



Wildlife Habitat Management Bear Brook State Park



Steering Committee Meeting December 12, 2019

Melissa Doperalski
Wildlife Biologist, NHFG

Jim Oehler
Habitat Biologist, NHFG

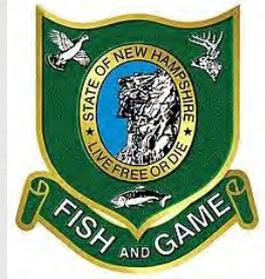
John Magee
Fish Habitat Biologist, NHFG





Wildlife Habitat Management

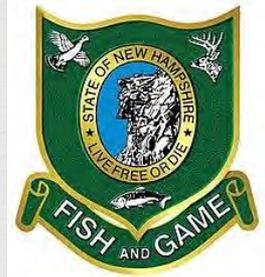
Bear Brook State Park





Wildlife Habitat Management

Bear Brook State Park





Wildlife Habitat Management

Bear Brook State Park



RSA 227:G

biologically diverse
populations of plants
and animals



B. Clifford



USFWS



USFWS



USFWS



Judy Gallagher



V. Young



Wildlife Habitat Management

Bear Brook State Park



Wildlife Division

- Habitat Technical Assistance
- Threatened and Endangered Species
- Habitat Projects
- Pheasant Stocking



Wildlife Habitat Management

Bear Brook State Park



Inland Fisheries Division

- Habitat Technical Assistance
- Trout Stocking





Wildlife Habitat Management Bear Brook State Park



Law Enforcement Division

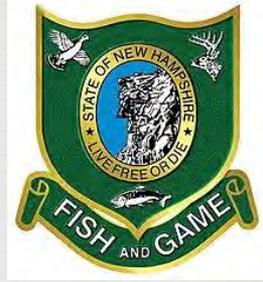
- Fishing and hunting enforcement
- Threatened and Endangered species laws
- OHRV enforcement





