

# Helping Your State Implement Your Wildlife Action Plan

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Biologist**

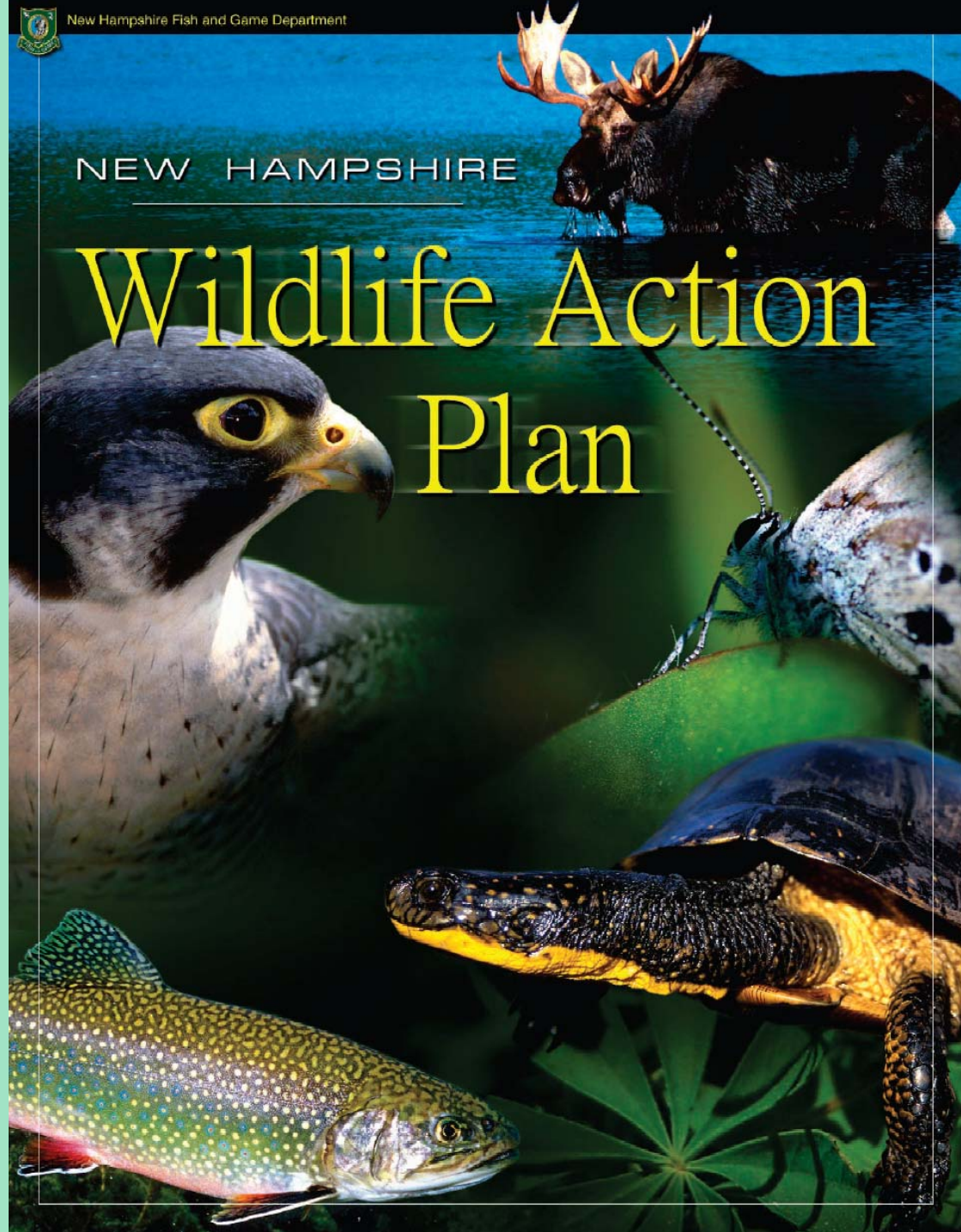
**New Hampshire Fish  
& Game Department**



New Hampshire Fish and Game Department

NEW HAMPSHIRE

## Wildlife Action Plan



# Action Plans: the bottom line

We can do more for rare and sensitive wildlife species now, through thoughtful proactive efforts, than we can by responding to the signs of trouble later.



# Wildlife Action Plans

- Developed with the help of many partner organizations, and the general public
- All-species conservation plans
- All-state plans—not just for state agencies



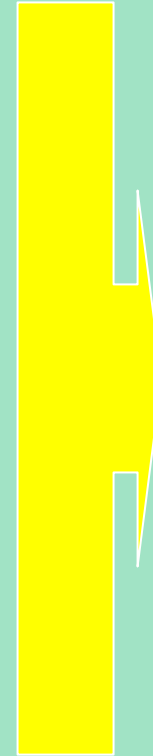
# The Plans in a Nutshell

1. Assess all threats (no matter how big they are or where they come from) to all wildlife.
2. Develop strategies to address those threats and improve the health of wildlife and wildlife habitats.



# Wildlife Action Plan

- ID Wildlife and Habitats at Risk
- Mapping
- Wildlife & Habitat Conditions
- Risk Assessment
- Conservation Strategies
- Research and Inventory Needs
- Monitoring



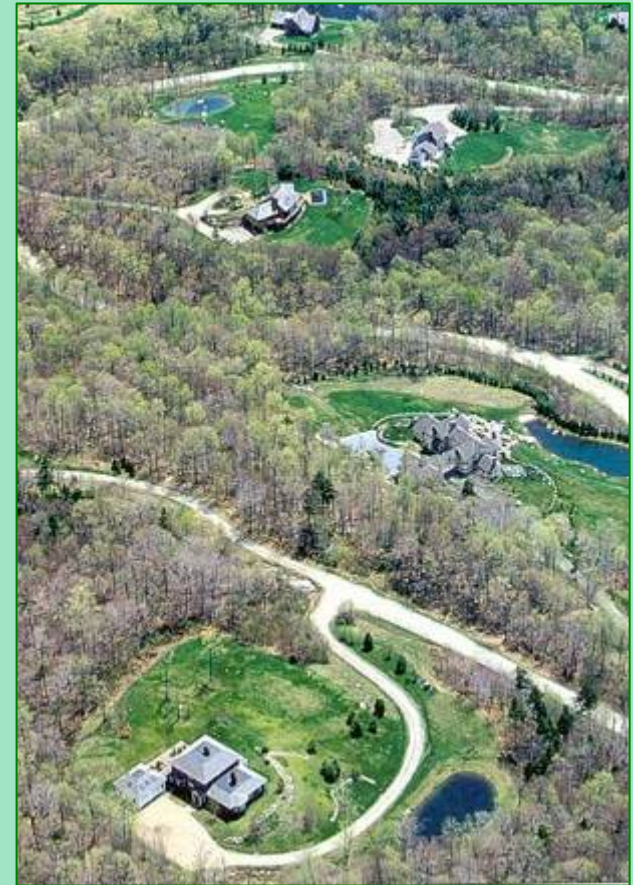
Species

Habitats

Landscape

# Problems: The Big Five

- Habitat loss (degradation, conversion & fragmentation)
- Impacts of roads
- Invasive exotic species
- Pollution and sedimentation
- Climate change



# Conservation Strategies

- Conservation planning
- Land protection
- Habitat management
- Landowner incentives
- Local regulation and policy
- Intra-agency coordination and policy
- Education, information and technical guidance
- Population management
- Research
- Environmental Review



# Watershed Strategies

- Educate recreational users regarding threats to wildlife and natural communities
- Reduce public water access impacts



# Watershed Strategies

- Restore or maintain natural flow regimes
- Restore and maintain watershed continuity
- Develop stream crossing guidelines and restoration protocols



# Watershed Strategies

- Protect riparian/shoreland habitat and other wildlife corridors
- Develop a comprehensive land protection support program



# Altered Natural Disturbance Regime



## 1. DEFINITION

Before European settlement, the natural disturbance regime was continuously altered by disturbance agents (e.g., northern flying squirrel, red-shouldered hawk, sharp-shopper sparrows, turtles that use the forest floor for nesting).

