



# Nomination of the Warner River to the NHDES Rivers Management and Protection Program

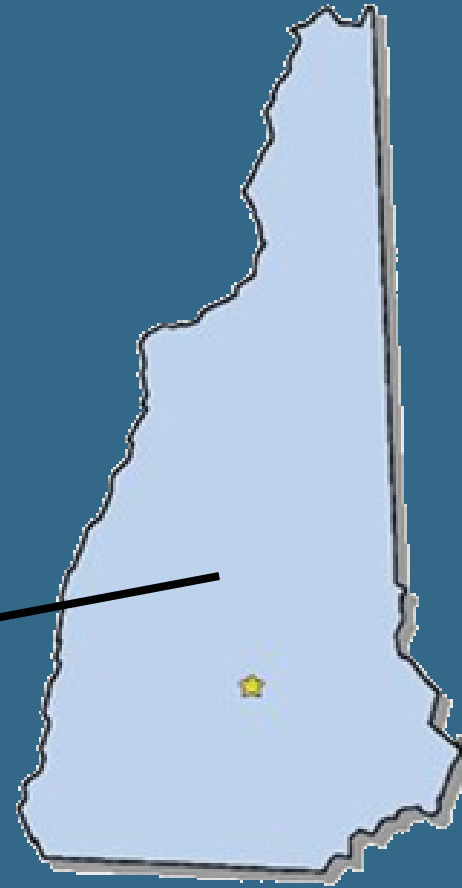
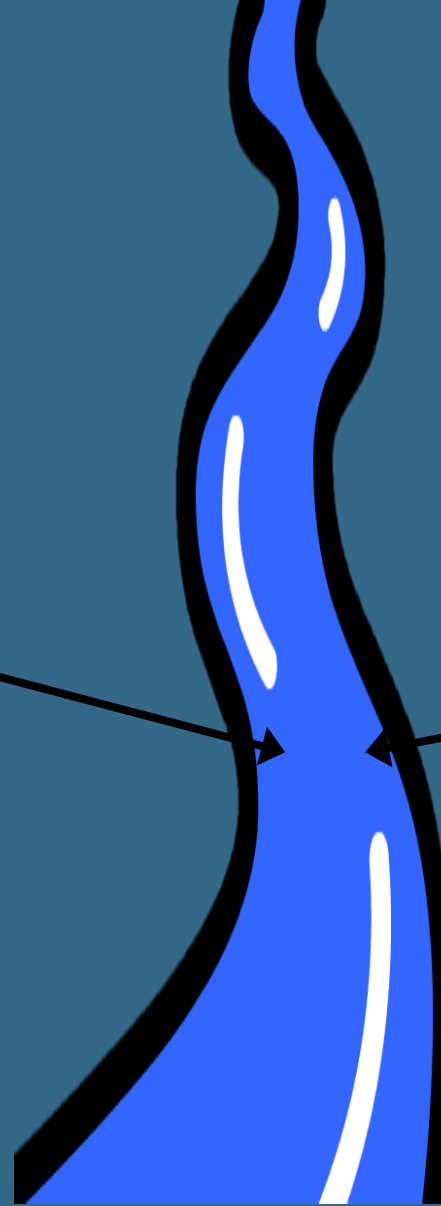
An exercise in public policy, outreach  
and education

# NH Rivers Management and Protection Program



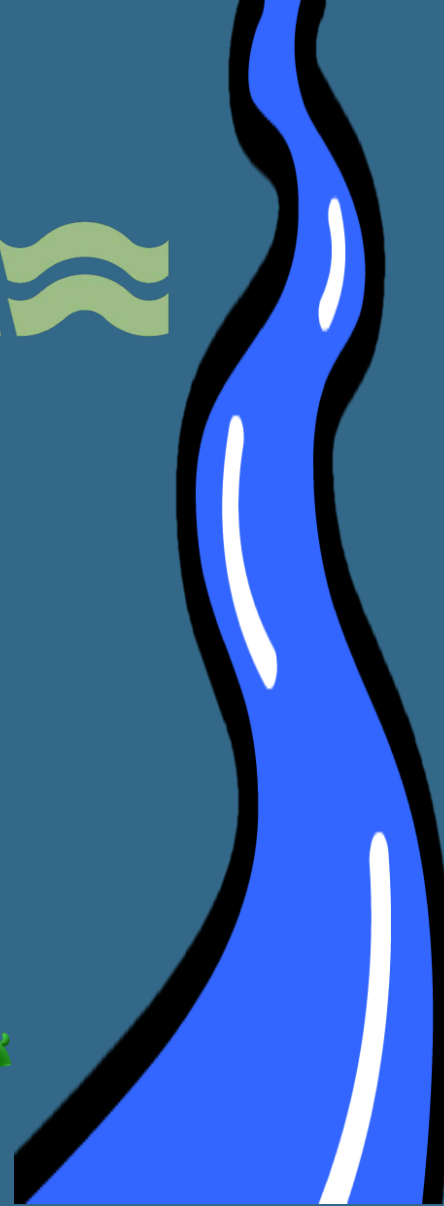
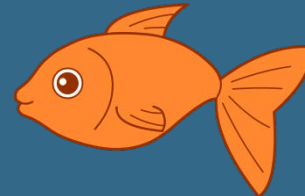
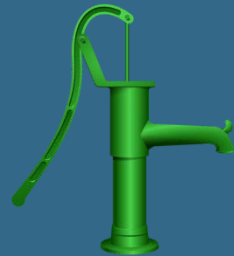
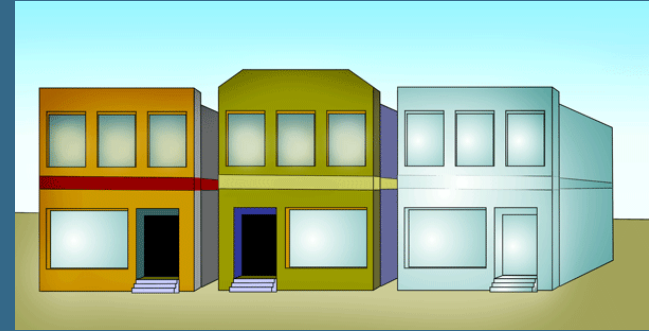


LAC



RMAC

Towns & State Work Together



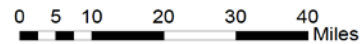
Competing Interests

# DESIGNATED RIVERS of NEW HAMPSHIRE

NH Rivers Management & Protection Program

## Designated Rivers

1. Ammonoosuc River 8/10/07 & 9/13/09
2. Ashuelot River 6/07/93
3. Cochecho River 7/21/09
4. Cold River 7/20/99
5. Connecticut River 7/14/92
6. Contoocook and North Branch Rivers 6/28/91
7. Exeter and Squamscott Rivers 8/11/95 & 5/31/11
8. Isinglass River 6/30/02
9. Lamprey River 6/26/90 & 6/7/11
  - A. Lamprey River
  - B. North Branch River
  - C. Pawtuckaway River
  - D. North River
  - E. Little River
  - F. Piscassic River
10. Mascoma River 5/9/11
11. Merrimack River (Lower) 6/26/90
12. Merrimack River (Upper) 6/26/90
13. Oyster River 6/2/11
14. Pemigewasset River 6/28/91
15. Piscataquog River 7/16/93
16. Saco River 6/26/90
17. Souhegan River 5/28/00
18. Swift River 6/26/90



