

# **THE AMMONOOSUC RIVER, UPPER REACH**

**A Report to the General Court**



**New Hampshire Rivers Management and Protection Program  
Department of Environmental Services  
Office of the Commissioner**

**Revised May 2009**



# **The Ammonoosuc River, Upper Reach**

## **A Report to the General Court**

**Prepared by**

**State of New Hampshire  
Department of Environmental Services  
Water Division – Watershed Management Bureau  
29 Hazen Drive  
Concord, NH 03302-0095**

**Thomas S. Burack  
Commissioner**

**Michael J. Walls  
Assistant Commissioner**

**Harry T. Stewart, P.E.  
Water Division Director**

**Steven M. Couture  
Rivers Coordinator**

**Revised May 2009**

**TABLE OF CONTENTS**

I. INTRODUCTION ..... 1

II. THE AMMONOOSUC RIVER, UPPER REACH NOMINATION ..... 2

    A. DESCRIPTION..... 2

    B. RIVER VALUES AND CHARACTERISTICS ..... 2

        1. Natural Resources ..... 2

            a. Geologic Resources..... 2

            b. Wildlife Resources..... 2

            c. Vegetation and Natural Communities ..... 3

            d. Fish Resources ..... 3

            e. Water Quality ..... 3

            f. Natural Flow Characteristics ..... 3

            g. Open Space ..... 3

        2. Managed Resources ..... 4

            a. Impoundments..... 4

            b. Water Withdrawals and Discharges..... 4

            c. Hydroelectric Resources ..... 4

        3. Cultural Resources ..... 4

            a. Historic and Archaeological Resources ..... 4

            b. Community River Resources ..... 4

        4. Recreational Resources ..... 4

            a. Fishery..... 4

            b. Boating..... 4

            c. Other Recreation ..... 4

            d. Public Access ..... 4

        5. Other Resources ..... 5

            a. Scenery..... 5

            b. Land Use..... 5

            c. Land Use Controls ..... 5

            d. Water Quantity..... 6

            e. Riparian Interests/Flowage Rights ..... 6

III. CONSIDERATIONS FOR THE PROTECTION OF INSTREAM FLOW ..... 7

IV. LOCAL SUPPORT ..... 8

V. SUMMARY AND RECOMMENDATIONS ..... 9

VI. MAPS ..... 11

## I. INTRODUCTION

The headwaters of the Ammonoosuc River, Upper Reach are in the Presidential and Dartmouth Ranges in the White Mountains. The river segment originates at the Lakes of the Clouds, high in the alpine zone at an elevation of 5,012 feet, and ends 12.1 miles at Lower Falls in the town of Carroll. The Ammonoosuc River from Lower Falls to the confluence with the Connecticut River at Woodsville was accepted into the New Hampshire Rivers Management and Protection Program in August 2007, and Local Advisory Committee (LAC) members for that segment were appointed over the winter of 2007 and 2008. In January 2008, the newly appointed LAC decided to move forward in seeking designation for the Upper Reach of the river as one of its first acts. The Department of Environmental Services (NHDES) has reviewed the nomination and is recommending of the Ammonoosuc River, Upper Reach segment for designation into the Rivers Management and Protection Program (RMPP).

The Rivers Management and Protection Act (RSA 483) was enacted in 1988. The act states, in part, that:

*It is the policy of the state to ensure the continued viability of New Hampshire rivers as valued economic and social assets for the benefit of present and future generations. The state shall encourage and assist in the development of river corridor management plans and regulate the quantity and quality of instream flow along certain protected rivers or segments of rivers to conserve and protect outstanding characteristics including recreational, fisheries, wildlife, environmental, cultural, historical, archeological, scientific, ecological, aesthetic, community significance, agricultural, and public water supply so that these valued characteristics shall endure as part of the river uses to be enjoyed by New Hampshire people.*

The act directs NHDES to receive and evaluate nominations for the designation of rivers or river segments into the RMPP to protect outstanding values and characteristics. Nominations approved by the NHDES commissioner must be forwarded to the next session of the General Court for review and approval. In fulfillment of this statutory directive, the nomination of the Ammonoosuc River, Upper Reach is hereby forwarded to the General Court.

The Department of Environmental Services recommends that the Ammonoosuc River, Upper Reach be designated as a protected river segment under the Rivers Management and Protection Program. NHDES further recommends that portions of it be classified as “natural” or “rural-community” rivers as described in the recommendations contained in this report, thereby affording it the full benefit of the applicable protection measures outlined in RSA 483. The outstanding statewide and local resource values and characteristics that qualify the Ammonoosuc River, Upper Reach for designation are described herein.

## II. THE AMMONOOSUC RIVER, UPPER REACH NOMINATION

### A. DESCRIPTION

The Upper Reach of the Ammonoosuc River begins at the Lake of the Clouds on the western slopes of Mount Washington and flows 12.1 miles west to Lower Falls in the town of Carroll. The Upper Reach watershed area and river corridor remain one of the most pristine ecosystems in the northeast. Due to its largely undeveloped landscape, proximity to the White Mountain National Forest and highly diverse natural communities, the Ammonoosuc River, Upper Reach boasts a large variety of wildlife and plant species. The Ammonoosuc River watershed, including the Upper Reach section drains an area of over 395 square miles.