# Wildlife Action Plan Tools



## HABITAT PROFILE

### Appalachian Oak Pine Forest

Endemic Species: Timber rattlesnake, eastern whip-poor-will, veery, eastern red bat, northern myotis, northern long-eared bat, bobcat, black bear

#### 1.2 Justification

Appalachian oak pine forest is a rare habitat type with a distribution in New Hampshire that only 7.3% of the state's land area. This forest type supports 100 native plant species, 100 native bird species, 67 native mammal species, and 17 native amphibian and reptile species. This forest type supports 100 native bird species, 67 native mammal species, and 17 native amphibian and reptile species. This forest type supports 100 native bird species, 67 native mammal species, and 17 native amphibian and reptile species.

Rank: Not ranked

Rank: Not ranked

Author: Carol R. Foss, Audubon Society of New Hampshire

#### 1: DISTRIBUTION AND HABITAT

Rank: Not ranked

## SPECIES PROFILE

### Fowler's Toad

*Bufo fowleri* formerly *Bufo woodhousei*

Federal Listing: Not listed

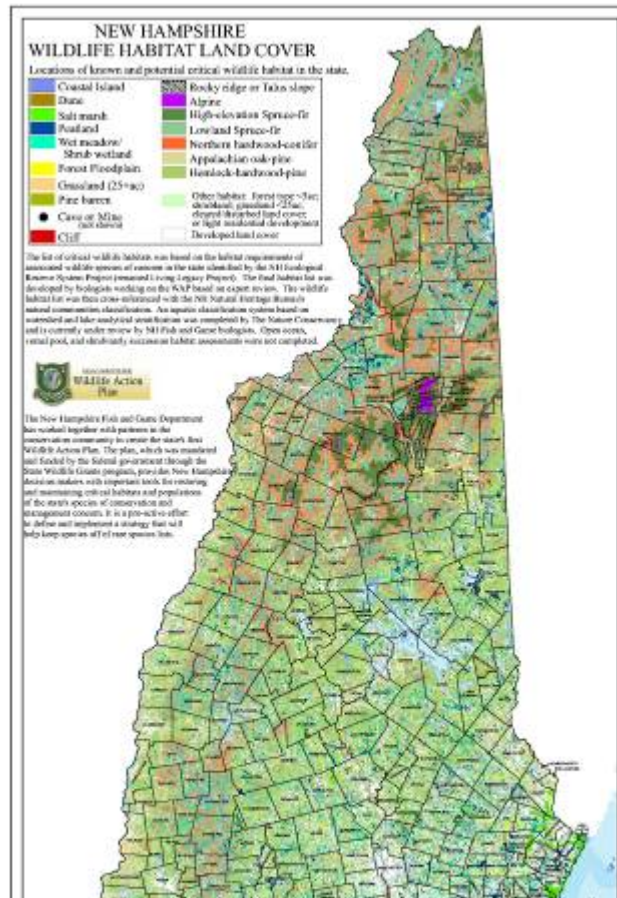
State Listing: Special concern

Global Rank: G5T

State Rank: S3

Author: Kimberly, J. Babbitt, University of New Hampshire

#### ELEMENT 1: DISTRIBUTION AND HABITAT



# Species Profiles

- Species Description
- Status
- Distribution and Abundance
- Known & Potential Habitats
- Protection
- Threats
- Research and Inventory Needs
- Conservation Mgmt Needs
- Bibliography



**Distribution of Wood Turtle  
in New Hampshire**

**Distribution**  
■ Known  
▨ Historic



0 10 20 40 Miles

Known = verified observations based on specimens, photos, or expert observation [e.g., NHFG's Reptile & Amphibian Reporting Program (RAARP), museum specimens, etc].  
Historic = observations more than 20 years old.





# Habitat Profiles

## 27 Critical Wildlife Habitats

- **Habitat Description**
- **Distribution and Abundance**
- **Protection**
- **Threats**
- **Research & Inventory Needs**
- **Conservation and Mgmt Needs**
- **Bibliography**

