

To: Jon Kart

From: Jim Andrews
642 Smead Road
Salisbury, VT 05769

Re: **Annual report for my Scientific Collection Permit SR-2015-02(a1)**

Date: January 25, 2022

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

Contributed records

Between January 1, 2021 and December 31, 2021 over 800 contributors provided 2,942 new records that were entered into the Vermont Reptile and Amphibian Atlas Database. This brings the total number of reports entered to 116,125.

The 2021 reports included 43 verified reports of S1 species, 150 verified reports of S2 species, 304 verified reports of S3 species, and 178 verified reports of S4 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 240 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) and North American Racer**. Only a single report of **Fowler's Toad** was received. It was heard in Vernon and the report came from a reliable source but it was not accompanied with either photo or tape documentation. All S1-S3 reports were exported to Jodi Shippee of Vermont Fish and Wildlife last week.

Exotic species

Every year we receive a few reports of non-native reptiles and amphibians that were either released pets or were accidentally transported via boats, trucks, RVs, and cars. We received a report of an **African Spurred Tortoise** (*Centrochelys sulcata*) in Ferrisburgh that I picked up and transferred to a warden. We received two different reports of **Mediterranean House Geckos** (*Hemidactylus turcicus*) during this time period. The reports came from Middlebury and Guilford. A **Brown Anole** (*Anolis sagrei*) was reported from Burlington. The anole and most other southern species will not survive a Vermont winter outdoors. That said, the Middlebury gecko report **may well represent a breeding population inside a heated warehouse**. A **Pond Slider** (*Trachemys scripta*) was reported from Mallett's Bay in Colchester. This is a common pet turtle species that has become invasive in southern New England. As our climate continues to warm, they could become invasive in Vermont. A box turtle from West Windsor turned out to be a southern sub-species (*Three-toed Box Turtle-Terrapene carolina triunguis*).

Hypothetical species

We received three reports of **Eastern Box Turtles** (*Terrapene carolina*) this past year. This time from Calais, Northfield, and Randolph. Only the Calais report was current, the other two much older. All of these reports are suspected to be released pets based on their isolated and northerly locations.

New locations out of the expected range

We received another report of a **Common Watersnake** (*Nerodia sipedon*) well north of its known range in the Connecticut River Valley. This report came from Jamaica. It was not accompanied with any photos. It is an additional 20 miles further north than last year's report from Weathersfield and the first from Windsor County.

A population of **Mink Frogs** (*Lithobates septentrionalis*) was found and photo-documented three times from Monkton. This population is further south and west than any other population of this species in Vermont and is the **first known population of this species from Addison County**.

An **Eastern Ribbonsnake** (*Thamnophis saurita*) was discovered in Pond Woods WMA in Orwell by my assistant Kate Kelly. This is the first report of this species from Addison County since 1935.

Targeted survey efforts

In 2021, with my assistants, I personally visited 68 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. As a result we documented **Spring Salamander** (*Gyrinophilus porphyriticus*) in 26 towns.

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 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

In 2021, some in-person field trips and presentations began again. I provided in-person presentations or field trips for Camp Betsy Cox on May 16, the Ascutney Mountain Audubon Society on July 17th, the Burr and Burton Mountain Campus on September 9, the Dead Creek Wildlife Festival on October 2, and the Hannaford Career Center on October 7th. Zoom presentations were provided on March 18 for the Green Mountain Audubon Society, April 12 for the Richford Area Conservation Commissions and on April 14, for the College of the Atlantic.

Data sharing

In 2021, location data were again provided to the Natural Resource Conservation Service for their conservation easements. Our data also played a key role in testing models being developed by VTrans for predicting amphibian crossing areas and developing supporting data for adding Red-eared Slider to the list of aquatic invasive nuisance species in Vermont.

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. I provided this sort of data to residents of over thirty towns. Many of these exchanges resulted in new town records.

The Forest Ecosystem Monitoring Cooperative and the Colby Hill Ecological Project continue to get exported monitoring data and reports.

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. We did not personally observe ophidiomycosis (**Snake fungal disease-SFD**) while monitoring; however, it was reported by another researcher at our site. It was only found on one **Eastern Milksnake**. No other snakes with obvious physical signs of SFD were found at our Lincoln site in 2021.