Dear RAARP/NH Wildlife Sightings Participant,

March 2014 was a snowy month in NH but signs of spring are here. Time to get ready for spending time in the woods and wetlands! We had a great reporting year during 2013 and exciting things are happening in New Hampshire that will benefit our reptile and amphibian populations. Keep up the good work and check out the 2013 summary to see how your reports compared to others.

Remember that photos and exact locations of sightings are extremely important for biologists to verify your reports. If you are unable to take a photograph, note a description of the size, coloration, distinctive patterns or markings, and habitat. This information substantially increases our success in verifying reports. Recordings or descriptions of their calls are also helpful. We are encouraging reporters to use our new online NH Wildlife Sightings reporting system. If you have difficulty using this system or prefer another reporting mechanism, we still allow reporting slips to be snail mailed and/or emailed - we just need all of the information filled out on the standardized form (especially location and species description details). For more information, see reporting details below and on NHFG website. Your reports are valuable to us and we appreciate your input on the reporting process as well.

New RAARP volunteer (above) catches 1st wood frog of year on April 8, Hillsborough.

**WHAT’S NEW?**

**May 7, 6-7 pm – Reptile and Amphibian Reporting Program (RAARP)- FREE presentation**

Michael Marchand will summarize the reptiles and amphibians that are found in New Hampshire, discuss some updates to the program, and present some of the results of RAARP. Talk will be held at NH Fish & Game headquarters in Concord (11 Hazen Drive). Beginner and advanced reporters welcome to attend.
Blanding’s Turtle Surveys Complete
Biologists at NHFG gained a big boost in Blanding’s turtle data the last two summers through intensive surveys throughout southern New Hampshire. Survey efforts exceeded expectations, and by the end of August 2013, NHFG had captured nearly 300 Blanding’s turtles. Surveys involved either standardized visual searches and/or the use of live-capture traps baited with sardines. Visual surveys consisted of biologists using binoculars and searching for basking Blanding’s turtles during timed standardized searches. Trapping surveys included five-day rapid assessments at most sites and more intense long-term trapping at a few sites.

Each Blanding’s turtle caught was measured, marked with a unique number, and had a blood sample taken for DNA testing. The information collected in New Hampshire will be compiled into a database, along with information from four other states where similar surveys took place. Massachusetts, Maine, New York and Pennsylvania are all part of a regional effort to identify and protect Blanding’s turtle habitat throughout its range in the Northeast.

The development and implementation of standardized survey protocols was critical to compare results across state borders. This information will provide biologists with a big picture of the health, status and habitat requirements of Blanding’s turtles throughout the Northeast – a first for conservationists working with nongame, threatened and endangered species.

Next steps will be the development of a conservation plan for Blanding’s turtles in the Northeast, development of 5 management plans for priority areas in New Hampshire, and sharing project results with key partners and landowners.

As part of this project, we are also working with one town to pilot the use of turtle crossing signs at known priority turtle crossing locations along roadways. If successful, we likely expand this effort to other communities within the Blanding’s turtle range.

This project is funded by a national Competitive State Wildlife Grant awarded to the N.H. Fish and Game Department, along with Conservation License Plate Funds (i.e., Moose Plate) and donations directly to the Nongame and Endangered Wildlife Program. Read about the project in the Summer 2014 Wildlife Journal.
NH Black Racer Snake Project Wrapping Up

During 2010-2013, the NHFG Nongame & Endangered Wildlife Program initiated a black racer monitoring project to document the species’ habitat-use, movement patterns and population status in the state. Through our data analysis we found that racers in NH have very large home ranges and may move several miles in a single year! As expected, many of the snakes we followed preferred shrubland and rocky habitats, but interestingly many also spent considerable time in forests seeking out canopy gaps that had been created naturally or through timber harvesting. The data collected from the study will allow us to prioritize and implement conservation actions such as land acquisition and habitat management. Your black racer observations are extremely valuable to us. Please submit to RAARP@wildlife.nh.gov or NH Wildlife Sightings as soon as observed. Read about the black racer project in the Spring 2014 Wildlife Journal: http://www.wildlife.state.nh.us/Wildlife_Journal/WJ_mag.htm

Snake Fungal Disease Study Getting Started

Snake Fungal Disease: Frequently Asked Questions

What causes SFD?
Genetic testing has identified a novel species of fungus named Ophiobolus ophiobolus (formerly Chrysonectria ophiobolus) that has been isolated from many of the affected snakes. At this time, we do not know if infection by *Ophiobolus* is the sole cause of the disease, or if SFD occurs secondary to some other factor (environmental factors, other disease agents, etc.). The relationship between *Ophiobolus* infection and SFD is currently under investigation.

