

Vernal Pools & Wildlife: How to Report Your Sightings



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Saving Special Places Conference 2016



New Hampshire Fish and Game Department

WHAT IS A VERNAL POOL?

- ✓ Temporary wetland: usually holds water for only part of the year, often spring time.
- ✓ Typically fish-less
- ✓ Sometimes called temporary, ephemeral, seasonal or isolated pool, pond, or wetland.



Photo by Pete Bowman, NHNHB

WHAT SPECIES NEED VERNAL POOLS?



Steve Nanz



Victor Young, NHFG



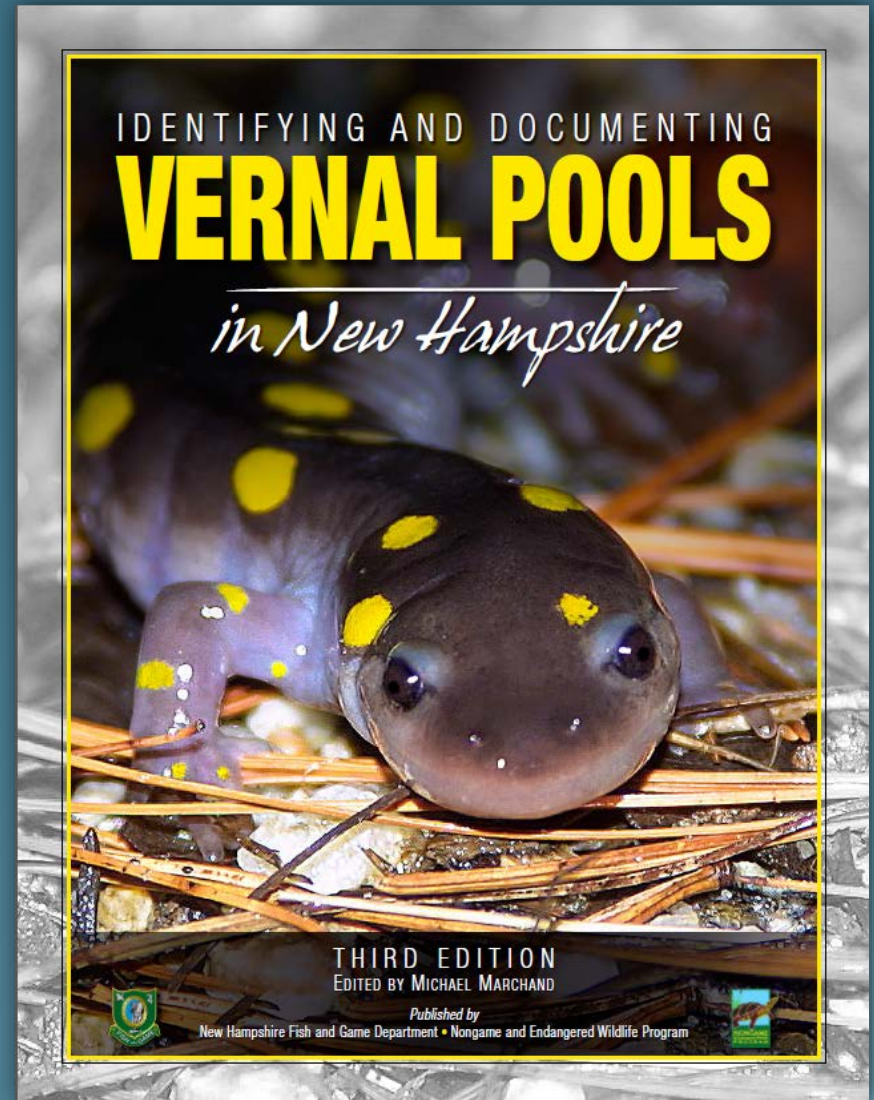
Timothy Beaulieu, UNHCE

WHAT OTHER SPECIES USE VERNAL POOLS?



DOCUMENTATION AND PROTECTION

- ✓ Not mapped as part of the Wildlife Action Plan
- ✓ Often overlooked in land-use planning (pools can be small & dry at times of the year)
- ✓ **New Vernal Pool Documentation Manual** can help locate, identify, and document habitat



