

VERMONT WETLAND EVALUATION FORMProject Name: TDI NECPL Project #: 57666Date: 6/20/2014 Investigator: PBW**SUMMARY OF FUNCTIONAL EVALUATION:**

Each function gets a score of 0= not present; L = Low; P = Present; or H = High.

1. Water Storage for Flood Water and Storm Runoff P	6. Rare, Threatened, and Endangered Species Habitat 0
2. Surface & Ground Water Protection P	7. Education and Research in Natural Sciences 0
3. Fish Habitat 0	8. Recreational Value and Economic Benefits 0
4. Wildlife Habitat 0	9. Open Space and Aesthetics 0
5. Exemplary Wetland Natural Community 0	10. Erosion Control through Binding and Stabilizing the Soil P

Note:

- **When to use this form:** This is a field form to help you compile data needed to evaluate the 10 possible functions and values of a wetland as described in the Vermont Wetland Rules. All information in this form is replicated in the applications for both wetland determinations and wetland permits.
- **Both a desktop review and field examination** should be employed to accurately determine surrounding land use, hydrology, hydroperiod, vegetation, position in the landscape, and physical attributes.
- **The entire wetland or wetland complex** in question must be evaluated to determine the level of function in all ten (10) categories for accurate classification. A wetland complex can be defined as a series of interconnected wetland types.
- **The surrounding upland and outflow area** of the wetland should be examined to determine land use, development, nearby natural resources, and hydrology. The surrounding land use, previous development, and cumulative impacts may play a role in the current function of the wetland. For best results please read all descriptions prior to scoring activity.
- **Evaluation:** The first portion in each section determines whether the wetland does or does not provide the function. If none of the conditions listed in the first section are met, proceed

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to the next section. If any of these conditions are met, determine if the wetland provides this function at a higher or lower level based on the information listed in the subsequent sections.

- **Presumptions:** Please note that many wetlands are already presumed to be significant under the Vermont Wetland Rules. A wetland is presumed to be significant if:
 - The wetland is mapped on the VSWI map
 - The wetland is contiguous to a VSWI mapped wetland
 - The wetland meets the presumptions of significance under Section 4.6
 - The wetland has a preliminary determination that it is Class II

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1. Water Storage for Flood Water and Storm Runoff

☒ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.

☐ Constricted outlet or no outlet and an unconstricted inlet.

☒ Physical space for floodwater expansion and dense, persistent, emergent vegetation or dense woody vegetation that slows down flood waters or stormwater runoff during peak flows and facilitates water removal by evaporation and transpiration.

☐ If a stream is present, its course is sinuous and there is sufficient woody vegetation to intercept surface flows in the portion of the wetland that floods.

☒ Physical evidence of seasonal flooding or ponding such as water stained leaves, water marks on trees, drift rows, debris deposits, or standing water.

☐ Hydrologic or hydraulic study indicates wetland attenuates flooding.

If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level:

☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *lower* level.

☐ Significant flood storage capacity upstream of the wetland, and the wetland in question provides this function at a negligible level in comparison to upstream storage (unless the upstream storage is temporary such as a beaver impoundment).

☐ Wetland is contiguous to a major lake or pond that provides storage benefits independently of the wetland.

☐ Wetland's storage capacity is created primarily by recent beaver dams or other temporary structures.

☐ Wetland is very small in size, not contiguous to a stream, and not part of a collection of small wetlands in the landscape that provide this function cumulatively.

☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *higher* level.

☐ History of downstream flood damage to public or private property.

☐ Any of the following conditions present downstream of the wetland, but upstream of a major lake or pond, could be impacted by a loss or reduction of the water storage function.

☐ 1. Developed public or private property.

☐ 2. Stream banks susceptible to scouring and erosion.

☐ 3. Important habitat for aquatic life.

☐ The wetland is large in size and naturally vegetated.

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☐ Any of the following conditions present upstream of the wetland may indicate a large volume of runoff may reach the wetland.

