

To: Jon Kart

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

Date: February 3, 2019

This is my annual report as required for Scientific Collection Permit SR-2015-02(a1) expiring on 12/31/2019.

### **Contributed records**

During 2018 over 700 contributors provided about 3300 new records that were entered into the Vermont Reptile and Amphibian Atlas Database. This brings the total number of reports entered to over 106,000.

The 2018 reports included 23 reports of S1 species, 123 S2 species, 480 S3 species, 146 S4 species, and 2,461 S5 species. Reports also include amphibian and reptile road crossing locations, vernal pools, turtle egg-laying sites, and snake dens. Sightings came from 222 towns, cities, grants, and gores and all Vermont counties. They included all of Vermont's native species with the exception of Fowler's Toad and Boreal Chorus Frog (probably extirpated). We entered two reports of North American Racers, but they were both historic reports (1905 & 1914), so there were no current sightings of North American Racers entered in 2018.

### **Exotic species**

Every year we receive a few reports of non-native reptiles and amphibians that were either released pets or were somehow transported to Vermont on RV's, boats, nursery stock, or other items. The year 2018 was no exception; a **Common House Gecko** (*Hemidactylus frenatus*) was photographed and reported from Cornwall, a **Russian Tortoise** (*Agryonemys horsfieldii*) was photographed, captured and returned to its owner in Waitsfield, and **Pond Sliders** (*Trachemys scripta*), a common pet turtle species, were reported from Calais, Milton, & Winooski. The gecko has been taken inside as a pet. The Pond Sliders will probably survive and with global warming could become an issue, but we have no evidence of breeding in Vermont. They have become established at some sites in southern New England.

### **Hypothetical species**

We received a report and photos of a **Blanding's Turtle** (*Emydoidea blandingii*) laying eggs in Norwich. This species has populations south and northwest of us, so it could potentially be native and breeding here. It is also a popular pet turtle. We monitored the nest (none hatched), did some limited turtle trapping in the most likely home wetland, and spread the word to locals to be on the lookout for the species, but I suspect it is a released pet.

### **Outside-of-range reports for S1 species**

We received another odd report of an S1 species outside of where we would expect it. A **Common Five-lined Skink** was described but not photographed from along the Long Trail in the Manchester portion of the GMNF. It makes me wonder if a skink could have traveled as an egg or captive adult with a backpacker. I asked the GMNF biologist to check out the site, but he moved out of state before he had a chance to do that, so the report has not been followed up on.

### **Unusually late records gathered by or contributed to the Atlas Project during the fall and early winter of 2018**

As was the case over the last two falls, some of the most unusual verified reports of 2018 have been the late-season reports of amphibians. The last reports of on-surface amphibian migration that we have entered were the **Four-toed Salamanders**, **Blue-spotted Salamanders**, **Eastern Red-backed Salamanders**, and **Northern Leopard Frogs**

moving on a warm wet night in Salisbury on November 26. We obtained later reports of movement, but they have not been entered yet. This late fall movement has not been reported in the literature.

### **Interesting reports from earlier in 2018**

Among the most interesting of the reports were the first report of **Eastern Musk Turtle** from Glen Lake in Castleton. Nearby Lakes Hortonia and Bomoseen were both known to have populations of this species, but not Glen Lake.

We received another report of **Common Five-lined Skink** from Benson on Lake Road. This is the third report from the same area of Lake Road and is one of only two known sites in Benson for this species.

We continue to confirm and extend the known range of the **Blue-spotted Salamander** in the northern Connecticut River Valley with additional reports in Canaan and new town records from Guildhall. The valley of the Connecticut River in that area has oxbows within the floodplain that serve as breeding habitat for this species.

Cindy Sprague's data on **Eastern Ratsnakes** in the Bristol/New Haven area continue to show how chicken coops are preferred feeding habitats for this species. We also now know that multiple snakes are using the same denning area.

We continue to receive many new **Wood Turtle** records as well as multiple reports from previously known sites from the ongoing studies of Mark Powell and Kiley Briggs of the Orianne Society. Steve Parren's reports of **Wood Turtle**, **Spotted Turtle**, and **Spiny Softshell** studies in 2018 were received but have not yet been entered into our database.

### **Targeted survey efforts**

This year I personally took employees or volunteers to Addison, Brookfield, Brookline, Buels Gore, Chester, Clarendon, Colchester, Concord, Dover, East Haven, Ferrisburgh, Granby, Guildhall, Hancock, Isle La Motte, Leicester, Londonderry, Lunenburg, Marshfield, Morgan, Norton, Norwich, Orwell, Panton, Plainfield, Rupert, Rutland City, Shrewsbury, St. Johnsbury, Starksboro, Sudbury, Tunbridge, Vergennes, Victory, Waltham, Warren Gore, Waterford, and Windham in an effort to fill in distribution or photo-documentation gaps. By August of 2018 we had added over 200 new town records (photo or sight) of S1-S3 species either from volunteers or our own efforts.

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

### **Quality control, maintenance of the Atlas database, data requests**

I reviewed all records, contact was made to all contributors, data were entered into our database and rare species reports have been forwarded to the Wildlife Diversity Program of Vermont Fish and Wildlife. We continually check for mistakes and typos in our database and make corrections and we continue to work to add latitude and longitude for as many of the old S1 through S3 reports as possible as well as all new reports of any species. FEMC funds are being used to pay Kate Kelly for the review and upgrading process.

We also regularly respond to requests for data but are careful not to reveal locations for sensitive species. In 2018, I exported data to NRCS for possible herptile conservation efforts in Salisbury, the towns of Bolton, Groton, Peacham, and Stowe; The Putney Central School, Lone Rock Point, and a consultant providing conservation guidance for the managers of North Beach in Burlington. Lists of common species in need of documentation were forwarded to individuals in 45 Vermont towns. During the winter of 2016 and 2017, I exported reports of Vermont Wood Turtles to the regional Wood Turtle Recovery Group, the US Department of Defense (all herps on DOD lands in Vermont), Vermont Center for Ecostudies (amphibian crossing areas in Addison County), Burr and Burton Mountain Campus (herp species that need to be documented in Northern Bennington County), Friends of the Green River Reservoir (herp species that need to be documented in Orleans County), VTrans (herps along Route 22A in Orwell south to Fair Haven) in prep for a Route 22A upgrade, VTrans (amphibian crossing data from Route 125 near Payne Drive) for a culvert upgrade and wildlife crossing report, US Natural Resource Conservation Service (Wood Turtles on farmlands), Green Mountain National Forest (Wood Turtles near the Battenkill on USFS lands regarding mowing), and Marsh Billings National Historical Park (herps that needed documenting in the Woodstock area).

The **searchable list of needed records** was updated again and put on line on our **completely updated website** (VtHerpAtlas.org) along with a complete set of **new distribution maps**, and **updated species descriptions**, **photographs**, and **other resources**.

## **Monitoring**

We are monitoring **Red-bellied Snakes**, **Common Gartersnakes**, **Milksnakes**, and **Eastern Red-backed Salamanders** using artificial cover and **Wood Frogs** and **Spotted Salamanders** 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.

We once again had funding from the Forest Ecosystem Monitoring Cooperative (FEMC formerly VMC) amphibian drift-fence monitoring on Mt. Mansfield. Consequently we gathered a complete year of data from that site for our long-term monitoring data set. The Snake Mountain fence was also opened for two nights for my UVM class.