
- natural geological and environmental changes
- man-made environmental disasters

Some specific threats to certain resources are identified as follows:

a. Wetlands and Vernal Pools:

Land use development and human impact can result in the loss or degradation of wetlands which can lead to impacts such as increased flooding, extinction of species, and decline in water quality. Untreated runoff from agricultural lands, urban areas, and other sources into wetlands can result in changed species composition, increased pollutant loadings and replacement of complex wetland systems with open water. Land use development projects should be managed carefully to avoid these threats.

b. Thatcher Brook.

The Thatcher Brook Watershed Management Plan (TBWMP) completed in January 2015 identifies the following threats to the water quality of the brook (Page 1):

Thatcher Brook is on Maine's 303(d) list, signifying that the stream is not meeting one or more of its designated uses. Stream habitat and biomonitoring assessments completed by the Maine Department of Environmental Protection (MDEP) found that Thatcher Brook did not support the aquatic macroinvertebrates that should be found in a Class B stream. Thatcher Brook is not yet listed as an Urban Impaired Stream in MDEP's Chapter 502. A stream is considered urban impaired if it fails to meet state and federal water quality classifications due to the effects of stormwater runoff from impervious surfaces such as rooftops, parking lots and roads. In August 2009, Thatcher Brook was included in MDEP's Statewide Bacteria Total Maximum Daily Load (TMDL) Report, which uses bacteria as an indicator for the presence of pathogens in water. This bacteria TMDL report provides documentation of

impairment and information on pollutant sources that are intended to provide guidance for protection of the waterbody by watershed stakeholders. In September 2012, the United States Environmental Protection Agency (EPA) approved MDEP's Statewide Impervious Cover (IC) TMDL Assessment, in which Thatcher Brook is included as an impaired stream. This assessment provides a framework for addressing aquatic life and habitat impairments by using impervious cover as a surrogate for a suite of pollutants commonly found in urban stormwater runoff. This TMDL establishes the target percentage of IC for the watershed and provides guidance for efforts to improve water quality in Thatcher Brook.

During the development of this Plan, the following threats to water quality (a.k.a. stressors) were identified:

- *Stream channel alteration and the resulting stream bank erosion and degraded habitat;*
- *Elevated phosphorus and decreased dissolved oxygen [DO] (in part due to naturally-occurring conditions in associated wetlands); and,*
- *Elevated bacteria and specific conductance.*

c. Deer Wintering Areas:

New development and other modifications to the habitat within traditional deer wintering areas reduce the overall ability of an area to support deer during periods of severe winter weather. The more development which occurs within these areas, the greater the potential impact on local deer populations. The availability of high quality winter range allows a higher winter population of deer, and enables them to more fully occupy their summer habitat.

However, one type of land use that is essential for deer wintering area management is timber harvesting. According to IFW, the general goal in managing deer wintering areas is to maintain approximately 50% of the area in mature conifer forest types. This allows each landowner in the deer wintering area to harvest as much as 20% of the total timber volume on his/her ownership in any 15 year period. Non-permanent, minimal disturbance (light or no bulldozing and no graveling of the travel surface) roads are recommended by IFW when a land management road must be located in a deer wintering area to allow access for timber harvesting.

d. Sand dune Systems:

Coastal geological processes such as wind, waves, tides and currents and coastal hazards such as storm surge, sea level rise, erosion and inlet migration will all inevitably shift the locations and decrease the size of sand dune systems located within Biddeford. Coastal flooding and erosion can destroy improperly located structures on beaches and sand dunes. Winter northeaster storms striking during high tides cause the most serious beach and dune erosion.

Continuing natural movement of the beach and perhaps more abrupt shoreline changes caused by major coastal storm or an acceleration of sea level rise make some areas unsuitable for coastal development. Structures should be placed in locations which have minimal interference with natural geologic processes and are in areas with low risk from natural hazards.

B. Local Regulations Pertaining to Natural Resources

1. Shoreland Zoning

Under Maine's Mandatory Shoreland Zoning (Title 38, Sections 435-449 of the Maine Revised Statutes Annotated (M.R.S.A.) requirements Biddeford has adopted Shoreland Zoning that has been found to be consistent with the State Guidelines (Chapter 1000).

The purposes of Shoreland Zoning are as follows:

1. To further the maintenance of safe and healthful conditions; to prevent and control water pollution;
2. To protect fish spawning grounds, aquatic life, bird and other wildlife habitat;
3. To protect buildings and lands from flooding and accelerated erosion;
4. To protect archaeological and historic resources;
5. To protect commercial fishing and maritime industries;
6. To protect freshwater and coastal wetlands;
7. To control building sites, placement of structures and land uses;
8. To conserve shore cover, and visual as well as actual points of access to inland and coastal waters;
9. To conserve natural beauty and open space; and
10. To anticipate and respond to the impacts of development in shoreland areas.

Shoreland Zoning in Biddeford applies to all areas:

1. Within 250 feet, horizontal distance, of the normal high-water line of any great pond, river or freshwater wetland;
2. Within 250 feet, horizontal distance, of the upland edge of a coastal or freshwater wetland;
3. Within 250 feet, horizontal distance, of the normal high water line of Swan Pond Brook, and its tributaries specifically depicted on the Official Zoning Map;
4. Within 100 feet, horizontal distance, of the normal high-water line of a stream;
5. A land area greater than 250 feet, horizontal distance, of the upland edge of the coastal wetland located on the west side of Granite Point Road, as depicted on the Official Zoning Map; and

6. Any structure built on, over or abutting a dock, wharf or pier, or other structure extending or located below the normal high-water line of a water body or within a wetland.

The City of Biddeford has adopted the following Shoreland Zones throughout the City:

1. Resource Protection (RP): The Resource Protection District includes areas in which development would adversely affect water quality, productive habitat, biological ecosystems, or scenic and natural values. No new “principal structures and uses” may be established in the RP District except for small nonresidential facilities for educational, scientific, or nature interpretation purposes. The maximum amount of non-vegetated surface on a lot in the RP District is 20%.
2. Resource Protection-1 (RP-1): The RP-1 District is a 250 foot District surrounding Swan Pond Brook and many of its tributaries. It was established to limit development that may adversely affect water quality, productive habitat and biological ecosystems in the Swan Pond Brook corridor due to its proximity to the intake pipe of the City's public water supply. No new “principal structures and uses” may be established in the RP District except for small nonresidential facilities for educational, scientific, or nature interpretation purposes. The maximum amount of non-vegetated surface on a lot in the RP-1 District is 20%.
3. Stream Protection (SP): The SP District includes all land areas within one-hundred (100) feet, horizontal distance, of the normal high-water line of a stream (as determined in the field), exclusive of those areas within two-hundred and fifty (250) feet, horizontal distance, of the normal high-water line of a great pond, or river, or within two-hundred and fifty (250) feet, horizontal distance, of the upland edge of a freshwater or coastal wetland. Where a stream and its associated shoreland area is located within 250 feet, horizontal distance, of the above water bodies or wetlands, that land area shall be regulated under the terms of the shoreland district associated with that water body or wetland. The maximum amount of non-vegetated surface on a lot in the SP District is 20%.
4. Limited Residential (LR): The LR District includes those areas more suitable for residential and recreational development and those areas already established as residential areas. It includes areas other than those in the Resource Protection District, Stream Protection Districts, and areas, which are used less intensively than those in the Limited Commercial District, the General Development

Districts, or the Commercial Fisheries/Maritime Activities District. Although the District is a 250 foot District, no new “principal structures and uses” may be established in the LR District within 100 feet of the normal high water line or upland edge of the wetland of the resource. The maximum amount of non-vegetated surface on a lot in the LR District is 20%.

5. Limited Commercial (LC): The LC District includes areas of mixed, light commercial and residential uses, exclusive of the Stream Protection District, which should not be developed as intensively as the General Development Districts. In Biddeford the LC District coincides with the W-3 underlying Zoning District in Biddeford Pool Village. The maximum amount of non-vegetated surface on a lot in the LC District is 20%.
6. General Development 1 (GD-1): The GD-1 District includes areas of existing, intensively developed areas devoted to commercial, industrial or intensive recreational activities, or a mix of said activities. The GD-1 District in Biddeford largely overlays the Mill District from Main Street west to Diamond Match Park. There is a 25 foot setback in the GD-1 District. The maximum amount of non-vegetated surface on a lot in the GD-1 District is 70%.
7. General Development 2 (GD-2): The GD-2 District includes the same types of areas as those listed for the GD-1 District. The GD-2 District, however, shall be applied to newly established General Development Districts where the pattern of development at the time of adoption is undeveloped or not as intensively developed as that of the GD-1 District. There is a 25 foot setback in the GD-2 District. The maximum amount of non-vegetated surface on a lot in the GD-2 District is 70%.
8. Commercial Fisheries/Maritime Activities (CFMA): The Commercial Fisheries/Maritime Activities District includes areas where the existing predominant pattern of development is consistent with the allowed uses for this district and other areas which are suitable for functionally water-dependent uses, taking into consideration such factors as:
 - a. Shelter from prevailing winds and waves;
 - b. Slope of the land within 250 feet, horizontal distance, of the shoreline;
 - c. Depth of the water within 150 feet, horizontal distance, of the shoreline;
 - d. Available support facilities including utilities and transportation facilities; and

e. Compatibility with adjacent upland uses.

The CFMA District in Biddeford overlays Marblehead Boat Launch. There is no setback in the CFMA District. The maximum amount of non-vegetated surface on a lot in the CFMA District is 70%.

2. Cluster Development (Subdivisions).

In Biddeford rural, non-growth areas are defined as being the Rural-Farm (R-F) Zone. The R-F Zone constitutes approximately 52% of Biddeford. Residential subdivisions in the R-F Zone are required to be developed under the “Cluster developments” provisions of the Zoning Ordinance (Article VI, Section 16). The provisions of this section identify the following purposes:

- *The purpose of these provisions is to allow for new concepts of residential, commercial and industrial development where variations of design and dimensional requirements may be allowed, provided that the new net density shall be no greater than that normally permitted in the zoning district in which the development is proposed;*
- *These provisions may be used when considering affordable housing projects; and shall be used when parcels of land sustain significant wildlife habitats or other significant natural features that would be destroyed if ordinary development approaches were used.*
- *Clustered development shall be encouraged as a means of preserving open space and land of value due to the natural resources found on it, limiting the costs and impacts of development, lowering maintenance costs, and reducing impervious surfaces.*

Overall the current cluster subdivision provisions may not achieve much in the ways of protecting natural resources that aren’t already protected. The City may wish to revisit these standards and evaluate how well they are achieving the stated goals of the Ordinance.

3. Aquifer Protection Overlay District.

Following the completion of the 199 Comprehensive Plan the City adopted an Aquifer Protection Overlay (APO) District. The overarching purpose of this district is to protect groundwater resources in the Oak Ridge Road

area by restricting the land uses and activities that occur over the know aquifer and aquifer recharge areas in this particular area.

4. Land Use Ordinances (Performance Standards).

Biddeford has several ordinances which relate to the protection of natural resources. These performance standards include, but are not limited to: erosion control; extractive industries; clearing of vegetation, fisheries, preservation of natural landscape and vegetation, wetlands protection and wildlife preservation. The last two will be briefly outlined.

a. Erosion Control (Article VI, Section 26)

Erosion Control standards require the use of Best Management Practices (BMPs) during site and soil disturbance. Through the development review process Erosion and Sediment Control Plans are generally required and projects must adhere to these plans through construction. Construction activities of this sort are inspected by City Staff to ensure compliance. Not only do the Performance Standards in Article VI, Section 26 applied, but the Planning Board also has the discretion to require additional measures based on site specific conditions.

b. Extractive Industries (Article VI, Section 30)

Extractive Industries are defined in the Land Development Regulations as:

The excavation, processing or storage of soil, topsoil, peat, loam, sand, gravel, rock or other mineral deposits, not including:

- 1. The excavation of material incidental to the site of approved construction of buildings, driveways or parking areas;*
- 2. The excavation of material incidental to the site of construction or repair of streets; and*

3. *The excavation, processing or storage of less than 100 cubic yards of material on a lot within a one-year period.*
4. *Filling and earthmoving with a Shoreland Zone which is governed by the provisions contained in Article XIV.*

The Performance Standards (Section 30) are designed to protect groundwater quality and other natural resources, minimize the adverse impact on abutting property owners and the community, and ensure proper rehabilitation of all affected lands.

c. Net density calculations (Article VI, Section 44)

These performance standards apply to subdivisions in Biddeford and reduce the net developable acre of parcels of land that contain certain characteristics, some of which related to natural resources, including:

1. *Portions of the lot shown to be within the one-hundred-year floodplain as identified by the Federal Flood Boundary and Floodway Maps or Federal Flood Insurance Rate Maps.*
2. *Portions of the lot which are unsuitable for development in their natural state due to topographical, drainage or subsoil conditions...[defined by soil type in Table 6-44]*
- ...
4. *Portions of the lot covered by surface waters, such as, but not limited to ponds and wetlands as defined by Article XIV of this ordinance.*
- ...
6. *Land within the Resource Protection Zone.*
7. *Land in the rural farm and coastal residential zones within the prescribed setback within the Shoreland Zone as defined in Article XIV of this ordinance.*

With respect to preserving natural resources, these standards may do little. Instead, they reduce the number of lots that parcels can

be developed into. From a natural resource protection perspective, many of these resources are already protected. For example, new development in a Resource Protection Shoreland Zone is not permitted already. This approach may need to be revisited and evaluated for how well it works to achieve the intended goals.

d. Telecommunications facilities (Article VI, Section 71)

The 1999 Comprehensive Plan, in an effort to protect scenic views in Biddeford, recommended that all telecommunications facilities (e.g., cell towers) be prohibited everywhere except the L-R-F and I-3 Zones. This arguably creates problems under the Federal Telecommunications Act (FTA) which clearly requires communities to allow such facilities where there are coverage problems. This has resulted in the need to allow several such facilities in zones where they are prohibited through Contract Zoning.

The City should review this zoning prohibition as well as the Performance Standards to ensure compliance with the FTA and avoid if at all possible the need to use Contract Zoning in order to meet FTA requirements.

e. Water quality (Article VI, Section 68)

In addition to the Aquifer Protection Overlay (APO) District (discussed above) these performance standards are intended to protect groundwater quality city-wide as follows:

The City of Biddeford acknowledges that clean, safe groundwater is essential to life and is an increasingly scarce natural resource. Groundwater sources must be protected.

A. Unless reviewed and approved by the responsible City agency, no activity shall locate, store, discharge, or permit the discharge of any treated, untreated, or inadequately treated liquid, gaseous, or solid materials of such nature, quantity,

obnoxiousness, toxicity, or temperature, or any combination of the aforementioned, that run off, seep, percolate, or wash into surface or ground waters so as to contaminate, pollute, or harm such waters or cause nuisances, such as objectionable shore deposits, floating or submerged debris, oil or scum, color, odor, taste, or unsightliness or be harmful to human, animal, plant, or aquatic life, or to impair designated uses or the water classification of the water body or groundwater.

B. Whenever soils types common to groundwater aquifer areas are identified, a detailed soil study will be conducted to determine the extent of possible groundwater deposits. This information shall be included on the site plan, as well as notes specifying on-site limitations to general/site specific development or construction. As a minimum these notes shall include:

- 1. No underground storage tanks for the storage of fuel or hazardous waste, and no landfills or salt/sand storage areas, shall be located on identified aquifers.*
- 2. Special catch basins shall be used to catch runoff/drainage water from roadways and other paved surfaces to reduce the possibility of salt/oil contamination of groundwater sources.*

f. Wildlife Preservation

As defined in Biddeford's zoning ordinance, the intent of this standard is to balance development with existing and future wildlife resources. This is accomplished through a set of land-use requirements designed to meet this goal. They are as follows:

- i. Projects involving parcels of land greater than 5 acres must conduct wildlife study by a certified wildlife biologist. This may be waived only with an official letter from Maine Department Inland Fisheries and Wildlife (MDIF&W) stating no significant wildlife habitat areas are involved in proposed project.*

- ii. *If significant wildlife or fisheries habitat are involved in proposed project, developer must mitigate situation by clustering, setbacks, vegetation preservation, sound barriers.*

Various projects that have been presented to the Board on 5 or more acres of land have been unable to produce the letter identified in ii. This is not because there were significant wildlife habitat areas present, but rather because MDIF&W are unwilling to write such a letter since they are only searching their database. As such, as written, this Ordinance is largely impractical and unrealistic and should be revisited.

- g. Floodplain Management. Biddeford has a Floodplain Management Ordinance that is consistent with the requirements of the National Flood Insurance Program). Flood hazard development permits are required through the Code Enforcement Office for certain construction activities located within a flood zone identified by the Federal Emergency Management Administration as having a 1 % chance or greater of flooding in any given year. Current requirements include having to elevate the lowest floor elevation one (1) foot above the Base Flood elevation.

Biddeford should ensure that the Floodplain Management Ordinance, including the adoption of current maps (Digital Flood Insurance Rate Maps (DFIRMS)), remain consistent with NFIP standards. Further, Biddeford should consider joining the Community Rating System (CRS) Program which provides discounts to flood insurance policy holders based on additional work done by the City to enhance its own floodplain management program.

C. State Regulations

- a. Saco River Corridor Act: Under Maine's Saco River Corridor Act (Title 38, Sections 951-969 of the Maine Revised Statutes Annotated (M.R.S.A.) the following is the established purpose of the Act (Section 951):

"In view of the dangers of intensive and poorly planned development, it is the purpose of this chapter to preserve existing water quality, prevent the diminution of water supplies, to control erosion, to protect fish and wildlife populations, to prevent undue extremes of flood and drought, to limit the loss of life and damage to property from periodic floods; to preserve the scenic, rural and unspoiled character of the lands adjacent to these rivers; to prevent obstructions to navigation; to prevent overcrowding; to avoid the mixture of incompatible uses; to protect those areas of exceptional scenic, historic, archaeological, scientific and educational importance; and to protect the public health, safety and general welfare by creating the Saco River Corridor, established in section 953, and by regulating the use of land and water within this area."

The Act establishes the Saco River Corridor Commission as the permitting authority for all development activities within the designated Corridor. The Act establishes several land use districts and establishes Performance Standards that must be followed when certain activities are undertaken within the Corridor.

- b. Natural Resources Protection Act (NRPA): This Act governs land use practices that may have a negative impact on streams, lakes, wetlands, and other significant natural resources. According to the NRPA website (Source: <http://www.maine.gov/dep/land/nrpa/>):

"Protected natural resources are coastal sand dune systems, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, great ponds and rivers, streams or brooks. See 38 MRSA 480-B for statutory definitions.

The purpose section of the Natural Resources Protection Act (NRPA) provides, in part, that: "The Legislature finds and declares that the State's rivers and streams, great ponds, fragile mountain areas, freshwater wetlands, significant wildlife habitat, coastal wetlands and coastal sand dune systems are resources of state significance. These resources have great scenic beauty and unique characteristics, unsurpassed recreational, cultural, historical and environmental value of present and future benefit to the citizens of the State and that uses are causing the rapid degradation and, in

some cases, the destruction of these critical resources, producing significant adverse economic and environmental impacts and threatening the health, safety and general welfare of the citizens of the State."

The law is focused on "protected natural resources". A permit is required when an "activity" will be:

- *Located in, on or over any protected natural resource, or*
- *Located adjacent to (A) a coastal wetland, great pond, river, stream or brook or significant wildlife habitat contained within a freshwater wetland, or (B) certain freshwater wetlands.*

An "activity" is (A) dredging, bulldozing, removing or displacing soil, sand, vegetation or other materials; (B) draining or otherwise dewatering; (C) filling, including adding sand or other material to a sand dune; or (D) any construction, repair or alteration of any permanent structure."

- c. Site Location of Development Act (SLODA): Often referred to as "Site Law", Maine's SLODA (Title 38, Sections 481-490 of the Maine Revised Statutes Annotated (M.R.S.A.)) applies to certain projects that "are capable of causing irreparable damage to the people and the environment on the development sites and in their surroundings; that the location of such developments is too important to be left only to the determination of the owners of such developments; and that discretion must be vested in state authority to regulate the location of developments which may substantially affect the environment and quality of life in Maine."

According to the SLODA website (Source:
<http://www.maine.gov/dep/land/sitelaw/index.html>):

"This law requires review of developments that may have a substantial effect upon the environment. These types of development have been identified by the Legislature, and include developments such as projects occupying more than 20 acres,

large structures and subdivisions, and oil terminal facilities. A permit is issued if the project meets applicable standards addressing areas such as stormwater management, groundwater protection, infrastructure, wildlife and fisheries, noise, and unusual natural areas.”

- d. Maine's Endangered Species Act: The Act (Title 12, Sections 12801-12810 of the Maine Revised Statutes Annotated (M.R.S.A.)) finds the following:

“The Legislature finds that various species of fish or wildlife have been and are in danger of being rendered extinct within the State of Maine, and that these species are of esthetic, ecological, educational, historical, recreational and scientific value to the people of the State. The Legislature, therefore, declares that it is the policy of the State to conserve, by according such protection as is necessary to maintain and enhance their numbers, all species of fish or wildlife found in the State, as well as the ecosystems upon which they depend.”

The Act was adopted first in 1975 as a reaction to the potential loss of various species of fish and wildlife. In 1989 the first designated what is referred to as “essential habitat” and identifies bald eagle nesting sites as the states such habitat. Since that time, although bald eagle was removed from the Maine endangered species list in 2007 and its nesting sites were removed from the “essential habitat” designation in 2009, three coastal birds and there nesting sites have since been added: roseate tern, least tern, and piping plover. As identified above, these birds and their habitats are found in coastal Biddeford.

The Act requires that no state agency or municipal government shall permit, license, fund or carry out projects that will significantly alter any Essential Habitats or violate protection guidelines adopted for the habitat.

D. Federal Roles/Regulations:

a. Federal Clean Water Act (33 U.S.C. §1251 et seq.):

Taken from the website <https://www.epa.gov/laws-regulations/summary-clean-water-act> the following is a summary of the Clean Water Act:

“The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. “Clean Water Act” became the Act’s common name with amendments in 1972.

Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industry. EPA has also developed national water quality criteria recommendations for pollutants in surface waters.

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. EPA’s National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.”

- c. Environmental Protection Agency: The EPA, established in 1970, administers environmental statutes such as the National Environment Policy Act, Water Quality Improvement Act, Clean Air Act, Resource Conservation and Recovery Act, Hazardous Waste Management Act, and many more.

E. Regional Cooperation/Coordination.

Since Biddeford is bound by water by both the Saco River to the North, the Atlantic Ocean to the East, and to some extent Little River to the southeast, much of those shared natural resources do not offer significant opportunities for regional cooperation. There are a few exceptions where it does occur or could occur in the future.

The Saco River Corridor Commission regulates both side of the River in both Saco and Biddeford but largely is an autonomous organization, although it does have representatives from both Biddeford and Saco.

During the development of the Thatcher Brook Watershed Management Plan the Town of Arundel was engaged in the discussions and the resulting plan. They should be kept in the discussions and implementation of the Plan since Thatcher Brook has headwaters in the Town of Arundel.

The groundwater aquifer in the Oak Ridge Road area of Biddeford crosses into the Town of Kennebunkport. The Aquifer Protection Overlay District, however, stops at the town line. It is unknown whether or not Kennebunkport has ever been approached to consider adopting a similar overlay/ordinance for that portion of the aquifer that is located within its town boundaries.

2. What Are We Going to Do Now?

A. Goals:

3. To protect the City's most important natural resources, including without limitation, wetlands, wildlife and fisheries habitat, sand dunes, shorelands, scenic vistas, and unique natural areas.

B. Policies and Strategies (who should do it; when):

Policy 1: To conserve critical natural resources in the community.

