

City of Biddeford
Conservation Commission
July 20, 2023 6:00 PM City Hall
Council Chambers & Zoom
<https://biddeford.zoom.us/j/96321767364?pwd=UUFOZHVSVFhEenpacE1CamdTSHMvZz09>
Webinar ID #963 2176 7364 Passcode #355736

Status: Conservation Commission, Thursday, July 20, 2023, 6:00 PM, City Council Chambers & Zoom

1. Call to Order

2. Secretary's Report

- 2.1. Approval of Meeting Minutes from June 15, 2023
[BCC_Meeting Notes 6.15.23_DRAFT.pdf](#)

3. Adjustments to the Agenda

4. Updates

- 4.1. LD 2003-Update-Marc Malon
- 4.2. Winding Creek Update-Maya
- 4.3. Mark Ward's Clifford Park Report
[Results from Clifford Park Surveys 2023\(draft\).pdf](#)
[svpa_form \(BCC 8G\).pdf](#)
[svpa_form \(BWA103\).pdf](#)
[svpa_form \(BWA105\).pdf](#)
[Rare Animal Form_Ward_5-11-2023 \(002\).pdf](#)
- 4.4. Comp Plan Update
- 4.5. Conservation Commission Website Updates-Erik
[BCC - Web - 01 - Website-Content-2023-Updates.pdf](#)
[BCC - Web - 02 - PDF 1 - What Does the BCC Do.pdf](#)
[BCC - Web - 03 - PDF 2 - Development Considerations.pdf](#)
[BCC - Web - 03 - PDF 3 - Conservation Stats.pdf](#)
- 4.6. Water Quality Monitoring Update-Erik
- 4.7. Clifford Park-Leash Ordinance Update (collaboration with the Recreation Department)

5. Discussion

- 5.1. Biddeford Conservation Easement Map/Database-Erik
- 5.2. Biddeford GIS Map Discussion-Erik
- 5.3. Climate: "What could go wrong?"
<https://www.independent.co.uk/weather/italy-europe-cerberus-heatwave-b2373689.html>

- 6. Other Business**
- 7. Adjourn-Next Meeting August 18, 2023**

Biddeford Conservation Commission

Thursday, June 15, 2023

6:05 pm -

Attendees: R. Rhames, D. Rioux, M. Lowell, M. Atlas, P. Robbins, E. Heumiller and M. Lowell

Guests: N. Whitten

Meeting called to order: 6:05pm

I. Meeting Minutes:

- A. Motion to approve meeting minutes from 5.18.23 - E. Heumiller
- B. Second M. Lowell
- C. No discussion
- D. Unanimous approval

II. Old Business

- A.
- B. Budget approved for \$3,000
- C. UPDATES
 - 1. Winding Creek – no updates, no continued construction, adding hay to absorb water
 - 2. Mark Ward update:

a) Invoice needs to be dated June 2023 – @M. Atlas will send to Nan for payment and approval

b) @M. Atlas to send Mark Wards preliminary report to the group

D. Comp Plan Council Action

- 1. Approved by City Council June 6, 2023
- 2. Land Acknowledgements
 - a) Maybe the commission can do a workshop or discussion, suggestion of asking city's legal council for what implications come with the term "sovereignty"
 - b) Event idea: History of the land of Biddeford (land use and tribal history)
 - (1) Invite Tad Baker to be event host?

E. Erik's List

- 1. Website - Reevaluated layout and content
 - a) Mission statement
 - b) What we do as a commission
 - (1) Understanding, evaluation, advising
 - c) Top of the page – resources about easement "what to do if you want to make a conservation easement"
 - d) Pulling Goals from Comp Plan
 - (1) Setting benchmarks based on specific comp plan goals
 - e) Definition section
- 2. Conservation acreage
 - a) Setting up a clearing house/GIS for conserved parcels
 - b) Lot # and copy of deed would help the process
 - c) CLIFFORD:
 - (1) Clifford sisters aren't under conservation, but hold deed restrictions

(2) @E. Heumiller to pull the Clifford Sister Deed – Check in with Nan about deed and land swap maps

3. Water Quality Monitoring
 - a) GIS map has 10 watersheds + feeding water bodies
 - b) What are our resources for testing?
 - (1) Mark Ward?
 - (2) UNE?
 - (3) Kristen Finedal at Maine DEP (Volunteer river monitoring program)
 - Addey Halligan (Biddeford Pool Research)
 - c) What needs to be tested?

F. Buildout Scenario

1. If people did what they can do, in terms of zoning, what would the city look like?

III. New Business

A. Canine Control at Clifford Park

1. Commission voted unanimously during COVID to put in a leash law
2. Enforcement as an issue across the board, for wildlife protection, trail maintenance, dogs, etc
3. Holistic consideration of management of clifford (limit trail usage, manage unhouse people, dogs off leash, mountain bike trail discussion)
4. Carl thought Grace Glynn report requested that dogs be leashed
5. Joe Kenney
 - a) Letter to Council
6. State law (hunting) – control of dog at all times unless a dog is on the scent of prey
7. Holistic needs of park and residents
 - a) How do we enforce, how do we educate?
8. Can we meet with the rec commission to discuss options to support conservation
 - a) Or do we submit information in written form
9. @M. Atlas to reach out to Joe McKenney and Carl Walsh to see about engaging to and add to the conversation about options to manage the park resources and consider other leash law options

B. Yardscaping –

1. Less informative than we would have liked
2. BCC to consider adding more information to beef up the information
 - a) Show citizens the impact of chemicals, present more alternatives (lists of species), watershed gis

C. Alternative energy at the Airport (Bobby Mills led plan)

D. Andrews Road conservation easement – now with the right to add alternative energy

IV. Other Business -

- A. Viewed a photo of an example of the Saco development application roadside signage
 1. This could be helpful to getting public input on projects, hearings, policy changes
- B. *Motion to share photo of sacco Application Review signage and request that Biddeford consider implementing a similar program. -M. Atlas 8:11p*
 1. *Second E. Heumiller*
 2. *No discussion*
 3. *Unanimous*
- C. Salt usage near Thatcher Brook
 1. Hauling salt from downtown to the hill off Main Street near Rotary Park

- V. Motion to adjourn - 8:16 E. Heumiller
 - A. Second M. Lowell
 - B. No Discussion
 - C. Unanimous

Results of Vernal Pool Assessments and Spotted Turtle Overwintering Habitat at Select Wetlands in Clifford Park, Biddeford, 2023



Wood frog egg masses and a female spotted turtle observed in Clifford Park wetlands in 2023

A Report to the Biddeford Conservation Commission

Submitted by

Mark Ward

Ecological Consultant

28 Poor Farm Road

Bristol, ME 04539

July 16, 2023

Vernal Pool Assessments

On three dates in early 2023 (13 April, 28 April, and 11 May), I visited Clifford Park to assess the biological significance of wetlands identified in the Clifford Park Vernal Pool Status Assessment report submitted to the Biddeford Conservation Commission in November 2022.

