

**Vermont Agency of Natural Resources
Department of Environmental Conservation
Watershed Management Division**

**Class I Determination Rulemaking Decision
Issued Pursuant to Section 7 of the Vermont Wetland Rules**

In the matter of:

Town of West Haven

**Petition for the reclassification of the Ward Marsh Wetland Complex
from Class II to Class I with a 100-foot buffer zone.**

North side of Galick Road and the West side of Bay Road, West Haven, Vermont

File #:2018-787

The Secretary may, upon a petition or on his or her own motion, determine whether any wetland is a Class I wetland, pursuant to 29 V.S.A. § 410. The Secretary may establish the necessary width of a buffer zone of any Class I wetland as part of any wetland determination pursuant to the Rules. Section 4.2 of the VWR.

As required under 29 V.S.A. § 410 and Section 7 VWR, this wetland determination is based on an evaluation of the extent to which the wetland serves the functions and values of Rules, is **exceptional or irreplaceable in its contribution to Vermont's natural heritage** and, therefore, merits the highest level of protection. Public notice of this wetland determination has been given in accordance with Section 8.3 of the VWR.

Petition

1. A complete petition was received from the Town of West Haven for a Wetland Determination 2018-787.P on September 15, 2021 (Attachment 1). The Petition was accompanied by Supplemental information to document to what extent the wetland meets the criteria of a Class I wetland which are separate attachments in the appropriate sections of this document. The Wetland Determination was put on notice from September 23, 2021 until November 8, 2021. An in-person public meeting was held on November 1, 2021 at the West Haven Town Hall with a virtual option to attend. Zapata Courage, District Wetlands Ecologist, and Charlie Hohn, Wetlands Bioassessment Ecologist, conducted a site visit to the subject wetland on November 6, 2018.
2. The subject wetland in question is currently identified as a Class II wetland on the Vermont Significant Wetlands Inventory (VSWI) map; known locally as Ward Marsh (Attachment 2). The petition is to reclassify this wetland from Class II to Class I and to update the VSWI map to define the general location of the Class I wetland. A map of the proposed Class I wetland boundary and associated 100-foot buffer zone is provided as Attachment 3.
3. Ward Marsh is partially owned/managed by the Vermont Fish and Wildlife Department (VTFWD) as a Wildlife Management Area (WMA), The Nature Conservancy (TNC;

Buckner Preserve), and extends onto adjacent private lands. It is located on the north side of Galick Road and the west side of Bay Road on Bald Mountain peninsula, within the Lower Poultney River floodplain. The wetland complex is approximately 165 acres on the edge of the Poultney River behind a natural levee.

4. Ward Marsh is located on a peninsula in the southwestern corner of West Haven bounded to the west and south by Lake Champlain and to the east by the Poultney River. Ward Marsh is part of a series of wetland complexes along the river on both the Vermont (VT) and New York (NY) side of the river. Ward Marsh is adjacent to and hydrologically connected to the Poultney River and part of this significant undeveloped river corridor that stretches 22 miles. The wetland receives high water or flood waters on a regular frequency. This wetland complex includes state significant Cattail Marsh, Deep Bulrush Marsh, Wild Rice Marsh and Silver Maple-Sensitive Fern Riverine Floodplain Forest communities as documented in the VTFWD Element Occurrence Reports (EO), described in detail below. It supports numerous rare, threatened, or endangered species and is part of an Audubon Important Bird Area (IBA) as referenced under specific functions and values below. Ward Marsh is part of an overall system providing an east/west and north/south connectivity to Poultney River and other wetlands, with a river corridor, mountains, and forested area composed of ~8,000 acres which also provides an Adirondack connection as documented in specific sections below. Ward Marsh provides numerous functions and values at the highest level, described in more detail below.
5. Public comments were received from during the public comment period. A responsiveness summary is provided as Appendix A which includes a summary of comments and Agency responses (Attachment 4).

Findings

As required by 10 V.S.A. § 914 and Section 8 of the VWR, this wetland determination is based on an evaluation of the functions and values of the subject wetland as described in Section 5 of the VWR. Section 5 provides that in evaluating whether a wetland is a Class II or a Class I wetland, the Secretary shall evaluate the functions that the wetland serves both as a discrete wetland and in conjunction with other wetlands by considering detailed functional criteria. Consideration shall be given to the number of and/or extent to which protected functions and values are provided by a wetland or wetland complex.