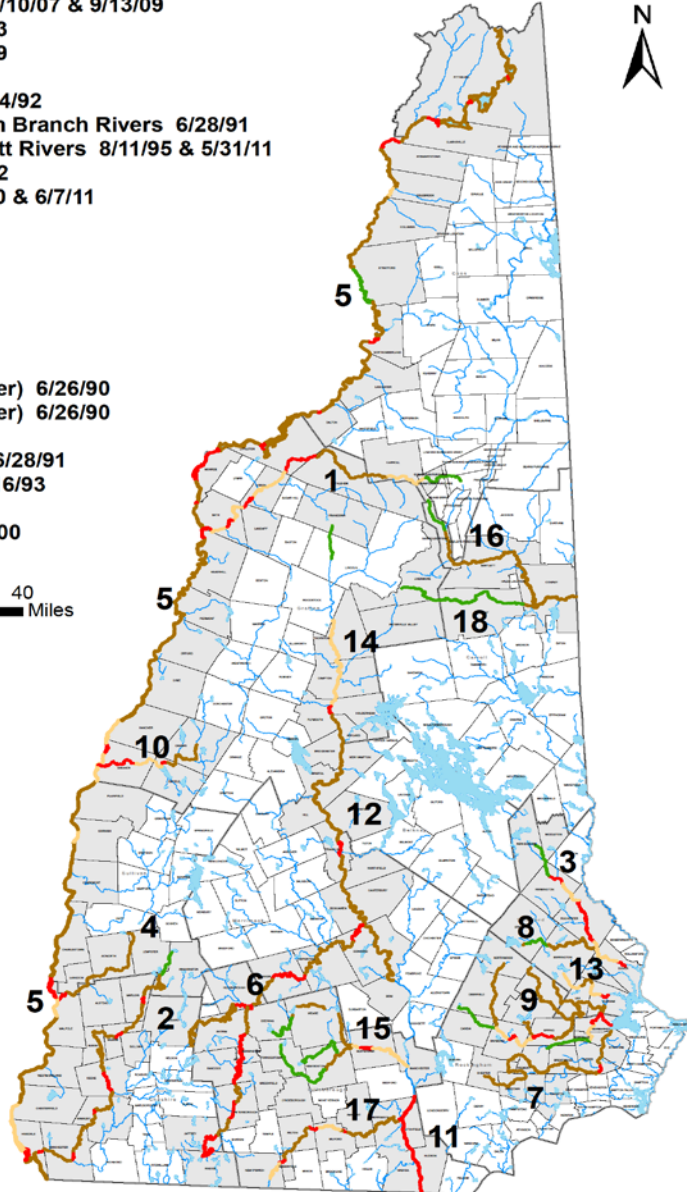
## Legend

### Designated Rivers

#### Class

- Natural
- Rural
- Rural-Community
- Community

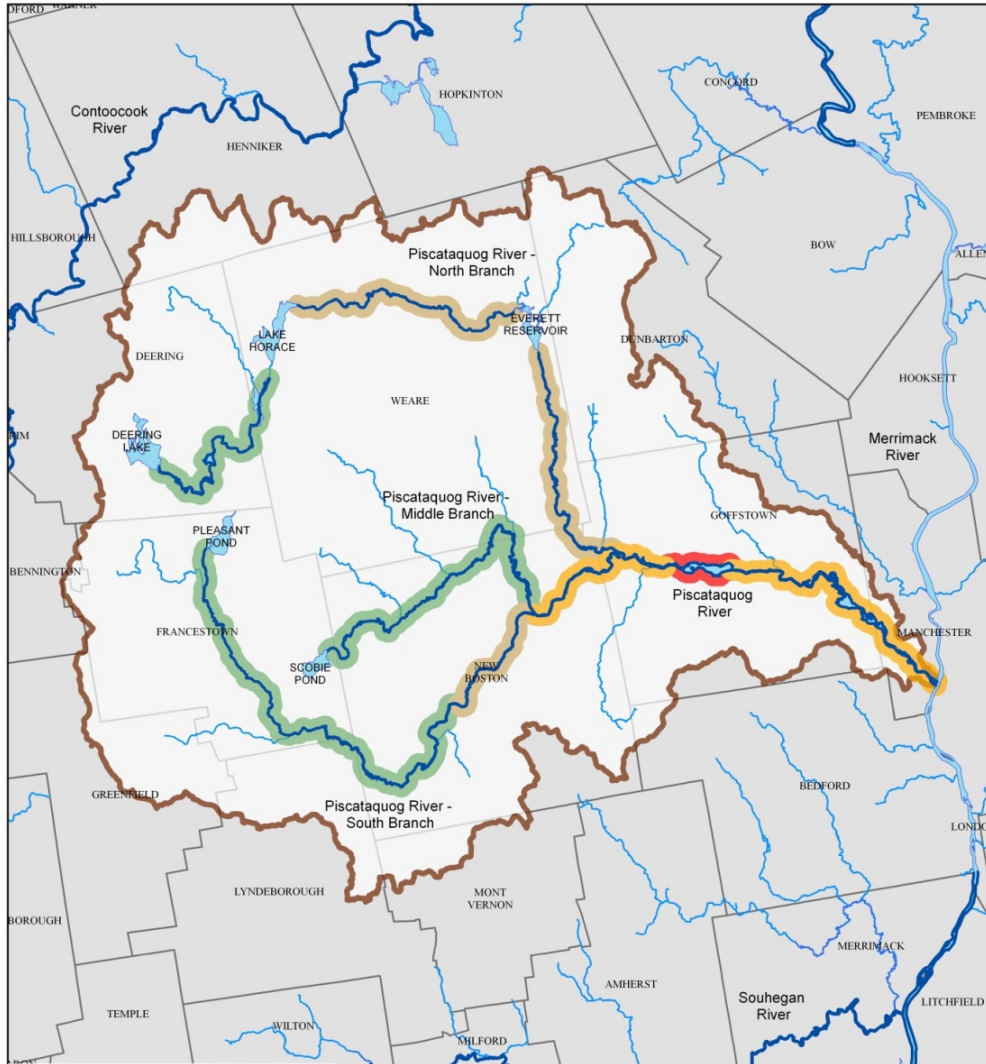
- Waterbodies
- County Boundary
- Town Boundary
- Participating Designated River Communities



# 18 Designated Rivers

- Roughly 1000 miles of designated rivers.
- 126 riverfront communities/unincorporated places & State Parks.
- Once a river is designated, a Local River management Advisory Committee (LAC) is established and tasked with creating a River Management Plan.
- River Management Plans cannot override local zoning ordinances or regulations.
- By law, the only land use protection measures added with a designation are those for solid waste facilities. Additional dam restrictions do apply to some river classifications.
- Local ordinances are not trumped by designation or LAC recommendations.

# Piscataquog River Base Map



## LEGEND

### Designated River Classification

#### Quarter Mile Buffer

- Natural
- Rural
- Rural-Community
- Community

- Watershed Boundary
- Major Lakes and Ponds
- Rivers
- Designated Reach
- New Hampshire Towns
- Town Boundaries



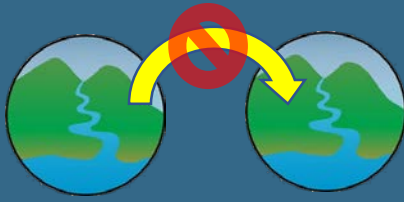
Source: The data layers are derived from DES data and are under constant revision. DES is not responsible for the use or interpretation of this information. Not intended for legal use. Watershed Management Bureau, April 2013.

For official descriptions of the designated reaches, see RSA 483:15.

# River Classifications

## Four Classifications:

- **Natural – 5 miles, 250' buffer**
- **Rural – 3 miles, some development, new hazardous waste facilities must be 250' from high water mark.**
- **Rural-Community – 3 miles, mixed use development, new landfills outside 500yr floodplain. Expansion of existing landfills allowed.**
- **Community – 1 mile, construction of new dams allowed**



**Inter-basin water transfers prohibited.**



**No new dams on Natural, Rural or Rural Community designated rivers.**



**No motor boats on Natural rivers.**

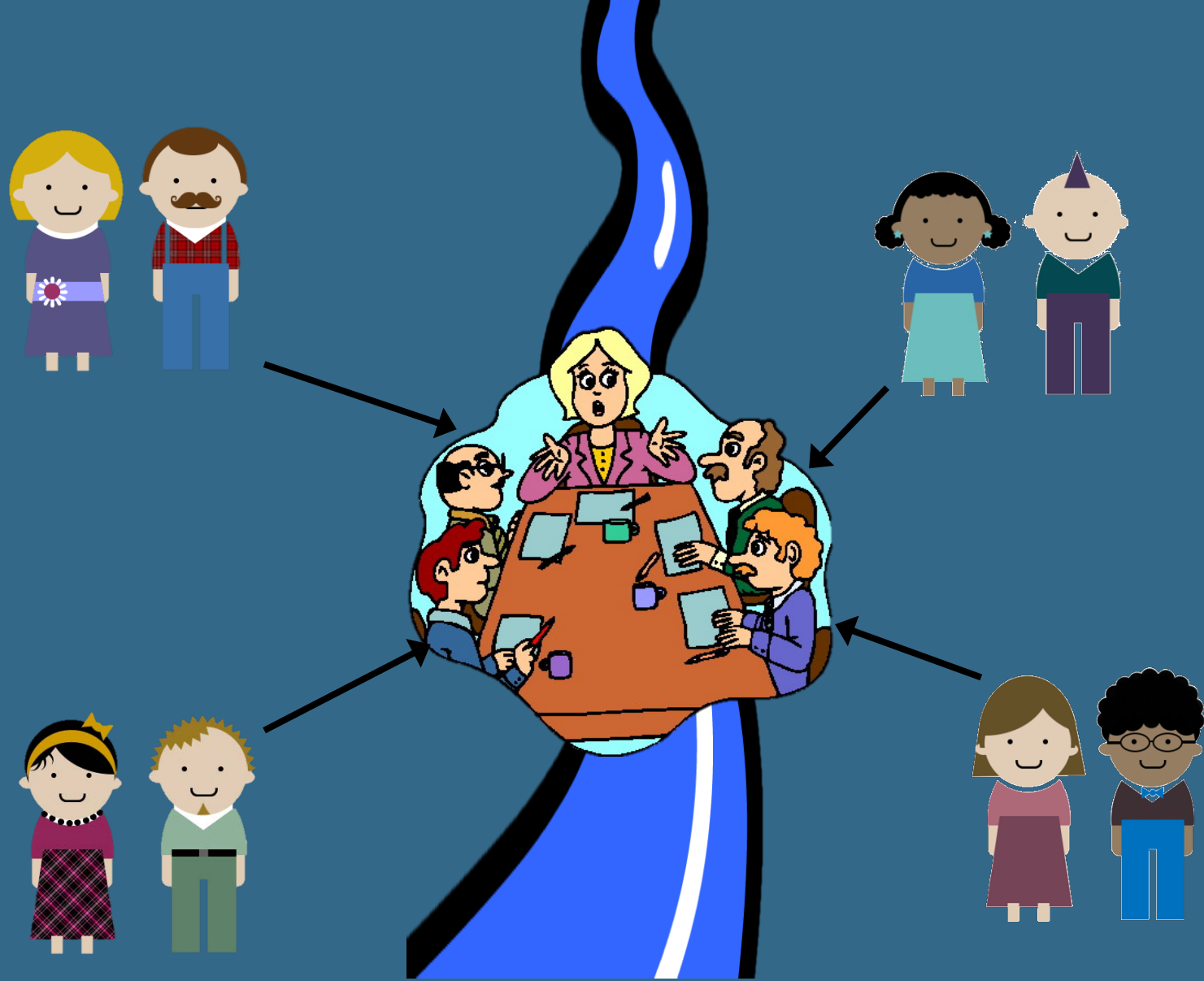


**Instream Flow protections on all designated rivers.**



**Restrictions on new and expanded waste facilities near designated rivers.**

# Benefits: Extra Protections



Benefits: Advisory Committee



A scenic photograph of a river flowing through a forest during autumn. The water is dark and reflects the surrounding trees and foliage. The banks are lined with trees showing vibrant fall colors of red, orange, and yellow. The overall atmosphere is peaceful and natural.