**Species of  
Greatest  
Conservation  
Need**

# **Habitat Associations**



**Habitat &  
Community types**  
e.g. grasslands,  
alder swamps,  
Connecticut River



**Landscapes**

# Wildlife Habitat

Pine Barrens

Rocky Ridges/Talus slopes

Cliffs

Alpine

Marsh and Shrub Wetlands

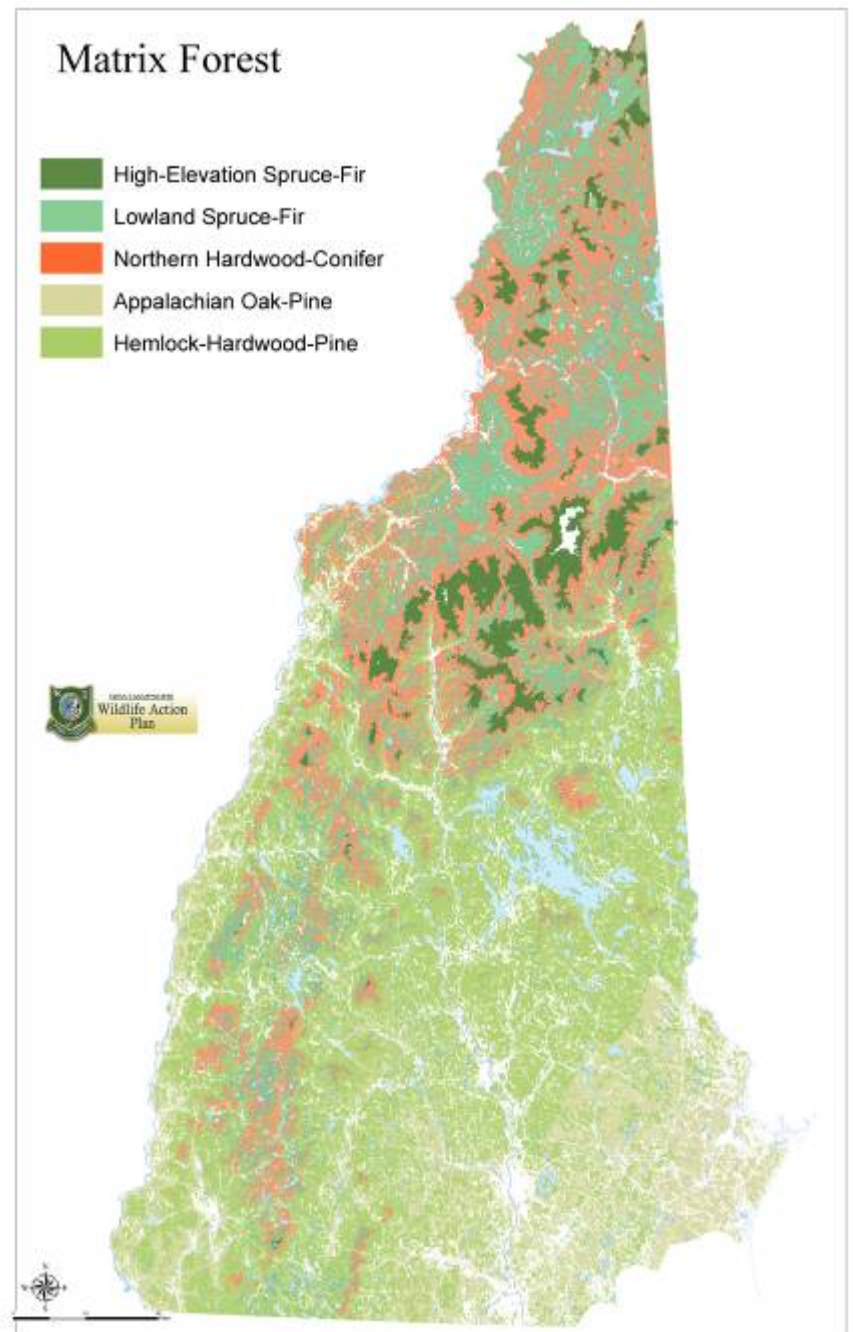
Peatlands

Floodplain Forests

Saltmarshes

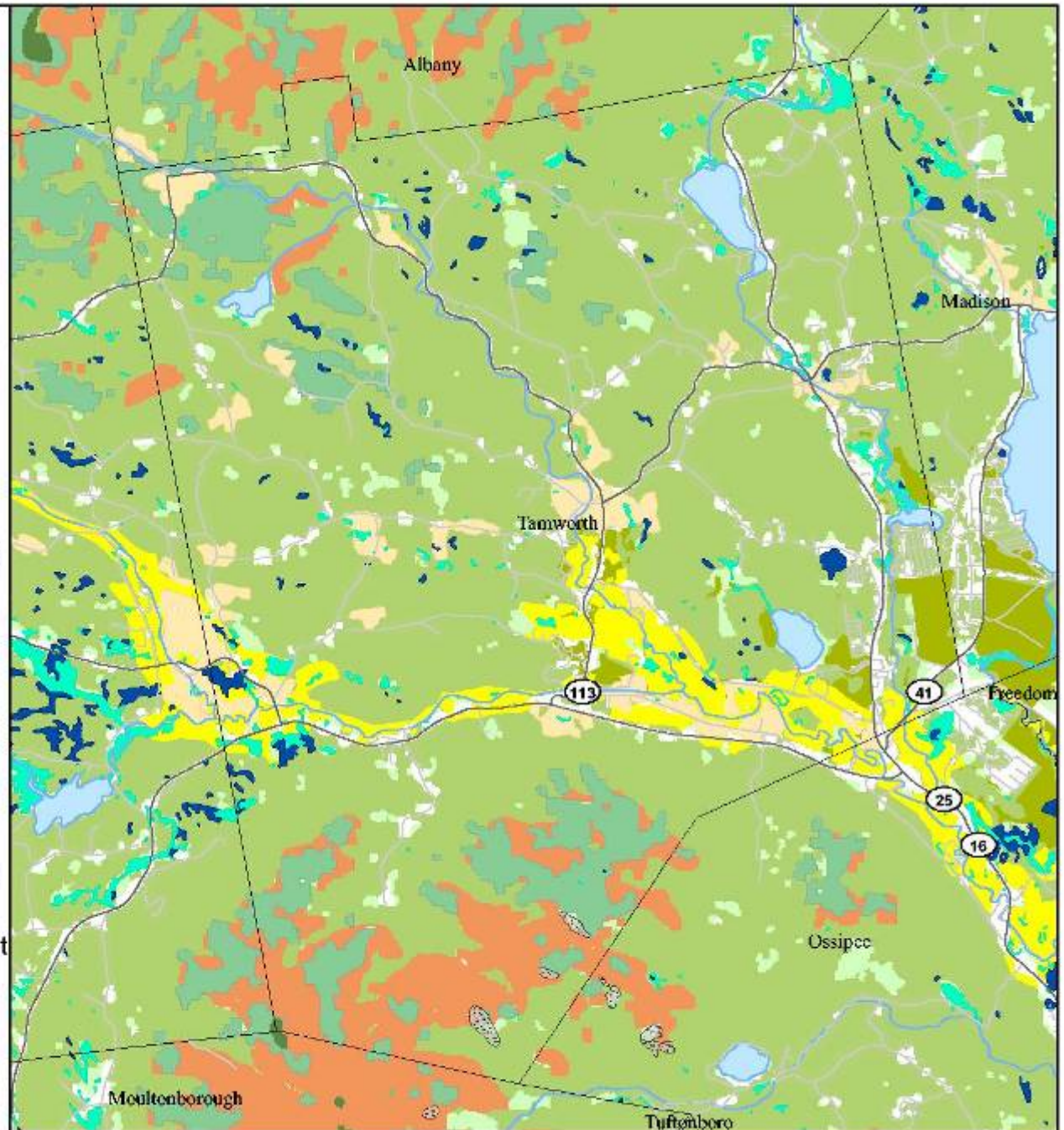
Coastal Islands

Dunes



# NEW HAMPSHIRE WILDLIFE HABITAT LAND COVER

-  Cliff
-  Rocky ridge or Talus slope
-  Alpine
-  High-elevation Spruce-fir
-  Lowland Spruce-fir
-  Northern hardwood-conifer
-  Appalachian oak-pine
-  Hemlock-hardwood-pine
-  Peatland
-  Wet meadow/Shrub wetland
-  Forest Floodplain
-  Grassland (25+ac)
-  Pine barren
-  Coastal Island
-  Dune
-  Salt marsh
-  Other habitat: forest type <5ac; shrubland; grassland <25ac; cleared/disturbed land cover; or light residential development
-  Developed land cover