1. As documented in Sections 5-15 of the Petition, the protected functions of the subject wetland include the following: water storage for flood water and storm runoff as described in Section 5.1 of the VWR; surface and groundwater protection (Section 5.2); fisheries habitat (Section 5.3); wildlife and migratory bird habitat (Section 5.4); exemplary wetland natural community (Section 5.5); rare, threatened and endangered species habitat (Section 5.6); education and research in natural science (Section 5.7); recreational value and economic benefits (Section 5.8); open space and aesthetics (Section 5.9). There is minimal erosion control through binding and stabilizing the soil and this function is not considered significant for the subject wetland (Section 5.10).
2. The following protected functions are considered exemplary or irreplaceable (Section 16 of the Petition): water storage for flood water and storm runoff as described in Section 5.1 of

the VWR; fisheries habitat (Section 5.3); wildlife and migratory bird habitat (Section 5.4); exemplary wetland natural community (Section 5.5); rare, threatened, and endangered species habitat (Section 5.6); and open space and aesthetics (Section 5.9).

3. **Water Storage for Flood Water and Storm Runoff**

Wetlands that provide for the temporary storage of floodwater or stormwater runoff to the extent that they make an important contribution to reducing risks to public safety, reducing damage to public or private property reducing downstream erosion or enhancing the stability of habitat for aquatic life are significant wetlands. Ward Marsh is significant for the water storage for flood water and storm runoff function as demonstrated in Section 6 of the petition and as confirmed through a site visit by Agency staff.

Ward Marsh is hydrologically connected to Poultney River and receives high water or flood waters on a regular frequency. As river levels rise, waters enter the wetland via the 72-inch culvert under the road, and as waters reach flood stage, the river overtops the road and berm and accesses the wetland. The wetland also receives stormwater runoff from the adjacent steep slopes. Review of the flood marks on trees within the wetland, floodwaters reach levels over 6 ft in depth across the wetland. The wetland is about 165 acres in size with a constricted outlet back to the river. This allows it to store a significant amount of flood waters thereby reducing velocities within the river and downstream flood damage. Given its proximity to Lake Champlain, it also helps to attenuate flooding along the lakeshore.

For these reasons, the Ward Marsh wetland complex is also considered exceptional and irreplaceable for the storage of floodwater and storm water runoff as indicated in Section 16 of the petition.

4. **Surface and Ground Water Protection**

Wetlands that make an important contribution to the protection or enhancement of the quality of surface or of ground water are significant wetlands. Ward Marsh is significant for the water storage for flood water and storm runoff function as demonstrated in Section 7 of the petition and as confirmed through a site visit by Agency staff.

Ward Marsh receives high water or flood waters from the Poultney River on a regular frequency. Sediments and pollutants are conveyed by floodwaters into the wetland where they are then attenuated through the dense persistent vegetation. In addition, any storm waters that flow off the steep slopes to the north towards the river are intercepted, reducing the movement of nitrogen and phosphorus into the river. The Poultney River in this area (mouth upstream to Carvers Falls) is on the 2018 List of Priority Surface Waters, Part D (impaired with approved TMDL).

5. **Fish Habitat**

Wetlands that are used for spawning by northern pike or that are important for providing fish habitat are significant wetlands. Ward Marsh is significant for the fish habitat function as demonstrated in Section 8 of the petition and as confirmed through a site visit by Agency staff.

Ward Marsh is hydrologically connected to the Poultney River via a large culvert allowing fish to enter and exit the wetland complex. The wetland provides an open water component of varying depth surrounded by emergent and woody vegetation. This access and depth

differences support the fish habitat function at a significant level. The diversity of habitats provides spawning, nursery, feeding or cover habitat for a variety of fish, including spawning habitat for northern pike as documented by the VTFWD. An inventory of common fish and wildlife by VTFWD within the WMA included the following fish species: Brown bullhead, white and yellow perch, large and small-mouth bass, walleye, eastern sand darter, northern pike, chain pickerel, and several minnow species. As stated by the VTFWD “The Poultney River is an Outstanding Resource Water. It is one of Vermont’s most biologically diverse rivers, to which the adjacent wetlands contribute.” (Attachment 5).

For these reasons, the Ward Marsh wetland complex is also considered exceptional and irreplaceable for the fisheries habitat as indicated in Section 16 of the petition.