Land use in this portion of the river corridor is a complex mix of undeveloped forestland, wetlands and built-up or disturbed areas. Consistent with local planning efforts, the Ammonoosuc River, Upper Reach corridor in the Bretton Woods area is slated for an increase of commercial and residential users and a steadily rising population growth. The presence of Interstate 93 and State Route 302, which parallels the river, makes the area a desirable location for small-scale commercial development for tourism.

### B. RIVER VALUES AND CHARACTERISTICS

The RMPP identifies a number of river-related values and characteristics that may qualify a river for designation. The Ammonoosuc River, Upper Reach supports many of these, including a variety of natural, managed, cultural, recreational and other resource values. Some are significant at the local level; others are significant at either the state or national level. The resource values that qualify the Ammonoosuc River, Upper Reach for designation include geology, wildlife, vegetation and natural communities, fish, water quality, natural flow, open space, water withdrawals, wastewater discharges, historic and archeological, community river resources, boating, other recreation, public access, scenery, land use, land use controls and water quantity.

#### 1. Natural Resources

**a. Geologic Resources:** The Ammonoosuc River, Upper Reach watershed lies within the Connecticut River watershed and was once part of the great Glacial Lake Hitchcock. The valley of the Ammonoosuc River from its source to the Lower Falls displays geomorphic features that are characteristic of the glaciation in the area, including rapids and waterfalls. The valley bottom in the Bretton Woods area consists of stratified drift deposits that serve as a local aquifer. The stream walls in the valley are composed of exposed bedrock that consists of volcanic and metasedimentary units. The Presidential Range in this vicinity is a prime geologic and scenic destination among hikers and others visiting the highest summits in New England. Of the 4,850 feet drop in elevation over its course to the confluence with the Connecticut River, 3,495 feet or 76 percent takes place from Lakes of the Clouds to Lower Falls on the Ammonoosuc, Upper Reach.

**b. Wildlife Resources:** The Ammonoosuc River, Upper Reach supports a diverse habitat comprised of forest, wetlands and open space that is home to a variety of wildlife. Its floodplains, wetlands and large sections of unfragmented lands are critical habitat areas that offer important and often irreplaceable wildlife benefits. According to the NH Fish and Game Wildlife Action Plan, 64 percent of the watershed area acreage falls within the highest ranked wildlife habitat in the state, an additional 23 percent offers supporting

landscapes and eight percent of the area falls within the highest rank for biological region. Over 140 bird species have been identified in the Upper Reach watershed area, including the state-endangered Bald Eagle and the state-threatened Osprey. Large sections of unfragmented land in the White Mountain National Forest found in the corridor are especially important for black bear, bobcat, state-threatened American marten, and federally threatened/state-endangered Canada lynx. The New Hampshire Natural Heritage Bureau has determined the Northern Bog Lemming as a rare species specifically associated with the Upper Reach area. The Ammonoosuc River, Upper Reach originates in the alpine habitat at an elevation of 5,018 feet above sea level. In this habitat, unique plant communities, extreme climate and isolation lead to rare, sometimes site-specific species such as the White Mountain Fritillary butterfly.

**c. Vegetation and Natural Communities:** The New Hampshire Natural Heritage Inventory has identified several exemplary natural communities and many plants that are endangered or threatened species within the Upper Reach. The list of exemplary natural communities that exist in the Ammonoosuc River, Upper Reach watershed area is extensive and three are specifically associated with the river corridor itself. Some of the rare communities include alpine tundra, subalpine heath, alpine/subalpine pond and alpine herbaceous snowbank/rill. The Natural Heritage Inventory lists over thirty state-endangered or threatened plant species in the town of Carroll with extensive known, but undocumented species in the unincorporated sections of the river corridor. Some of the threatened or endangered species are dwarf birch, alpine marsh violet, Lapland rosebay, black sedge and baked apple berry. Approximately one-third of the Upper Reach watershed is high-elevation spruce/fir forest. High elevation spruce/fir forest has a very limited distribution in the state, covering four percent of the state's land and provides some of the last areas relatively free of human disturbance.

**d. Fish Resources:** The Ammonoosuc River, Upper Reach provides habitat for at least eight resident cold and warm water fish species and has been identified by the US Fish and Wildlife Service as an important cold water fishery. Atlantic salmon (endangered nationally) are present due to the federal and the Fish and Game Department's stocking program. Sampling efforts have shown much success in regard to Atlantic salmon restoration, finding fish of one, two, and three years of age. In 2008 a member of the Ammonoosuc River LAC assisted the Fish and Game Department and other volunteers in the release of 208,300 salmon fry into the Ammonoosuc from the Mount Washington Hotel in Carroll to Wing Road in Bethlehem. While natural brook trout reproduction is present, principal fisheries in the river rely on a regular stocking program, as natural reproduction does not meet the level that would sustain the angling pressure.

