

The Vermont Reptile and Amphibian Atlas

Update

2009-2010

For the Vermont Monitoring Cooperative

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Vermont Reptile and Amphibian Atlas Project (2009-2010)

Background

Localized intensive monitoring

Amphibian monitoring at Mt. Mansfield and Lye Brook Wilderness provide locally intensive data on a subset of amphibian species. While these data are particularly valuable and allow us to see year-to-year population changes of the monitored species at these sites and provide local information on abnormalities, and natural history, they do not allow us to see more widespread changes in the distribution and/or natural history (calling times, migration dates, etc.) of the full range of reptiles and amphibians statewide. Nor do they allow us to see changes in forest health, or the impacts of forest fragmentation and consumption on a larger scale. In addition, there is a real need to get reptile and amphibian natural history and management information out to a wide variety of landowners and land managers as well as other natural resource professionals.

Statewide extensive monitoring

The Vermont Reptile and Amphibian Atlas is an effort begun in 1994 by the Reptile and Amphibian Scientific Advisory Group for the Vermont Endangered Species Committee. The atlas project initially began as an effort to gather data for use by this committee. Data were needed in order to make informed recommendations regarding the appropriate status and conservation of these species. Since then, the goals have widened to incorporate education, citizen involvement, and dissemination of information. The ultimate goal of the Atlas is to gather and disseminate data on the reptiles and amphibians of Vermont in a way that involves and informs Vermont individuals and organizations so that they will become more informed and effective stewards of wildlife habitat. The Atlas Project has grown since its inception in 1994 to involve over 3,500 volunteers and thirty-five private organizations and government agencies. With the help of organizations, agencies, volunteers, and staff members, we are continuing to collect information and broaden our knowledge base regarding the natural history, distribution, and effective conservation of Vermont's reptiles and amphibians. By providing the best and most up-to-date information on the conservation of these species in Vermont, we have become a trusted party in many conservation activities throughout the state. This portion of the project has been funded regularly in recent years by the Vermont Monitoring Cooperative, with additional assistance from the Lintilhac Foundation and State Wildlife Grants from Vermont Fish and Wildlife.

Goals for the 2009 and 2010 Atlas work

The goals of the VMC funding for the 2009 field season were: (1) to gather data for the Vermont Reptile and Amphibian Atlas; (2) to update and improve the Atlas website; (3) to review and enter current and previous years' herpetological reports; (4) to forward hard and soft copies of the most recent calendar year's data to the VT Nongame and Natural Heritage Program; and, (5) to respond to daily requests for information on the identification, conservation, natural history, and management of Vermont's reptiles and amphibians.

New data reporting schedule

This portion of the work also continues an **every-other-year reporting schedule**. Attachment A of the 2009 agreement states, “in 2010, if funding continues, the Subrecipient shall submit a written report summarizing the years results”. Although not required, a brief summary of the 2009-year’s Atlas efforts was included in an update of the 2009 field season. This report includes the 2009 information and adds additional data from the 2010 field season.

Progress in 2009 & 2010

All the goals listed above have been completed with the exception of forwarding hard copies of new data to Vermont Fish and Wildlife. They have requested that they receive only electronic copies of data starting in 2010 in an effort to save space.

The VT Herp Atlas database now contains over 78,000 records. During 2009 & 2010 we entered over 9,500 new records of Vermont’s reptiles and amphibians. These records originate from every county in Vermont and over 220 Vermont towns, gores, and cities. Over 500 volunteers contributed reports each year and the Vermont reports include new current records of all known species of Vermont herptiles, except for the **Fowler’s Toad, North American Racer and Boreal Chorus Frog**.

New reports included 443 reports of species with a Vermont State Heritage Rank of S1. Reports of species with a Heritage Rank of S2 totaled 878 and we received 995 reports of species with a Heritage Rank of S3.

Missing Species

The last report of the **Boreal Chorus Frog** from Vermont was a tape made in 1999 by Mark Ferguson. This species has also declined throughout the southeastern portion of its range in Quebec and eastern Ontario.

The last documented report of the **Fowler’s Toad** was in 2007, despite significant effort to locate the species in 2008 by an Antioch New England graduate student. An unverified report of the species in Vernon did come in during 2009 from a volunteer by the name of Karen Given.