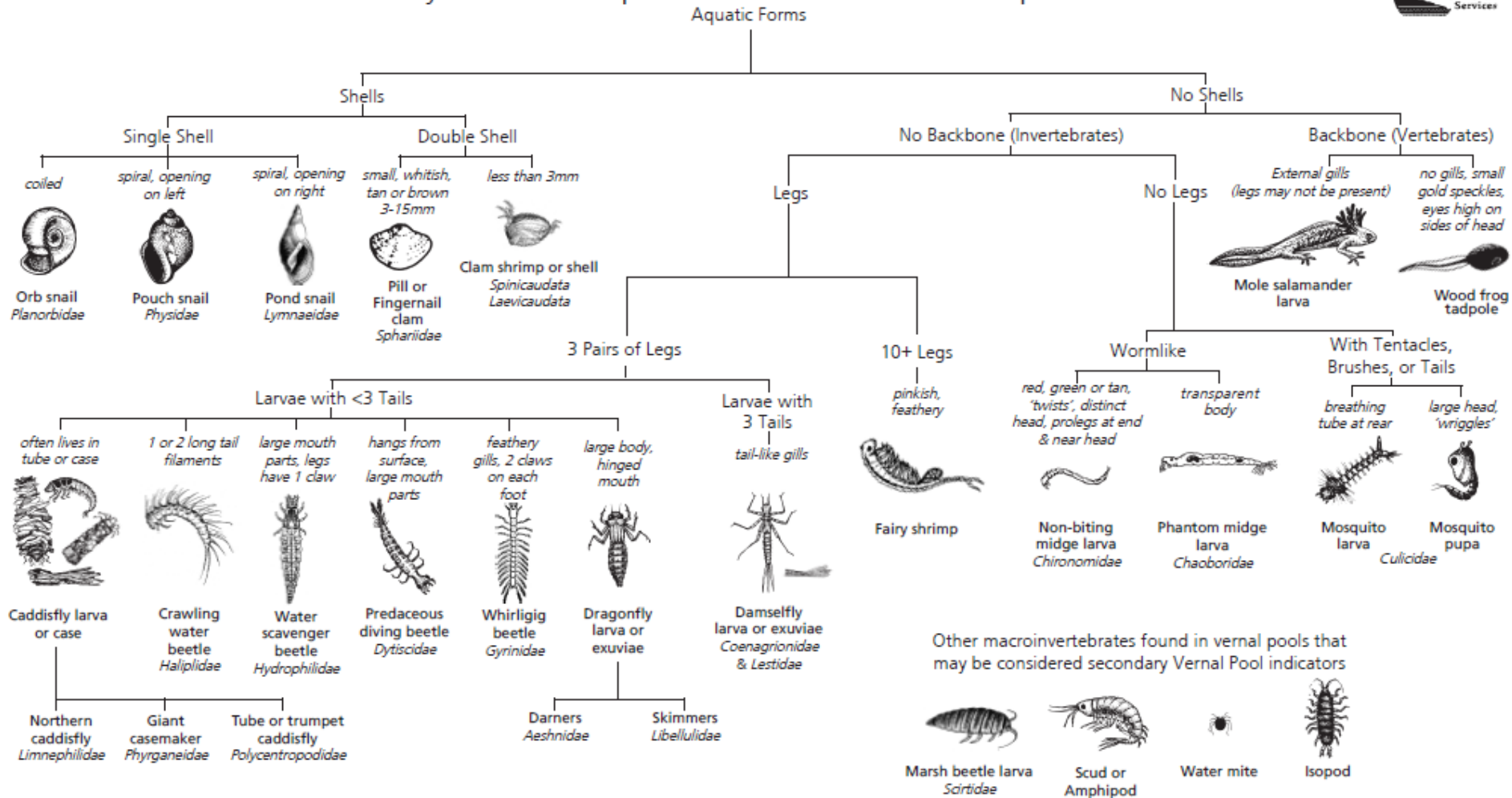
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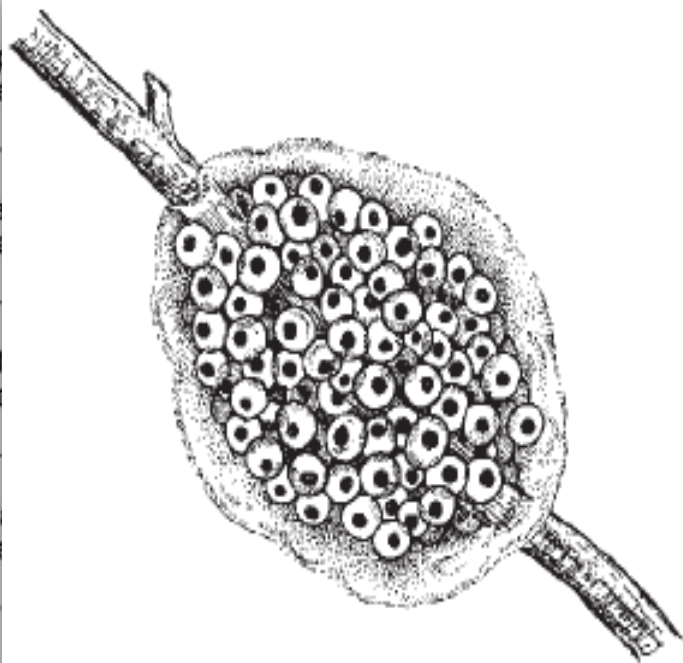
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Key to New Hampshire Vernal Pool Indicator Species

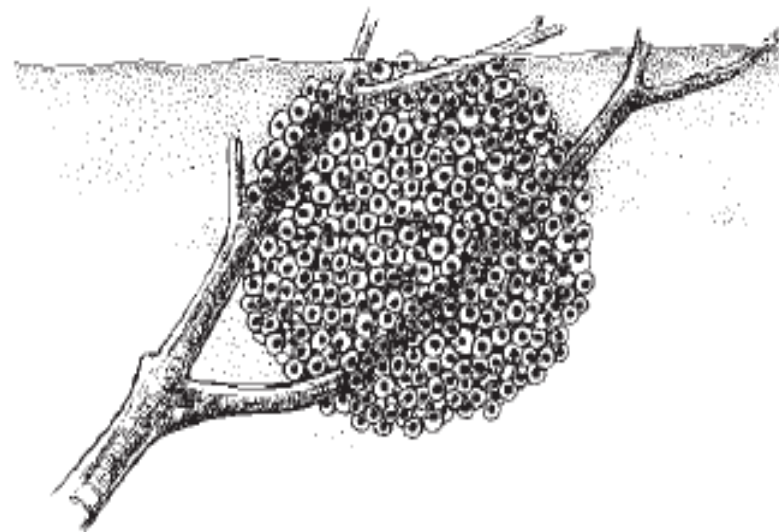


- Additional field guides or other resources may be necessary to confirm or more specifically identify the invertebrates.
- For more information about vernal pools and identification of amphibian egg masses, check the NH DES website at www.des.nh.gov.
- Images are not to scale.

Key based on the work of the University of Wisconsin - Extension and the Riveredge Nature Center, Wisconsin. Whirligig beetle larva and pond snail images courtesy of ClipArtEtc - Florida Center for Instructional Technology. All other images courtesy of University of Wisconsin - Extension Environmental Resources Center. May be reproduced with this credit for educational, non-profit purposes.



Salamander eggs



Wood frog eggs



■ Time as egg

■ Time as tadpole/ larva

■ Time as adult fairy shrimp


■ Time as metamorph/juvenile

In This Section

- ▶ Nongame and Endangered Wildlife Program
- ▶ Donate
- ▶ Endangered and Threatened Wildlife of NH
- ▶ Funding
- Habitats**
- ▶ Projects
- ▶ Publications
- ▶ Species Occurring in NH
- ▶ Volunteer Opportunities
- ▶ Wildlife Action Plan

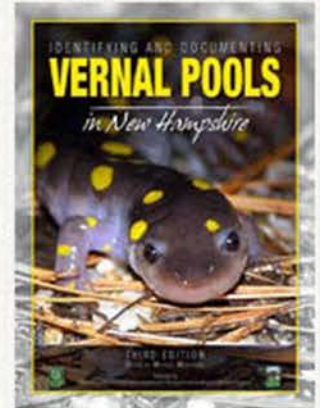
Vernal Pool Documentation Manual

Vernal pools are temporary bodies of water that provide essential habitat for a variety of creatures. Dry basins fill as water tables rise in fall or winter and during spring snowmelt and rains; pools usually dry by mid-to late summer. For some species of amphibians and invertebrates, vernal pools are required for breeding. Other species, such as Blanding's and spotted turtles, often use vernal pools for foraging or mating.

