



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

1 Congress Street, Suite 1100
BOSTON, MA 02114-2023

Memorandum

Date: May 8, 2003

Subj: Comments on Advance Notice of Proposed Rulemaking on the Clean Water Act's Definition of "Waters of the U.S."

A handwritten signature in black ink, appearing to read "Robert W. Varney", with a long horizontal flourish extending to the right.

From: Robert Varney, Regional Administrator

To: G. Tracy Mehan, III, Assistant Administrator for Water

Thank you for the opportunity to provide comments in response to the Advance Notice of Proposed Rulemaking ("ANPRM") on the Clean Water Act's definition of "waters of the United States." As discussed in more detail in the attachment to this letter, Region I strongly recommends that any regulatory changes in the jurisdictional status of intrastate, non-navigable "isolated" waters be limited to those absolutely necessary under the narrowest reading of the Supreme Court's holding in Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001) ("SWANCC"), and that there be no change in the jurisdictional status of non-navigable tributaries and their adjacent wetlands.

There are three broad classes of intrastate, non-navigable, isolated¹ waters in New England: isolated slope and depression wetlands found in the upper reaches, or headwaters, of watersheds; depression wetlands and waters located in the broad flood plains of major river systems; and depression wetlands located along the coastal plain. Within these classes are found a wide range of types of waters, including herbaceous, scrub-shrub, and forested wetlands, vernal and other seasonal pools, peat bogs, and kettle holes. These waters provide a rich array of ecological functions and values essential to New England's environment. They offer habitat for a variety of bird, reptile, amphibian species, and support populations of many state listed species of special concern, such as the spotted turtle (*Clemmys gutatta*) and Blanding's turtle (*Emydoidea blandingii*), both of which are state-listed species in Massachusetts, Maine and New Hampshire; and the eastern box turtle (*Terrapene carolina*), a state-listed species in Massachusetts. They also support rare insects such as the pitcher plant borer moth (*Papaipema appasionata*), the ebony bog haunter (*Williamsonia fletcheri*), both state listed in Massachusetts; the Hessel's hairstreak (*Mitoura hesseli*), listed in both Massachusetts and New Hampshire; and the ringed bog haunter (*Williamsonia sp*), listed in New Hampshire.

¹ We use the term "isolated" in this context to mean without an intermittent or permanent surface water connection to a traditionally navigable water or tributary thereto.

Vernal pools and their adjacent woodlands are vitally important for the conservation of biodiversity. These areas support the natural food chain and degrading or destroying them can disrupt the food chain. Isolated waters often serve as groundwater recharge and/or discharge areas, making them important filters for surface and ground water sources of drinking water. In the coastal plain and barrier island setting, these waters can provide the primary, if not only, source of freshwater for local wildlife and migratory birds. Many isolated waters also provide flood flow storage and attenuation, are a primary source of organic matter and other nutrients that form the base of the food web, trap pollutants from overland flow, and remove and transform contaminants, all to the benefit of nearby surface and ground waters. Finally, isolated waters in New England often provide opportunities for swimming, wildlife and bird watching, photography, hunting and fishing, and scientific study.

We estimate conservatively that there are approximately 442,000 acres of isolated wetlands and other waters in New England. It is impossible to estimate the percentage of these waters that are now at risk of being destroyed because of the Supreme Court's decision in SWANCC, as interpreted in recent EPA and Corps of Engineers guidance, which eliminated Clean Water Act ("CWA") jurisdiction based solely on these waters' use by migratory birds or endangered species or use for irrigating crops. However, we believe the figure could be in the tens of thousands of acres.

The remaining isolated waters which continue to enjoy CWA protection would be at risk if the regulation at 33 C.F.R. § 328.3(a)(3), which the Court did not strike down, were modified or deleted. For example, Walden Pond, Henry David Thoreau's famous retreat, is an isolated water which supports recreational, but not commercial, boating. Further narrowing or eliminating jurisdiction over "non-navigable" "isolated" waters, depending on how those terms are interpreted, could mean that Walden Pond would be left without Clean Water Act protection. The cumulative loss or degradation of these valuable aquatic systems could be extremely damaging, both ecologically and socioeconomically.

After a careful review of state laws in New England, we have concluded that if federal CWA jurisdiction were eliminated, isolated waters in New England would not be sufficiently protected by state law. Despite the relatively strong wetland protection programs in all six New England states, there are many gaps in state law coverage that result in certain isolated waters not being protected at all, or not being protected from certain activities. The attached comments provide a more detailed discussion of the state laws in New England. Even where strong state protections exist, the federal program provides an important backstop for the states. All of the New England state budgets have been cut significantly. As noted in the comment letter submitted by the New England Interstate Water Pollution Control Commission ("NEIWPC") on behalf of the six New England states and New York, state regulatory agencies are extremely unlikely to be able to expand their workload to provide protection for waters that are no longer within CWA jurisdiction. Indeed, NEIWPC concluded that "[f]rom a state environmental agency perspective, federal regulation and enforcement is imperative to successful programs at the state level." Continued federal jurisdiction over isolated waters is especially important to buttress

state regulatory programs when state agencies propose projects, such as highway and airport construction.

A number of comments submitted to the public docket have urged EPA and the Corps to expansively interpret the SWANCC decision and to eliminate jurisdiction not only over non-navigable isolated waters, but also over non-navigable tributaries and their adjacent wetlands. We are strongly opposed to such a change in jurisdiction. In New England, we estimate that approximately 35,000 miles of non-navigable tributaries and approximately 2,140,000 acres of their adjacent wetlands and other waters could be lost to jurisdiction. The effects of these losses would be dramatic. Headwater streams and their associated wetlands are extremely valuable ecologically in their own right and to downstream waters. They provide valuable habitat for fish and wildlife, e.g., moose (*Alces alces*) and black bear (*Ursus americana*); nutrient production and transport for downstream fisheries; flood flow storage and release; pollutant trapping and renovation; and recreational opportunities, among other functions. Losing these waters from CWA jurisdiction would eliminate protection currently afforded by the CWA oil spill program (§ 311), the National Pollutant Discharge Elimination System ("NPDES") permit program (§ 402), and the dredged and fill material permit program (§ 404). Discharges to these waters could proceed unregulated, putting them at risk of being severely polluted by toxic discharges, and/or filled and destroyed, with all of the resulting resource losses and potential threats to human health that such pollution would entail. Moreover, there could be quite harmful consequences for downstream navigable waters to which such tributaries flow. Because the CWA regulates only point source discharges into waters of the United States, the permitting and enforcement mechanisms are ill-suited to protect against harm to navigable waters and their uses (e.g., drinking water supplies, recreation, fisheries) that is caused by pollutants discharged to non-jurisdictional upstream waters. Furthermore, even proposing elimination of jurisdiction over non-navigable tributaries and their adjacent wetlands could have a significant adverse effect on our enforcement program, calling into question approximately ten pending wetland and NPDES enforcement cases in our Region.

As detailed in the attachment, we believe that the SWANCC decision as interpreted by current EPA and Corps guidance results in the loss of CWA protection for many valuable intrastate, non-navigable isolated waters. The environmental and socioeconomic consequences of extending the rationale of SWANCC and eliminating jurisdiction over other isolated waters and over non-navigable tributaries and their adjacent wetlands would be widespread and severe. Unless further compelled by the Supreme Court to alter CWA jurisdiction, we believe that EPA should strongly support maintaining the current scope of jurisdiction. In the attachment we offer suggestions for clarifying the scope of jurisdiction over isolated waters with an eye toward retaining as many waters as possible within jurisdiction while being consistent with a narrow reading of SWANCC.

This Region also recommends that in this interim period before the completion of any formal rulemaking, EPA and Corps field staff should be required to consult with their respective headquarters offices before deciding *not* to assert jurisdiction over an isolated water, as well as before deciding to assert jurisdiction over an isolated water as the Agency guidance that accompanied the ANPRM currently requires. It is extremely important for program consistency

and for the protection of isolated waters that still fall within CWA jurisdiction that decisions to decline jurisdiction are subject to the same careful legal and policy review as are decisions to assert jurisdiction.

Thank you for your consideration of these comments. Please contact me if you have questions, or have your staff contact Matt Schweisberg at 617-918-1628.

cc: Robert Fabricant, General Counsel
J.P. Suarez, Assistant Administrator, OECA
Diane Regas, Director, OWOW
John Meagher, Director, Wetlands Division

Attachments

Attachment to May 8, 2003 Memorandum from Robert Varney, EPA Region I
Commenting on the Advance Notice of Proposed Rulemaking on the
Clean Water Act's Definition of "Waters of the U.S."

I. Introduction

Region I's comments address the questions posed by the January 15, 2003 Advanced Notice of Proposed Rulemaking ("ANPRM") on the Clean Water Act's ("CWA") definition of "Waters of the U. S." We discuss the types of isolated wetlands and other waters in New England, and their functions and values. We provide estimates of the acreage of isolated waters in the Region and the adverse implications of losing CWA protection of such waters. We also discuss the implications of losing CWA jurisdiction over non-navigable tributaries and their adjacent wetlands. Further, we have carefully evaluated the wetland protection laws and staff resources of our New England states and have concluded that despite strong state programs, many isolated waters would not be protected by the states if CWA jurisdiction were eliminated.