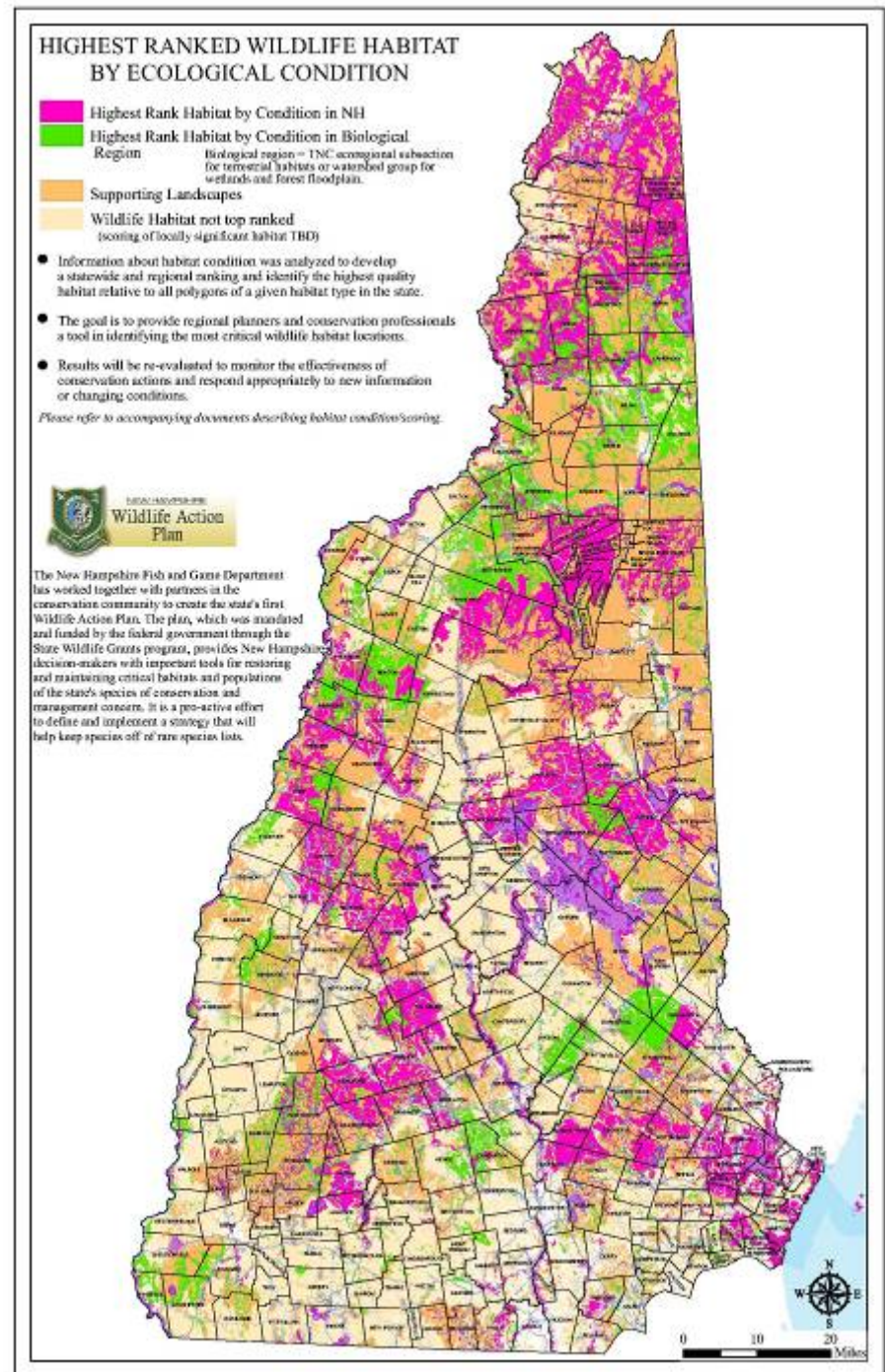
# Habitat Condition Assessment

Top % of each habitat type.

Condition based on:

- biological,
- landscape and
- human influence parameters

And based on type of habitat.