Wildlife Habitat Management

Bear Brook State Park



Public Affairs Division

- Archery Course

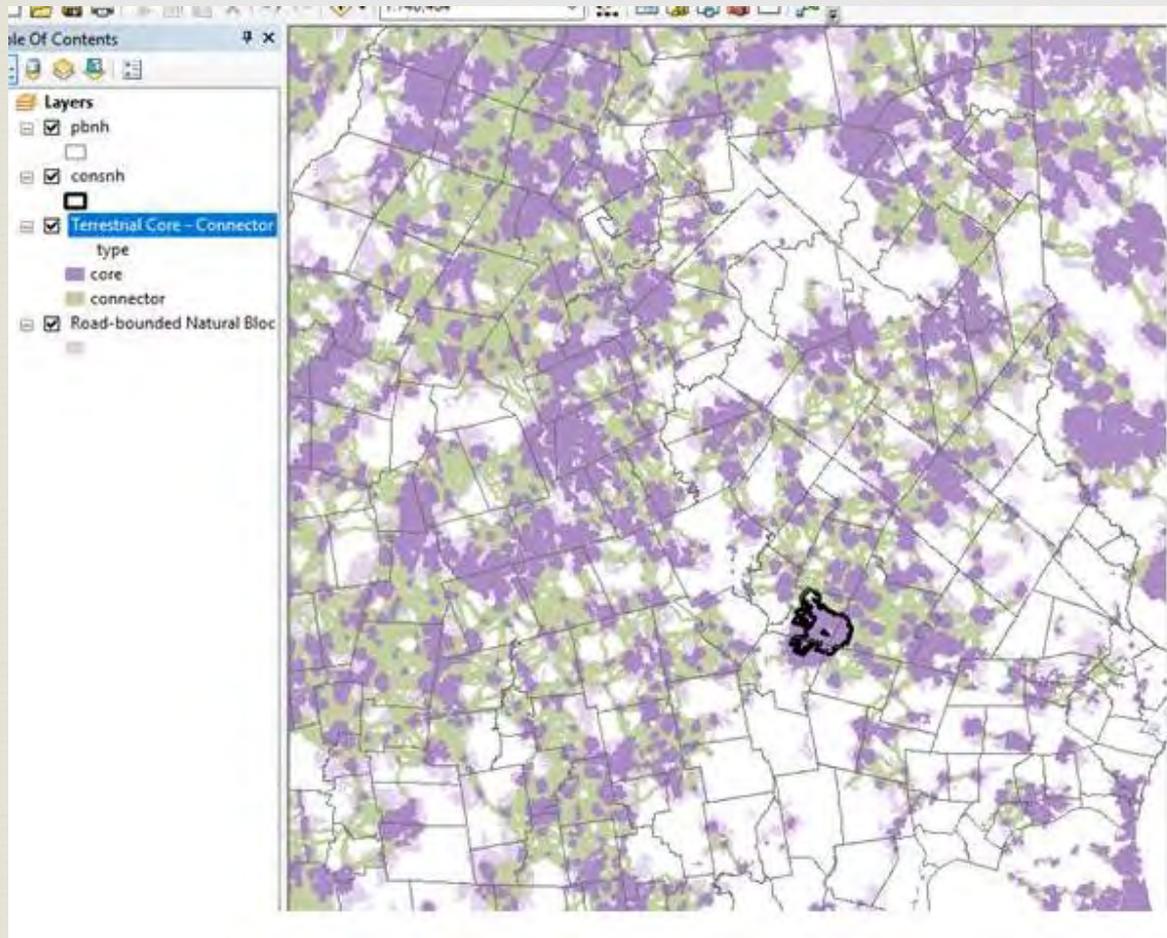


Facilities & Lands Division

- Archery Pond



Wildlife Habitat Management Bear Brook State Park



Northeast cores-and-connectors



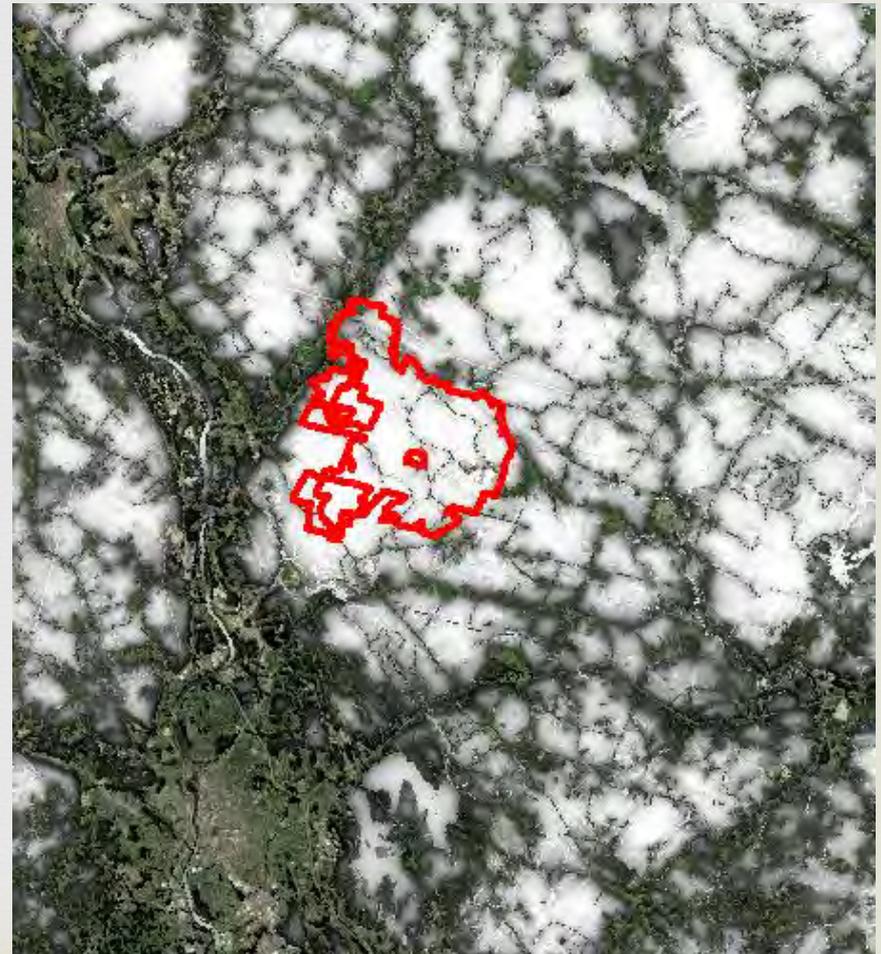
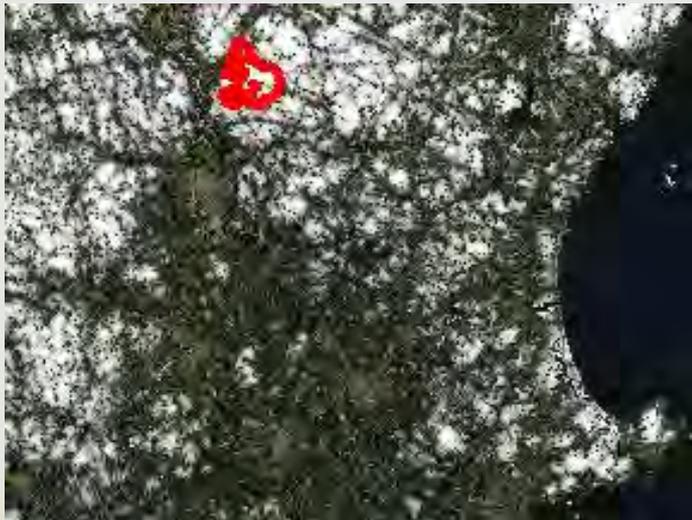


Wildlife Habitat Management

Bear Brook State Park



UMASS – Index of Ecological integrity
— a coarse filter of landscape ecological integrity, defined as the ability of an area to sustain ecological functions over the long term; in particular, the ability to support biodiversity and the ecosystem processes necessary to sustain biodiversity over the long term.