What species of snake are affected?
*Ophiobolus ophiobolus* has been confirmed in 8 species of snake, and at least 7 more species have been reported with signs of SFD but have not yet been tested for the fungus. The disease is most frequently reported in rattlesnakes and several species of colubrids including racers and rat snakes, Copperheads, Cottonmouths, water snakes, garter snakes, ribbon snakes, milk snakes, corn snakes, indigo snakes, and ring-necked snakes have all been reported with signs of SFD as well.

What does an infected snake look like?
Affected snakes may have swelling, crusty scales, or open wounds on the skin. In pit vipers the signs are most severe on the head, although any area of the skin can be affected. Some snakes only show subtle signs, such as swelling in the area in front of the eye. Thickened skin on the waist, abdomen scales, or small bumps under the skin. Snakes often appear most severely affected when they emerge from hibernation and may improve in appearance over the summer months, although this is not always the case. It is not known if the condition commonly referred to as “hibernation blisters” is related to fungal infection or SFD.

NH biologists have been observing fungal lesions on several snake species, including the state endangered timber rattlesnake. In some cases, snakes with lesions do not survive. As a result, NHFG biologists collaborated with biologists across U.S. on a grant proposal to examine the issue further. The proposal was awarded and work will begin during spring 2014.

A Frequently Asked Questions (FAQ) was developed and can be downloaded at the Northeast Partners for Amphibian and Reptile Conservation (NEPARC) website. Snakes that are observed with lesions can be reported to RAARP with photographs. Please do not handle state protected species.

Download FAQ at: http://www.northeastparc.org/products/snake_disease.htm
Wood turtle Status Assessment completed for Northeast U.S.

A status assessment was completed for wood turtles for all states in the northeastern United States. The assessment included a summary of populations and the condition of their habitat, a standardized survey protocol, and a series of recommended actions for the future.

Wood turtle surveys conducted in NH identified several populations that are among the best in the northeastern United States. However, many other populations are highly reduced and further actions will be necessary.

We are actively seeking other funding to implement the priority conservation actions identified in the plan.

NH Vernal Pool Documentation Manual – Revision expected summer 2014

NHFG is revising the NH Vernal Pool Identification and Documentation manual, last revised during 2004. The new manual will have updated reporting forms, updated species information, and color photographs. Look for the updated manual on the NHFG website during summer 2014.
**NH Wildlife Sightings: Improvements Underway**

Improvements to NH Wildlife Sightings website will be available during 2014 season. The website link will remain the same: [http://nhwildlifesightings.unh.edu/](http://nhwildlifesightings.unh.edu/) or google ‘NH Wildlife Sightings’.

The updated website will:

- Be more attractive and include color photographs (see above screenshot)
- Be easier to navigate and use (e.g., map will include ability to search by address)
- Allow reporting of vernal pool locations and associated wildlife species.
- View town distribution maps for all species eligible for reporting.
- Users will be able to see all of their wildlife observations and vernal pool reports on a map and table located on their home page (see image below as example).
- Users will be able to download their observations.
We encourage you to submit your future reptile and amphibian observations through NH Wildlife Sightings (other species groups can be reported here as well). Mapping tools allow observers to pinpoint the location of their wildlife observation. Digital photographs can be uploaded as part of your submissions. Detailed instructions are available on the website. http://nhwildlifesightings.unh.edu/.

**RAARP/ NH Wildlife Sightings Reporting Form**

If you are not using NH Wildlife Sightings website, we request that you submit your reptile and amphibian observations on a standard reporting form. This form is available for download on our website. Why? – The reporting form matches the format of the web-based reporting and is intended to gather all of the important data we use for conservation purposes. You can report 2 different species on one form as long as they are at the same location (same habitat type and within ~ 50’ of each other).

