

# Vernal Pools

Water and oxygen pass through amphibian skin, making them especially vulnerable to pollutants.

Depressions in the ground that can hold water for at least two consecutive months, generally from winter to spring, are called vernal pools. These pools are generally dry in the summer and fall. As a result they do not support fish populations that eat amphibian eggs and larvae.

With the onset of spring rains, frogs, toads and salamanders emerge from their winter dens. In the cloak of darkness they migrate, for breeding, to vernal pools filled with winter melts and early season rains.

Species known as obligate vernal pool breeders have evolved to use this fish-free habitat to successfully breed. Some of New Jersey's amphibians can breed in both vernal pools and in waters that host fish. These species are facultative vernal pool breeders.



These pools also support unique plant species adapted to the water cycles of wet and dry. They are a threatened ecosystem and New Jersey is seeking to map and thereby protect them.



**Broadleaf Arrowhead**  
*Sagittaria latifolia*

It is illegal to kill, harass, or collect any native, non-game wildlife.

**Threats that face amphibians:** Pollution, road mortality, off-road vehicles, poaching by humans, and loss of habitat, especially wetlands; fertilizers, pesticides and herbicides used by homeowners and for agriculture also have adverse impacts.



**Northern Spring Peeper**  
*Pseudacris crucifer crucifer*

- When many individuals are present, the Northern Spring Peeper produces a chorus of loud, high-pitched cries.



**Bullfrog**  
*Rana catesbeiana*

- The Bullfrog has a call like the sound of a braying bull.



**Green Frog**  
*Rana clamitans melanota*

- The Green Frog sounds like the twang of a banjo.



**Pine Barrens Tree Frog**  
*Hyla andersonii*

- Tree frogs have toes that are equipped with suction-cup-like tips, allowing them to cling to vertical surfaces.



**Northern Gray Tree Frog**  
*Hyla versicolor*



Frogs' eyes have nearly a 360° view, making them difficult to capture.

**Green Frog**

- Every species of frog has its own unique call.
- The tympanum or large circle behind a frog's eye is actually its eardrum, especially prominent on the bullfrog.
- A keen sense of hearing helps frogs pair during breeding season.



**Salamander**



**Tadpole**

- Salamanders and tadpoles (larval frogs) can regenerate lost limbs; adult frogs cannot.

You Can Help!

- When operating vehicles, avoid running over reptiles and amphibians in roadways.
- Minimize or eliminate the use of fertilizers, pesticides and herbicides.
- Do not purchase wild amphibians. Always get proof of a pet's origin.
- Don't relocate amphibians or other wildlife. This often introduces diseases to other populations.
- Do not use poisons to kill rodents; use mechanical traps when necessary. Poisons can kill non-target species.
- Consider installing vernal pools and do not fill in depressions that create pools.
- Do not disturb or fill wetlands. It is illegal to fill wetlands without a state permit.