- Strategy 1a: Ensure that land use ordinances are consistent with applicable state law regarding important natural resources (Planning and Development Department, Planning Board; 1 Year, On-going).
- Strategy 1b: Consider designating critical natural resources as Critical Resource Areas in the Future Land Use Plan (Planning and Development Department, Planning Board; 2-4 Years).
- Strategy 1c: Review the Zoning Ordinance and ensure development proposals identify critical natural resources that may be on-site and to take appropriate measures to protect those resources, including but not limited to, modification of the proposed site design, construction timing, and/or extent of excavation (Planning and Development Department, Planning Board; On-going).
- Strategy 1d: Amend the Zoning Ordinance to ensure the Planning Board (or its designee) include as part of the review process, consideration of pertinent BwH maps and information regarding critical natural resources. (Planning and Development Department, Planning Board; 1 Year, On-going).
- Strategy 1e: Revisit and evaluate the Cluster Subdivision and Net Density Performance Standards in the Zoning Ordinance for their effectiveness and value with respect to protecting important natural resources (Planning and Development Department, Planning Board; 1-2 Years).
- Strategy 1f: Revise the Wildlife Preservation Performance Standards to ensure that through the review of development proposals wildlife preservation requirements are clear and practical (Planning and Development Department, Planning Board; 1 Year, On-going).
- Strategy 1g: Review and Revise the Zoning Ordinance and Telecommunications Facilities Performance Standards to ensure compliance with the Federal Telecommunications Act and avoid the need for Contract Zones to achieve such compliance (Planning and Development Department, Planning Board; 1-2 Years).
- Strategy 1h: Explore other regulatory means to protect important natural resources to the greatest extent practicable

(Planning and Development Department, Planning Board; On-going).

Strategy 1i: Explore the ability to join the National Flood Insurance Program (NFIP) Community Rating System (CRS) (Planning and Development Department, Code Enforcement Office; 1 Year, On-going).

Strategy 1j: Pursue public/private partnerships to protect critical and important natural resources such as through purchase of land or easements from willing sellers (Planning and Development Department; On-going).

Strategy 1k: Distribute or make available information to those living in or near critical or important natural resources about current use tax programs and applicable local, state, or federal regulations (Planning and Development Department, 2-4 Years, On-going).

Policy 2: To coordinate with neighboring communities and regional and state resource agencies to protect shared critical natural resources.

Strategy 2a: Initiate and/or participate in interlocal and/or regional planning, management, and/or regulatory efforts around shared critical and important natural resources (Planning and Development Department, Code Enforcement Office; On-going).

Strategy 2b: Continue to support the work of the Saco River Corridor Commission (City Council; On-going).

Policy 3: To make Thatcher Brook a priority by improving the water quality to meet State standards, maintaining water quality at those standards, and increasing community awareness and support for continuing to preserve water quality and habitat conditions in the future.

Strategy 3a: Work towards Thatcher Brook meeting its designated Class B water quality standards for aquatic life (Department of Public Works, Engineering Office, Planning and Development Department, Conservation Commission; On-going until attained).

Strategy 3b: Continue to monitor water quality parameters (e.g. DO, specific conductance, temperature and

macroinvertebrates) to assess whether the goal is being achieved (Engineering Office, Conservation Commission; On-going).

Strategy 3c: Improve the management of stormwater runoff from existing development in an effort to improve the treatment and water quality of stormwater.

Strategy 3d: Protect the brook through zoning and ordinances changes for new and re-development projects (Planning and Development Department, Engineering Office, Planning Board; 1-3 Years).

Strategy 3e: For future development, limit impacts to streams and wetlands associated with Thatcher Brook (Planning and Development Department, Engineering Office, Planning Board; On-going).

Strategy 3f: Coordinate efforts with other conservation and preservation groups in the watershed, including the Town of Arundel, to maximize protection opportunities (Planning and Development Department, Engineering Office; Conservation Commission; On-going).

Strategy 3g: Develop an outreach and education program for residents and local businesses to promote and implement the Watershed Management Plan (Planning and Development Department, Engineering Office; Conservation Commission; 1-3 Years).

Strategy 3h: Strengthen ties with the local schools and the University of New England to enhance education and participation in community action opportunities (Planning and Development Department, Engineering Office; Conservation Commission; On-going).

SECTION 11: WATER RESOURCES

“Water is life, and clean water means health” – Audrey Hepburn

1. What is happening?

A. Background:

Water resources such as lakes, rivers, streams, ponds and groundwater contribute significantly to a community's quality of life. They provide recreational and commercial opportunities, as well as supplying water for drinking and industrial needs. The quantity and quality of these resources can be affected by land use activities including development and use. How land is changed and used can in turn have affects (positive and negative) on the resource itself and the people who utilize its benefits.

The State of Maine has an abundant amount of water resources. For this reason, millions of tourists a year visit this State in hopes to experience the benefits these resources offer. In Biddeford people attracted to the recreational opportunities afforded by the Saco River (boating, fishing, swimming) and its public access to the Atlantic Ocean via the State of Maine Marblehead Boat Launch. The Coastal Environment has long been attractive to visitors for its beaches, scenic views, and access to the Atlantic Ocean.

Likewise, housing development has also been attracted to areas along the Saco River and in the coastal areas of Biddeford, which is no different a phenomenon than other areas of the State with similar resources. Further, aside from upstream of Swan Pond Brook, most of the areas in close proximity to the Saco River and coastal resources have already been developed and are not at threat for new development, although redevelopment opportunities may exist. Although residential development can present a threat to these resources (and other water resources), there are significant protection measures in place at the Federal, State, Regional (Saco River Corridor Commission) and local levels (Shoreland Zoning).

Major threats to water quality include the following:

Nutrients:	Nitrates from sewage and fertilizers, phosphates from detergents and fertilizers.
Sediment:	From agricultural fields, construction and logging sites, urban areas, and eroded stream banks.
Bacteria:	Most commonly E. Coli, bacteria can be transported to water resources in inadequately treated sewage and from storm water drains, septic systems, livestock pen and grazing areas runoff, and overboard discharges from water craft.
Organic materials:	From sewage, leaves, grass clippings, and runoff from livestock pens and pastures.
Metals:	From industrial discharges and in runoff from roads and urban streets, landfills.
Pesticides and herbicides:	From agricultural fields, lawns, and pest control.

The remainder of this section will be divided in to the following Subsections:

- B. A Description of Water Resources in Biddeford;
- C. A Discussion of Known Threats to Water Quality;
- D. A Summary of Known Water Quality and Invasive Species Issues;
- E. Past and Current Water Quality and Invasive Species Improvement Initiatives; and
- F. Current Water Quality Protection Measures, including Local Ordinances.

B. Biddeford's Water Resources:

1. Summary of State Classifications of Surface Water Resources and Water Quality.

In order to properly manage Maine's abundant amount of water resources, the State Legislature developed a classification and standards system to manage and protect the water quality of various types of water resources. Each classification designates the minimum level of quality (use) which the State intends for a Water Body. The following is a brief description of classification standards established by the State of Maine:

Fresh Surface Waters (Rivers and Streams).

Class AA Waters.

This is the highest classification rating and are managed for their outstanding natural ecological, recreational, social, and scenic qualities. The aquatic life, dissolved oxygen and bacteria 9E. Coli) content of Class AA waters shall be as naturally occurring. They are characterized by free flowing and natural habitats. There shall be no direct discharge of pollutants to Class AA waters from wastewater, dams, and other significant human disturbances.

Class A waters.

This is the second highest classification with water bodies managed for high quality with limited human disturbance permitted. The dissolved oxygen content shall not be less than 7 parts per million or 75% of saturation, whichever is higher. The aquatic life and bacteria (E. Coli) content of Class A waters shall be as naturally occurs. They are characterized by natural habitat. Direct discharges are permitted but are highly restricted.

Class B Waters.

This is the third highest classification and requires water quality be the same as Class A except the habitat shall be characterized as unimpaired. The dissolved oxygen concentration shall not be less than 7 parts per million or 75% of saturation, whichever is higher. Bacteria (E. Coli) levels are not as naturally occurring but must be less than 64/100 ml (geometric mean) or 427/100 ml (instantaneous level). Discharges to Class B waters are permitted so long as they are amply diluted and do not cause adverse impact to aquatic life. Receiving waters shall be of a quality that supports all aquatic species indigenous to the receiving water without a detrimental change to the resident biological community.

Class C Waters.

The fourth and final classification of fresh surface waters is Class C. Class C waters are managed to attain at least the swimmable-fishable goals of the Clean Water Act. The dissolved oxygen concentration levels are lower than Class B but shall not be less than 5 parts per million or 60% saturation, whichever is higher. Bacteria levels (E. Coli) may be higher than Class B also but not more than 142/100 ml (geometric mean) or 949/100 ml (instantaneous level). The habitat quality must support fish and other aquatic life. Unlike higher classifications, discharges to Class C waters may cause some changes to aquatic life, provided that the receiving waters shall be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community.

*Lakes and Great Ponds.**Class GPA.*

This is the only classification of Lakes and Great Ponds less than 10 acres in size. These waters shall be suitable for the designated uses of drinking water after disinfection, recreation in and on the

water, fishing, industrial processes and cooling water supply, hydroelectric power generation, navigation, and as habitat for fish and other aquatic life. The habitat shall be characterized as natural. Class GP A waters shall have a stable or decreasing trophic state, subject only to natural fluctuations and shall be free of culturally induced algae blooms which impair their use and enjoyment. The number of *Escherichia coli* bacteria of human origin must not exceed a prescribed level. There may be no new direct discharge of pollutants into Class GP A waters.

Estuarine and Marine Waters.

Class SA Waters.

This is the highest classification of estuarine and marine waters and applies to waters which are outstanding natural resources and should be preserved because of their ecological, social, scenic, economic or recreational importance. Water quality of SA waters shall be suitable for the designated uses of recreation in and on water, fishing, aquaculture, propagation and harvesting of shellfish and navigation and as habitat for fish and other estuarine and marine life. The habitat shall be characterized as free-flowing and natural. The dissolved oxygen content and bacteria counts shall be as naturally occurring and there will be no direct discharge of pollutants into waters.

Class SB Waters.

This is the second highest classification and requires water quality suitable for recreation in and on water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation and navigation and as habitat for fish and other estuarine and marine life. The habitat shall be characterized as unimpaired. The dissolved oxygen content shall not be less than 85% of saturation. Between May 15th and September 30th, bacteria and coli form levels must meet specific criteria. Discharges to Class SB waters shall not cause adverse impact to estuarine and marine life. No

new discharge may cause closure of any open shellfish areas by the Department of Marine Resources.

Class SC Waters.

This is the third highest classification and requires water quality to meet Class SB requirements except the habitat is characterized for fish and other estuarine and marine life. The dissolved oxygen content shall not be less than 70% of saturation. Bacteria and coli form levels must meet specific criteria. Discharges to Class SC waters may cause some changes to estuarine and marine life.

Based on the above water quality classifications, Table 9-1 below lists the classification of each waterbody in Biddeford. These classifications are based on July 1994 Water Classification Program from the Department of Environmental Protection.

Table 9-1. Water Quality (Goals) Classifications of Water Bodies in Biddeford in 2014.

Watershed	Waterbody/Section	Classification
Saco River	Saco River	
	City boundary to the I-95 Bridge	A*
	I-95 Bridge to Tidewaters	B *
	Tidewaters to Camp Ellis Breakwater	SC
	Tributaries	
	Swan Pond Brook	B**
	Thatcher Brook	B *
	Richardson Brook	B
	West Brook (above head of tide)	B
	West Brook (below head of tide)	SC

	Dungeon Brook	B
	Moore's Brook	B
	Tidal Tributaries	SC
Little River	Little River	
	Origin to head of tide	B
	Head of tide to mouth	SB
	Tributaries	
	Bush Brook	B
	Other Tributaries	B
Biddeford Pool	Biddeford Pool	
	Biddeford Pool	SB
	Tributaries	
	Tidal Tributaries	SB
	Non-Tidal Tributaries	B
Other Watersheds	Etherington Pond	
	Tributaries	B

Source: Maine Department of Environmental Protection, Division of Environmental Assessment. "Water Body Classification Map – Biddeford". 2014.

Notes: * Impaired Water Body – Does Not Meet Classification

** Swan Pond Brook from South Street to the Saco River is an Impaired Water Body – Does Not Meet Classification

2. Biddeford's Watersheds, Including Major Water Bodies.

The City of Biddeford contains four (4) watersheds: the Saco River, Little River, Etherington Pond, and Biddeford Pool. Within each Major Watershed there may be smaller sub-watersheds. A watershed is defined as a region or area contributing to the water supply of a river or lake. The watersheds (and if applicable, their sub-watersheds), are depicted on **Map X** and described below. Watersheds will form the general framework for much of this section of the Plan.

Saco River Watershed.

The Saco River originates high in the White Mountains at the outlet of Saco River Lake near Crawford Notch in New Hampshire. The basin has a total area of 1,697 square miles and is 75 miles long and 45 miles wide at its widest point.

The Saco River forms the northern boundary of the City from the west limits of the City until its mouth at the Atlantic Ocean. More than two-thirds (2/3) of the City and all of Western Biddeford lie within the Saco River Watershed. Head of tide for the river is at Factory Island below Cataract East Dam in Saco and below Cataract West Dam, below the falls between Biddeford and Saco.

The Saco River is used for both commercial and recreational purposes as well as being the source of Biddeford's primary public water supplier, MaineWater. Several sections of the Saco River are used more heavily than others, depending on public access points. The Saco River and its watershed also provides wildlife habitat for various species.

All land within 500 feet of the riverbank on either side of the Saco River is within the Saco River Corridor. Development within the corridor is subject to the requirements of the Saco River Corridor Commission.

Four dams are located on the Saco River as it flows past Biddeford, three of which are partly or entirely within Biddeford. Bradbury Dam is located entirely in Biddeford in the south channel of the river as it rounds Springs Island. Springs Dam is in the north channel around Springs Island and spans to the City of Saco. Cataract West Dam span the Saco River in the west channel of the river around Factory Island. The fourth, Cataract East Dam, is located in the City of Saco within the channel east of Factory Island. These dams are part of the Cataract Hydroelectric Project and are all owned by Brookfield Renewable Power.

In 2006 Northern Ecological Associates, Inc. were contracted with the City of Biddeford to conduct a stream protection study throughout Biddeford. As part of that Study they identified and mapped watersheds and subwatersheds in Biddeford. Within the Saco River watershed, the following subwatersheds were identified, from west to east: Saco River North, Swan Pond Brook, Saco River Turnpike, Thatcher Brook, West Brook, Dungeon Brook and Moores Brook. Of these, Swan Pond Brook and Thatcher Brook, located in Western Biddeford, are the largest.

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, the Saco River from outside of Biddeford to the I-95 Bridge was classified as Class A. Class A Rivers and Streams are considered to be in a natural state as far as habitat is concerned and bacteria (E. Coli) is only present as it naturally occurs. They are managed to limit human disturbance and heavily restrict direct discharges.

From the I-95 Bridge to where the river becomes tidal (below the East and West Cataract Dams) the Saco River is classified as Class B. Class B waters are known as “general purpose” waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the resident biological community.

Below the dams the Saco River is tidal and is classified as Class SC. Sc waters are managed to the lowest water quality standards but must be fishable and swimmable as well as maintain the biological community. Class SC waters are managed for designated uses including:

- Recreation in and on the water;
- Fishing;
- Aquaculture;
- Propagation and restricted harvesting of shellfish;
- Industrial process and cooling water supply;
- Hydroelectric power generation;
- Navigation; and
- Habitat for fish and estuarine and marine life.

Saco River North Subwatershed.

The Saco River North Subwatershed is located north of the Swan Pond Brook Subwatershed (see below) and includes eight unnamed streams (and tributaries) which have mouths on the Saco River. It is a relatively small subwatershed (844 acres or 1.32 square miles) that contains low density residential development along with agricultural land uses and some forested areas. There are relatively few wetlands in the subwatershed identified as National Wetland Inventory (NWI) wetlands which are wetlands which have been roughly located based on aerial photography. The relative absence of NWI wetlands in this subwatershed does not mean there are not more wetlands than identified as NWI wetlands.

The Saco River North Subwatershed contains identified riparian habitat according to the Maine Department of Inland Fisheries and Wildlife (MDIFW) surrounding the streams present here which feed the Saco River. A riparian habitat is an area where land and water come together. These areas support a greater diversity of wildlife than nearly all other habitats. Riparian habitats also are often related to Deer Wintering Areas.

According to MDIFW, there are two small areas within this subwatershed that represents inland waterfowl/wading bird habitat, both between River Road and Buzzell close to the border with Dayton that are associated with NWI wetlands.

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, the unnamed streams in this watershed which feed the Saco River are classified as Class B. Class B waters are known as “general purpose” waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the resident biological community.

Also of note is that there is one active “water supply system” in this subwatershed. Located at 610 New County Road, Homestead by the River Campground qualifies as a public water supply under the definitions established by the State.

Swan Pond Brook Subwatershed.

The Swan Pond Brook Subwatershed in western Biddeford and is relatively large subwatershed measuring 2,912 acres in size (4.55 square miles). It is characterized by quite a few unnamed streams which flow into Swan Pond Brook itself before flowing into the Saco River. Swan Pond Brook meets the Saco River upstream of the public water supply intake for MaineWater. The subwatershed is relatively undeveloped and contains some large areas which qualify as undeveloped habitat blocks according to MDIFW.

Swan Pond Brook and its watershed is a high valued riparian habitat according to the Maine Department of Inland Fisheries and Wildlife (MDIFW). The subwatershed area also contains deer wintering areas which will be discussed in more detail in Section 10). A large Deer Wintering Area is located between the boundaries of the Swan Pond Brook Subwatershed and the Thatcher Brook Subwatershed. Further, there are quite a few small NWI wetlands identified in the subwatershed, along with a large NWI wetland located north of Andrews Road on land owned by the City of Biddeford and MaineWater. This large NWI is identified as a Red Maple Swamp Natural Community by MDIFW and is located with the large Deer Wintering Area shared between the Swan Pond Brook Subwatershed and the Thatcher Brook Subwatershed. There is also fairly large area identified as inland waterfowl/wading bird habitat north of the intersection of South Street and River Road in close proximity to the Saco River.

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, Swan Pond Brook and its tributaries are classified as Class B. Class B waters are known as “general

purpose” waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the resident biological community.

Thatcher Brook Subwatershed.

The Thatcher Brook Subwatershed in central Biddeford is relatively large subwatershed measuring 3,561 acres in size (5.56 square miles). It is characterized by an assortment of land uses and contains unnamed tributary streams which flow into Thatcher Brook as well as Richardson Brook which flows out of the Biddeford Airport Industrial Park, through the Biddeford Industrial Park, and ultimately into Thatcher Brook. Thatcher Brook itself begins in Arundel but is largely located within the built area of Biddeford. Thatcher Brook extends from the Arundel town line, parallel to the Maine Turnpike, north across South Street and into the Saco River. Thatcher Brook outlets into the Saco River east of I-95 along the east edge of Rotary Park.

There are some large National Wetland Inventory wetlands located particularly in close proximity to Richardson Brook and Thatcher Brook.

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, Thatcher Brook and its tributaries are classified as Class B. Class B waters are known as “general purpose” waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the resident biological community.

Thatcher Brook, however, is identified as not meeting its Classification (uses) and, as such, is considered “impaired”. According to the Thatcher Brook Watershed Management Plan completed in January 2015, “stream habitat and biomonitoring assessments completed by the Maine Department of

Environmental Protection (MDEP) found that Thatcher Brook did not support the aquatic macroinvertebrates that should be found in a Class B stream.” It is not consider an “urban impaired” stream, however, a designation for streams that fail to meet state and federal water quality classifications due to the effects of stormwater runoff from impervious surfaces such as rooftops, parking lots and roads.

Further, according to the TBWMP, “In August 2009, Thatcher Brook was included in MDEP’s Statewide Bacteria Total Maximum Daily Load (TMDL) Report, which uses bacteria as an indicator for the presence of pathogens in water. This bacteria TMDL report provides documentation of impairment and information on pollutant sources that are intended to provide guidance for protection of the waterbody by watershed stakeholders. In September 2012, the United States Environmental Protection Agency (EPA) approved MDEP’s Statewide Impervious Cover (IC) TMDL Assessment, in which Thatcher Brook is included as an impaired stream. This assessment provides a framework for addressing aquatic life and habitat impairments by using impervious cover as a surrogate for a suite of pollutants commonly found in urban stormwater runoff. This TMDL establishes the target percentage of Impervious Cover (IC) for the watershed and provides guidance for efforts to improve water quality in Thatcher Brook.”

The TBWMP provides a framework for the City of Biddeford to utilize moving forward to address water quality issues regarding Thatcher Brook at a watershed level.

West Brook Subwatershed.

West Brook is located near the eastern side of Downtown Biddeford. It extends from the Saco River, across Pool Road, south across West Street and then parallel along Granite Street. The West Brook Watershed virtually splits the City with its southernmost reach close to the Kennebunkport townline to the Saco River. It outlets into the tidal portion of the Saco River. It is a relatively large subwatershed (3,228 acres or 5.04 square miles) that contains much medium and high density development,

including Downtown Biddeford, lower density development and agricultural and forested lands to the south.

The eastern portion of the subwatershed just begins to get into the “Biddeford/Kennebunkport Vernal Pool Complex Focus Area” which is characterized by a significant number of vernal pools and their associated wildlife habitat, although the majority of this focus area is located in the other subwatersheds discussed below.

Within the subwatershed, between Pool Street and South Street, many of the undeveloped areas are characterized by National Wetland Inventory (NWI) wetlands which are wetlands which have been roughly located based on aerial photography.

According to MDIFW, there are several small areas within this subwatershed that represents Significant Wildlife Habitat and animal Natural Heritage Network Occurrences (endangered, threatened, or rare species in Maine).

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, the unnamed streams in this watershed which feed into West Brook, as well as West Brook itself, are classified as Class B. Class B waters are known as “general purpose” waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the resident biological community. West Brook its unnamed tributaries are unimpaired and meet classification goals.

Tidal tributaries (estuarine/marine) are classified as SC which is the third highest classification and requires water quality to meet Class SB requirements except the habitat is characterized for fish and other estuarine and marine life. The dissolved oxygen content shall not be less than 70% of saturation. Bacteria and coli form levels must meet specific criteria. Discharges to Class SC waters may cause some changes to estuarine and marine life.

Dungeon Brook Subwatershed.

Dungeon Brook is the smallest of the Saco River watershed areas (352 acres or 0.55 square miles). It extends from the Saco River south across Pool Road for several miles into a major deer wintering area. Inland Fisheries and Wildlife has rated the fisheries value as low for this waterbody.

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, the unnamed streams in this watershed which feed into Dungeon Brook, as well as Dungeon Brook itself, are classified as Class B. Class B waters are known as “general purpose” waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the resident biological community. Dungeon Brook and its unnamed tributaries are unimpaired and meet classification goals.

Tidal tributaries (estuarine/marine) are classified as SC which is the third highest classification and requires water quality to meet Class SB requirements except the habitat is characterized for fish and other estuarine and marine life. The dissolved oxygen content shall not be less than 70% of saturation. Bacteria and coli form levels must meet specific criteria. Discharges to Class SC waters may cause some changes to estuarine and marine life.

Moore's Brook Subwatershed.

Moore's Brook crosses Pool Street at the approximate midpoint between downtown Biddeford and the Hills Beach Road at the University of New England. The Moore's Brook watershed extends inland along Guinea Road to West Street. As it enters the Saco River, the brook and river combine to create a diverse environment, including freshwater and saltwater wetland habitats. There are

significant salt marshes along this section of the Saco River which is expressive of the estuarine environment.