On the April dates, I conducted egg mass counts for vernal pool breeding amphibians at each of four wetlands (Figure 1). The 13 April visit focused on wood frog egg mass counts (but included salamander counts as well), and the 28 April visit focused on spotted salamander egg mass counts when egg laying was likely completed (Table 1).

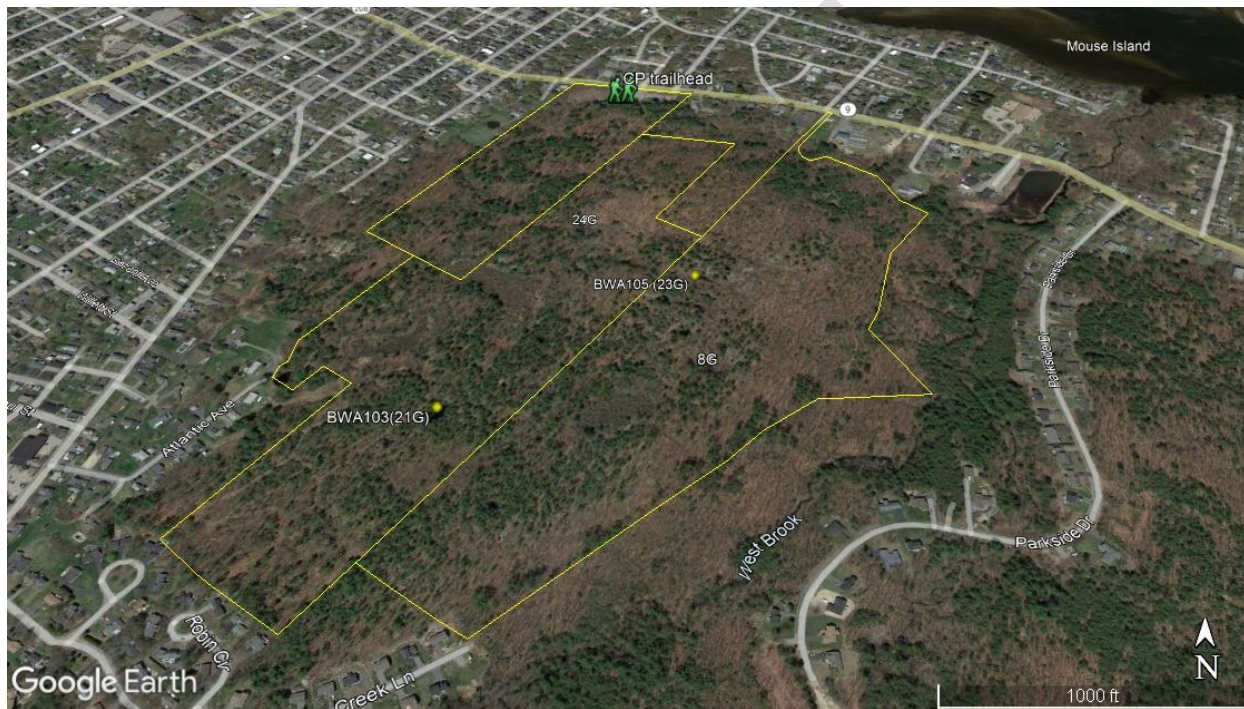


Figure 1. The locations of four wetlands at which egg mass counts were conducted in Clifford Park, 2023.

Amphibian egg mass counts at three of the four wetlands surveyed met the biological criterion threshold (40 egg masses for wood frogs and 20 egg masses for spotted salamanders) to warrant consideration for designation as significant vernal pools (Table 1). Those wetlands that meet the biological criterion threshold and that also meet associated physical criteria may be deemed by the state of Maine to be “Significant Vernal Pools” that enjoy certain protections as “Significant Wildlife Habitat”. I have completed and submitted significant vernal pool assessment forms for these three wetlands (Appendix I) with a final determination of this status to be determined by the Maine Department of Environmental Protection (DEP). Regardless of the determination that is made by the DEP, all three of these wetlands clearly support breeding by large numbers of amphibians. Management and policies for Clifford Park such as trail locations and degree of use by humans and pets should take these considerations into account.

Table 1. Egg Mass Count Data and Significant Vernal Pool Assessments at Four Wetlands in Clifford Park, 2023. Numbers highlighted in yellow indicate counts that exceed the biological significance threshold for wood frogs (40 egg masses) or spotted salamanders (20 egg masses).

<i>Wetland</i>	<i>Wood Frog Egg Mass Counts</i>	<i>Salamander Egg Mass Counts</i>		<i>Results for Significant Vernal Pool Assessment</i>	<i>Latitude, Longitude (Dec Deg)</i>
<i>Date of Visit</i>	<i>5-13-23</i>	<i>5-13-23</i>	<i>5-28-23</i>		
BWA103 (21G)	15	6	76	Meets biological criteria based on salamander egg mass counts and appears mostly natural; final SVP determination up to DEP	43.48143, -70.45097
BWA105 (23G)	53	6	28	Meets biological criteria based on both wood frog and salamander egg mass counts and is natural; this is an SVP	43.48367, -70.44691
8G	22	3	33	Meets biological criteria based on salamander egg mass counts but appears to be partially human modified; final SVP determination up to DEP	43.48220, -70.44674
24G	20	0	8	Does not meet biological criteria; Unnatural quarry pool; Not SVP, but nevertheless provides some value as amphibian breeding habitat	43.48481, -70.44881

Spotted Turtle Overwintering Habitat Assessment

On three dates in 2023, I conducted visual surveys for spotted turtles (a state-threatened species) at three wetlands that were identified in the Clifford Park Vernal Pool Status Assessment report in November 2022 as offering potential overwintering habitat for this species (Figure 2). My suspicion that spotted turtles might be overwintering within wetlands in Clifford Park was based on a documented record for this species at a small quarry pool in Clifford Park on April 28, 2020 (Figure 2). The early date of the 2020 observation suggested that there was likely a nearby overwintering wetland within Clifford Park from which this turtle had emigrated in April 2020.

