

Vermont Vernal Pool Mapping Project

Instructions for Completing the *Vernal Pool Field Verification Data Sheet*

The goal of field-verification is to determine whether or not a remotely mapped “potential” pool is indeed a vernal pool, and to collect biological and physical data about vernal pools in Vermont, whether previously mapped or newly “discovered.”

Please mail completed data sheets to:

**Vermont Fish & Wildlife Department
1 National Life Drive, Davis 2
Montpelier, VT 05620-3702**

1a) Observer Information

Self-explanatory. The phone and email are required in case we need to ask you questions about the data form or the pool. For the “Address” line, please at a minimum enter the town in which you live in.

1b) Credentials

Please check the one that applies. Consider yourself a Trained Citizen Scientist if you have attended a Vernal Pool Training Workshop.

2a) Vernal Pool Location Information

Pool ID: Enter this ID number if this was a previously mapped pool. The ID will be 3 letters followed by numbers. For example SDF34 or MLS23. If this was a previously unmapped pool, leave this space blank.

This pool was mapped as a potential pool. Check this box if the pool appeared on the potential pools map. Each potential pool will have a unique Pool ID.

This pool was unmapped. If you discovered (or knew about) a pool that we have not mapped, check this box.

If a) above, was the pool located. Check “Yes” if you found the vernal pool identified by the Pool ID number shown above. It is also important to document pools that were not found; so if you could not find the pool, check “No”.

How certain are you that you were in the correct location? This is important for previously mapped pools only, and especially important for pools that you could not find. If you are navigating with a GPS and are receiving GPS reception, circle “Certain”. Otherwise, use your judgment.

2b) Location of the Pool

Source of Coordinates. Check the GPS box if you used a GPS to obtain the coordinates of the pool. Check one of the other appropriate boxes if you used a topo map or online mapping program to locate the pool (typically for previously unmapped pools only).

Enter Coordinates in decimal degrees. Enter the latitude and longitude coordinates in the decimal degree format (not as minutes and seconds). Most GPS units will default to this format. If your GPS unit is showing UTM or some other coordinates you can change the display, typically in the settings menu. UTM coordinates will be two numbers like decimal degrees but will not have a decimal point or a “°” symbol after them. Latitude and longitude in the non-decimal degree format will show degrees (°), minutes (‘), and seconds (‘) symbols. Your coordinate reading format should match that shown in the example on the field form: Latitude: 44.764322 Longitude: -72.654222

2c) Landowner Contact Information

Please answer the Yes/No questions.

If the Vernal Pool Mapping Project provided you with landowner information, the landowner contact information can be left blank.

3. Vernal Pool Field-Verification Information

3a) Pool Type

Is this a Vernal Pool? If the following conditions are met, check “Yes”: 1) at least one of the indicator species is present, 2) the site does not contain fish, 3) the site is not a permanent water body, and 4) there is no permanent inlet or outlet. However, if these conditions are met, but the site is obviously not adequate habitat for the species present (e.g. eggs laid in skidder ruts or a ditch), check “No”. If unsure, check “Don’t Know”.

Isolated Forest Depression: Check this box for the typical Vernal Pool: no permanent hydrologic connection with other wetlands and the surrounding area is >50% forest.

Floodplain Depression: Check this box if it appears that the pool is influenced by floodwaters from a stream or river at any time of the year.

Manmade Impoundment: Check this box if the pool originated from human activity.

Isolated Non-Forest Depression: Check this box if the site has no permanent hydrologic connection with other wetlands and the pool is located in open habitat away from forest edges.

Pool associated with larger wetland complex: Check this box if the pool is hydrologically connected to a wetland type other than another vernal pool. If it is connected to another vernal pool, check whichever box above is appropriate.

3b) Presence of Inlet and/or Outlet

No Inlet/Outlet. Check these boxes if there is no evidence of any channelized water entering or exiting the pool.