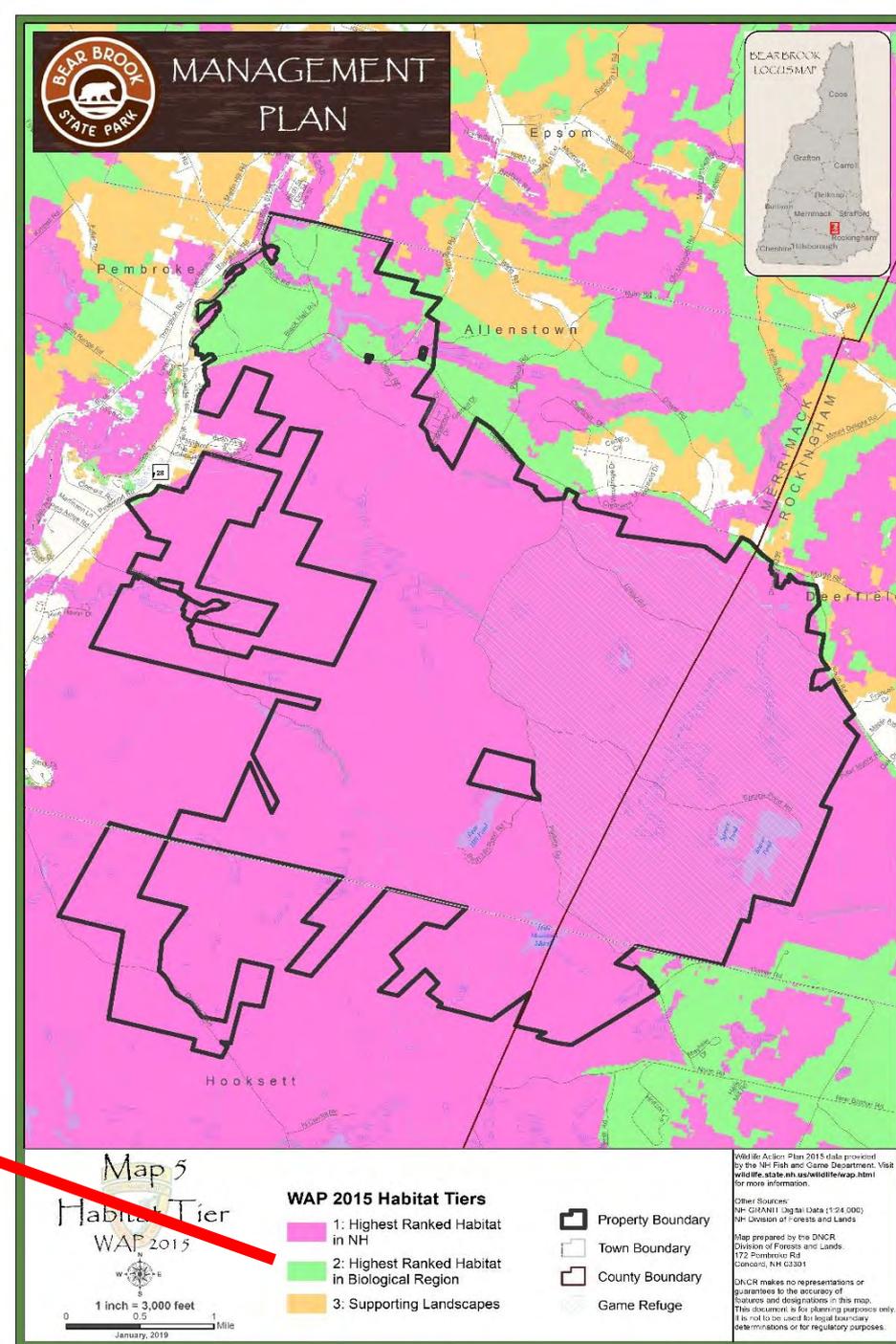


2015 NH Wildlife Action Plan

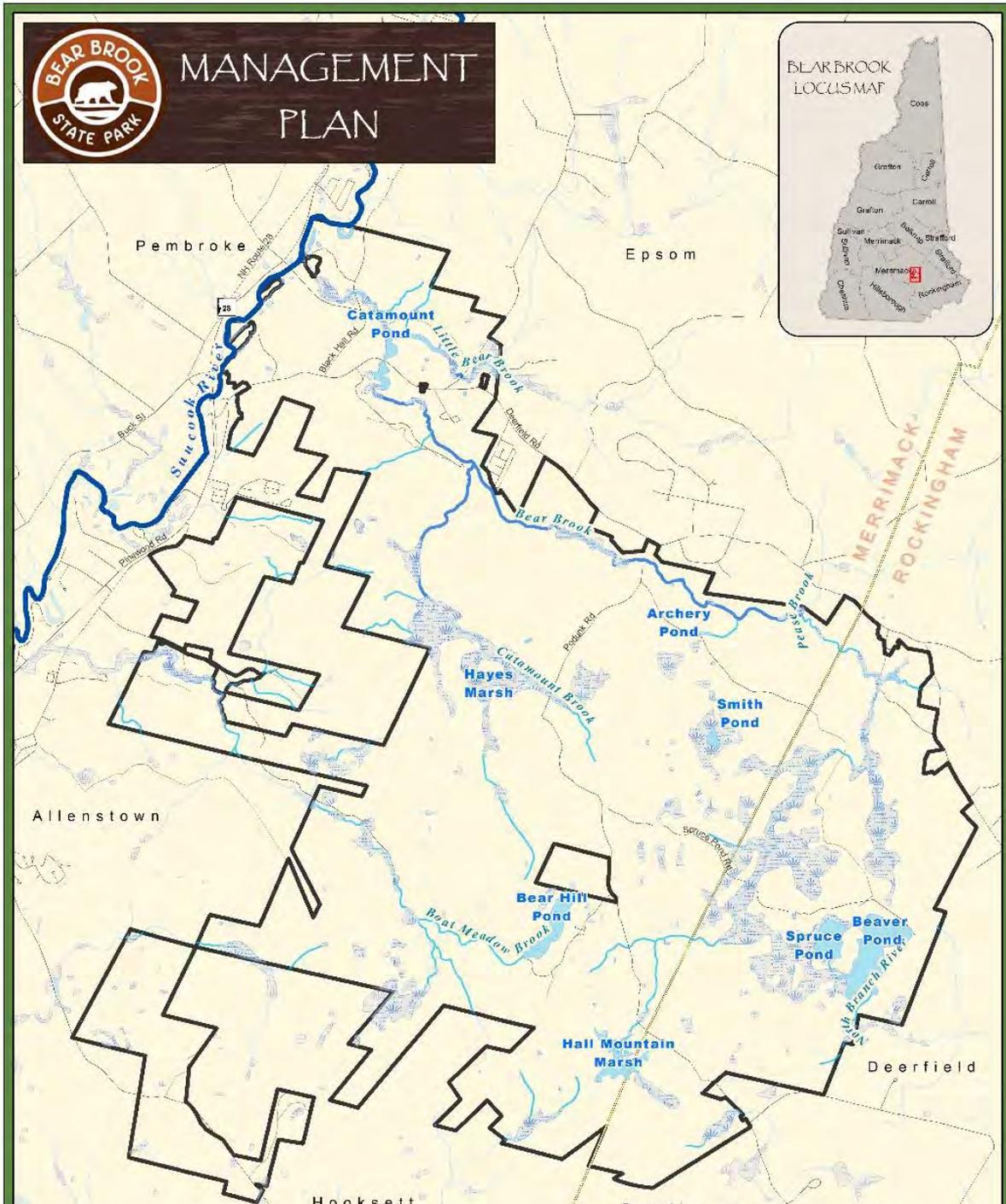
Habitat Condition

WAP 2015 Habitat Tiers

-  1: Highest Ranked Habitat in NH
-  2: Highest Ranked Habitat in Biological Region
-  3: Supporting Landscapes



Wetlands and Aquatic Habitats





Wildlife Habitat Management

Bear Brook State Park



PONDS