Anyone interested in locating vernal pools in their area can get detailed guidance from guidance from [Identification and Documentation of Vernal Pools in New Hampshire](#)  (Third Edition).

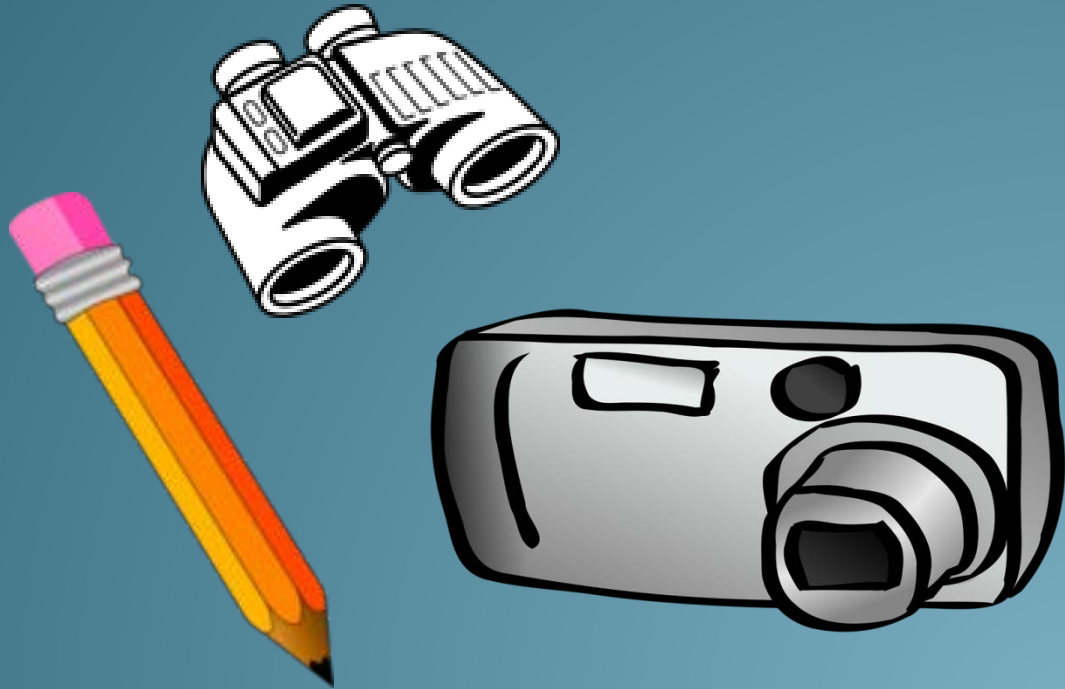
▶ [Vernal Pool Documentation Form](#) 

Vernal pools documented by volunteers are sent to the local conservation commission and NH Fish and Game. No hard copies are available. Manual can be downloaded and printed by users as needed. Contact the Wildlife Division at (603) 271-2461 or wildlife@wildlife.nh.gov.



VERNAL POOL DOCUMENTATION FORM

- ✓ Print a copy, take with you into the field to find a vernal pool
- ✓ Fill out information about the habitat, the pool itself, and the species observed there
- ✓ This can be used to easily submit vernal pool information to NHFG





WHERE DOES VERNAL POOL HABITAT & SPECIES INFORMATION GO?

<http://nhwildlifesightings.unh.edu>
<http://nhwildlifesightings.unh.edu/mobile>

New Hampshire Fish & Game Department



New Hampshire
Wildlife Sightings



Home

Species of Interest

Related Links

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Leopard frog

Tell us what you've seen!

WELCOME to NH Wildlife Sightings, a web tool for reporting wildlife observations in New Hampshire.

It's for everyone — landowners, foresters, outdoor sportspeople, wildlife enthusiasts... And it's easy!

- Begin by creating your own **user account**...
- **Learn** how to use the reporting tools
- Review our wildlife **species of interest**
- **Visit links** of related information.



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Blandings turtle (*Emydoidea blandingii*)