The last sighting of the **North American Racer** was in 2008 despite repeated efforts to locate the species in its last known location in Vernon and Guilford. I will be giving some public presentations in Windham County in 2011 in an effort to generate new leads from the residents of that area.

New Species

This year we received the first two documented reports of **Eastern Hog-nosed Snakes** (*Heterodon platirhinos*) from the state (Vernon). Two neonates were discovered and photographed in Vernon by two different families within one-mile of each other. Populations have existed very close to our borders in Montague, Massachusetts south of Vernon and in NY west of Fair Haven in Queensbury. A press release prepared by me and published in southern and western portions of the state, stimulated two more reports from likely areas but they were not accompanied with detailed descriptions or photos. We received an additional report of this species in 2010 from the same area but this record also is not well documented. Although, it seems likely that the two Vernon individuals were native, this species will remain hypothetical as a breeding species in Vermont until a cluster of documented records from multiple age-classes are gathered from a given area.

Another **Box Turtle** (*Terrapene carolina*) report was received from Windham County in 2009. This

adds to a cluster of reports in that area that suggests a native breeding population either does or did exist in that area. However, no young have yet been found.

A **Squirrel Treefrog** (*Hyla squirrel*), an exotic from Florida, came with a boat delivery to Topsham in 2009. It has been sent home. Exotics arrive in Vermont on an almost annual basis, but so far they have not been able to survive our winters and establish populations as they have in warmer areas of the country.

New Populations

A previously unknown population of Spotted Turtles was located in Addison County. This is the largest and healthiest population of this state-endangered species currently known in Vermont. Since this species is collected and sold illegally for the pet and collectors trades, we are not making its exact location public.

Listing

Using our data and our efforts, materials were prepared for **the potential listing of two amphibians in 2011: the Fowler's Toad and the Common Mudpuppy**. The Fowler's Toad is a new listing and new issue entirely and the Mudpuppy listing is a response to our concerns resulting from lampricide kills and botulism. The Fowler's Toad listing was deferred by the Vermont Reptile and Amphibian Scientific Advisory Group until more information can be gathered. Dr. C. William Kilpatrick is preparing the listing documentation for the Mudpuppy. Vermont Fish and Wildlife biologist Mark Ferguson has prepared the Boreal Chorus Frog documentation. This is a result of a recent taxonomic change; it had been listed previously under another name. However, this listing process will also allow us to bring some much needed press attention to this species. Recommendations for listing of both species will be presented to the Vermont Endangered Species Committee during their July, 2011 meeting.

Mapping

We are very excited to have recently finished **a brand new set of distribution maps** for all Vermont species. This is the first new set of maps in five years and we are excited to show off all that we have learned. The distribution patterns of many of our local species are now quite clear. I have attached two of the new maps with this report (Figures 1 & 2). The Spring Salamander's distribution along the Green Mountains shows up well (Figure 1). The absence of the Milksnake from the northeast Kingdom of Vermont is also striking (Figure 2). It will be interesting to see if this species moves north and east as the climate warms. Anecdotal reports suggest that the range of the Gray Treefrog is already expanding into higher elevations and further north. We are currently in the process of replacing all the older maps on our website (VtHerpAtlas.org). We hope to publish hard copies of the new maps within the next year.

We have also finished **detailed point maps** for three of our rare snakes (Eastern Ribbonsnake, North American Racer, Eastern Ratsnake) and our one lizard (Common Five-lined Skink). We have located **new locations** in Western Rutland County for the Ribbonsnake and the Skink, but sadly **the Ribbonsnake appears to be missing from its entire former habitat in the Champlain Basin north of Orwell** (Figure 3).

Website

As mentioned above, we are replacing all of our older maps on our website (VtHerpAtlas.org) and updating related text. Additional updates have been made to the website as a result of new discoveries (Hog-nosed Snake), updated documents, educational events, added links, and new press coverage and resources.

Outreach

Over twenty newspaper articles, television and radio reports and interviews on Vermont reptiles and amphibians were generated in 2009 and 2010 directly or indirectly using information and/or quotes from the Vermont Reptile and Amphibian Atlas. In addition to the press coverage; slide shows, educational displays, workshops, field trips, and a new course were used to educate more residents and landowners about herptiles. Vermont Family Forests started a new educational vehicle called Hogback Community College (HCC). Through HCC, I (Jim Andrews) am now offering a course titled “Conserving Vermont’s Reptiles and Amphibians”. It has attracted primarily biological consultants and public school biology teachers, along with a handful of interested retirees and recent graduates. It will be offered again in future years.