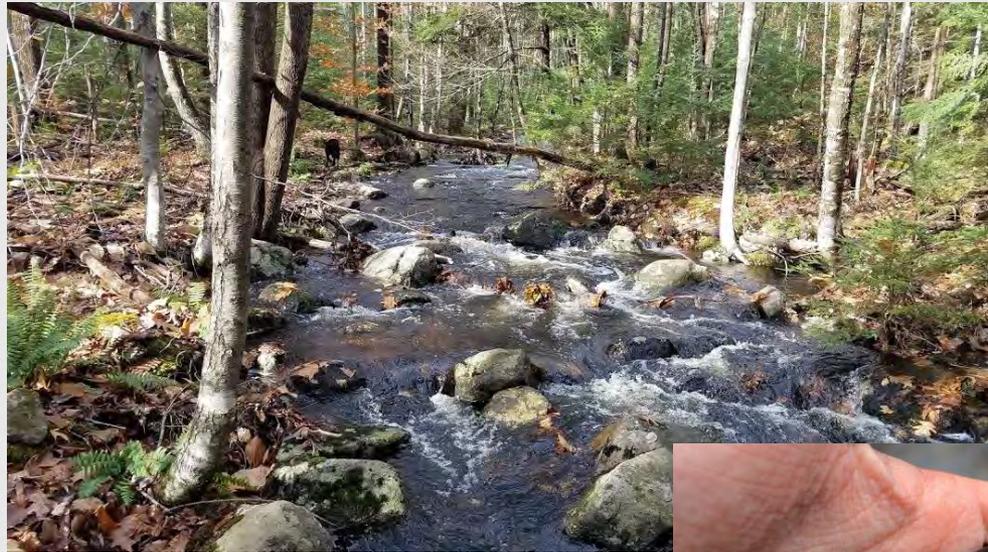


Name	Size (acres)	How Formed	Purpose
Archery	1	Dam	Fishing - stocked
Bear Hill Pond	30	Dam	Fishing - warmwater
Beaver Pond	62	Dam	Fishing - warmwater
Catamount	16	Dam	Fishing - stocked
Hall Mountain Marsh	21	Dam	Waterfowl
Hayes Marsh	69	Dam	Waterfowl
Smith Pond	33	Natural	Fen/Bog
Spruce Pond	21	Natural	Fishing - warmwater