1 2 3 4 5 6 Previous Next Pause

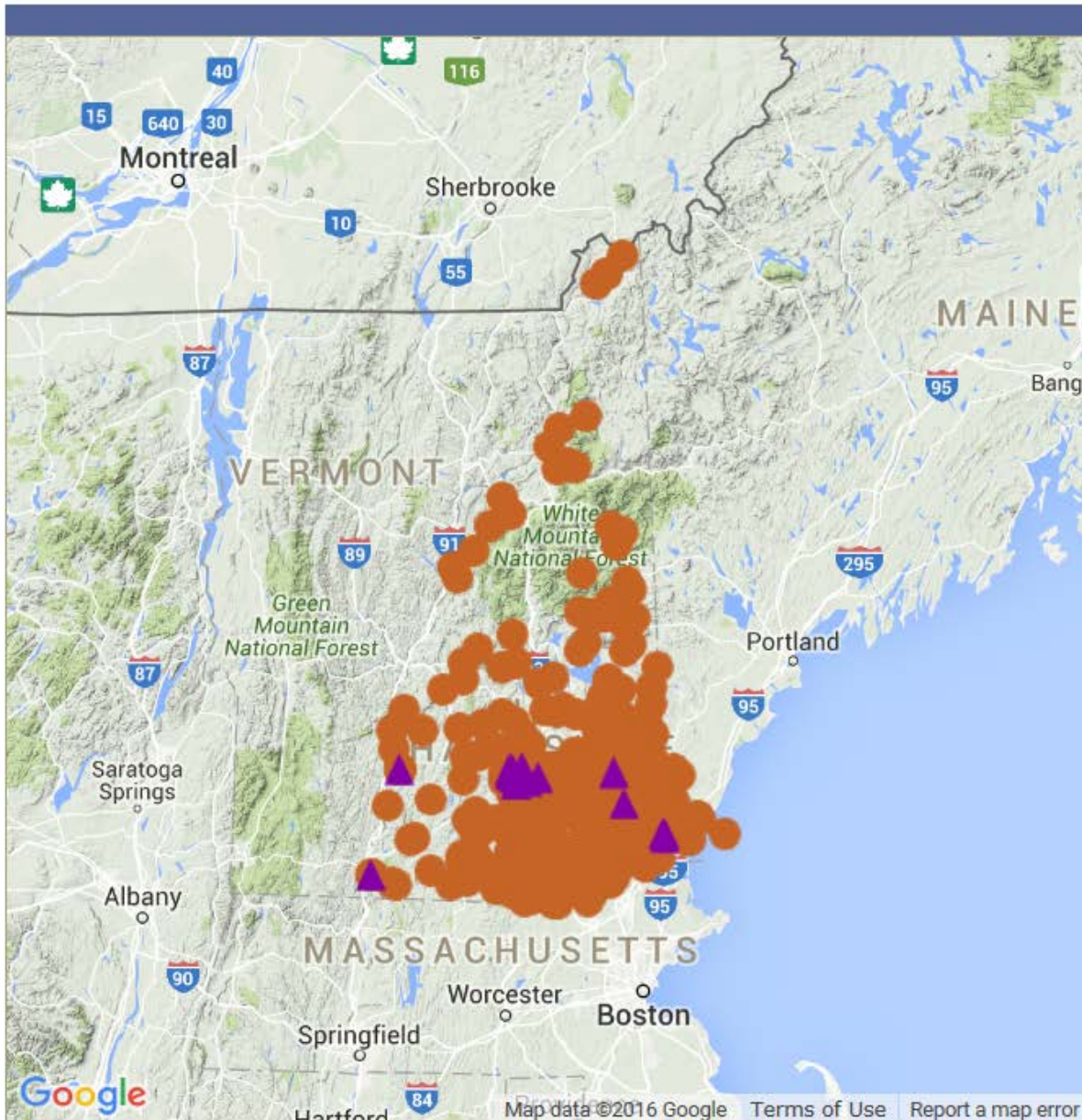
Welcome, Loren.

Check out some website features that you might like to use:

- **Create a site** and add your own wildlife observations...
- **Read an overview** of the process for entering your observations on the NH Wildlife Sightings website...
- **View species of interest** to New Hampshire wildlife specialists...
- **View of map** of your wildlife observations...
- **View a list** of your wildlife observations...
- **View a list** of your vernal pools...

Click **logout** to exit...

Once you're logged-in to NH Wildlife Sightings,
your reports become visible.



Your Observations

You have entered **546** wildlife observations. ●

Wildlife Sightings

Amphibian: 241
Bird: 3
Fish: 1
Insects - dragonflies/damselflies: 1
Reptile: 300

Review Status

Completed: 546

You have entered **37** vernal pool observations. ▲

Vernal Pools

Observations: 37

Your submitted observations are displayed on the map at left.

Click here to see a larger version of the map and see reporting information at your sites.

Additional details are listed below.

First Decision: New site, or existing site ?

New Hampshire Fish & Game Department



New Hampshire Wildlife Sightings



[Home](#)

[Report Wildlife](#)

[View NH Observations](#)

[Species of Interest](#)

[Related Links](#)

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[Admin](#)

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[Choose an Existing Site](#)

[Create a New Site](#)



Milk snake (*Lampropeltis triangulum*)

1 2 3 4 5 6 Previous Next Pause

Welcome, Loren.

Check out some website features that you might like to use:

- **Create a site** and add your own wildlife observations...
- **Read an overview** of the process for entering your observations on the NH Wildlife Sightings website...
- **View species of interest** to New Hampshire wildlife specialists...
- **View of map** of your wildlife observations...
- **View a list** of your wildlife observations...
- **View a list** of your vernal pools...

Click **logout** to exit...

SITE

Fill Out If You Were Not Observer

Observer Name:

Observer Phone:

Observer Email:

Observer Address:

City:

State:

Zip:

Site Name*: Old Wolfeboro Road Vernal Pool TEST

Affiliation: No Affiliation

Location:

Use map tool or enter map coordinates.

Use Map Tool

Enter Map Coordinates

Site Latitude*: 43.46197

Site Longitude*: -71.22122

Update Point

Location Precision*: Within 10 meters

Location Description*:

A roadside vernal pool located at the intersection of Old Wolfeboro Road and Route 28/Wolfeboro Highway. Surrounded by residential properties.

Habitat Information*:

Vernal Pool

Observation was made from public land*: Yes No

Save

← Saves the site, and will continue to the next page to add more information.

Base Layer

- Google Physical
- Google Streets
- Google Hybrid
- Google Satellite
- No Base Layer