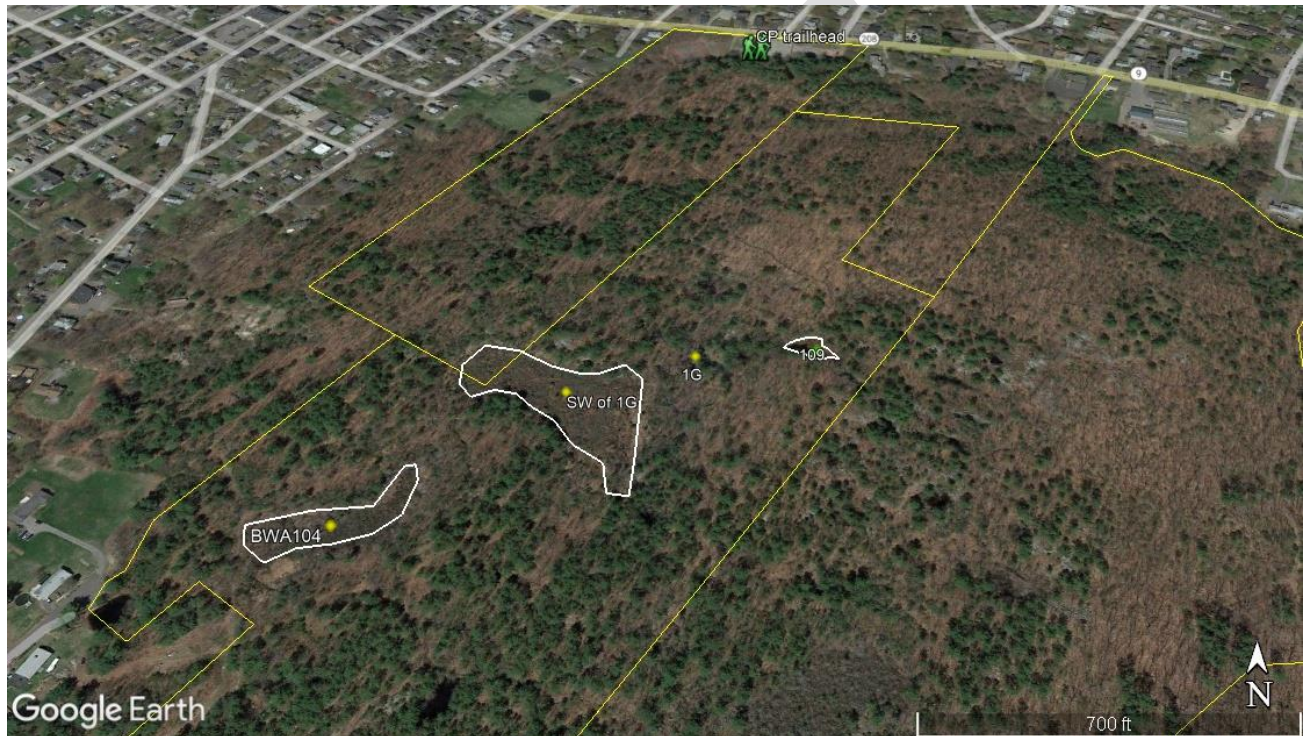


Figure 2. Three wetlands (white polygons) that were surveyed to assess their potential to serve as overwintering habitat for spotted turtles in Clifford Park in 2023. The point identified as 1G is the small quarry pool location at which a spotted turtle was observed in April 2020.

I conducted visual surveys for spotted turtles at all three wetlands BWA104, SW of 1G, and 109 on April 13, 2023 (Table 2). I conducted additional visual surveys for spotted turtles at the two wetlands that seemed to offer the greatest promise, BWA104 and 109, on April 28, 2023 and May 11, 2023 (Table 2). I observed, caught and photographed a female spotted turtle at wetland 109 on May 11, 2023 (Figure 3). The adult female turtle had not been notched, indicating that she is not a turtle that has been previously documented by state biologists. I completed a Rare Animal Form for this observation and have submitted it to the Maine Department of Inland Fisheries and Wildlife (Appendix 2) The wetland in which this turtle was found seems to offer potential overwintering habitat for spotted turtles. This is the second documented occurrence of a spotted turtle in Clifford Park and the relatively early season date adds further support to the idea that spotted turtles are overwintering in Clifford Park.

Table 2. Results of surveys for spotted turtles at three wetlands in Clifford Park in 2023.

Wetland	Latitude, Longitude Dec Deg	Survey Dates	Results
BWA104	43.48249, -70.45199	4-13-23, 4-28-23, 5-11-23	This large wetland had adequate water levels and cover to potentially support overwintering by spotted turtles. No spotted turtles were observed on any of the three visits.
SW if 1G	43.48356, -70.45022	4-13-23	A large shrub dominated wetland with some red maple canopy. This wetland held very little standing water on the early season survey and was not revisited in 2023.
109	43.48408, -70.44804	4-13-23, 4-28-23, 5-11-23	An adult, female spotted turtle was observed in this wetland on May 11, 2023 This wetland may serve as overwintering habitat for spotted turtles.



Figure 3. A female spotted turtle basking in a wetland at Clifford Park that was subsequently caught. This female was too old to age, but based on the extreme wear on her plastron I estimate that she may be forty years old or more.

Spotted turtle individuals that are located within Clifford Park may represent a subpopulation of the spotted turtle population that is found farther east in the West Brook Habitat Block. We do not, at present, have any way to estimate the number of spotted turtles that may inhabit Clifford Park either year-round or seasonally. In general, spotted turtles do not fare well in areas of high recreational use. Because spotted turtles are semi-aquatic and use multiple wetlands over the course of the year, they move across upland habitats to access foraging wetlands, nesting grounds, estivation areas (upland locations where spotted turtles enter a summertime period of

dormancy), and overwintering wetlands. Unwanted encounters with humans may result in losses of individuals when a well-intentioned person might take a turtle home as a pet. More insidiously, this species is prized in the pet trade and subject to potential poaching pressures. Unwanted turtle encounters with pets may result in death by predation, loss of limbs, or other trauma. Understanding the nature of the subpopulation of spotted turtles at Clifford Park and maintaining connectivity with what is most likely a more significant population of this species to the east is critical if this species is to persist in Clifford Park.

Future Considerations

- Based on the results of the vernal pool work (and final DEP assessment), consider incorporating the knowledge of significant vernal pools and their surrounding upland habitat where pool-breeding amphibians spend the bulk of the year into trail location and usage policies at Clifford Park
- Consider additional effort for spotted turtles at Clifford Park (trap-based assessment) to better estimate the size of the sub-population of this species in the Park. And perhaps consider trying to determine the degree to which this subpopulation is interacting with spotted turtles farther east in West Brook Block (though radio telemetry monitoring)



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID:

MDIFW Pool ID:

1. PRIMARY OBSERVER INFORMATION

- a. Observer name:
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes
- c. Project Name:

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No
- b. Landowner's contact information (required)
- Name: Phone: E-mail:
- Street Address: City: State: Zip:
- c. Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

- a. Location Township:
- Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements

- i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: Latitude/Northing:

Coordinate system:

Check one: GIS shapefile

- send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy (Best) The pool perimeter is delineated by multiple GPS points. (Excellent)
- Include map or spreadsheet with coordinates.