Wildlife Habitat Management

Bear Brook State Park



Streams

- 31 miles



Wildlife Habitat Management

Bear Brook State Park



Beaver Ponds

- 5 ponds - 63 acres



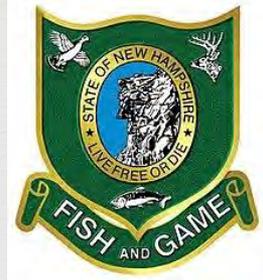
Vernal Pools

- Not cataloged



Wildlife Habitat Management

Bear Brook State Park



Peatlands

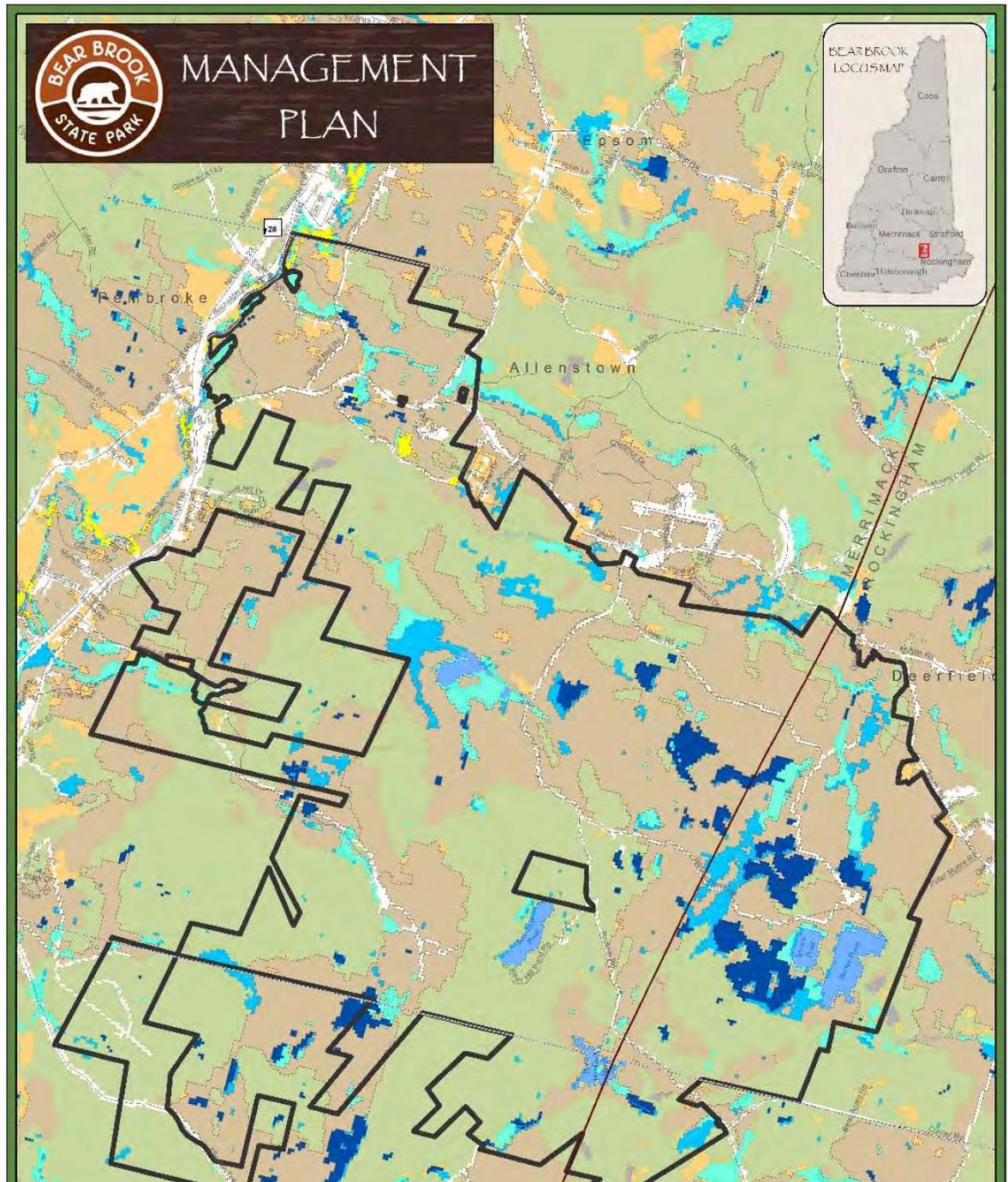
- 115 - 360 acres



Marsh and Shrub Wetlands

- 400 acres

Terrestrial Habitat Types





Wildlife Habitat Management

Bear Brook State Park



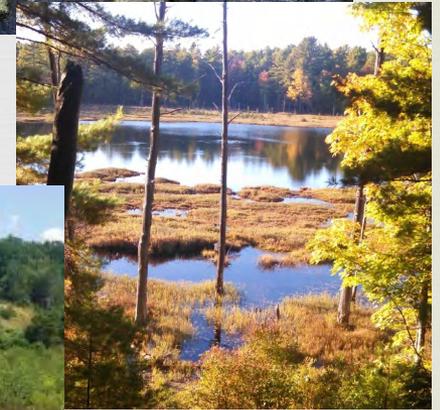
Appalachian Oak-Pine

- 4,400 acres (44% of park)