# Watershed Condition Assessment



Biological Factors

Human Factors

Landscape Factors

# Biological Factors

## Aquatic Species of Concern



Wood turtle



Brook Floater

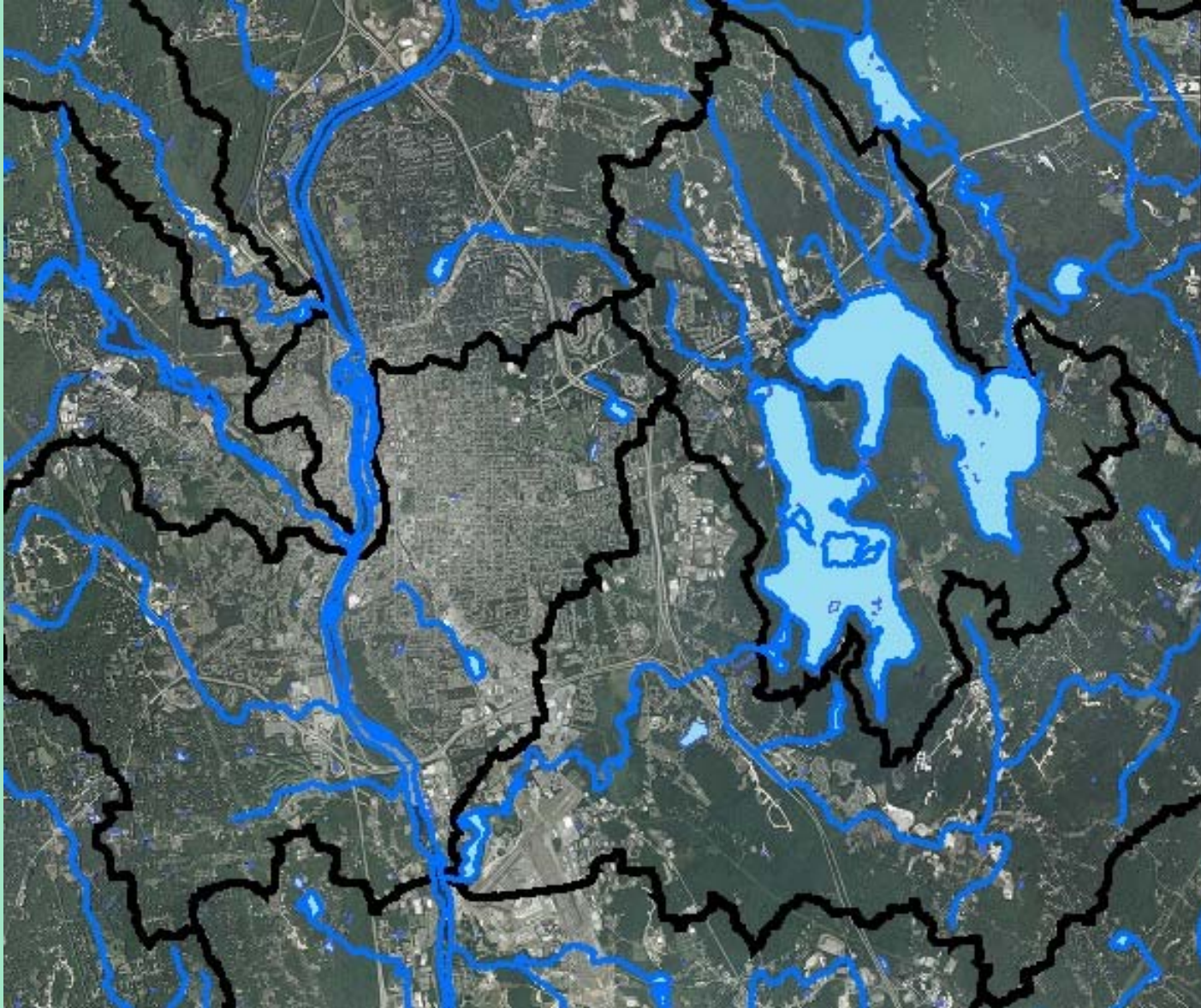


Sea Lamprey



Osprey

# Landscape Factors



# Human Factors



## Continuity

dams  
road-stream  
crossings

## Land Use

urbanization  
agriculture  
forestry

## Pollution

deposition  
point source  
nonpoint source  
eutrophication

## Invasive

## Species

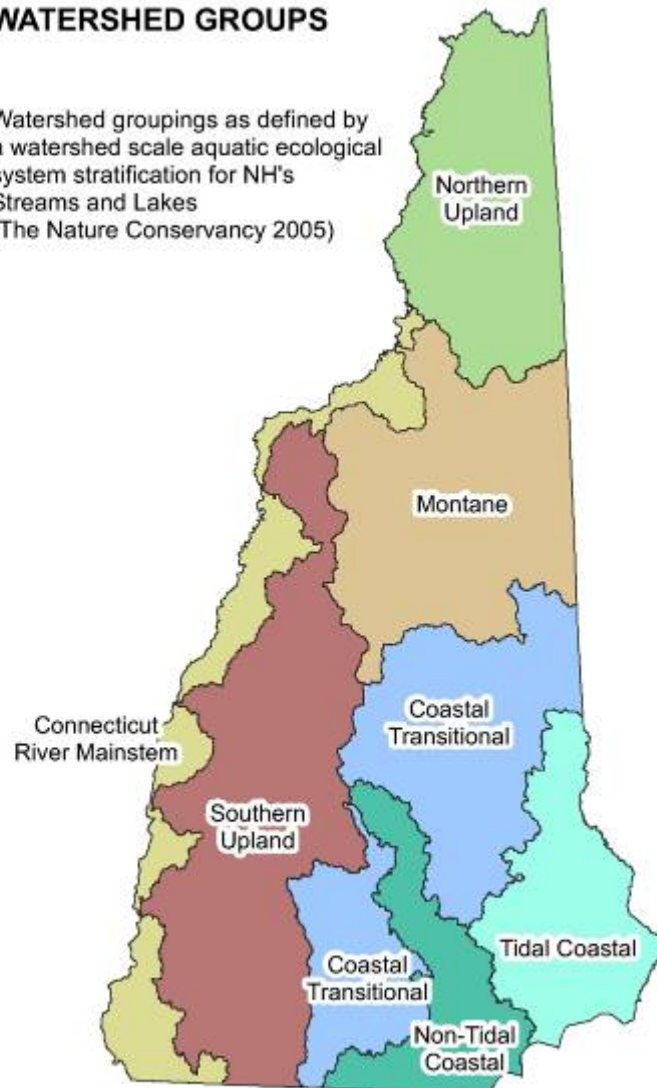
plants  
wildlife

## Habitat Alteration

sedimentation  
erosion  
shoreline development  
channelization

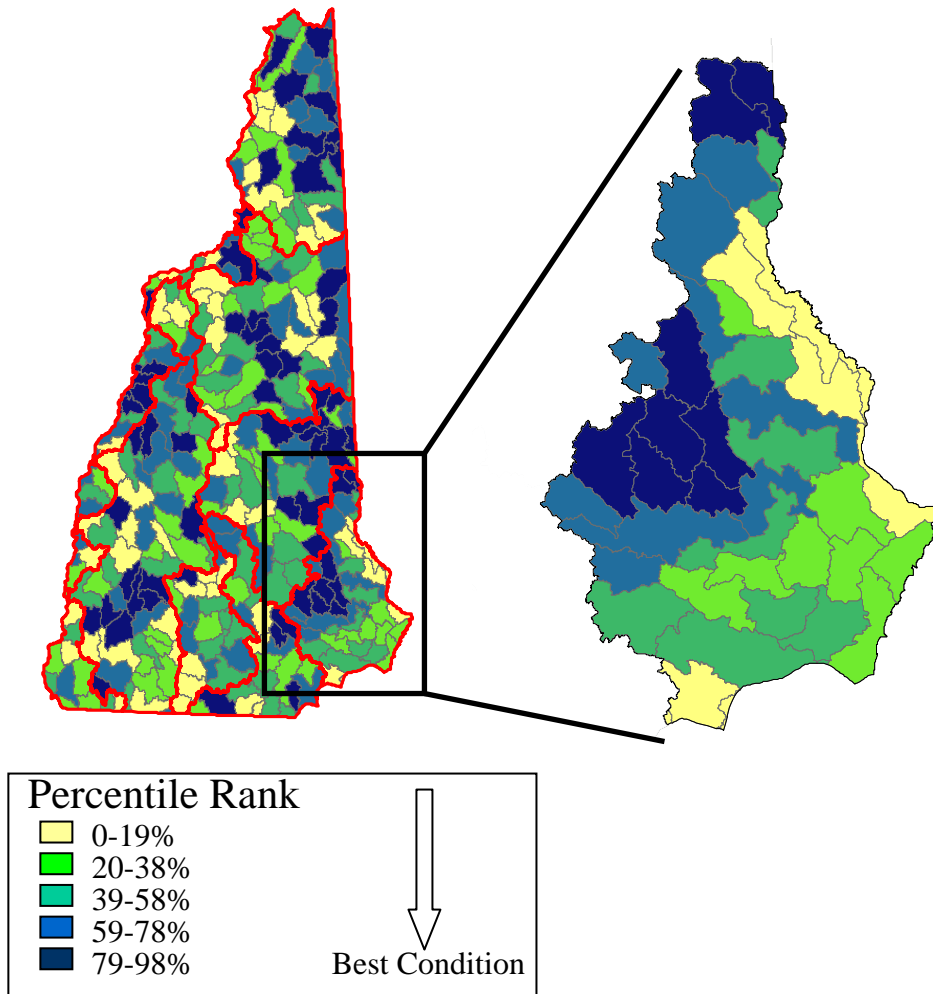
## WATERSHED GROUPS

Watershed groupings as defined by a watershed scale aquatic ecological system stratification for NH's Streams and Lakes (The Nature Conservancy 2005)



HUC 12 watersheds

# Watershed Condition Analysis



## Variables

- 1) **Biological-** accessible to anadromous fish, contains waterbodies managed for lake trout and wild brook trout, and contains fish species of concern and other rare aquatic dependant species
- 2) **Human Impacts-** road density, percentage of agricultural land, and amount of free flowing rivers within the watershed
- 3) **Landscape-** percentage of wetlands and surface water

# Conservation Focus Areas

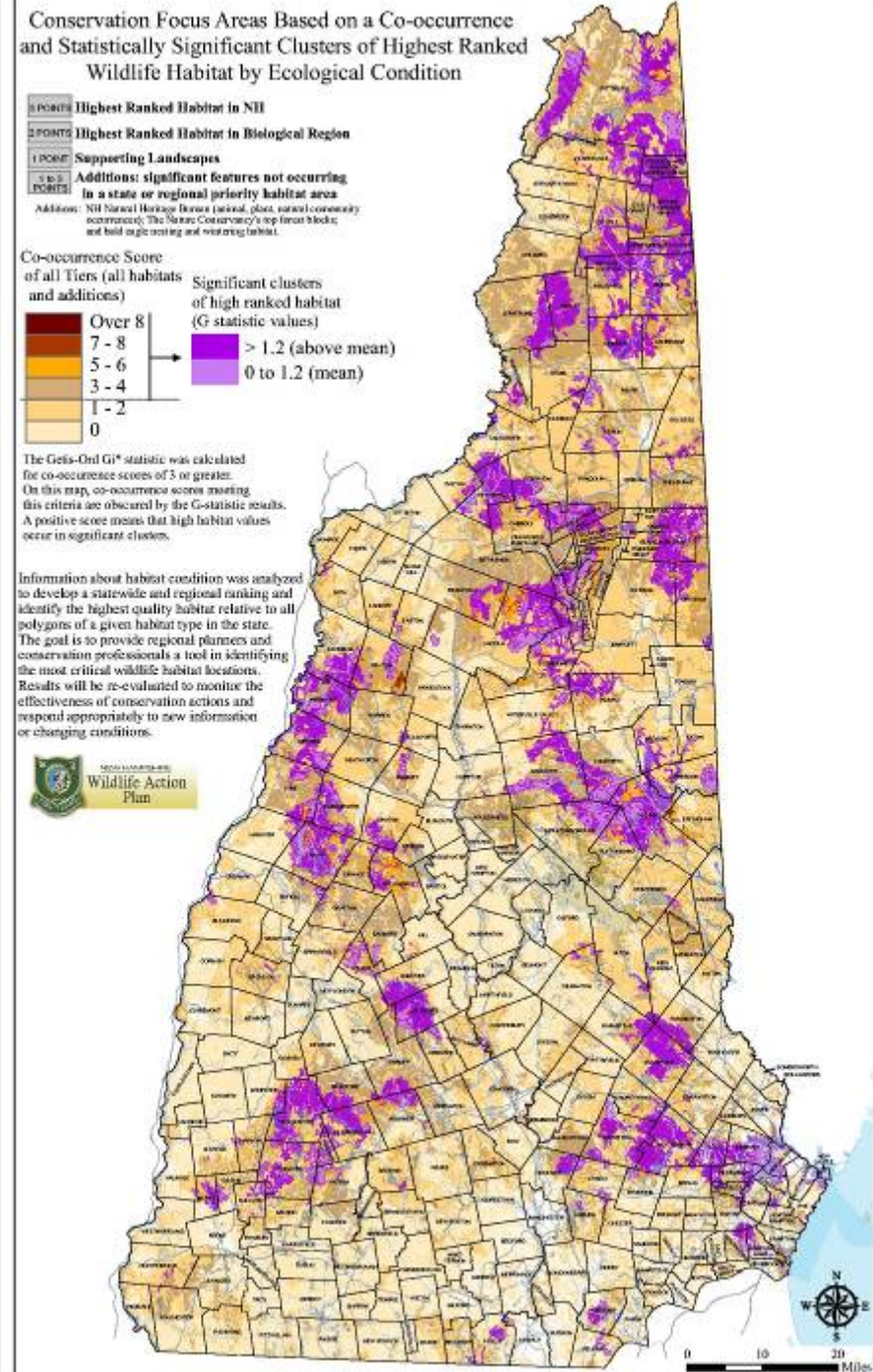
Two analyses to define Intact Landscapes with:

