Vernal Pool Regulation in Maine: Answers to Frequently Asked Questions

This document was created at the University of Maine in consultation with the US Army Corps of Engineers, Maine Department of Fish and Wildlife, and Maine Department of Environmental Protection.

In 2006, legislation was passed in Maine to regulate a subset of vernal pools as Significant Wildlife Habitat under the state's Natural Resources Protection Act. These Significant Vernal Pools (SVPs), a small subset of Maine's total pool resources, are recognized as productive breeding habitat for several specialized species of frogs, salamanders, and invertebrates. Below we provide information on how vernal pools and SVPs are regulated at the federal, state, and local level. We also provide a list of "Frequently Asked Questions" to address and clarify common concerns expressed by landowners.

Who is Involved in Vernal Pool Regulation and what are Their Roles?

Army Corps of Engineers (ACOE): The ACOE is a federal agency responsible for overseeing impacts to wetlands and waterways ("waters of the United States") that result from fill activities and secondary impacts (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). These waters may include vernal pools of any size and productivity, even if they are not state-recognized SVPs.

US Fish and Wildlife Service (FWS) and US Environmental Protection Agency (EPA): The FWS and EPA are federal agencies that provide input to the ACOE on proposals for development that have potential impacts to wildlife habitat values, including species using vernal pools.

Maine Department of Environmental Protection (MDEP): MDEP is the state agency responsible for permitting and enforcement associated with wetland alteration activities in Maine. It also oversees protection of other sensitive natural resources including regulation of SVPs.

Maine Department of Inland Fisheries and Wildlife (MDIFW): MDIFW is the state agency responsible for mapping high value wildlife habitats and providing technical expertise on vernal pools and other Significant Wildlife Habitats. MDIFW maintains a mapped database of SVPs and forwards pool status recommendations to MDEP. MDEP notifies landowners and field observers of the final regulatory status of all pools submitted for state review.

Town Code Enforcement Officers and Planning Boards: Code Enforcement Officers administer and enforce municipal zoning, building, and similar ordinances, and, especially when local standards overlap with state and federal regulations, they encourage adherence to state and federal regulations such as protection of natural resources (including vernal pools). Planning boards are likely to encounter vernal pools as they review site plans and subdivision applications for conformance with local ordinances, and pertinent state and federal regulations.

Environmental Consulting Firms: Professional environmental consultants may be hired to delineate wetlands, identify SVPs and federally-regulated non-SVPs, and help landowners apply for permits and adhere to regulation at all levels.

Federal Regulation

The US Army Corps of Engineers (ACOE) oversees the temporary or permanent discharge of dredge or fill material into waters and wetlands. This regulation is under Section 404 of the Clean Water Act. ACOE has seven divisions throughout the country, each with districts of jurisdiction. The New England District oversees activities in the six New England States.

Prior to altering a wetland, landowners are responsible for applying for and obtaining all required permits, which may consist of federal, state, and/or local approvals before work may begin. Authorization from ACOE does not mean that the landowner is not required to obtain other federal, state, or local authorizations required by law, and *vice versa*.

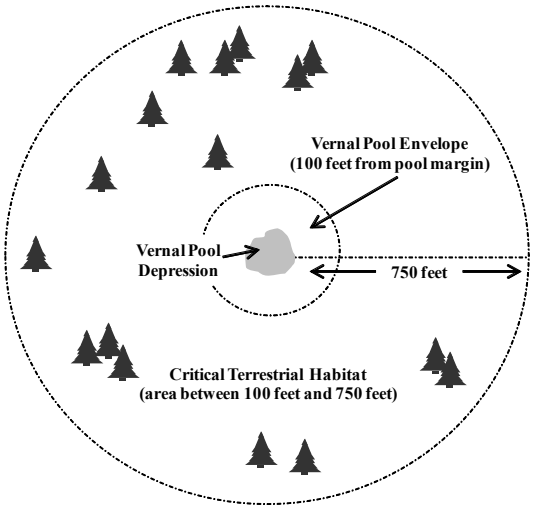


Figure 1: ACOE Vernal Pool Management Area is made up of the depression itself, the vernal pool envelope (area within 100 feet of the pool margin), and the critical terrestrial habitat (area between 100 and 750 feet from the pool margin).