Given the ecological importance of these waters, we strongly recommend that any regulatory changes in the jurisdictional status of intrastate, non-navigable "isolated" waters be limited to those absolutely necessary under the narrowest reading of the Supreme Court's holding in Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001) ("SWANCC"), and that there be no change in the jurisdictional status of non-navigable tributaries and their adjacent wetlands. Consistent with this recommendation, we offer suggestions for how the terms "navigable" and "isolated" should be defined in future clarifying guidance or regulations. Our suggestions are intended to maximize retention of waters within CWA jurisdiction while remaining consistent with the holding of SWANCC. Finally, we urge that henceforth, Corps and EPA staff be required to consult with their respective headquarters not only before asserting jurisdiction over an isolated water but also before deciding to decline jurisdiction.

II. Intrastate, Non-navigable Isolated Waters

A. General types of isolated waters in New England

In New England, what are commonly referred to as "geographically isolated waters" (meaning waters that do not immediately border another water and are not connected by any surface water to another water) fall into three broad classes. First, isolated slope and depression wetlands are found most often in the upper reaches of watersheds (sometimes referred to as "headwater areas"). The majority of these wetlands are forested and/or shrub systems where the hydrologic regime is driven mostly by ground water discharge, with a lesser component of surface runoff. Among other types, this class of isolated waters includes vernal and other seasonal pools, as well as true bogs. This class of isolated waters is the most abundant and can be found throughout the region.

The second class of isolated waters are depression wetlands and waters located in the broad flood plain of major river systems. These systems often consist of a complex of open water and

emergent, shrub, and/or forested wetlands where the hydrologic regime is driven by a combination of surface runoff and high ground water. This class includes, among other types, oxbows, meander scars, and similar wetlands that have become physically separated from the river, sometimes at substantial distances. This class of isolated waters occurs most often along the middle and lower reaches of major rivers throughout New England.

The third broad class of isolated waters are depression wetlands and waters located within the coastal plain. Swale wetlands occur in the ridge and swale systems situated along the immediate coast, and vary from small pockets of herbaceous wetland to moderately-sized shrub and forested wetlands. The hydrologic regime is driven by high ground water. Kettle holes occur as isolated ponds, varying in size from less than an acre to several acres; frequently, these ponds have a fringe of emergent and shrub wetlands along their margins. Kettle ponds are a common feature on Cape Cod and the islands of Martha's Vineyard and Nantucket.

B. Ecological functions of isolated waters and wetlands in New England

The principal ecological functions provided by the three broad classes of geographically isolated wetlands described above include the following.

Wildlife habitat. This function relates to a water body's or wetland's ability to provide viable habitat for both resident and migratory wetland-dependent or "edge" animal species. This function may very well be the most important function that isolated waters provide. Isolated waters often provide nesting, breeding, resting, and/or feeding sites for wading birds such as the great blue heron (*Ardea herodias*) and waterfowl game and non-game species. Isolated wetlands can provide vital habitat for large mammals, e.g., moose (*Alces alces*) and black bear (*Ursus americana*), especially in early spring when food sources are scarce. Isolated waters also provide critical breeding, aestivation, and feeding sites for a number of reptile species such as the spotted turtle (*Clemmys gutatta*), eastern box turtle (*Terrapene carolina*), and Blanding's turtle (*Emydoidea blandingii*). These are state-listed rare species in Massachusetts, and the latter two are also state listed species in New Hampshire and Maine. Also, isolated wetlands and other waters provide key habitat for rare insects such as the pitcher plant borer moth (*Papaipema appasionata*), the ebony bog haunter (*Williamsonia fletcheri*), both listed in Massachusetts; the Hessel's hairstreak (*Mitoura hesseli*), listed in both Massachusetts and New Hampshire; and the ringed bog haunter (*Williamsonia sp*), listed in New Hampshire.

Seasonal pools are ubiquitous across the New England landscape. Seasonal pools, including vernal pools, are temporary or ephemeral ponds that are inundated during the wet season, usually from late fall to mid- or late-summer in the Northeast. They range in size from a hundred square feet or less to several acres. Seasonal pools may dry out every year or less often. The fluctuating water levels preclude the establishment of fish populations. The aquatic habitat and lack of predatory fish make these pools desirable and productive sites for amphibian reproduction. Species dependent on vernal pools for breeding include marbled salamander (*Ambystoma opacum*), spotted salamander (*A. maculatum*), Jefferson salamander (*A. jeffersonianum*),

blue-spotted salamander (*A. laterale*), wood frog (*Rana sylvatica*), and gray treefrog (*Hyla versicolor*). Other aquatic species that also reproduce in these ponds include spring peeper (*Hyla crucifer*), American toad (*Bufo americanus*), green frog (*Rana clamitans*), and red-spotted newt (*Notophthalmus viridescens*). Spotted turtles (*Clemmys guttata*) frequent vernal pools after winter hibernation to obtain an easy source of food such as amphibian eggs and aquatic invertebrates (Kenney and Burne 2000).

While many amphibians use vernal pools for reproduction and growth of larvae, the adults of most species spend the rest of their lives in the surrounding woodland either as burrowing vertebrates or arboreal species. This circumstance makes the association of vernal pools and their surrounding forest vital habitats for amphibian survival. In addition, multiple species use vernal pools for breeding (e.g., marbled salamanders in fall, spotted salamanders and wood frogs in early spring, followed by spring peepers and gray tree frogs). Thousands of larvae may be produced from a single pool. For example, in a one-acre pond in eastern Massachusetts, nearly 14,000 adult amphibians were counted and a two-acre pond in western Massachusetts had 5,000 to 10,000 spotted salamanders and several times as many wood frogs and spring peepers (Tiner 1998). Vernal pools and their adjacent woodlands are vitally important for the conservation of biodiversity. In Massachusetts, the intricate fairy shrimp (*Eubranchipus intricatus*) is known to occur in only 10 pools, and the eastern spadefoot toad (*Scaphiopus holbrooki*) has been reported at only 40 sites statewide (Kenney and Burne 2000).

Groundwater recharge/discharge. This function relates to the potential for a wetland to serve as a groundwater recharge and/or discharge area. Recharge relates to a wetland's contributions to an underlying aquifer through infiltration of retained surface waters. Discharge relates to the potential for a wetland to serve as an area where ground water can be discharged to the surface during periods of seasonal high water tables. Seasonal surface water in many isolated depressions occurs chiefly as a function of groundwater discharge. Depression wetlands (e.g., swales) located along the coastal plain, particularly on barrier islands, are especially important because they often provide the primary, and sometimes only, source of freshwater for local wildlife and migratory birds. Whether recharge or discharge, this function makes these wetlands important filters for surface and ground water sources of drinking water.

Excess nutrient removal and transformation. This function is often provided by isolated waters where precipitation runoff contains excess quantities of nutrients (e.g., within a depressional area surrounded by active agricultural pasture or cropland). If the wetland also provides groundwater recharge, the extent that nutrients are removed and transformed by vegetation within the depression will largely dictate the degree to which dissolved nutrients are precluded from being passed through to the underlying aquifer. Depending on the setting, this function can provide benefits to ground water supplies of drinking water and to surface waters to which the underlying aquifers flow.

Flood storage and floodflow attenuation. This function relates to the ability of a water body or wetland to reduce adjacent flood damage by storing flood waters for prolonged periods

following precipitation events. This function is served by depressional waters and wetlands located in the broad floodplain of major river systems, as well as those adjacent to traditionally navigable waterways, or otherwise within the tributary system of traditionally navigable waterways.

Toxicant, pollutant, and sediment retention/entrapment. This function relates to the capacity of a water body or wetland to trap sediments, toxic substances, or pathogens. Although likely better served by waters “adjacent” to traditionally navigable waterways or their tributaries, this function may be performed by isolated waters in certain settings. The gradual removal of toxics and sediments within larger wetland systems will dictate resultant water quality for down gradient surface waters and ground water aquifers.

Recreation. Isolated wetlands and other waters also provide consumptive and non-consumptive recreational opportunities. Many isolated waters offer recreational opportunities such as swimming, wildlife and bird watching, and waterfowl hunting.

Science/education. The ability of a water body or wetland to be used as an “outdoor classroom,” or as a location for scientific study or research, can be of significant value. Because of the unique plant and animal communities that are often supported by isolated waters, they frequently are sites for such uses.

It should be noted that many functions of wetlands can occur independent of isolation or adjacency. Water quality functions often are not fully separate for isolated wetlands because of ground water connections with surface waters. In its 1995 report on wetland boundaries, the National Research Council (NRC) of the National Academy of Sciences found that “[t]he scientific basis for policies that attribute less importance to headwater areas and isolated wetlands than to other wetlands is weak.” Further, the NRC stated that “[w]etlands that are isolated from other surface water or that occupy headwaters are not necessarily less valuable or less functional than other wetlands are, and they may even perform some unique or particularly valuable functions, including maintenance of water quality and support of waterfowl.”