**e. Water Quality:** The Ammonoosuc River, Upper Reach has been designated as Class B water by the General Court. In 2008, the NHDES released its most recent assessment of water quality in the river. Overall, the river met Class B standards except for a segment near the headwaters that is not meeting pH standards and a segment downstream of the Bretton Woods ski area that failed macroinvertebrate criteria for aquatic life use. This low pH value is likely naturally occurring with some influence by acid deposition and the pollution source for the macroinvertebrate impairment is unknown. To foster public participation for the nomination process, volunteers have conducted water quality sampling on Ammonoosuc River through the NHDES Volunteer River Assessment Program.

**f. Natural Flow Characteristics:** The Upper Reach corridor is a free-flowing stretch. Stream flow varies dramatically on the Ammonoosuc River due to climate, precipitation patterns, and watershed characteristics. The US Geological Survey has maintained a stream-flow gaging station downstream of the reach on the Ammonoosuc River at Bethlehem Junction in Bethlehem from 1939-2007.

**g. Open Space:** Much of the land in the Ammonoosuc River, Upper Reach is forested and protected through the White Mountain National Forest. The Mount Washington Resort and Bretton Woods ski area are

the only significant parcels not permanently protected. Some floodplain areas exist in the lower section of the reach totaling approximately 147 acres.

## 2. Managed Resources

**a. Impoundments:** There are no dams on the Ammonoosuc River, Upper Reach.

**b. Water Withdrawals and Discharges:** There are three registered surface water withdrawals from the Ammonoosuc River, Upper Reach. Two are for commercial or industrial purposes and one is for public drinking water. There are two permitted waste water discharge sites on the Upper Reach. The Mount Washington Hotel discharges wastewater into an infiltration basin and the Bretton Woods Waste Water Treatment Facility returns water to ground water by artificial recharge.

**c. Hydroelectric Resources:** There are no hydroelectric resources on the Ammonoosuc River, Upper Reach.

## 3. Cultural Resources

**a. Historic and Archaeological Resources:** There are a number of historic interest sites along the Ammonoosuc River, Upper Reach. Notably, five places located within the river corridor are listed on the National Register of Historic Places; they are the Mount Washington Hotel, the Crawford Family marker, the Mount Washington Hotel marker, Bretton Woods Monetary Conference marker, and the Cog Railway Historic marker. The Cog Railway, built in 1869, still operates today and is one of New Hampshire's most recognizable tourist attractions. The Charcoal Kilns and the Twin Ribbon Farm and Bobbin Mill are among the historic relics along the river. Before the first European settlers, the Abenaki Native Americans fished and camped along the river, netting fish in the narrow river bends. Ammonoosuc is an Abenaki word for "fish place."

**b. Community River Resources:** The importance of the Ammonoosuc River, Upper Reach as a community resource is reflected in the local planning and protection efforts of the communities along the river. The town of Carroll, recognizing the Ammonoosuc River as a significant resource for both recreation and tourism, supported the initial nomination of the Ammonoosuc River, and the subsequent nomination outlined in this report. The town of Carroll's master plan lists the Ammonoosuc River as very significant resource for recreational, wildlife, environmental, economic and scenic purposes.

## 4. Recreational Resources

**a. Fishery:** The Ammonoosuc River, Upper Reach is an excellent fresh water fishery that offers anglers good access and long stretches of fishing opportunities. Stocking by the Fish and Game Department enhances angler opportunities and assists in relieving the high fishing pressure on the river.

**b. Boating:** The Appalachian Mountain Club's (AMC) *New Hampshire/Vermont River Guide* and the *New England Whitewater Guide* identify the Ammonoosuc River, Upper Reach as offering those who canoe and kayak a wide variety of opportunity and skill levels for their sport. The AMC Guide to Canoeing and Kayaking rates the upper portions of the river as having Class II to IV white water canoeing. The river is noted by the canoeing community as a wilderness experience offering challenging whitewater and Class III rapids.

**c. Other Recreation:** There are several privately and publicly owned recreation areas in the river corridor.

These areas offer a mix of recreational opportunities including hiking, nature study, picnicking, swimming, river access, recreational fields and snowmobile trails. Publicly owned recreation areas include the Lower Falls at Carroll and Upper Falls that cascade along State Route 302 from Bretton Woods to the Mount Washington Cog Railway base station. The Mount Washington Resort and Bretton Woods ski area offer opportunities for alpine and cross country skiing as well as horseback riding and trail hiking.

**d. Public Access:** Public access for fishing, kayaking, canoeing, and swimming can be found almost anywhere along the Ammonoosuc River, Upper Reach, where there is not a private residence. State Route 302 extends to the river's edge along many portions of the river. There are several informal pull offs along the river which make it easily accessible to the public for recreation. Well-known and favorite access points along the river include the Lower and Upper Falls.

## 5. Other Resources

**a. Scenery:** The entire Ammonoosuc River, Upper Reach offers spectacular and varied scenic and cultural vistas. State Route 302 from Twin Mountain east to the upper limit of the corridor and beyond has been designated a federal Scenic Byway. Some views are spectacular natural vistas, such as views of the Presidential Range and Mount Lafayette in the White Mountain National Forest. Others involve a mix of natural and manmade features such as viewing fall foliage along the river as one drives a curving section of State Route 302.