Reference Layers

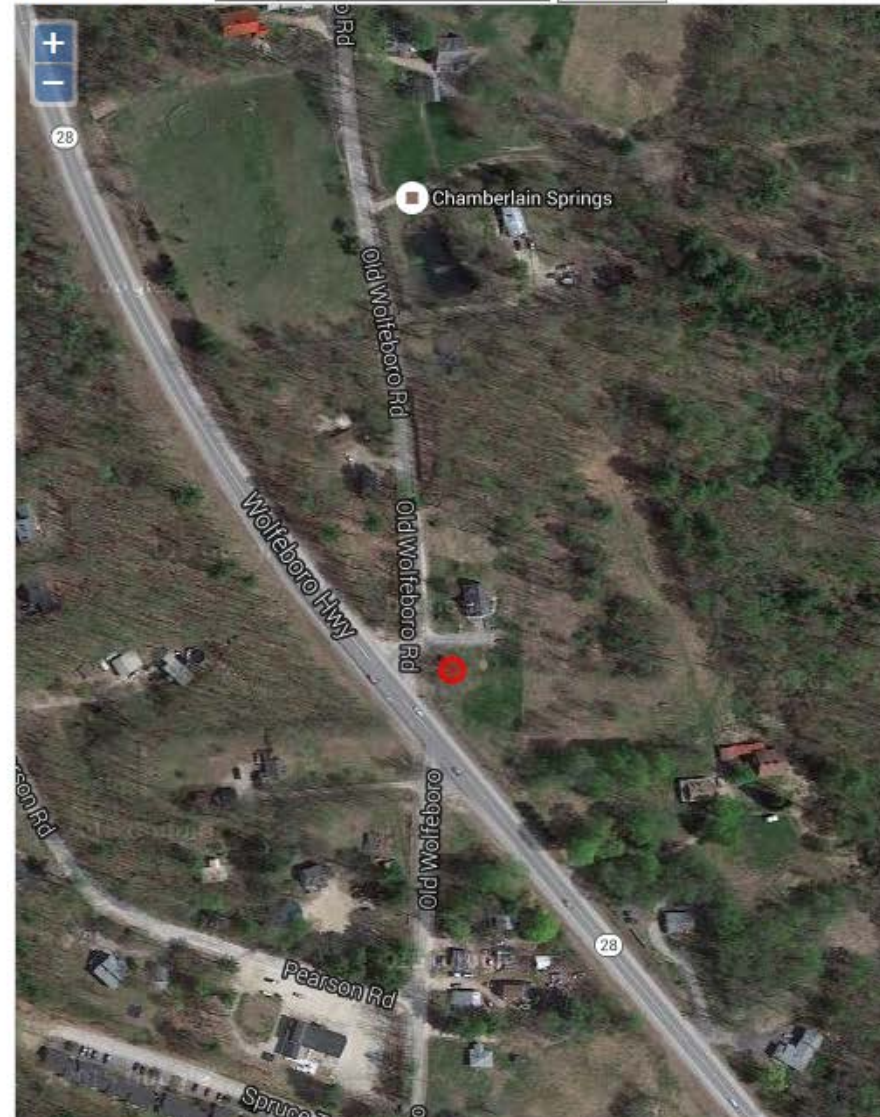
- Roads
- Conservation Lands
- Surface Water
- Wetlands
- 2010/2011 Orthophotography
- USGS Quadrangles

Zoom to Town:

Zoom to State

Zoom to Address:

Find It!



Vernal Pool

at TEST/FALSE (43.462°, -71.221° in Alton)

Skip to Wildlife Observations

Please enter as much information as possible to help biologists document this vernal pool. If you'd prefer to skip this step, click [here](#).

Vernal pools are temporary bodies of water which typically cycle from flooded to dry on an annual basis.

Survey Date: _____

- Don't know
- Natural depression
- Natural, but altered
- Farm Pond
- Quarry/Sand Pit Excavation
- Ditch along road or rut from vehicle
- Created wetland/pool (intentional such as wetland mitigation)
- Other (describe)

Floodplain pool (pool may fill with stream/river water during floods)

Newbury Fells, NH, vernal pool

Origin of Pool:

Pool size (dimensions): ft x ft

Hydroperiod (length of time pool typically maintains water):

Maximum water depth at survey date:

Pool Outlet: Is there water flowing out of the vernal pool?

Overstory of pool:

(Overstory is trees, shrubs, and associated limbs and branches that extend over the pool surface.)

Vegetation in Vernal Pool:

(Any vegetation in the pool that can provide egg attachment and/or offer concealment to aquatic adults and/or developing larvae)

Shrubs

Emergent vegetation (i.e., grasses/sedges/rushes)

Submergent vegetation

Are dead branches/twigs present in water of pool that would be suitable for egg attachment?



- Don't know
- Seasonal (drying out entirely in most years)
- Semi-permanent (drying partially in most years)
- Permanent (typically maintains water)

Vernal Pool

at TEST/FALSE (43.462°, -71.221° in Alton)

Skip to Wildlife Observations

Please enter as much information as possible to help biologists document this vernal pool. If you'd prefer to skip this step, click [here](#).

Vernal pools are temporary bodies of water which typically cycle from flooded to dry on an annual basis.

They provide essential breeding

Survey Date:

| | | |
|----------------------|----------------------|----------------------|
| Month | Day | Year |
| <input type="text"/> | <input type="text"/> | <input type="text"/> |

- Heavy (>50 % shrubs and/or trees)
- Moderate (<50 % shrubs and/or trees)
- Minimal (Open site with grasses, forbs, scattered shrubs)

< 10 %

10 – 50 %

> 50 %

None

1 – 10

> 10

pool surface.)

---overstory?---

Vegetation in Vernal Pool:

(Any vegetation in the pool that can provide egg attachment and/or offer concealment to aquatic adults and/or developing larvae)

Shrubs

---shrub?---

Emergent vegetation (i.e., grasses/sedges/rushes)

---emergent?---

Submergent vegetation

---submergent?---

Are dead branches/twigs present in water of pool that would be suitable for egg attachment? ---branches?---

Pool Substrate (check all that apply):

- Leaf litter
- Mud/Muck
- Other

- Sand/gravel
- Bedrock

Pool Disturbance (check all that apply):

- Dumping
- Vehicle ru

Surrounding Habitat (check all that are present):


- Forest
- Wetlands
- Residential
- Paved Roads/driveways

Additional Comments

Photo/File Upload of

Species Information

| Species Observed | Count |
|---|-------|
| <input checked="" type="checkbox"/> Wood Frog info | 1 |
| <input type="checkbox"/> Spotted Salamander info | 0 |
| <input type="checkbox"/> Blue-spotted X Jefferson salamander complex info | 0 |
| <input type="checkbox"/> Marbled Salamander info | 0 |
| <input type="checkbox"/> P designates a primary species | |
| Add additional species | |




New Hampshire FISH AND GAME

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In This Section

Wood Frog (*Rana sylvatica*)


NH Conservation Status: Not listed

State Rank Status: Widespread and secure

Distribution: Throughout NH

Description: A 1.5"-3" tan, brown, or pink frog with a dark mask running across the eye that ends at the eardrum. There are prominent ridges that run along the back and a light stripe across the upper jaw.