☐ 1. A large amount of impervious surface in urbanized areas.

☐ 2. Relatively impervious soils.

☐ 3. Steep slopes in the adjacent areas.

2. Surface and Ground Water Protection

☒ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.

☐ Constricted or no outlets.

☒ Low water velocity through dense, persistent vegetation.

☒ Hydroperiod permanently flooded or saturated.

☐ Wetlands in depositional environments with persistent vegetation wider than 20 feet.

☐ Wetlands with persistent vegetation comprising a defined delta, island, bar or peninsula.

☐ Presence of seeps or springs.

☐ Wetland contains a high amount of microtopography that helps slow and filter surface water.

☐ Position in the landscape indicates the wetland is a headwaters area.

☒ Wetland is adjacent to surface waters.

☐ Wetland recharges a drinking water source.

☐ Water sampling indicates removal of pollutants or nutrients.

☐ Water sampling indicates retention of sediments or organic matter.

☐ Fine mineral soils and alkalinity not low.

☐ The wetland provides an obvious filter between surface water or ground water and land uses that may contribute point or nonpoint sources of sediments, toxic substances or nutrients to the wetland, such as: steep erodible slopes; row crops; dumps; areas of pesticide, herbicide or fertilizer application; feed lots; parking lots or heavily traveled road; and septic systems.

If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level.

☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *lower* level.

☐ Presence of dead forest or shrub areas in sufficient amounts to result in diminished

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nutrient uptake.

☐ Presence of ditches or channels that confine water and restrict contact of water with vegetation.

☐ Wetland is very small in size, not contiguous to a stream, and not part of a collection of small wetlands in the landscape that provide this function cumulatively.

☐ Current use in the wetland results in disturbance that compromises this function.

☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *higher* level.

☐ The wetland is adjacent to a well head or source protection area, and provides ground water recharge.

☐ The wetland provides flows to Class A surface waters.

☐ The wetland contributes to the protection or improvement of water quality of any impaired waters.

☐ The wetland is large in size and naturally vegetated.

3. Fish Habitat

☐ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.

☐ Contains woody vegetation that overhangs the banks of a stream or river and provides any of the following: shading that controls summer water temperature; cover including refuges created by overhanging branches or undercut banks; source of terrestrial insects as fish food; or streambank stability.

☐ Provides spawning, nursery, feeding or cover habitat for fish (documented or professionally judged). Common habitat includes deep marsh and shallow marsh associates with lakes and streams, and seasonally flooded wetlands associated with streams and rivers.

☐ Documented or professionally judged spawning habitat for northern pike.

☐ Provides cold spring discharge that lowers the temperature of receiving waters and creates summer habitat for salmonoid species.

☐ The wetland is located along a tributary that does not support fish, but contributes to a larger body of water that does support fish. The tributary supports downstream fish by providing cooler water, and food sources.