**b. Land Use:** Land use in the river corridor is a complex mix of forestland, agricultural land, wetlands and built-up or disturbed areas. The primarily forested area includes a variety of forest cover types from softwoods (spruce/fir) to hardwoods (birch/aspens). The Bretton Woods area is a mixed use development with areas of forested and wetland acreage. Most of the forest land, however, is located in Crawford's Purchase, Beans Grant, Chandler's Purchase, Thompson & Meserve Purchase and Sargent's Purchase. A large percentage of the wetland acreage, classified as forested wetland, is included in the forest wetland cover. This area is predominately undeveloped land and some is used for forest management. There are sections of the railroad from Conway to Carroll and the Cog Railway which also fall within the River's corridor. Commercial and residential buildup areas are primarily focused around the Mount Washington Resort and Bretton Woods Ski Resort. Within Bretton Woods' property, State Route 302 has three bridges over the Ammonoosuc River, Upper Reach. The presence of Interstate 93 and State Route 302, which parallels the river, makes the area a desirable location for small-scale commercial development for tourism. The rate of this development has been increasing, with several locations currently in the planning stages. A 2001 study by the North Country Council found that most of the land within 250 feet of the Ammonoosuc River, Upper Reach, was zoned for commercial growth and concluded that this could have a significant impact on the ecology of the valley.

**c. Land Use Controls:** The town of Carroll's master plan was adopted in 1986. Although efforts were made to update it in the past few years, recent surveys from local residents have not yet been documented. The town ordinance includes an aquifer protection and excavation of earth resources ordinance. Development approvals are conducted by the town Planning Board in adherence to the town subdivision regulations and site plan review regulations. Land use and land density regulations are divided into two areas: Twin Mountain and Bretton Woods. The Upper Reach of the Ammonoosuc River falls primarily in the Bretton Woods section of town and development of this area is guided by its own concept plan. In 2008, a 182 acre village overlay district located at the base of Bretton Woods Ski Resort and within the Ammonoosuc River corridor was approved by the town. It will include a mix of commercial and residential units and allow a more flexible layout of roads and buildings as well as a more flexible height

restriction.

**d. Water Quantity:** Stream flow varies dramatically on the Ammonoosuc River due to climate and precipitation patterns. There are no stream gauge stations on the Upper Reach of the Ammonoosuc River. Currently, the US Geological Survey maintains stream flow gauging stations on the Ammonoosuc River at Bethlehem Junction which is in Bethlehem, north of the Bethlehem Dam. Continuous records are available for a 69 year period 1939-2008.

**e. Riparian Interests/Flowage Rights:** Under New Hampshire common law, owners of frontage on surface waters have riparian rights to use surface waters as long as the use is reasonable with respect to uses of other riparian owners and has no undue adverse effect on public trust uses of surface waters. The Rosebrook Water Co., Mt. Washington Hotel, and the Bretton Woods Resort Management CO, LLC. are riparian owners who have such rights. They have also registered water withdrawals from the reach with the Department under RSA 488, the Water Management act. There are no known significant flowage rights on the Ammonoosuc, Upper Reach.

### **III. CONSIDERATION FOR PROTECTION OF INSTREAM FLOW**

#### **A. INSTREAM FLOW RULE STATUS**

RSA 483 directs NHDES to implement instream flow protection on all designated rivers, and to adopt administrative rules for this purpose. In 2002, additional legislation authorized pilot projects to be developed on the Lamprey and Souhegan Rivers. Rules were promulgated for these two rivers in 2003. No protected instream flows can be developed on other designated rivers until these pilot assessments are completed and the results assessed by the Legislature. Although excluded from instream flow protection by existing rules, future rules will include other designated rivers in the development and implementation of protected instream flows. The result will be water management plans for each affected water user and dam owner in a designated river watershed. These water management plans describe specific actions to be taken under certain river flow conditions so that the protected instream flows are maintained. Water management plans have three main components to protect flow: 1) conservation, 2) water use changes and 3) operation of impoundments.

#### **B. INSTREAM FLOW ASSESSMENT**

The existing instream flow rules include a requirement for assessing monthly water use in relation to mean monthly stream flow for all designated rivers. The method uses a general standard to compare the water use uniformly between all the designated rivers. The general standard is determined from the monthly stream flow and sets a standard for aggregate water use depending on that flow. The general standard is not a protected flow, but instead is a means for comparing the level of water use and identifying the locations of heaviest water use within a watershed and between the designated river watersheds.

The Ammonoosuc River, Upper Reach water use assessment identified three registered sources reporting water withdrawals and two registered discharges reporting returns of water to the environment in 2006. Of these there were no hydropower uses. During 2006, water use exceeded the general standard on the Upper Reach portion of the Ammonoosuc River only during December. The general standard is not a limitation. Although the apparent exceedance of the general standard understandably raises concerns by the water users and the respective communities, an important point to understand is that under the proposed rules the general standard will be utilized as a framework for prioritizing watersheds through which designated rivers flow that are in need of additional study for establishing watershed-specific instream flow standards and development of a water use management plan.