Documented rare wildlife

Landscape integrity

Landscape Diversity

Minimum human influence



# What can you do to implement you state's Wildlife Action Plan?



Harrisville Pond  
2003 Orthos

0 400 800 1,200 Feet



# Fish Species of Greatest Conservation Need



Banded Sunfish



American Brook Lamprey



Swamp Darter

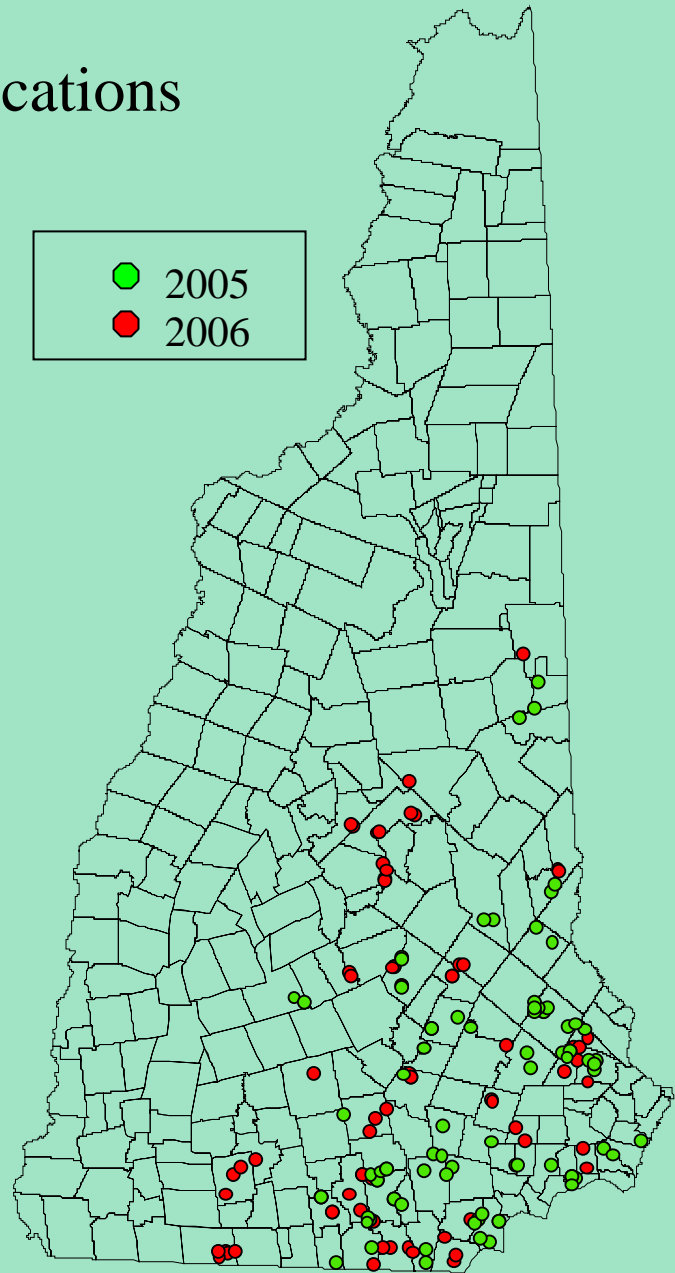
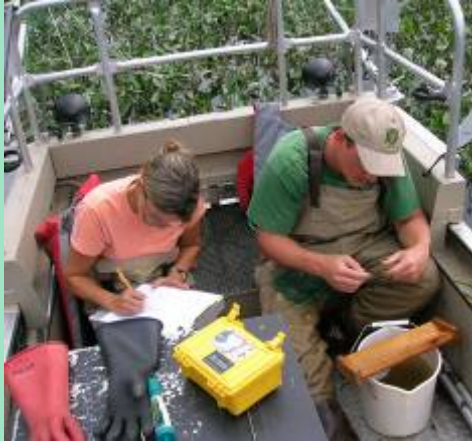