Commonly Confused Species: None



- [▶ Wildlife in NH](#)
- [▶ Nongame & Endangered Wildlife Program](#)
- [▶ FAQs](#)
- [▶ Publications](#)
- [▶ Species Occurring in NH](#)
- [▶ Wildlife Management Areas](#)
- [▶ Wildlife Facts](#)

Was the entire pool surveyed for egg masses: Yes No

Sampling Method (check all that apply):

- Audible detection (listening for calling animals)
- Trapping
- None (incidental observation)
- Visual search
- Dip net

Spermatophores of salamanders observed: Yes No [Click here](#) to view example photo.

Fish Observed: Yes No

Invertebrates observed in Vernal Pool (optional - check all that apply)



If you can identify invertebrates in the vernal pool, check all that you observed in the table below. To learn how to identify these for future surveys, see the "Identification & Documentation of Vernal Pools in NH" manual.

Invertebrate Common Name and Family or Group
(Check the bold family listed below)

- Fairy Shrimp**
- Caddisfly larvae**
 - Northern caddisflies - *Plecoptera*
 - Giant case maker - *Megoptera*
 - Tube or trumpet caddisflies - *Polycentropodidae*
- Clam shrimp or shells (unknown type)**
 - Clam shrimp - *Laevicaudata*
 - Clam shrimp - *Spinicaudata*
- Fingernail clams or shells (unknown type)**
 - Fingernail clams - *Sphaeriidae*
- Aquatic beetle larvae (unknown type)**
 - Diving beetle - *Dytiscidae*
 - Whirligig beetle - *Gyrinidae*
 - Crawling water beetle - *Haliplidae*
 - Water scavenger beetle - *Hydrophilidae*
- Dragonfly larvae and exuviae (unknown type)**
 - Darners - *Aeshnidae*
 - Skimmers - *Libellulidae*
- Damselfly larvae and exuviae (unknown type)**
 - Narrow-winged damselflies - *Coenagrionidae*
 - Spread-winged dragonflies - *Lestidae*
- True fly larvae or pupae (unknown type)**
 - Mosquitoes (larvae or pupae) - *Culicidae*
 - Phantom Midges - *Chaoboridae*
 - Non-biting Midges - *Chironomidae*

‘Help’ buttons are scattered throughout the form to remind you of what information to input, or to direct you to additional resources.

Damselfly larvae and exuviae (unknown type)

Narrow-winged damselflies - *Coenagrionidae*

Spread-winged dragonflies - *Lestidae*

Browse...

True fly larvae or pupae (unknown type)

Mosquitoes (larvae or pupae) - *Culicidae*

Phantom Midges - *Chaoboridae*

Non-biting Midges - *Chironomidae*

Browse...

Spire-shaped snails or shells (unknown type)

Tadpole snails or pouch snails - *Physidae*

Pond snails or limpets - *Lymnaeidae*

Browse...

Flat-spire snails or shells (unknown type)

Wheel Snails, Orb Snails, or Ram's horn snails - *Planorbidae*

Browse...

Other

1.

2.

3.

4.

5.

Browse...

By saving, I acknowledge that to the best of my knowledge all information provided here is true and accurate. I understand that knowingly providing false information is a punishable offense under RSA 641:3

You will be able to enter additional wildlife species observed at this vernal pool on the next page.

Wildlife Observations at TEST/FALSE (43.462°, -71.221° in Alton)

Click on the taxonomy name to view the available species. Sightings you have already submitted will be listed first. You may add an additional sighting for the species by clicking on the species name.

- + Amphibian
- + Bird
- + Fish
- + Insects - beetles
- + Insects - butterfly/moth
- + Insects - dragonflies/damselflies
- + Mammal
- + Mussels, freshwater
- + Reptile
 - + Blandings Turtle (*Emydoidea blandingii*) ←
 - + Brown Snake (*Storeria dekayi*)
 - + Common Garter Snake (*Thamnophis sirtalis*)
 - + Eastern Box Turtle (*Terrapene carolina*)
 - + Eastern Hognose Snake (*Heterodon platirhinos*)
 - + Eastern Painted Turtle (*Chrysemys picta*)
 - + Eastern Ribbon Snake (*Thamnophis sauritus*)
 - + Milk Snake (*Lampropeltis triangulum*)
 - + Musk turtle (Stinkpot) (*Sternotherus odoratus*)
 - + Northern Black Racer (*Coluber constrictor constrictor*)
 - + Northern Water Snake (*Nerodia sipedon*)
 - + Redbelly Snake (*Storeria occipitomaculata*)
 - + Red-eared slider (non-native) (*Trachemys scripta elegans*)
 - + Ringneck Snake (*Diadophis punctatus*)
 - + Smooth Green Snake (*Opheodrys vernalis*)
 - + Snapping Turtle (*Chelydra serpentina*)
 - + Spotted Turtle (*Clemmys guttata*)
 - + Timber Rattlesnake (*Crotalus horridus*)
 - + Wood Turtle (*Glyptemys insculpta*)

Wildlife Observations at TEST/FALSE (43.462°, -71.221° in Alton)

Click on the taxonomy name to view the available species. Sightings you have already submitted will be listed first. You may add an additional sighting for the species by clicking on the species name.