The above GPS point is at the center of the pool. (Good)



Maine State Vernal Pool Assessment Form



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

Isolated depression

Pool associated with larger wetland complex

Floodplain depression

Other:

■ Check all wetland types that best apply to this pool:

Forested swamp

Wet meadow

Slow stream

Dug pond or
borrow pit

Shrub swamp

Lake or pond cove

Floodplain

Peatland (fen or bog)

Abandoned beaver flowage

Mostly unvegetated pool

Roadside ditch

Emergent marsh

Active beaver flowage

ATV or skidder rut

Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural Natural-Modified Unnatural Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (**required**):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale in box (**required**):

Permanent

Semi-permanent
(drying partially in all years and
completely in drought years)

Ephemeral
(drying out completely
in most years)

Unknown

Explain:

■ Maximum depth at survey: 0-12" (0-1 ft.) 12-36" (1-3 ft.) 36-60" (3-5 ft.) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: m ft Length: m ft

■ Predominate substrate in order of increasing hydroperiod:

Mineral soil (bare, leaf-litter bottom, or upland
mosses present)

Organic matter (peat/muck) shallow or
restricted to deepest portion

Mineral soil (sphagnum moss present)

Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

Terrestrial nonvascular spp. (e.g. haircap
moss, lycopodium spp.)

Wet site ferns (e.g. royal fern, marsh fern)

Dry site ferns (e.g. spinulose wood fern,
lady fern, bracken fern)

Wet site shrubs (e.g. highbush blueberry, maleberry,
winterberry, mountain holly)

Moist site ferns (e.g. sensitive fern, cinnamon
fern, interrupted fern, New York fern)

Wet site graminoids (e.g. blue-joint grass, tussock
sedge, cattail, bulrushes)

Moist site vasculars (e.g. skunk cabbage,
jewelweed, blue flag iris, swamp candle)

Aquatic vascular spp. (e.g. pickerelweed, arrowhead)

Sphagnum moss (anchored or suspended)

Floating or submerged aquatics (e.g. water lily,
water shield, pond weed, bladderwort)

No vegetation in pool

■ Faunal indicators (check all that apply):

Fish

Bullfrog or Green Frog tadpoles

Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

No inlet or outlet

Permanent inlet or outlet (channel with well-defined banks and permanent flow)

Intermittent inlet
or outlet

Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates:

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed?
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae ⁴			
	Visit #1	Visit #2	Visit #3	Confidence Level ¹			Egg Mass Maturity ²			Observed		Confidence Level ¹	
Wood Frog													
Spotted Salamander													
Blue-spotted Salamander													
Fairy Shrimp ³													

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle					Wood Turtle				
Spotted Turtle					Ribbon Snake				
Ringed Boghaunter					Other:				

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
Attn: Vernal Pools
106 Hogan Road, Suite 1
Bangor, ME 04401

For MDIFW use only

Reviewed by MDIFW Date:

Initials:

This pool is: **Significant** **Potentially Significant** **Not Significant** due to: does not meet biological criteria.
but lacking critical data does not meet MDEP vernal pool criteria.

Comments:



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

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- a. Observer name:
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other
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- c. Project Name:

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No
- b. Landowner's contact information (required)
- Name: Phone: E-mail:
- Street Address: City: State: Zip:
- c. Large Projects: check if separate project landowner data file submitted

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- a. **Location** Township:
- Brief site directions to the pool (using mapped landmarks):

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ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: Latitude/Northing:

Coordinate system:

Check one: GIS shapefile

- send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy

(Best) The pool perimeter is delineated by multiple GPS points. (Excellent)

- Include map or spreadsheet with coordinates.

The above GPS point is at the center of the pool. (Good)



Maine State Vernal Pool Assessment Form



5. VERNAL POOL HABITAT INFORMATION

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b. Wetland habitat characterization

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Isolated depression

Pool associated with larger wetland complex

Floodplain depression

Other:

■ Check all wetland types that best apply to this pool:

Forested swamp

Wet meadow

Slow stream

Dug pond or

Shrub swamp

Lake or pond cove

Floodplain

borrow pit

Peatland (fen or bog)

Abandoned beaver flowage

Mostly unvegetated pool

Roadside ditch

Emergent marsh

Active beaver flowage

ATV or skidder rut

Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural Natural-Modified Unnatural Unknown

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(drying out completely
in most years)

Unknown

Explain:

■ Maximum depth at survey: 0-12" (0-1 ft.) 12-36" (1-3 ft.) 36-60" (3-5 ft.) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: m ft Length: m ft

■ Predominate substrate in order of increasing hydroperiod:

Mineral soil (bare, leaf-litter bottom, or upland
mosses present)

Organic matter (peat/muck) shallow or
restricted to deepest portion

Mineral soil (sphagnum moss present)

Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

Terrestrial nonvascular spp. (e.g. haircap
moss, lycopodium spp.)

Wet site ferns (e.g. royal fern, marsh fern)

Dry site ferns (e.g. spinulose wood fern,
lady fern, bracken fern)

Wet site shrubs (e.g. highbush blueberry, maleberry,
winterberry, mountain holly)

Moist site ferns (e.g. sensitive fern, cinnamon
fern, interrupted fern, New York fern)

Wet site graminoids (e.g. blue-joint grass, tussock
sedge, cattail, bulrushes)

Moist site vasculars (e.g. skunk cabbage,
jewelweed, blue flag iris, swamp candle)

Aquatic vascular spp. (e.g. pickerelweed, arrowhead)

Sphagnum moss (anchored or suspended)

Floating or submerged aquatics (e.g. water lily,
water shield, pond weed, bladderwort)

No vegetation in pool

■ Faunal indicators (check all that apply):

Fish

Bullfrog or Green Frog tadpoles

Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

No inlet or outlet

Permanent inlet or outlet (channel with well-defined banks and permanent flow)

Intermittent inlet
or outlet

Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates:

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed?
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴					
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹		
Wood Frog												
Spotted Salamander												
Blue-spotted Salamander												
Fairy Shrimp ³												

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle					Wood Turtle				
Spotted Turtle					Ribbon Snake				
Ringed Boghaunter					Other:				

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

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Attn: Vernal Pools
106 Hogan Road, Suite 1
Bangor, ME 04401

For MDIFW use only

Reviewed by MDIFW Date:

Initials:

This pool is: **Significant** **Potentially Significant** **Not Significant** due to: does not meet biological criteria.
but lacking critical data does not meet MDEP vernal pool criteria.