Wildlife Habitat Management

Bear Brook State Park

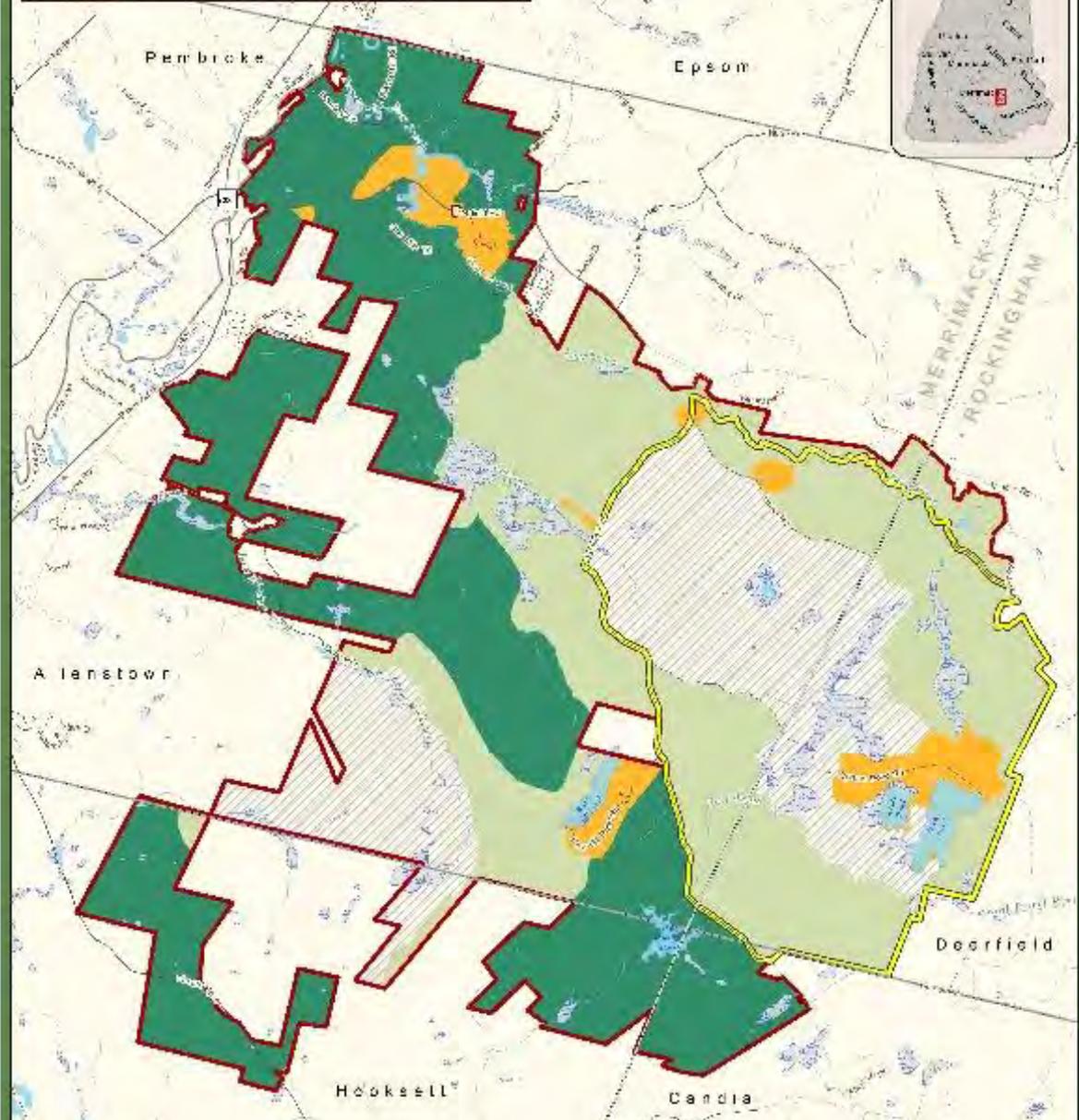


Hemlock-Hardwood-Pine

- 3,900 acres (39% of park)