The Moores Brook subwatershed is medium sized compared to the other watersheds/subwatersheds in Biddeford (2,277 acres or 3.56 square miles) that contains much medium and high density development, including Downtown Biddeford, lower density development and agricultural and forested lands to the south.

The eastern portion of the subwatershed just begins to get into the “Biddeford/Kennebunkport Vernal Pool Complex Focus Area” which is characterized by a significant number of vernal pools and their associated wildlife habitat, although the majority of this focus area is located in the other subwatersheds discussed below.

Within the subwatershed, between Pool Street and South Street, many of the undeveloped areas are characterized by National Wetland Inventory (NWI) wetlands which are wetlands which have been roughly located based on aerial photography.

According to MDIFW, there are several small areas within this subwatershed that represents Significant Wildlife Habitat and animal Natural Heritage Network Occurrences (endangered, threatened, or rare species in Maine).

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, the unnamed streams in this watershed which feed into Moores Brook, as well as Moores Brook itself, are classified as Class B. Class B waters are known as “general purpose” waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the resident biological community. Moores Brook and its unnamed tributaries are unimpaired and meet classification goals.

Tidal tributaries (estuarine/marine) are classified as SC which is the third highest classification and requires water quality to meet Class SB requirements except the habitat is characterized for fish and other estuarine and marine life. The dissolved oxygen content shall not be less than 70% of saturation. Bacteria and coli form levels must meet specific criteria. Discharges to Class SC waters may cause some changes to estuarine and marine life.

Little River Watershed.

The Little River Watershed is a large watershed (3,685 acres or 5.76 square miles) that discharges into the Atlantic Ocean at Timber Point. The river is highly influenced by tidal action south of Pool Road. There are an expansive network of salt marshes in this area, as well as a host of wildlife and plant life. The Rachel Carson National Wildlife Refuge manages significant acres within the estuary. The supratidal, intertidal and subtidal natural resources within this area support a wealth and diversity of plant, marine and wildlife species. There are no public access points or public recreation facilities in this area.

Within the watershed there are scattered Inland Waterfowl/Wading Bird habitats according to Maine Department of Inland Fisheries and Wildlife (MDIF&W). These are freshwater areas for breeding, migration/staging, and wintering habitats for inland waterfowl or breeding, feeding, loafing, migration, or roosting habitats for inland wading birds.

Within the estuarine/marine portion of the watershed MDIFW have identified Natural Heritage Network Occurrences as well as Salt-hay Saltmarsh Natural Communities and Saltmarsh False-foxglove occurrences which are a species of special concern.

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, Bush Brook and the unnamed streams in this watershed which feed into Little River, as well as Little River itself, are classified as Class B. Class B waters are known as “general purpose” waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the resident biological

community. Little River, Bush Brook, and Little River's unnamed tributaries are unimpaired and meet classification goals.

The estuarine portion of Little River is classified as SB. This is the second highest classification for estuarine/marine waters and requires water quality suitable for recreation in and on water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation and navigation and as habitat for fish and other estuarine and marine life. The habitat shall be characterized as unimpaired. The dissolved oxygen content shall not be less than 85% of saturation. Between May 15th and September 30th, bacteria and coli form levels must meet specific criteria. Discharges to Class SB waters shall not cause adverse impact to estuarine and marine life. No new discharge may cause closure of any open shellfish areas by the Department of Marine Resources.

Also of note is that there is one active "water supply system" in this watershed. Located at 391 West Street, Shamrock Farms Campground qualifies as a public water supply under the definitions established by the State.

Bush Brook Subwatershed.

Bush Brook, a major tributary of the Little River, extends North from the Little River, crosses Newton Road and then runs parallel to Newtown Road, ending before the junction of Pool Road. There are several wetland areas located along and/or near this waterbody. There is also a nearby deer wintering area to the east of the brook.

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, Bush Brook is classified as Class B. Class B waters are known as "general purpose" waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the resident biological

community. Bush Brook is unimpaired and meets classification goals.

Etherington Pond Watershed.

The Etherington Pond Watershed is a small watershed (251 acres or 0.39 square miles) that located north of the Little River Watershed but South of the Biddeford Pool Watershed. Drainage here leads to Lords Pond, Etherington Pond, Lily Pond, and the Atlantic Ocean. It is characterized by unnamed streams. It is an important migratory shorebird flat and salt marsh for feeding and nesting. It supports a number of marine invertebrate species.

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, the unnamed streams in this watershed which feed into Biddeford Pool are classified as Class B. Class B waters are known as “general purpose” waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the resident biological community. The unnamed tributaries in this watershed are unimpaired and meet classification goals.

Biddeford Pool Watershed.

The Biddeford Pool Watershed is a relatively small watershed (953 acres or 1.49 square miles) that drains an area in the northeastern part of the City. The Pool is an estuary fed by a number of freshwater streams. Biddeford Pool is used for recreational, commercial and wildlife purposes. It is an important migratory shorebird flat and salt marsh for feeding and nesting. It supports a number of marine invertebrate species.

From a Water Quality perspective, as provided in the Maine Department of Environmental Protection (MDEP) 2014 Integrated Water Quality Report, the unnamed streams in this watershed which feed into Biddeford Pool are classified as Class B. Class B waters are known as “general purpose” waters which are regulated/managed to maintain good water quality. Direct discharges are allowed with good treatment and dilution which do not result in detrimental changes to the

resident biological community. The unnamed tributaries in this watershed are unimpaired and meet classification goals.

The estuarine portion of Biddeford Pool, including the Pool itself, is classified as SB. This is the second highest classification for estuarine/marine waters and requires water quality suitable for recreation in and on water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation and navigation and as habitat for fish and other estuarine and marine life. The habitat shall be characterized as unimpaired. The dissolved oxygen content shall not be less than 85% of saturation. Between May 15th and September 30th, bacteria and coli form levels must meet specific criteria. Discharges to Class SB waters shall not cause adverse impact to estuarine and marine life. No new discharge may cause closure of any open shellfish areas by the Department of Marine Resources.

3. Groundwater Resources.

Overview.

Below the continents there is a significant amount of fresh water, referred to as *groundwater*. In Maine this water is found in either loose materials (i.e., sand and gravel) or fissures in bedrock. The term *aquifer* refers to a geologic formation where groundwater can be obtained naturally (springs) or artificially (from wells). In the case of wells, a well must be drilled below what is called the water table in order to reach the fresh water supply.

The City of Biddeford has two types of aquifers, sand and gravel aquifers and bedrock aquifers. Bedrock aquifers are more prevalent in Biddeford than sand and gravel aquifers and many residents rely on bedrock aquifers as their source of drinking water.

According to the 1999 Biddeford Comprehensive Plan the Maine Geological Survey *had* identified three areas within the City that *were* "favorable for the development of groundwater supplies from sand and

gravel deposits". These aquifers were identified as being located in the following areas:

1. South-central Biddeford between the railroad and the airport.
2. Near the intersection of Guinea Road and West Street
3. Near the intersection of Fox Farm Road and Oak Ridge Road.

In the most recent analysis of Sand and Gravel Aquifers in Biddeford, only one of these locations is identified as "significant", being the Fox Farm Road/Oak Ridge Road location. This aquifer is identified as consisting of "Surficial deposits with moderate to good potential ground-water yield; yields generally greater than 10 gallons per minute to a properly constructed well. Deposits consist primarily of glacial sand and gravel, but can include areas of sandy till and alluvium; yields may exceed 50 gallons per minute in deposits hydraulically connected with surface-water bodies, or in extensive dposits where subsurface data are available".

This "significant" aquifer is shown on **Map X**.

C. A Discussion of Known Threats to Water Quality.

1. Threats to Surface Waters.

Point-Source Pollution.

Unlike non-point source pollution, point source pollution can be traced to a specific origin. It could be a pipe, ditch, combined sewer overflow, or any other discrete source of pollution that is discharged into a water body (or the atmosphere) without being treated.

The National Water Quality Monitoring Council defined point source pollution as being "Pollution discharged through a pipe or some other

discrete source from municipal water-treatment plants, factories, confined animal feedlots, or combined sewers."¹⁰

The United States Environmental Protection Agency (USEPA) has defined it as "A point source is a stationary location or fixed facility from which pollutants are discharged or emitted or any single, identifiable discharge point of pollution, such as a pipe, ditch, or smokestack."¹¹

The Clean Water Act (section 502(14)) defines point source pollution as follows:

The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture.

An overboard discharge (OBD) is a discharge to surface waters of the State of domestic pollutants (sanitary wastes or wastewater from household activities generated at residential or commercial locations) that are not conveyed to municipal or quasi-municipal sewerage treatment facilities. OBD's are licensed by the Maine Department of Environmental Protection. According to the Biddeford Comprehensive Plan 1999 in 199X there were XX OBD's licensed in the City of Biddeford. As of 20XX there were XX OBD's licensed in the City of Biddeford, representing a decrease in XX between that time period. A list of licensed Overboard Discharges in Biddeford as of March 4, 2015 is provided on the following 2 page.

¹⁰ National Water Quality Monitoring Council. *Glossary of water-quality monitoring terms: Advisory Committee on Water Information*. 2007. Accessed from http://toxics.usgs.gov/definitions/point_source.html on February 4, 2015.

¹¹ U.S. Environmental Protection Agency. *Waste and cleanup risk assessment glossary: U.S. Environmental Protection Agency*. 2010. Accessed from http://toxics.usgs.gov/definitions/point_source.html February 4, 2015.

There are also unknown illicit sanitary/wastewater discharges throughout the State, many of which are in coastal areas.

According to the Maine Healthy Beaches (MHB) in “Biddeford in 2005 and 2006, MHB supported enhanced monitoring, sanitary survey work to identify malfunctioning septic systems, and compiled a sanitary shoreline/watershed report for all of Biddeford’s beaches. This work led to the identification and removal of illicit discharges on Basket Island and improved water quality on neighboring Hills Beach.”¹²

The Maine Department of Marine Resources (Maine DMR) completed a “Triennial Report for 2008-2010” for what is referred to as the “Growing Area WF” in Biddeford. According to their website, “The Growing Area Classification Program evaluates all shellfish growing areas in the state of Maine to determine their suitability of harvest.”¹³ Growing Area WF in Biddeford includes the area from Timber Island to East Point. As of completion of the 2010 year review, the only approved growing area was Fortunes Rock Beach. Fortunes Rocks Cove, New Barn Cove, Curtis Cove, and Timber Point were all prohibited areas.

According to the Report, an overboard discharge (OBD) was evaluated at Timber Point and closed on May 27, 2009. Four monitoring stations were also closed during the triennium due to a lack of resource and the presence of OBD’s.

Overall, Maine DMR identified the major sources of pollution in the Growing Area WF as being private septic systems and licensed OBD’s. Other potential pollution is identified as including stormwater, particularly from Etherington Pond which overflows during wet weather through a road culvert onto Fortunes Rocks Beach.

¹² Maine Healthy Beaches. Maine Healthy Beaches 2013 Report to US EPA April 1, 2014”. 2014.

¹³ Maine Department of Marine Resources. Accessed from http://www.maine.gov/dmr/rm/public_health/shellfishgrowingarea.htm on May 12, 2015

Table 9-2. Licensed Overboard Discharges in Biddeford.

LIC. NUMBER	NAME	ADDRESS	TREATMENT	SEASONAL?	TYPE	WATERBODY
W000683	City of Biddeford WWTF	63 Water Street	Secondary +	Year-round	Municipal Sewage Treatment	Saco River
W001319	University of New England	Hills Beach Road	M	Year-round	Institution	Saco River
W001407	Kasten, Garry & Janet	12 Libby Drive	S	Year-round	Single Family	Saco River
W001452	Pinter, Stefan Paul	10 Brackett Point Road	M	Seasonal; May 1 -- Oct. 31	Single Family	Atlantic Ocean
W001628	Granite Point Trust & Kinell, Walter Jr.	14 Bayberry Road	S	Seasonal; June 1 -- Oct. 31	Single Family	New Barn Cove
W001655	Federal National Mortgage Association	168 Oak Ridge Drive	S	Year-round	Single Family	Little River
W002545	Biddeford & Saco Water Co.	466-468 South Street	Direct discharge of	Year-round	Water treatment facility	Saco River

			backwash water			
W003175	Gregoire, Patrick & Tracy	9 Fox Hollow Drive	S	Year-round	Single Family	Saco River
W003564	Forsley, Victor	16 Bayberry Road	S	Seasonal; May 1 -- Dec. 31	Single Family	New Barn Cove
W003768	Rogowski, Robert R. & Sheila M.	37 Sea Spray Drive	S	Year-round	Single Family	Atlantic Ocean
W003802	Kibbin, John	5 Fox Hollow Drive	S	Year-round	Single Family	Saco River
W004514	Brown, Lavonne	4 Libby Drive	S	Year-round	Single Family	Saco River
W006271	Lakemper, Thomas & Tammy	438 South Street	S	Unknown	Single Family	Saco River
W006772	Ciampi, Anthony & Heather	3 Hayfield Road	S	Year-round	Single Family	Swan Pond Brook
W007098	Duchesne, Roger P.	436 South Street	S	Year-round	Single Family	Saco River
W007268	Roberge, John & Patricia	8 Libby Drive	S	Year-round	Single Family	Saco River

W007318	Lowell, James R. & Therese A.	499 South Street	S	Year-round	Single Family	Swan Pond Brook
W007394	Lowell, Peggy	509 South Street	S	Year-round	Single Family	Swan Pond Brook
W007581	City of Biddeford WWTF--Biddeford Pool	Stonecliff Street	Secondary +	Year-round	Municipal Sewage Treatment	Saco Bay
W007940	Aldrich, Daniel & Christine	2 Fox Hollow Drive	S	Year-round	Single Family	Saco River

Source: Maine Department of Environmental Protection, February 2018.

Treatment: S – Sandfilter and disinfection

M – Mechanical and disinfection

Secondary + - Secondary treatment and disinfection

Non-Point Source Pollution.

Non-point source pollution is generally considered pollution that is a result of stormwater runoff. It generally occurs when rainwater and snowmelt moves across the ground and picks up pollutants (natural and man-made) and delivers those pollutants to surface and groundwaters. The term "nonpoint source" is defined to mean any source of water pollution that does not meet the legal definition of "point source" (see above).

Typical non-point source pollution includes:

- Oil, fuel, and other chemical collecting on impervious surfaces and transported through runoff;
- Sediment from disturbed construction sites and agricultural and forest operations that leaves bare soil and material;
- The erosion of channelized waterways (streams, ditches, etc.);
- Salt, other deicers, and sand runoff following winter maintenance activities and improper storage methods;
- Bacteria (e.g., E-Coli) and nutrients (e.g., phosphorus and nitrogen) from livestock, pet wastes and failing septic systems; and
- Increased temperatures of runoff due to pavement and other impervious surfaces.

Invasive (Aquatic) Species.

According to the Maine Department of Agriculture, Conservation and Forestry (MDACF) an Invasive Species (i.e., Invasive Plant) is defined as "a plant that is not native to a particular ecosystem, whose introduction does or is likely to cause economic or environmental harm or harm to human health."¹⁴ Currently MDACF estimates that there are currently 2,100 plant species recorded from Maine and of those 700 (one-third) are not native. Further, "of those plants that are not native, only a small fraction are considered invasive, but these have the potential to cause great harm to our landscape."

MDACF, through the Maine Natural Areas Program, explain why we should care about invasive species as follows¹⁵:

¹⁴ Maine Department of Agriculture, Conservation and Forestry. Accessed from http://www.maine.gov/dacf/mnap/features/invasive_plants/invasives.htm. March 3, 2015.

¹⁵ Ibid.

Invasive plants are a direct threat to what we value about Maine's natural and working landscapes. The aggressive growth of invasive plants increases the costs of agriculture, can affect forest regeneration, threatens our recreational experiences, and potentially decrease property values. Species like Japanese barberry and multiflora rose can form thorny, impenetrable thickets in forests and agricultural fields. Aquatic invasives can choke waterways, making it difficult to boat or swim.

Invasive species are the second-greatest threat to global biodiversity after loss of habitat. Invading plants out compete native species by hogging sunlight, nutrients, and space. They change animal habitat by eliminating native foods, altering cover, and destroying nesting opportunities. Some invaders are so aggressive they leave no room for our natives.

In general, the Maine Department of Agriculture, conservation, and Forestry, through the Maine Natural Areas Program, recommend the following activities in order to help prevent the spread of invasive species in Maine as follows¹⁶:

- Verify that plants you buy for your yard or garden are not invasive. Ask your local garden supplier to include more native species.
- Replace invasive plants in your garden with non-invasive alternatives.
- When boating, clean your boat thoroughly before transporting it to a different body of water.
- Don't release aquarium plants, fish, live bait, or other exotic animals into the wild.
- Volunteer at your local park, refuge, or other wildlife area to help remove invasive species. Help educate others about the problem.
- Learn what plants are problematic in Maine and tell your state representatives that you care about the future of Maine's natural landscape.
- For tips on gardening with native plants, visit their publications page at <http://www.maine.gov/dacf/mnap/about/publications/index.htm>.
- Visit their fact sheets at http://www.maine.gov/dacf/mnap/features/invasive_plants/invsheets.htm for species-specific control information.

2. Threats to Groundwater.

The *Quantity* of groundwater in Biddeford is appears to be plentiful, and homes not on public water, either MaineWater or Kennebunk, Kennbunkport, & Wells Water District (KKW), are likely on drilled wells. The water table

¹⁶ Maine Department of Agriculture, Conservation and Forestry. Accessed from http://www.maine.gov/dacf/mnap/features/invasive_plants/invasives.htm. March 3, 2015.

which provides groundwater to these more rural homes and uses can lower for a variety of reasons, including high local water use, pervious surfaces that can hinder water recharge of groundwater, and/or seasonal water fluctuations due to lack of rainfall. The result is that some wells may demonstrate lower yields or may even go dry, resulting the need to drill new wells or look for alternate sources of water.

Groundwater in Biddeford does not appear to be currently threatened in terms of quality. The largest aquifer in Biddeford in the vicinity of Fox Farm Road is protected via an Aquifer Protection Overlay District (see below) which limits development on and around the aquifer.

Most lots in the coastal areas of Biddeford are serviced by public water by the KKW Water District. As a result, these areas are not necessarily threatened by seawater intrusion which could affect the quality of groundwater for domestic purposes. Throughout the City, however, there are other threats to the quality of groundwater, including many of the point and nonpoint sources of pollution discussed above. According to www.groundwater.org, the largest threats include the following:

Above or Below Ground Storage Tanks.

Storage tanks may include the storage of a variety of liquids including fuel (gasoline, diesel, liquefied natural gas, oils, and chemicals. Above and below ground storage tanks are licensed by the Maine Department of Environmental Protection.

Uncontrolled Hazardous Waste.

The improper disposal of non-household hazardous waste can have significant impacts on groundwater. This can occur through carelessness (spills, both outside or inside of buildings into floor drains) or through conscious dumping of such waste. Hazardous wastes may include, but are not necessarily limited to, solvents, oils, and other chemicals associated with land uses and activities that are not merely of a household nature.

Household hazardous waste can also have significant impacts on groundwater. Household hazardous waste can include pesticides, pool chemicals, and oil-based paints. The somewhat limited ability to dispose of these wastes regularly (at low cost) can push some people to search for inappropriate (and often) illegal means of disposal such as road-side dumping. The City of Biddeford and other communities often yearly Household Hazardous Waste days where residents can dispose of such wastes at no cost and help protect groundwater and surface water from the potential impacts such wastes can have on water quality.

Road Salts, other Deicers, and Sand

Road or Rock Salt (Sodium Chloride) is a common deicer used in Maine and Biddeford by governmental and quasi-governmental agencies (e.g., the City of Biddeford and the Maine Turnpike Authority), private snow clearing companies, and households. When snow and ice melts, it washes away with the drainage and can enter not just surface water bodies but can leach into groundwater. The storage of sodium chloride is also of great concern with respect to potential contamination of both surface and groundwater. Lastly, the loading and unloading practices, such as in a uncontained area, of sodium chloride can also result in impacts to surface and groundwater.

Calcium Magnesium Acetate (CMA) is an alternative to road salt and operates differently in that it disrupts the bond between snow and the road surface (sodium chloride works to actually melt the snow). It is considered more environmentally friendly than is road salt and is less damaging to metals such as those on vehicles and bridges, but is generally considerably more expensive. It is also more effective as a treatment when applied before a snow and/or ice event, as opposed to during or after since snow and/or ice is already on the road surface. It is most effective at higher temperatures, generally above 23 degrees Fahrenheit.

Calcium Chloride is known to be an effective deicer, in many cases more effective than road salt. It is also generally effective at all temperature,

whereas road salt is most effective at temperatures above 12 degrees Fahrenheit and CMA is most effective at temperatures above 23 degrees Fahrenheit. The chloride in it, however, can have a greater impact on aquatic vegetation than does rock salt. It does not generally have the same effects on steel as does road salt.

Sand is not a deicer per se, but more of an abrasive agent that increases vehicular traction. The application of sand can be difficult in that too much sand can result in decreased traction and/or skidding. Sand also can collect throughout a winter season resulting in the need for sweeping or collection prior to spring runoff events which can take the sand to drainage systems where the clogging of ditches catchbasins can occur. Sand, however, is not corrosive, is relatively inexpensive, and does not have as much of a potential impact on groundwater as does rock salt or chemical deicers.

Landfills.

Landfills (active or closed) are places where garbage is (or has been) taken for disposal through burial. Biddeford's closed landfill is located at the end of Andrews Road. It has been capped for XX years and the City of Biddeford has a monitoring station there designed to detect any possible leachates from moving outside of the landfill site.

There is also a closed landfill off Newtown Road which was a landfill of the University of New England. It has been closed and capped for XX years.

Septic Systems.

On-site Subsurface Wastewater Treatment Systems (i.e., septic systems) are designed to treat human waste and allow it to slowly discharge below ground in a way that does not harm the groundwater. These systems, however, do require maintenance and poorly maintained systems can have significant impacts on groundwater. The potential harm from bacteria and chemicals as a result of poorly maintained septic systems is exacerbated as these wastes can enter the groundwater system relatively untreated at higher flow rates.

Agricultural Practices.

Poor agricultural practices through the application of manure, pesticides, herbicides, and fertilizers can all have a detrimental impact on groundwater. The improper application can be due to quantity, location, and the timing of application with respect to rain events. Water flowing over agricultural land can pick up contaminants which can eventually seep into groundwater.

Livestock in close proximity or in waterbodies can also have significant detrimental impacts on water quality.

D. A Summary of Known Water Quality and Invasive Species Issues.

1. The Saco River.

According to the Maine Department of Environmental Protection *2014 Integrated Water Quality Report* the Saco River from the Biddeford City boundary to the I-95 Bridge is impaired meaning it does not meet its classification goals as a Class A River, although the report identifies it as a segment “attaining some designated uses – insufficient information for other uses”. It appears to be unknown as to the causes of the impairment for this section although the unnamed tributaries in Biddeford that flow to the Saco River are all identified as meeting classification goals other than Swan Pond Brook (see below). As such, contributing factors to its impairment may originate upstream of the Biddeford city line.

Further, it is also considered impaired between the I-95 Bridge and the tide waters since it does not meet its classification goals as a Class B River for that section. Again, this section is identified as a segment “attaining some designated uses – insufficient information for other uses”. Upstream of this segment Swan Pond Brook (see below) as well as Thatcher Brook (also see below) may contribute to the Saco River’s impairment.

Maine DEP has identified that the Saco River at Biddeford-Saco does have a Total Maximum Daily Load (TMDL) assessment completed as a result of *Escherichia coli* (E. Coli) and that Combined Sewer Overflow (CSO) abatement is on-going and that there exists recreational impairments due to the presence of E.coli. E. Coli presence could be due also to upstream impacts due to septic systems as well as Combined Sewers present in Biddeford, but again, CSO work is on-going.

