State of Vermont Water Resources Board

Re: Tinmouth Channel Wetland Complex Town of Tinmouth, Vermont Docket No. WET-01-07

ADMINISTRATIVE DETERMINATION

This decision pertains to a petition filed by the Vermont Natural Resources Council (VNRC) with the Water Resources Board (Board), seeking reclassification of the Tinmouth Channel Wetland Complex in Tinmouth, Vermont, from Class Two to Class One and expansion of the protective buffer zone from 50 feet to 300 feet for the northern portion of the wetland complex on land owned and managed by the Vermont Department of Fish and Wildlife, Agency of Natural Resources (state lands) and from 50 feet to 100 feet for the remainder of the wetland complex.

As explained below, the Board concludes that the subject wetland complex is so exceptional or irreplaceable in its contribution to Vermont's natural heritage, based on an evaluation of functions 5.4, 5.5, 5.6, 5.7, and 5.9, that it merits reclassification from Class Two to Class One, the highest level protection under the VWR. See Vermont Wetland Rules (VWR), Sections 4.1(a), 4.4 and 7. Furthermore, the Board concludes that, except in the northern portion of the wetland complex where the Board has determined that a 300-foot buffer zone is warranted, the wetland complex and wetland areas contiguous thereto shall be protected by the presumptive 100-foot buffer zone provided for in VWR, Section 4.3.

I. INTRODUCTION

On August 21, 2001, VNRC, through counsel Kelly D. Lowry, Esq., filed with the Board a document captioned, "Petition for Reclassification and Determination of Buffer of the Tinmouth Channel Wetland Complex in Tinmouth, Vermont" (Petition). The petition was filed pursuant to 10 V.S.A. § 905(7)-(9) and VWR, Section 7.

VNRC filed a letter on August 27, 2001, supplementing the Petition.

On August 29, 2001, the Board's Executive Officer acknowledged receipt of the Petition, docketed the matter as WET-01-07, and asked VNRC to supplement its filing with additional information. In response, on September 14, 2001, VNRC filed a letter and some additional materials that were omitted from the original filing.

On September 17, 2001, a Notice of Petition was sent to those persons required to receive notice, including adjoining land owners, as well as those known to have an interest in this matter. Moreover, as required by VWR, Section 7.4(a), a Notice of Petition was published in the *Rutland Daily Herald* on September 25, 2001. Interested persons were provided 30 days from the date of published notice to file written comments and to request a hearing.

The following persons filed comments in support of the petition:

Agency of Natural Resources (ANR), by Warren Coleman, Esq., coordinating comments from Ronald J. Regan, Commissioner, Department of Fish and Wildlife, and Eric Sorenson, staff, Nongame and Natural Heritage Program;

Vermont Public Interest Research Group (VPIRG);

Town of Tinmouth Select Board;

Town of Tinmouth Planning Commission; and

Tinmouth Land Trust.

No party requested a hearing during the comment period. However, VNRC held a public informational forum in the Tinmouth Town Office to inform the public of the implications of the proposed reclassification. As a result, the Board determined that it would not conduct a hearing with respect to this matter.

The Board met to discuss the Petition in open deliberations on November 20, 2001. Those present were representatives from VNRC and ANR. The Board tabled final action on the Petition, pending an opportunity for VNRC to clarify whether a 300-foot buffer zone should be established for the entire northern portion of the Tinmouth Channel Wetland Complex, including for private lands in the northeastern portion, adjacent to state lands.

On December 5, 2001, VNRC filed a letter asking the Board to grant the relief requested by the Petition, namely, that the 300-foot buffer zone should apply only to state lands in the northern portion of the wetland complex and that a presumptive 100-foot buffer should apply to any private lands, including those in the northeastern portion of the wetland complex.

Based on information contained in the Petition and written filings of interested persons, the Board voted to grant the Petition at its meeting on December 10, 2001.

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II. ISSUES

The Tinmouth Channel Wetland Complex (TCWC or wetland complex) is depicted on USGS Middletown Springs quadrangle map (1979 series). The TCWC is also identified on the National Wetland Inventory (NWI) map #17C and is accordingly designated a Class Two wetland, protected under the VWR. VWR, Section 4.2(b).