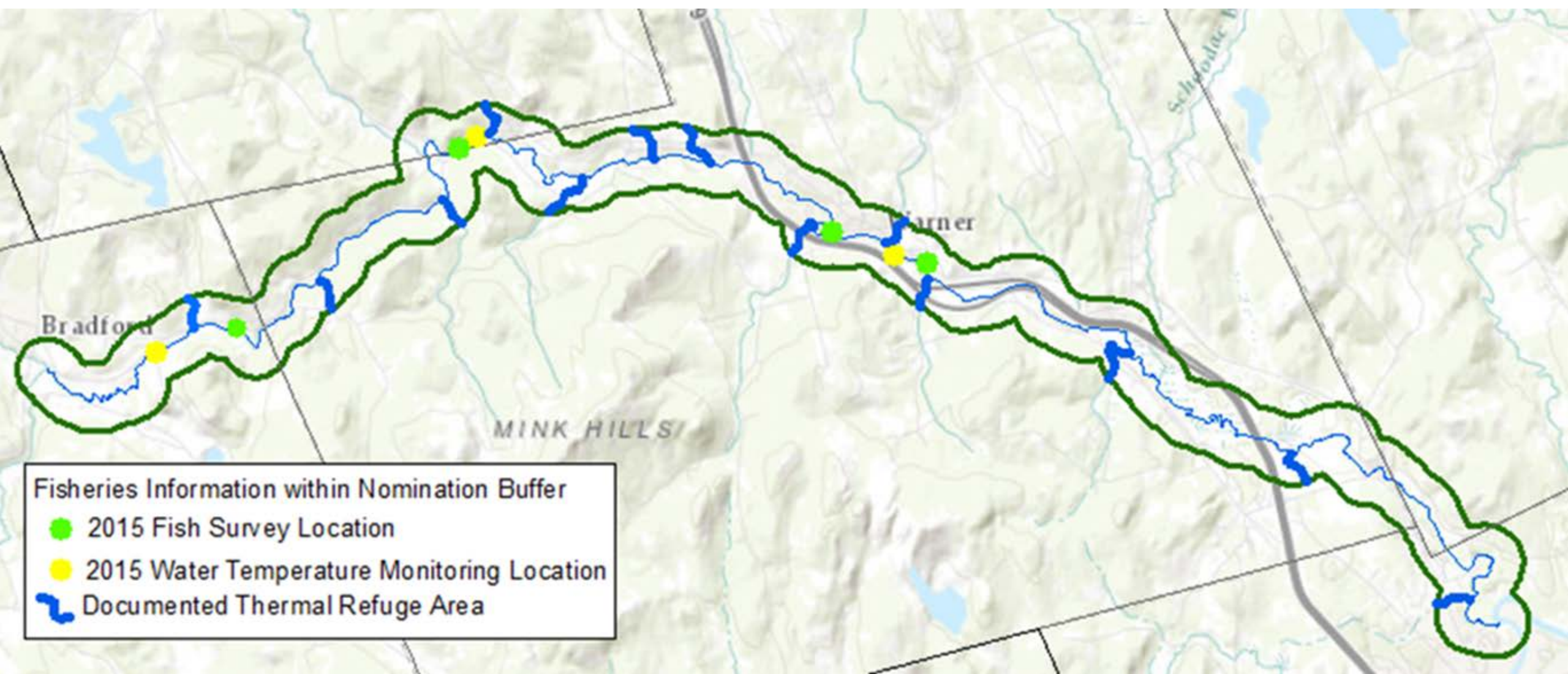
# Warner River Nomination

# Impetus & Progress

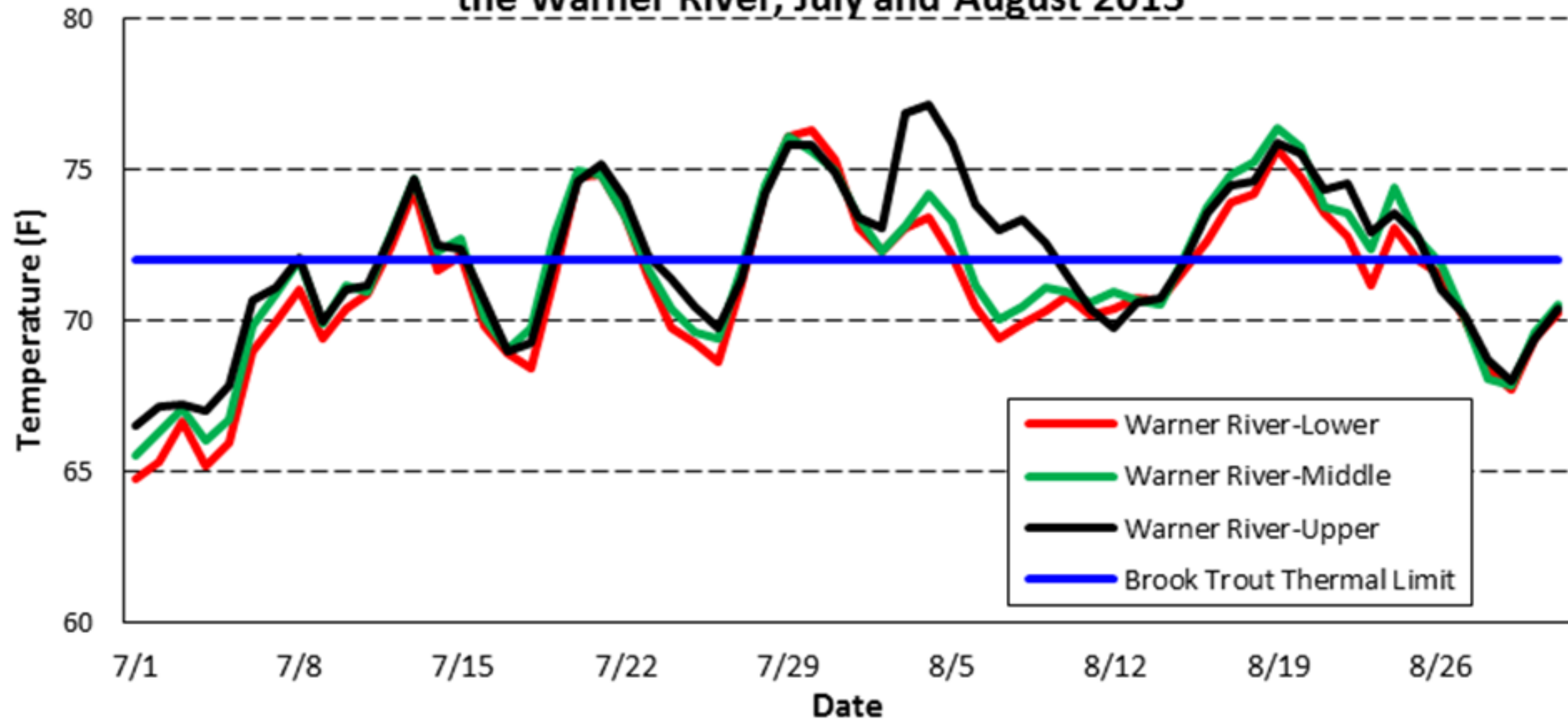
- After NH Fish & Game and Basil Woods Trout Unlimited conducted an assessment that found that 2/3rds of streams within the Warner River watershed support wild brook trout, the Warner Conservation Commission approached the Central NH Regional Planning Commission (CNHRPC) for assistance in nominating the Warner River to NHDES's River Management and Protection Program.



- As of Spring, 2017, the Warner River Nomination Committee has completed a nomination document and is in the process of holding public information meetings in the five river communities of Bradford, Warner, Sutton, Webster, and Hopkinton.

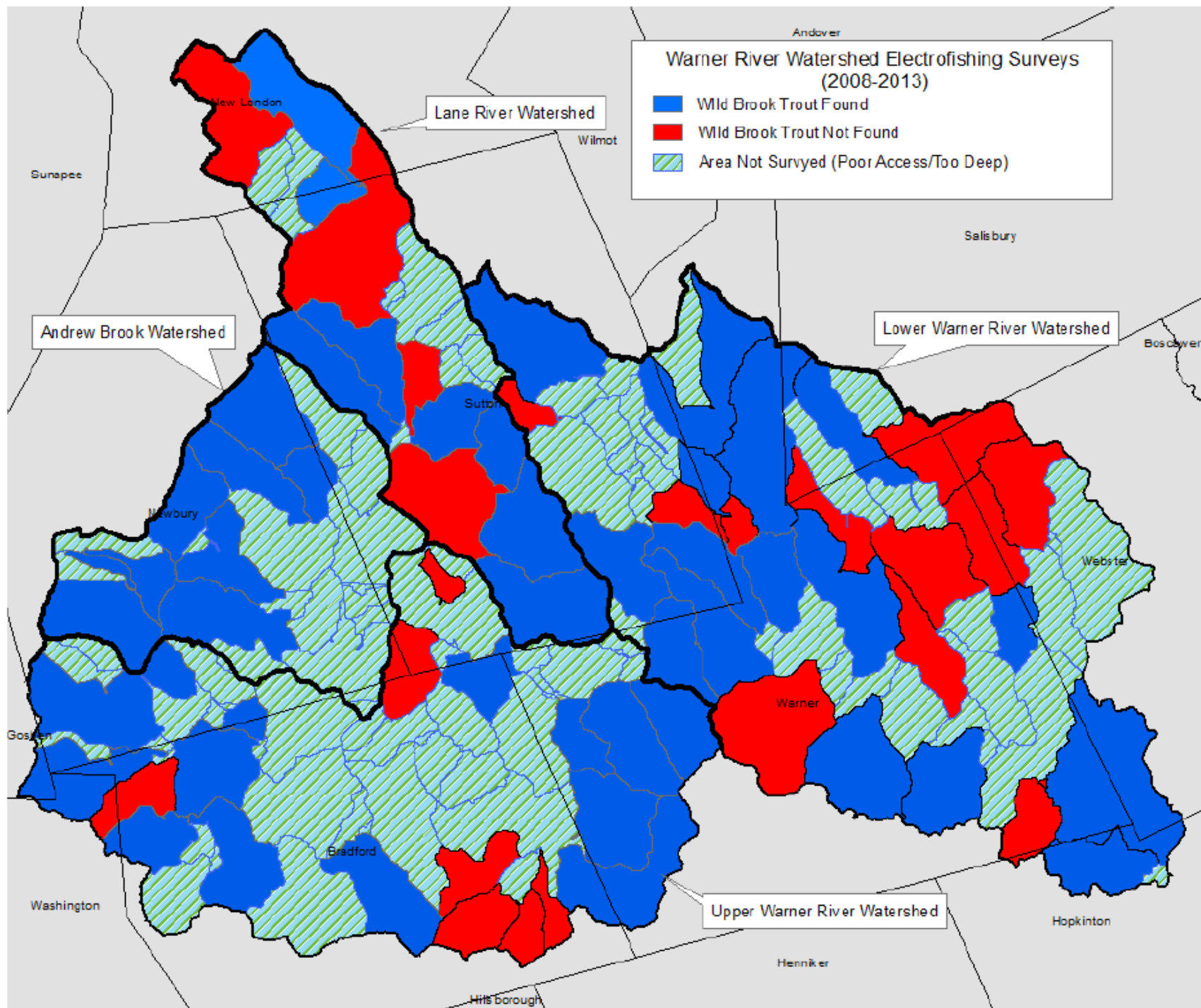


**Average Daily Water Temperature (°F) at Three Locations within the Warner River, July and August 2015**



The Fish Species Captured at Four Locations within the Mainstem Warner River in 2014

