



# Division of Fisheries & Wildlife

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## *Guidelines for the Certification of Vernal Pool Habitat*

### Vernal Pool Fact Sheet

#### WHAT ARE VERNAL POOLS?

Vernal pools are temporary bodies of fresh water that provide critical habitat for many vertebrate and invertebrate wildlife species. "Vernal" means spring, and indeed, many vernal pools are filled by spring rains and snowmelt, only to dry up during the hot, dry months of summer. However, many vernal pools are filled by the rains of autumn and may persist throughout the winter. Vernal pools are quite often very small and shallow; vernal pools that support rich communities of vertebrate and invertebrate animals may measure only a few yards across. However, vernal pools of several acres occur throughout Massachusetts.

#### WHERE ARE VERNAL POOLS FOUND?

Vernal pools are common in Massachusetts, occurring in every town in the state. Vernal pools are found across the landscape where small woodland depressions, swales or kettle holes collect spring runoff or intercept seasonally high groundwater tables. Although many people associate vernal pools only with dry woodland areas, vernal pools also occur in meadows, river floodplains, interdunal swales, and large vegetated wetland complexes. Vernal pool habitat occurs wherever water is contained for more than 2 months in the spring and summer of most years and where no fish are present.

#### WHY ARE VERNAL POOLS VALUABLE?

Vernal pools constitute a unique and increasingly vulnerable type of wetland. Vernal pools are inhabited by many species of wildlife, some of which are totally dependent on vernal pools for their survival. Vernal pools do not support fish because they dry out annually or at least periodically. Some may contain water year round, but are free of fish as a result of significant drawdowns that result in extremely low dissolved oxygen levels. The wood frog (*Rana sylvatica*) and the four local species of mole salamander (*Ambystoma* spp.) have evolved breeding strategies intolerant of fish predation on their eggs and larvae; the lack of fish populations is essential to the breeding success of these species. Other amphibian species, including the American toad (*Bufo americanus*), green frog (*Rana clamitans*), and the red-spotted newt (*Notophthalmus viridescens*), often exploit the fish-free waters of vernal pools but do not depend on them. Vernal pools also support rich and diverse invertebrate faunas. Some invertebrate species, such as fairy shrimp (*Eubranchipus* spp.), are also entirely dependent upon vernal pool habitat. Invertebrates are both important predators and prey in vernal pool ecosystems. Vernal pools are an important habitat resource for many birds, mammals, reptiles and amphibians, including many state-listed rare species.

#### Some state-listed species that may be found in vernal pools

Species	Status <sup>1</sup>
Blue-spotted salamander ( <i>Ambystoma laterale</i> ) <sup>2</sup>	SC
Jefferson salamander ( <i>Ambystoma jeffersonianum</i> ) <sup>2</sup>	SC
Marbled salamander ( <i>Ambystoma opacum</i> ) <sup>2</sup>	T
Four-toed salamander ( <i>Hemidactylium scutatum</i> ) <sup>3</sup>	SC
Eastern spadefoot toad ( <i>Scaphiopus holbrookii</i> ) <sup>2</sup>	T
Spotted turtle ( <i>Clemmys guttata</i> ) <sup>3</sup>	SC
Wood turtle ( <i>Clemmys insculpta</i> ) <sup>3</sup>	SC
Blanding's turtle ( <i>Emydoidea blandingii</i> ) <sup>2</sup>	T

<sup>1</sup> Status pursuant to the MA Endangered Species Act - T: Threatened; SC: Special Concern

<sup>2</sup> Obligate species require vernal pool habitat to successfully breed

<sup>3</sup> Facultative species may use vernal pools but do not require them

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## **VERNAL POOL PROTECTION**

The Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00), the Massachusetts Surface Water Quality Standards (314 CMR 4.00) used to administer section 401 of the federal Clean Water Act, the Massachusetts Environmental Code: Title 5, and the Forest Cutting Practices Act regulations all provide protection to vernal pools that have been officially certified. The regulations for both the Wetlands Protection Act and Forest Cutting Practices Act also provide protection to vernal pools that have not been certified if their occurrence is adequately documented during permit review. Protection under any of these laws requires the following:

- 1) the vernal pool occurs in an area subject to the jurisdiction of the regulations; and
- 2) the activities proposed are regulated.

**The Massachusetts Wetlands Protection Act regulations (310 CMR 10.00)** protect certified vernal pools and *up to* 100 feet beyond the boundary of the pool (referred to as the “vernal pool habitat”), by preventing alterations which would result in the reduction of the wildlife habitat value of the certified vernal pool. A certified vernal pool is not automatically protected by these regulations, though. Certified vernal pools must occur within a resource area that comes under the jurisdiction of the Act before they receive protection. Similarly, the 100 feet around the vernal pool does not extend into non-jurisdictional upland or the buffer zone of a resource area. Though the regulations specify performance standards for vernal pools that are located in Bordering or Isolated Land Subject to Flooding (BLSF and ILSF respectively), vernal pools that occur within any wetland resource area are protected for their wildlife habitat value under the Wetlands Protection Act. Performance standards may be applied by a conservation commission to protect vernal pools that occur in any jurisdictional wetland resource area.

Vernal pools that are not certified may also be protected by a local conservation commission or the DEP if credible scientific evidence is presented up until the end of the appeals period for a Superseding Order of Conditions issued by the DEP. A conservation commission, or the DEP on appeal, can incorporate protective conditions into an Order of Conditions that would prevent the alteration of the wildlife habitat value of the pool and its 100 foot “vernal pool habitat” if they occur within a regulated wetland even though it is not certified.

Each DEP Regional Office has at least one Vernal Pool Liaison who should be contacted for all questions related to the protection of both certified and uncertified vernal pools. Since regulatory authority rests with the Department, they are best able to answer questions about what may or may not happen in or around vernal pools. Your regional liaison may be reached at the following addresses:

Northeast Regional Office  
Wayne Lozzi  
203-A Lowell Street  
Wilmington, MA 01887  
(978) 661-7600

Southeast Regional Office  
Daniel Gilmore  
20 Riverside Drive  
Lakeville, MA 02347  
(508) 946-2700

Central Regional Office  
Marielle Stone  
627 Main Street  
Worcester, MA 01608  
(508) 792-7650

Western Regional Office  
Karen Hirschburg  
State House West, 4th Floor  
Springfield, MA 01103  
(413) 748-1100