III. Effects in New England of Potential Changes in CWA Jurisdiction

A. Effects on Isolated Waters in New England

If jurisdiction over all geographically isolated waters (i.e., those with no discernible surface water connection to a traditionally navigable water, a tributary to traditionally navigable waters, or a wetland that is adjacent to one of those water bodies) were removed as a result of an eventual rulemaking, the figures below represent our best, conservative approximation of the acreage that would be lost.¹ The numbers show isolated waters/wetlands in acres, then total

¹ The Regional GIS program generated these acreage numbers for isolated waters/wetlands in New England. The underlying data comes from USGS and USFWS-NWI sources, all at a scale of

wetland acreage for the state, then the percentage of isolated waters/wetlands compared to the total.²

Connecticut:	22,399	193,100 total	12%
Maine:	297,837	5,509,986 total	5%
Massachusetts:	46,798	326,008 total	14%
New Hampshire:	19,147	285,067 total	7%
Rhode Island:	3,617	23,061 total	16%
Vermont	52,200	300,000 total	17%
New England	441,998	6,637,222 total	7%

As described above, these isolated wetlands and other waters provide a valuable array of ecological functions. Were federal jurisdiction removed, regulation of these wetlands and other waters would fall to the states and, in some circumstances, individual municipalities that have local bylaws. However, because the vast majority of isolated wetlands are small (less than ¼ to ½ acre in extent), most would not be adequately protected by the state and local laws, due to exemptions, abbreviated permit procedures, and general lack of resources to properly apply and enforce the applicable laws (see Section IV below for a description of New England state wetland regulatory programs). Many of these geographically isolated wetlands and waters would be filled or otherwise substantially degraded by agricultural, silvicultural, residential, commercial, and transportation related activities. In addition, the loss of federal jurisdiction would mean that states would no longer be able to rely on the § 401 certification process to protect wetlands and other waters that are not otherwise protected by state permitting programs.

Below we describe some examples of geographically isolated wetlands and other waters that would be affected if federal jurisdiction were removed. We do not have data that would allow us to distinguish between isolated waters which are already lost to jurisdiction due to SWANCC and those which could be lost as a result of a future rulemaking. The answer to this question depends in large part on how key terms (“isolated,” “non-navigable”) are defined or interpreted. We discuss this issue further in Section V below.

A table describing all the Vermont wetland community types that the Vermont Nongame and Natural Heritage Program (VTNNHP) believes are isolated or are associated with the headwaters

1:24000, with the exception of the Vermont data which come from the VT Department of Environmental Conservation. Due to the limitations of interpretation of the remote sensing products (e.g., aerial photographs, satellite imagery) from which these data come, the figures almost certainly underestimate the full range of isolated wetlands and other waters in New England.

²Note that for Maine, the acreage of isolated waters/wetlands includes reservoirs, which may not be at risk under the proposals of the ANPRM (we could not separate out these waters in the queries of the database).

(non-navigable tributaries) of streams is appended to this Attachment. To produce this list, the VTNNHP assumed that isolated wetlands are those with no apparent surface water connection to streams or ponds. The examples listed in the appendix are just for illustration; VTNNHP has data for many examples of each type. A review of the table underscores that excluding geographically isolated wetlands and other waters would result in a significant loss of wetlands, wildlife habitat, and biological diversity, both on an individual community basis and cumulatively over time. Also note that many of the community types are extremely or very rare in the State, heightening their importance.

Vernal and other seasonal pools frequently are geographically isolated. A recent study of vernal pools conducted by researchers from the University of Rhode Island (Egan and Paton, 2003, in preparation) suggests that wetlands smaller than 0.2 ha (0.5 acres), and perhaps as small as 0.05 ha (0.12 acres), may be critical to amphibian populations in southern New England. As described above, seasonal pools contained in forested landscapes are one of our most abundant types of isolated wetlands/waters. These small but critical systems would be most at risk if federal jurisdiction were removed.

Numerous reptiles also depend upon vernal and other seasonal pools. Among others, a study (Smith, 2003, pers. comm.) of the northern copperhead snake in central Connecticut supports the fact that copperheads frequently associate with isolated wetlands and other waters – whether they be ponds, lakes, swamps, or vernal pools. The study shows that, following emergence from hibernation, many individuals move directly to a large seasonally flooded pond to exploit food resources in the form of emerging green and wood frogs. Often the snakes remain close to this pond until mid-summer when the water---and the concentrated food resource---finally dries up and disappears. These seasonal ponds and wetlands represent an important component in the annual cycle of resource use by copperhead snakes and the protection of such wetlands is essential to the conservation of copperhead populations.

Peat bogs are another important type of geographically isolated wetlands. Peat bogs, or peatlands, are defined by Worley (1981) as:

three-dimensional portions of the earth's landscape which are wetlands and have organic soils; they include the full depth of organic materials, regardless of origin; they include all waters within or on top of the organic materials; and they include all organisms living within or atop the organic materials and water.

Typically, peatlands develop in basins such as those formed by glacial ice-blocks. In these basins, water collects and outflow is restricted. An extreme example of impeded flow occurs in peatlands described as ombrogenic (rain-originating). Ombrogenous peatlands receive water only from precipitation. Thus, based on a construct of hydrologic isolation (i.e., generally no inlet or outlet), the hydrologic conditions and landscape position that necessitate the development of peatlands are the very conditions which place many of these wetlands at risk if federal jurisdiction over geographically isolated wetlands and other waters is removed.

Partial inventories and statewide estimates in the Northeast indicate that there may be as many as 20,000 individual peatlands, ranging in size from 25 acres to more than 1,000 acres. (Johnson 1985). Maine possesses many large and diverse peatlands (500 to 4,000 acres), ranging from sedge fens to dwarf shrub and sphagnum ombrotrophic bogs (Johnson 1985). Davis and Anderson (1999) estimate that Maine's landscape harbors approximately 3,025 peatlands including geogenous (fen) and ombrogenous (bog) peatland complexes. A considerable proportion of these inventoried peatlands would qualify as geographically isolated, especially the ombrogenous bogs. Johnson (1985) estimates that as much as ninety percent of the peatlands remain essentially natural (i.e., undisturbed) in Maine, and mountainous New York. Maine notably has the greatest diversity of peatland types and the greatest number. Further, he estimates that, in the Northeast, less than 0.6 percent of the peatlands have deliberate protection through ownership by a private or public agency or by deed restrictions on the property. In the past, Maine's peatlands have been the target of several large scale peat mining proposals. The CWA § 404 program has successfully protected the peatlands from the most damaging operations. If these areas were excluded from CWA jurisdiction, they could be heavily exploited in the future.

New Hampshire contains several prime examples of highly valuable geographically isolated wetlands that would be placed at great risk if federal jurisdiction were removed. Grassy Pond, a shallow vernal pool system located just north of Nashua, supports a rare plant community and is frequented by two state-listed reptile species (Blanding's and spotted turtles). It also supports a state endangered and globally rare dragonfly, the ringed bog haunter (*Williamsonia sp.*). Although only 5-6 acres in size, it is the best occurrence of a basin marsh in the State, according to the NH Natural Heritage Program. While a portion of Grassy Pond is protected, several acres remain unprotected and it is a chief acquisition target for the State. Lost Ponds, a system of several kettle holes located in Ossipee, is another example of an isolated wetland that would be at risk. The Lost Ponds area consists of lake-fill depressions. The plant communities are best classified as very poor fens surrounded by heath shrub margins. At approximately 285 acres in extent, this wetland complex is notable for its size as well as its uncommon heath plant community.

Another notable example of geographically isolated wetlands in New Hampshire is black gum-red maple basin swamps (sometimes these basin swamps also form the headwaters of first order streams). Blakes Hill Bog in Northwood is a 25-acre basin perched on a flat summit and contains an outstanding floating, lake-fill peatland surrounded by an extensive black gum-red maple forested swamp. Within the forested swamp is a stand of ancient black gum trees that contains the oldest known broadleaf trees in North America – the oldest is 682 years, the second oldest is 629 years. Numerous others are of similar age.

Along the coasts of New Hampshire, Massachusetts, Rhode Island, and Connecticut are interdunal swale wetlands. Grass- and/or shrub-dominated, these shallow depressions that form between sand dunes can occur several hundred to more than one-thousand feet from the shoreline. They often represent crucial fresh water habitat for a wide variety of animals.

Associated with these systems are listed (Massachusetts) rare plants such as *Arethusa bulbosa*), thread-leaved sundew (*Drosera filiformis*), and Plymouth gentian (*Sabatia kennedyana*). Also, the eastern spadefoot (*Scaphiopus holbrookii*) is a rare amphibian associated with interdunal swales.