Species	Survey Location			
	Above Melvin Mills (Bradford)	Sutton/Warner Town Line	Chemical Ave (Warner)	West Joppa Rd (Warner)
Blacknose Dace	0	13	NE*	16
Brown Trout (Hatchery)	0	2	0	0
Burbot	0	6	NE	6
Chain Pickerel	2	0	0	0
Common Shiner	5	3	0	2
Fallfish	11	5	0	21
Golden Shiner	3	0	0	0
Largemouth Bass	5	0	NE	0
Longnose Dace	2	25	NE	14
Margined Madtom	4	10	NE	5
Redbreast Sunfish	1	0	0	0
Smallmouth Bass	0	1	NE	1
Tessellated Darter	0	0	NE	8
White Sucker	4	3	NE	1
Yellow Perch	1	0	0	0





# What Nomination Means:

- The formation of a group of representatives appointed from each town by Select Boards tasked with collecting and organizing information on river history and resources, building local support and identifying appropriate river classifications according to RSA 483:7-a.
- The Nomination Committee creates a nomination document to be submitted to NHDES for review. Following submission, the nomination document must be approved/supported by the Rivers Management Advisory Committee, a public hearing held by NHDES, the legislature, and will finally be submitted to the Governor to sign the designation into law, amending RSA 483 to include the river.



# Why Designate?

- River designation increases public awareness of the river and its resources and creates a Local Advisory Committee with representatives from each community with various interests.
- LACs are able to review and comment on all development proposals (local, state, and federal) within the river corridor. As a result, development is more apt to occur in a manner which assures river resources are maintained.
- LACs are eligible for a variety of grant funds to study of the river, educate the public about water quality, invasive species, and other river issues.

Perceived water quality decline could mean economic losses

Merrimack Valley	Lost Sales	Lost Income	Lost Jobs
Clarity & purity	\$8.3 million	\$3 million	131
Water level & flow	\$4.1 million	\$1.4 million	63
Views & scenery	\$4.1 million	\$1.5 million	65
Crowding	\$3 million	\$1.1 million	47

*What's Our Water Worth?* Anne Nordstrom, Ph.D. The Economic Impact of Potential Decline in NH Water Quality: The Link Between Visitor Perceptions, Usage & Spending.

# Local Advisory Councils

## Advantages

- Knowledgeable volunteers representing various river interests.
- Assist landowners with getting Shoreland and various other applications approved.
- LACs review development permit applications within the river corridor for local, state, and federal projects.
- An LAC has a direct line to NHDES resulting in faster reporting and potentially faster response to issues concerning the river.
- Assist towns with procuring grant funds for watershed improvements.

## Challenges

- Funding – Some LACs rely on grants, some collect town dues, often it is a combination of both. Regional Planning Commissions often assist with grant applications.
- Maintaining active members.



# Projects Implemented by Existing LACs

- Water quality monitoring
- Invasive species tracking
- Septic Smart Workshop – Connecticut River, Mt. Ascutney LAC
  - A well attended workshop with the purpose of educating landowners, developers and realtors in proper system installation and maintenance and the associated permits and processes.
- Effects of Urbanization on Stream Quality – Exeter-Squamscott
  - Led and funded by DES & USGS, resulted in site-specific information regarding impacts of land use and impervious surface on water quality & riparian habitat.



# Resources of the Warner River

- Historically utilized for hydropower in the mill-era. Potential for hydro electric generation still possible today.
- The river maintains Class B water quality and many of its tributaries are home to native brook trout populations.
- The Warner River has some of the best whitewater recreation in the state.
- Three covered bridges listed on the NRHP exist within the river corridor.



Photo courtesy of American Whitewater. Kayaking the Swain Lowell Dam.

# Timeline of the Warner River Nomination Committee

- October 21, 2015 – First meeting
- April 20, 2016 – Public Information Session, Warner
- Presentations before Select Boards:
  - Webster – October 11, 2016
  - Bradford – October 17, 2016
  - Sutton – October 25, 2016
  - Warner – November 10, 2016
  - Hopkinton – December 12, 2016
- Public Information Sessions, Roadshow:
  - Warner – November 16, 2016
  - Bradford – November 17, 2016
  - Sutton – November 21, 2016
  - Webster – November 29, 2016
  - Hopkinton – December 19, 2016





# Challenges Faced

- The question of transparency
- Working with dam owners – riparian interests
- Effective communication of the RMPP program and its impacts on landowners

# Comparative Analysis of the Shoreland Water Quality Protection Act (SWQPA) regulations & the Town of Hopkinton's existing Zoning Ordinances

For rivers, the ordinary highwater mark.

\*\*Dock, wharf, pier, breakwater, beach, boathouse, retaining wall, or launching ramp or other similar structure, or any part thereof built over, on or in the waters of the state. This includes hydroelectric facilities and all associated structures.

\*\*\*All agricultural activities and operations in the state defined in RSA 21:34-a shall be exempt from the SWQPA provided such activities are in conformance with the most recent best management practices of USDA Natural Resources Conservation Service.

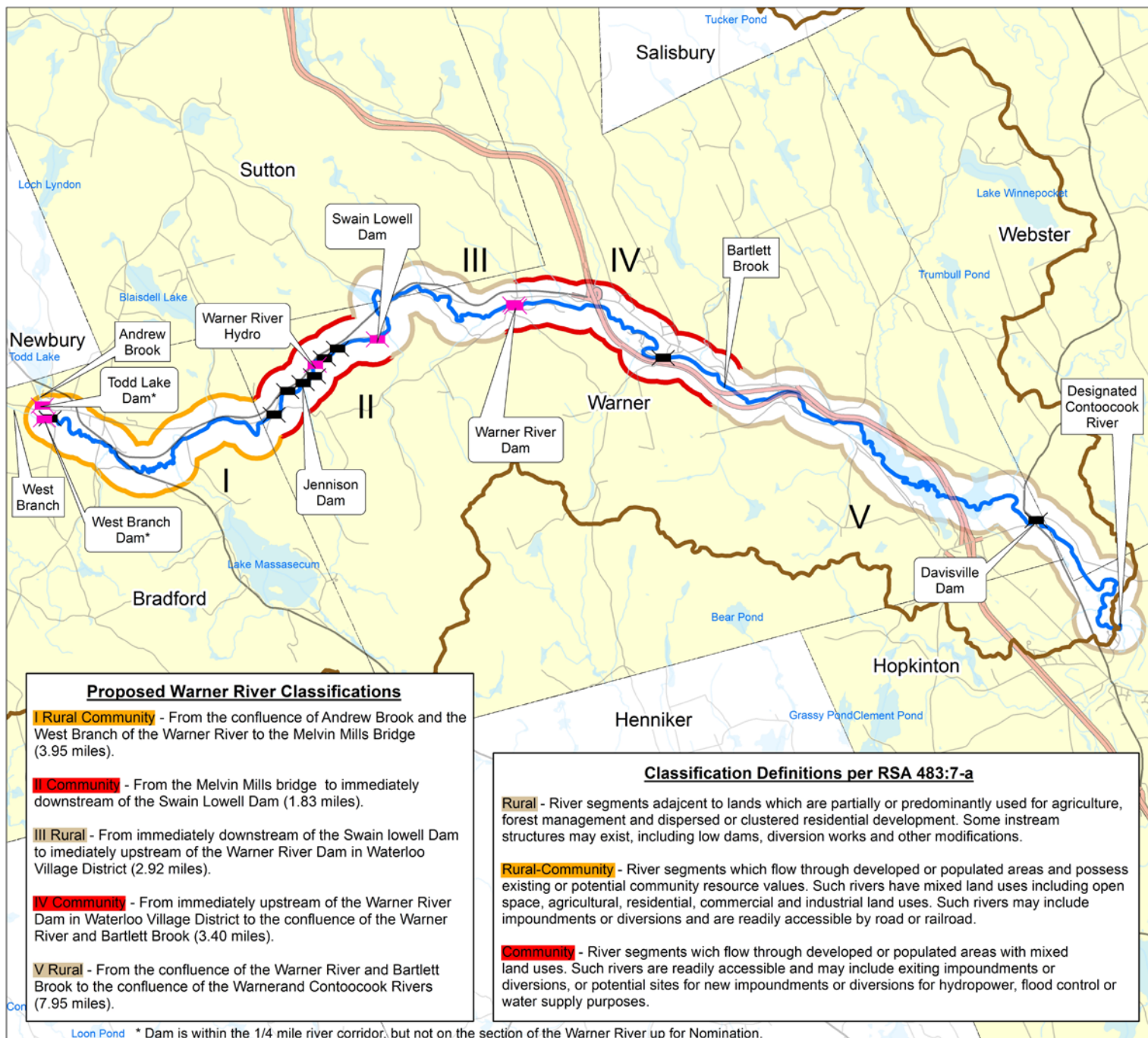
Regulation	Shoreland Water Quality Protection Act (SWQPA)	Local Zoning Ordinance
Establishment of salt storage yards, automobile junkyards, and solid or hazardous waste facilities	Prohibited within 250 feet of the reference line*.	No solid waste facility may place solid waste or construction and demolition debris within 300 feet of the reference line.
Development	<ul style="list-style-type: none"> <li>Primary structure must be setback 50 feet.</li> <li>Accessory structures setback 20 feet.</li> <li>Any land disturbances (construction, excavation or fill) require a permit.</li> <li>No new septic systems within 75 feet.</li> <li>Replacement septic systems must meet 75 ft. setback to extent practical.</li> </ul>	<ul style="list-style-type: none"> <li>No excavation shall be permitted within 75 feet of any navigable river.</li> <li>No Leaching field or sewage drain shall be located closer than 75 feet from a well or waterbody.</li> </ul>
Construction of water dependent structures**	NHDES permit needed	Not Addressed
Application of fertilizer & pesticides/herbicides	<ul style="list-style-type: none"> <li>No fertilizer shall be applied to vegetation or soils located within 25 feet of the reference line of any public water other than slow or controlled release fertilizers. All other fertilizers may be applied outside of 50 feet of the highwater mark.</li> <li>None within 50 ft. except with applicator license.</li> </ul>	Not Addressed
Maintenance of a Waterfront Buffer	<ul style="list-style-type: none"> <li>Removal of rocks and stumps require a permit unless to improve runoff control or planting in the Waterfront Buffer.</li> <li>No natural ground cover shall be removed except as necessary for a 6-foot-wide foot path.</li> </ul>	See SWQPA
Maintenance of a Natural Woodland Buffer	<ul style="list-style-type: none"> <li>A natural Woodland Buffer Shall be maintained within 150 feet of the reference line.</li> <li>At least 25% of the buffer, outside the Waterfront Buffer must maintained in an unaltered state or improved with additional vegetation.</li> </ul>	See SWQPA
Impervious surfaces	<ul style="list-style-type: none"> <li>No more than 30% of the area of a lot located within the protected shoreland shall be composed of impervious surfaces unless a stormwater management plan is designed by an engineer.</li> <li>If impervious surface area exceeds 20%, but is less than 30%, a stormwater management system shall be implemented.</li> </ul>	The edge of any impervious surface upon which solid waste is stored shall not be within 300 feet of the reference line.