The **ACOE Maine General Permit (ME GP)** provides rules and guidance for regulating activities in and around wetlands and vernal pools. There are two permit review categories within the ME GP: Category 1 (notification form required) and Category 2 (application form required). Proposed activity and size of impact determines the category for permitting that is required. The ME GP may be found at: http://www.nae.usace.army.mil/reg/Permits/ME_GP.pdf.

The ACOE vernal pool definition states that presence of any of the following species in any life stage at any abundance level will designate a water body as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs (see the ME GP, Appendix A, Page 10). ACOE vernal pool permitting requirements are described in the ME GP, General Condition 28, page 16.

Certain management practices must be followed for all work within the VP Management Area (Figure 1) of all VPs in order to meet Category 1 (no application required to ACOE - only a Category 1 Notification Form) when there is fill placed in a wetland or waterway.

NOTE: Only in cases where ACOE jurisdiction is triggered by any wetland or waterway fill on a property, can they consider the full scope of a project's environmental impact, both to aquatic resources and upland resources. It is through this jurisdictional trigger that secondary impacts to the aquatic resources (i.e., work in the upland VP Management Areas) are evaluated by ACOE (Figure 2).

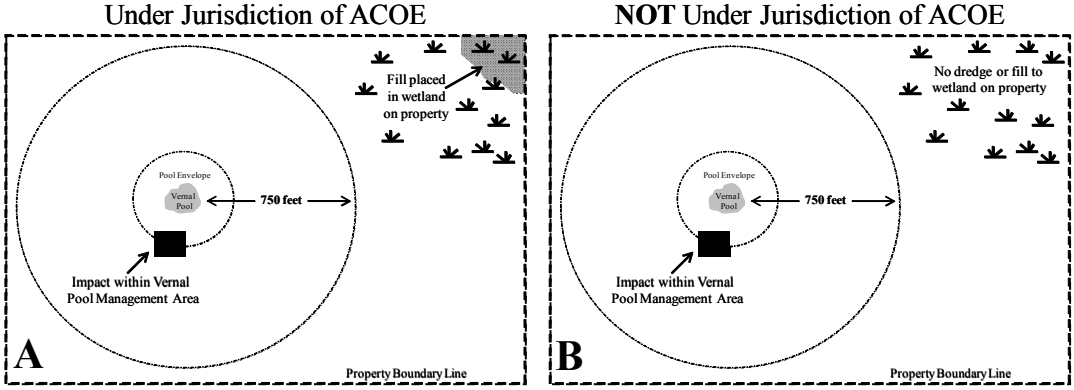


Figure 2: A - fill of a wetland or waterway anywhere on property requires the ACOE to consider secondary impacts caused by work in VP Management Areas. B - without wetland fill on the property the same activities are not considered by the ACOE.

For example, assuming ACOE jurisdiction is triggered on a project (e.g., 20 square feet of wetland fill on the property but not within the Vernal Pool Management Area), Category 1 of the GP requires the following: no disturbance of the VP depression; no disturbance of the VP Envelope; and maintaining a minimum of 75% of the Critical Terrestrial habitat as unfragmented areas (Figure 3A). Calculating the percent cover loss must include existing unforested areas (roads, fields, power lines, development, etc.) as well as proposed clearing. Failure to meet these standards (Figure 3B) requires at least a Category 2 review and submission of an application to ACOE which must include information on directional buffers in accordance with the VP Directional Buffer Guidance document at http://www.nae.usace.army.mil/reg/Permits/VPDirectionalBufferGuidance.pdf. If there is no fill proposed in waters of the U.S. on the property then there is **no** ACOE jurisdiction (Figure 2B).

