Wetlands

Wetlands are vegetated ecosystems characterized by abundant water. Vermont's wetlands range from small vernal pools and seeps to vast swamps and marshes covering thousands of acres.

Ecological Functions

Wetlands store water and attenuate downstream flooding. They maintain water quality by trapping sediments and removing nutrients and pollutants. Shoreline wetlands protect against erosion during floods and storms. Many wetlands are associated with groundwater discharge and form the headwaters of many cold-water streams. Wetlands provide important wildlife habitat and spawning and nursery habitat for fish species. Wetlands in Vermont provide habitat for a disproportionately high percentage of rare species. As climate change brings more frequent and larger storm events, and results in warmer surface waters, wetland functions will become even more important.

Vernal pools are a special type of wetland that provides critical breeding habitat for wood frogs and several salamander species, including spotted salamanders. These species migrate to vernal pools for spring breeding from the adjacent upland forests where they spend the majority of their life cycles. Eggs are laid in the pools and amphibian larvae develop and mature there. The mature amphibians then move to the adjacent forest for the fall and winter.

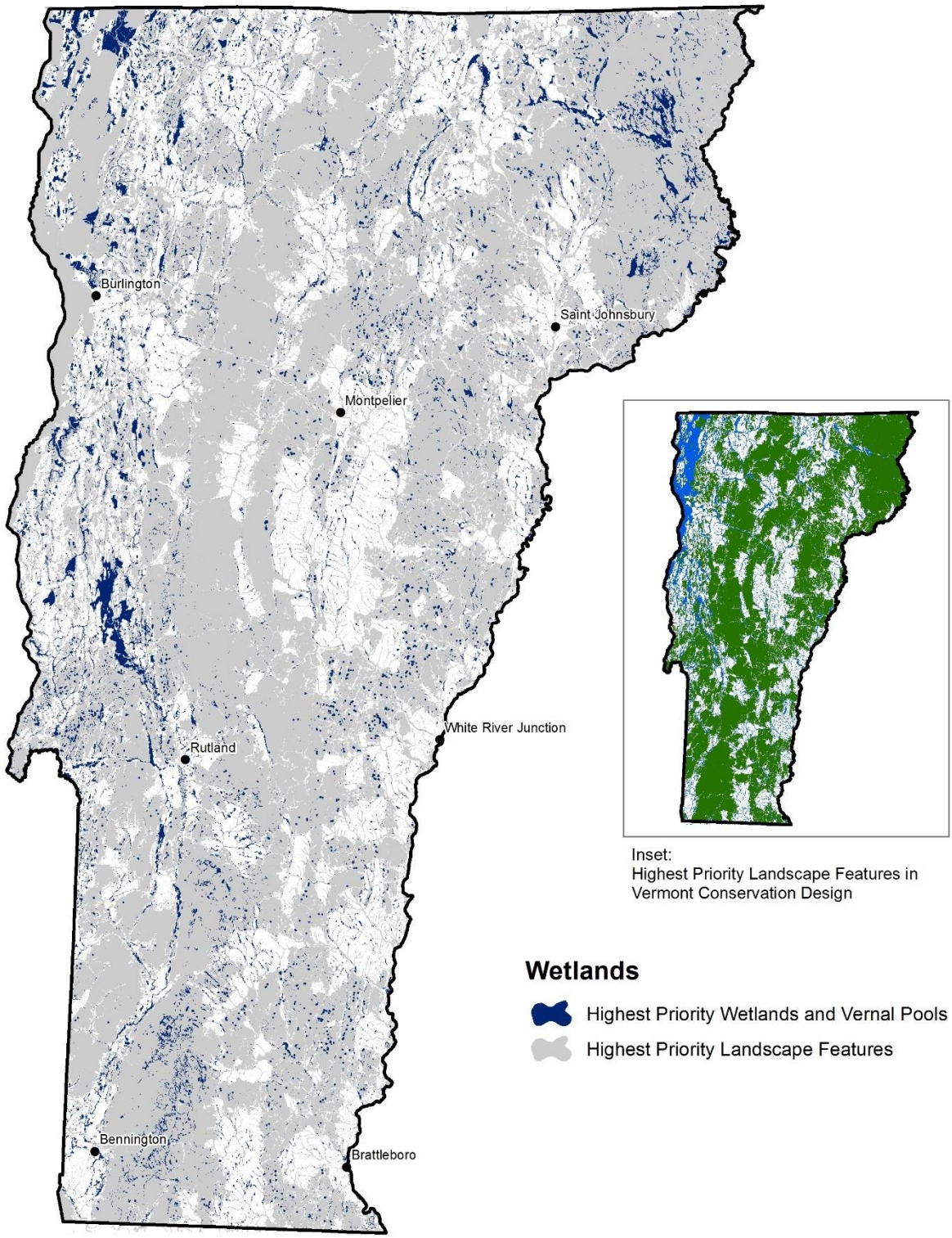
Highest Priority Features and Guidelines for Maintaining Ecological Function

Vermont Conservation identifies a set of wetlands and vernal pools that are highest priority for maintaining ecological function. These are primarily wetlands and vernal pools associated with the landscape-scale forest blocks and riparian areas. It also includes wetlands in degraded watersheds where wetland functions are especially critical for water quality, water storage, and erosion control.

Wetland functions can be conserved by maintaining or restoring natural ecological conditions, including unaltered soils and hydrology, native vegetation appropriate to the site, and suitable conditions for native fish and wildlife species. Conservation should account for appropriate upland buffer zones, the ecological processes that support wetlands (especially hydrology), and a network of connected lands, waters, and riparian areas to allow ecological exchange between wetlands. More than 35% of the original wetlands in Vermont have been lost to agriculture, development, and other land uses, so wetland restoration is needed to achieve full ecological function across the landscape. For vernal pools, special attention is needed to maintain or enhance conditions in and around the pool for pool-breeding obligate species. In addition to the guidelines above, maintain or restore a mostly closed forest canopy with native species, abundant coarse woody debris, and a lack of artificial barriers to salamander movement in the 650 feet of forest adjacent to the vernal pool.

For more information on wetlands, see the following sections in the Part 2 Vermont Conservation Design Technical Report:

- Wetlands
- Vernal Pools



Map 9. Highest Priority Wetlands and Vernal Pools. Mapping represents the best current knowledge; additional highest priority wetlands and vernal pools exist that are not shown on the map.