B. Potentially Affected Non-navigable Tributaries

A number of comments submitted to the public docket have urged EPA and the Corps to expansively interpret the SWANCC decision and to eliminate jurisdiction not only over non-navigable isolated waters, but also over non-navigable tributaries and their adjacent wetlands. We are strongly opposed to such a change in jurisdiction. From a practical standpoint, it would be extremely resource intensive to identify what waters are and or not "navigable." Moreover, if the rationale of SWANCC were extended to all waters that are not traditionally navigable, the results in New England would be extremely damaging. Our conservative approximation of the length of non-navigable tributaries in New England is 34,658 miles.³ In Rhode Island, first and second order streams comprise about 85% of the total stream miles in the state, according to estimates by the Rhode Island Department of Environmental Management. Removing federal jurisdiction over such waters would, according to DEM, have serious consequences (RIDEM April 16, 2003 comment letter on ANPRM). Moreover, we estimate that there are 2,140,159 acres of wetlands and other waters that are adjacent to the non-navigable streams in New England, and they too would become non-jurisdictional, vulnerable to destruction or degradation.

The Clean Water Act's pollution control programs in § 402 (National Pollutant Discharge Elimination System (NPDES) permits) and § 404 (discharge of dredged and fill material permits), apply to point source discharges of pollutants to waters of the U.S. If non-navigable tributaries (and their adjacent wetlands) are removed from jurisdiction under an expansive extension of the reasoning in SWANCC, then no § 402 or § 404 permits could be required for discharges to such waters regardless of those waters' ecological or commercial importance and regardless of the severity of harm such discharges could cause. State § 401 certification authority would also be lost. Similarly, spills of oil or other hazardous substances currently prohibited under § 311 of the Act would no longer be prohibited if they occurred in non-navigable tributaries. Water quality standards under § 303 of the Act would no longer be relevant to the non-navigable tributaries as a matter of federal law, and total maximum daily loads (TMDLs) would no longer be required for such waters.

³This figure is based upon GIS data, specifically the National Hydrography Dataset ("NHD"). This figure represents start reaches, which the Region uses here as a rough approximation of first-order streams. The Region further uses first-order streams as an approximation of non-navigable tributaries. Due to the scale of the NHD, the actual mileage of first-order streams is likely substantially greater than reported here.

The water quality implications of such a change in jurisdiction would be enormous. The ecological functions and values of headwater streams and wetlands, and the adverse effects associated with their loss, have been well-recognized. Sowles (1991) noted that “[l]akes, rivers, and even the sea are, after all, summations of all the smaller source[s] of water flowing into them. . . . Biologically, chemically, and physically, headwater systems are probably the most important component of our water resource system to protect and riparian areas are an integral part of that system.”⁴ See, also, Addison, T., and T. Burns. 1991. The Army Corps of Engineers and Nationwide Permit 26: Wetlands Protection or Swamp Reclamation? *Ecology Law Quarterly*, 18(3): 619-669; Robinson, A. 1995. Small and Seasonal Does Not Mean Insignificant: Why It’s Worth Standing Up For Tiny and Temporary Wetlands. *Journal of Soil and Water Conservation*, 50(6): 586-590. Excluding such areas from CWA jurisdiction could, cumulatively, result in massive losses of aquatic habitat, fish spawning areas, and flood control areas; dramatic reductions in nutrient production and transport for downstream fisheries; and significant loss of recreational opportunities. Furthermore, pollutants discharged into non-navigable tributaries and their adjacent wetlands would in many cases have adverse effects on downstream waters. Direct effects could include toxic or other adverse effects of pollutants that persist in the water column and enter the downstream waters. Indirect effects could include increased downstream flooding from unregulated upstream filling; adverse effects from increased turbidity and sediment loads on fish and other aquatic species that depend on headwaters areas for spawning and rearing young; reduction in or loss of food sources available to downstream fisheries; and reduction in assimilative capacity and passage of excess nutrients to downstream waters, leading to their eutrophication.

One example of the consequences of excluding non-navigable tributaries from jurisdiction involves the City of Marlborough, Massachusetts. The East Marlborough POTW discharges effluent containing high levels of phosphorus into the headwaters of Hop Brook, a non-navigable tributary of the Sudbury River, which shortly after the confluence with Hop Brook flows into and

⁴Sowles described the array of ecological functions and societal values that are dependent upon headwater systems. Among others, Sowles listed the following:

- Protection of downstream water quality – e.g., “Water quality in Maine’s large rivers are direct products of water quality passed down to them from the headwaters”;
- Production of nutrients and their export – e.g., Headwater systems form the base of the food web and are “absolutely vital to all life downstream”;
- Support of cold water fisheries – e.g., “The vast majority of our trout and salmon, spawning and nursery habitats are located in small, fast flowing, cool, and clean streams”; and,
- Protection of private property – e.g., The effects of most stream bank stabilization projects disturb the entire riparian zone and “reverberate downstream” irrespective of property and political boundaries. Downstream property owners (as well as water quality, fisheries, and wildlife) “suffer measurably due to irresponsible actions by upstream individuals.”

See also, e.g., Meyer, J.L. and J.B. Wallace. 2001. Lost Linkages and Lotic Ecology: Rediscovering Small Streams. Chap. 14, pp. 295-317, in *Ecology: Achievement and Challenge*, M. Press and N. Huntly, eds. Blackwell Science, Oxford, UK; Peterson, B.J., et al. 2001. Control of Nitrogen Export from Watersheds by Headwater Streams. *Science*, vol. 292, pp. 86-90.

through a national wildlife refuge managed by the U.S. Park Service. The high levels (orders of magnitude above normal background levels) of phosphorus have caused severe eutrophic conditions in the brook (as well as in the entire basin, of which the Hop Brook is but one tributary), which directly and adversely affect the aesthetic and recreational aspects of several historic landmarks adjacent to the impoundments near the discharge. The eutrophication also severely reduces the viable aquatic habitat in the brook and contributes to adverse aquatic and recreational impacts in the Sudbury River. The POTW needs modernization and upgrading. If EPA were unable to issue and/or maintain the permit necessary to compel this upgrade, the facility's discharge would continue to exacerbate an already intolerable affront to the users and the environment. If the discharger chose to provide even less treatment than currently provided, it would only aggravate the situation further.

Another example involves particularly valuable rivers in Maine. In 2000, Atlantic salmon (*Salmo salar*) runs on eight rivers in Maine were listed as endangered under the Endangered Species Act (65 Federal Register 69481). These include runs on the Pleasant River, Machias River, East Machias River, Narraguagas River, Dennys River, Ducktrap River, Sheepscot River, and Cove Brook. The majority of the tributaries to these rivers are first order non-navigable streams. Although small in size individually, together these streams play a pivotal role in maintaining the health of these rivers and ultimately in the recovery of the Atlantic salmon. These first order, or headwater, streams provide the base flow for main stem rivers, transport nutrients and detritus material downstream to be utilized by aquatic life, and can also provide rearing habitat for juvenile Atlantic salmon. Additionally, these streams and associated wetlands stabilize sediments in the upper reaches of the watershed to prevent vital areas, such as spawning beds, from being smothered. The loss of federal jurisdiction over these headwater streams would jeopardize the restoration efforts currently underway for the Atlantic salmon and would also place at risk other native species such as the brook trout (*Salvelinus fontinalis*) which are sensitive to changes in both water quality and quantity.

Wetlands adjacent to first order streams can play a critical role in supporting downstream fisheries. For example, Maine's 4,000-acre Great Heath (a peat bog) forms the headwaters of the Pleasant River, where Atlantic salmon (*Salmo salar*) have been known to spawn. Great Heath is very likely important in maintaining adequate water quality for spawning to occur in this river (Johnson 1985). The dependence of Atlantic salmon on high quality water could be jeopardized by the disturbance of peatlands no longer under CWA jurisdiction. Disturbing the Great Heath could result in a decline in the water quality of the Pleasant River by the release of suspended organic material (i.e., increased turbidity), increased acidity, and decreased oxygen content (Johnson 1985).

In addition, according to researchers (Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA, 2001) who have applied sampling methods developed in a National Science Foundation (NSF) Arctic area ecological study to waterways across the nation, small streams remove more nutrients such as nitrogen from water than do their larger counterparts. Excess nitrogen can cause ecologically damaging effects in large waterways, include algal blooms,

because the excess nutrients are transported downstream and collect there. The study found that there "is a very strong relationship between the size of a stream and how rapidly that stream removes nutrients . . . the smaller the stream, the more quickly nitrogen can be removed and the less distance it will be transported down the stream." Further, the study concluded that while excess nitrogen has many sources, including runoff from residential lawns and byproducts of automobile combustion, taking greater care to ensure that small streams can work effectively to clean the water will reduce the overall nitrogen load that makes its way into larger bodies of water.