6. Wildlife Habitat

Wetlands that support a significant number of breeding waterfowl, including all species of ducks, geese and swans, or broods of waterfowl or that provide important habitat for other wildlife and migratory birds are significant wetlands. Ward Marsh is significant for the wildlife habitat function as demonstrated in Section 9 of the petition and as confirmed through a site visit by Agency staff.

An inventory of common fish and wildlife by VTFWD within the WMA included documentation of at least 18 species of mammal; four (4) species of salamanders including the mudpuppy; six (6) frog/toad species; three (3) turtle species, and six (6) snake species (Attachment 5). In addition, 116 species of birds have been documented in or around the wetland on e-bird; many are wetland dependent. Ward Marsh is part of an Audubon IBA (Attachment 6).

The context of the wetland within the surrounding landscape and its overall size provides for a diversity of habitat and serves as a connection between habitats used by a variety of wildlife at different times of the year or during various stages in their life cycle. Ward Marsh contribution to wildlife habitat is further described in the evaluation of connectivity below and within Section 18.4 of the petition.

For these reasons, the Ward Marsh wetland complex is also considered exceptional and irreplaceable for the wildlife habitat as indicated in Section 16 of the petition.

7. Exemplary Wetland Natural Community

Wetlands that make an important contribution to Vermont’s natural heritage are significant wetlands. These include wetlands that are identified as high-quality examples of one of Vermont’s recognized natural community types. Ward Marsh is significant for the exemplary wetland natural community value as demonstrated in Section 10 of the petition and as confirmed through a site visit by Agency staff.

The State Natural Heritage program identified four natural communities within Ward Marsh that are considered state significant and representative examples of each. These natural communities are documented in the VTFWD EO Reports. These include Cattail Marsh (EO-7930), Deep Bulrush Marsh (EO-5702), Wild Rice Marsh (EO-7931), and Silver Maple-Sensitive Fern Riverine Floodplain Forest (EO-4739; Attachment 7). An approximate

representation of the natural communities occurring within Ward Marsh are included on an attached map (Attachment 8).

Overall, these natural community types within Ward Marsh are large in size, are dominated by the identified vegetative cover, and provide habitat components related to its representative ecology. See below for a brief summary of each wetland type. A more detailed description of how each wetland type is representative is further described in the evaluation of representative examples and rare types below and within Sections 17.1 and 17.2 of the petition.

The cattail marsh is extensive throughout Ward Marsh, as is the deep bulrush and wild rice marsh areas, creating a mosaic of habitat components influenced by the depth of water in given areas. Each provide specific habitat niches for wildlife. The cattail/deep bulrush/wild rice marsh mosaic is considered not only a representative community but is also in reference condition.

The Silver Maple-Sensitive Fern Floodplain Forest is the wettest riverine floodplain forest type occurring to the low gradient portions of VT's largest rivers. While the floodplain forest is representative of an exemplary wetland natural community, it is not yet of reference quality since it is overall a young forest, not containing any old growth.

For these reasons, the Ward Marsh wetland complex is also considered exceptional and irreplaceable for the exemplary wetland natural community value as indicated in Section 16 of the petition.

8. Rare, Threatened, and Endangered Species (RTE) Habitat

Wetlands that contain rare, threatened, or endangered species of plants or animals are significant wetlands. Ward Marsh is significant for the RTE species habitat function as demonstrated in Section 11 of the petition and as confirmed through a site visit by Agency staff.

Given the size of the marsh complex, the natural community types within it, and the surrounding landscape, this area and the wetland, in particular, provides a diversity of habitats that are used by at least nine (9) RTE species including birds, fish, reptiles/amphibians, and plant species as documented by the VTFWD EO reports, but kept confidential to protect these species and their specific locations. As described in the VTFWD WMA Factsheet, both the state endangered Eastern sand darter and little brown bat occur within or utilize Ward Marsh, as does one other state-endangered species (Attachment 5).

For these reasons, the Ward Marsh wetland complex is also considered exceptional and irreplaceable for the rare, threatened, or endangered species habitat function as indicated in Section 16 of the petition.

9. Education and Research in Natural Sciences

Wetlands that provide, or are likely to provide, valuable resources for education or scientific research are significant wetlands. Ward Marsh is significant for the education or scientific research value as demonstrated in Section 12 of the petition and as confirmed through a site visit by Agency staff.