Rotary Park on the Saco River Invasive Species:**Mouth of Thatcher Brook and the Saco River Invasive Species:***Variable Leaf Milfoil:*

According to the Maine Department of Environmental Protection Invasive Aquatic Plant Map a Variable Leaf Milfoil infestation was documented at the convergence of Thatcher Brook and the Saco River on May 31, 2006. According to University of Maine Cooperative Extension¹⁷

“Variable-leaf milfoil is an aggressive aquatic plant that can form dense mats that congest waterways and crowd out native aquatic plants. Thick growth of this plant can impair recreational uses of waterways including boating, swimming and fishing. Dense growth of variable-leaf milfoil degrades the native habitat of fish and other wildlife, and may also provide breeding areas for mosquitoes. The main method of dispersal of this plant appears to be fragmentation. Plant fragments are moved around by people, animals and water currents.”

Variable Leaf Milfoil is most commonly spread by humans through boating and related activities. Important things to do to help prevent its spread is to inspect and clean boats, motors, and trailers before launching and aging after hauling them out of the water.

Saco River Estuary Invasive Species:*Phragmites Australis:*

In 2015 the Sustaining the Saco Estuary Final Report was released. The Sustaining the Saco project was a joint effort led by the University of New England and the Wells Reserve. It studies various aspects of the Saco Estuary (from the mouth of the river to Cataract Dam) one of the areas studied was plant life.

¹⁷ University of Maine Cooperative Extension. Accessed from <http://umaine.edu/publications/2530e/>. May 7, 2015.

Invasive Common Reed was found to in several areas of the estuary:

*“In summer 2013, we located 33 patches of the invasive *Phragmites australis* in the estuary’s marshes (Figure 6). The majority of these patches were small in area, less than 100 square meters, and some included very few stems (Figure 7). There was one very large patch near the mouth of the river that local residents have tried to keep in check by mowing and weed-whacking part of it each year. There were also several mid-sized patches that appeared to be spreading quickly, growing into the marshes and choking out native plants. We tested the seed viability of 13 of the patches and found that plants in five of these patches produced seeds that would sprout and grow, although germination rates were low (0.4–1.3%). This means that *Phragmites* in the Saco Estuary can spread either by seed or by the fragmentation of underground stems, called rhizomes. The results of our drifter study to discover where most of these seeds or rhizome fragments might travel suggest that they primarily move downstream, and often travel up tidal creeks, where they could get caught and germinate.”*

The report goes on to rhetorically ask “What does this mean for the future of the Saco Estuary?” and concluded:

*The good news is that the amount of *Phragmites australis* in the estuary is currently relatively small, but the concern is that this invasive plant is spreading. Existing patches appear to be increasing in area, small patches are appearing, and viable seeds are being produced. If we want the marshes to continue to support a diversity of native plants and healthy populations of invertebrates and fish, and to maintain the current views of the river from the shoreline, a management plan is needed.*

Of the overall conclusions regarding plant life in the estuary, the final bullet of the following four (4) relates to the common reed invasive species:

We made the following conclusions from our research on the plant communities in the Saco Estuary’s tidal marshes:

- *The tidal marshes contain a rich diversity of plant species growing in saltwater, brackish, and tidal freshwater marshes.*
- *Plant community diversity in the marshes is influenced by a number of factors, including salinity, distance to the river mouth, and the intensity of development in the adjacent shoreline.*
- *At least 10 rare plants grow in the marshes. Eight of these are Species of Concern and two are Threatened in the State of Maine.*
- *The invasive common reed, *Phragmites australis*, is found in both large- and small-sized patches in the marshes. A management plan for this species is needed to prevent it from spreading further.*

2. Swan Pond Brook.

Swan Pond Brook from South Street to the Saco River is identified as impaired meaning it does not meet its classification goals as a Class B Stream, although the report identifies it as a segment “attaining some designated uses – insufficient information for other uses”. It is identified as impaired due to the presence of E. Coli. In this area which is not affected by CSOs, E. Coli is likely due to contamination from septic systems. Similarly to the Saco River in this area, recreational impairments exist.

3. Thatcher Brook.

On January 7, 2015 the City of Biddeford officially released the completed “Thatcher Brook Watershed Management Plan” (TBWMP). Funded in part by the U.S. Environmental Protection Agency, the TBWMP was developed as a multi-agency and multi-party (stakeholders and community members) effort to develop strategies that could be implemented over time to address know water quality issues within the watershed. Taken from the Executive Summary of the TBWMP, the following was identified as water quality issues pertaining to Thatcher Brook:

Thatcher Brook is on Maine’s 303(d) list, signifying that the stream is not meeting one or more of its designated uses. Stream habitat and biomonitoring assessments completed by the Maine Department of Environmental Protection (MDEP) found that Thatcher Brook did not support the aquatic macroinvertebrates that should be

found in a Class B stream. Thatcher Brook is not yet listed as an Urban Impaired Stream in MDEP's Chapter 502. A stream is considered urban impaired if it fails to meet state and federal water quality classifications due to the effects of stormwater runoff from impervious surfaces such as rooftops, parking lots and roads. In August 2009, Thatcher Brook was included in MDEP's Statewide Bacteria Total Maximum Daily Load (TMDL) Report, which uses bacteria as an indicator for the presence of pathogens in water. This bacteria TMDL report provides documentation of impairment and information on pollutant sources that are intended to provide guidance for protection of the waterbody by watershed stakeholders. In September 2012, the United States Environmental Protection Agency (EPA) approved MDEP's Statewide Impervious Cover (IC) TMDL Assessment, in which Thatcher Brook is included as an impaired stream. This assessment provides a framework for addressing aquatic life and habitat impairments by using impervious cover as a surrogate for a suite of pollutants commonly found in urban stormwater runoff. This TMDL establishes the target percentage of IC for the watershed and provides guidance for efforts to improve water quality in Thatcher Brook.

During the development of this Plan, the following threats to water quality (a.k.a. stressors) were identified:

- *Stream channel alteration and the resulting stream bank erosion and degraded habitat;*
- *Elevated phosphorus and decreased dissolved oxygen [DO] (in part due to naturally-occurring conditions in associated wetlands); and,*
- *Elevated bacteria and specific conductance.*

4. Shellfish Harvesting.

According to the *Maine DEP 2014 (and Draft 2016) Integrated Water Quality and Monitoring and Assessment Report* there shellfish harvesting areas pertaining to Biddeford are closed or Restricted. These are as follows:

- Maine DEP Waterbody ID #821, Department of Marine Resources Pollution Area #9, Sampson Cove (Kennebunkport) to Fortunes Rocks (Biddeford) – Shellfish Harvesting is Prohibited except Restricted in Batson River (Kennebunkport) – Cause: Elevated Fecal Indicators.
- Maine DEP Waterbody ID #811, Department of Marine Resources Pollution Area #10, Saco River (Biddeford, Saco) and Saco Bay

(Biddeford, Saco and Old Orchard Beach) – 570 acres - Shellfish Harvesting is Prohibited – Cause: Elevated Fecal Indicators.

- Maine DEP Waterbody ID #811, Department of Marine Resources Pollution Area #10, Saco River (Biddeford, Saco) and Saco Bay (Biddeford, Saco and Old Orchard Beach) – 10,833 acres - Shellfish Harvesting is Prohibited except Restricted at Hills Beach – Cause: Elevated Fecal Indicators.

E. Past and Current Water Quality and Invasive Species Improvement Initiatives.

F. Current Water Quality Protection Measures, including Local Ordinances.

This section will summarize current Federal, State, and Local regulations and initiatives in place to protect water quality. Many of these measures have a coincidental effect of also protecting the quantity of groundwater, such as through addressing point and nonpoint pollution through stormwater management measures which can promote infiltration of rainwater and snow melt into the groundwater system.

Federal.

1. Clean Water Act (CWA): The basis for the CWA was originally enacted in 1948 but that legislation was significantly overhauled in 1972 when the CWA became its common name. The CWA establishes the basic structure for regulating water quality in the United States. The CWA made it illegal to discharge pollutants through point sources (see above) unless a Permit has been obtained through the National Pollutant Discharge Elimination System (NPDES). It has also provided a basis for establishing water quality standards for all surface waters throughout the United States.

Maine DEP is required to maintain an *Integrated Water Quality and Monitoring and Assessment Report* that includes River (and Stream) and Ocean Classifications: Pursuant to these laws, the DEP has established standards that define different levels of water quality. Discharges into rivers and the oceans will only be licensed if they do not lower the existing water quality standards.

Under the CWA Biddeford has been classified as a “Municipal Separate Storm Sewer System” (MS4) community and as such has a stormwater permit. The minimum requirements Biddeford must adhere to are as follows:

- Educate the public and municipal staff and officials about polluted runoff and how to reduce pollution;
- Provide the public an opportunity to participate in Biddeford's stormwater program;
- Identify and eliminate illegal sewer connections, dumping into storm drains, and other sources of pollution;
- Carry out long-term maintenance and mapping of all stormwater infrastructure;
- Ensure that construction on both public and private property does not impact water resources;
- Implement new development and redevelopment stormwater ordinances, and encourage developers to utilize techniques to reduce the impact of development on water resources;
- Prevent pollution from municipal operations and facilities. Educate municipal staff about practices to reduce polluted runoff.

In May 2015 Biddeford was audited by Maine DEP/EPA regarding its compliance with its stormwater permit as an MS4 community. The highlights of the results of the audit are as follows:

{Highlight Results of the Audit}

2. The Resource Conservation and Recovery Act (RCRA): The RCRA was originally enacted in 1976 and grants the EPA authority to regulate the generation, transportation, treatment, storage, and disposal OF HAZARDOUS WASTES. In 1984 amendments named the Federal Hazardous and Solid Waste Amendments focused on waste reduction and eliminating the disposal of hazardous wastes in landfills. In 1986 additional authority was granted to the EPA regarding the regulation of underground storage tanks storing petroleum and other hazardous substances.
3. The Safe Water Drinking Act (SDWA): The SDWA was originally passed in 1974 and is the federal law that focuses on drinking water quality in the United States. It establishes standards for drinking water quality and subsequent amendments required certain actions regarding protecting drinking water and its sources including rivers, lakes, reservoirs, springs, and ground water wells that serve 25 persons or more.

State.

1. Saco River Corridor Commission: The Saco River Corridor Commission, created by legislative action in 1973, is a regional level land use regulatory

- agency made up of a member and an alternate from each of the twenty Corridor communities. The Corridor includes all lands within 500 feet of the riverbank on each side. If the 100 year floodplain extends farther than 500 feet, the Corridor follows the flood line up to 1000 feet from the river bank. The purpose of the Saco River Corridor Act and the Commission is to protect and preserve land and water quality within the Corridor. In order to accomplish this purpose, the Act provided a permit procedure and established three land use districts: resource protection, general development and limited residential. In each of the three different districts, the Act specifies those types of uses which are allowed without a permit, allowed with a permit or prohibited altogether. All buildings regardless of the district, must be setback at least 100 feet from the normal high water line of the Ossipee, Little Ossipee or Saco River. The permit procedure is the main stay of the Saco River Corridor Act. Through its system of permits and variances, the Commission is able to safeguard the Corridor lands and waters.
2. Maine Combined Sewer Overflow Program: There are 32 communities in Maine with combined sewer systems (storm water and sanitary) of which Biddeford is one. During rainstorms or snow-melt periods storm water can mix with sanitary sewage resulting in flows that may exceed system capacities potentially resulting in impacts to water bodies as this mixture goes untreated. Biddeford is actively and aggressively progressing with the separation on combined sewers through this program.
 3. Maine Drinking Water Program: The State of Maine has enacted Maine's Water for Human Consumption Act which authorizes Maine to administer both federal and State safe drinking water regulations. The Program is administered by the Maine Department of Health and Human Services, Division of Environmental Health.
 4. Maine Discharge Program: The Main Discharge Program is primarily involved in the regulation of point source pollution in the State of Maine. This includes the discharge of municipal waste water, industrial waste water, overboard discharges, and sand/salt through the Sand and Salt Pile Program.
 5. Maine Nonpoint Source (Maine MPS) Water Pollution program: This program is aimed at restoring and protecting water resources from nonpoint pollution is stormwater pollution resulting from runoff from land and impervious surfaces.
 6. Biddeford is also an MS4 (Municipal Separate Storm Sewer Systems) community which holds a general permit for the discharge of stormwater (not sanitary) that discharges to water bodies via ditches, storm drains, pipes, etc.).
 7. Maine DEP Site Law (Site Location of Development): Large development projects are required to obtain a permit through the under this law. The

- purpose is to ensure that these larger projects are subject to an increased level of review regarding their potential to have an impact on the environment. There is an opportunity also that community can obtain “Delegated Authority” to review projects within a communities own boundaries under this law instead of Maine DEP if they receive the authority to do so. Biddeford has been identified as having the “Capacity” to have Delegated Authority, but has not requested this designation from the Maine DEP.
8. Maine DEP Natural Resources Protection Act: Through the Maine Department of Environmental Protection activities in, on, or adjacent to protected natural resources, including rivers, streams, brooks, great ponds, coastal wetlands, freshwater wetlands,, and sand dunes require a permit. Standards within the Act spell out what is and is not permitted.
 9. Hazardous Waste Law: State regulations closely control the generation, storage, transportation, and disposal of hazardous waste by any business. The purpose of this law is to ensure the safe handling of these substances in order to prevent any type of leak or discharge.
 10. Underground Tank Regulation: State Law requires the registration of all underground petroleum or chemical storage tanks with the DEP. It also requires that underground bare-steel or asphalt -coated steel petroleum tanks be removed according to a schedule established by the Maine Legislature. New or replacement underground tanks and piping should be registered with the DEP before installation. Both the installation and removal must be directed by a licensed professional.
 11. The State of Maine enacted [Title 38, Section §419-C Prevention of the spread of invasive aquatic plants](#) in 1999. This statute provides the following prohibitions:

A person may not:

 1. Transport any aquatic plant or parts of any aquatic plant, including roots, rhizomes, stems, leaves or seeds, on the outside of a vehicle, boat, personal watercraft, boat trailer or other equipment on a public road;
 2. Possess, import, cultivate, transport or distribute any invasive aquatic plant or parts of any invasive aquatic plant, including roots, rhizomes, stems, leaves or seeds, in a manner that could cause the plant to get into any state waters; or
 3. After September 1, 2000, sell or offer for sale in this State any invasive aquatic plant.

Local.

1. Shoreland Zoning Ordinance: In an attempt to protect Biddeford's streams and waterways and the land abutting these areas, a Shoreland Zoning Ordinance was adopted by the City Council in December of 1990. It was recently updated in 2016. Shoreland zoning's goal seeks to preserve the quality of local surface waters, preserve wildlife habitat areas and preserve the general quality of life factors such as scenic vistas and open space. Shoreland zoning is divided into eight (8) districts:

A. Resource Protection (RP):

The Resource Protection District includes areas in which development would adversely affect water quality, productive habitat, biological ecosystems, or scenic and natural values. This district shall include the following areas when they occur within the limits of the Shoreland Zone, exclusive of the Stream Protection District, except that areas which are currently developed and areas which meet the criteria for the Limited Commercial, General Development 1, General Development 2 or Commercial Fisheries/Maritime Activities Districts need not be included within the Resource Protection District. For further clarification of those areas not included in RP under this definition, refer to the Official Zoning Map and the descriptions of other districts provided in this section.

1. Areas within 250 feet, horizontal distance, of the upland edge of salt marshes and salt meadows that are rated "moderate" or "high" value by the Maine Department of Inland Fisheries and Wildlife (MDIF&W) as of January 1, 1973; and areas within 250 feet, horizontal distance, of the upland edge of freshwater wetlands and wetlands associated with great ponds and rivers, which are rated "moderate" or "high" value waterfowl and wading bird habitat, including nesting and feeding areas, by the MDIF&W that are depicted on a GIS layer maintained by either MDIF&W or the Maine Department of Environmental Protection as of December 31, 2008. For the purposes of this paragraph "wetlands associated with great ponds and rivers" shall mean areas characterized by non-forested wetland vegetation and hydric soils that are contiguous with a great pond or river, and have a surface elevation at or below the water level of the great pond or river during the period of normal high water. "Wetlands associated with great ponds or rivers" are considered to be part of that great pond or river.
2. Floodplains along rivers and floodplains along artificially formed great ponds along rivers, defined by the one-hundred-year floodplain as designated on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps or Flood Hazard Boundary

Maps, or the flood of record, or in the absence of these, by soil types identified as recent floodplain soils. This district shall also include one-hundred-year floodplains adjacent to tidal waters as shown on FEMA's Flood Insurance Rate Maps or Flood Hazard Boundary Maps.

3. Areas of two or more contiguous acres with sustained slopes of 20% or greater.
4. Areas of two or more contiguous acres supporting wetland vegetation and hydric soils, which are not part of a freshwater or coastal wetland as defined, and which are not surficially connected to a water body during the period of normal high water.
5. Land areas along rivers subject to severe bank erosion, undercutting, or river bed movement and lands adjacent to tidal waters which are subject to severe erosion or mass movement, such as steep coastal bluffs.
6. The land area located on the west side of Granite Point Road, as depicted on the Official Zoning Map.
7. For clarification of the Granite Point area to the west side of Granite Point Road, the RP District is as depicted on the Official Zoning Map and in no case extends east of the center line of Granite Point Road. The northern extent of the RP District in Granite Point includes Biddeford Tax Map 67, Lot 2; Tax Map 67, Lot 2-2; Tax Map 5, Lot 5; and part of Tax Map 5, Lot 9-4, extending west along the same bearing as the northern lot boundary of Tax Map 5, Lot 5, to the Little River. The southern extent of the RP District in Granite Point is to the southern tip of Timber Point as depicted on the Official Zoning Map. For clarification of the Fortunes Rocks area on the west side of Fortunes Rocks Road, the RP District is as depicted on the Official Zoning Map and in no case extends east of the center line of Fortunes Rocks Road or north of the center line of Bridge Street. For clarification of the Mile Stretch area on the west side of Mile Stretch Road, the RP District is as depicted on the Official Zoning Map and includes all lots northeast of, and including, Biddeford Tax Map 62, Lot 26-1, and in no case extends east of the center line of Mile Stretch Road.

B. Resource Protection-1 (RP-1):

The RP-1 District is specific to the Swan Pond Brook corridor. The City of Biddeford recognizes the critical nature of limiting development that would adversely affect water quality, productive habitat and biological ecosystems in the Swan Pond Brook corridor, due to its proximity to the intake pipe of the City's public water supply. The RP-1 District shall include areas within 250 feet, horizontal distance of the normal high-water line (as determined in the field) of Swan Pond Brook and tributaries as specifically depicted on the Official Zoning Map of the City of Biddeford.

C. Limited Residential (LR):

The Limited Residential District includes those areas suitable for residential and recreational development. It includes areas other than those in the Resource Protection District, Stream Protection Districts, and areas which are used less intensively than those in the Limited Commercial District, the General Development Districts, or the Commercial Fisheries/Maritime Activities District. The Limited Residential District includes the following:

1. The land area located within 250 feet, horizontal distance, of the normal high-water line of any great pond, river, or freshwater wetland; and within 250 feet of the upland edge of a coastal or freshwater wetland as depicted on the Official Zoning Map and field verified, unless otherwise described below;
 - a. For clarification along the interior of "The Pool," the LR District is as depicted on the Official Zoning Map and follows property line boundaries away from "The Pool" except for the following:
 - i. "Hills Beach Area: For clarification around the northwest coastal wetland associated with "The Pool" starting and including Tax Map 9, Lot 3-5, and running clockwise around the coastal wetland, the LR District boundary is the upland edge of the coastal wetland until Tax Map 54, Lot 97. Starting at and including Tax Map 54, Lot 97, all lots southwest of Hills Beach Road to Tax Map 54, Lot 85, are designated within an LR District except Tax Map 54, Lots 93, 98, and 99, and Tax Map 55, Lot 47-1 (which are designated as RP).
 - b. (Reserved)
 - c. For clarification regarding the area located west of Granite Point Road, the south boundary of the LR District meets the north boundary of the RP District as depicted on the Official Zoning Map.
 - d. For clarification of the Granite Point Road area on the west side of Granite Point Road in the vicinity of Heather Lane, the LR District crosses Granite Point Road from the Atlantic Ocean side as depicted on the Official Zoning Map and as field determined.

D. Limited Commercial (LC):

The Limited Commercial District includes areas of mixed, light commercial and residential uses, exclusive of the Stream Protection District, which should not be developed as intensively as the General Development Districts. This district may include commercial lots in existence prior to January 1, 1989, as defined below. Industrial uses are prohibited. For

clarification purposes, the LC Districts include the following commercial areas:

1. The Shoreland Zone (as determined in the field) that overlays the W3 Zone.

E. General Development 1 (GD-1):

The General Development District includes the following types of existing, intensively developed areas:

1. Areas of two or more contiguous acres devoted to commercial, industrial or intensive recreational activities, or a mix of such activities, including but not limited to the following:
 - a. Areas devoted to manufacturing, fabricating or other industrial activities;
 - b. Areas devoted to wholesaling, warehousing, retail trade and service activities, or other commercial activities; and
 - c. Areas devoted to intensive recreational development and activities, such as, but not limited to amusement parks, race tracks and fairgrounds.
2. Areas otherwise discernible as having patterns of intensive commercial, industrial or recreational uses.
3. Portions of the General Development 1 District may also include residential development. However, no area shall be designated as a General Development District based solely on residential use.

F. General Development 2 (GD-2):

The General Development 2 District includes the same types of areas as those listed for the General Development 1 District. The General Development 2 District, however, shall be applied to newly established General Development Districts where the pattern of development at the time of adoption is undeveloped or not as intensively developed as that of the General Development 1 District. Portions of the General Development 2 District may also include residential development. However, no area shall be designated as a General Development District based solely on residential use.

G. Commercial Fisheries/Maritime Activities (CFMA):

1. The Commercial Fisheries/Maritime Activities District includes areas where the existing predominant pattern of development is consistent with the allowed uses for this district as indicated in the Table of Land Uses, Section 14, and other areas which are suitable for functionally water-dependent uses, taking into consideration such factors as:
 - a. Shelter from prevailing winds and waves;

- b. Slope of the land within 250 feet, horizontal distance, of the shoreline;
 - c. Depth of the water within 150 feet, horizontal distance, of the shoreline;
 - d. Available support facilities including utilities and transportation facilities; and
 - e. Compatibility with adjacent upland uses.
2. For clarification purposes, the CFMA District includes the following area:
- a. The Shoreland Zone (as determined in the field) that overlays Tax Map 47, Lot 1, (Marblehead Boat Launch).

H. Stream Protection (SP):

The Stream Protection District includes all land areas within 100 feet, horizontal distance, of the normal high-water line of a stream (as determined in the field), exclusive of those areas within 250 feet, horizontal distance, of the normal high-water line of a great pond, or river, or within 250 feet, horizontal distance, of the upland edge of a freshwater or coastal wetland. Where a stream and its associated shoreland area is located within 250 feet, horizontal distance, of the above water bodies or wetlands, that land area shall be regulated under the terms of the Shoreland District associated with that water body or wetland. The beginning (furthest upstream extent) of a stream is as depicted on the Official Zoning Map of the City of Biddeford, unless determined to be otherwise by the Zoning Board of Appeals as per Article XIV, Section 10.