- + Amphibian
- + Bird
- + Fish
- + Insects - beetles
- + Insects - butterfly/moth
- + Insects - dragonflies/damselflies
- + Mammal
- + Mussels, freshwater
- + Reptile

- + Blandings Turtle (*Emydoidea blandingii*)

Sighting Information — Blandings Turtle (*Emydoidea blandingii*)

Observation Date*

| Month | Day | Year |
|-------------------------------|-------------------------------|-------------------------------|
| <input type="text" value=""/> | <input type="text" value=""/> | <input type="text" value=""/> |

End Date, if applicable

| Month | Day | Year |
|-------------------------------|-------------------------------|-------------------------------|
| <input type="text" value=""/> | <input type="text" value=""/> | <input type="text" value=""/> |

Sampling Method

Sampling Effort:

Observations*: (enter # for all boxes that apply; you must fill in at least one box under exact/lower estimate)

| Lifestage | Sex | Exact/Lower Estimate | Upper Estimate |
|-----------|---------|----------------------|----------------------|
| adult | unknown | <input type="text"/> | <input type="text"/> |
| adult | male | <input type="text"/> | <input type="text"/> |
| adult | female | <input type="text"/> | <input type="text"/> |
| juvenile | unknown | <input type="text"/> | <input type="text"/> |
| hatchling | unknown | <input type="text"/> | <input type="text"/> |
| egg | unknown | <input type="text"/> | <input type="text"/> |
| unknown | unknown | <input type="text"/> | <input type="text"/> |

Observation Type*: (check all that apply)

- | | |
|--|---------------------------------|
| <input type="checkbox"/> seen | <input type="checkbox"/> tracks |
| <input type="checkbox"/> crossing road | <input type="checkbox"/> heard |
| <input type="checkbox"/> road kill | |
| <input type="checkbox"/> other | |

Evidence of Breeding*: (check all that apply)

| | |
|---|--|
| <input checked="" type="checkbox"/> no evidence | <input type="checkbox"/> egg laying |
| <input type="checkbox"/> eggs | <input type="checkbox"/> mating |
| <input type="checkbox"/> nest | <input type="checkbox"/> physical appearance |
| <input type="checkbox"/> present in breeding habitat during breeding season | <input type="checkbox"/> young |

How was the species identified?*

Bright yellow neck, high-domed shell, some yellow spots.

Which similar species did you exclude?:

Did not look like a painted, snapping, or spotted turtle.

Additional Comments:

Photo/File Upload:

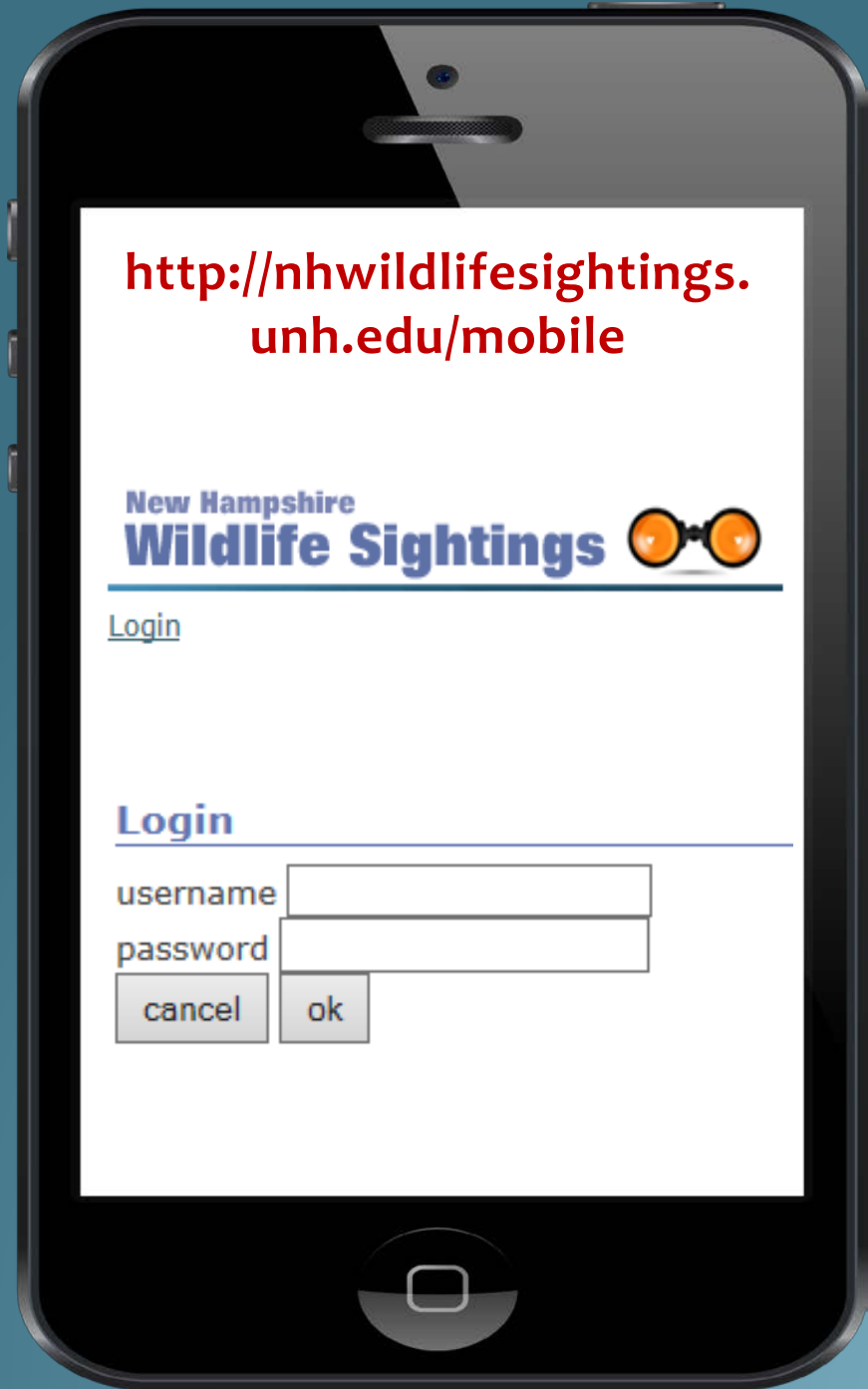
| | |
|--|-----------|
| | Browse... |
| | Browse... |
| | Browse... |