Bridle Shiner

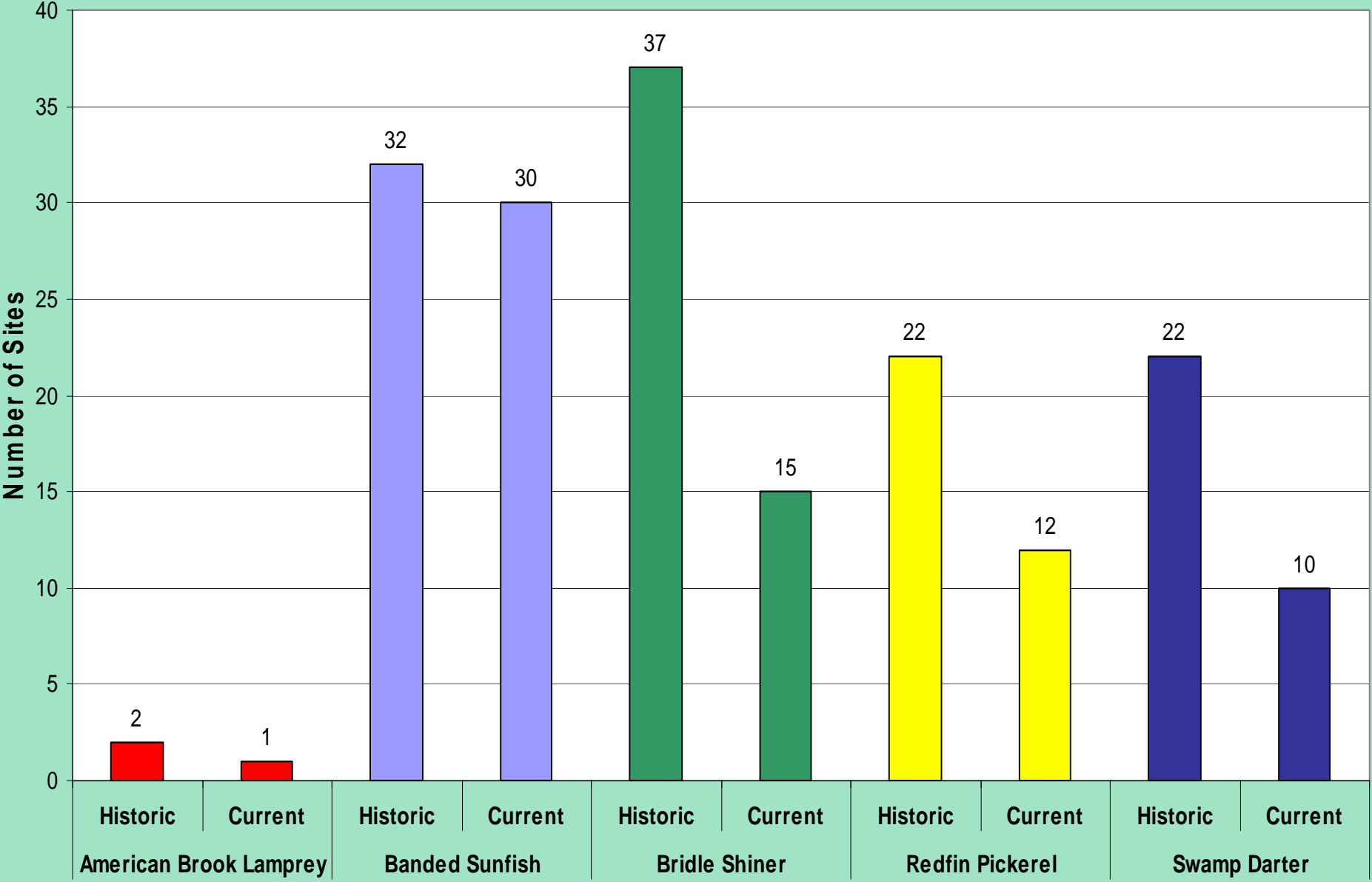


Redfin Pickerel

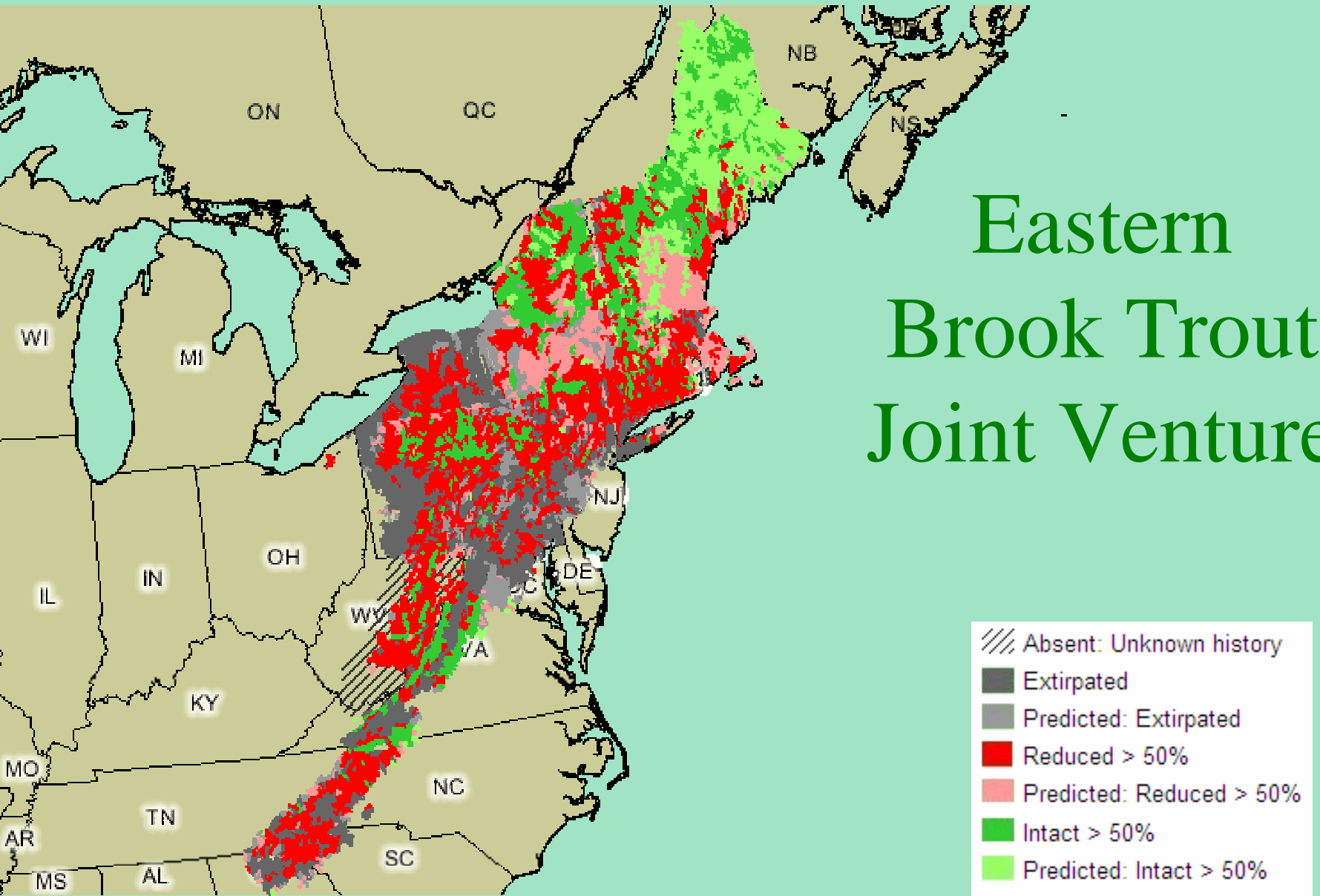
# Fish Species of Concern Survey Locations



# Historic Vs. Current Records



# Eastern Brook Trout Joint Venture



# Invertebrate Species of Greatest Conservation Need

Do you identify the rare species you encounter?

Are there species that could be indicators of specialized or rare habitat?  
Share your data!



# Barriers to Dispersal



Road-Stream Crossing  
Guidelines



NHDES Dams Bureau

Dam Removal

Two Conservation Strategies

# Aquatic Organism Passage

Develop technical criteria and guidelines for installation and management of stream crossing structures.



# Water Quality Regulations

- Model cold water habitats and create regulations that prohibit development from warming the stream temperature.
- Control effect of fall drawdown on lakes and ponds by ceasing drawdown in mid-October – or before there is a negative affect on wildlife.





# Pollutants

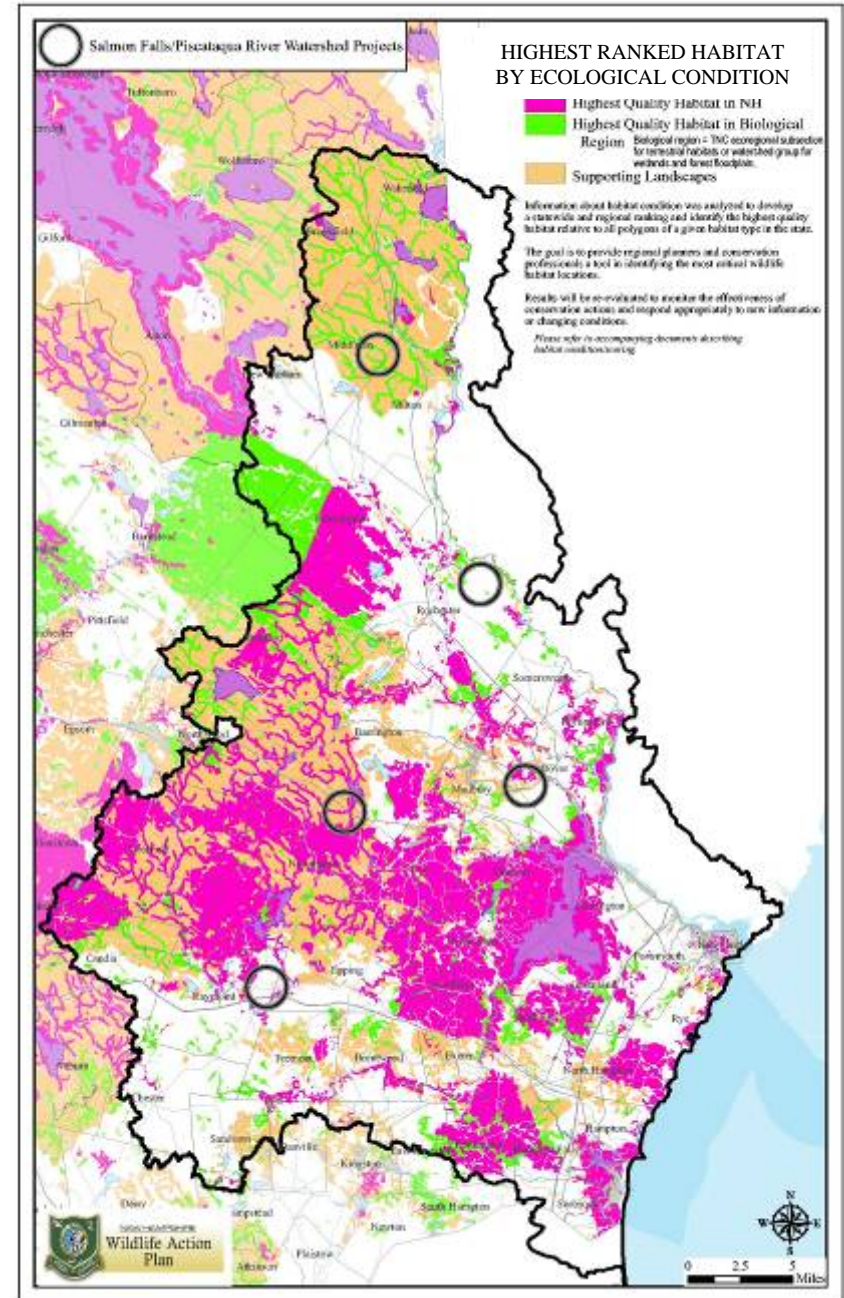
- Mercury, lead and other contaminants affect wildlife as well as people.
- Contaminant levels can be used to assess threats to species and begin to develop strategies to mitigate that risk.