2. Biddeford Aquifer Protection Overlay District:

Following the completion of the 1999 Comprehensive Plan the City of Biddeford adopted a new Aquifer Protection Overlay District (APO) in the vicinity of Fox Farm Road. The aquifer in this location crosses into Kennebunkport, as shown on the Official Zoning Map of the City of Biddeford. The purpose and intent of the APO is as follows:

A. The purpose of this section is:

- a. To protect the groundwater resources of the City of Biddeford by restricting the uses and activities on land overlying aquifer and aquifer recharge areas.*
- b. To control the use and handling of hazardous substances that could lead to the degradation of aquifers and aquifer recharge areas.*

- c. To preserve and maintain the existing aquifer(s) in the City of Biddeford as a water supply source for use by the City's residents.*

B. *The intent of this overlay district is to provide supplemental development regulations in area(s) so designated in order to permanently protect groundwater resources from the threat of contamination originating from surface land use activities. This overlay district seeks to limit the types and intensity of new development within its boundaries, and to provide standards for the regulation of existing development in order to ensure the quality and quantity of the City's groundwater resources.*

3. Site Plan Review Ordinance: This ordinance is designed to ensure that multi-family and nonresidential local development projects are responsibly built and best management practices are utilized by the developer to help avoid or control pollution.
4. Floodplain Management Ordinance: In order to comply with the National Flood Insurance Act of 1968, the City of Biddeford has had the Federal Emergency Management Act identify areas prone to flood hazard in Biddeford. Floodplain management measures have been applied to these areas. This ordinance established a Flood Hazard Development Permit System and review procedure for development activities in these flood hazard areas. Under this ordinance, new construction or substantial improvements must be designed to prevent floatation or collapse, construction materials must be resistant to flood damage, and construction methods and practices that minimize flood damage must be used.
5. Land Use Ordinances (performance Standards): Biddeford has several ordinances which relate to the protection of water resources. These performance standards include water quality, erosion control, refuse disposal fuel supply and storage, buffers, agricultural practices, septic waste disposal/sludge spreading, underground tanks, vegetation clearance, timber harvesting and woodlot management and extractive industry (sand and gravel pits).

5. What does it mean for Biddeford? (Analyses)

10. Are there point sources (direct discharges) of pollution in the community? If so, is the community taking steps to eliminate them?

Talk to Tom Milligan

11. Are there non-point sources of pollution? If so, is the community taking steps to eliminate them?

Talk to Tom Milligan

12. How are groundwater and surface water supplies and their recharge areas protected?

There is an Aquifer Protection Overlay District that exists over the Oak Ridge Road aquifer. It was created as part of the implementation of the 1999 Comprehensive Plan.

Further, a 250' Resource Protection District (RP-1) was created around Swan Pond Brook as a part of implementing the 1999 Plan. The RP-1 was created since Swan Pond Brook is upstream of the Maine Water intake on the Saco River.

13. Do public works crews and contractors use best management practices to protect water resources in their daily operations (e.g. salt/sand pile maintenance, culvert replacement, street sweeping, public works garage operations)?

Checking with Jeff Demers

14. Are there opportunities to partner with local or regional advocacy groups that promote water resource protection?

As mentioned above, the Thatcher Brook Watershed Management Plan (TBWMP) is a plan scheduled for implementation beginning in 2017. Multiple parties are involved in the implementation of the Plan including the City, the University of New England, Southern Maine Health Care, and the York and Cumberland County Soil and Water Conservation District.

4. What do we want to do about it?"

A. Goals:

1. To protect the quality and manage the quantity of the State's water resources, including lakes, aquifers, great ponds, estuaries, rivers, and coastal areas.

B. Policies and Strategies (who should do it; when)

Policy 1: To protect current and potential drinking water sources.

- Strategy 1a: Maintain Shoreland Zoning standards upstream of the Maine Water intake pipe consistent with State Mandatory Shoreland Zoning standards (Chapter 1000).
- Policy 2: To protect significant surface water resources from pollution and improve water quality where needed.
- Strategy 2a: Implement the Thatcher Brook Watershed Management Plan to promote continued development or redevelopment without further stream degradation.
- Strategy 2b: Adopt or amend local land use ordinances as applicable to incorporate stormwater runoff performance standards consistent with:
- a. Maine Stormwater Management Law and Maine Stormwater regulations (Title 38 M.R.S.A. §420-D and 06-096 CMR 500 and 502).
 - b. Maine Department of Environmental Protection's allocations for allowable levels of phosphorus in lake/pond watersheds.
 - c. Maine Pollution Discharge Elimination System Stormwater Program
- Strategy 2c: Consider amending local land use ordinances, as applicable, to incorporate low impact development standards.
- Strategy 2d: Adopt water quality protection practices and standards for construction and maintenance of public and private roads and public properties and require their implementation by contractors, owners, and community officials and employees.
- Policy 3: To protect water resources in growth areas while promoting more intensive development in those areas.
- Strategy 3a: Implement the Thatcher Brook Watershed Management Plan to promote continued development or redevelopment without further stream degradation.
- Strategy 3b: Adopt or amend local land use ordinances as applicable to incorporate stormwater runoff performance standards consistent with:

- a. Maine Stormwater Management Law and Maine Stormwater regulations (Title 38 M.R.S.A. §420-D and 06-096 CMR 500 and 502).
- b. Maine Department of Environmental Protection's allocations for allowable levels of phosphorus in lake/pond watersheds.
- c. Maine Pollution Discharge Elimination System Stormwater Program

Strategy 3c: Consider amending local land use ordinances, as applicable, to incorporate low impact development standards.

Strategy 3d: Adopt water quality protection practices and standards for construction and maintenance of public and private roads and public properties and require their implementation by contractors, owners, and community officials and employees.

Policy 4: To minimize pollution discharges through the upgrade of existing public sewer systems and wastewater treatment facilities.

Policy 5: To cooperate with neighboring communities and regional/local advocacy groups to protect water resources.

Strategy 5a: Encourage landowners to protect water quality. Provide local contact information at the municipal office for water quality best management practices from resources such as the Natural Resource Conservation Service, University of Maine Cooperative Extension, Soil and Water Conservation District, Maine Forest Service, and/or Small Woodlot Association of Maine.

Strategy 5b: Participate in local and regional efforts to monitor, protect and, where warranted, improve water quality.

Strategy 5c: Provide educational materials at appropriate locations regarding aquatic invasive species.

SECTION 12: MARINE RESOURCES

1. What is happening?

A. Background:

Marine resources have been an important natural resource for the City of Biddeford, although their importance has been declining from a commercial perspective for many years. For example, there are basically five (5) known commercial operations that are water dependent related to Biddeford's Marine Resources (see below). The Saco River and Biddeford coast, however, do provide habitats for a variety of plant and wildlife species, as well as many recreational opportunities to local residents and tourists.

B. Water Dependent Uses In Biddeford:

The Saco River Channel and coastal waters of Biddeford provide economic support to local businesses, organizations and residents. The following represent the major water dependent uses in Biddeford who gain economic benefit from the Saco River from the dams to its mouth and the coastal waters surrounding Biddeford. Although some river and coastal water tours are operated by people who reside in Biddeford, these are largely launched out of Saco and are not discussed here.

1. Shellfish Harvesting:

The Maine Department of Marine Resources used to (up until approximately 10-12 years ago) issue shellfish licenses. Currently licenses are issued by the City Clerk's Office and are valid from June 1 to May 31.

In terms of shellfish, the primary shellfish harvested in Biddeford is clams. Up until the 2010/2011 shellfish season, there were eight (8) available shellfish permits in Biddeford (seven (7) resident commercial license holders and one (1) non-resident commercial holder). As noted above, currently there are ten (10) commercial shellfish license holders within Biddeford (nine (9) resident commercial license holders and one (1) non-resident commercial holder). Of the nine (9) resident commercial licenses, 2 are reserved for persons 62 years and older. Current commercial license holders have first rights to those permits in a subsequent season.

In terms of recreational shellfish licenses, there is an unlimited number of shellfish licenses available for residents of Biddeford. For non-residents since the 2010/2011 there have been only sixty (60) recreational shellfish permits available, all of which have been issued. Recreational shellfish licenses limit possession at any one time to 10 gallons (approximately a peck).

As seen in Table 13-1, the number of resident recreational shellfish permits has generally increased over the past twelve (12) shellfish seasons.

Table 13-1. Recreation Resident Shellfish Licenses, 2006/2017 Season through 2017/2018 Season (At End of Season)

Season	# of Recreational Resident Shellfish Licenses
2006/2007	89
2007/2008	84
2008/2009	81
2009/2010	86
2010/2011	110
2011/2012	135
2012/2013	161
2013/2014	141
2014/2015	122
2015/2016	126
2016/2017	163
2017/2018	156

2. Rumery's Boatyard:

Rumery's Boatyard Inc. is located on Water Street in Biddeford. It operates year-round primary activity is repair, service and dockage rental. In 1999 Rumery's Boatyard employed 16 people. In Spring 2018 it employed 10 people.

Rumery's is a full service marina that can build craft up to 55 feet in length. There is a 17 ton travel lift and storage inside for about 45 boats and outside for about 100 boats. The facility cannot provide wet storage because the Saco River freezes over in this area. There is an earth-filled, stone bulkhead with wooden pile, wooden-deck access piers to the float landings. There is a large brick building used as a marine supply store, office, repair shop, storage building. There is also a large metal building used as a boat shed. There is about 480 feet of shore frontage.

Rumery's is currently exploring the establishment of a pump-out station, but this may be 1-2 years out. It is also considering starting sailboat tours out of its facility in June 2018.

2. Biddeford Pool Yacht Club.

The Biddeford Pool Yacht Club (BPYC) is located at 17 Yates Street in Biddeford Pool Village. BPYC is privately owned, and according to its website (www.biddefordpoolyachtclub.org) has been in existence for over seventy-five (75) years (incorporated on August 13, 1934) and offers its members opportunities for sailing, fishing, and racing. Sailing lessons are available for both members and non-members and Biddeford youth can obtain free lessons through its Maryann Beaudry Memorial Scholarship. BPYC also works with the Fisherman's Association to promote fishing in Biddeford's waters. The BPYC also has five (5) transient moorings for guests for \$35 a night, which, according to the website, includes showers, two round-trip launch rides, and wireless internet access.

3. Biddeford Pool Fisherman's Association.

The Biddeford Pool Fishermen's Association operates a wooden pile, wooden-plank decked pier with float landings. There is electricity on the dock, mechanical handling equipment and night lighting. There is a small one-story, wood-frame building abutting the pier that is used as a bait shed. The facility is leased from the BPYC (see above) use by the fishermen of the area.

4. University of New England.

The University of New England (UNE) has nearly 4,000 feet of shore frontage on the Saco River. Aside from the scenic qualities of its riverfront environment, UNE also uses the Saco River for rowing and sailing activities.

More importantly, UNE's Department of Marine Sciences and Center for Excellence in the Marine Sciences program utilizes the Saco River and coastal areas of Biddeford for academic and research purposes.

UNE researchers recently completed the Saco River Estuary Project which touted itself as "A unique collaboration between UNE scientist, students and community partners to study a biologically unique body of water and the rich assemblage of species adapted to its dynamic conditions" (<http://www.une.edu/sacoriver>). See below for more information about this project.

5. Brookfield Renewable:

Brookfield Renewable owns two hydroelectric dams on the Saco River from which they generate electricity. They were acquired from Central Maine Power in 1999.

6. Commercial Wharves:

There are no active commercial wharves in Biddeford.

C. Current Land Use Regulations On or Near the Shoreline:

12. Saco River Corridor Commission: The Saco River Corridor Commission, created by legislative action in 1973, is a regional level land use regulatory agency made up of a member and an alternate from each of the twenty Corridor communities. The Corridor includes all lands within 500 feet of the riverbank on each side. If the 100 year floodplain extends farther than 500 feet, the Corridor follows the flood line up to 1000 feet from the river bank. The purpose of the Saco River Corridor Act and the Commission is to protect and preserve land and water quality within the Corridor. In order to accomplish this purpose, the Act provided a permit procedure and established three land use districts: resource protection, general development and limited residential. In each of the three different districts, the Act specifies those types of uses which are allowed without a permit, allowed with a permit or prohibited altogether. All buildings regardless of the district, must be setback at least 100 feet from the normal high water line of the Ossipee, Little Ossipee or Saco River. The permit procedure is the main stay of the Saco River Corridor Act. Through its system of permits and variances, the Commission is able to safeguard the Corridor lands and waters.

13. Maine DEP Site Law (Site Location of Development): Large development projects are required to obtain a permit through the Maine Department of Environmental Protection (Maine DEP) under this law. The purpose is to

ensure that these larger projects are subject to an increased level of review regarding their potential to have an impact on the environment. There is an opportunity also that community can obtain “Delegated Authority” to review projects within a communities own boundaries under this law instead of Maine DEP if they receive the authority to do so. Biddeford has been identified as having the “Capacity” to have Delegated Authority, but has not requested this designation from the Maine DEP.

14. Natural Resources Protection Act: Through the Maine DEP activities in, on, or adjacent to protected natural resources, including rivers, streams, brooks, great ponds, coastal wetlands, freshwater wetlands,, and sand dunes require a permit. Standards within the Act spell out what is and is not permitted.

15. Biddeford's Shoreland Zoning Ordinance: In an attempt to protect Biddeford's streams and waterways and the land abutting these areas, a Shoreland Zoning Ordinance was adopted by the City Council in December of 1990. It was recently updated in 2016. Shoreland zoning's goal seeks to preserve the quality of local surface waters, preserve wildlife habitat areas and preserve the general quality of life factors such as scenic vistas and open space. See Section 12: Water Resources for more information about Biddeford's Shoreland Zoning Ordinance districts.

D. A description of any local or regional harbor or bay management plans or planning efforts.

UNE researchers recently completed the Saco River Estuary Project which touted itself as “A unique collaboration between UNE scientist, students and community partners to study a biologically unique body of water and the rich assemblage of species adapted to its dynamic conditions” (<http://www.une.edu/sacoriver>).

Key findings of this project, according to the website, include the following:

WATER QUALITY

We have learned that the water quality of the estuary is generally good, but that levels of coliform bacteria rise sharply during the summer months, most likely due to runoff of polluted water from downtown Saco and Biddeford. We have also observed that nitrogen pollution is stimulating the growth of green algae and degrading the marsh peat.

FISH

We have learned that at least 60 different species of fish swim in the estuary, including many species that were absent a few decades ago. The Atlantic sturgeon is one such resurgent species

that has come to depend on the estuary. On June 5, 2013, a team of UNE faculty and students netted 38 Atlantic sturgeon (including one that measured seven-feet and one-inch long, and weighed 130-pounds) and two short-nosed sturgeon during a 20-minute period. Other significant fish to the Gulf of Maine that utilize the estuary include pollock, hake, blueback herring, alewife, Atlantic silverside, American sand lance and bluefish.

BIRDS

We have observed 133 species of birds in the estuary, including many that are not typically associated with estuarial habitats. Nearly half of the bird species found in the state of Maine have been observed in this relatively small geographic space, including such endangered species as the peregrine falcon and black-crowned night heron.

PLANTS

We have discovered ten species of plants in the estuary that are listed as rare or threatened in Maine. The invasive common reed (Phragmites) is spreading in the estuary's marshes, threatening to crowd out native plants and wildlife.

SEA LEVEL RISE

As climate change occurs, rising water levels may force the tidal wetlands to shift to higher ground. By compiling and analyzing aerial photographs of the estuary, we are building a baseline to guide future conservation efforts.

Sustaining the Saco River Estuary is a collaborative effort. UNE's scientific research complements the actions of a rich stewardship network comprised of municipal, state and federal government partners, businesses, community groups and nonprofit organizations. Through the project, we have engaged in meaningful discourse and activities with local organizations and individuals who depend on the estuary for their livelihood, as well for recreation. From shellfish harvesters to marinas and tackle shops, to property owners along the river, fishermen, birders, and boat enthusiasts, we've found many willing partners.

The project has identified several key actions to maintain the estuary's health. These actions that can help sustain the Saco River Estuary can be adopted and followed by our partners as well as by members of the broader local community:

RESPONSIBLE ZONING

We are advocating for compliance with and enforcement of existing setbacks and shoreline protection policies. These guidelines encourage retaining trees and shrubs along the water's edge protecting land next to valuable tidal marshes; protecting water quality; and protecting abutting property from flood waters so that as the sea level rises wetland can shift to undeveloped areas on higher ground.

MINIMIZING RUNOFF

We are studying ways to reduce the flow of polluted runoff water from area roads, parking lots and lawns into the estuary, and to minimize such pollutants' use and effects.

LIMITING INVASIVE SPECIES

We are studying the prevalence and effects of invasive species and gaining knowledge about how to combat them.

EDUCATION

We sponsor and conduct educational/outreach efforts to engage local children and their families in the life of the estuary so that they will feel a sense of ownership in ensuring its continued health.

E. Marine facilities (boat launches, piers, etc).

Biddeford Pool Beach/Gilbert R. Boucher Memorial Park. Located off Beachhouse Lane this is a large sandy beach that offers opportunities for swimming general beach activities. Small boats may also be able to be launched at this location via hand-carry. There is a bathhouse for changing and restrooms. The City of Biddeford provides lifeguards in the summer months. There is a substantial amount of parking available (approximately 100 cars). Seasonal beach parking permits are required for the summer months.

Plans: None.

Biddeford Pool Yacht Club. The Biddeford Pool Yacht Club (BPYC) is located at 17 Yates Street in Biddeford Pool Village. BPYC is privately owned, and according to its website (www.biddefordpoolyachtclub.org) has been in existence for over seventy-five (75) years (incorporated on August 13, 1934) and offers its members opportunities for sailing, fishing, and racing. Sailing lessons are available for both members and non-members and Biddeford youth can obtain free lessons through its Maryann Beaudry Memorial

Scholarship. BPYC also works with the Fisherman's Association to promote fishing in Biddeford's waters. The BPYC also has five (5) transient moorings for guests for \$35 a night, which, according to the website, includes showers, two round-trip launch rides, and wireless internet access.

Plans: None.

Fortunes Rocks Beach. Located approximately 1 mile southwest of Biddeford Pool, this large two (2) mile long sandy beach offers opportunities for swimming general beach activities. Small boats may also be able to be launched at this location via hand-carry. Many people also use this area for surfing. There are seasonal portable bathrooms and the City of Biddeford provides lifeguards in the summer months. There is some on-street parking available (approximately 50 cars). Seasonal beach parking permits are required for the summer months.

Plans: None

Marblehead Boat Launch. Marblehead boat launch is a State of Maine facility located off Pool Street. It is heavily used particularly in the summer months. Portable restrooms are provided. There are two boat ramps and a pier at this location which makes it an ideal location for boat launching into the Saco River. There is parking for approximately 60 vehicles including trailers.

Plans: None.

Mechanics Park. Mechanics Park is located at the corner of Main Street and Water Street.

Plans: Through a State grant the City has a fully-designed and ready for construction canoe/kayak launch for the eastern limit of Mechanics Park.

Middle Beach. Middle Beach is located opposite of Bridge Road at its intersection with Mile Stretch Road. Is a flat sandy beach and the City of Biddeford provides lifeguards in the summer months. There are no restrooms

at Middle Beach. There is a limited amount of parking available (approximately 25 cars) on Beach Avenue directly across from Bridge Road. Seasonal beach parking permits are required for the summer months.

Plans: None.

Moorings. A mooring is a means in which to secure a vessel to a particular location in Biddeford's waters.

Park in the Pines. Park in the Pines is a small passive park located at 194 Hills Beach Road. It offers tremendous views of Biddeford Pool and its wildlife. It also provides access to the pool for hand-carried boats such as canoes and kayaks. Park includes a Bocce Ball Court. There are no parking or restroom facilities at this park.

Plans: None.

Rotary Park. Rotary Park is a popular park located at 550 Main Street on the Saco River. It is 72 acres in size and features walking trails, two playgrounds, the softball field with lights, youth football field, the teen center, a dog park, Skate Park, picnic tables and grills, a sand volleyball court, and a beach for access for swimming in the Saco River. It also features a boat launch for access to this non-tidal portion of the Saco River. Further, Rotary Park is a popular location for winter sledding with its hilly terrain.

Plans: Although there are no current plans, the following should be implemented, including but not limited to:

- Bathhouse expansion to add a family restroom and changing area.
- Dog Park-lights should be installed.
- Certain sections of the swimming area need to be addressed as the clay has become a hazard.
- Security Cameras are needed.
- Martel Field backstop needs replacing.
- Minor fence repairs are also needed.
- Invasive species located throughout the park (2016 report) need to be dealt with.

Rumery's Boatyard. Rumery's Boatyard Inc. is located on Water Street in Biddeford. It operates year-round primary activity is repair, service and dockage rental. In 1999 Rumery's Boatyard employed 16 people. In Spring 2018 it employed 10 people.

Rumery's is is a full service marina that can build craft up to 55 feet in length. There is a 17 ton travel lift and storage inside for about 45 boats and outside for about 100 boats. The facility cannot provide wet storage because the Saco River freezes over in this area. There is an earth-filled, stone bulkhead with wooden pile, wooden-deck access piers to the float landings. There is a large brick building used as a marine supply store, office, repair shop, storage building. There is also a large metal building used as a boat shed. There is about 480 feet of shore frontage.

Plans: Rumery's is currently exploring the establishment of a pump-out station, but this may be 1-2 years out. It is also considering starting sailboat tours out of its facility in June 2018.

Town Landing. Town Landing is a laid out city street, approximately 15 feet wide, that provides access to the Saco River from Hills Beach Road within the UNE campus.

Plans: None.

Vines Landing. Vines Landing is located at the westerly end of Lester B. Orcutt Boulevard at what is locally referred to as "the gut". It is a passive park with a gravel boat launch and features great scenic views of Biddeford Pool, the Atlantic Ocean, and Wood Island Lighthouse. There is limited parking available at Vines Landing.

Plans: None.

Wood Island. Wood Island is home to a Maine Audubon Nature Preserve as well as the U.S. Coast Guard's Wood Island Lighthouse. The Nature Preserve is approximately 30 acres in size and offers opportunities for walking and nature viewing including wildlife. There is a small boat

launch/ramp located at the west end of the Island. No public restroom facilities.

Plans: None.

F. Public access points to marine resources.

Biddeford Pool Beach/Gilbert R. Boucher Memorial Park. Located off Beachhouse Lane this is a large sandy beach that offers opportunities for swimming general beach activities. Small boats may also be able to be launched at this location via hand-carry. There is a bathhouse for changing and restrooms. The City of Biddeford provides lifeguards in the summer months. There is a substantial amount of parking available (approximately 100 cars). Seasonal beach parking permits are required for the summer months.

Condition: Bathhouse - Good; Walkways - Good

Needs: Additional Parking is needed. Walkway improvements to reduce the grade from the sea wall to the beach are needed.

Biddeford RiverWalk. The Biddeford RiverWalk is an evolving project intended to connect Mechanics Park on Water Street to the Diamond Match Park project (future) and points west including the Eastern Trail. To date the RiverWalk project connects Mechanics Park to the City of Saco via a concrete walkway 135 foot pedestrian bridge over the Saco River to Saco Island, thus connecting to Saco's RiverWalk. The RiverWalk also continues through the North Dam Mill complex to Laconia Plaza located on the Saco River. The City of Biddeford's recently completed a master plan that conceptually lays out the future RiverWalk from Laconia Plaza to the Diamond Match site via alternate routes along the river, with potential further connections to the City of Saco via two additional pedestrian bridges. In 2016 the City completed, with the assistance of Wright-Pierce Engineers, a RiverWalk Master Plan Update.

Condition: Excellent. No boat access. No public restroom facilities.

Needs: Seating on the Overlook by Main Street. Implementation of the 2016 Master Plan Update.

Diamond Match Park. This park is not yet constructed but a Master Plan was completed in July 2010. The parcel of land is owned by the city of Biddeford now comprises approximately 9.8 acres of land that is undeveloped. Visual access to the Saco River is available here.