# Warner River Nomination

NH Rivers Management and Protection Program

## Proposed River Classifications



### Proposed Warner River Classifications

**I Rural-Community** - From the confluence of Andrew Brook and the West Branch of the Warner River to the Melvin Mills Bridge (3.95 miles).

**II Community** - From the Melvin Mills bridge to immediately downstream of the Swain Lowell Dam (1.83 miles).

**III Rural** - From immediately downstream of the Swain Lowell Dam to immediately upstream of the Warner River Dam in Waterloo Village District (2.92 miles).

**IV Community** - From immediately upstream of the Warner River Dam in Waterloo Village District to the confluence of the Warner River and Bartlett Brook (3.40 miles).

**V Rural** - From the confluence of the Warner River and Bartlett Brook to the confluence of the Warner and Contoocook Rivers (7.95 miles).

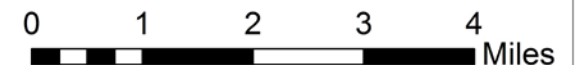
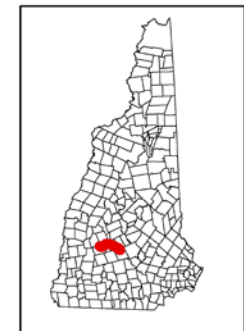
### Classification Definitions per RSA 483:7-a

**Rural** - River segments adjacent to lands which are partially or predominantly used for agriculture, forest management and dispersed or clustered residential development. Some instream structures may exist, including low dams, diversion works and other modifications.

**Rural-Community** - River segments which flow through developed or populated areas and possess existing or potential community resource values. Such rivers have mixed land uses including open space, agricultural, residential, commercial and industrial land uses. Such rivers may include impoundments or diversions and are readily accessible by road or railroad.

**Community** - River segments which flow through developed or populated areas with mixed land uses. Such rivers are readily accessible and may include existing impoundments or diversions, or potential sites for new impoundments or diversions for hydropower, flood control or water supply purposes.

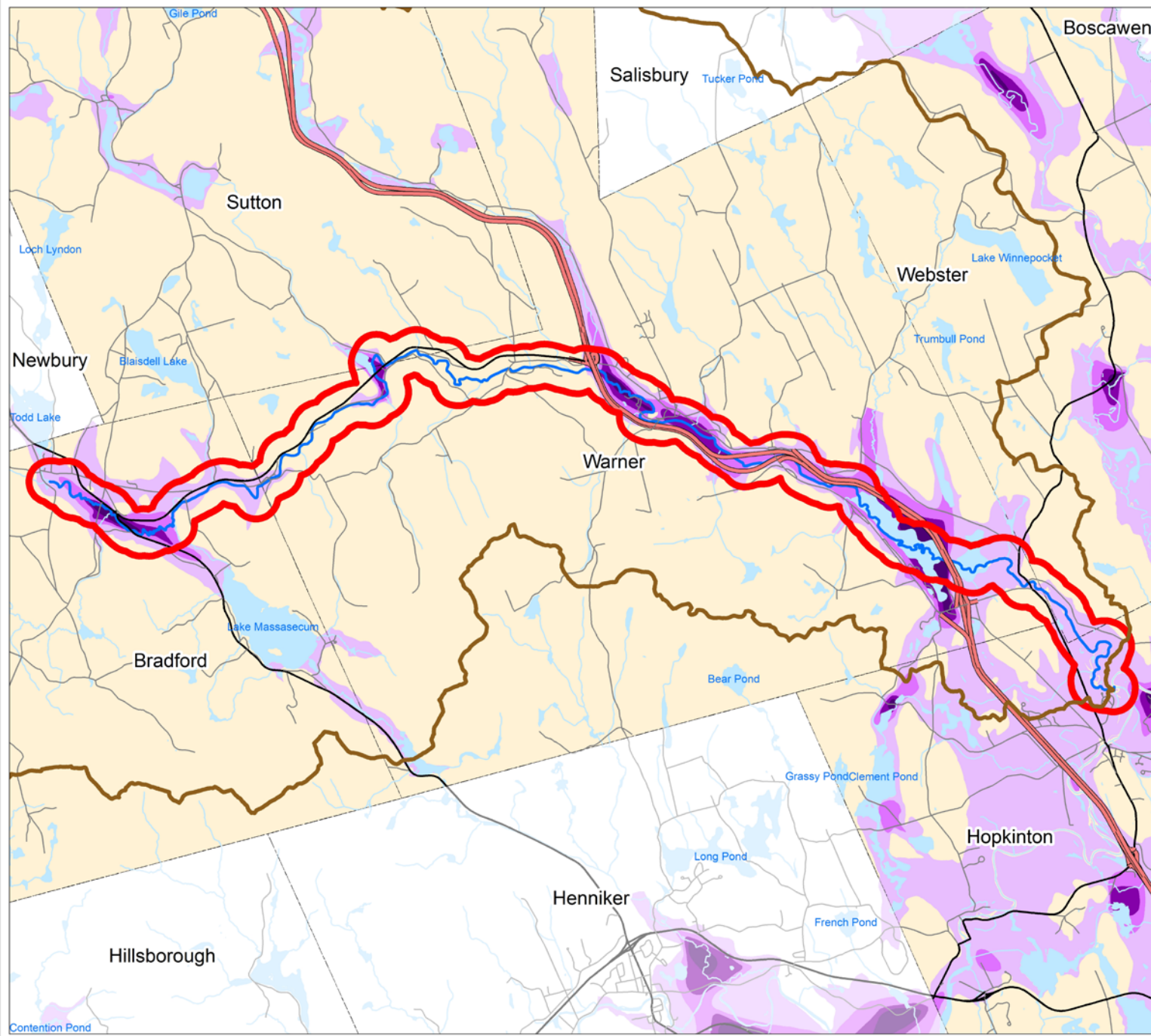
Loon Pond \* Dam is within the 1/4 mile river corridor, but not on the section of the Warner River up for Nomination.



Data Sources: 2015 Dams data from NHDES; River Classifications from the Warner River Nomination Committee; 2015 Roads data from NH Department of Transportation; Surface waters from the NH Hydrography Dataset via NH GRANIT; 2002 watershed boundaries from USDA Natural Resource Conservation Service/NH Department of Environmental Services via NH GRANIT; Town boundaries from NH GRANIT; River corridor from CNHRPC.

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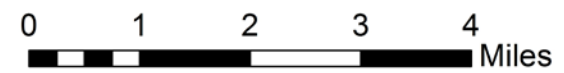
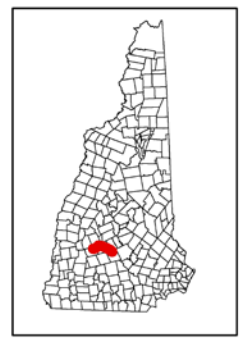
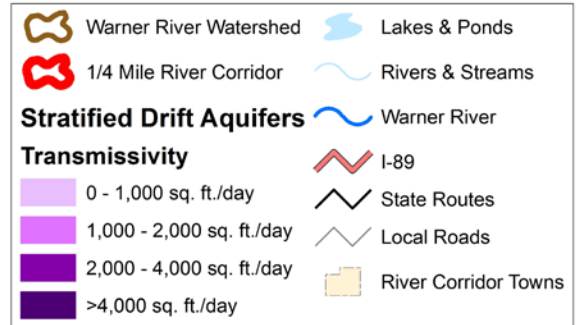




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NH Rivers Management and Protection Program