MANAGEMENT PLAN





Wildlife Habitat Management

Bear Brook State Park



Criteria 1

2,167 acres



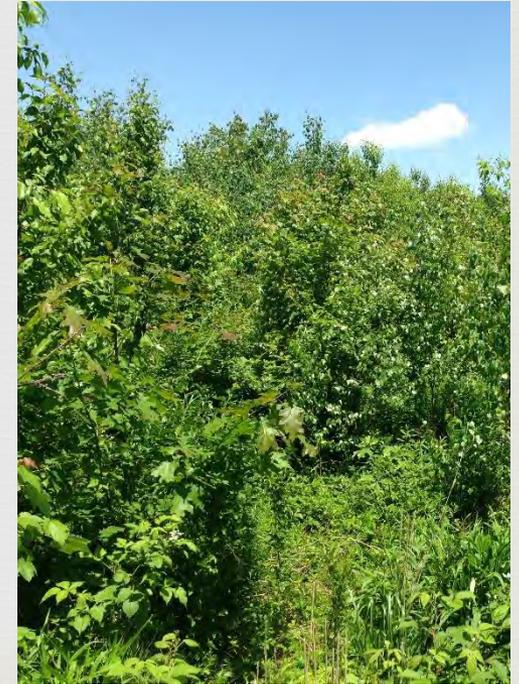
Criteria 2

3,426 acres



Criteria 3

3,904 acres





Wildlife Habitat Management

Bear Brook State Park



Grasslands/Upland Openings

Type	Number	Acres	Avg Size
Field/Grass	14	96.66	6.90
Landing	8	1.73	0.22
ROW	1	14.15	14.15
Sand	2	8.95	4.48
Gravel	1	2.41	2.41
TOTAL	26	123.90	





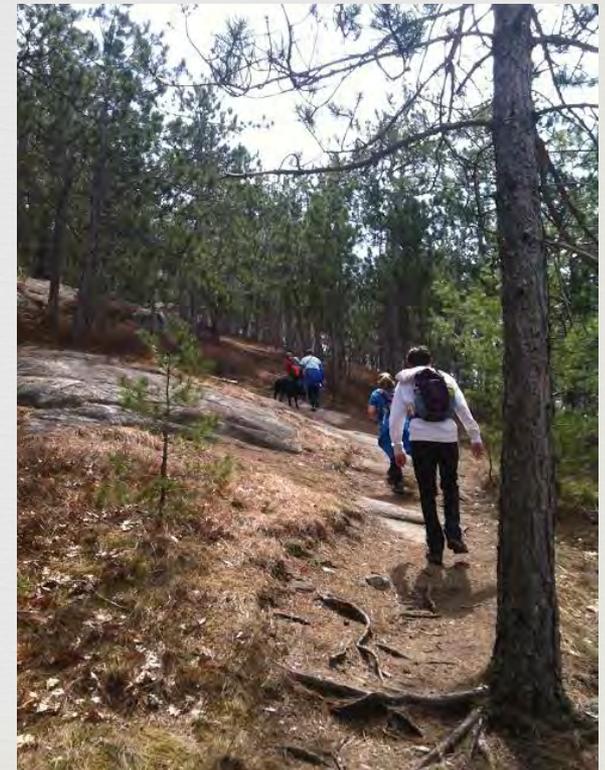
Wildlife Habitat Management

Bear Brook State Park



Rocky Ridges

- 50 acres





Wildlife Habitat Management

Bear Brook State Park



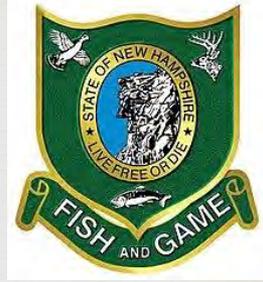
Threatened and Endangered Species (RSA 212:A)





Wildlife Habitat Management

Bear Brook State Park



Invertebrates

- Little information
- Potential SGCN



INVERTEBRATE	SPECIES STATUS*
American Bumble Bee	SGCN
Monarch	SC, SGCN
Pine Barrens Lepidoptera	SGCN
Ringed boghaunter	END, SGCN
Rusty-patched Bumble Bee	FE, SE, SGCN
Skillet clubtail	SC, SGCN
Yellow Bumble Bee	SGCN
Yellowbanded Bumble Bee	SGCN
Brook Floater	SE, SGCN



Wildlife Habitat Management

Bear Brook State Park



Reptiles and Amphibians

- 8 - frogs and toads
- 8 - salamanders
- 10 - snakes



AMPHIBIANS	SPECIES STATUS*
FROGS	
Northern leopard frog	SC, SGCN
SALAMANDERS	
Blue-spotted salamander	SGCN
Blue-spotted/Jefferson salamander complex	SC, SGCN
REPTILES	
SNAKES	
Eastern ribbon snake	SGCN
Smooth green snake	SC, SGCN
Northern black racer	ST, SGCN
Timber rattlesnake	SE, SGCN
TURTLES	
Blanding's turtle	SE, SGCN
Spotted turtle	ST, SGCN
Wood turtle	SC, SGCN



Wildlife Habitat Management

Bear Brook State Park



Birds

- 101 species recorded
- 75 songbirds
- 8 raptors
- 6 waterfowl
- 6 wetland birds
- No surveys for secretive wetlands birds