Based on the analysis completed for the nomination, it is apparent that the Ammonoosuc would be one of many watersheds through which the designated rivers flow that does not meet the general standard under existing rules. Any changes in water usage by the Ammonoosuc River, Upper Reach corridor communities would not occur immediately upon designation, but in the future after full study and public input.

#### **IV. LOCAL SUPPORT**

There is strong local support for the designation of the Ammonoosuc River, Upper Reach into the Rivers Management and Protection Program (RMPP). The Ammonoosuc River immediately downstream of the Upper Reach segment was accepted into the New Hampshire Rivers Management and Protection Program in August 2007 and Local Advisory Committee (LAC) members were nominated and appointed over the winter 2007 and 2008. The first Ammonoosuc River LAC meeting was held in January 2008 where the newly appointed LAC unanimously voted to move forward in seeking designation for the Upper Reach of the river. As a result of the efforts of this committee the Department of Environmental Services has received 24 letters of support for the nomination, including the town of Carroll, the conservation commissions of four towns in the lower reach of the river and a petition signed by 46 citizens of the town of Carroll. Only one letter of opposition was received against the nomination. At the August 12, 2008 public hearing on the nomination held in Carroll, the testimony was overwhelmingly supportive. All of those who testified spoke in favor of the nomination.

## V. SUMMARY AND RECOMMENDATIONS

The Ammonoosuc River, Upper Reach supports a variety of significant state and local resources. To better protect and manage these resources, the Department of Environmental Services recommends the following actions:

***Recommendation 1: The General Court should adopt legislation that designates the Ammonoosuc River, Upper Reach for inclusion in the Rivers Management and Protection Program and classifies the Ammonoosuc River, Upper Reach as follows:***

1. As a natural river from the Lakes of the Clouds in Sargents Purchase to a point 1.33 miles upstream of Upper Falls in Crawfords Purchase (5.5 miles segment).
2. As a rural community river from a point 1.33 miles upstream of Upper Falls in Crawfords Purchase to the White Mountain National Forest boundary near Lower Falls in the town of Carroll to (6.6 miles segment).

Under the provisions of RSA 483, designation of the Ammonoosuc River, Upper Reach will provide increased protection with respect to the construction of new dams, damaging channel alterations, water quality impairment, and the siting of solid and hazardous waste facilities in the river corridor. Designation will also require the establishment of a protected instream flow to maintain water for instream public uses including water quality, fisheries, recreation and scenic values. The existing local river management advisory committee will coordinate management and protection of the river at the local and regional levels, and will provide the residents in the riverfront communities with a direct avenue for formal input into state decisions affecting the river. Finally, designation will result in the development of a long-range management plan for the river that coordinates state planning and management of fisheries, water quality and quantity, and recreation.

A section of the Ammonoosuc River, Upper Reach is being recommended for "natural river" classification. Natural rivers are defined under RSA 483 as, "...free-flowing rivers or segments characterized by the high quality of natural and scenic resources. River shorelines are in primarily natural vegetation and river corridors are generally undeveloped. Development, if any, is limited to forest management and scattered housing." The Ammonoosuc River, Upper Reach as it flows through the forests, wetlands, and open space of the White Mountain National Forest typifies the definition of a natural river. The Ammonoosuc River Local Advisory Committee, the Rivers Management Advisory Committee and the Department of Environmental Services have all determined that the river segments recommended above for "natural river" classification meet the definition of a natural river and should be so designated.

The remaining segment of the Ammonoosuc River, Upper Reach is being recommended for "rural-community river" classification. Rural-community rivers are defined under RSA 483 as, "...those rivers or segments which flow through developed or populated areas of the state and which possess existing or potential community resource values such as those defined in official municipal plans or land use controls. Such rivers have mixed land uses in the corridor reflecting some combination of open space, agricultural, residential, commercial and industrial land uses." The segment of the Ammonoosuc River, Upper Reach being recommended for the "rural-community river" classification is generally more developed or where village centers are located. The Ammonoosuc River Local Advisory Committee, Rivers Management Advisory Committee and Department of Environmental Services have determined that this segment meet the definition of a rural-community river and should be so designated.

Designation of the Ammonoosuc River, Upper Reach under the Rivers Management and Protection Program will express the intent of the General Court regarding its future management and protection, and will focus

attention on the river as a natural resource of both statewide and local significance. This attention will help to ensure greater scrutiny of plans or proposals that have the potential to significantly alter or impact those river values and characteristics that qualify the entire Ammonoosuc River, Upper Reach for designation.