VNRC asserts that the TCWC is significant for at least nine of the functions identified in Section 5 of the VWR: 5.1 (Water Storage for Flood Water and Storm Runoff); 5.2 (Surface and Groundwater Runoff); 5.3 (Fisheries Habitat); 5.4 (Wildlife and Migratory Bird Habitat); 5.5 (Hydrophytic Vegetation Habitat); 5.6 (Threatened and Endangered Species Habitat); 5.7 (Education and Research in the Natural Sciences); 5.8 (Recreational Value and Economic Benefits); and 5.9 (Open Space and Aesthetics). Petitioner further asserts that the wetland complex is exceptional and irreplaceable and deserving of Class One status for functions 5.4, 5.5, 5.6, and 5.9. VWR, Section 5. Additionally, ANR asserts that the wetland complex is exceptional and deserving of Class One status for function 5.7. Moreover, VNRC claims that in order to effectively protect functions 5.4, 5.8 and 5.9 the Board must designate a buffer extending 300 feet on state lands in the northern portion of the wetland complex and 100 feet in the southern portion of the wetland complex and other areas contiguous with the wetland complex.

Accordingly, the Board must decide: (1) Whether to reclassify the TCWC from Class Two to Class One, based on an evaluation of its functions; and (2) What buffer zone(s) should be imposed to protect any functions that are exceptional and irreplaceable.

III. NATURE AND SCOPE OF THE PROCEEDING

Wetland reclassification decisions, rendered by the Board pursuant to VWR, Section 7, are administrative determinations and not contested cases. If necessary, the Board conducts a hearing on a reclassification petition in order to gather as much information as possible concerning the characteristics of the subject wetland for the purpose of assessing its significance for the functions identified in VWR, Section 5. In the present case, the Petition and the attached exhibits were sufficiently detailed that the significance of the wetland and the functions it performed were not in doubt. Furthermore, all comments submitted to the Board were in support of the Petition. As a result, the Board deemed it unnecessary to hold such a hearing.

To the extent that any proposed findings of fact and conclusions of law are explicitly approved below, they are granted; otherwise, they have been considered and are denied. <u>Petition of Village of Hardwick Electric Department</u>, 143 Vt. 437, 445 (1983).

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IV. FINDINGS OF FACT

A. Description of the wetland and its characteristics

- 1. The TCWC is approximately 1473 acres in area including the buffer and is situated at 1050-1100 feet above sea level. The wetland complex is located within the Town of Tinmouth in Rutland County, Vermont. The wetland is centered on what is called the "Tinmouth Channel" or Tinmouth Stream that runs roughly south to north. Tinmouth Stream flows into the Clarendon River, which flows into Otter Creek eventually flowing into Lake Champlain.
- 2. The northern portion of the wetland complex (that portion north of Vermont Route 140) is largely owned and managed by the Vermont Department of Fish and Wildlife. The Tinmouth Channel Wildlife Management Area (TCWMA) consists of one thousand one hundred fifty (1,150) acres of wetland and surrounding upland. The wetland types associated with the stream include cedar swamp, cedar-tamarack mix, and open water/shrub/scrub wetlands. Hardwood and softwood forest dominate the surrounding uplands. A small area in the northeastern portion of the wetland complex is located on two privately owned parcels of land, one owned by Gail Fallar and the other by the Estate of Wilbur Bradder.
- 3. The southern portion of the wetland complex (that portion south of Vermont Route 140) is privately owned and has an area of approximately 323 arces. This section of the wetland comprises the headwaters of the stream flowing through the wetland complex. The stream is relatively small at its headwaters and drains a high-quality example of an intermediate fen. This fen is the largest open fen known in the state, and is one of only four intermediate fens to receive an "A" ranking in a report produced for the United States Environmental Protection Agency (EPA) and ANR.
- 4. Natural community types that are located within the complex are diverse, and include Calcareous Tamarack-Red Maple Swamp, Sweet Gale Shoreline Swamp, Red Maple-Northern White Cedar Swamp, Alder Swamp, Seep, Shallow Emergent Mash Northern Hardwood White Cedar Sloping Seepage Forest, Cattail, Intermediate Fen, and Rich Fen.
- B. <u>Performance of Wetland Function 5.1 (water storage for flood water and storm runoff)</u>
- 5. The TCWC receives flood water and storm water runoff by sheet flow and natural discrete conveyances, as well as shallow groundwater discharges from the hills surrounding the wetland. The surrounding hills are composed largely of karst, a complicated network of subterranean channels and tunnels carrying shallow groundwater that has infiltrated the soil.