Ward Marsh is partially owned and managed by the VTFWD as a WMA. The land to the west and north is owned by TNC. Both entities allow for public access and are involved in education and research. Known ongoing research and monitoring in the areas includes the Forest Bird Monitoring Project and annual monitoring of Peregrine Falcons. Ward Marsh is part of an Audubon IBA. There are numerous opportunities to conduct research in this wetland complex. Biologists routinely work in the marsh to monitor the size and health of local snake populations. Past research has been published: Correlation Between Frog Malformities and Heavy Metals in Ward Marsh, West Haven, Vt, and Mud Creek, Alburg, VT, authored by Andrew Wall; dated 1999 (Attachment 9).

10. Recreational Value and Economic Benefits

Wetlands that provide substantial recreational values or economic benefits are significant wetlands. Ward Marsh is significant for the recreational value as demonstrated in Section 13 of the petition and as confirmed through a site visit by Agency staff.

Ward Marsh is owned and managed as a State WMA with surrounding land owned by TNC. The wetland is significant for the fish and wildlife habitat it provides and the species it supports. This includes multiple furbearers which can be trapped, waterfowl for hunting, and numerous species of fish which are sought by fishermen. Both entities allow for public access. As the VTFWD states in the WMA Factsheet, "Recreation within the WMA is dominated by dispersed fish and wildlife-based pursuits including hunting, fishing, trapping, wildlife viewing, walking and hiking" (Attachment 5).

11. Open Space and Aesthetics

Wetlands that contribute substantially to the open-space and aesthetic character of the landscape are significant wetlands. Ward Marsh is significant for the open space and aesthetics value as demonstrated in Section 14 of the petition and as confirmed through a site visit by Agency staff.

Public use within Ward Marsh is allowed and encouraged. While its location is not on a well-traveled road, there is direct access by vehicles and boats and the wetland is a dominant feature that is readily seen by those traveling through on the river or visiting. Ward Marsh is in direct contrast to the high cliffs and open fields adjacent to it, making it unique in providing a different aesthetic quality within the landscape as seen from the trails that wind through the uplands surrounding it. The Town of West Haven specifically calls out Ward Marsh in their Town Plan, adopted March 2019. In order for the Town to protect its scenic resources "West Haven residents have identified the view from Bald Mountain, Buckner Preserve, and views along the Poultney River corridor to represent important scenic landmarks within the Town" (p 19; Attachment 10).

For these reasons, the Ward Marsh wetland complex is also considered exceptional and irreplaceable for open space and aesthetics function as indicated in Section 16 of the petition.

12. Erosion Control through Binding and Stabilizing Soil

Wetlands that are important for erosion control are significant wetlands. Such wetlands are typically located along stream, river, pond or lake shorelines, where erosive forces are present. Ward Marsh is not significant for the erosion control through binding and stabilizing

soil function as demonstrated in Section 15 of the petition and as confirmed through a site visit by Agency staff.

There is minimal erosion control due to the town road that runs alongside the eastern side of the marsh and the naturally occurring levee which separates the wetland from physically connecting to the Poultney River.

The Secretary shall also determine whether the wetland is exceptional or irreplaceable based on an evaluation of the extent to which the wetland contributes to Vermont's natural heritage. In determining whether a wetland is exceptional and/or irreplaceable in its contribution to Vermont's natural heritage the Secretary shall, at a minimum, consider the whether the wetland is categorized as one or more of the following:

13. The exceptional or irreplaceable characteristics of the wetland include the following: Representative Example of Wetland Type; Rare Community Type; Community Assemblage/Wetland Complex; and Landscape Association.

14. **Representative Example of Wetland Type**

Wetlands that are considered exceptional for this criterion exhibit a reference condition for the wetland type(s) with minimal evidence of human disturbance. Based on size, condition, quality and function, these wetlands represent a reference condition for wetland type, and are therefore exceptional.