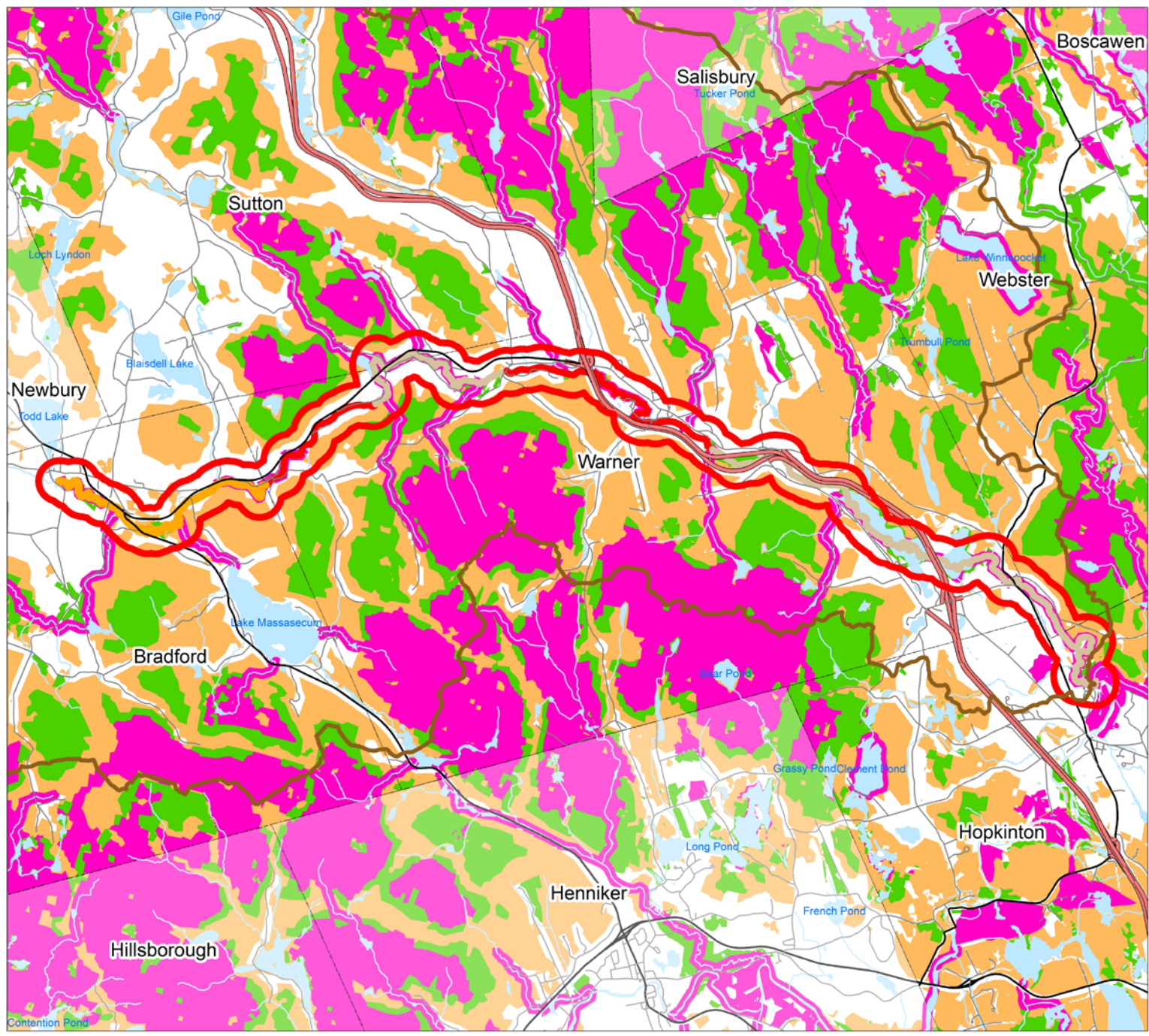
## Stratified Drift Aquifers



Data Sources: 2000 Stratified Drift Aquifers from United States Geological Survey via NH GRANIT; 2015 Roads data from NH Department of Transportation; Surface waters from the NH Hydrography Dataset via NH GRANIT; 2002 watershed boundaries from USDA Natural Resource Conservation Service/NH Department of Environmental Services via NH GRANIT; Town boundaries from NH GRANIT; River corridor from CNHRPC.

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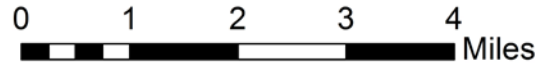
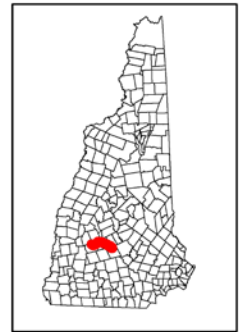
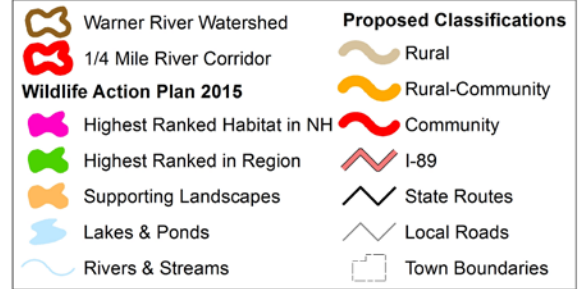




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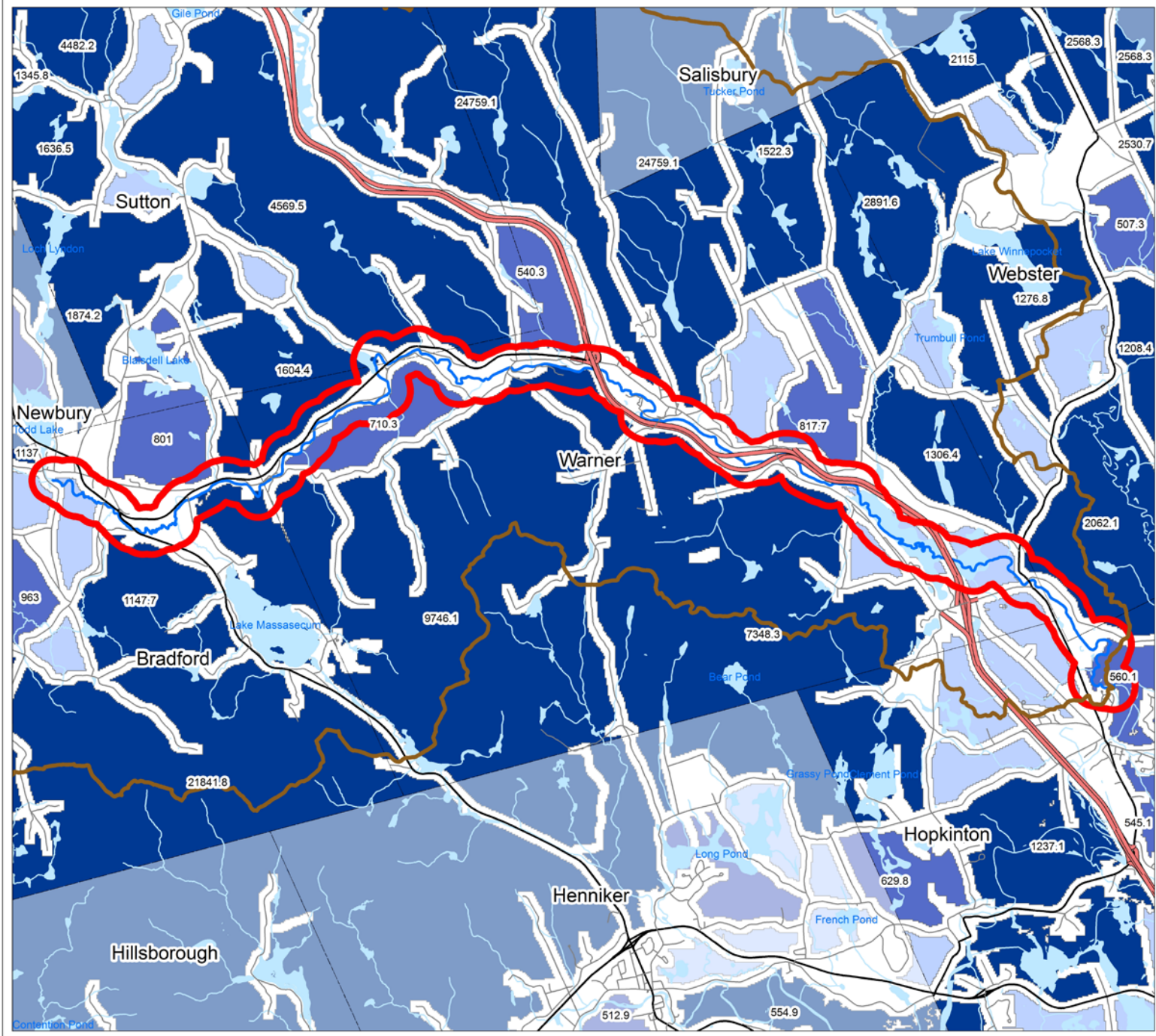
## Wildlife Action Plan 2015



Data Sources: 2015 Wildlife Action Plan from NH Fish and Game; 2015 Roads data from NH Department of Transportation; Surface waters from the NH Hydrography Dataset via NH GRANIT; 2002 watershed boundaries from USDA Natural Resource Conservation Service/NH Department of Environmental Services via NH GRANIT; Town boundaries from NH GRANIT; River corridor from CNHRPC.

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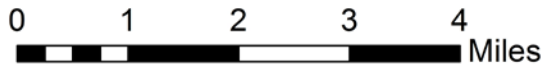
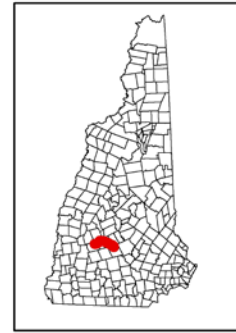
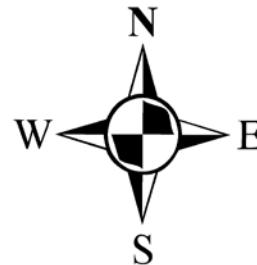