Comments:





Maine State Vernal Pool Assessment Form



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

Isolated depression

Pool associated with larger wetland complex

Floodplain depression

Other:

■ Check all wetland types that best apply to this pool:

Forested swamp

Wet meadow

Slow stream

Dug pond or

Shrub swamp

Lake or pond cove

Floodplain

borrow pit

Peatland (fen or bog)

Abandoned beaver flowage

Mostly unvegetated pool

Roadside ditch

Emergent marsh

Active beaver flowage

ATV or skidder rut

Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural Natural-Modified Unnatural Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (**required**):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale in box (**required**):

Permanent

Semi-permanent
(drying partially in all years and
completely in drought years)

Ephemeral
(drying out completely
in most years)

Unknown

Explain:

■ Maximum depth at survey: 0-12" (0-1 ft.) 12-36" (1-3 ft.) 36-60" (3-5 ft.) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: m ft Length: m ft

■ Predominate substrate in order of increasing hydroperiod:

Mineral soil (bare, leaf-litter bottom, or upland
mosses present)

Organic matter (peat/muck) shallow or
restricted to deepest portion

Mineral soil (sphagnum moss present)

Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

Terrestrial nonvascular spp. (e.g. haircap
moss, lycopodium spp.)

Wet site ferns (e.g. royal fern, marsh fern)

Dry site ferns (e.g. spinulose wood fern,
lady fern, bracken fern)

Wet site shrubs (e.g. highbush blueberry, maleberry,
winterberry, mountain holly)

Moist site ferns (e.g. sensitive fern, cinnamon
fern, interrupted fern, New York fern)

Wet site graminoids (e.g. blue-joint grass, tussock
sedge, cattail, bulrushes)

Moist site vasculars (e.g. skunk cabbage,
jewelweed, blue flag iris, swamp candle)

Aquatic vascular spp. (e.g. pickerelweed, arrowhead)

Sphagnum moss (anchored or suspended)

Floating or submerged aquatics (e.g. water lily,
water shield, pond weed, bladderwort)

No vegetation in pool

■ Faunal indicators (check all that apply):

Fish

Bullfrog or Green Frog tadpoles

Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

No inlet or outlet

Permanent inlet or outlet (channel with well-defined banks and permanent flow)

Intermittent inlet
or outlet

Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates:

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed?
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae ⁴			
	Visit #1	Visit #2	Visit #3	Confidence Level ¹			Egg Mass Maturity ²			Observed		Confidence Level ¹	
Wood Frog													
Spotted Salamander													
Blue-spotted Salamander													
Fairy Shrimp ³													

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle					Wood Turtle				
Spotted Turtle					Ribbon Snake				
Ringed Boghaunter					Other:				

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
Attn: Vernal Pools
106 Hogan Road, Suite 1
Bangor, ME 04401

For MDIFW use only

Reviewed by MDIFW Date:

Initials:

This pool is: **Significant** **Potentially Significant** **Not Significant** due to: does not meet biological criteria.
but lacking critical data does not meet MDEP vernal pool criteria.

Comments:



RARE ANIMAL SURVEY FORM

Maine Department of Inland Fisheries and Wildlife
650 State Street, Bangor, ME 04401
Phone: (207) 941-4440

INSTRUCTIONS: Complete one form per visit.

COMPLETED BY: Mark Ward **DATE:** 7/17/2023

SURVEY SITE: Clifford Park **TOWNSHIP:** Biddeford
DELORME PAGE and GRID (e.g. 04B2): 03C2

ELEMENT INFORMATION

Common Name: Spotted Turtle **Scientific Name:** *Clemmys guttata*

SURVEYOR INFORMATION

Survey Date: 5/11/2023 **Time (24-hr clock):** 11:00

Surveyors (principal surveyor first, include first & last name and contact information):

Mark Ward, Ecological Consultant, 28 Poor Farm Road, Bristol, ME 04539; 207-350-6537
Laura Kintz, Maine Department of Inland Fisheries and Wildlife

IDENTIFICATION

Photos taken? Yes **Notes and repository:** See embedded images
Specimen collected? No **Specimen number and repository:** Click here
Identification problems? No **Explain:** Click here

ELEMENT OCCURRENCE INFORMATION

Observation type: Sight: ☐ Vocalization: ☐ Handled: ☒ Collected: ☐ Other (explain): Click here

Observed abundance (include age & sex): 1 Adult female, too old to age, not previously notched

Estimated abundance (and basis for estimate): Click here

Evidence of reproductive and/or other behaviors: Click here

Miscellaneous notes:

We observed this turtle basking upon our arrival and watched for about 15 minutes before attempting the successful capture. We did not observe any other spotted turtles in this wetland on this date, nor did we observe any spotted turtles in this wetland on either of two previous visits on April 13, 2023 and April 28, 2023, when weather conditions were favorable to observe basking spotted turtles.

HABITAT DESCRIPTION

Describe the specific habitat or micro-habitats where this animal occurs. Convey a mental image of the habitat and its features including: land forms, aquatic features, vegetation, slope, aspect, soils, associated plant and animal species, natural disturbances.

The wetland in which this turtle was observed is a documented Significant Vernal Pool (DEP#2212) based on past amphibian egg mass counts. The wetland is ~60m x ~25m and is likely semi-permanent. Patches of buttonbush are common as are areas dominated by emergent sedges (*Carex* cf. *utriculata*). Sphagnum is common both suspended in the water column and anchored to the substrate. I suspect this wetland to be an overwintering site for spotted turtles.

Threats and/or management concerns:

Significant use of recreational trails in Clifford Park by people on foot and on mountain bikes. Walkers in the park commonly are accompanied by dogs.

DIRECTIONS

Provide detailed directions to this element occurrence (versus the survey site) using a readily locatable and relatively permanent landmark as a starting point. Refer to nearby landmarks, roads, and villages. Include distances, compass directions (North, South, etc.)