Some of these soils within the wetland are very coarse soils that are likely sites for shallow groundwater discharges. In turn, many of these shallow groundwater discharges flow into the wetland below.

- 6. With the exception of Chipman Lake, there is no other water storage capacity in the upper end of the Clarendon River drainage. The wetland reduces the magnitude and frequency of risks to public and private property resulting from flood water or storm water runoff.
- 7. The stream flowing through the wetland has a restricted outlet and rests at the edge of a large basin. Dense, persistent vegetation of shrubs and trees line the stream. These factors lend themselves to the task of storing and gradually releasing shallow groundwater discharges and surface water runoff, thereby reducing the scouring and erosion of the stream banks by attenuating the flood peaks and reducing water velocities.
- 8. The juxtaposition of the TCWC upstream of large areas of developed private property (including the Town of Rutland), stream banks susceptible to scouring and erosion, and habitat for aquatic life all enhance the importance of this wetland complex in serving this function.
- C. Performance of Wetland Function 5.2 (surface and ground water protection)
- 9. The TCWC provides improved water quality downstream by removal of nutrients and sediments. The functions of nutrient removal and sediment retention are fulfilled by similar characteristics within the wetland complex.
- 10. The wetland complex has characteristics commonly associated with wetlands that act as sinks for phosphorous and nitrogen and that enhance their ability to transform nitrogen into an atmospheric gas through dentrification. With respect to the TCWC, these characteristics include a very constricted outlet, soils within the wetland complex and in the surrounding uplands that are capable of holding phosphorous, high alkalinity within the area, a slow, shallow flow path and finally dense woody vegetation that is frequently flooded or saturated.
- 11. The TCWC also exhibits a significant sediment retention function. The characteristics that operate in this capacity on the wetland complex include a restricted outlet, an expandable basin, and dense woody vegetation at least ten feet wide on either side of and along the entire reach of the Tinmouth Stream. Additionally, the meandering aspect of the stream causes the velocity of the water to drop, creating a catch, thereby contributing to its ability to retain sediments and moderate the adverse water quality effects of soil erosion and storm water

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runoff.

D. Performance of Wetland Function 5.3 (fisheries habitat)

- 12. The TCWC's natural and diverse habitat and natural flow conditions create high quality habitat for fish and other aquatic biota. In many areas, the aquatic vegetation is such that it creates excellent nursery, feeding, and cover opportunities for fish.
- 13. The following species have been observed in the wetland: brook trout, brown trout, creek chub, redbelly dace, common shiner finescale dace, blacknose dace, common white sucker, and longnose dace. Pearl dace, another species observed in the wetland, is considered a rare fish in Vermont.
- 14. Tinmouth Stream which becomes Clarendon River just below the wetland complex is important in contributing to the high water quality and natural flow conditions in the river. Thanks in part to this, the Clarendon River has very good spawning and nursery habitat throughout its reach for trout species which are an important sport fish on the river and in the State of Vermont.
- E. Performance of Wetland Function 5.4 (wildlife and migratory bird habitat)
- 15. The TCWC contains extensive and ideal habitat for breeding waterfowl, sensitive species of herons and rails, migratory birds and wetland dependent mammals, amphibians, and reptiles.
- 16. Using a specialized methodology designed to assess habitat and community diversity wildlife and migratory bird habitat, the TCWC ranks very high. The Golet Wetland Wildlife Assessment Method which uses criteria such as wetland class richness and vegetative interspersion type, among others, gives the wetland a numerical ranking of 100.25 out of a possible 105.