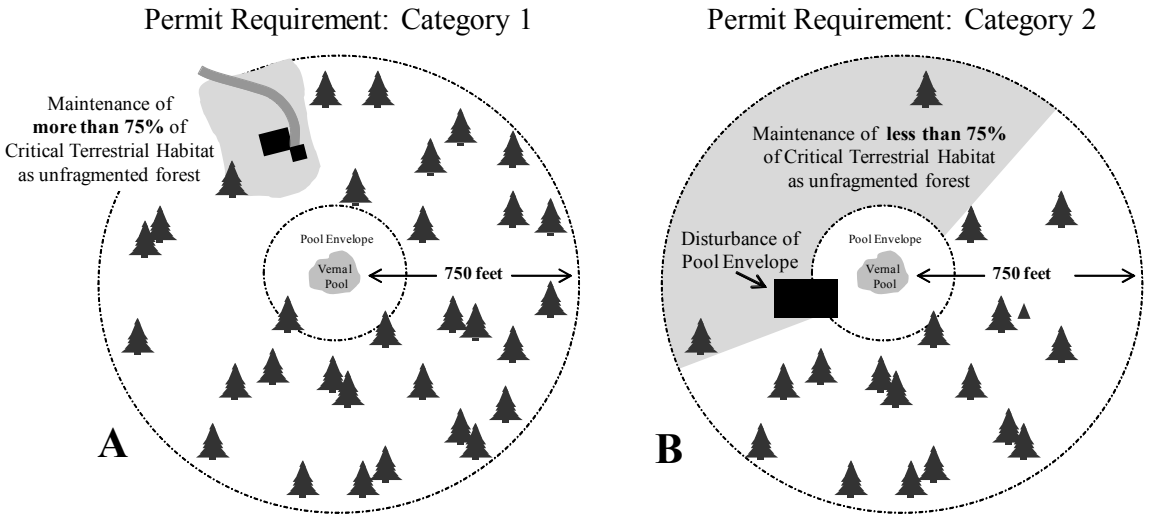


Figure 3: ACOE permitting requirements **A-**Category 1 Permit required if there is no disturbance to the Vernal Pool Depression or Vernal Pool Envelope and a minimum of 75% of the Critical Terrestrial Habitat is maintained as unfragmented forest, **B-**Category 2 Permit required if disturbance is made to the Vernal Pool Depression or Vernal Pool Envelope, or less than 75% of Critical Terrestrial Habitat is converted from unfragmented forest.

State Regulation

Maine wetlands are regulated under the Natural Resources Protection Act (NRPA, Chapter 335) along with other sensitive natural resources including fragile mountain areas, rivers and streams, great ponds, coastal dunes, and Significant Wildlife Habitats. Permit and review procedures for habitat alteration of freshwater wetlands are based upon the size of impact with review and reporting requirements only initiated for proposed impacts equal or greater than 4,300 square feet (roughly 1/10 acre).

Significant Vernal Pools

In September 2006, Maine passed legislation under NRPA to regulate Significant Vernal Pools as Significant Wildlife Habitat. Significant Wildlife Habitats host high concentrations of important wildlife populations and receive careful environmental review that may lead to restrictions on certain intensive land-use activities within and adjacent to the SWH, even if the adjacent land is not wetland. SWHs include seabird nesting islands, deer wintering areas, shorebird concentration areas, coastal and inland waterfowl and wading bird areas, and Significant Vernal Pools. MDIFW recognizes the importance of vernal pools to pool-breeding amphibians, invertebrates, and other game and nongame wildlife, including several rare and endangered species. To date, SVPS represent only a high value subset of the total statewide vernal pool resource (between 20 and 25%).

Definition of Significant Vernal Pools (as defined in NRPA)

Vernal Pool: A vernal pool, also referred to as a seasonal forest pool, is a natural, temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition.

"Whether a vernal pool is a significant vernal pool is determined by the number and type of pool-breeding amphibian egg masses in a pool, or the presence of fairy shrimp (*Eubranchipus* spp.) or use by threatened or endangered species as specified in Section 9(B). Significant Vernal Pool habitat consists of a vernal pool depression and a portion of the critical terrestrial habitat within a 250-foot radius of the spring or fall high water mark of the depression. An activity that takes place in, on, over, or adjacent to a Significant Vernal Pool habitat must meet the standards of this chapter."

Significant Vernal Pool identification criteria: Vernal pool significance must be determined and documented by an individual who has experience and training in either wetland ecology or wildlife ecology and therefore has qualifications sufficient to identify and document a significant vernal pool.

1. **Abundance**. Any one of or combination of the following species abundance levels, documented in any given year, determine the significance of a vernal pool.

Species	Abundance Criteria
Fairy Shrimp	Presence in any life stage
Blue-spotted Salamanders	Presence of 10 or more egg masses
Spotted Salamanders	Presence of 20 or more egg masses
Wood Frogs	Presence of 40 or more egg masses

2. **Rarity**. A pool that has documented use in any given year by state-listed rare, endangered, or threatened species that commonly require a vernal pool to complete a critical portion of their life-history is a significant vernal pool. Examples of vernal pool dependent state-listed endangered or threatened species include, but are not limited to, Blanding's Turtles, Spotted Turtles, and Ringed Boghaunter dragonflies.