The wetland is within Clifford Park and can be relatively easily accessed from the Clifford Park parking area on Pool Street (Rte 9). Follow the black trail southeastward ~500m to the trailside 1G quarry pool (see GPS coords below) then head NE about 100m off trail to wetland

Owner (if known, indicate name of owner(s), address, and phone number):

City of Biddeford

LOCATION OF OBSERVATION

Source 1: 43.48402° UTM-N / Lat-N 70.44810° UTM-E / Long-W NAD83/WGS84

(Preferred format: UTM xxxxxxE xxxxxxN or decimal degrees xx.xxxxx or degrees, minutes, seconds xx° xx' xx.x")

GPS Source 1 comment: CG893 point where turtle was caught. Taken with Garmin eTrex GPS unit (+/- 5m error)

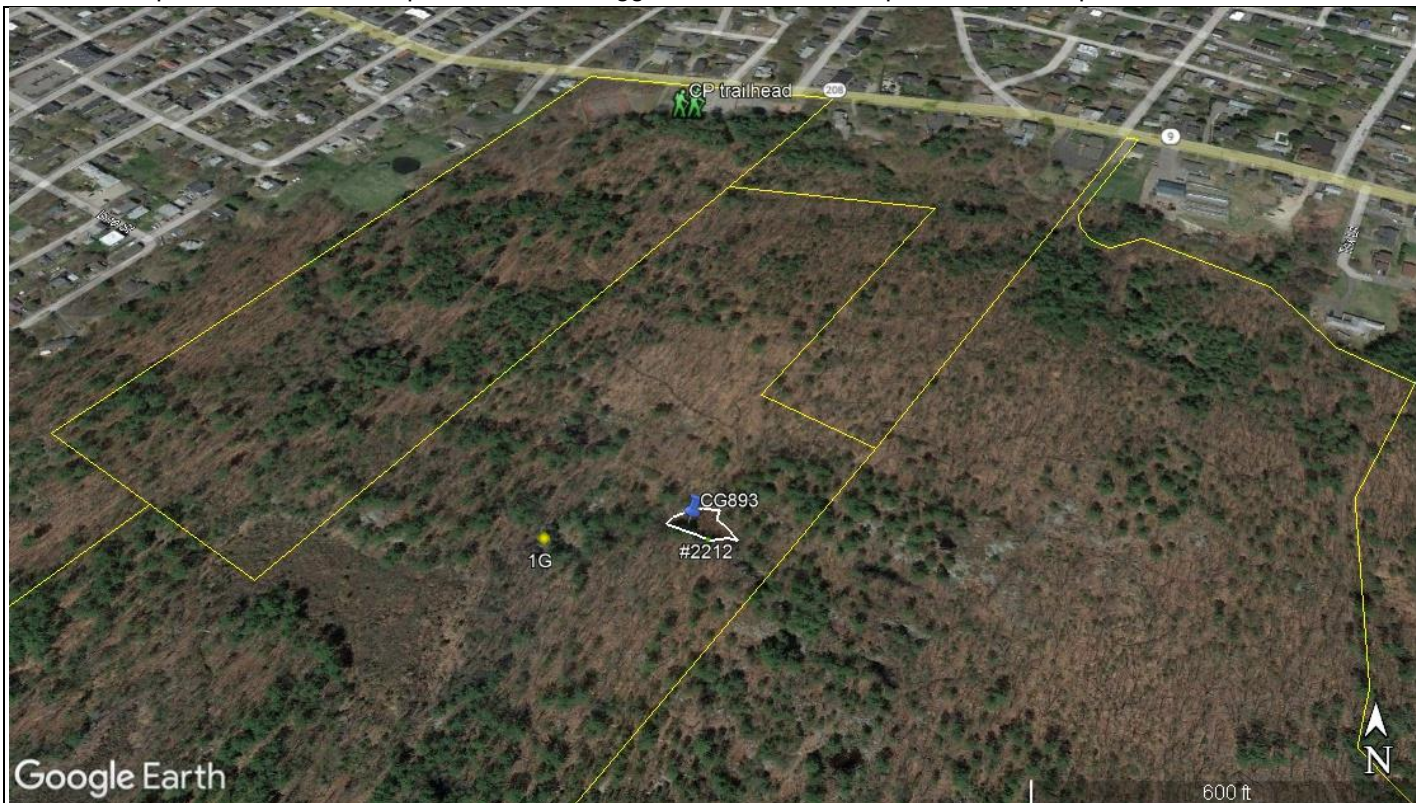
Source 2: 43.48239° UTM-N / Lat-N 70.44907 UTM-E / Long-W NAD83/WGS84

(Preferred format: UTM xxxxxxE xxxxxxN or decimal degrees xx.xxxxx or degrees, minutes, seconds xx° xx' xx.x")

GPS Source 2 comment: 1G—a nearby quarry pool where a spotted turtle was observed on 4/28/2020 by Grace Glynn

LOCATION GRAPHIC

Insert aerial photo or scanned map with features flagged. Hand drawn maps are also acceptable.



Location graphic caption: The location of a spotted turtle (CG893) in Clifford Park on May 12, 2023 and a nearby quarry pool (1G) where a spotted turtle was observed by Grace Glynn on April 28, 2020.

Insert additional graphics (maps, animals, or habitats).



Graphic The female spotted turtle observed basking from the shore
caption:



Graphic The female turtle after being captured.
caption:

Insert additional graphics (maps, animals, or habitats).



Graphic The carapace of 893 showing the incorporation of an existing deep chip into the notch on the “100” scute.
caption:



Graphic The very worn plastron of 893 suggests that this is an old turtle.
caption:

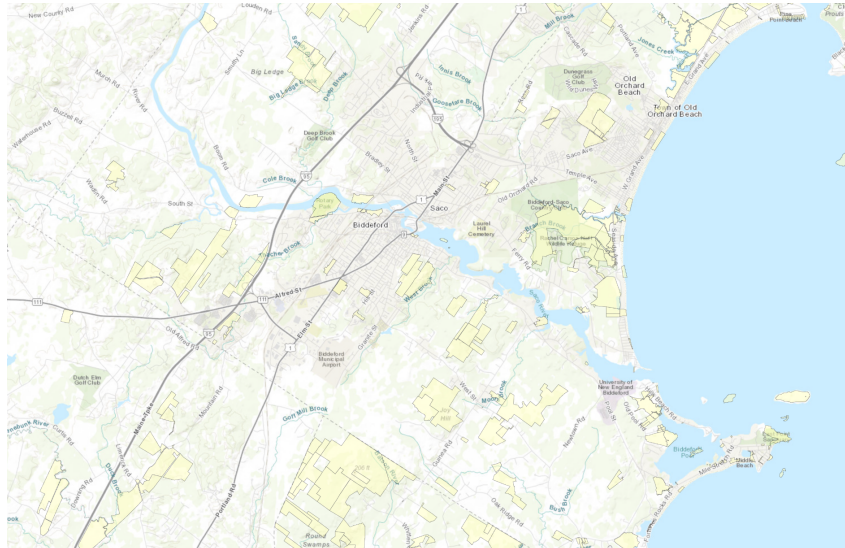
Agendas, Minutes, and Videos
[link [current meeting archive](#)]