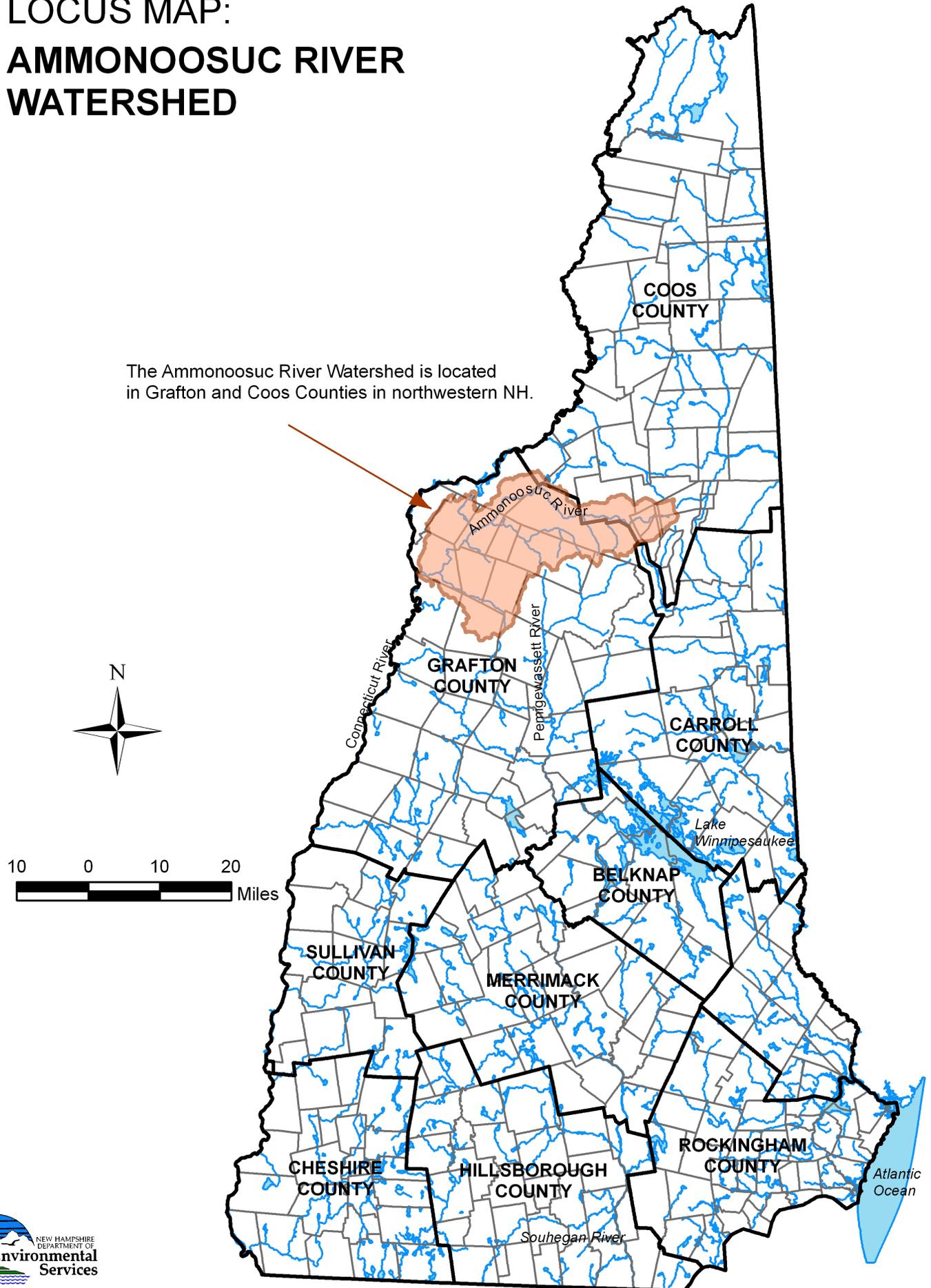
***Recommendation 2: The town of Carroll and Coos County should continue to work toward the protection of the Ammonoosuc River, Upper Reach through the adoption and implementation of a local river corridor management plan.***

While legislative designation of the Ammonoosuc River, Upper Reach will improve the protection and management of the river itself, continuing efforts at the local level will be needed to address the use and conservation of the river corridor (the river and the land area located within a distance of 1,320 feet of the normal high water mark or to the landward extent of the 100 year floodplain as designated by the Federal Emergency Management Agency, whichever distance is larger). A growing recognition by local citizens and officials of the Ammonoosuc River, Upper Reach's valuable contribution to the overall quality of life in their communities is evidenced by their desire to see it designated into the Rivers Management and Protection Program. Citizen appreciation and concern for the river should be reflected in the decisions and actions of local officials. The Department of Environmental Services will provide technical assistance to the river management advisory committee and to local officials in the riverfront communities on the development and implementation of a local river corridor management plan.