Finally, aquatic resources in New England provide a host of recreational opportunities including hunting, fishing, bird watching and wildlife photography. These activities provide significant sources of revenue for each of the New England states. As shown below, over three billion dollars was spent in New England in 2001 on fishing, hunting, and wildlife watching. While the economic benefit attributed solely to isolated wetlands, and headwater streams and their adjacent wetlands is extremely difficult to ascertain, the value of these areas to wildlife, and ultimately recreational users, should not be underestimated. Headwater streams (i.e., non-navigable tributaries) and associated wetlands support fisheries by providing base flow for main stem rivers, transporting nutrients and detritus material downstream to be consumed by aquatic life, protecting water quality, and providing rearing habitat for juvenile fish. Isolated wetlands are commonly used by waterfowl as feeding and resting areas. The loss of federal jurisdiction over geographically isolated wetlands and other waters places these valuable components of the ecosystem at great risk; extending that loss of federal jurisdiction to non-navigable tributaries and their adjacent wetlands would likely have a severe impact on fishing, hunting, and other recreational opportunities.

NEW ENGLAND EXPENDITURES ON WILDLIFE RELATED ACTIVITIES - 2001				
	Fishing¹	Hunting²	Wildlife Watching³	Total
Connecticut	\$224,000,000	\$43,000,000	\$226,000,000	\$493,000,000
Maine	\$251,000,000	\$162,000,000	\$346,000,000	\$759,000,000
Massachusetts	\$465,000,000	\$59,000,000	\$469,000,000	\$993,000,000
New Hampshire	\$165,000,000	\$71,000,000	\$343,000,000	\$579,000,000
Rhode Island	\$105,000,000	\$5,000,000	\$169,000,000	\$279,000,000
Vermont	\$92,000,000	\$52,000,000	\$203,000,000	\$347,000,000
				\$3,450,000,000

¹ Data obtained from *2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*. October 2002. U.S. Department of Interior, Fish and Wildlife Service and U.S. Department of Commerce, U.S. Census Bureau. Table 64, Page 111.

² Ibid. Table 59, Page 107.

² Ibid. Table 69, Page 116.

C. Practical Difficulties of Operating a Regulatory Program to Control Pollution Based on Actual Downstream Effects

Any attempt to protect downstream navigable waters from pollutants introduced into upstream non-jurisdictional tributaries under the current structure of the CWA would be subject to legal challenge, and difficult to implement from a practical standpoint. In New England, there are a number of municipal sewage treatment plants that discharge treated effluent to non-navigable tributaries. Nearly all of these facilities were originally built with substantial federal grant dollars and, more recently, upgraded with the assistance of low-cost loans from federally funded state revolving fund programs. If the receiving waters to which they discharge are removed from CWA jurisdiction, then no NPDES permits could be required for the discharges to those waters. The POTWs could discharge poorly treated or even raw sewage to the non-jurisdictional water, with obvious human health and ecological effects not only on the immediate receiving water but in many cases on the downstream navigable water as well. A similar situation would arise for any industrial discharges to non-navigable tributaries. In Connecticut, for example, the Connecticut Department of Environmental Protection (CT DEP) estimates the number of affected dischargers could approach 10 percent (excluding dischargers subject to the storm water permitting program). Approximately 7 percent of the State's municipal facilities discharge to first order streams. Extension of the SWANCC reasoning to the receiving waters for these facilities could call into question the complex permitting and pollutant trading program that has been established to implement the Long Island Sound TMDL and maximize savings to the CT Clean Water Fund. The town of Belchertown, the Worthington Senior Housing Complex, the Micro Abrasives facility, a coal storage facility at UMASS Amherst, and a Guilford Industries rail maintenance operation are examples of dischargers within the Connecticut River Basin that would likely fall outside of § 402 coverage if non-navigable tributaries were dropped from jurisdiction. Other smaller municipal and industrial facilities, particularly those associated with storm water phase 1 and 2 discharges, may also fall out if first order streams were no longer jurisdictional. We anticipate that similar facilities in NH and VT would also be affected. Overall, the general consensus is that the number of currently permitted facilities discharging into non-navigable tributaries in New England likely approaches 10 percent (again not accounting for the storm water program). This estimate could be plus/minus depending on how finely a non-jurisdictional definition is cut.

Arguably, one could assert that an NPDES permit is required for any discharge whose effluent would reach a downstream navigable water. This argument would be weak legally, at least under current statutory and regulatory language. The farther away the discharge is from the confluence of the non-navigable tributary and a navigable water, the more difficult it would be to assert that an NPDES permit is required for a point source discharge of a pollutant to a water of the U.S. It could be extremely burdensome for the permitting agency (EPA or the states) to either demonstrate or review a discharger's demonstration as to whether and to what extent pollutants

would reach the downstream navigable water in order to trigger the need for an NPDES permit. The complexity of writing a permit in such circumstances would also increase substantially, because the fate and effect of the pollutants could be strongly influenced by a variety of other pollution sources to the tributary before they reach the navigable water. The practical effect would be the creation of "effluent" channels which polluters would potentially be able to use as a means of avoiding treatment. Conceivably, some facilities may even choose to relocate their discharges to unregulated streams to take advantage of such sweeping changes if allowed to occur. Clearly this would be regressive and not an intended result of CWA authorities. Such an occurrence would reverse years of effort and resources dedicated to restoring uses in these waters through the application of the appropriate levels of treatment.

There also could be a chilling effect on the TMDL program. In states where EPA is the NPDES permitting authority, or in approved states that equate state waters' jurisdiction with federal waters' jurisdiction, it would be difficult to implement a wasteload allocated to a point source discharging into a now non-jurisdictional water that ultimately discharges into an impaired segment of a navigable receiving water for which the TMDL has been developed. This difficulty would be further exacerbated if there were multiple discharges to the now non-jurisdictional water. For example, the most comprehensive TMDL issued to date in this Region was the Long Island Sound TMDL. Long Island Sound is severely impaired by hypoxia, which is caused primarily by nitrogen loadings. The TMDL established nitrogen limits on, among other sources, approximately 80 POTWs that discharge to tributaries to Long Island Sound. As noted above, approximately 7% of these point sources discharge to first order streams. If jurisdiction over such waters were eliminated, CTDEP's ability to ensure achievement of the nitrogen load reductions required to restore the health of Long Island Sound could be diminished if state law were interpreted in a manner similar to the revised federal jurisdiction. To address this problem, states may decide to impose more stringent wasteload allocations on dischargers to the remaining jurisdictional waters, which could result in inequitable load distributions among similarly situated point sources.

Shrinking federal jurisdiction over non-navigable tributaries also would significantly compromise full implementation of Phase 2 of the storm water permitting effort and may leave many medium and small MS4s in the awkward position of "guessing" at the extent of their program implementation efforts. Certainly this would greatly hinder the efforts to achieve the CWA's goal of restoring the chemical, physical and biological integrity of the Nation's waters. Similarly, many discharges currently subject to Phase 1 permits could drop out of the regulatory program, particularly storm water discharges associated with construction site activities. These sources frequently discharge to non-navigable tributaries. Sediment-laden storm water is a major source of pollution of the nation's waters. Indeed, sediment loading is one of the top three causes of impaired waters nationwide. If non-navigable tributaries are dropped from jurisdiction, water quality improvements over the last ten years due to increased control of storm water would be significantly undermined.

From the enforcement standpoint, even proposing elimination of jurisdiction over non-navigable tributaries and their adjacent wetlands could have a significant adverse effect on our enforcement program, calling into question pending wetland and NPDES enforcement cases. For example, the Region recently issued an administrative order and is developing a penalty action against an NPDES facility that discharges over 20,000 gallons per day into a stream that is tributary to a traditionally navigable water in Massachusetts. Discharges from the facility have included chlorine in concentrations up to 380% above the NPDES permit limit, BOD up to 907% above the permit limit, TSS up to 3147% above the limit, total ammonia nitrogen up to 1817% above the permit limit and total phosphorus up to 320% above the permit limit. In another matter, the Region has referred to the Department of Justice an enforcement action against a New Hampshire facility for unpermitted process and industrial storm water discharges of very low pH to an unnamed tributary of the Souhegan River. Finally, several of the Region's ongoing CSO enforcement actions involve CSO discharges into small tributaries. Merely proposing to narrow EPA's jurisdiction over some tributaries will interfere with settlement of these cases and prolong litigation over long resolved legal issues. Even where the discharges that are the subject of the enforcement action are believed to have impacted a traditionally navigable water, the need to prove such harm to establish liability would seriously undermine these cases.

In the case of wetlands, the Region is actively litigating one case, and is preparing referrals in additional cases, that involve wetlands adjacent to non-navigable tributaries of traditionally navigable waters. United States v. Johnson (D. Mass.) involves approximately 40 acres of fill in such waters, one of the larger unauthorized wetland discharges in New England. Defendants in the Johnson case have already moved for a stay based on the guidance attached to the ANPRM, alleging that any discharge to wetlands occurred in isolated wetlands. Although that motion was denied, if the agencies were to propose new regulations limiting EPA's ability to assert jurisdiction over wetlands adjacent to non-navigable tributaries, we can expect further delays and resources to be used in litigating this contentious case.