# Wetlands Mitigation

In-lieu fee program to provide funds to protect wetlands and associated uplands where onsite mitigation for filling of <1 acre is not possible.

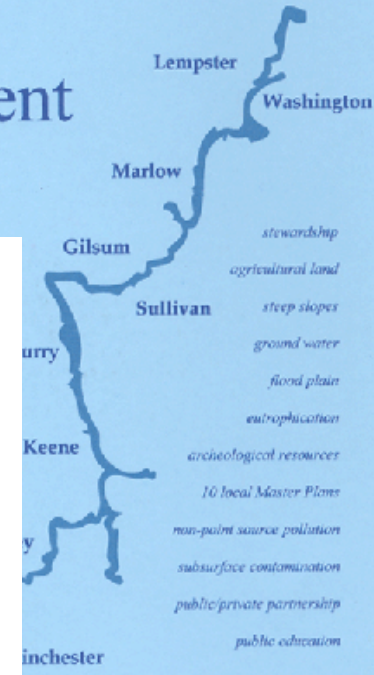
Habitat condition as a criteria for granting funds to projects.



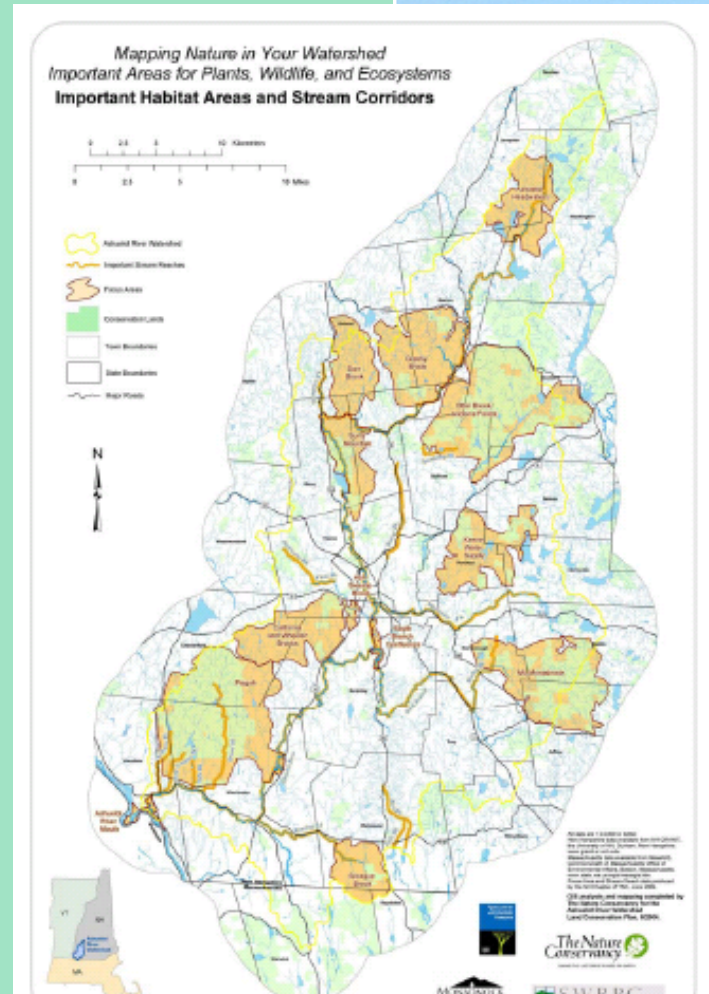
# Watershed Management Plans

- Mapping highest condition stream reaches, ponds and lakes
- Partnering with Watershed Associations or towns on planning and projects to improve water quality

## Ashuelot River Corridor Management Plan



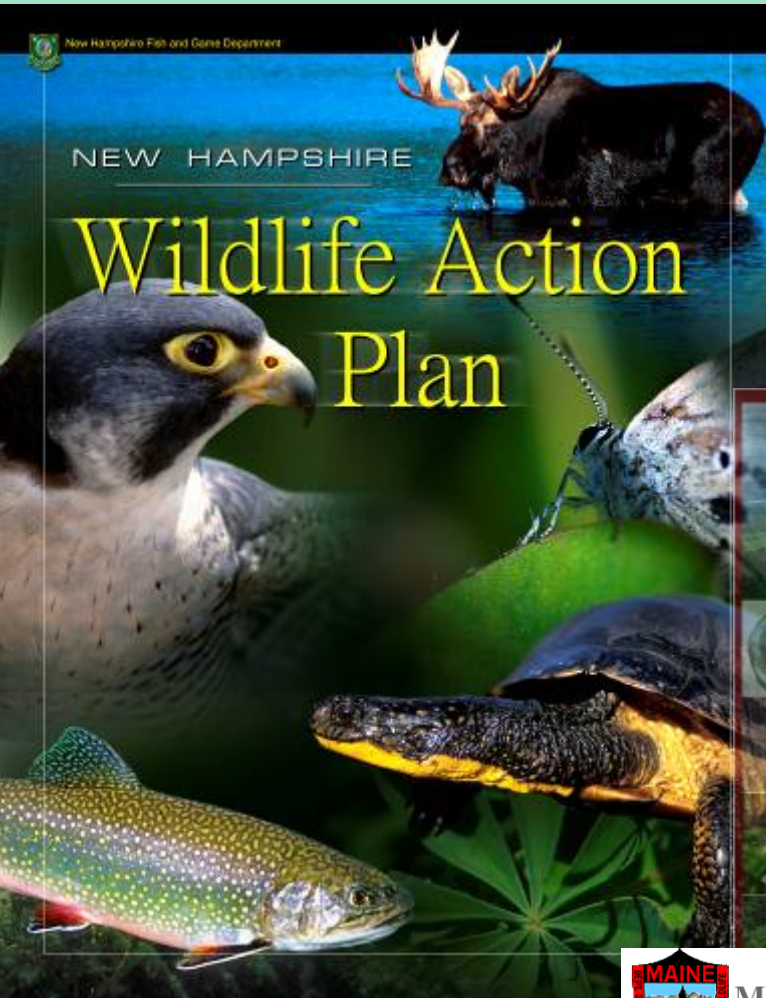
December 2001



New Hampshire Fish and Game Department

NEW HAMPSHIRE

# Wildlife Action Plan



## CONNECTICUT'S COMPREHENSIVE WILDLIFE CONSERVATION STRATEGY



*Creating a vision for the future of wildlife conservation.*



State of Connecticut  
Department of Environmental Protection  
Bureau of Natural Resources



## Vermont's Wildlife Action Plan\*

November 22, 2005



Approved by the US Fish & Wildlife Service 11/22/2005

\*Formerly the Comprehensive Wildlife Conservation Strategy



## Rhode Island's

## Comprehensive Wildlife Conservation Strategy

Division of Fish and Wildlife

State of Rhode Island  
Department of Environmental Management

September 2005



## Maine Department of Inland Fisheries & Wildlife



Maine's Comprehensive Wildlife Conservation Strategy  
A requirement of the State Wildlife Grant Program



New York State Department of Environmental Conservation

New York State Comprehensive Wildlife Conservation Strategy (CWCS)

Conserving New York's Wildlife