Birds and Bird Habitat

17. Among the birds documented in the TCWC are mallard ducks, great blue heron, kingfisher, Canada geese, American bittern, catbird, redwing blackbird, and yellow warbler. Local birders have also observed hooded mergansers, wood duck, black duck, green-winged teal, Virginia rail, little green heron, least bittern and northern water thrush among others. Other species including ruffed grouse, turkey, woodcock, red-tailed hawk, Cooper's hawk, goshawk, white

throated sparrow, black capped chickadee, pileated woodpecker and the barred owl are commonly found in the forests associated with the TCWC.

- 18. Side channels and back channels in the TCWC provide ideal habitat for waterfowl nesting, foraging, and resting habitat. The channel is also used by waterfowl during spring and fall migrations as a resting area.
- 19. The high level of habitat diversity and the juxtaposition of those habitats with each other create a multitude of foraging, breeding, and nesting opportunities for bird life. Additionally, the long, linear wetland/forest interface provides a large, rich Ecotone of intact riparian habitat.

Mammals and Mammal Habitat

- 20. The upland forest bordering the (TCWMA) provides an extensive deer wintering area. Within the Management Area itself is one of the larger deer wintering areas in Rutland County and the State of Vermont, and it is of very high quality.
- 21. The rich and frequently inundated vegetation in the wetland complex core and the highland habitats surrounding the wetland produce the necessary combination of elements to sustain the habitat needs for black bear and moose.
- 22. Muskrat, otter and mink also find plentiful habitat within the TCWC. Beaver activity is extensive within the wetland. As a keystone species, beaver change the landscape in significant ways and create critical habitat for numerous other species. In the TCWC these changes take the shape of increases in the extent of flooded areas, and contributions to the creation and maintenance of rare natural communities, waterfowl habitat, feeding areas for bear, moose and fisher, and denning and feeding habitat for otter, mink and muskrat.

Amphibians and Reptiles

23. There is extensive habitat available in the TCWC for amphibians. An exhaustive list of amphibians is difficult to establish. The following species, however, have been positively identified within the wetland complex: Jefferson salamander group, Jefferson X Blue-spotted Complex, Spotted salamander, Northern dusky salamander, Northern two-lined salamander, Spring salamander, Eastern newt, Northern redback salamander, American toad, Gray tree frog, Spring peeper, Green frog, Pickerel frog, and Wood frog. The TCWC also hosts several different species of reptiles, including the Ringneck snake, Milk snake, Common garter snake, Common snapping turtle, and the Painted turtle.

- F. Performance of Wetland Function 5.5 (hydrophytic vegetation habitat)
- 24. As noted in Finding 3, the TCWC is home to an intermediate fen at the southern end of the complex that is considered to be one of the finest examples of an intermediate fen in the State of Vermont. It is also one of four such fens to receive an "A" ranking in a report produced for the EPA and the ANR.
- 25. The following very rare, rare, and uncommon hydrophytic species are located within the TCWC: Scorpidium scorpioides, Carex aquatilis, Carex schweinitzii, Cladium mariscoides, Eleocharis pauciflora, Liparis loeselii, Pyrola asarifolia, Salix pedicellaris, and Veronica catenata.
- 26. Several different plant communities, some of which are uncommon in Vermont are also found within the TCWC. They include scrub-shrub willow and alder communities, forested hardwood and conifer swamps such as a cedar and tamarack swamp, shallow marsh, meadow, and fen wetlands. Further subdivision of the natural communities at TCWC and the immediate highlands indicate that the following natural communities are present as well: Calcareous Tamarack-Red Maple Swamp, Sweet Gale Shoreline Swamp, Shallow Emergent Marsh, Northern White Cedar Sloping Seepage Forest, Cattail Marsh, Northern Hardwood Forest, Hemlock Northern Hardwood Forest, Intermediate Fen and Rich Fen. For several of these communities, the examples at TCWC are the best known examples in Rutland County and are of statewide and regional significance.
- G. Performance of Wetland Function 5.6 (threatened and endangered species habitat)
- 27. The TCWC contains ample habitat to support threatened and endangered species of plants. A significant number and variety of rare and uncommon species have been documented in the TCWC, and, given the diversity of rare and uncommon natural communities in the wetland complex, it is likely that other populations of threatened and endangered species will be discovered in the TCWC after further inventory work.
- 28. Two species, *Eleocharis pauciflora* and *Pyrola asarifolia*, listed as "threatened" on the State of Vermont's threatened and endangered list have been documented in the TCWC. Additionally, at least three of the natural community types found in the wetland -- Calcareous Tamarack-Red Maple Swamp, Intermediate Fen, and Rich Fen -- are listed as rare.