All contributors of reports were contacted and thanked for their contributions if contact information was provided. In addition, many questions were answered and conservation recommendations given. These requests and reports came in at the rate of approximately four per day during the field season.

Related Conservation Efforts based on our data

Planning continues for 2012 when we will see the **building of the first two amphibian underpasses** in Vermont. These devices have been used with great success in surrounding states and provinces but have not been built here in Vermont. Without our data and our efforts (combined with the efforts of others), this project would never have happened.

Data transfers

Vermont Fish and Wildlife requested that we transfer only electronic copies of our Atlas data to them starting with the new 2010 data. Consequently, hard and soft copies of the 2009 data were transferred to them but only electronic copies of the 2010 Atlas data were forwarded to them.

Acknowledgments

Website upgrades were made by Kir Talmage of Metasilk Webworks. Erin Talmage helped organize the data and write the reports. Kiley Briggs and Jason Plotkin assisted with fieldwork. Cindy Brown assisted with data entry and other office work. Many volunteers and collaborating organizations also contributed and we are very grateful for their help.

Additional funding in 2009 and 2010 came from the Lintilhac Foundation and two Vermont Fish and Wildlife SWG grants.

Salamanders

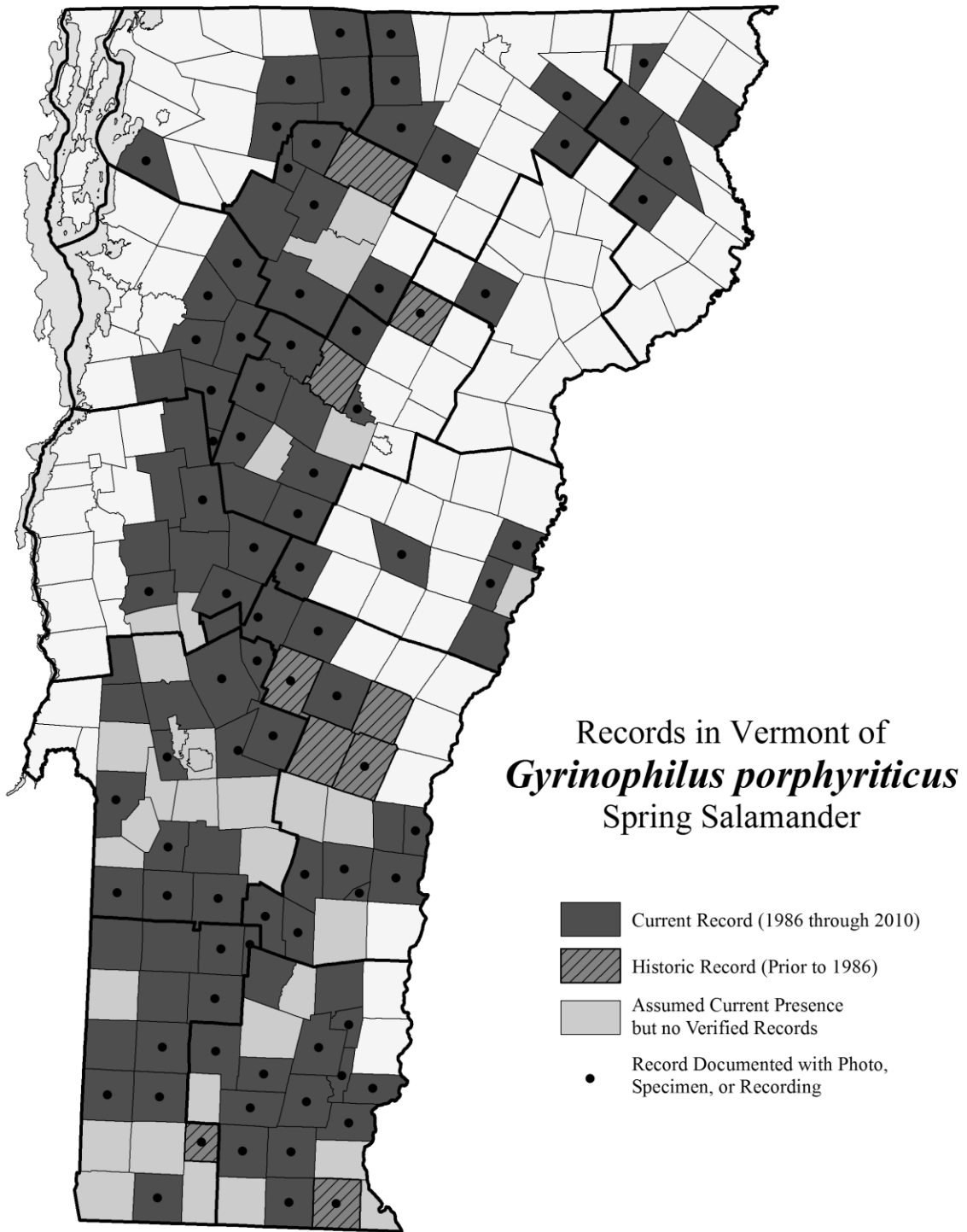


Figure 1.

Snakes

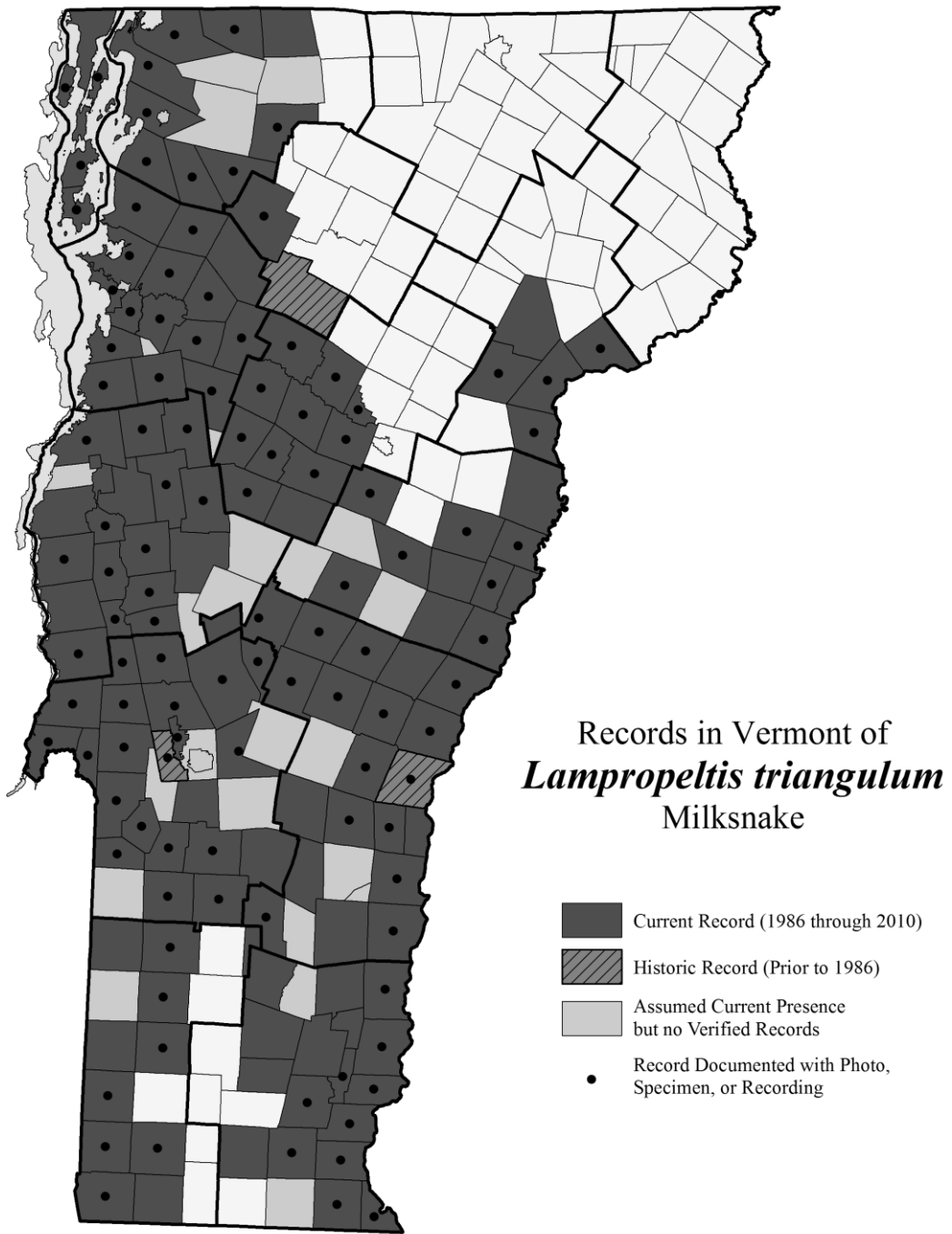


Figure 2.