Condition: N/A. Undeveloped Vacant Land. No boat access. No public restroom facilities.

Needs: Implementation of the July 2010 Master Plan.

East Point Sanctuary. Its point sanctuary is owned by Maine Audubon and is located on the far eastern tip of Biddeford Pool - it is located directly North East of the Abanakee Golf Club. There is virtually no parking here and no restrooms but it is very well known for wildlife viewing, particularly birds, and its visual access to the Atlantic Ocean.

Condition: N/A. No boat access. No public restroom facilities.

Needs: None known.

Fortunes Rocks Beach. Located approximately 1 mile southwest of Biddeford Pool, this large two (2) mile long sandy beach offers opportunities for swimming general beach activities. Small boats may also be able to be launched at this location via hand-carry. Many people also use this area for surfing. There are seasonal portable bathrooms and the City of Biddeford provides lifeguards in the summer months. There is some on-street parking available (approximately 50 cars). Seasonal beach parking permits are required for the summer months.

Condition: Very Good

Needs: Additional Parking

Marblehead Boat Launch. Marblehead boat launch is a State of Maine facility located off Pool Street. It is heavily used particularly in the summer months. Portable restrooms are provided. There are two boat ramps and a pier at this location which makes it an ideal location for boat launching into the Saco River. There is parking for approximately 60 vehicles including trailers.

Condition: N/A – State Owned

Needs: Unknown

Mechanics Park. Mechanics Park is located at the corner of Main Street and Water Street. It features a walking path down to a River Overlook and great views of the Saco River. It also contains a gazebo where events such as weddings occasionally occur, picnic tables and feeding seating, bicycle parking, and a fitness station. Parking is available on Water Street as well as at what is referred to as the Gas House parking lot adjacent to the Wastewater Treatment Plant. It is a fairly well used passive park with quite a bit of open green space. Future plans include additional walking trails along the river and a possible carry-in canoe and/or kayak launch.

Condition: Upper level - Very Good; Lower Level - Fair to Poor. No boat access. No public restroom facilities.

Needs: Lower Level is in need of major repairs to the wall between the park and river. A sink hole has developed making one section of the lower level hazardous. The remainder of the park needs a solution to overgrown vegetation creating potential unsafe areas for visitors. Purchase of a piece of property between the Current Park and former CMP piece is desirable to create a singular park along the river. Security cameras are needed.

Middle Beach. Middle Beach is located opposite of Bridge Road at its intersection with Mile Stretch Road. Is a flat sandy beach and the City of Biddeford provides lifeguards in the summer months. There are no restrooms at Middle Beach. There is a limited amount of parking available (approximately 25 cars) on Beach Avenue directly across from Bridge Road. Seasonal beach parking permits are required for the summer months.

Condition: Very Good. No boat access. No public restroom facilities.

Needs: Additional parking and the control of invasive species.

Park in the Pines. Park in the Pines is a small passive park located at 194 Hills Beach Road. It offers tremendous views of Biddeford Pool and its wildlife. It also provides access to the pool for hand-carried boats such as canoes and kayaks. Park includes a Bocce Ball Court. There are no parking or restroom facilities at this park.

Condition: Very Good. No public restroom facilities.

Needs: Volunteers have requested a water source to maintain plants and flowers within the park.

Rachel Carson National Wildlife Refuge (U.S. Fish and Wildlife Service). In Maine the “Rachel Carson National Wildlife Refuge was established in 1966 in cooperation with the State of Maine to protect valuable salt marshes and estuaries for migratory birds. Located along 50 miles of coastline in York and Cumberland counties, the refuge consists of eleven divisions between Kittery and Cape Elizabeth. It will contain approximately 14,600 acres when land acquisition is complete. The proximity of the refuge to the coast and its location between the eastern deciduous forest and the boreal forest creates a composition of plants and animals not found elsewhere in Maine. Major habitat types present on the refuge include forested upland, barrier beach/dune, coastal meadows, tidal salt marsh, and the distinctive rocky coast.”

Source: https://www.fws.gov/refuge/rachel_carson/about.html.

In Biddeford there are two divisions of the Rachel Carson National Wildlife Refuge: the Biddeford Pool Division and the Little River Division. The Biddeford Pool Division controls property on the west side of Biddeford Pool off Old Pool Road. The Little River Division controls several properties on the east side of Little River in Granite Point including Timber Point and Timber Island. At the southernmost extent of Granite point Road there is a small parking area which leads to what is referred to as Timber Point Trail which runs along the west side of Timber Point. At low tide Timber Island can be accessed from the southernmost tip of this trail.

Condition: N/A. No formal boat access. No public restroom facilities.

Needs: None Known

Rotary Park. Rotary Park is a popular park located at 550 Main Street on the Saco River. It is 72 acres in size and features walking trails, two playgrounds, the softball field with lights, youth football field, the teen center, a dog park, Skate Park, picnic tables and grills, a sand volleyball court, and a beach for access for swimming in the Saco River. It also features a boat launch for

access to this non-tidal portion of the Saco River. Further, Rotary Park is a popular location for winter sledding with its hilly terrain.

Condition: Bathhouse - Good;

Needs: Bathhouse expansion would be helpful in order to add a family restroom and changing area. Dog Park-lights should be installed. Certain sections of the swimming area need to be addressed as the clay has become a hazard. In general the projects laid out in the 2009 Master Plan should be addressed. Invasive species located throughout the park (2016 report) need to be dealt with. Security Cameras are needed. Martel Field backstop needs replacing. Minor fence repairs are also needed.

South Point Sanctuary. South Point Sanctuary includes a pathway that runs from 7th Street southwest and ultimately to Biddeford Pool Beach. The land is owned and maintained by the Biddeford Pool Land Trust.

Condition: N/A. No boat access. No public restroom facilities.

Needs: None Known

Staples Street Beach. Staples St., Beach is located at the end of Staples Street in Biddeford Pool is a small rocky beach that is maintained by the Biddeford Pool Improvement Association. There is no parking available so access is pedestrian only.

Condition: N/A. No formal boat access. No public restroom facilities.

Needs: None Known

Town Landing. Town Landing is a laid out city street, approximately 15 feet wide, that provides access to the Saco River from Hills Beach Road within the UNE campus.

Condition: Fair. Carry-in boat access only. No public restroom facilities.

Needs: For the public to be able to access this location signage/demarcation is needed.

Vines Landing. Vines Landing is located at the westerly end of Lester B. Orcutt Boulevard at what is locally referred to as “the gut”. It is a passive park with a gravel boat launch and features great scenic views of Biddeford Pool, the Atlantic Ocean, and Wood Island Lighthouse. There is limited parking available at Vines Landing.

Condition: Very Good. No public restroom facilities.

Needs: Boat ramp.

Wood Island. Wood Island is home to a Maine Audubon Nature Preserve as well as the U.S. Coast Guard’s Wood Island Lighthouse. The Nature Preserve is approximately 30 acres in size and offers opportunities for walking and nature viewing including wildlife.

Condition: N/A. There is a small boat launch/ramp located at the west end of the Island. No public restroom facilities.

Needs: None Known

Yates Street Park. Each Street Park is located next to Vines Landing in Biddeford Pool. As a park that was established by the Biddeford Pool Land Trust upon donation of the land from its former. It is a passive park with great views of Biddeford Pool is suitable for picnicking and birdwatching. Parking is very limited in the area.

Condition: N/A. No boat access. No public restroom facilities.

Needs: None Known

G. Working Waterfront Current Use Lands:

"Working waterfront land" means a parcel or portion of a parcel of land abutting tidal waters or one that is located in the intertidal zone (located between the high and low water mark) the use of which is more than 50% related to providing access to or in support of the conduct of commercial

fishing (including commercial aquaculture) activities. Working waterfront land used predominantly (more than 90%) as working waterfront is eligible for a 20% reduction from just value. Working waterfront land used primarily (more than 50%) as working waterfront is eligible for a 10% reduction from just value. Working waterfront land that is permanently protected from a change in use through deeded restriction is eligible for the aforementioned reduction plus an additional 30% reduction. If the property no longer qualifies as Working Waterfront, then a penalty would be assessed using the same methodology as is used for removal from Tree Growth classification.

Biddeford did not have any acreage in the Working Waterfront Current Use Program in 2006 and 2016.

2. What does it mean for Biddeford?

A. Coastal Water Quality Monitoring.

- UNE Water Quality Monitoring
- Maine DEP Water Quality Monitoring

B. Water Pollution Planning.

- Refer to Water Resources Chapter?

C. Clam and Worm Flats.

- Maine DEP Water Quality Report.
- Worming?

D. Water-Dependent Uses – Past Trends and Future Results.

- Relatively stable over time.
- Increases in Resident Recreational Shellfish Licenses which are unlimited.
- Increase in the number of Resident Commercial Shellfish Licenses from 7 to 9 in 2010/2011.

E. Land Use Conflicts.

F. Land Use Zoning for Working Waterfronts.

Rumery's Boatyard Area.

Biddeford Pool Village.

G. Future Regional and Local Planning Efforts.

H. Dredging – Saco River and Biddeford Pool.

- Christine Ohman

I. Access – Present and Future.

Public Access to marine waters in Biddeford is quite limited, primarily to Marblehead Boat Launch. Limited additional opportunities exist except through a potential carry-in canoe/kayak boat launch at Mechanics Park which is already designed.

J. Scenic Resource Protection.

Biddeford does not have a scenic resource inventory nor does it have scenic resource protection measures.

3. What Are We Going to Do Now?

A. Goals:

1. To protect the State's and Biddeford's marine resources industry, ports and harbors from incompatible development and to promote access to the shore for commercial fishermen and the public.

B. Policies and Strategies (who should do it; when):

Policy 1: To protect, maintain and, where warranted, improve marine habitat and water quality.

Strategy 1a: Ensure that land use ordinances are consistent with applicable state law regarding important natural resources (Planning and Development Department, Planning Board; 1 Year, On-going).

Strategy 1b: Encourage owners of marine businesses and industries to participate in clean marina/boatyard programs.

Policy 2: To foster water-dependent land uses and balance them with other complementary land uses.

Strategy 2a: Identify needs for additional recreational and commercial access (which includes parking, boat launches, docking space, fish piers, and swimming access).

Strategy 2b: Provide information about the Working Waterfront Access Pilot Program and current use taxation program to owners of waterfront land used to provide access to or support the conduct of commercial fishing activities.

Policy 3: To maintain and, where warranted, improve harbor management and facilities.

Strategy 3a: Provide information about the Working Waterfront Access Pilot Program and current use taxation program to owners of waterfront land used to provide access to or support the conduct of commercial fishing activities.

Strategy 3b: If applicable, provide sufficient funding for and staffing of the harbormaster and/or harbor commission.

Policy 4: To protect, maintain and, where warranted, improve physical and visual public access to the community's marine resources for all appropriate uses including fishing, recreation, and tourism.

Strategy 4a: Identify needs for additional recreational and commercial access (which includes parking, boat launches, docking space, fish piers, and swimming access).

Policy 5: To promote the maintenance, development, and revitalization of the State's ports and harbors for fishing, transportation and recreation.

Strategy 5a: Identify needs for additional recreational and commercial access (which includes parking, boat launches, docking space, fish piers, and swimming access).

Strategy 5b: Provide information about the Working Waterfront Access Pilot Program and current use taxation program to owners of waterfront land used to provide access to or support the conduct of commercial fishing activities.

Policy 6: To manage the marine environment and its related resources to preserve and improve the ecological integrity and diversity of marine communities and habitats, to expand our understanding of the productivity of the Gulf of Maine and coastal waters and to enhance the economic value of the State's renewable marine resources.

Strategy 6a: Encourage owners of marine businesses and industries to participate in clean marina/boatyard programs.

Policy 7: To support shoreline management that gives preference to water-dependent uses over other uses, that promotes public access to the shoreline and that considers the cumulative effects of development on coastal resources.

Strategy 7a: Work with local property owners, land trusts, and others to protect major points of physical and visual access to coastal waters, especially along public ways and in public parks.

Policy 8: To discourage growth and new development in coastal areas where, because of coastal storms, flooding, landslides or sea-level rise, it is hazardous to human health and safety.

Policy 9: To encourage and support cooperative state and municipal management of coastal resources.

Policy 10: To protect and manage critical habitat and natural areas of state and national significance and maintain the scenic beauty and character of the coast even in areas where development occurs.

Policy 11: To expand the opportunities for outdoor recreation and to encourage appropriate coastal tourist activities and development.

Policy 12: To restore and maintain the quality of our fresh, marine and estuarine waters to allow for the broadest possible diversity of public and private uses.

Strategy 12a: Encourage owners of marine businesses and industries to participate in clean marina/boatyard programs.

Strategy 12b: Support implement of local and regional harbor and bay management plans.

Policy 13: To restore and maintain coastal air quality to protect the health of citizens and visitors and to protect enjoyment of the natural beauty and maritime characteristics of the Maine coast.

SECTION 13: SEA LEVEL RISE ADAPTATION



1. What is happening?

A. Introduction:

According to one hundred years of records from the Portland, Maine tide gauge, sea level is rising. Along with this change, storms are becoming more frequent and intense, and damages associated with storms are increasing. Given these facts, the important question for the City of Biddeford is: “How should the City respond and adapt?” This chapter inventories the best available data on historical and recent trends in sea level change, offers the best available current predictions for the future and establishes the rational basis on which the City’s policy response to sea level rise is based.

It is important to note that this chapter does not delve into the underlying causes of the observed changes in sea level. The underlying causes of sea level rise are being debated nationally and internationally, and are the subject of extensive scientific investigation worldwide. This chapter simply acknowledges the sea level changes as documented over the past century at the Portland tide gauge. Whatever the cause may be, it is important for the City to react to changing physical conditions.

A brief note about units of measure is in order. Most of the science about sea level rise is performed and reported in metric units whereas the non-scientific community in the United States tends to use standard measure. Both measures are provided in the text of this report. Most, but not all conversions were from metric to standard, and the converted numbers are approximate. In graphics borrowed from other sources, expect to see metric units only. Metric abbreviations used here include “mm” for millimeter and “M” for meter.

1. *Trends in Sea Level Rise*

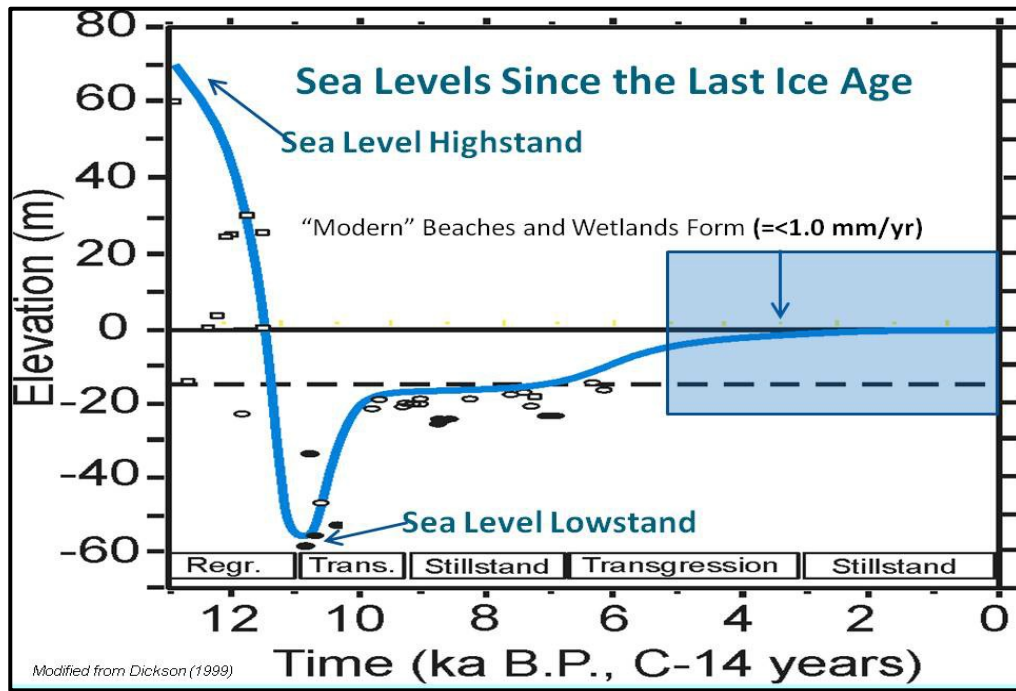
As will be demonstrated in this section, there is a clear historical pattern of sea level rise which began about 11,000 years ago and which is still occurring today. For the past couple thousand years there has been a pattern of only minor, gradual increases in sea level, although the most recent data appears to be showing an increasing rate of sea level rise.

Scientists believe that there are two dominant components to what is happening as global sea level is observed to increase. The first is thermal expansion of the water, as the ocean temperature warms. The second is volumetric increase when the volume of water in the ocean increases, caused by melting of glaciers and ice sheets located on land.

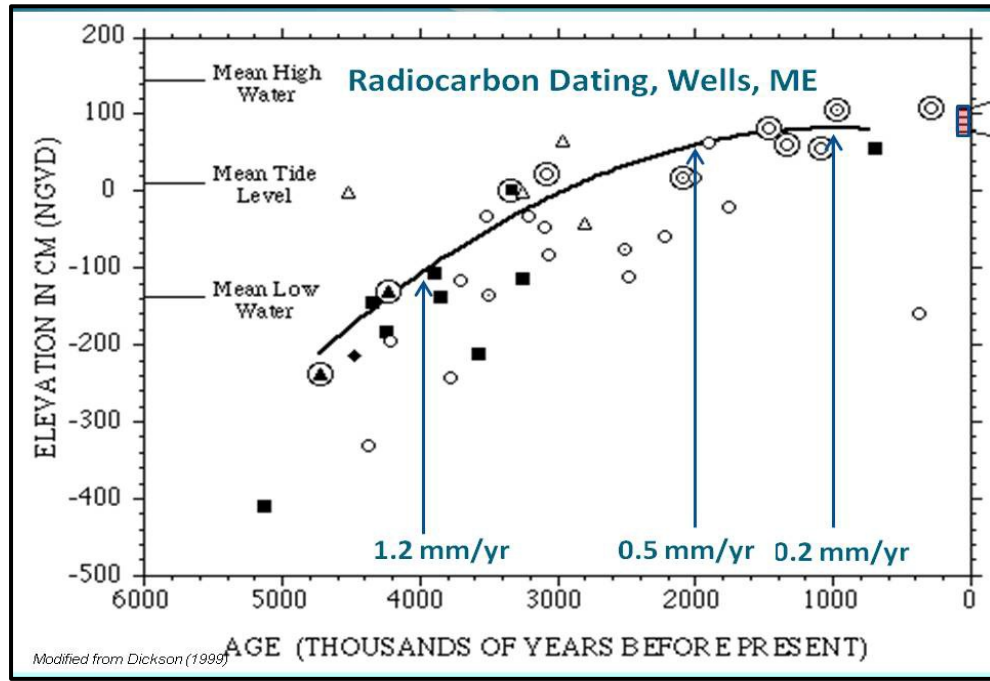
When scientists look at data on a specific piece of coast, like the shoreline of Biddeford, Maine, there are more local reasons for changes in sea level, in addition to those at the global level. Some movement of the land up or down is left over from the end of the last ice age. As the crust of the earth in this area was covered with thousands of feet of ice, it sank in response to the weight. When the ice age ended, the land experienced “isostatic rebound”, as the crust bounced back up. Some isostatic rebound is still happening today after thousands of years, but the effect now is very slight. However, in the past, this phenomenon had a tremendous effect on Maine. In other parts of the United States, there was no ice age, and sinking of the land or “subsidence” is a problem. This is pronounced in the Chesapeake Bay area and the Louisiana coast, where higher rates of sea level rise are happening right now, compared to the coast of Maine. It should also be noted that seasonal wind patterns can change tide levels during different periods within each year. In our area, tides will run lower during periods of sustained northwest winds during the winter because the winds blow water offshore. When we speak of tides, it is astronomical tides we are referring to, caused by the gravitational pull exerted on the Earth by the moon and the sun.

Thirteen thousand years ago at the end of the last ice age, the land in Maine was so crushed by ice that sea level was 230 feet (70 meters) higher than it is today. Eleven thousand years ago after the ice had receded, the land rebounded so that sea level was about 200 feet (60 meters) below today’s levels. Continued melting of ice filled the oceans, and in the last five thousand years, levels in Maine have been very stable. It is important to note that this is the period when our modern beaches and wetlands as we know them today were formed. See Figure 13-1.

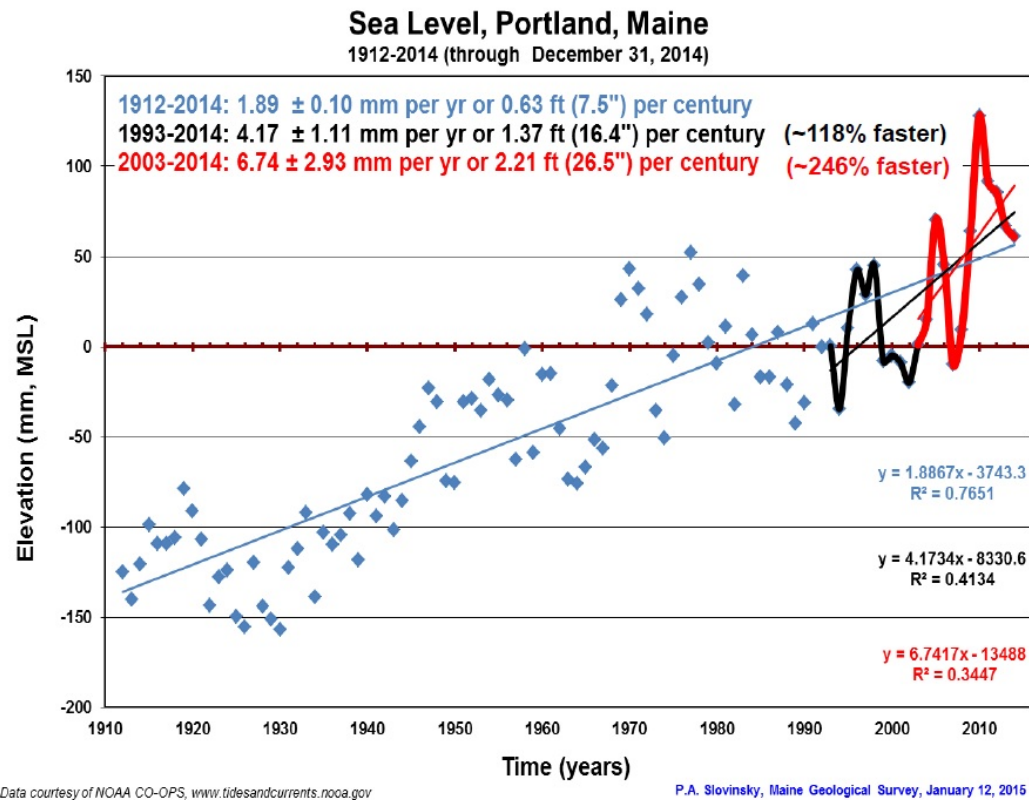
Figure 13-1: Elevation of Sea Level in Maine – 13,000 Years Ago to Present



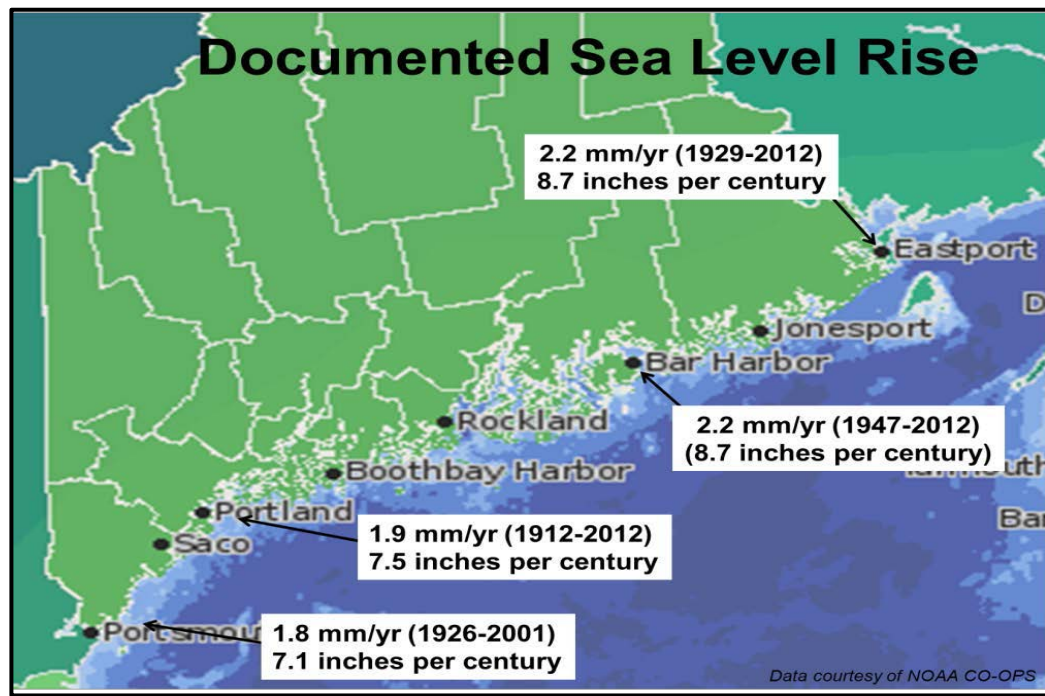
Not far from Biddeford, studies of marshes in Wells show that in the last five thousand years (the shaded area in Figure 1) the rate of change in sea level leveled off from over 3/64 inch (1 mm) per year to only 1/64 inch (0.2 mm) per year about a thousand years ago. This data was derived by radiocarbon dating of marsh borings. Please see Figure 13-2.