The NRPA provides guidance on optimal dates based on geographic location to survey pools to determine significance. Generally, at least two visits are needed to make an accurate determination, one during *peak wood frog breeding* and one during *peak salamander breeding* periods.

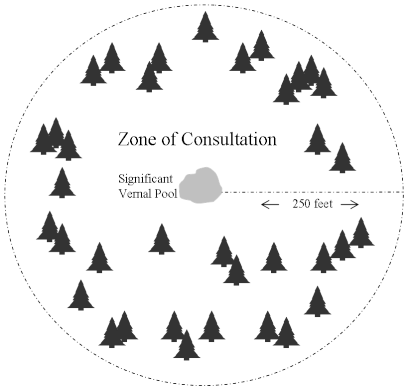


Figure 4: Regulated *Zone of Consultation* within 250 feet of a Significant Vernal Pool.

Regulated area associated with a SVP

The pool depression and a 250 foot circular "zone of consultation" is regulated (Figure 4). Any activity in, on, or over the SVP or the 250 foot critical terrestrial habitat zone must avoid unreasonable impacts to the significant vernal pool habitat and obtain approval from the MDEP, either through Permit by Rule (a streamlined permitting process) or a full individual NRPA permit.

Standards for compliance with the SVP regulation

- No disturbance within the vernal pool depression.
- Maintain minimum of 75% of critical terrestrial habitat as unfragmented forest with at least a partly-closed canopy of overstory trees to provide shade, deep leaf litter and woody debris.
- Maintain or restore forest corridors connecting wetlands and significant vernal pools.
- Minimize forest floor disturbance.
- Maintain native understory vegetation and downed woody debris.

Local Regulation

Some Maine towns have implemented local ordinances pertinent to wetlands, and more specifically, to vernal pools (e.g., Falmouth, Cape Elizabeth, South Portland, Bar Harbor, and North Yarmouth) that are more restrictive than state or federal rules. A town interested in maintaining the ecological integrity of its natural resources might be concerned by the loss at the local level despite protection at the state and federal level. Municipal ordinances enable a more tailored approach to protection that is specific to known resources at the municipal scale. For this reason, it is important to check with town officials before the area around a potential vernal pool is altered.

Frequently Asked Questions

1. How does a landowner know if s/he needs a permit to impact a vernal pool from either the ACOE or MDEP?

Town officials or consultants can provide you with guidance, you can contact state officials directly, or you can contact the ACOE for information on the ME GP. A natural resource professional can determine whether or not you have a vernal pool on your property. ACOE and MDEP staff are available to meet with landowners in the field as well (see contact information below).

2. Are all vernal pools regulated by ACOE?

ACOE does not regulate VPs per se. For ACOE to regulate a vernal pool, it must be a wetland or waterway of the United States, be contained within a wetland or waterway of the United States, or (as noted above) occur on a property in which jurisdiction over impacts to upland is triggered based on review of impacts to a wetland or water body on the property.

3. Are all vernal pools regulated by the State?

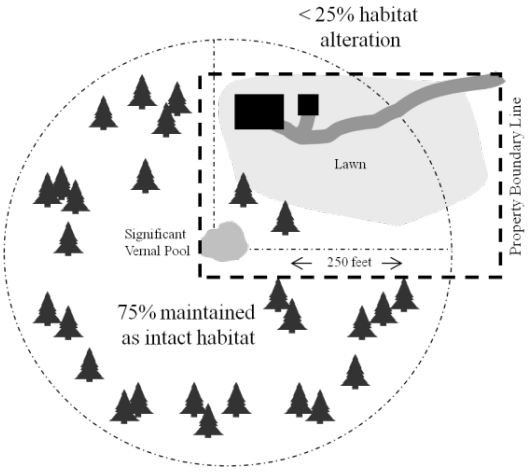
No. Only a subset of pools defined as Significant Vernal Pools are regulated. Of the approximately 1200 vernal pools formally surveyed to date statewide, only 20-25% qualify as SVPs.

4. Do Significant Vernal Pools have to be mapped to be regulated?

No. Significant Vernal Pools are subject to specific land use protection standards whether or not they are documented on town or state maps. Landowners are responsible for acquiring relevant permits whether or not vernal pools on their land are mapped.

5. Is the 250 foot zone around a SVP a no-build zone?

No. Think of this zone as a "zone of consultation" where the goal is to minimize adverse impacts to the habitat. When developing within 250 feet of a SVP, the goal is to retain a minimum of 75% of the habitat intact and follow guidelines outlined in the MDEP rules, Chapter 335. Landowners may need to get a permit from the MDEP for development within this zone (see additional resources below).