Eastern Ribbonsnake (*Thamnophis sauritus*) Sightings in Rutland County, VT

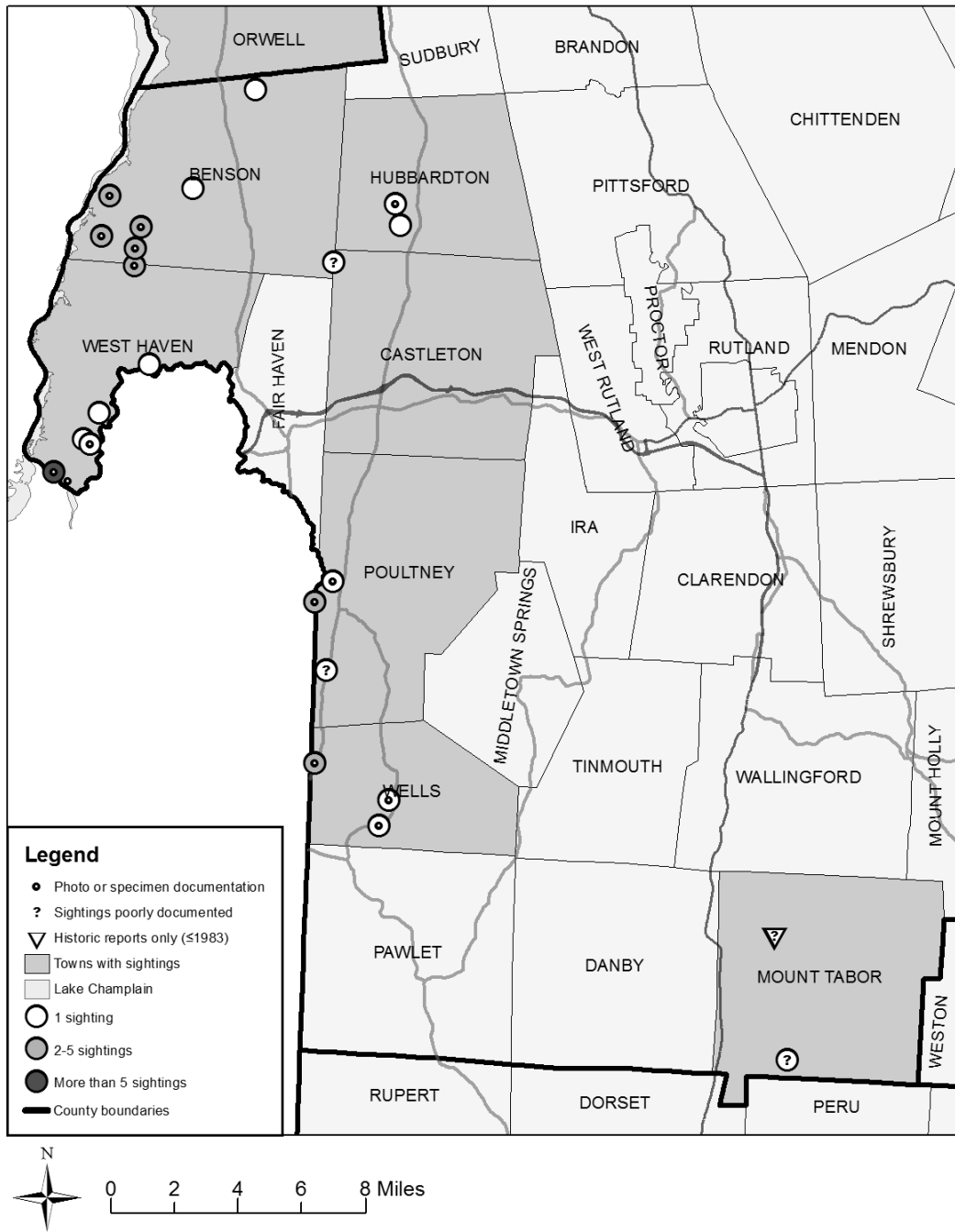


Figure 3.