Figure 13-2: Sea Level Change in Wells, ME – 5,000 Years Ago to Present

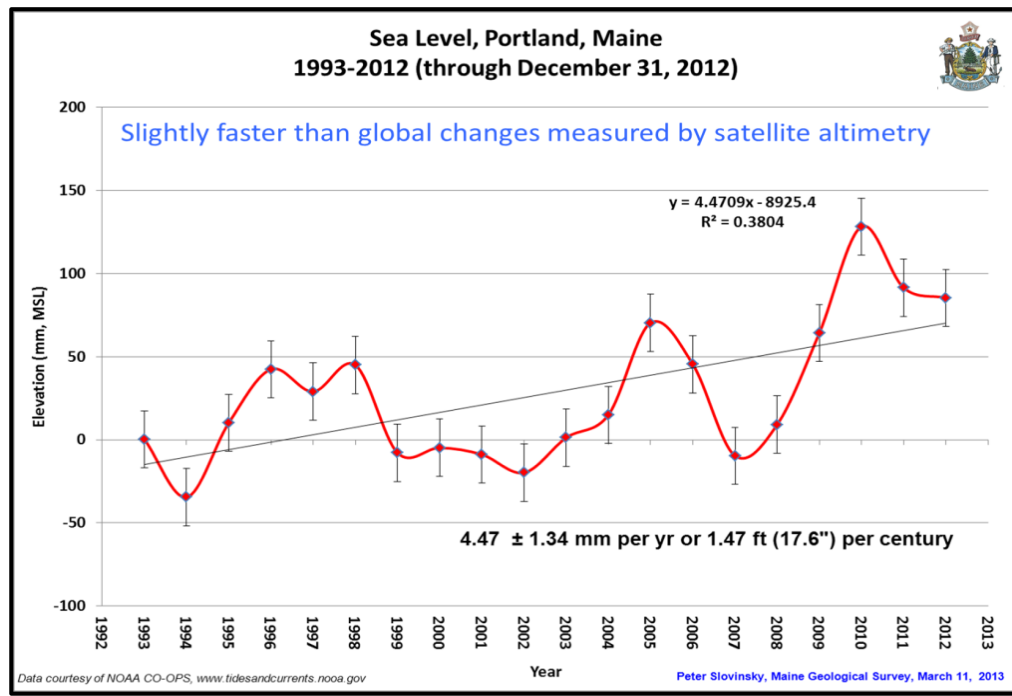
The peaceful period of gradual sea level rise that has been experienced for the past several thousand years appears to be over. The Portland tide gauge shows that over the last hundred years, since 1912, sea level has been rising at a rate of 1.9 mm per year or about 7½ inches (190 mm) during this period. This mirrors global ocean sea levels, as measured from orbiting satellites, showing about 5/64 inch (1.8 mm) rise per year. However, when the period between 1993 through 2014 is measured for mean sea level, the pace of sea level rise increases and then increases again when measured between 2003 and 2014. See Figure 13-3.

Figure 13-3 – Portland Tide Gauge – Mean Sea Level – 1912 to 2014

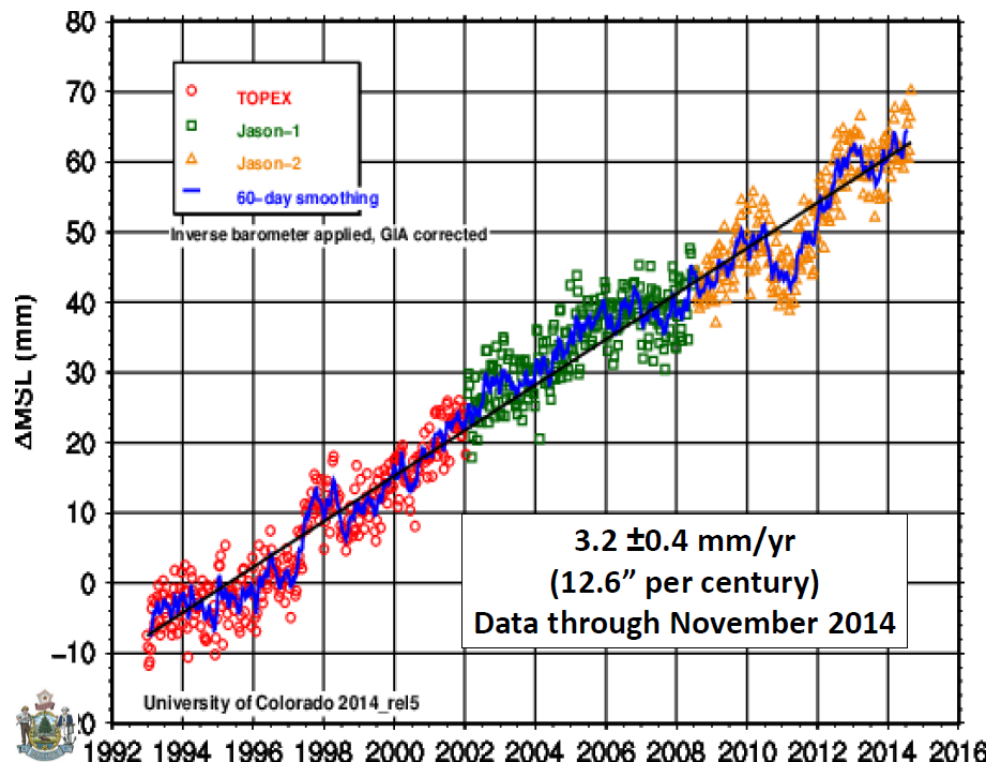
Similar results for the century are found up and down the Maine coast, as documented at nearby tide gauges. See Figure13-4.

Figure 13-4 – Recent Rates of Sea Level Rise – Portsmouth to Eastport

Not only has the pace of sea level rise picked up over the last hundred years, the rate is increasing, and is up substantially since 1993. For the last 20 years or so, the rate of sea level rise has increased to 11/64 inch (4.3 mm) per year, or 17 inches (430 mm) per century. See Figure 13-5.

Figure 13-5 – Portland Tide Gauge – Mean Sea Level – 1993 to 2012

Similar to Maine, the rate of sea level rise globally has increased, as measured by orbiting satellites. Since 1993, global sea level has risen at a rate of 8/64 inch (3.2 mm) per year, or 12.6 inches (320 mm) per century. See Figure 13-6.

Figure 13-6 – Global Rates of Sea Level Rise

2. Best Predictions of Future Sea Level Rise

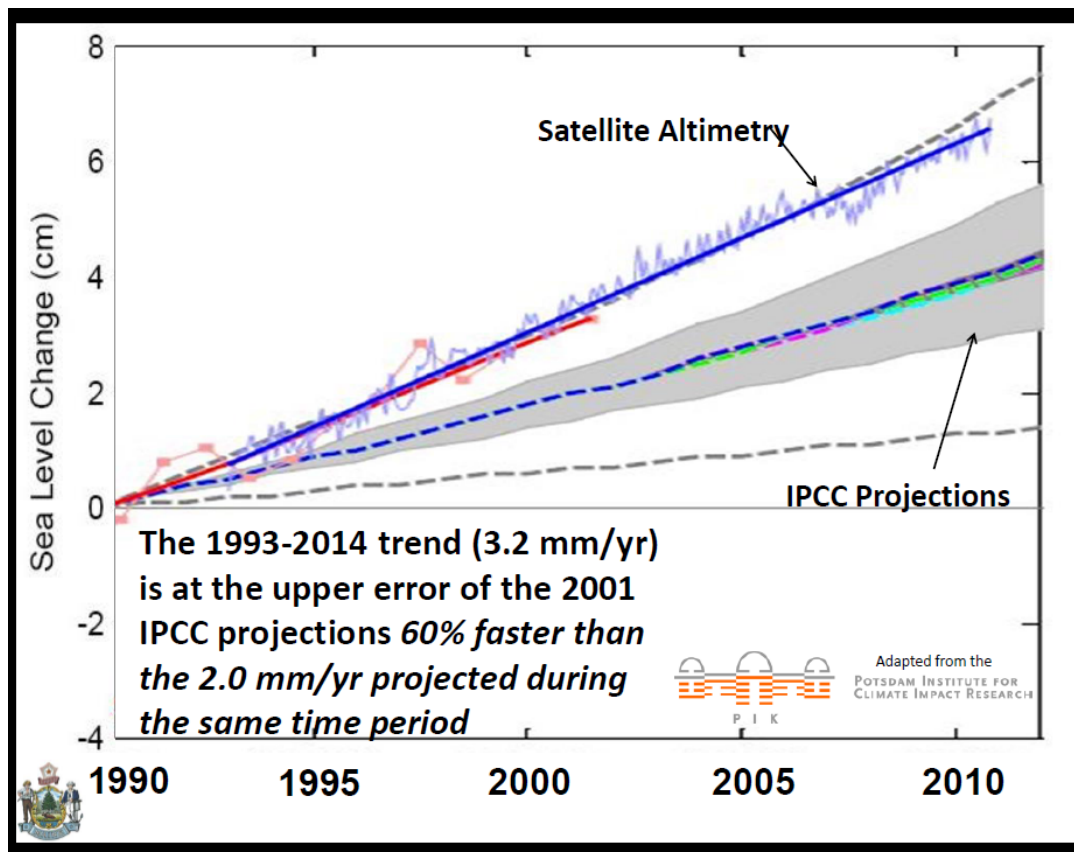
Having an overall understanding of past changes to sea level is essential to understanding the range of projections of future conditions. There is widespread consensus in the scientific community that sea level will continue to rise throughout this century. A rising sea level has planning implications for coastal communities like Biddeford. Some buildings and roads will be impacted on a daily basis or during storms where overall rising sea levels will worsen storm-related impacts. While the degree of certainty is unknown, it is nonetheless important to consider the implications and take stock of the range of likely alternatives.

The current trends since 1993 shown on our local tide gauge, as well as the satellite measurements of the global ocean levels, are showing faster increases than we have seen before. The amount of sea level rise in the last 100 years since 1912 has been about 7.5 inches (190 mm) but the rate of change is increasing. The next hundred years will probably be triple that,

according to the projections of the Intergovernmental Panel on Climate Change (IPCC) and reach at least two feet. However, the IPCC projections do not include contributions from the melting of glacial, land-based ice sheets.

Figure 13-8 shows that if you superimpose the Portland tide gauge data from 1993 to the present, as well as the satellite measurements of the global ocean level, that sea level rise during the last 20 years is tracking at the HIGHEST PROJECTION curve of the IPCC.

Figure 13-8: Recent Data Compared to Past Predictions

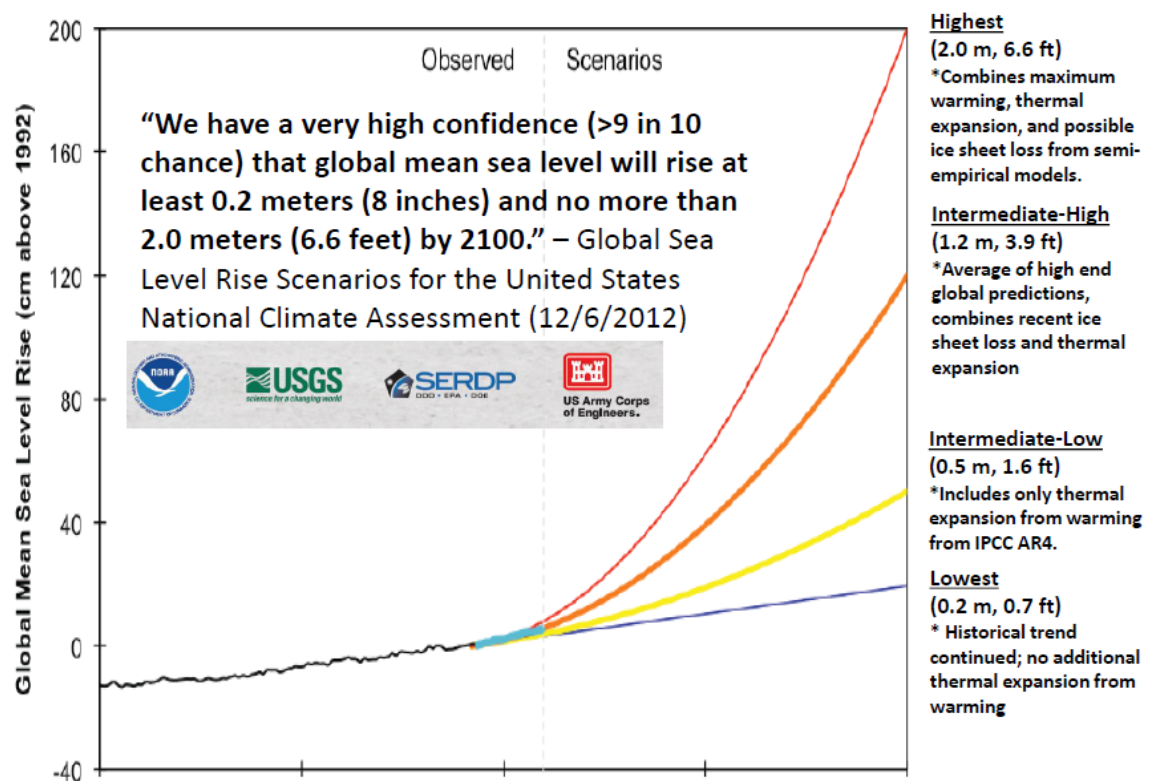


There is another factor at work, which should be considered by the City of Biddeford. Geologists and glaciologists are finding that ice sheets on land in Greenland and the Antarctic are melting, which could add substantial amounts of water to the world's oceans. This phenomenon has not been included as a contributing factor over the past hundred years. The 2011 SWIPA report (Snow, Water, Ice, and Permafrost in the Arctic) by Glaciologist Eric Rignot, of the University of California Irvine and NASA's Jet Propulsion Laboratory (JPL) and his team shows that "if current Antarctic and Greenland ice sheet melting

rates continue for the next four decades, their cumulative loss could raise sea level by an additional 5.9 inches by 2050. When this is added to the predicted sea level contribution of 3.1 inches (79 mm) from glacial ice caps and 3.5 inches (89 mm) from ocean thermal expansion, total sea level rise could reach 12.6 inches (320 mm) by the year 2050.” (More information is available from the American Geophysical Union, via the Web: <http://www.agu.org>).

- For planning purposes, it is recommended that Biddeford adopt a scenario-based approach with consideration given to the range of lowest through the highest assessments. Given current global trends, we are nearing the “Intermediate High” scenario from the National Climate Assessment Global Sea level rise scenarios, which puts us somewhere around 3.3-3.7 feet by the year 2100. The United States National Climate Assessment is very confident that the next hundred years will see at least an 8 inch rise and no more than a 6.6 foot rise by 2100. See Figure 13-9.

Figure 13-9: Sea Level Rise Scenarios



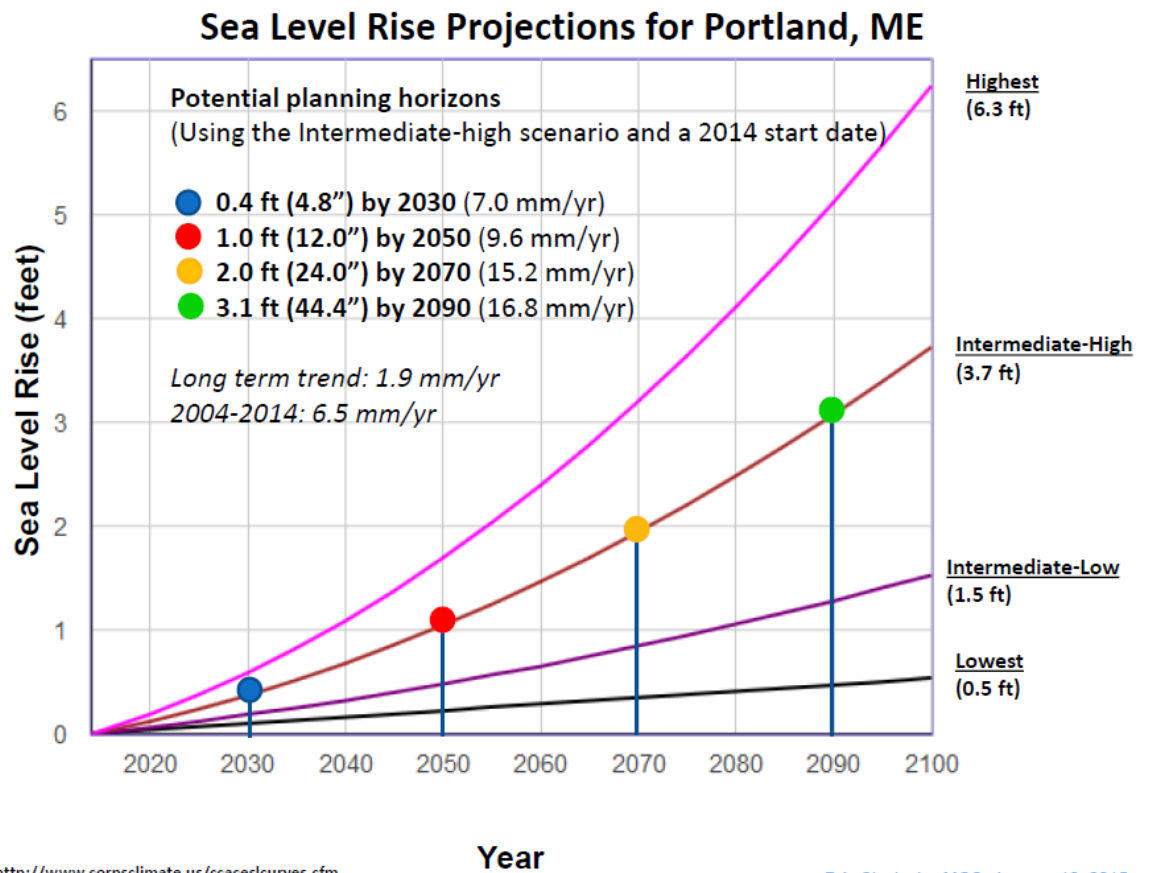
Recommend using a “Scenario” Based Approach

Figure 13-10 shows the potential planning horizons for the City of Portland, Maine. Using the Intermediate-High scenario and a 2014 start date, sea level will rise nearly 5 inches by 2030, 1 foot by 2050, 2 feet by 2070 and over 3

feet by 2090. Given Biddeford's proximity to Portland, it is reasonable to conclude that Biddeford would, under this scenario, experience much the same amount of sea level rise.

It seems clear from these expert projections that Biddeford can expect and should plan for some degree of sea level rise in the coming years. How much and in what timeframe are the key unknowns.

Figure 13-10: Sea Level Rise Projections for Portland, Maine



<http://www.corpsclimate.us/ccaceslcurves.cfm>

P.A. Slovinsky, MGS, January 12, 2015

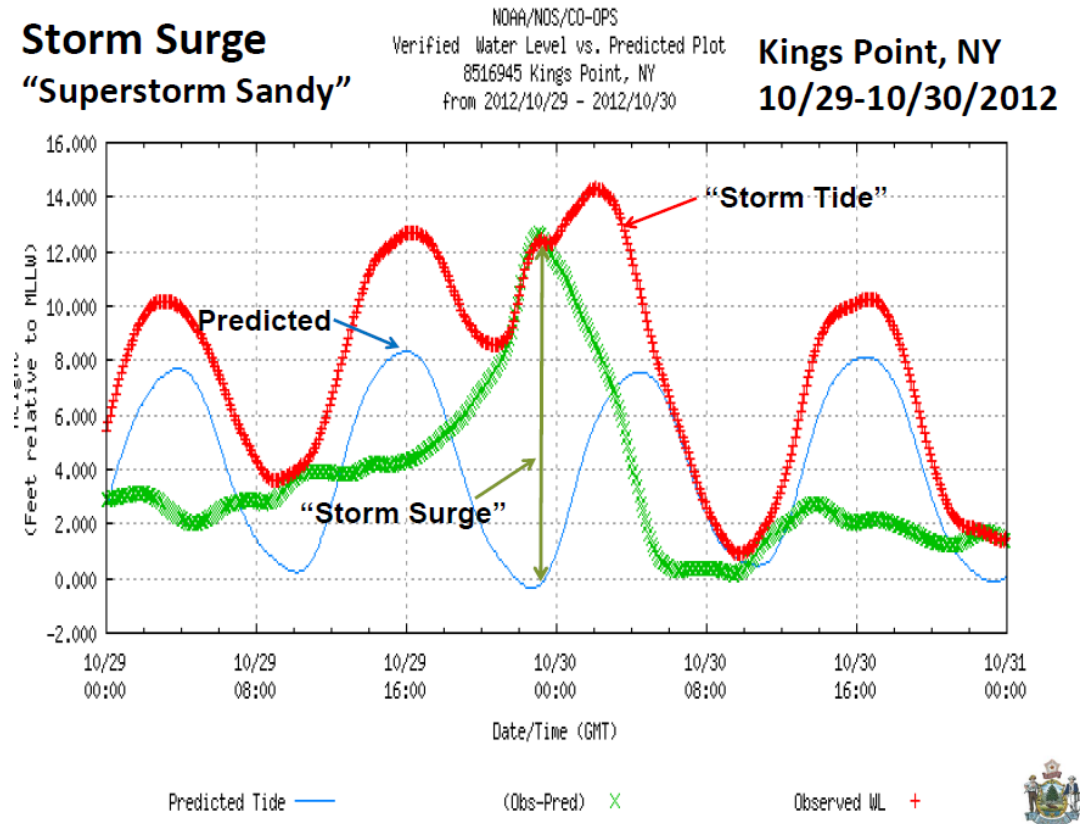
2. What does it mean for Biddeford?