Altering CWA jurisdiction would have implications for other statutory schemes, particularly the Resource Conservation and Recovery Act (RCRA). RCRA excludes from the definition of "solid waste" industrial point source discharges that are subject to § 402 of the CWA. If non-navigable tributaries were excluded from CWA jurisdiction, wastewater discharges to such waters would no longer be subject to the § 402 NPDES permitting program and therefore could no longer rely on the RCRA exclusion. Such discharges would constitute "solid wastes" under RCRA (even in liquid form) and many of them may also be deemed hazardous wastes because they would either fail the toxicity characteristics leaching procedure (TCLP) test or otherwise exhibit a hazardous characteristic or because they would be listed wastes or derived from certain processes that generate listed wastes under RCRA. If the hazardous waste rules apply to the wastewater, discharging the effluent would be a disposal requiring a RCRA permit. Hence, a potentially significant consequence of excluding non-navigable tributaries from CWA jurisdiction is that many industrial discharges currently regulated by NPDES permits would have to obtain RCRA permits, an outcome which we believe the regulated community would greet with great disfavor. Congress's decision to exempt from RCRA discharges that are subject to

CWA jurisdiction exhibits Congressional understanding that the CWA is broad statute which extends to the farthest reach of the Commerce Clause and therefore RCRA didn't have to regulate these discharges because they would be regulated under the CWA. Congress envisioned that together, the CWA, Clean Air Act, and RCRA would comprehensively regulate wastes whether discharged to the air, water, or ground and groundwater. Changing long-standing expectations about the scope of CWA jurisdiction will upset this comprehensive statutory scheme.

IV. State Authorities

A. Extent of Regulation Available Through State Programs

In New England, as in other areas of the country, eliminating CWA jurisdiction over isolated waters and non-navigable tributaries and their adjacent wetlands would leave thousands of acres wetlands and other waters, and thousands of miles of tributaries unprotected. Though New England states have relatively strong regulatory programs to protect water quality and wetland values, these programs have "gaps" in their jurisdictional reach that are currently filled by the CWA regulations. Generally speaking, the New England states regulate the full spectrum of surface waters, including ponds, wetlands, streams and rivers. However, these programs contain certification or mapping requirements, size criteria, and broad agricultural exemptions that limit the extent of state protection for isolated or non-navigable waters such as vernal pools, intermittent streams and headwater wetlands.⁵ In addition, the manner in which several state wetlands or water quality programs are implemented highlights the importance of federal regulation as the sole source of regulatory review for environmentally important water bodies. Examples of some of these gaps are described below.

Vermont's Wetland Rules and Maine's Land Use Rules and Regulations largely rely on National Wetlands Inventory ("NWI") maps to identify jurisdictional wetlands. Maine uses NWI maps to identify jurisdictional wetlands in unincorporated areas of the state, though wetlands of any size may be regulated if delineated on-site. If identified by an NWI map, a wetland must be at least 15,000 sq. ft. in size to be regulated. Vermont generally does not regulate wetlands that do not appear on NWI maps unless they are separately identified as "significant wetlands" by the Vermont Water Resources Board. Unfortunately, NWI maps do not provide complete information as to what waters exist. First, they are often out of date; Vermont's NWI maps were most recently updated in 1986. Second, they are drawn at a scale that does not allow for identification of relatively small wetlands. Third, wetlands that exist in evergreen forests, which dominate the northern states, are not visible to NWI aerial photography and hence are not mapped.

⁵ To the extent that it is good policy for the state and federal programs to be complementary, removing federal jurisdiction over isolated waters would be inadvisable, given the gaps in state programs which regulate them.

Massachusetts and Maine each require that certain waters be certified or designated in order to be regulated. Massachusetts protects vernal pool habitat only if it has been certified prior to the time at which a project proponent files a permit application for the area. While it is a successful regulatory tool, the certification process is highly labor intensive. Of the approximately 30,000 areas that the Mass. Division of Fisheries and Wildlife has identified as probable vernal pools, only about 3,000 have been certified. Similarly, Maine regulates isolated "non-wetland" waters such as vernal pools through the designation of "significant wildlife habitat." In addition to being defined, located and mapped by the Division of Inland Fisheries and Wildlife, significant wildlife habitats must be adopted through the legislative rule-making process before they are regulated. Staff and resource constraints mean that many small isolated waters are regulated only under CWA authority. If this authority is taken away, activities in these areas will be entirely unregulated.

Exemptions for agricultural projects represent a significant source of alteration to water bodies in New England. Most New England states grant broader exemptions for agricultural activities than the CWA regulations allow. For example, Maine, Vermont and Connecticut exempt not only existing but future agricultural projects from regulation (though they generally require that the activity be a "normal" farming activity). The scope of the exempt activities in Vermont is broader than the activities identified in 40 C.F.R. § 232.3(c), and there is no recapture provision to guard against more than minimal adverse effects on wetlands. Isolated and ephemeral waters are most vulnerable under state exemptions. Massachusetts limits the extent of bordering vegetated wetland altered by an agricultural project, but does not limit the amount of alteration to isolated waters. Connecticut allows agricultural projects to fill intermittent or ephemeral wetlands (i.e. waters without continuous flow) without a permit. Projects of three acres or less that take place within wetlands or watercourses with continual flow are also exempt. While the project size may be limited, a three acre project could easily eliminate entire isolated water bodies, such as small ponds or vernal pools, or even vernal pool complexes. Currently, federal jurisdiction plays an important role in limiting the extent of fill in such waters as well as preventing the conversion of wetlands areas for new agricultural use.

Constriction of CWA jurisdiction may also limit the ability of state waste discharge programs to achieve water quality goals. In Vermont the state water quality standards apply to "waters of the United States," as defined by the CWA regulations. Therefore, any waters removed from federal jurisdiction could potentially fall out of the scope of the water quality standards. This could result in unregulated discharges to headwaters, first order tributaries, ponds, and wetlands not adjacent to navigable waters. Rhode Island may face a similar problem. While the RIPDES program applies to all surface waters within the state, its regulations state that they "shall at all times be construed so as to assure consistency with the Clean Water Act." Rule 5.00(d). A party seeking to avoid regulation could claim that this provision requires Rhode Island to conform its RIPDES jurisdiction to the extent established in the CWA regulations.

In addition, the New England states often rely on the § 401 certification process to protect wetlands and other waters from the adverse consequences of projects which require federal

licenses or permits. This is an especially valuable tool for protecting state waters in the circumstance where there is not a separate state permitting program that could regulate the project. States would lose their ability to rely on § 401 for any waters that are excluded from CWA jurisdiction.

B. Practical Constraints on State Regulation

Withdrawing federal regulation from isolated and other non-navigable waters would significantly increase the burden on the New England states' regulatory programs. Most New England states are already straining to meet their current responsibilities with small staffs and limited budgets. Given the challenges these state programs face, it is unrealistic to expect them to expand their duties to cover resources that have lost federal protection. Those that do try to fill the void may have to do so at the expense of other important functions.

At least two of the state programs are experiencing or expecting layoffs among their wetlands and water quality staff. The Massachusetts Department of Environmental Protection expects to lose 250 staff members agency-wide by the time layoffs are done. This will affect such functions as § 401 certification, enforcement, permit appeals, assistance to municipal conservation commissions and policy-making. As a result of budget cuts, the Maine Land Use Regulation Commission's wetlands regulatory program will be reduced to one staff member with wetlands training and experience and ten field personnel to administer and enforce its rules over 10.5 million acres of land in Maine's unincorporated areas.

In Connecticut and Massachusetts, municipalities have been authorized to implement state wetlands regulations. In Massachusetts, municipal conservation commissions consisting of volunteers are responsible for issuing wetlands permits. Municipalities thus bear much of the cost of wetland regulation. However, state aid to Massachusetts towns has recently decreased to such an extent that some have been forced to limit or suspend the services they provide. In fact, decreasing fiscal resources and the accompanying desire to expand their tax revenue base may lead municipalities in Massachusetts and Connecticut to reduce their wetland protection efforts in favor of accommodating development.

New England states are likely to experience pressures to weaken their regulatory programs. These states are known for having strong wetland and water quality programs. However, their strong programs may put them at a competitive disadvantage when trying to attract industries to their respective states. In the interest of lowering their costs, industries may choose to do business in states that do not regulate anything beyond what is required under CWA regulations. States that maintain more stringent regulatory programs may in effect be penalized for doing so, particularly under the current conditions of an economic slow-down and rising unemployment. This scenario represents precisely the sort of "race to the bottom" that federal natural resource regulation is supposed to prevent.

V. Suggested Approach to Clarification of Definition of "Waters of the U.S."

The ANPRM calls for comments regarding whether there should be a regulatory definition of "isolated" waters, and whether isolated waters should continue to be regulated in the wake of the SWANCC decision. Because the SWANCC analysis requires a consideration of a significant nexus to a navigable water, the Region believes it is necessary to address the definition of these terms as well as a definition of "isolated" waters.

A. Recommended Approach for Defining What Is/Is Not Isolated

We see both advantages and disadvantages in creating a regulatory definition of "isolated water" or in further defining the term "adjacency" in order to clarify what waters are not adjacent (and therefore "isolated"). It may be preferable to develop field identification methods rather than a regulatory definition. There are two parts to the issue: defining an intrastate, non-navigable isolated water, and developing an efficient procedure for identifying these waters within the context of the CWA § 404 regulatory program. At times the two are commingled, which results in confusion and disagreement. However, if the Agency determines that a new definition is warranted, we offer the following observations.