- H. Performance of Wetland Function 5.7 (education and research in natural sciences)
- 29. Because a major portion the TCWC is owned by the State of Vermont, the public has access to the wetland complex for educational and research use.
- 30. This wetland also has a history of use for scientific research and education. Botanical foray groups, canoeing outings, bird watching outings, and other educational **activities** have all taken place on the TCWC. The State of Vermont, The Nature Conservancy, and others have all published papers dealing specifically with the wetland and its biological, geological, and ecological diversity.
- 31. The variety and complexity of the many natural community types, different groups of wildlife, relatively exposed quaternary geological sites (including eskers), a significant accumulation of peat (and at one time bog iron), and rare plants all work to render the channel a living laboratory and provide wonderful opportunities for learning.
- I. <u>Performance of Wetland Function 5.8 (recreational value and economic benefits)</u>
- 32. The TCWC provides an opportunity for hunting, fishing, canoeing, nature photography and art, bird watching, and other general recreational activities.
- 33. The wetland complex also generates revenues from these many recreational activities. The persons attracted to the area to participate in these activities require very little in terms of public accommodation, but need supplies, such as food, drink, and petrol, which they often acquire from local enterprises.
- 34. The wetland complex provides important habitat for fish and wildlife that can be fished, hunted, and trapped under applicable state law. Many species, including ducks, geese, deer, rabbits, and partridge, are taken from this area. The surrounding uplands are also widely used for hunting many species, including ducks, turkey, grouse and deer.
- 35. In addition to game, wild foods are harvested from the TCWC on an annual basis by many local citizens and by persons who travel to the area specifically for this purpose.
- J. <u>Performance of Wetland Function 5.9 (open space and aesthetics)</u>
- 36. The TCWC can be easily observed by the public from many locations along its length where

it is a distinct feature in the surrounding landscape. Fen, open water, marshland, and swamp habitats are observable from many of the road crossings and other areas. Public access to the northern portion of the wetland complex allows the public to view the wetland from within, where observations can be dramatic and spectacular.

- 37. The TCWC is a distinct and prominent feature of the surrounding landscape. The Tinmouth Valley corridor is filled by the wetland. From the surrounding mountains which rise to heights of 1,500 to 2,500 feet above sea level, the wetland complex below provides a dramatic contrast that only adds to its inherent beauty and overall aesthetic value.
- 38. The TCWC's diversity of natural communities provide differing visual textures, heights, life forms, and colors at all times of the year, but especially in autumn when these differences become exaggerated within the landscape.
- 39. The grand scale of the TCWC also adds to its inherent aesthetic value. Since the complex is relatively uninterrupted by human activity, the signs of such activities and disturbances are few and far between. A few houses and roads are the only visible signs of humans along the Channel's entire four mile length.
- 40. The sinuous Tinmouth Stream winds its way through the wetland alternatively exposing and keeping hidden what the wetland complex has next in store for the viewing public. This aspect of the stream provides that sense of "exploring new places" that experts have shown can be important to people's emotional responses to a place.
- K. <u>Performance of Wetland Function 5.10 (erosion control through binding and stabilizing the soil)</u>
- 41. The TCWC is not significant for this function.