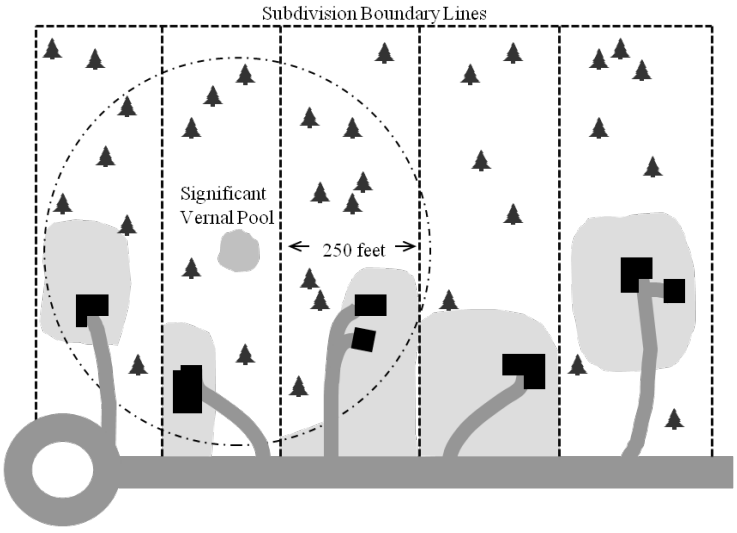


6. Why does regulation limit intensive development in the area adjacent to a vernal pool?

Pool-breeding amphibians often travel hundreds of feet into the terrestrial habitat surrounding their breeding pools where, as adults, they spend only a few weeks in the spring. The rest of the year most adults and juveniles are located within 750 feet of the pool where they feed in the summer and hibernate in the winter. The 250 ft zone around the pool only protects a portion of their upland habitat needs (and only a portion of the population) and provides protection for newly emerged juveniles overwintering near the pool. Adequate forest canopy cover is necessary for providing a cool, moist environment for the amphibians as well as for providing organic material to the pool and forest floor. It is because of the wide dispersion of adults and juveniles that ACOE considers development impacts within 750' of the VP depression. This is a clear difference between the state and federal programs.

7. Will a Significant Vernal Pool in the middle of a proposed subdivision make the land unbuildable?

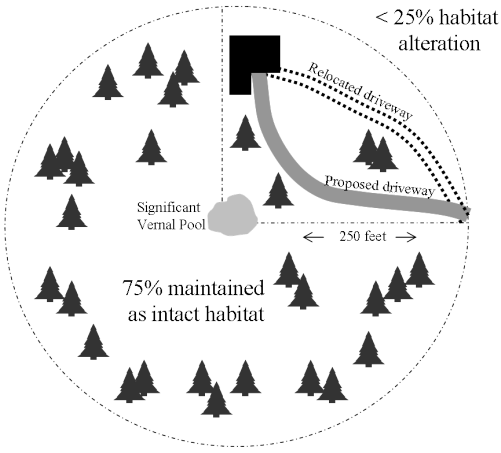
No. Each landowner is permitted to impact a portion the area within 250 ft of the pool. The example below shows a subdivision where lots were laid out to enable construction of three 2- acre house lots where ***within a 4 acre regulated zone*** *the developer was able to include a 20x100 foot driveway and a 12,000 square foot building envelope for each of the three house lots.*



Within the 4 acre regulated area around SVP:

3 lots x 20x100 foot driveway = 6,000 square feet
3 lots x 12,000 square foot building envelope = 36,000 square feet
Total = 42,000 square feet < 1 acre (43,560 square feet), which is < 25% of (4 acre) regulated area

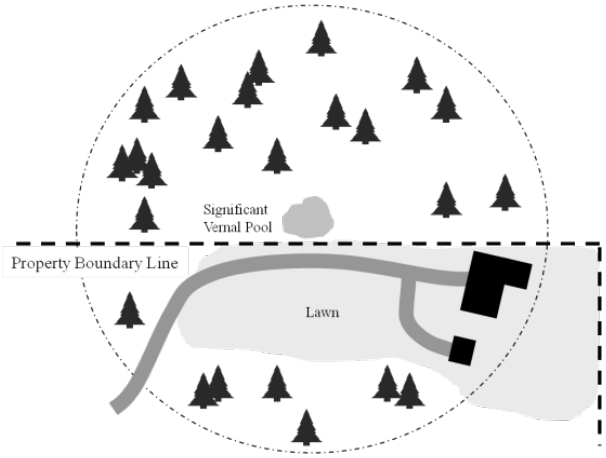
8. If a landowner has a SVP and wants to build a structure or driveway, how might they need to modify their project?