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4. Wildlife Habitat

- ☐ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.
 - ☐ Provides resting, feeding staging or roosting habitat to support waterfowl migration, and feeding habitat for wading birds. Good habitats for these species include open water wetlands.
 - ☐ Habitat to support one or more breeding pairs or broods of waterfowl including all species of ducks, geese, and swans. Good habitats for these species include open water habitats adjacent shallow marsh, deep marsh, shrub wetland, forested wetland, or naturally vegetated buffer zone.
 - ☐ Provides a nest site, a buffer for a nest site or feeding habitat for wading birds including but not limited to: great blue heron, black-crowned night heron, green-backed heron, cattle egret, or snowy egret. Good habitats for these species include open water or deep marsh adjacent to forested wetlands, or standing dead trees.
 - ☐ Supports or has the habitat to support one or more breeding pairs of any migratory bird that requires wetland habitat for breeding, nesting, rearing of young, feeding, staging roosting, or migration, including: Virginia rail, common snipe, marsh wren, American bittern, northern water thrush, northern harrier, spruce grouse, Cerulean warbler, and common loon.
 - ☐ Supports winter habitat for white-tailed deer. Good habitats for these species include softwood swamps. Evidence of use includes deer browsing, bark stripping, worn trails, or pellet piles.
 - ☐ Provides important feeding habitat for black bear, bobcat, or moose based on an assessment of use. Good habitat for these types of species includes wetlands located in a forested mosaic.
 - ☐ Has the habitat to support muskrat, otter or mink. Good habitats for these species include deep marshes, wetlands adjacent to bodies of water including lakes, ponds, rivers and streams.
 - ☐ Supports an active beaver dam, one or more lodges, or evidence of use in two or more consecutive years by an adult beaver population.
 - ☐ Provides the following habitats that support the reproduction of Uncommon Vermont amphibian species including:
 - ☐ 1. Wood Frog, Jefferson Salamander, Blue-spotted Salamander, or Spotted Salamander. Breeding habitat for these species includes vernal pools and small ponds.
 - ☐ 2. Northern Dusky Salamander and the Spring Salamander. Habitat for these species includes headwater seeps, springs, and streams.
 - ☐ 3. The Four-toed salamander; Fowler's Toad; Western or Boreal Chorus frog, or other amphibians found in Vermont of similar significance.

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- ☐ Supports or has the habitat to support significant populations of Vermont amphibian species including, but not limited to Pickerel Frog, Northern Leopard Frog, Mink Frog, and others found in Vermont of similar significance. Good habitat for these types of species includes large marsh systems with open water components.
- ☐ Supports or has the habitat to support populations of uncommon Vermont reptile species including: Wood Turtle, Northern Map Turtle, Eastern Musk Turtle, Spotted Turtle, Spiny Softshell, Eastern Ribbonsnake, Northern Watersnake, and others found in Vermont of similar significance.
- ☐ Supports or has the habitat to support significant populations of Vermont reptile species, including Smooth Greensnake, DeKay's Brownsnake, or other more common wetland-associated species.
- ☐ Meets four or more of the following conditions indicative of wildlife habitat diversity:
 - ☐ 1. Three or more wetland vegetation classes (greater than 1/2 acre) present including but not limited to: open water contiguous to, but not necessarily part of, the wetland, deep marsh, shallow marsh, shrub swamp, forested swamp, fen, or bog;
 - ☐ 2. The dominant vegetation class is one of the following types: deep marsh, shallow marsh, shrub swamp or, forested swamp;
 - ☐ 3. Located adjacent to a lake, pond, river or stream;
 - ☐ 4. Fifty percent or more of surrounding habitat type is one or more of the following: forest, agricultural land, old field or open land;
 - ☐ 5. Emergent or woody vegetation occupies 26 to 75 percent of wetland, the rest is open water;
 - ☐ 6. One of the following:
 - ☐ i. hydrologically connected to other wetlands of different dominant classes or open water within 1 mile;
 - ☐ ii. hydrologically connected to other wetlands of same dominant class within 1/2 mile;
 - ☐ iii. within 1/4 mile of other wetlands of different dominant classes or open water, but not hydrologically connected;
- ☐ Wetland or wetland complex is owned in whole or in part by state or federal government and managed for wildlife and habitat conservation; and
- ☐ Contains evidence that it is used by wetland dependent wildlife species.

If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level.

- ☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *lower* level.
 - ☐ The wetland is small in size for its type and does not represent fugitive habitat in

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developed areas (vernal pools and seeps are generally small in size, so this does not apply).

☐ The surrounding land use is densely developed enough to limit use by wildlife species (with the exception of wetlands with open water habitat). Can be negated by evidence of use.

☐ The current use in the wetland results in frequent cutting, mowing or other disturbance.

☐ The wetland hydrology and character is at a drier end of the scale and does not support wetland dependent species.

☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *higher* level.

☐ The wetland complex is large in size and high in quality.

☐ The habitat has the potential to support several species based on the assessment above.

☐ Wetland is associated with an important wildlife corridor.