Archived Meeting Details
[link to [historical archive page](#)]

Conservation Easement
Checklist

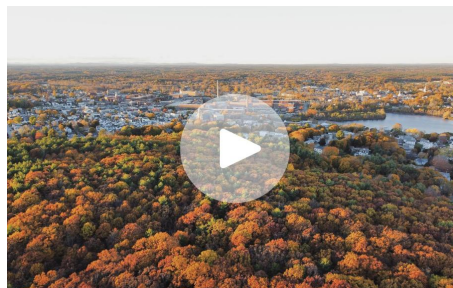
Biddeford Conservation Commission

The Conservation Commission works in research and advisory roles with city planners on both environmental and conservation needs — helping to maintain healthy ecosystems and public access to land for future generations in the City of Biddeford. ([Email Us](#))

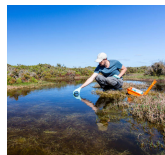


Biddeford is comprised of **XXXX** acres, and just **XXX** acres of that land have some type of conservation easement. That's only **XX**% of our land.

Understanding Our Ecosystem

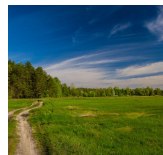


**What Does
the BCC Do?**



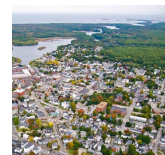
[PDF #1]

**Development
Considerations**



[PDF #2]

**Biddeford's
Conservation Stats**



[PDF #3]

Curious About a Conservation Easement?

Reference this PDF for an overview of the process and steps you can take to add all or part of your land into conservation.

[PDF image links to full document]

Looking Ahead to Biddeford's Future

Looking to Biddeford's 2023 Comprehensive Plan, we've identified key areas we can focus on to ensure the health of our community, our ecosystems, and wildlife habitats across Biddeford as we look to increase the amount of land in conservation from roughly 3% to 10% by 2030.

Future Land Use

- TBD

Recreation & Open Space

- TBD

Agriculture & Forestry

- TBD

Watersheds

- TBD

Marine Resources

- TBD

Many of the factors we're focused on have both direct and indirect links to climate change, and we're working to understand and collaborate on these issues to ensure a bright future for Biddeford. For more information, you can visit the [Biddeford Climate Task Force](#).

Conservation Partners

If you're interested in learning about conservation easements, or other options for your land that don't involve development — explore these organizations:

[logo]

Biddeford Pool Conservation Trust

[logo]

Saco Valley Land Trust (sacovalleylandtrust.org)

	[logo] Maine Farmland Trust (mainefarmlandtrust.org) [logo] Maine Woodland Owners (mainewoodlandowners.org) [logo] York County Soil and Water Conservation District (yorkswcd.org) Contact Melissa Brandt at 207-324-8888
	Resources • Maine's Current Land Use Program • Guide to Environmentally-Friendly Home Care (in progress) • Best Management Practices for the Application of Turf Pesticides and Fertilizers (PDF) • 10 Simple Steps to a Safe and Healthy Lawn • 7 Questions You Should Ask Your Lawn Care Company • The Biddeford YardSmart Pledge • Maine Yardscaping Partnership
	Definitions Conservation Easement - TBD Farmland - TBD Forever Farm - TBD Open Space - TBD Wildlife Corridor - TBD Working Woodlands - TBD

The Commission consists of seven commissioners, each appointed for a five-year term. Contact the Commission:

conservationcommission@biddefordmaine.org

Commission Members

Richard Rhames
Chair

richard.rhames@biddeford.org

Erik Heumiller
Vice Chair

erik.heumiller@biddeford.org

Denis Rioux

denis.rioux@biddeford.org

Maya Atlas

maya.atlas@biddeford.org

Michael Lowell

michael.lowell@biddeford.org

Patrick Conlon

patrick.conlon@biddeford.org

Peter Robbins

peter.robbsins@biddeford.org

Staff Liason

Gregory Mitchell

Planning and Development Director

[Contact by email](#)

The Work of the Biddeford Conservation Commission

The Conservation Commission advises the City of Biddeford on issues related to wildlife, habitat, and the broader ecosystem from the coastal neighborhoods to downtown, the riverfront, and westward to what was historically agricultural land.

This work breaks down into:



Research

We organize volunteer studies or contract independent ecologists to capture data about wildlife, plant species, water quality and more. This gives the City up-to-date information that can be compared to previous years to better understand trends and impacts to our natural spaces.



Documentation

We catalog land, water, and wildlife in Biddeford to develop a comprehensive understanding of Biddeford's ecosystem and the needs of each of these elements and our community as a whole.



Evaluation

We aid the City in reviewing proposals for development to consider impacts on important wildlife and habitat. We also identify opportunities to preserve land or provide public access to land and water.



Recommendations

We make strategic recommendations for the preservation of important natural resources on public or private lands — and we encourage partnerships with residents, non-profit organizations, and city officials to ensure the Biddeford of the future has a healthy and happy ecosystem.

Some of what we're looking to understand:

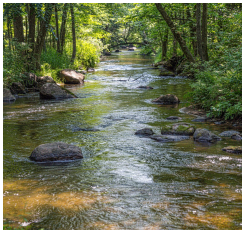
Diverse Ecosystems Across Biddeford



Wildlife Habitat & Movement



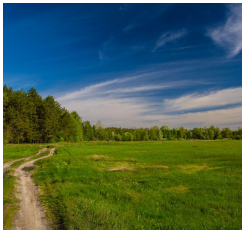
Watersheds & Water Quality



Development's Contribution to Climate Change



Agriculture Soils & Land Use



Public Access to Green Spaces



Why it's so important:

Understanding the land and resources we have allows the City of Biddeford to properly evaluate development proposals and make decisions based on the needs of today with the needs of the future. It also helps the City make decisions about changes to zoning and land use.

As a city grows, it's important to not only provide access to affordable housing but to ensure that development happens in strategic areas that do not negatively impact our environment and the lands, waters, wildlife, and all the ways they work together — many of which we don't understand — that ultimately make the area we live in so special.

Questions?

You can contact the Conservation Commission at: conservationcommission@biddefordmaine.org

Development Considerations & Conservation Planning



The Conservation Commission assists in reviewing and commenting on development proposals for potential impacts or areas of opportunity to add land into conservation.

What follows are some of the considerations we use when looking at these proposals, and we encourage developers, or land owners thinking about development, to consider these elements and impacts — and to plan development in ways that minimize impacts on wildlife and the ecosystem.

Wildlife

Biddeford is home to a number of species of significant interest, and it's important to consider the needs and locations of these species when planning development.