**Observations can be submitted to NHFG in any of the following ways:**

1) **Online** (see NH Wildlife Sightings information above),
2) **Email** completed reporting form to RAARP@wildlife.nh.gov, http://www.wildlife.state.nh.us/Wildlife/Nongame/RAARP/RAARP_WildlifeSightings_EmailForm.doc

Call 603-271-2461 for questions.
**NHFG Snake, Frog, Turtle, and Salamander Pages Available**

To assist with identification, NHFG created a web page with information and photographs on snakes, turtles, frogs, and salamanders. Calls of NH frogs can be listened to on this website as well. Also, town distribution maps can be viewed for each species. To find these pages, go to the NHFG website: Wildnh.com/nongame and click on reptiles and amphibians.

Attached you will find the 2013 report summary.

2013 was a GREAT year!!! Thank you for your participation in RAARP/ NH Wildlife Sightings! I look forward to seeing all of your reports during 2014.

Sincerely,

Michael Marchand
Nongame & Endangered Wildlife Program
2013 Summary Reports
We have entered 476 reports for 2013 for a total of 10,165 records entered since RAARP’s start in 1992. GREAT JOB!!!

Observation Summary: 1992 - 2013
During 1992-1993, the largest number of reptile and amphibian reports were submitted to NHFG. Reports during these years were dominated by one species, the spring peeper, because of press around this species. Then from 1994-2003, annual reports ranged from 98 to 402. During 2003, the NHFG Nongame & Endangered Wildlife Program hired a full-time biologist who was able to spend a portion of time coordinating the program. From 2003-2006, the number of reports/year grew to 681. From 2006-2010, reports were consistently high ranging from 566 to 708. During 2011, reports dipped to 427. This dramatic change between 2010 and 2011 was largely a result of reduced reporting of frogs (from 186 to 59), mostly from a few individual reporters who were unable to submit during 2011. It is also possible that the shift in reporting requirements during 2010-2011 confused and/or discouraged some reporters. Although the raw number of reports decreased from 2010 to 2011, the number of protected species reports (e.g., Blanding’s, spotted, wood turtle) remained relatively stable and high. The number of reports increased from 2011-2013. Also, some reports always come in late so the number of 2013 reports will likely increase.
### Summary – 2013 Species Reports

#### AMPHIBIANS

<table>
<thead>
<tr>
<th>Frogs/Toads</th>
<th># Reports</th>
<th>Salamanders</th>
<th># Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Toad</td>
<td>11</td>
<td>Spotted Salamander</td>
<td>33</td>
</tr>
<tr>
<td>Wood Frog</td>
<td>19</td>
<td>Eastern Newt</td>
<td>13</td>
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<tr>
<td>Gray Treefrog</td>
<td>12</td>
<td>Redback Salamander</td>
<td>10</td>
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<tr>
<td>Green Frog</td>
<td>16</td>
<td>Two-lined Salamander</td>
<td>1</td>
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<tr>
<td>Northern Spring Peeper</td>
<td>9</td>
<td>Dusky Salamander</td>
<td>2</td>
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<tr>
<td>Bullfrog</td>
<td>5</td>
<td>Jefferson Salamander</td>
<td>1</td>
</tr>
<tr>
<td>Fowler's Toad</td>
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<td>Spring Salamander</td>
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<td>Mink Frog</td>
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<td>Blue-spotted Salamander</td>
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<td>Pickerel Frog</td>
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<td>Four-toed Salamander</td>
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<tr>
<td>Northern Leopard Frog</td>
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<td>Slimy Salamander</td>
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<tr>
<td></td>
<td></td>
<td>Marbled Salamander</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Mudpuppy</td>
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<tr>
<td><strong>TOTAL FROGS</strong></td>
<td><strong>83</strong></td>
<td><strong>TOTAL SALAMANDERS</strong></td>
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</tr>
<tr>
<td><strong>TOTAL AMPHIBIANS</strong></td>
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</table>

