

BEST MANAGEMENT PRACTICES:

ROW Vegetation Management in Vernal Pool Habitat



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Vernal pools provide unique wildlife habitats for 4 species of amphibians (3 salamanders and 1 toad) that are officially listed as “Threatened” or of “Special Concern” in Massachusetts and tracked by the NHESP. State-listed amphibians can occur in a variety of habitats across the Commonwealth of Massachusetts, including along utility ROW. Use of heavy machinery, vehicles, and the alteration of wetland hydrology which may occur during vegetation management activities can negatively impact state-listed amphibians found within utility ROW. Below, the NHESP provides information on rare amphibian species which may be found in utility ROW, and guidance on protecting them during vegetation management activities.

Management Goal

Maintain integrity of vernal pool habitat and reduce mortality from mowing/heavy equipment.

Best Management Practices

The following practices must be implemented within sections of ROW indicated as “VP Habitat” on maps and shapefiles provided by the NHESP

- All certified vernal pools and potential vernal pools within “VP Habitat” shall be identified prior to any work. GIS data layers containing NHESP Certified and Potential Vernal Pools can be found on the web at <http://www.mass.gov/mgis/laylist.htm>. Work within these pools should be avoided if at all possible. However, if work within the pools is not avoidable, the following BMPs (in addition to the BMPs described within the YOP, such as the use of swamp mats) must be implemented:
 - *Vegetation Management conducted between 1 December and 15 March:* In general, maintenance activities associated with VMPs that are conducted between 1 December and 15 March will pose minimal or no risk to state-listed amphibians and can proceed.
 - *Vegetation Management conducted between 16 March and 30 November:* Vegetation management activities occurring between 16 March and 30 November may cause harm to state-listed amphibians, and certain steps must be taken to avoid such harm. If mowing is to occur between 15 March and 1 December, no equipment shall enter the vernal pool.
- *Reporting requirements:*
 - On an annual basis, a report summarizing the implemented management shall be submitted to the NHESP. Said report should include dates, the management techniques implemented, and information on any vernal pools identified.

State-listed Amphibian Descriptions and Biology

The three state-listed salamanders are in the same family of mole salamanders (*Ambystomatidae*): the Blue-spotted Salamander (*Ambystoma laterale*), Jefferson Salamander (*Ambystoma jeffersonianum*), and the Marbled Salamander (*Ambystoma opacum*). These species are often thought of in association with their aquatic breeding habitat, which is primarily in ephemeral vernal pools. Although these aquatic habitats are essential for reproduction, these salamanders are only in the breeding pools for a few days to a couple of weeks per year. It is the surrounding upland forest habitat where the juvenile and adult salamanders spend 90% of their lives. Breeding migration to and from aquatic habitat occurs in the early spring for Blue-spotted and Jefferson Salamanders, while for Marbled Salamanders it occurs in the late summer and fall. Outside of these breeding periods, the adult salamanders reside in underground burrows and tunnels and beneath moist coarse woody debris.

The final state-listed amphibian is the Eastern Spadefoot Toad (*Scaphiopus holbrookii*) and is the most fossorial species of frog or toad in Massachusetts. These toads live in areas with dry sand or sandy loam. They spend most of their time up to eight feet underground—hibernating during the cold months and avoiding desiccation during the rest of the year. In warmer months, from April to September, the Eastern Spadefoot Toad comes up at night to breed in temporary ponds after prolonged warm and heavy rains.

