

Leaf Litter Composition Survey Protocol



The species composition of leaf litter in a vernal pool can play a large role in both a pool's water chemistry and its detritus-based food web. It's important to develop baseline data on the species of leaves that line a vernal pool's basin to gain a better understanding of future changes that may result. This survey will be conducted once every 5 years to track major changes in leaf litter composition.

A good supplemental guide, such as [The Forest Trees of Maine](#), is a useful resource that's available online for free from The State of Maine's website. Additionally, iNaturalist can be used to crowdsource unknown leaf species (See iNaturalist Submission Guide on page 33).

How to Conduct a Leaf Litter Composition Survey (Visit 3)

This survey is similar to the macroinvertebrate survey in that you will be surveying four 1m² plots spaced evenly apart. However, rather than sampling within pool itself you will be sampling along the outside edge of the pool.

- 1. Mark a 1 m² survey area along the northern outside edge of the pool.**
 - You will survey four 1 m² plots spaced evenly around the outside edge of the pond in the four cardinal directions (north, east, south, and west).
 - Use a tape measure or walking stick marked at 1 meter to demarcate each survey plot.
 - Constructing a 1m x 1m frame out of PVC pipe is a good method of delineating sample plots.
 - Within each plot the surface should be entirely leaf litter, no bare dirt or rocks.
- 2. Estimate the percent cover of each species of leaf and needle present.**
 - Only the top layer of leaf litter should be sampled.
 - Leaves should be identified to as close to species as possible.
 - If in doubt about an ID, post photos (the leaf's top and underside) to the VPMon iNaturalist group to crowdsource a conclusive ID (See iNaturalist Submission Guide on page 33).
- 3. Repeat steps 1. and 2. as you progress clockwise around the vernal pool, making observations at the eastern, southern, and western ends of the pool.**
 - After sampling the four plots, add up each column's percentages to ensure that each plot's total total leaf litter cover comes out to 100%.

If you have access to a spreadsheet application (Excel, Numbers, etc) or Google Docs please transfer the data sheet to a spreadsheet to send to us. If you don't, please submit your data sheet as you do for regular vernal pool monitoring visits. Please name the file "Pool ID_Your Last Name & First Initial_Year_LLSurvey".

— Example: "MLS699_DarwinC_2019_LLSurvey"