Any definition should be framed in the context of the CWA goals. Following the recent proposal of the California State Water Resources Board (March 13, 2003, comment letter on the ANPRM), we suggest the following:

"Isolated waters" are those waters which have no chemical, physical, or biological relationship to the integrity of the navigable waters (including their tributaries and adjacent wetlands), and whose use, degradation, or destruction, either individually or cumulatively, would not diminish the chemical, physical, or biological integrity of those navigable waters (including their adjacent wetlands or tributaries).

This definition recognizes the concept of ecological "connectivity" in all its senses – chemical, physical, and biological. It is also consistent with the stated objective of the Clean Water Act, which is "to restore the chemical, physical, and biological integrity of the Nation's waters." (CWA § 101)

Any approach for identifying isolated waters must be based in science, yield reliable and consistent results, and be efficient from a practicability perspective. We recommend that a two part test be established. The first test relates to hydrology and is consistent with the "contiguous" and "bordering" elements of the existing definition of "adjacent." Under this test, a water would not be isolated if there is a discernible surface water connection, either permanent or intermittent, to a water body that is a traditionally navigable water, a tributary to traditionally navigable waters, or a wetland that is adjacent to one of those water bodies. Conversely, if there is no such

surface water connection (“geographically” or “hydrologically” isolated)⁶, then the water should be evaluated to determine if it is ecologically isolated, meaning it lacks a discernible biological relationship to a traditionally navigable water, a tributary to traditionally navigable waters, or a wetland that is adjacent to one of those water bodies.

Ecological isolation is a challenging concept. Physical barriers that affect seed dispersal, animal movements and reproductive success, and movement of energy in the form of nutrients and other food matter would have to be considered. Isolation in this context may be defined using biological connections as a surrogate for the broader ecological nexus. Biological relationships probably would be easier to observe and document as well and be best represented by wildlife movements and use of wetlands or other waters. From a wetland-dependent animal's standpoint, isolation is a function of the number of neighboring wetlands, the distance between them, the nature of the matrix land cover, and the mobility of the particular species (see Tiner *et al.*, 2002). Determining ecological isolation using biological surrogates might also require identification of discontinuities in biological characteristics like genotypes or phenotypes of certain species. In the view of some landscape ecologists, an isolated system is one that has no exchange of energy or matter with its surrounding environment (Forman and Godron, 1986).

Nevertheless, science-based biological relationships could be established. For instance, in New England, it is well-documented that spotted salamanders commonly range more than 1,000 feet, and in some cases as much as 2,000-3,000 feet, from vernal and other woodland seasonal pools. Some proportion of a salamander population may use different breeding pools (commonly referred to as “clusters” or “clustered pools”) from year to year, where one or more of the pools is adjacent to a traditionally navigable water, a tributary to traditionally navigable waters, or a wetland that is adjacent to one of those water bodies. Moreover, several wide-ranging, wetland-dependent mammals (e.g., raccoon, mink, river otter, black bear) use the abundance of breeding salamanders, wood frogs, and their egg masses found in seasonal pools as an important food source in spring. Biological relationships for particular types of isolated wetlands and other waters would vary regionally and would need to be established based upon sound science. Only if a water is both hydrologically and biologically isolated should it be considered “isolated” from the regulatory standpoint.

One of the Region's concerns relates to waters that were formally adjacent or tributary to navigable waters, but which have become separated from them as a result of permitted or unpermitted activities. Depending on what definition of “isolated” is chosen, we are concerned that waters which were previously adjacent or tributary to other waters could now be considered “isolated” and potentially lost to jurisdiction. For example, filling a portion of a wetland

⁶ We recognize that many wetlands which lack a surface water connection might well be connected hydrologically via ground water to other wetlands and to rivers and streams. This is a difficult characteristic to establish or otherwise document from a practicability standpoint, but it is an issue that warrants further evaluation.

complex that drains to a river could sever the segment that remains “upstream” of the filled area from the segment that remains connected to the river. Similarly, filling or diverting a stream segment could sever the upstream portion of the stream from lower sections that remain tributary to other jurisdictional waters. Circumstances such as these could result in many more waters being characterized as isolated, and CWA jurisdiction over such waters could be lost. We strongly urge that any new regulatory definition of “isolated waters” explicitly exclude from the definition waters that have become isolated as a result of human activities that eliminate or interrupt a surface water or ecological connection that previously existed.

It is also important to consider the implications of any definition of “isolated” water for wetlands and other waters that have been or will be created, as a condition of a § 404 permit or in response to an enforcement action, as compensatory mitigation for impacts associated with filling or degrading existing wetlands. Wetlands created as compensatory mitigation may not always be hydrologically connected to navigable waters or their tributaries, but are nevertheless important to replacing functions and values of wetlands that have been lost to permitted (or unpermitted) activities. We recommend that any regulatory changes that address jurisdiction clarify that all wetlands created as compensatory mitigation remain within CWA jurisdiction.

In addition, we recommend clarifying that concepts of adjacency apply to all waters, not just wetlands. Current EPA and Corps regulations extend jurisdiction to *wetlands* that are adjacent to waters (other than wetlands) identified in other sections of the definition of “waters of the U.S.” (see, e.g., 40 C.F.R. § 230.3(s)(7)). It has never been clear why only adjacent wetlands, and not other adjacent waters, are included in this provision. We have encountered a number of circumstances where there has been a pond adjacent to a stream or river. If it were a wetland it would clearly be jurisdictional but as a non-wetland, the jurisdictional status is unclear. We recommend that any new definitions of “adjacent” and “isolated” be written with all waters in mind, not just wetlands, so that adjacent waters which are not wetlands are clearly jurisdictional.

B. Recommendations Regarding the Definition of “Navigability”

The SWANCC decision states that the word “navigable” as used in the CWA has some meaning, albeit a limited effect, as explained in the 1985 case of United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985). SWANCC did not, however, determine what “navigable” means in the CWA context, other than to rule that waters where jurisdiction was asserted under the Migratory Bird Rule alone were not “navigable waters” within the meaning of the Act. We urge that a broad reading of the term “navigable waters” be applied.

As an initial matter, it should be noted that under the case law, the category of traditional “navigable waters” in the CWA is broader than the “navigable waters of the United States” identified under Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. 403. It is not necessary, for example, that a water be a part of a continuous or international highway for commerce in order to be “navigable” under the CWA. For example, the Great Salt Lake in Utah

is a “traditional navigable water” and thus subject to CWA jurisdiction, but it is not a “navigable water of the United States” subject to Section 10 jurisdiction. Compare Utah v. United States, 403 U.S. 9 (1971) (Great Salt Lake “navigable-in-fact”) with Hardy Salt Co. v. Southern Pacific Transportation Company, 501 F.2d 1156 (10th Cir. 1974) (Great Salt Lake not covered by RHA Section 10 because it is landlocked and therefore not part of a continuous interstate or international highway for waterborne commerce).

If a water is used for navigation, or is susceptible to use with reasonable improvements for navigation, it should be considered a “navigable” water for purposes of the CWA, regardless of the time, manner and extent of its use. This would be consistent with judicial decisions construing the Commerce Clause powers over navigation and statutes based on the Commerce Clause authority. See e.g., United States v. Appalachian Electric Power Co., 311 U.S. 377 (1940), Utah v. United States, 283 U.S. 64 (1931) and Economy Light and Power Co. v. United States, 256 U.S. 113 (1911). Drawing on the principles enunciated in these cases, a water should be considered navigable: if a water was used for navigation, even sporadically, in the past but is no longer used; even if there are obstructions requiring portages of several miles; or even if used only by flat bottomed boats or canoes, some for pleasure.

Under the case law, private or personal boat use for recreation may be sufficient to establish the susceptibility of use for commercial navigation. See Appalachian Electric Power Co., 311 U.S. at 416. Certainly, if a water is used by recreational boaters for purposes of visiting a tourist attraction, or if visitors cross state lines to use the water for recreational boating, canoeing or rafting, these facts should be sufficient to establish use for navigation with a clear enough connection to commerce to satisfy the Commerce Clause. See, e.g., United States v. Underwood, 344 F. Supp. 486 (M.D. Fla. 1972).

Indeed, simple use by canoes, even without a commercial component, should be sufficient. This would protect waters which are nationally significant, both in a commercial and environmental sense, but on which commercial boating does not occur. For example, Walden Pond in Massachusetts attracts people from all over the United States, and is an emblem of the environmental movement. Canoeists and kayakers use the pond, and it has a public swimming beach, but it lacks commercial boating. Because Walden Pond is not connected by surface water to any other water body, it could be considered an isolated, intrastate water. If a direct link between commercial navigation and boating is required, Walden Pond would not be covered under the Clean Water Act. As suggested in a recent D.C. Circuit opinion of FPL Energy Maine Hydro LLC v. FERC, 287 F.3d 1151 (D.C. Cir. 2002), simple use by boaters, even with no clear commercial component, should be sufficient to establish that a water is susceptible of navigation (stream with rapids navigated by test canoes).