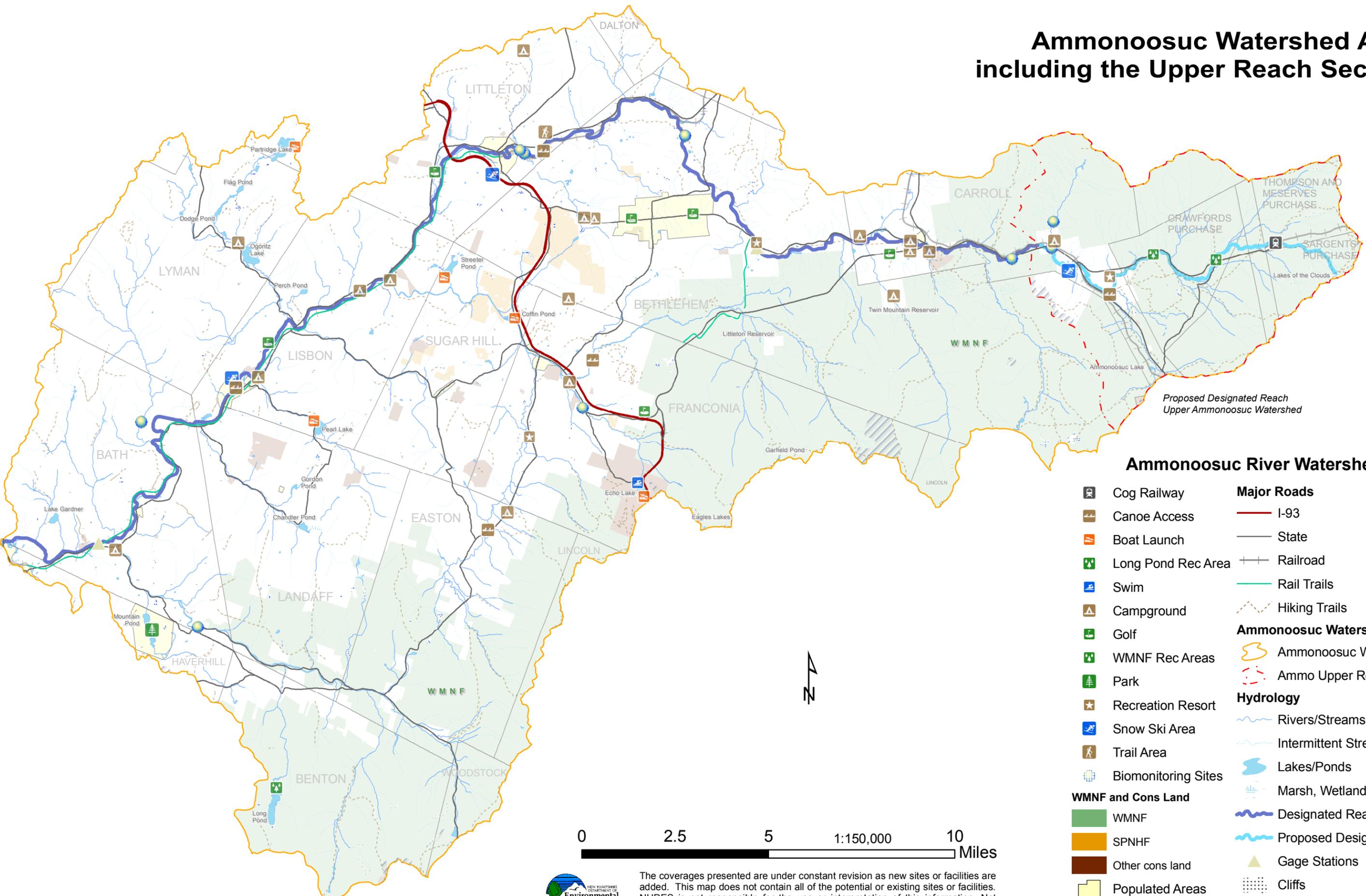
In summary, the establishment of a clear policy and specific instream protection measures by the General Court, and a continuing commitment on the part of local governments and residents to protect and manage the river corridor through sound land use decisions will ensure that the outstanding resources of the Ammonoosuc River, Upper Reach will endure to be enjoyed by the people of New Hampshire for many years to come.

# LOCUS MAP: AMMONOOSUC RIVER WATERSHED

The Ammonoosuc River Watershed is located in Grafton and Coos Counties in northwestern NH.