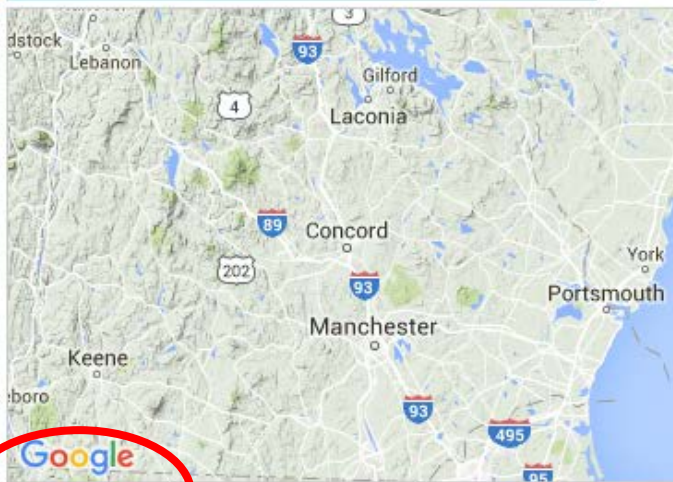
By saving, I acknowledge that to the best of my knowledge all information provided here is true and accurate. I understand that knowingly providing false information is a punishable offense under RSA 641:3

- + **Brown Snake** (*Storeria dekayi*)
- + **Common Garter Snake** (*Thamnophis sirtalis*)
- + **Eastern Box Turtle** (*Terrapene carolina*)
- + **Eastern Hognose Snake** (*Heterodon platirhinos*)
- + **Eastern Painted Turtle** (*Chrysemys picta*)
- + **Eastern Ribbon Snake** (*Thamnophis sauritus*)
- + **Milk Snake** (*Lampropeltis triangulum*)
- + **Musk turtle (Stinkpot)** (*Sternotherus odoratus*)
- + **Northern Black Racer** (*Coluber constrictor constrictor*)
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- + **Snapping Turtle** (*Chelydra serpentina*)
- + **Spotted Turtle** (*Clemmys guttata*)
- + **Timber Rattlesnake** (*Crotalus horridus*)
- + **Wood Turtle** (*Glyptemys insculpta*)

MOBILE ENABLED

- ✓ Can be used after you've already created an account login.
- ✓ You do not need to download an App – enter the URL into your phone's internet browser. You can save this webpage to your phone's home screen for convenient access.





Locate Me!

Add Point To Map

Site Name*

Affiliation*

Site Latitude*

Site Longitude*

Location Precision*

Location Description*

Habitat Information*

Habitat Description

Comments

Save

ADD A NEW SITE IN THE MOBILE VERSION

- ✓ If you are in the field at the time of data entry, you can use “Locate Me!”
- ✓ To use “Locate Me!”, be sure the location services are allowed for your website browser. **Check the accuracy.**
- ✓ Same as the desktop version: hit “Save” to enter vernal pool information and wildlife reports at this site.

PICK AN EXISTING SITE IN THE MOBILE VERSION

Pick an existing site

Town ▼

Use Location

Search for Existing Sites

Knights Pond Alton (Urban/suburban (dominated by pavement and/or commercial buildings)) [Add Observation](#)

Mt Major Trail (Residential (lawn/garden, driveway, house, etc.)) [Add Observation](#)

Star Ln Alton (Vernal Pool) [Add Observation](#) [Add Vernal Pool](#)

Pick an existing site

You can select the site you want by either choosing the town the site is in, or clicking the "Use Location" button below which will get your location from your phone, then click "Search for Existing Sites"

Town ▼

Use Location

Search for Existing Sites



ENTER A WILDLIFE SIGHTING IN THE MOBILE VERSION

- ✓ Select any species, just as you would in the desktop version.
- ✓ The information requested for vernal pools and for wildlife species is the same as in the desktop version.

New Hampshire
Wildlife Sightings 

Wildlife Observations at Mt Major Trail (43.514°, -71.278° in Alton)

Click on the taxonomy name to view the available species. You may add an additional sighting for the species by clicking on the species name.

- + Amphibian
- + Bird
- + Fish
- + Insects - beetles
- + Insects - butterfly/moth
- + Insects - dragonflies/damselflies
- + Mammal
- + Mussels, freshwater
- + Reptile
 - Blandings Turtle (*Emydoidea blandingii*)
 - Brown Snake (*Storeria dekayi*)
 - Common Garter Snake (*Thamnophis sirtalis*)
 - Eastern Box Turtle (*Terrapene carolina*)
 - Eastern Hognose Snake (*Heterodon platirhinos*)

Sighting Information at Mt Major Trail (43.514°, -71.278° in Alton) — Blandings Turtle (*Emydoidea blandingii*)

Observation Date*

| Month | Day | Year |
|-------------------------------|-------------------------------|-------------------------------|
| <input type="text" value=""/> | <input type="text" value=""/> | <input type="text" value=""/> |

End Date, if applicable

| Month | Day | Year |
|-------------------------------|-------------------------------|-------------------------------|
| <input type="text" value=""/> | <input type="text" value=""/> | <input type="text" value=""/> |

Sampling Method

Sampling Effort:

Observations*: (enter # for all boxes that apply; you must fill in at least one box under exact/lower estimate)

| Lifestage | Sex | Exact/Lower | Upper |
|-----------|---------|----------------------|----------------------|
| | | Estimate | Estimate |
| adult | unknown | <input type="text"/> | <input type="text"/> |
| adult | male | <input type="text"/> | <input type="text"/> |
| adult | female | <input type="text"/> | <input type="text"/> |
| juvenile | unknown | <input type="text"/> | <input type="text"/> |
| hatchling | unknown | <input type="text"/> | <input type="text"/> |
| egg | unknown | <input type="text"/> | <input type="text"/> |
| unknown | unknown | <input type="text"/> | <input type="text"/> |

Observation Type*: (check all that apply)

- seen
- tracks
- crossing road
- heard
- road kill
- other

Evidence of Breeding*: (check all that apply)

- no evidence
- egg laying
- eggs
- mating
- nest
- physical appearance
- present in breeding habitat during breeding season
- young

REMEMBER TO
TAP "SAVE" WHEN
YOU'RE DONE



How was the species identified?*:

Which similar species did you exclude?:

Additional Comments:

Photo/File Upload:

| | |
|----------------------|-----------|
| <input type="text"/> | Browse... |
| <input type="text"/> | Browse... |
| <input type="text"/> | Browse... |

By saving, I acknowledge that to the best of my knowledge all information provided here is true and accurate. I understand that knowingly providing false information is a punishable offense under RSA 641:3

save

cancel