C. The Requirement for a Significant Nexus

In SWANCC, the Supreme Court suggested that there must be a “significant nexus” between the waters that are to be regulated and a “navigable water,” as that term is construed under the Clean

Water Act. 121 S.Ct. 675, 680 (2001).

The Region believes that the case law supports a broad reading of the significant nexus requirements. First, as stated above, “navigable waters” should be construed to mean all waters which are or have been used for navigation, or which are susceptible of use with reasonable improvements for navigation, regardless of the time, manner and extent of such use.

Second, we note that it is well established that wetlands adjacent to navigable tributaries have sufficient nexus to navigable waters to assert jurisdiction under the Clean Water Act. The SWANCC Court left standing the decision of the Supreme Court in United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985), which held that wetlands adjacent to traditionally navigable waters were jurisdictional. In Riverside Bayview Homes, the Court held that the Army Corps of Engineers acted reasonably in interpreting the CWA to cover such wetlands, citing the ecological relationship between wetlands and the water quality of adjacent lakes, rivers and streams, even though water did not flow from navigable bodies of water to the wetlands. The Court relied upon the fact that the wetlands may serve to filter and purify water draining into the navigable waters, slow runoff and prevent erosion, and the fact that wetlands provide other natural biological functions which are an integral part of the aquatic environment. Riverside Bayview Homes, 474 U.S. at 134-135 (1985). Thus, under the reasoning of Riverside Bayview Homes, both the pollutant retention and erosion control functions of wetlands *and* the natural biological functions of such waters (such as food chain production, general habitat and nesting, spawning, rearing and resting sites for aquatic species), establish sufficient nexus between an adjacent wetland and a traditionally navigable water for jurisdiction to attach under the statutory provisions of the CWA.

It is also well established that non-navigable tributaries which flow into navigable waters have a significant nexus to navigable waters. This position is supported by ample case law, both before and after the SWANCC decision. These cases generally rely on the fact that the water quality of the upstream non-navigable waters is essential to the quality of the navigable water. *See*, Headwaters, Inc. v. Talent Irrigation District, 243 F.3d 526, 534 (9th Cir. 2001)(intermittent non-navigable tributary); Community Ass. For Restoration of the Env't v. Henry Bosma Dairy, 305 F.3d 953 (9th Cir. 2002) (drain that flows into canal that flows into river is a water of the United States); United States v. Interstate Gen. Co., No. 01-4513, slip op. at 7 (4th Cir. July 2, 2002), *aff'g* 152 F. Supp. 2d. 843 (D. Md. 2001). Even when the distance from the tributary to the navigable water is significant, the quality of the tributary is still vital to the quality of the navigable water. United States v. Lamplight Equestrian Ctr. 2002 WL 360652 (N.D. Ill. March 8, 2002)(wetland that drained through man-made drainage ditch, then through delta, then into non-navigable stream, then into navigable water are jurisdictional); United States v. Buday, 138 F. Supp. 2d 1282 (D. Mont. 2001)(non-navigable tributary some 200 miles upstream of navigable-in-fact river is jurisdictional under the CWA).

Several principles can be extrapolated from these cases that elucidate SWANCC's requirement for a “significant nexus” between a water that is to be regulated and a navigable water. First,

both Riverside Bayview Homes and the majority of the circuit court cases following SWANCC indicate that whenever there is a hydrological connection between the water at issue and, eventually, a navigable water, the requisite nexus is established. This is because the water to be regulated affects (or may affect) the quality of the navigable water, as it contributes flow to the navigable water. Second, the Riverside Bayview Homes case indicates that a substantial nexus is established where the water to be regulated provides biological functions, such as food chain support and habitat provision, that affect a navigable water or tributary thereto. To the extent that SWANCC undercut the reasoning of Riverside Bayview Homes, the cases can be reconciled by requiring that, when the nexus is established solely by a biological (or, as discussed above, an ecological) relationship, there must be a demonstrable biological connection between the water to be regulated and a specific navigable water.

Using these principles, the significant nexus required by SWANCC would be met if waters are not “isolated,” as the Region has proposed that term to be defined above.

In the case of “isolated” waters, as Region I proposes the term to be defined (i.e. non-navigable, intrastate waters without a chemical, physical or biological relationship to navigable waters), the Region supports retention of the current definitions set out in 33 C.F.R. § 328 (a)(3)(i)-(iii). This category of waters, though small using the Region’s definition, may include some very significant resources – for example, an isolated water which is non-navigable and intrastate, but essential to maintaining the quantity or quality of a public drinking water supply. Another example would be a isolated, non-navigable, intrastate water (in New England, this could be a vernal pool) that supports an endangered species, which is studied by interstate and international scientists.⁷

Under the Commerce Clause, there is adequate basis for regulating such waters. The factors set out in 33 C.F.R. § 328 (a)(3)(i)-(iii) relate to factors that substantially affect interstate commerce – recreational issue by interstate boaters; sale of shellfish and fish in interstate commerce, and the use for industrial purposes by industries in interstate commerce. The power of Congress to regulate navigation derives from its Commerce Clause powers. The legislative history of the CWA is clear that Congress intended that the term “waters of the United States” was intended to be “given the broadest possible constitutional interpretation.” S. Conf. Rep. No. 92-1236, p. 144, reprinted in Leg. Hist. 327. Given the Congressional intent, it is reasonable for the agencies to

⁷Of course, if the agencies do not adopt a narrow view of isolated waters, such as Region I has proposed, it is even more important to emphasize the substantial nexus that would exist between navigable waters and some waters which *are* considered isolated. If, for example, the agencies chose to promulgate a rule to the effect that waters lacking a direct hydrological connection are considered isolated, then such waters that have a biological connection to a particular navigable water would (even though defined as “isolated”) still have a substantial nexus to the navigable water based on their biological connection, and could therefore be regulated by the CWA. If this were the approach taken, the factors in (a)(3) would need to be expanded to include the concept of ecological connection to a navigable water.

take the position that the nexus that must be established relates to the broader context of interstate commerce, rather than focusing exclusively on navigation. In that case, the nexus requirement could be met in the case of waters which substantially affect interstate commerce, as do those identified in § 328(a)(3) and the drinking water example noted above.

VI. Jurisdictional Determinations in Advance of Final Rulemaking

The Agency guidance which accompanied the ANPRM instructed Corps and EPA field staff to consult with their respective headquarters offices before asserting jurisdiction over a isolated waters. We recommends that in this interim period before the completion of any formal rulemaking, EPA and Corps field staff should also be required to consult with their respective headquarters offices before deciding *not* to assert jurisdiction over an isolated water. It is extremely important for program consistency and for the protection of isolated waters that still fall within CWA jurisdiction that decisions to decline jurisdiction are subject to the same careful legal and policy review as are decisions to assert jurisdiction. We believe the agencies have a strong interest in assuring that decisions which either include or exclude areas from jurisdiction based on SWANCC considerations be legally and technically correct and reflect an appropriate degree of consistency.

VII. Conclusion

The effects of a change in the jurisdiction of the CWA could be extremely damaging in New England. Depending on how final regulations are drafted, the loss of federal jurisdiction over wetlands and other waters could range from an estimated 441,998 acres (if all geographically isolated waters are removed from jurisdiction) to 2,582,157 acres (if wetlands adjacent to non-navigable waters are also removed). This represents a loss of federal protection for 7 to 38% of all the remaining wetlands in New England. In addition, if non-navigable tributaries and streams are removed from regulation, 34,568 miles of streams would also be unprotected under the Clean Water Act. These potential effects are all the more dramatic in light of the historic loss of wetlands that has occurred in this Region and around the country. Although each of the New England states have some wetland regulatory programs, they are less comprehensive in some respects, and they require the backstop of the federal system in order to be effective.

The removal of such waters from jurisdiction would have a significant impact on the health of the New England environment, including effects that could be far removed from any particular water that would no longer be jurisdictional. Not only would New England suffer the loss or impairment of valuable waters and wetlands which provide, among other things, habitat to wetland species, flood retention, pollutant retention, and purification of ground and surface water, but the effect on upstream waters and wetlands will have significant negative consequences for traditionally navigable waters. In addition, any change in regulatory definitions would have a ripple effect throughout the system of water pollution control, requiring major changes to the NPDES and RCRA programs.

The Region therefore urges that no regulatory changes be made in the jurisdictional status of isolated, interstate, non-navigable waters. If it is determined that regulatory changes are required, they should be only those that are necessary to comply with the narrowest reading of the SWANCC case. The Clean Water Act's goal of restoring the "chemical, physical and biological integrity of the Nation's waters" should be the paramount consideration in crafting any such changes. If the agencies decide to include a regulatory definition of the term "isolated water," the Region urges that such term be as narrowly drawn as possible, so that any water with a hydrological or ecological connection with a navigable water, or tributary thereto, or an adjacent wetland, would not be considered isolated. In addition, the Region urges that the concepts of navigability and "significant nexus" be interpreted broadly in light of the goals of the CWA.

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