- Blandings Turtle
- Spotted Turtle
- Native Brook Trout
- Cottontail Rabbits
- Salamanders

Wildlife Corridors

The boundaries of zoning, parcels, and roadways don't matter to wildlife, and it's important to understand the movements and needs of certain species to allow for connection between green spaces instead of dividing them with homes and roads that will increase wildlife mortality and have negative impacts on our ecosystem as a whole.

This can require not just looking at your parcel, but also those surrounding it, and considering how and where wildlife will need to migrate.

If there are wetlands and vernal pools on either side of your parcel, it's likely that turtle populations migrate between them in a direct path, making that area less ideal for development.

Habitat

Our ecosystem is comprised of pockets of different species scattered throughout what we call Biddeford. Certain plant populations thrive in one area, but not another. And these plants become food sources, shelter, and more for a variety of wildlife — each shifting with the seasons.

Waterways & Runoff

Chemical runoff from fertilizer or parking lots, combined with erosion from faster-moving water can degrade the water quality of brooks and streams — reducing the oxygen and increasing the temperature — making the water uninhabitable for native brook trout which were once thriving in all of our local watersheds.

Wintering Areas

The cold and deep snow provide challenges for deer and other species in the winter months.

Areas dense with conifer trees provide areas the wildlife can find protection, with less snow on the ground and warmer temperatures from the dark foliage absorbing heat from the sun. These trees can also provide sustenance as deer will consume the bark.

Wetlands

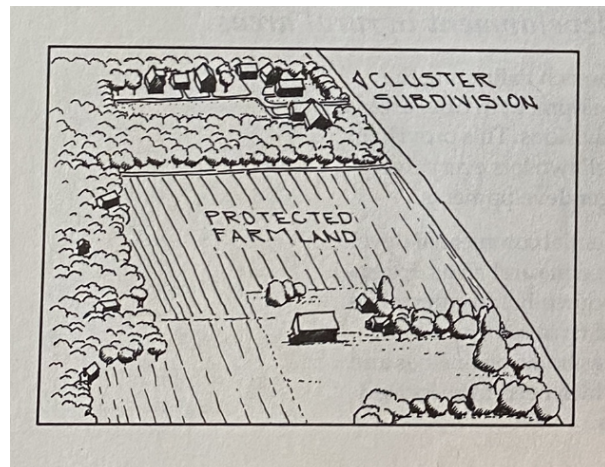
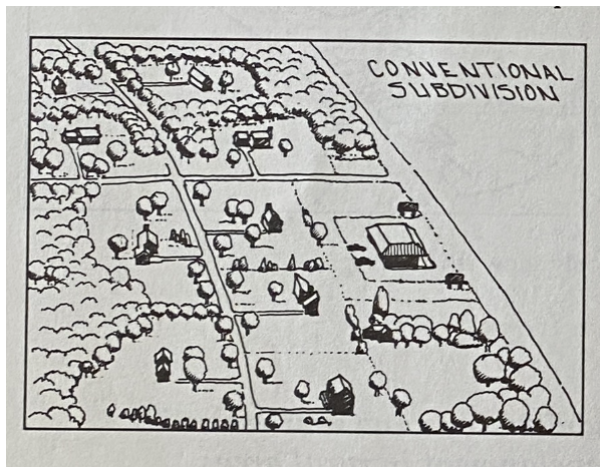
By nature, these areas don't make for great development, but they do make for a great ecosystem. Many of the species of interest seek out these spaces, so it's important to give buffers to wetlands, and they create great opportunities for conservation easements as part of broader development plans.

Farmland

Biddeford is home to a large portion of prime agricultural soils that are of statewide significance. However, many of these soils have already been developed within our city — degrading the soil quality and reducing the availability of land for agricultural use, which ultimately makes Biddeford less resilient and removes economic opportunities for residents.

Cluster Developments

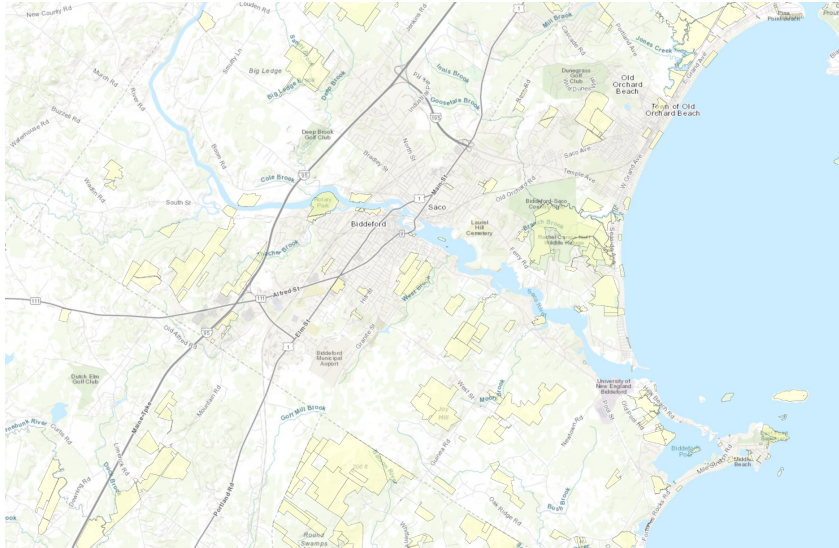
When developing on agricultural or forest land, we strongly encourage cluster developments — intentionally clustering homes in one section of the acreage allowed, instead of spreading out and developing all that's allowed by zoning — reducing sprawl and preserving the overall character of the land.



Setbacks & Buffers

There are legal setbacks and buffers in place to protect watersheds, but we encourage developers to consider doing more than just the legal limits - really thinking about their specific parcel of land, the development plans, and trying to ensure they are actually protecting the health of our waters — not just checking a box on a form.

Biddeford - Conservation by the Numbers



Things to showcase in this PDF:

1. Map(s) of Biddeford showing various overlays that are relevant to conservation, biodiversity, watersheds, etc.
 - Land in conservation
 - Farmland soils with development overlays
 - Map of the watersheds and brooks
 - High growth areas
 - Areas of opportunity for conservation
2. Stats about acreage in Biddeford and the current land usage for:
 - Agricultural use
 - Working woods/forestry
 - Livestock/equestrian uses
 - Recreational use
 - Wildlife conservation
 - etc.
3. Talk about the rate of growth and development
 - Development trends over the last 10-20 years
 - Conservation trends over the same time period
 - Projected growth over the next 10-20 years
4. Testimonials from different types of landowners that have put land in conservation
 - A private resident
 - Saco Valley Land Trust
 - Someone from the City
 - A developer (possibly Andrews Road?)