# Warner River Nomination

NH Rivers Management and Protection Program

## Unfragmented Blocks

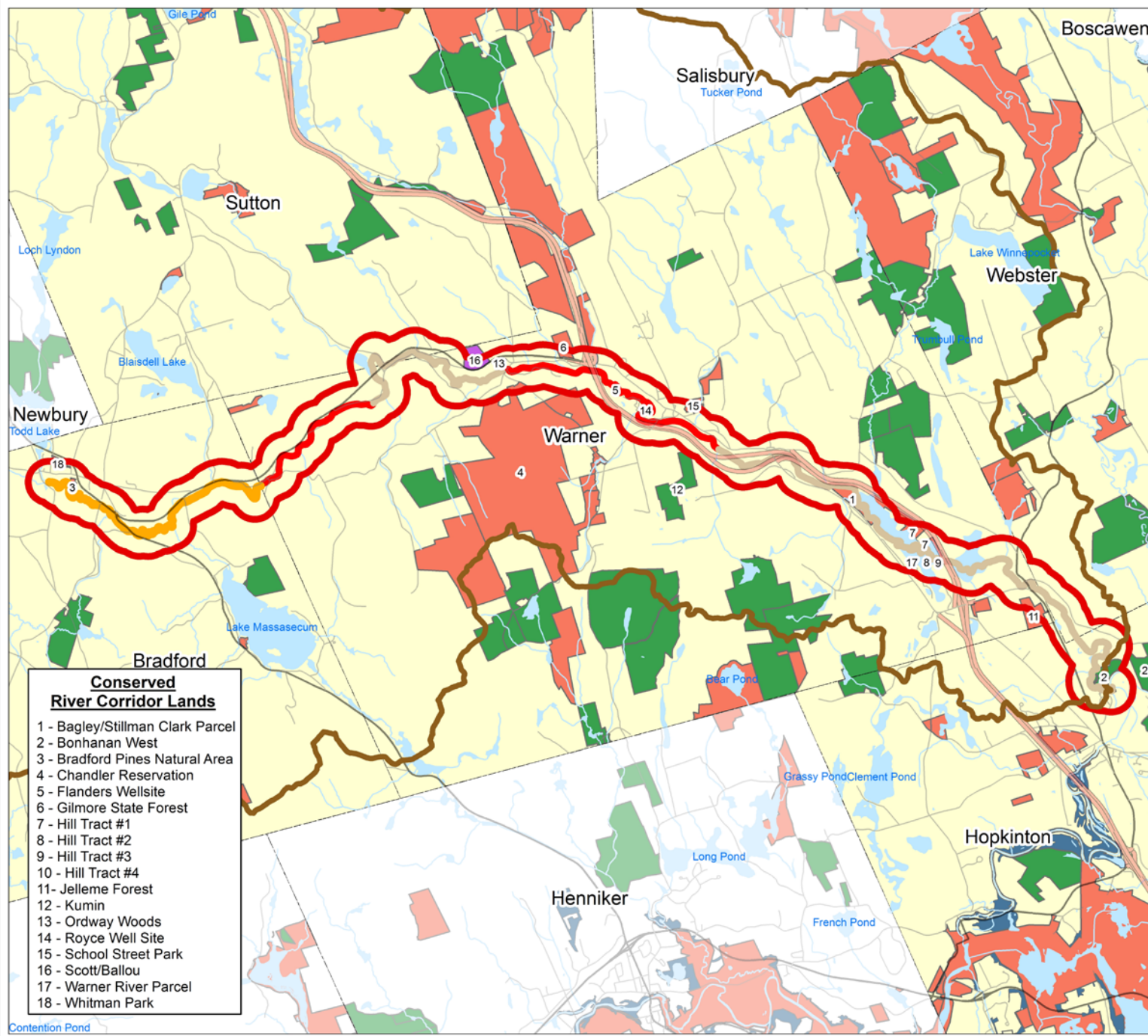
	Warner River Watershed		Lakes & Ponds
	1/4 Mile River Corridor		Rivers & Streams
<b>Unfragmented Blocks</b>			
	100-499 Acres		I-89
	500-999 Acres		State Routes
	> 1000 Acres		Local Roads
			Town Boundaries



Data Sources: Unfragmented blocks from NH Fish & Game's 2015 Wildlife Action Plan; 2015 Roads data from NH Department of Transportation; Surface waters from the NH Hydrography Dataset via NH GRANIT; 2002 watershed boundaries from USDA Natural Resource Conservation Service/NH Department of Environmental Services via NH GRANIT; Town boundaries from NH GRANIT; River corridor from CNHRPC.

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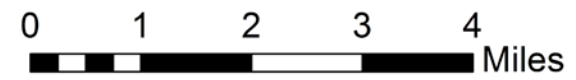
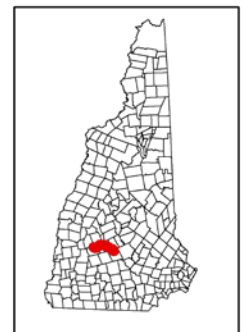
- Conserved River Corridor Lands**
- 1 - Bagley/Stillman Clark Parcel
  - 2 - Bonhanan West
  - 3 - Bradford Pines Natural Area
  - 4 - Chandler Reservation
  - 5 - Flanders Wellsite
  - 6 - Gilmore State Forest
  - 7 - Hill Tract #1
  - 8 - Hill Tract #2
  - 9 - Hill Tract #3
  - 10 - Hill Tract #4
  - 11 - Jelleme Forest
  - 12 - Kumin
  - 13 - Ordway Woods
  - 14 - Royce Well Site
  - 15 - School Street Park
  - 16 - Scott/Ballou
  - 17 - Warner River Parcel
  - 18 - Whitman Park

# Warner River Nomination

NH Rivers Management and Protection Program

## Conservation Lands by Protection

<b>Conserved Lands</b>	Warner River Watershed
Conservation Easement	1/4 Mile River Corridor
Deed Restriction	Lakes & Ponds
Fee Ownership	Rivers & Streams
All Other Protections	<b>Roads</b>
<b>Proposed Classifications</b>	I-89
Rural	State Routes
Rural-Community	Local Roads
Community	River Corridor Towns



Data Sources: 2013 Conservation Lands data from NH GRANIT; River Classifications from the Warner River Nomination Committee; 2015 Roads data from NH Department of Transportation; Surface waters from the NH Hydrography Dataset via NH GRANIT; 2002 watershed boundaries from USDA Natural Resource Conservation Service/NH Department of Environmental Services via NH GRANIT; Town boundaries from NH GRANIT; River corridor from CNHRPC.

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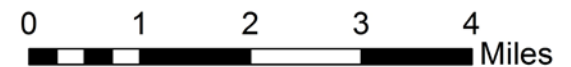
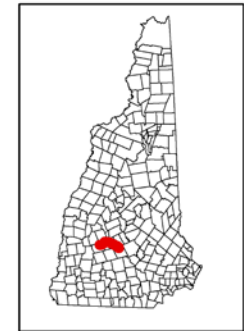
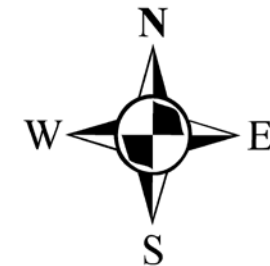


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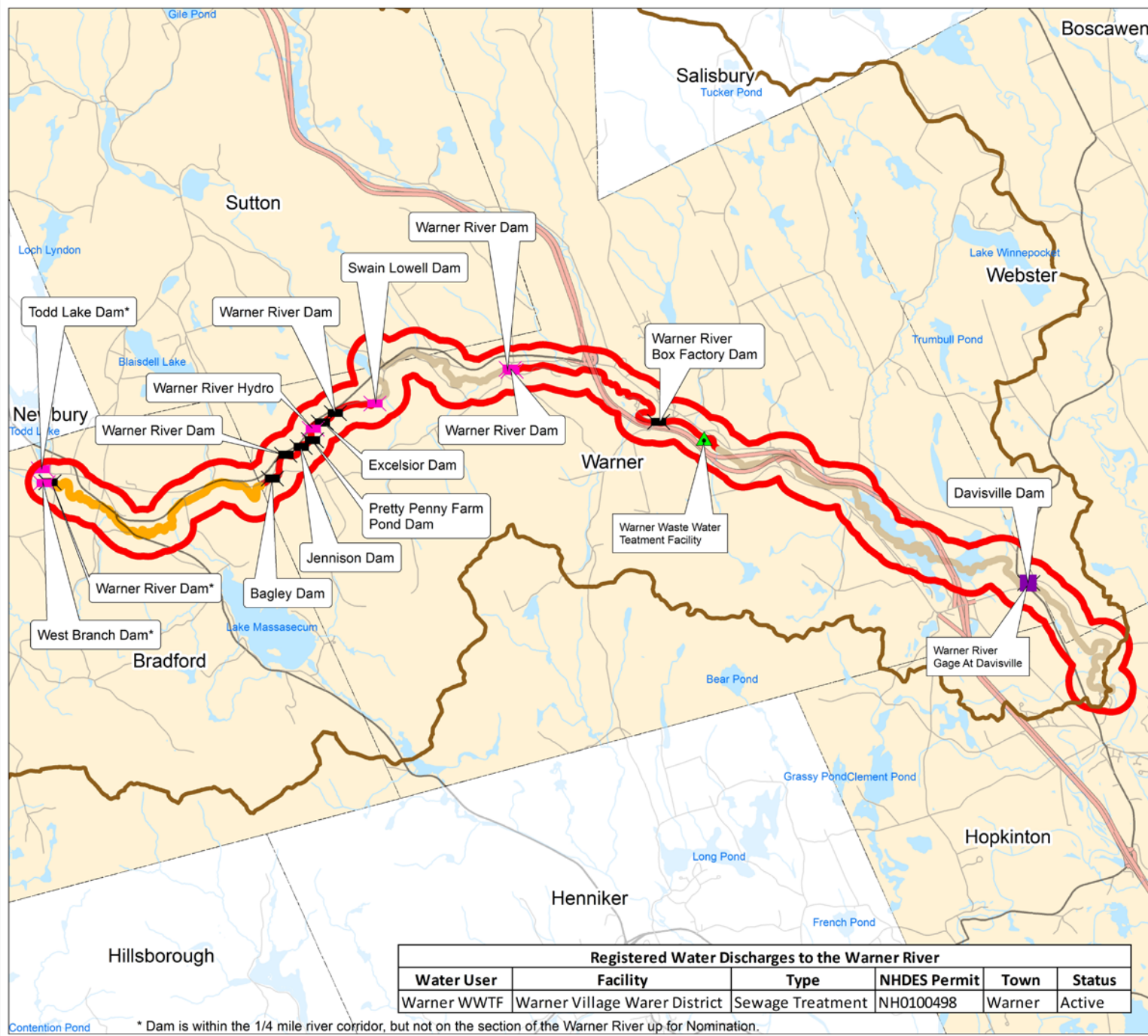
## Managed Resources

	Warner River Watershed		Rural
	1/4 Mile River Corridor		Rural-Community
	USGS Streamgages		Community
	Water Discharges		Lakes & Ponds
<b>Dams Sites</b>			Rivers & Streams
	Active Dam Site		I-89
	Breached or in Ruins		State Routes
	River Corridor Towns		Local Roads