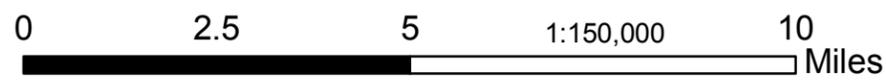


# Ammonoosuc Watershed Area including the Upper Reach Section



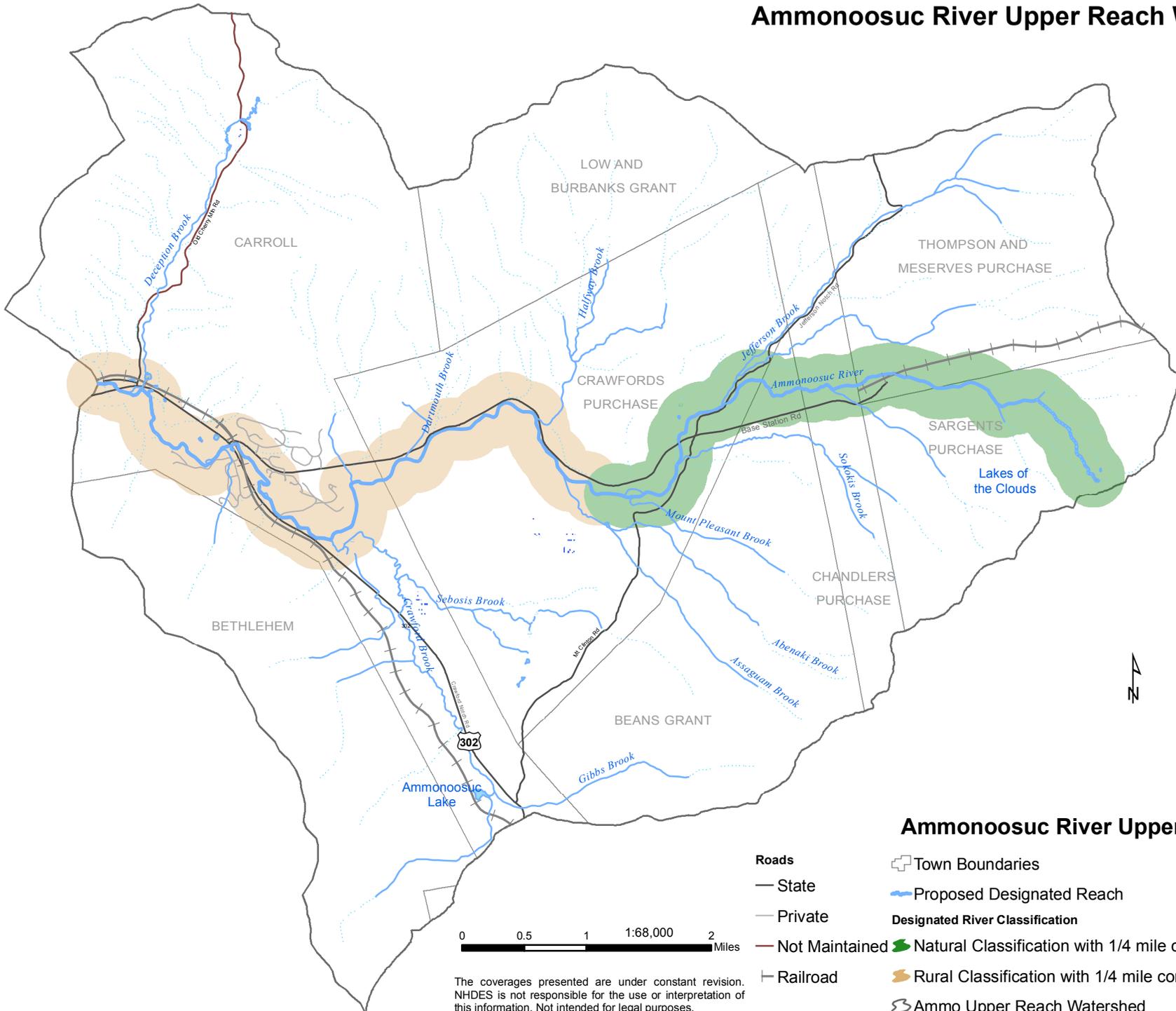
## Ammonoosuc River Watershed

- |  |                     |  |                           |
|--|---------------------|--|---------------------------|
|  | Cog Railway         |  | Major Roads               |
|  | Canoe Access        |  | I-93                      |
|  | Boat Launch         |  | State                     |
|  | Long Pond Rec Area  |  | Railroad                  |
|  | Swim                |  | Rail Trails               |
|  | Campground          |  | Hiking Trails             |
|  | Golf                |  | Ammonoosuc Watershed      |
|  | WMNF Rec Areas      |  | Ammo Upper Reach          |
|  | Park                |  | Hydrology                 |
|  | Recreation Resort   |  | Rivers/Streams            |
|  | Snow Ski Area       |  | Intermittent Streams      |
|  | Trail Area          |  | Lakes/Ponds               |
|  | Biomonitoring Sites |  | Marsh, Wetlands           |
|  | WMNF and Cons Land  |  | Designated Reach          |
|  | WMNF                |  | Proposed Designated Reach |
|  | SPNHF               |  | Gage Stations             |
|  | Other cons land     |  | Cliffs                    |
|  | Populated Areas     |  | Talus Slopes              |
|  | Town Boundaries     |  |                           |



The coverages presented are under constant revision as new sites or facilities are added. This map does not contain all of the potential or existing sites or facilities. NHDES is not responsible for the use or interpretation of this information. Not intended for legal purposes. July 2008.

# Ammonoosuc River Upper Reach Watershed Area Base Map



## Ammonoosuc River Upper Reach

- |                |   |                      |
|----------------|---|----------------------|
| <b>Roads</b>   | Town Boundaries                               | <b>Wetlands</b>      |
| State          | Proposed Designated Reach                     | Lakes/Ponds          |
| Private        | <b>Designated River Classification</b>        | Marsh                |
| Not Maintained | Natural Classification with 1/4 mile corridor | Rivers/Streams       |
| Railroad       | Rural Classification with 1/4 mile corridor   | Intermittent Streams |
|                | Ammo Upper Reach Watershed                    | Wetlands             |

0 0.5 1 1:68,000 2 Miles

The coverages presented are under constant revision. NHDES is not responsible for the use or interpretation of this information. Not intended for legal purposes. October 2008.