The State Natural Heritage program identified four natural communities within Ward Marsh that are considered state significant and representative examples of each; Cattail Marsh (EO-7930), Deep Bulrush Marsh (EO-5702), Wild Rice Marsh (EO-7931), and Silver Maple-Sensitive Fern Riverine Floodplain Forest (EO-4739; Attachment 7). Overall, these natural community types within Ward Marsh are large in size, are dominated by the identified vegetative cover, and provide habitat components related to its representative ecology. As described in A Guide to the Natural Communities of Vermont Wetland, Woodland, Wildland by Thomson, Sorenson, and Zaino second edition 2019 each of the four natural community types identified exemplify a representative example. See below for a summary of each wetland type:

The cattail marsh is extensive throughout Ward Marsh, as is the deep bulrush and wild rice marsh areas, creating a mosaic of habitat components influenced by the depth of water in given areas. Because these natural communities intergrade, they typically are not distinct enough to map separately although dominance of vegetation in a given area may be distinct and each does provide specific habitat niches for wildlife. Cattail dominated areas provide habitat for multiple frog species and the common watersnake which may climb and hang from cattail stems (pg. 434). Numerous songbirds, wading birds nesting waterfowl utilize cattail marshes, many of which have been documented in this area such as the American and least bittern, marsh wren, swamp sparrow, red-winged blackbird, herons, Virginia rail, pied billed grebe, and common gallinule (Audubon IBA; Attachment 6). The bulrush dominated areas support similar species of birds but with deeper water and typically permanent areas of inundation, this natural community provides suitable habitat for the eastern musk turtle (pg. 444) which has been documented nearby. The wild rice dominated community supports

many of the same species as the other two marsh habitats but also provides important waterfowl food and habitat for animals such as the muskrat (pg. 441). The cattail/deep bulrush/wild rice marsh mosaic is considered not only a representative community but is also in reference condition.

The Ward's Marsh floodplain forest is representative but not of reference quality since it is overall a young forest, not containing any old growth. The Silver Maple-Sensitive Fern Floodplain Forest is the wettest riverine floodplain forest type occurring to the low gradient portions of VT's largest rivers. The silver maples provide for a large overarching closed canopy, shared in part by green ash and previously elm, with a dominance of sensitive fern as the herbaceous understory. It provides habitat for a couple of frog species and some migratory breeding bird species such as the great crested flycatcher, warbling vireo, yellow-throated vireo, and American redstart (pg. 309) which have all been documented in this area as well as both the green and black-crown night herons (Audubon IBA; Attachment 6).

15. Rare Community Type

Wetlands that are considered irreplaceable for this criterion contain unique or rare wetland community type(s) which may be slow-forming or near the extent of its natural range.

While none of the dominant wetland community types are considered rare in Vermont, the overall size of their coverage is unique.

16. Community Assemblage/Wetland Complex

Wetlands that are considered exceptional for this criterion are larger wetland complexes usually associated with, multiple wetland community types and bodies of water, which have high species diversity and function. These provide exceptional function and value.

As described in the Natural Communities of the Helen W. Buckner Memorial Preserve and Adjacent Lands at Bald Mountain and Austin Hill Report (2006; Attachment 11), Ward Marsh is adjacent to the Buckner Preserve located on a peninsula in the southwestern corner of West Haven bounded to the west and south by Lake Champlain and to the east by the Poultney River. The valley in which East Bay lies is about 0.25 miles wide and is bordered by steep-sided low mountains in both VT and NY. The valley's landscape is a complex of forested levee, forested floodplain and lower depressions filled with marsh or shrub swamp. This landscape of floodplain, wetland, and calcareous and non-calcareous mountain slopes and cliffs is one of the most fascinating in the state (VTFWD EO 4739; Attachment 7).

The West Haven peninsula has 27 mapped natural community types (pg. 7), with dry oak-hickory-hophornbeam forests dominant on the uplands with large marsh and floodplain communities in the lowlands (VTFWD EO 7931; Attachment 7). There are ~280 acres of marsh complex (Cattail Marsh, Deep Bulrush Marsh, and Wild Rice Marsh as described above) occurring on the VT side of the Poultney River from The Elbow north to Reed Marshes bordered by the floodplain forest community (pg. 29). Ward Marsh is part of this larger wetland complex along the river and contains three different described soil types; a Saco mucky silt loam, a Limerick silt loam, and a ponded Histosol and Aquepts soil.