Ephemeral Inlet/Outlet. Check these boxes if there is evidence of channelized water entering or exiting the pool, but it doesn't appear to run continuously. Many vernal pools, for example, have an outlet that functions if the water level in the pool reaches a certain level.

Permanent Inlet/Outlet. Check this box if there is channelized water continuously running into or out of the site. These sites are typically not vernal pools.

3c) Surrounding Habitat

Forested Upland. Check the box that best describes the surrounding forest.

Forest Condition. Undisturbed: Check this box if there is no evidence of logging within 250' of the pool OR logging took place far enough in the past that the site has, for all practical purposes, recovered.

Minor Logging: Check this box if there is evidence of thinning cuts which have left $\geq 70\%$ of the canopy intact. **Major Logging:** Check this box if there is evidence of aggressive thinning or clearcut logging leaving $< 70\%$ of the canopy intact. Be careful to distinguish between logging activity (flat-topped stumps) and natural disturbances (such as wind-throw and ice storms) that can leave canopy gaps.

Agriculture/ Development Within 250' of the pool, check all boxes that apply.

Roads/ Powerline. Within 100' of the pool, check all boxes that apply.

4. Pool Characteristics

4a) Approximate Maximum Pool Depth. This is an approximate depth at the deepest part of the pool (typically the center). Feel free to use a stick or other measuring device if you cannot wade into the deepest part. In most cases, an estimate from the pool edge will suffice.

4b) Water Level at Time of Survey. In order to estimate this and **4d**, examine the edges of the pool for signs of high water (see comments under **4d**).

4c) Hydroperiod. Permanent: Check this box for sites (like ponds) that appear to retain water throughout the year. **Semi-permanent:** Check this box for sites that appear to retain at least some water in most years. These sites may dry completely, but only in drought years. **Ephemeral:** Check this box for sites that appear to dry completely most years. Most "typical" vernal pools fall into this category.

4d) Approximate Size of Pool (at maximum capacity). Using a measuring tape to obtain the dimensions is preferable. Pacing or estimating the dimensions are also acceptable.

To obtain these measurements when the pool is not completely full, examine the immediate pool basin for evidence of high water. Signs include water-stained leaves, sediment deposits on the leaf litter, and water marks on tree trunks.

4e) Vegetation Present in Pool Estimate the percentage of the pool that is occupied by the different types of vegetation. More than one vegetation type can be filled in.

4f) Substrate Check the one appropriate box for the dominant substrate present in the pool.

4g) Disturbance. Check all forms of disturbance that have affected the pool.

5. Indicator Species

Species Observed. Use the Vernal Pool ID Sheet (or other sources) to help identify the species using the pool. Presence of other amphibian species (such as green frogs) is also noteworthy and should be included in the “Other” row.

Adults. Please enter the approximate number of adults observed for the amphibians present. For invertebrates such as Fingernail clams and Fairy Shrimp counting individuals is not necessary. An “X” in this column to indicate presence is sufficient.

Tadpoles/Larvae. Mark an “X” in this column to indicate the presence of tadpoles or larvae of each species present.

Egg Masses. Please enter the number of egg masses (not individual eggs) of each species present in the pool. Use the check boxes to indicate if the number entered was derived from an actual count or an estimate.

Photo? Please take a photograph of the whole pool AND a photograph documenting the presence of each indicator species at the pool (egg masses, tadpoles, metamorphs or adults). Put a check in the appropriate box if a photo was taken of a particular species.

Photo ID #/ Notes. Use this column to enter any comments on the species present or the Photo ID#s. Please name each photograph using the following protocol:
Pool ID_Your Initials_Picture #. For example: SDF34_JD_1.

This will allow us to link each photograph with the appropriate pool data form.

Were Fish Observed? Because vernal pool-dependant wildlife have no adaptations against predatory fish, it is important to know if fish were observed. Complete this section, being careful to avoid confusing fairy shrimp and other aquatic invertebrates with small fish.