☐ The wetland has been identified by ANR-F&W as important habitat.

5. Exemplary Wetland Natural Community

☐ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.

☐ Wetlands that are identified as high quality examples of Vermont's natural community types recognized by the Natural Heritage Information Project of the Vermont Fish and Wildlife Department, including rare types such as dwarf shrub bogs, rich fens, alpine peatlands, red maple-black gum swamps and the more common types including deep bulrush marshes, cattail marshes, northern white cedar swamps, spruce-fir-tamarack swamps, and red maple-black ash seepage swamps are automatically significant for this function.

The wetland is also likely to be significant if any of the following conditions are met:

☐ Is an example of a wetland natural community type that has been identified and mapped by, or meets the ranking and mapping standards of, the Natural Heritage Information Project of the Vermont Fish and Wildlife Department.

☐ Contains ecological features that contribute to Vermont's natural heritage, including, but not limited to:

☐ Deep peat accumulation reflecting a long history of wetland formation;

☐ Forested wetlands displaying very old trees and other old growth characteristics;

☐ A wetland natural community that is at the edge of the normal range for that type;

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- ☐ A wetland mosaic containing examples of several to many wetland community types; or
- ☐ A large wetland complex with examples of several wetland community types.

6. Rare, Threatened, and Endangered Species Habitat

- ☐ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.
 - ☐ Wetlands that contain one or more species on the federal or state threatened or endangered lists, as well as species that are rare in Vermont, are automatically significant for this function.

The wetland is also likely to be significant if any of the following apply:

 - ☐ There is credible documentation that the wetland provides important habitat for any species on the federal or state threatened or endangered species lists;
 - ☐ There is credible documentation that threatened or endangered species have been present in past 10 years;
 - ☐ There is credible documentation that the wetland provides important habitat for any species listed as rare in Vermont (S1 or S2 ranks), state historic (SH rank), or rare to uncommon globally (G1, G2, or G3 ranks) by the Natural Heritage Information Project of the Vermont Fish and Wildlife Department;
 - ☐ There is credible documentation that the wetland provides habitat for multiple uncommon species of plants or animals (S3 rank).

List name of species and ranking:

7. Education and Research in Natural Sciences

- ☐ Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function.
 - ☐ Owned by or leased to a public entity dedicated to education or research.
 - ☐ History of use for education or research.
 - ☐ Has one or more characteristics making it valuable for education or research.

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8. Recreational Value and Economic Benefits

- ☐ Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function.
- ☐ Used for, or contributes to, recreational activities.
 - ☐ Provides economic benefits.
 - ☐ Provides important habitat for fish or wildlife which can be fished, hunted or trapped under applicable state law.
 - ☐ Used for harvesting of wild foods.

Comments:

9. Open Space and Aesthetics

- ☐ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.
- ☐ Can be readily observed by the public; and
 - ☐ Possesses special or unique aesthetic qualities; or
 - ☐ Has prominence as a distinct feature in the surrounding landscape;
 - ☐ Has been identified as important open space in a municipal, regional or state plan.

10. Erosion Control through Binding and Stabilizing the Soil

- ☒ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.
- ☒ Erosive forces such as wave or current energy are present and any of the following are present as well:
 - ☒ Dense, persistent vegetation along a shoreline or stream bank that reduces an adjacent erosive force.
 - ☐ Good interspersion of persistent emergent vegetation and water along course of water flow.
 - ☐ Studies show that wetlands of similar size, vegetation type, and hydrology are important for erosion control.

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What type of erosive forces are present?

- ☐ Lake fetch and waves
- ☒ High current velocities
- ☐ Water level influenced by upstream impoundment

If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level.

☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *lower* level.

☐ The stream is artificially channelized and/or lacks vegetation that contributes to controlling the erosive force.

☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *higher* level.

☐ The stream contains high sinuosity.

☐ Has been identified through fluvial geomorphic assessment to be important in maintaining the natural condition of the stream or river corridor.