As compiled between 2014-2020 Ward Marsh WMA - Poultney River/East Bay IBA surveys resulted in 116 bird species documented, many are wetland dependent (Attachment 6). As described by the VTFWD, the Ward Marsh WMA provides good habitat for amphibians including spotted and four-toed salamanders, eastern newts, mudpuppies, northern leopard, gray tree, bull and green frogs, spring peepers and American toads. Reptiles present on this WMA include snapping, painted and common musk turtles, eastern rat, eastern ribbon, brown, milk, northern water and common garter snakes. One can find signs of wetland mammals such as beaver, raccoon, muskrat, mink and otter. Smaller wetland mammals include long-tailed weasel, star-nosed mole, water shrew and Little brown bats during the summer months. While not wetland dependent, some upland species will also utilize the wetlands including white-tailed deer, bobcat, red fox, cottontail rabbit, porcupine, striped skunk, meadow vole and field mouse. There are numerous fish species in the Poultney River and Ward Marsh provides important spawning habitat for northern pike, chain pickerel and several minnow species (Attachment 5). Informally, people visiting the Wards Marsh WMA have uploaded species information to iNaturalist. As of November 2018, those observations resulted in 624 observations of 281 distinct species (both upland and wetland), including 97 plant species.

17. **Landscape Association**

These wetlands are irreplaceable because of the critical nature of their landscape position, and the corresponding functions in that landscape. They are often exceptional because of their size, functions, and values.

As described above Ward Marsh is part of a large community assemblage of both upland and wetland habitats which directly contribute to the irreplaceable nature of the wetland. It is immediately adjacent and connected to the Poultney River. The river experiences both seasonal flooding events and perhaps some lake influence. The wetlands, ~280 acres, along the river including Ward Marsh serve as flood storage for the area. It's position along the Poultney River, surrounded by a variety of upland habitats and proximity to Lake Champlain lends itself to supporting a high level and diversity of fish and wildlife habitats. Its position results in supporting the related exceptional functions as described above.

In addition to the above criteria, when determining whether a wetland is exceptional and/or irreplaceable in its contribution to Vermont's natural heritage the Secretary may also consider the following qualities, functions and values that would contribute to a wetland being exceptional and irreplaceable:

18. **Undisturbed Condition**

Overall, the Buckner Preserve and the peninsula on which the wetland occurs is relatively undisturbed. As described by the VTFWD, "For scenic value, the Poultney River has a significant undeveloped river corridor that stretches 22 miles and includes Ward Marsh" (Attachment 5).

The wetland complex considered for reclassification as a Class I wetland is approximately 165 acres on the edge of the Poultney River behind a natural levee. It ranks high with a score of 80 out of 100 on the Vermont Rapid Assessment Method (VRAM; Attachment 12) with very little human disturbance, although the wetland buffer is only considered fair to medium

condition (average 25 meters in width). The lower buffer scoring is due to the surrounding land use including the access road and culvert which affects wetland hydrology and access to dump garbage illegally on the southern edge, the fishing access and managed fields.

19. **Intact Landscape**

Ward Marsh is part of an almost entirely undeveloped 3,791 acres; about six square miles of meadows, ponds, rocky cliffs, marshes, and a forest dominated by white and red oak, hickory, and hop hornbeam. There is connectivity to other wetlands, and it is contiguous with Bald Mountain's upland habitat (Attachment 11). The adjacent Lower Poultney River Preserve contributes another 2,250 acres across two states to form a natural expanse of more than nine square miles. The VTFWD provided the following description: "Ward Marsh is part of a significant undeveloped river corridor that stretches 22 miles along the Poultney River, one of Vermont's most biologically diverse rivers. The entirety of Ward Marsh is mapped as either a Highest Priority or Priority Surface Waters and Riparian Area component of Vermont Conservation Design, indicating its statewide importance within the network of connected lakes, streams, and riparian areas (Attachment 13). See attached map of Ward Marsh Aquatic & Riparian Connectivity (Attachment 14).

Although some agricultural land is present in the surrounding matrix of lands, significant blocks of intact upland forest, floodplain forest, and wetland communities are connected to Ward Marsh. Together, these lands constitute a narrow, but critically important corridor of high-quality, intact, and natural lands between the Adirondack Mountains and the Green and Taconic Mountain Ranges. As such, Ward Marsh is regionally significant as part of an intact unfragmented landscape spanning VT and NY states (Attachment 13)." See attached map of Ward Marsh Resilient & Connected Network-Details (Attachment 15).

20. **Connectivity**

Those wetlands that serve as important wildlife or waterfowl corridors, connecting natural areas and/or serving in migration.

