

To: Jon Kart

From: Jim Andrews
642 Smead Road
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Re: **Annual report for my Scientific Collection Permit SR-2015-02(a1)**

Date: January 25, 2023

This is my annual report as required for Scientific Collection Permit SR-2020-1 expiring on 12/31/2024.

Contributed records

Between January 1, 2022 and December 31, 2022 roughly 600 contributors provided 2,880 new records that were entered into the Vermont Reptile and Amphibian Atlas Database. This brings the total number of reports entered to 119,068.

The 2022 reports included 20 verified reports of S1 species, 179 verified reports of S2 species, 202 verified reports of S3 species, 134 verified reports of S4 species and 2,164 verified reports of S5 species. Reports also include unverified and negative records, amphibian and reptile road crossing locations, vernal pools, turtle egg-laying sites, snake dens and other significant herptile habitats. Sightings came from ~213 towns, cities, grants, and gores and all Vermont counties. They included verified reports of all of Vermont's native species with the **exception of Boreal Chorus Frog (probably extirpated, last report 1999), North American Racer (last report 2014), and Fowler's Toad (last report 2021)**. All S1-S3 reports were exported to Jodi Shippee of Vermont Fish and Wildlife last week.

Exotic species

Every year we receive reports of non-native reptiles and amphibians that were either released pets or were accidentally transported via boats, trucks, RVs, and cars. This year we received only one report of a non-native species. A **Green Anole** (*Anolis carolinensis*) was found in a home in East Calais. It is suspected that it came north from Florida with some house plants.

Hypothetical species

We received no reports of **Eastern Box Turtles** (*Terrapene carolina*) this past year.

New locations out of the expected range

We received a photo report of an **Eastern Musk Turtle** (*Sternotherus odoratus*) from South Hero this year. It is only the second report of this species from Grand Isle County and the first from South Hero. We have one reliable report from 2011 in Franklin County (Georgia) and multiple reports from both Colchester and Milton in Chittenden County. Given the easy travel corridor of Lake Champlain, this species may well move further north with climate change.

Targeted survey efforts

In 2022, with my assistants, I personally visited 49 towns to gather new records. Many survey trips focused on those "towns" (including cities, gores, and grants) that have had the least survey effort. This is usually the result of low numbers of residents. In addition we focused our survey efforts on filling in distribution gaps of stream salamanders, since they are not often reported by citizen scientists. Combined with records sent in by volunteers we documented new town records, or updated historic records in 26 town/species combinations.

No reptiles or amphibians were killed or harmed during any of these activities.

Review of data

As usual, all of these reports have been personally reviewed by me or one of my assistants and when at all possible, the contributors have been personally contacted and thanked. Scores of ID and conservation questions have been personally responded to as well.

Field trips, presentations, and media outreach

Remote presentations were provided for Castleton College and the Agency of Natural Resources. Field trips and in-person presentations are now starting to resume after the height of the covid pandemic. I led trainings for Ascutney Mountain Audubon, Burr and Burton Academy, the Natural Resource Conservation Service, and The Vermont Agency of Transportation. I finished teaching a course on The Conservation of Vermont Amphibians and taught an additional course on The Conservation of Vermont Reptiles through Hogback Community College. Herpetological field trips were given in four towns, and a presentation on Vermont frogs was provided for the Dead Creek Wildlife Festival.

Data sharing

In this time period, I provided Vermont distribution records of species to two academic researchers. Location data were also provided on three target species for the Green Mountain National Forest, and rare turtle data for Marie Cauduto (a state watershed planner). Wood Turtle records were again provided to Kiley Briggs of the Oriante Society and distribution data on a variety of herptiles was provided for the Natural Resource Conservation Service for land under their conservation easements. Amphibian crossing-area data were provided for Bennington and Windham Counties and the town of Williston. Fowler's Toad data were provided to Luke Groff, VT F&W.

I continue to be more aggressive about providing data to contributors from target towns where we need more data. What I provide to these people is a list of common reptiles and amphibians that are expected to be in their towns but have not yet been photo-documented. For towns that have a good chance of providing habitat for rarer species, I include our list of herptiles that should always be documented. We provided this sort of data to residents of over twenty towns. Many of these exchanges resulted in new town records.

Our data were also used extensively in a joint project of the Vermont Agency of Transportation and UVM in developing and checking a predictive model of significant amphibian-crossing areas in Vermont.

The Forest Ecosystem Monitoring Cooperative and the Colby Hill Ecological Project continue to get exported monitoring data and reports, but they paid for the monitoring and reports.

Significant sightings were shared with state herpetologist Luke Groff as they were received and reports of all S1-S3 herptiles were forwarded to Jodi Shippee at VT Fish and Wildlife earlier this week.

Monitoring

We are monitoring **Red-bellied Snakes** (*Storeria occipitomaculata*), **Common Gartersnakes** (*Thamnophis sirtalis*), **Eastern Milksnakes** (*Lampropeltis triangulum*), and **Eastern Red-backed Salamanders** (*Plethodon cinereus*) using artificial cover and **Wood Frogs** (*Lithobates sylvaticus*) and **Spotted Salamanders** (*Ambystoma maculatum*) using egg-mass counts in Lincoln through the Colby Hill Ecological Project. Neither of these two methods trap or hold organisms, nor do they result in any mortalities. **DeKay's Brownsnake** (*Storeria dekayi*) once again showed up at our Lincoln monitoring site after showing up for the first time in 2019 and again in 2020, and 2021. The individual we found this year appeared to be about 1 year old.