L. Buffer Zone

- 42. The wildlife and migratory waterfowl habitat is rich and varied in the TCWC. Many of the individual species that inhabit or use the wetland are particularly sensitive to human disturbance. These species include mink and otter, migratory waterfowl, and herons and shorebirds.
- 43. The New Hampshire publication "Buffers for Wetlands and Surface Waters" provides a list

of recommended buffer widths and suggests specifically, with respect to habitat requirements for mink, otter, and feeding habitat of beavers and nesting waterfowl, buffer widths of 90-100 meters (approximately 300 feet).

- 44. A document entitled "Wetland Buffers" produced by Kim Roylar of the Vermont Department of Fish and Wildlife, ANR, recommends desirable buffers for small mammals of at least 250 feet, and 200 feet for reptiles and amphibians to accommodate nesting, migration, and food needs.
- 45. To optimize the value of buffer zones for wildlife, perhaps the most important parameter is width. In general, the larger, or wider, a buffer zone is, the more valuable it is for wildlife habitat.
- 46. A wider upland buffer typically reduces human access to the site and creates a greater separation distance between the wetland and surrounding human development. It coincidentally mitigates adverse water quality impacts.
- 47. A wider buffer protects the visual amenity value of wetlands, by reducing the visibility of and therefore negative aesthetic impact of any development from vantage points within the wetland, thereby also contributing to the recreational value of the wetland.

V. CONCLUSIONS OF LAW

- 1. The Board may determine, among other things, whether to reclassify any wetland to a higher or lower classification, declare which functions make any wetland significant, and decide whether the size or configuration of a buffer zone associated with a significant wetland should be modified. VWR, Sections 4.4 and 7.1. It may do so upon the receipt of a petition from a state agency, a municipality, a municipal planning commission, and an organization in interest with 15 or more members, among others.
- 2. VNRC is an organization is interest with over 5,000 members in Vermont, and the Petition is supported by the ANR, the Town of Tinmouth, the Tinmouth Planning Commission, and others.
- 3. The TCWC is a significant wetland, and as such, the Board has jurisdiction over it pursuant to 10 V.S.A. 905(7)-(9) and the VWR.
- 4. The TCWC is currently classified as a Class Two wetland under VWR, Section 4.2(b). The

buffer zone associated with the TCWC is currently 50 feet. VWR, Section 4.3.

- 5. The above Findings of Fact are clearly supported by the record before the Board in this matter, including ample documentation, exhibits, maps, affidavits, and written comment presented in support of the Petition. Based upon these facts, the Board concludes that the TCWC exhibits the exceptional and irreplaceable characteristics of a Class One wetland with regard to Functions 5.4 (Wildlife and Migratory Bird Habitat), 5.5 (Hydrophytic Vegetation Habitat), 5.6 (Threatened and Endangered Species Habitat), 5.7 (Education and Research in the Natural Sciences), and 5.9 (Open Space and Aesthetics).
- 6. The Board further concludes that the TCWC is significant for 5.1 (Water Storage for Flood Water and Storm Runoff), 5.2 (Surface and Groundwater Runoff), 5.3 (Fisheries Habitat), 5.7 (Education and Research in the Natural Sciences), and 5.8 (Recreational Value and Economic Benefits).
- 7. The Board concludes that the TCWC is not sufficiently significant to warrant protection for function 5.10.

VI. ORDER

On the basis of its record in this proceeding, the Board has determined that the Tinmouth Channel Wetland Complex shall be reclassified from a Class Two to a Class One wetland. The Board has determined that the TCWC is exceptional and irreplaceable in its contribution to Vermont's natural heritage due to its values for the functions of 5.4 (wildlife and migratory bird habitat), 5.5 (hydrophytic vegetation habitat), 5.6 (threatened and endangered species habitat), 5.7 (education and research in the natural sciences), and 5.9 (open space and aesthetics). Therefore, it merits the highest level of protection available under the Vermont Wetland Rules.