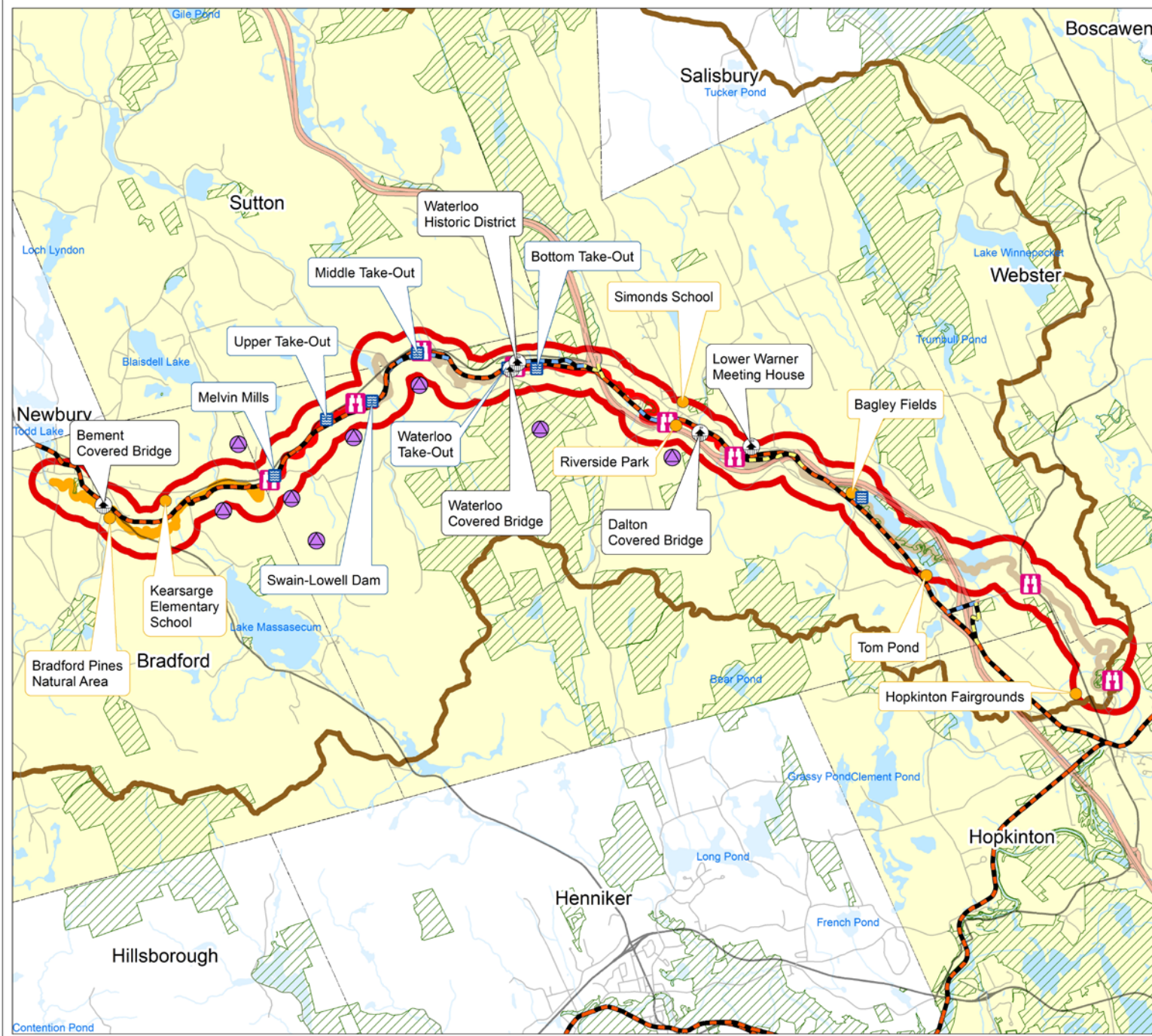
Data Sources: 2015 Dams data from NHDES; Stream Gage data from USGS; Water Withdrawal Data from NHDES; 2015 Roads data from NH Department of Transportation; Surface waters from the NH Hydrography Dataset via NH GRANIT; 2002 watershed boundaries from USDA Natural Resource Conservation Service/NH Department of Environmental Services via NH GRANIT; Town boundaries from NH GRANIT; River corridor from CNHRPC.

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Registered Water Discharges to the Warner River					
Water User	Facility	Type	NHDES Permit	Town	Status
Warner WWTF	Warner Village Waver District	Sewage Treatment	NH0100498	Warner	Active

\* Dam is within the 1/4 mile river corridor, but not on the section of the Warner River up for Nomination.

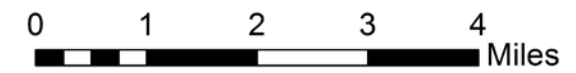
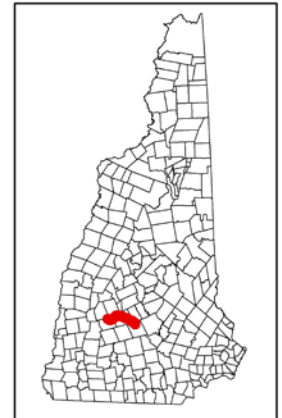


# Warner River Nomination

NH Rivers Management and Protection Program

## Cultural & Recreation Resources

- Warner River Watershed
- 1/4 Mile River Corridor
- Proposed Classifications**
- Rural
- Rural-Community
- Community
- Rail Trail**
- Abandoned Railroad Bed
- Proposed Rail Trail
- On Street
- Historic Places
- ScenicViews
- Water Access Point
- Recreation Site
- Bluffs
- Conservation Lands
- I-89
- State Routes
- Local Roads



Data Sources: Historic and Cultural Sites and Recreational Sites from NH OEP National Register of Historic Places and Nomination Committee input; Water Access Points from NH Fish and Game Department; Scenic Views, Bluffs, and Local Recreational Areas from Nomination Committee; Conservation Lands and Railroad Bed data from NH GRANIT; 2011 Roads data from NH Department of Transportation; Surface waters from the NH Hydrography Dataset via NH GRANIT; 2002 watershed boundaries from USDA Natural Resource Conservation Service/NH Department of Environmental Services via NH GRANIT; Town boundaries from NH GRANIT; Trails, River classifications and corridor from CNHRPC.



# Possible Climate-Driver Changes in Northeastern Forests

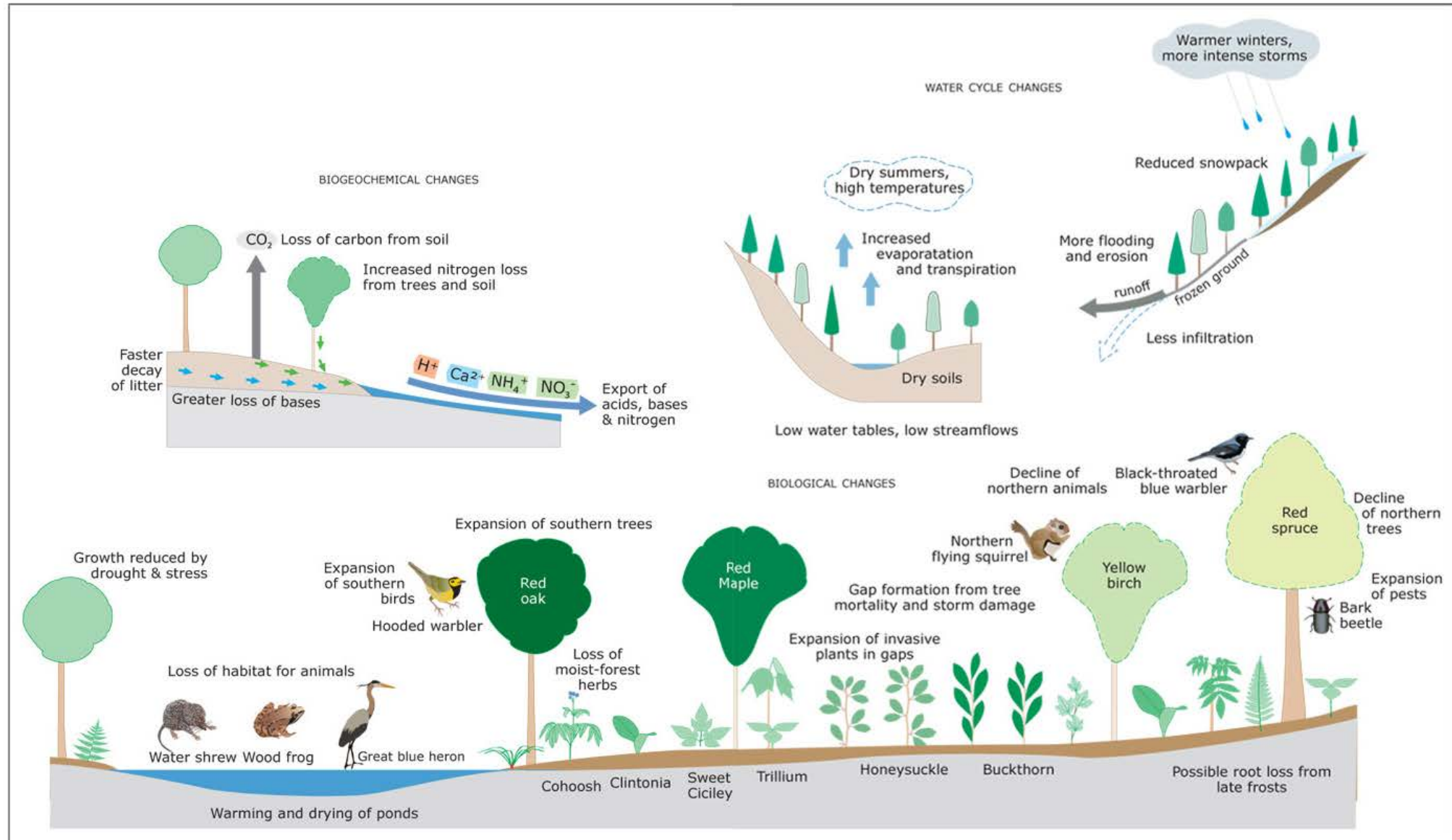


Figure 3.—Possible climate-driven changes in forests. Original drawing, based on processes discussed in this report. Illustration by Jerry Jenkins, Wildlife Conservation Society, used with permission.





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