In this example, the landowner has adjusted the location of the driveway to provide more forested habitat in the immediate vicinity of the pool. The MDEP and ACOE work directly with the landowner to come up with flexible solutions.

9. If a landowner doesn't own the Significant Vernal Pool, but the 250 foot regulated zone extends onto their property, do they need to get a permit from MDEP?

Sometimes. When a pool is located on a property abutting a proposed project and the 250' critical habitat extends into it, the project is not affected by the vernal pool regulation unless the pool has been formally surveyed, found to be significant and is on the State's vernal pool GIS data layer. Only then will an abutter be subject to the land use performance standards detailed for SVP's under the NRPA. Locations of currently mapped vernal pools may be viewed using Google Earth software. For more information see: http://www.maine.gov/dep/gis/datamaps/.



10. How will a landowner be regulated if they own a SVP but not the majority of the 250 foot zone around the pool?

Each landowner is only required to maintain a minimum of 75% forest cover on that portion of the SVP habitat that they own or hold title to. Stated differently, if an abutting neighbor has already converted 25% of their portion of the SVP habitat the current landowner is still permitted to convert up to 25% of the SVP habitat that they control.

11. How will a landowner be regulated if they own a SVP but the 250 ft zone is *already* less than 75% forested?

Land use clearing within a SVP habitat that occurred prior to 2006 is exempted from regulation; but if existing clearing within the SVP habitat is already more than 75%, no further clearing can be conducted by the landowner without consultation and permitting with MDEP.

As previously noted, ACOE considers the cumulative impact of cover loss to a VP, existing cover loss and proposed. Generally the greater the loss, the greater the potential impact, and the more difficult the application process will be (ACOE and MDEP).

12. Does a landowner have to wait until the spring vernal pool season before they can break ground for development?

Permit by Rule is an option extended to landowners to allow them to develop within the 250 foot zone of ***any*** *vernal pool before it has been assessed, by assuming it is a SVP and meeting development standards of surrounding forested habitat. Permit by Rule allows for speedy development without a formal assessment of pool status during the spring breeding season. PBR can generally be obtained in two weeks and costs roughly ¼ of the fee required for a full permit (2010 permit application fees: $65 for PBR and $271 for full permit).*

Additional Resources

Maine Department of Environmental Protection
Vernal Pool Factsheet: www.maine.gov/dep/blwq/docstand/nrpa/vernalpools/fs-vernal_pools_intro.htm
Google Earth file showing regulatory status of mapped vernal pools: http://www.maine.gov/dep/gis/datamaps/
SVP rules, application forms, and related materials: http://www.maine.gov/dep/blwq/docstand/nrpapage.htm

ACOE
State General Permit: http://www.nae.usace.army.mil/reg/Permits/ME_GP.pdf
Directional Buffers: http://www.nae.usace.army.mil/reg/Permits/VPDirectionalBufferGuidance.pdf

Maine Forest Service
Vernal Pool Best Management Practice Fact Sheet: http://www.maine.gov/doc/mfs/pubs/pdf/fpminfo/14vernalpool.pdf

University of Maine
Informational Website on Vernal Pools: http://www.maine.edu/vernalpools

Maine Audubon
Significant Vernal Pool Factsheet: http://www.maineaudubon.org/resource/documents/VP.8.5x11.pdf

Contact Information

MDEP Central ME Regional Office
17 State House Station, Augusta, ME 04333-0017; Phone: 207-287-390 or 1-800-452-1942
MDEP Eastern ME Regional Office
106 Hogan Road , Bangor , ME 0440; Phone: 207-941-4570 or 1-888-769-1137
MDEP Northern ME Regional Office
1235 Central Drive, Skyway Park; Presque Isle, ME 04769; Phone: 207-764-0477 or 1-888-769-1053
MDEP Southern ME Regional Office
312 Canco Road, Portland , ME 04103; Phone: 207-822-6300 or 1-888-769-1036.
ACOE ME Project Office
675 Western Avenue #3, Manchester, Maine 04351; Phone: 207-623-8367