The Board has determined that in order to protect functions 5.1, 5.2, 5.3, 5.5, 5.7 and 5.8, the 100 foot buffer that is in force as a function of this reclassification will suffice. VWR, Section 4.3 (a presumptive one hundred foot buffer zone is established contiguous to the boundaries of a Class One wetland). However, because of the requirement to adequately protect functions 5.4 (wildlife and migratory bird habitat), 5.8 (recreational value and economic benefits), and 5.9 (open space and aesthetics), a buffer zone shall be configured as follows to enhance and protect those functions:

A buffer relative to the Class One Tinmouth Channel Wetland Complex shall extend 300 feet from the wetland boundary on that portion of the wetland complex located

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north of Vermont Route 140, except where the buffer would extend beyond the property owned by the State of Vermont, in which case the buffer shall extend to meet and bound at the property of the State of Vermont, as of the date of this order, or be the presumptive 100-foot buffer zone, whichever is greater. In no area shall such buffer extend beyond 300 feet from the delineated wetland boundary. For the portion of the Tinmouth Channel Wetland Complex south of Vermont Route 140, or areas otherwise contiguous to the wetland complex, the presumptive 100 foot buffer in force as a function of this reclassification will suffice, pursuant to VWR, Section 4.3.

ANR is directed to update the applicable Vermont Significant Wetland Inventory map (NWI map #17C) and the underlying Geographic Information System (GIS) data layer accordingly. Attached is a map of the TCWC with buffers for information purposes only.

Dated at Montpelier, Vermont on this 13th day of December, 2001.

WATER RESOURCES BOARD

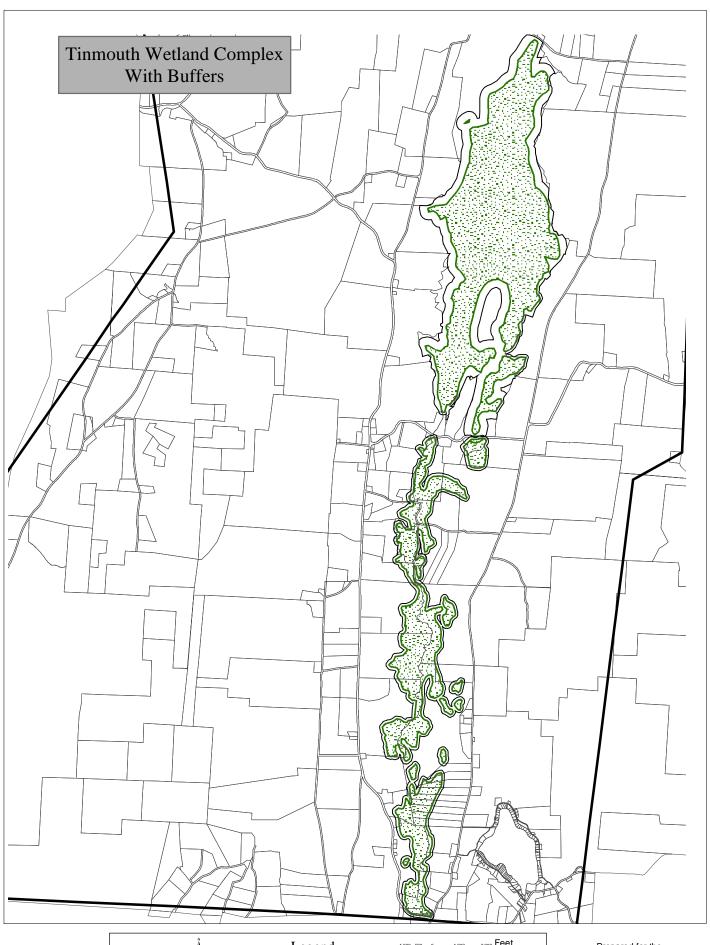
/s/ David J. Blythe

David I Dlytha Chair

David J. Blythe, Chair

Concurring: Lawrence H. Bruce, Jr. Jane Potvin John D.E. Roberts Mardee Sánchez *

* Ms. Sánchez participated in Board deliberations on November 20, 2001, but was not present for deliberations on December 10, 2001. She, however, reviewed and concurs in the decision of the Board.







Prepared for the Vermont Natural Resources Council 9 Bailey Avenue Montpelier, Vt 05602 by Alexander L. Metcalf