Ward Marsh is part of an overall system providing an east/west and north/south connectivity to Poultney River and other wetlands, with a river corridor, mountains, and forested area of about 8,000 acres which also provides an Adirondack connection. As described by VTFWD, "Ward Marsh provides significant value as a wildlife and waterfowl corridor by virtue of its connectivity to surrounding aquatic and terrestrial ecosystems. Ward Marsh provides important stopover resting and feeding habitat for bird species migrating along Lake Champlain. The deep-water marsh and emergent marsh communities provide this value at an especially high value for waterfowl and wading bird species. Mammals moving along the Poultney River, such as mink, bobcat, and otter likely make use of Ward Marsh's riverine floodplain forest and various wetland types. Reptiles and amphibians migrate between Ward Marsh and its surrounding uplands. The entirety of Ward Marsh is mapped in Vermont Conservation Design as Riparian Wildlife Connectivity, reflecting the many values this area provides to species making use of the riparian network (Attachment 13). See attached map of Ward Marsh Riparian Wildlife Connectivity (Attachment 16).

Furthermore, Ward Marsh lies at an important interface between aquatic and terrestrial communities. Immediately to the north of the Marsh lies a matrix of state-significant natural communities, including Mesic Clayplain Forest, Mesic Maple-Ash-Hickory-Oak Forest, and Dry Oak-Hickory Hophornbeam Forest. Because of the high degree of connectivity between Ward Marsh and its surrounding upland habitats, wildlife can move relatively unimpeded between habitat types to fulfill a variety of their life needs (foraging, breeding, dispersal). (Attachment 13). Reflecting these important values, Ward Marsh is mapped as a Highest Priority Connectivity Block and Highest Priority Interior Forest Block in Vermont Conservation Design.” See attached maps Ward Marsh Connectivity Blocks and Ward Marsh Interior Forest Blocks (Attachment 17).

Determination of Wetland Classification

Based on the petition dated September 15, 2021, information obtained during a site visit by Wetlands Program staff on November 5, 2018, comments received during the public notice period and an evaluation of the functions and values of the wetland and the natural heritage value of the wetland, the Secretary has determined that the wetland under consideration is a Class I wetland.

In order to protect the functions that make the wetland exceptional or irreplaceable, the Secretary has determined that a 100-foot buffer zone is required for the wetland consistent with VWR §4.2. It is scientifically justifiable to have an approximate 100-foot buffer zone around the marsh. It has been shown that as the buffer width increases so too do the protections of the functions and values the wetland offers on the landscape including increased water quality protections, flood resiliency, and wildlife habitat for which this wetland is significant in providing. Most mammals and breeding birds need a buffer of 100 to 600 feet to be able to fully use the wetland as habitat.

Activity in a Class I wetland or its associated buffer zone is prohibited unless it is an allowed use under the VWR, or unless it is authorized by a permit, conditional use determination or order issued by the Secretary. The Secretary may impose any permit conditions as necessary to achieve the purposes of the VWR. Section 9.1 of the VWR. This Determination does not relieve the petitioner or any other person of the responsibility to comply with all other applicable federal, state or local laws.

Attachments

Attachment 1, 1a, and 1b: Petition inclusive of Functions and Values Checklist and Abutter List

Attachment 2: ANR Location Map

Attachment 3: Class I Wetland and Buffer Boundary Map and DRAFT Determination Map

Attachment 4: Public Comment Responsiveness Summary

Attachment 5: VTFWD Ward Marsh Wildlife Management Area Factsheet

Attachment 6: Audubon Poultney River/East Bay Important Bird Area; e-Bird list 2015-2020

Attachment 7: VTFWD Heritage Elemental Occurrence Reports; Four Wetland Types

Attachment 8: Natural Communities Mapping 2018

Attachment 9: Research: Correlation Between Frog Malformities and Heavy Metals in Ward Marsh, West Haven, VT, and Mud Creek, Alburg, VT

Attachment 10: West Haven Town Plan; adopted 2019

Attachment 11: Natural Communities of the Helen W. Buckner Memorial Preserve and Adjacent Lands at Bald Mountain and Austin Hill Report (2006);

Attachment 12: Vermont Rapid Assessment Method Datasheets(VRAM)

Attachment 13: VTFWD Ward Marsh Landscape and Connectivity Narrative

Attachment 14: VTFWD Ward Marsh Aquatic & Riparian Connectivity Map

Attachment 15: VTFWD Ward Marsh Resilient & Connected Network-Details Map

Attachment 16: VTFWD Ward Marsh Riparian Wildlife Connectivity Map

Attachment 17: VTFWD Ward Marsh Connectivity Blocks & Ward Marsh Interior Forest Blocks Maps

Attachment 18: Ward Marsh Photographs