#### REPTILES

<table>
<thead>
<tr>
<th>Turtles</th>
<th># Reports</th>
<th>Snakes</th>
<th># Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blanding’s Turtle</td>
<td>82</td>
<td>Common Garter Snake</td>
<td>26</td>
</tr>
<tr>
<td>Wood Turtle</td>
<td>33</td>
<td>Northern Water Snake</td>
<td>38</td>
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<tr>
<td>Spotted Turtle</td>
<td>18</td>
<td>Milk Snake</td>
<td>29</td>
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<tr>
<td>Eastern Painted Turtle</td>
<td>18</td>
<td>Northern Black Racer</td>
<td>11</td>
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<tr>
<td>Snapping Turtle</td>
<td>17</td>
<td>Eastern Ribbon Snake</td>
<td>16</td>
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<tr>
<td>Musk turtle (Stinkpot)</td>
<td>5</td>
<td>Eastern Hognose Snake</td>
<td>4</td>
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<tr>
<td>Eastern Box Turtle</td>
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<td>Ringneck Snake</td>
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<tr>
<td>Red-eared slider (non-native)</td>
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<td>Redbelly Snake</td>
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<td></td>
<td></td>
<td>Smooth Green Snake</td>
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<td></td>
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<td>Brown Snake</td>
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<td></td>
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<td>Timber Rattlesnake</td>
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<td><strong>TOTAL TURTLES</strong></td>
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<td><strong>TOTAL REPTILES</strong></td>
<td><strong>326</strong></td>
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</tr>
</tbody>
</table>

*NOTE:* The numbers reported above represent the number of observations reported. These observations have not been validated and these reports do not necessarily represent distinct populations.

Reports received were not related to how common a species is in the state. For instance, Blanding’s, spotted, and wood turtles are far less common in NH than painted, snapping, or musk turtles but we received more reports of these species during 2013. This is partially resulting from some observers focusing their reports on the most unusual sightings; which is perfectly acceptable. However, we would like to increase the number of reports for all species. Even some of the common snakes (e.g., brown, ringneck, & redbelly snakes) get very few reports in a given year and we still don’t have a clear picture of the species distribution in NH.
Targets for 2014

Frogs/Toads:
Only a few Mink frogs were reported during 2012. Mink frogs have a northerly distribution (north of the White Mountains). I encourage our northern NH RAARP volunteers to report this species and if you don’t live up north, it would make a great get-away weekend. Listen for their call in June and early July (sounds like hitting 2 boards together). If you are fortunate to capture one, try to take a good photo!! Mink frogs can look very similar to our more common green frog.

Fowler’s toads can be difficult to verify; try to listen for their distinct calls during spring (calls can be listened to on the NHFG website). NHFG documented one new occurrence in Boscawen during 2011. Other sites surely exist and are just waiting to be identified!

We need verified reports of Leopard frogs; photos are crucial!! Most reports of Leopard frogs turn out to be Pickerel and green frogs. Focus searches during late summer in floodplains, fields, and agricultural areas along rivers. See the NHFG website for description of species.

Salamanders:
Jefferson and blue-spotted salamanders – breed in vernal pools in early spring.
Four-toed salamanders – associated with sphagnum wetlands.
Marbled salamander - State endangered species; be sure to take a photo if you come across one of these and call NHFG ASAP (603-271-2461). Most likely to be found in: Hollis, Brookline, Milford and Hinsdale.
Spring & dusky salamanders – live in/near streams and seeps statewide.
Mudpuppies – known from Connecticut River but we need more records to determine distribution.
**Turtles:**

Blanding’s turtle - have been among the top reported species for the last several years. This is probably due in part to the species large size, and movement patterns which bring it into frequent contact with residential areas and roads. Keep those reports coming!

Keep the reports flowing for Spotted and Wood turtles. Even Musk turtles are underrepresented in RAARP reports.

We’re still searching for our first Eastern Box turtle population! We get occasional reports of individuals but still don’t know of any locations where more than one individual has been observed. Wild Eastern box turtles are difficult to verify because of the number of released pets over the years. If you see one, **call NHFG ASAP (603-271-2461).**

Keep a look out for Red-eared sliders and other non-native turtles. Non-native turtles can compete with our native species and potentially introduce diseases. Reports of non-native species are just as important.

**Snakes:**

Hognose snakes are state endangered and their sandy habitat continues to be developed in southern New Hampshire. To protect this species, we need to document the best places where they still occur. Photos are critical.

We initiated a Black racer study during 2010 and the press associated with that project resulted in a number of new records. Continue to send these reports in soon after racers are observed.

Ribbon snakes and smooth green snake were listed in the NH Wildlife Action Plan as Species of Greatest Conservation Need. Photographs are critical for Ribbon snakes. Check out the NHFG website to help with identification.