A. Vulnerability Assessment – Sea Level Rise, Storm Tide and Storm Surge

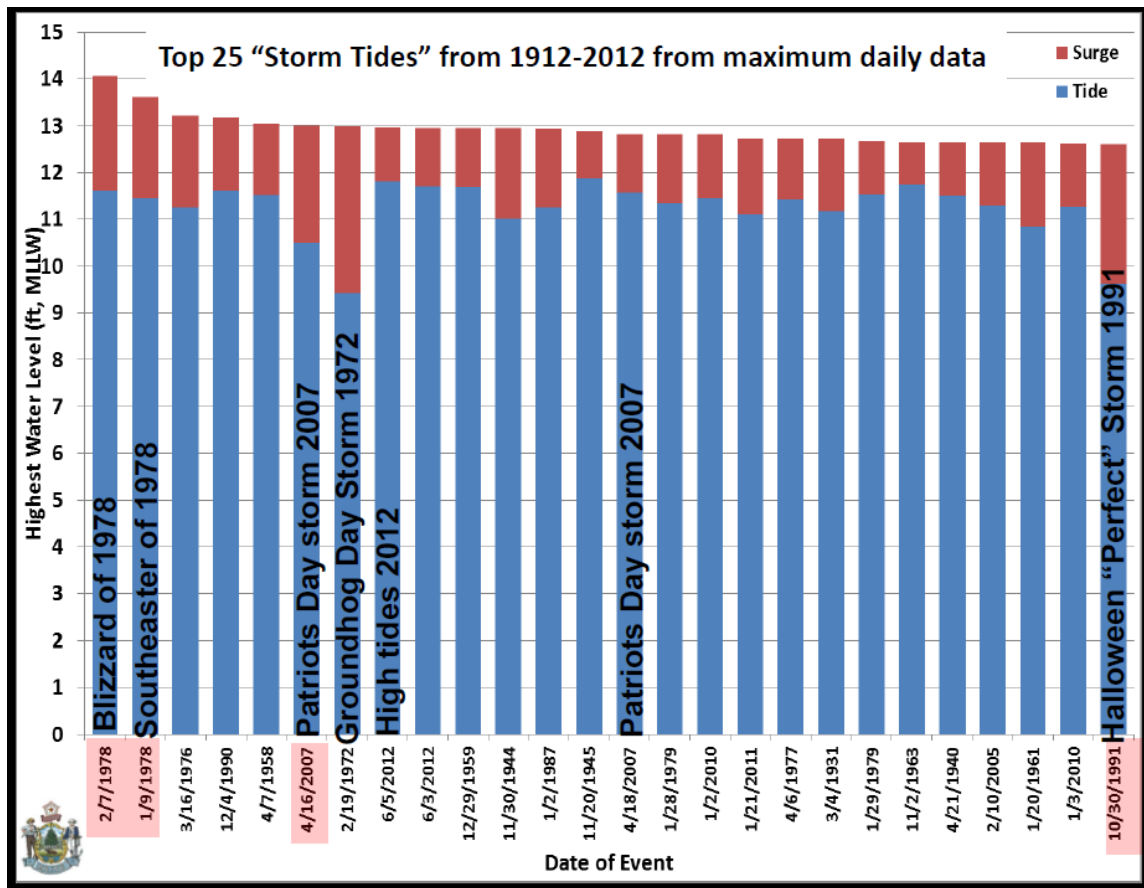
It is important to note that in addition to an increase (from sea level rise) in the water level at highest annual tide (HAT), consideration must be given to the impacts of storm conditions under those higher sea level scenarios. For Biddeford, the HAT elevation is about 6.2 feet. Storms can effectively increase the sea level for the duration of the storm. The 1978 storm is the storm of record with respect to ocean-related storm impacts and produced a temporary increase in sea level of about 2½ feet. Both storm surge and storm tides play a role in how storms affect the shore. As defined by the National Hurricane Center, storm surge is an abnormal rise of water generated by storm, over and above predicted astronomical tides while storm tide is water level rise due to the combination of storm surge and astronomical tide.

Superstorm Sandy's impact on sea level at Kings Point, New York (east of Queens) is illustrated below. Clearly storm tides and storm surge played a huge role in the severe damage experienced by New York and New Jersey.

Figure 13-11: Superstorm Sandy's effect on sea level at Kings Point, New York



Because of Maine's tidal variation, it's the combination of astronomical tide and storm surge e.g. storm tide that is concerning. Figure 13-12 shows Portland's top 25 storm tides from 1912-2012 and the proportion of the total storm tide that was tide and what was the storm surge.

Figure 13-12: Top 25 Storm Tides 1912-2012

Buildings, roads and public infrastructure are susceptible to impact as sea level rises. Two sea level rise assessments have been completed that explore potential impacts to Biddeford and the region. The first assessment analyzed potential impacts to building and properties while the second assessment analyzed impacts to road infrastructure.

a. Impacts to Buildings

The Sea Level Adaptation Working Group (SLAWG) prepared a 2011 report (Appendix X) that explored potential inundation impacts on real estate values. The report included the City of Biddeford. The analysis used a sea level rise of 2 feet. However, with predictions now looking at sea level rise of 3.3 feet or greater, the findings in this report are likely too conservative.

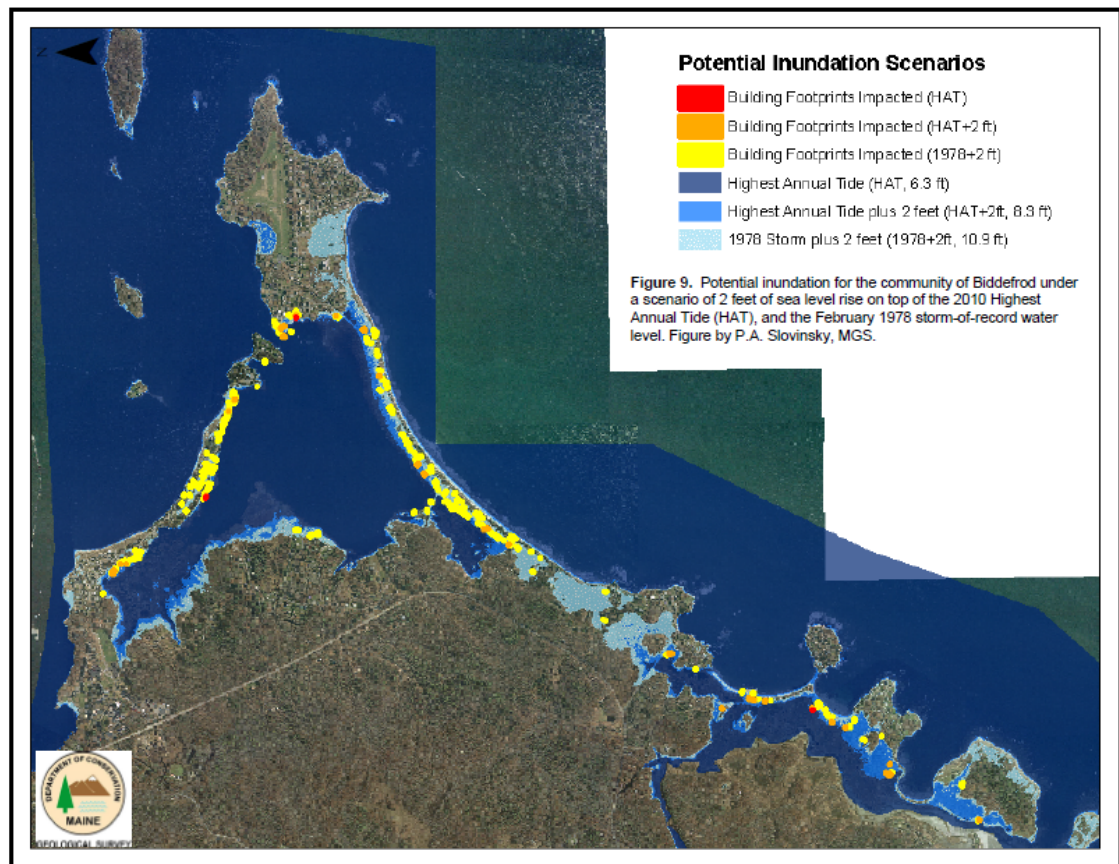
The 2011 report shows that when using the 2010 Highest Annual Tide (HAT), 1 structure may be threatened by impacts under existing conditions. In a HAT plus 2 feet (HAT +2) scenario, 32 buildings may be impacted. Using the

Storm of Record (1978 Storm) plus 2 feet scenario, 109 buildings may be impacted.

Figure 13-13 shows the potential inundation of Biddeford's shoreland with a sea level rise of 2 feet. Under existing HAT, 1 building footprint, and 3 parcels with a combined value of over \$1,000,000 appears to be at risk. However, under the HAT plus 2 feet scenario, Biddeford has over 30 building footprints that may be impacted, with associated structures and parcel values exceeding \$24,000,000. In a future 1978 storm scenario, the number of building footprints and associated parcels impacted increases to over 210, with a combined value of over \$165,000,000.

Again it is important to keep in mind that Figure 13-13 is using 2 feet of sea level rise which is proving to be increasingly conservative as time goes on and data rolls in.

Figure 13-13: Potential Inundation Scenarios for Buildings within the City of Biddeford

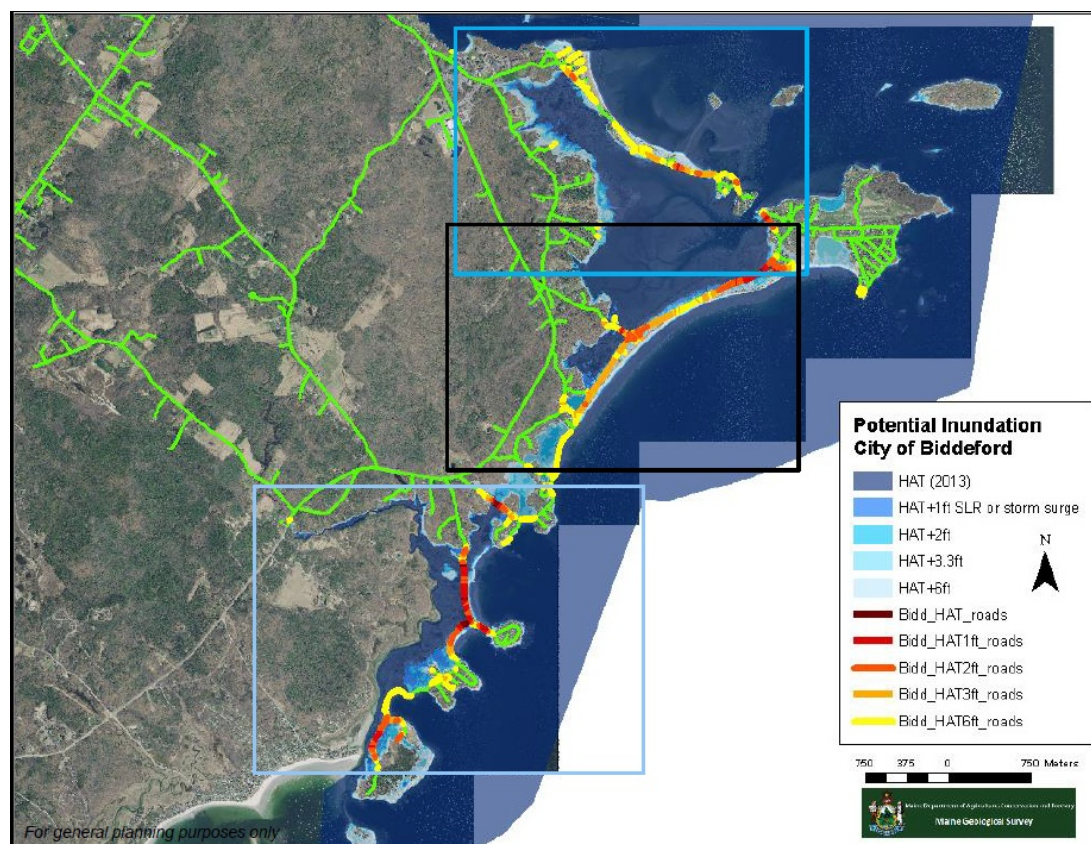


b. Impacts to Roads

The Sea Level Adaptation Working Group (SLAWG) prepared report (Appendix X) in 2014 that identified and assessed the potential impacts of several different sea level rise or storm surge scenarios on both public and private roads within the Saco Bay region.

This report uses potential sea level rise or storm surge scenarios of 1, 2, 3.3, and 6 feet at the time of HAT or during a 1% storm event. These scenarios are generally considered low, moderate, and high predictions of potential future sea level scenarios, and are consistent with predictions from the US National Climate Assessment (Figures 13-14 and 13-15).

Figure 13-14: Potential Inundation Scenarios for Roads within the City of Biddeford



Highest Annual Tide Scenarios

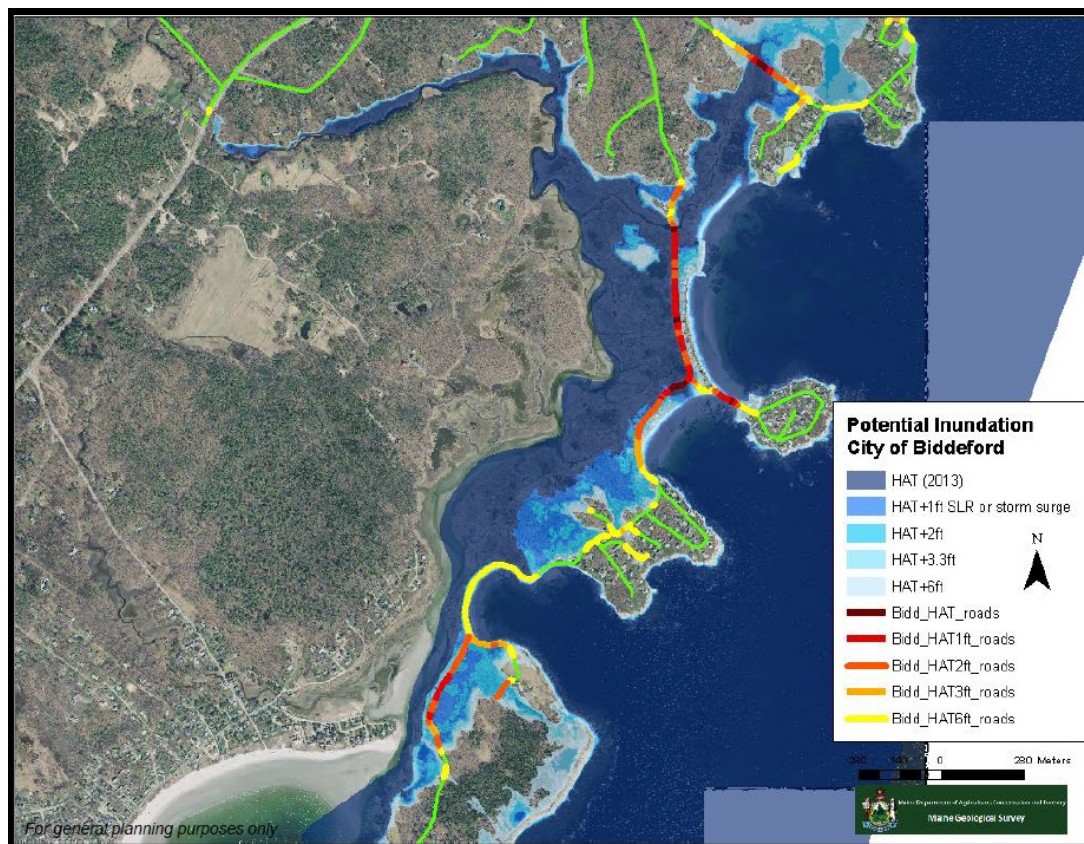
In Biddeford, approximately 0.1 miles of road, most notably Fortunes Rocks Road and Granite Point Road, are potentially impacted under the existing HAT. With the addition of 1 foot of either storm surge or sea level rise, this increases to 0.7 miles along 9 different roads, with the most extensive impacts along Mile Stretch Road and Granite Point Road. Under the additional scenarios (2, 3.3, and 6 feet), impacts increase to 14 roads and 1.8 miles, 25 roads and 3.6 miles, and 44 roads and 6.8 miles.

Under these scenarios, Fortunes Rocks, Mile Stretch, Granite Point, and Hills Beach Road are most vulnerable.

1% Storm Scenarios

For the existing 1% storm event, simulations show that 15 roads and 1.7 miles may be inundated, with the majority of impacts along Granite Point Road, Mile Stretch Road, and Timber Point Road. As sea level rise is added (1, 2, 3.3, and 6 feet), these numbers climb to 21 roads and 3 miles, 27 roads and 4.3 miles, 42 roads and 5.8 miles, and 59 roads and 8.8 miles, respectively. Again, Fortunes Rocks, Mile Stretch, Granite Point, Hills Beach Road, and Timber Point Road are most impacted.

Figure 13-15: Potential Inundation Scenarios for Certain Roads within the City of Biddeford



The SLAWG 2014 report also provides insight to the potential impacts of Category 1 and 2 hurricanes achieving landfall while corresponding with mean high tide and identified concerns that Biddeford's Public Works and Engineering staff have:

Category 1 and 2 hurricanes

For an existing Category 1 event, approximately 6.0 miles of roads may be impacted. Under a Category 2 storm, this increases to almost 11 miles of roads. Please see Figure 14.

Highlights of Discussions with Public Works/Engineering

Based on discussions, much of the City of Biddeford's concern is not having the committed dollars to address the improvements needed. They have identified several areas that could be considered in an incremental manner to start making progress toward sea level rise impacts mitigation. Those areas include: Mile Stretch Road, Hills Beach Road and Granite Point/Sea Spray, which currently sees over flows at the current HAT levels. A known problem location is at the eastern end of Mile Stretch Road, which is low-lying and undergoes inundation during highest tides today.

c. Impacts to Marshes

The role that coastal wetlands play in protecting shoreland during storm events has received much public attention in the years since Hurricane Katrina caused so much damage in Louisiana. *Coastal wetlands* as defined in Maine's shoreland zoning regulations refer to all tidal and subtidal lands which have salt water tolerant vegetation present and any swamp, marsh, bog, beach flat or lowland that is subject to tidal action during the highest tide level. Coastal wetlands can include portions of coastal sand dunes. There are two types of coastal wetlands, called marshes, which play a role in protecting Biddeford. There is *low marsh* which is intertidal so is covered and exposed by the tide each day. *High marsh* is the area of salt marsh beginning that is only sporadically covered by water. These marshes protect the land during storm events, slow erosion and absorb excess nutrients. For the purposes of this chapter, high marsh and low marsh areas in Biddeford were delineated using tidal elevations as proxies for actual on-the-ground surveying.

Examining the two types of marshes in Biddeford (see Appendix X, presentation by Peter A. Slovinsky of Maine Geological Survey) reveals that the Biddeford Pool area has 62 acres of existing low marsh, 131 acres of high marsh for a total of 193 acres of coastal wetlands. If sea level rises 2 feet, low marsh would occur on 163 acres, high marsh would be found on only 54 acres while a total of 217 acres would become coastal wetlands. Similar trends are found when examining the Little River area which also includes some acreage within Kennebunkport. Low marsh environments increase in size while high marsh decreases in size with an overall increase in the size of the coastal wetlands.

Marshes can migrate inland and have been able to do so during the gradual sea level rise experienced since the last Ice Age but when sea level rise rates increase, high marsh environments cannot survive the increased inundation and give way to low marsh environments. This decreases the diversity of salt marshes as a whole and erodes their ability to buffer the shoreline. If the rate of sea level rise is too rapid or abrupt, low marsh environments will also drown, leaving the shore unprotected from battering waves. Another factor that limits marsh migration is development – houses and roads block marshes from moving inland.

Figure 13-16: Extent of Future Coastal Wetlands in Biddeford Pool Area.



For general planning purposes only; does not include dynamic inundation.

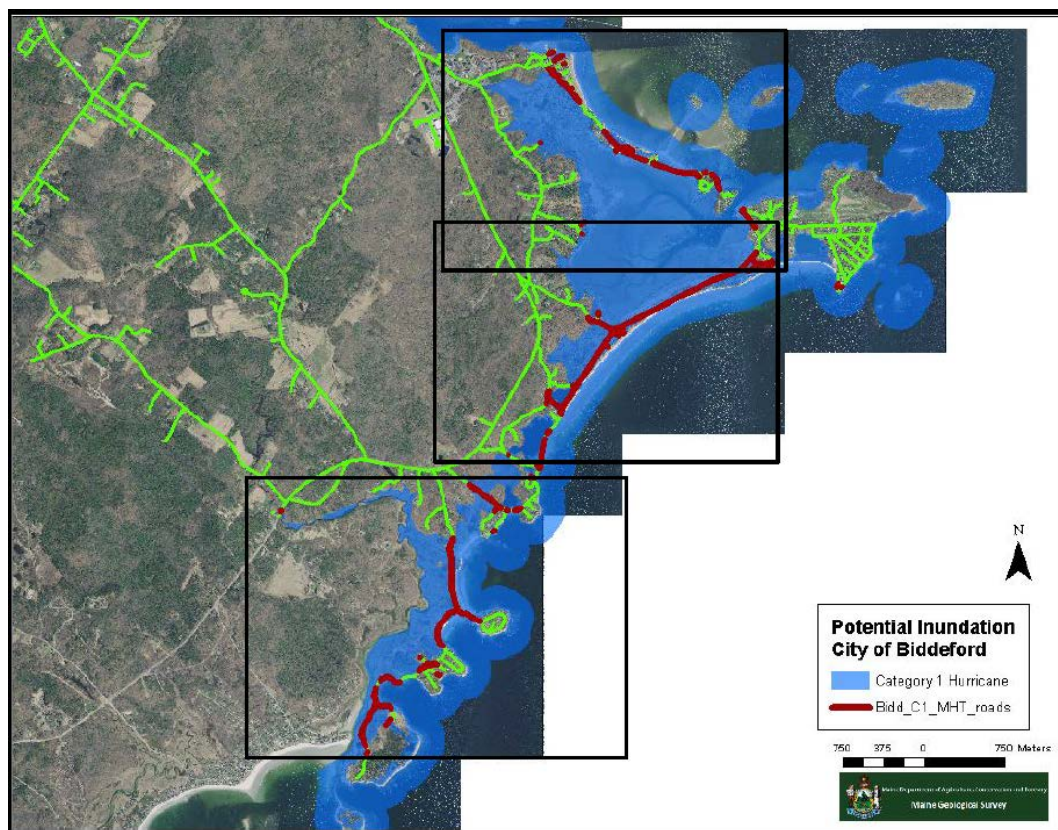
d. Potential Hurricane Inundation

Potential hurricane inundation mapping has been done in Maine through a FEMA grant to Maine's Floodplain Management Office accompanied by consultation with National Hurricane Partnership representatives on tool development, proposed process and techniques. The Geographic Information System (GIS) tool that was developed uses Sea Lake and Overland Surges from Hurricanes (SLOSH – developed by the National Hurricane Center) model data, Light Detection and Ranging Data (LiDAR) which models elevation, and interpolation to create a dataset for Category 1 and 2 events

with a +20% model uncertainty. The uncertainty exists because of limitations in the SLOSH model and LIDAR data, the former because it doesn't model the impacts of waves in addition to storm surge, normal river flow or rain flooding and the latter because it represents a snapshot in time so cannot reflect changes that have occurred on the ground since.

Modeling potential hurricane inundation scenarios (Figure 13-17) can assist in investigation of potential impacts to critical infrastructure, storm evacuation planning, emergency management planning and community outreach and education.

Figure 13-17. Potential Inundation Scenario for City of Biddeford during Category 1 Hurricane



3. What Are We Going to Do Now?

A. Goals:

TBD

B. Policies and Strategies (who should do it; when):

Policy 1: TBD.

Strategy 1a: TBD