BIRD	SPECIES STATUS*
American black duck	SGCN
American kestrel	SC, SGCN
American woodcock	SGCN
Bald eagle	SC, SGCN
Black-billed cuckoo	SGCN
Bobolink	SGCN
Brown thrasher	SGCN
Canada warbler	SGCN
Chimney swift	SGCN
Eastern towhee	SGCN
Eastern whip-poor-will	SGCN
Field sparrow	SGCN
Northern goshawk	SGCN
Prairie warbler	SGCN
Purple finch	SGCN
Ruffed grouse	SGCN
Scarlet tanager	SGCN
Veery	SGCN
Wood thrush	SGCN



Wildlife Habitat Management

Bear Brook State Park



Ruffed Grouse & Turkey Survey

- 10 mile route
- 10 stops
- Listen for 4 mins
- Avg 1.5 grouse and 1.9 turkey since 2001





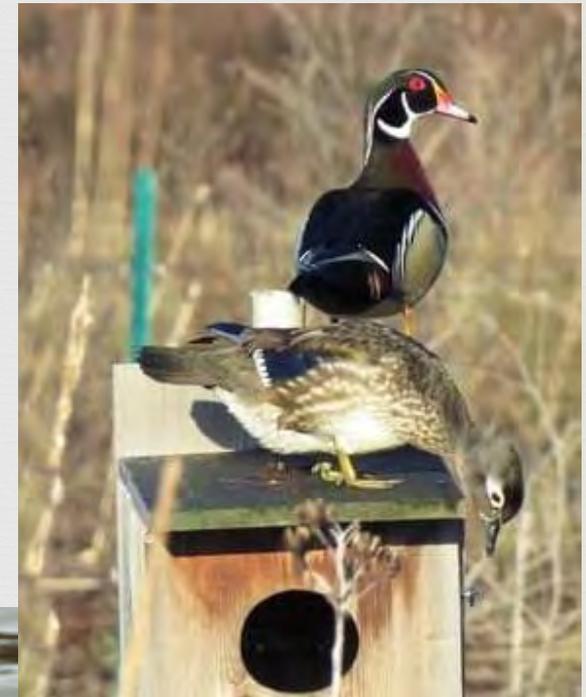
Wildlife Habitat Management

Bear Brook State Park



Wood Duck Reproduction

- 10 boxes
- High Use
 - 65% Hall Mtn Marsh
 - 80% Hayes Marsh
 - 50:50 Hooded Mergs vs Wood Ducks





Wildlife Habitat Management

Bear Brook State Park



Pheasant Stocking

- > 100 year tradition
- Oct 1 - Dec 31
- North end of Blackhall Rd





Wildlife Habitat Management

Bear Brook State Park



Mammals

- Up to 50 species
- 8 SGCN
- Moose/Bear uncommon
- Furbearers relatively common

MAMMAL	SPECIES STATUS*
Big Brown Bat	SC, SGCN
Eastern Red Bat	SC, SGCN
Hoary Bat	SC, SGCN
Little Brown Bat	SE, SGCN
Moose	SGCN
Northern long-eared bat	FT, SE, SGCN
Silver-Haired Bat	SC, SGCN
Tricolored Bat	SE, SGCN





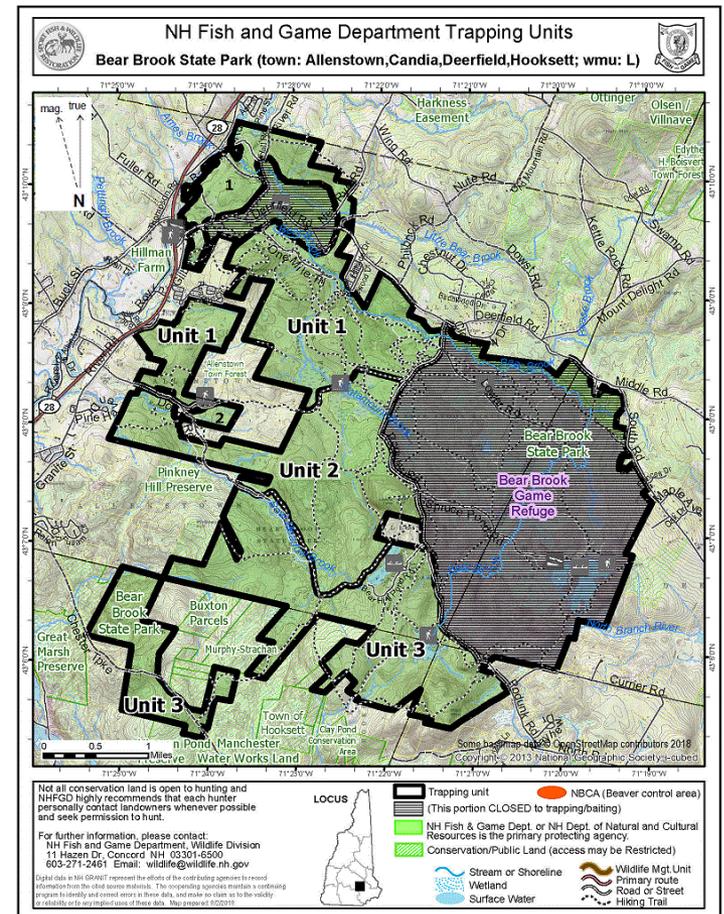
Wildlife Habitat Management

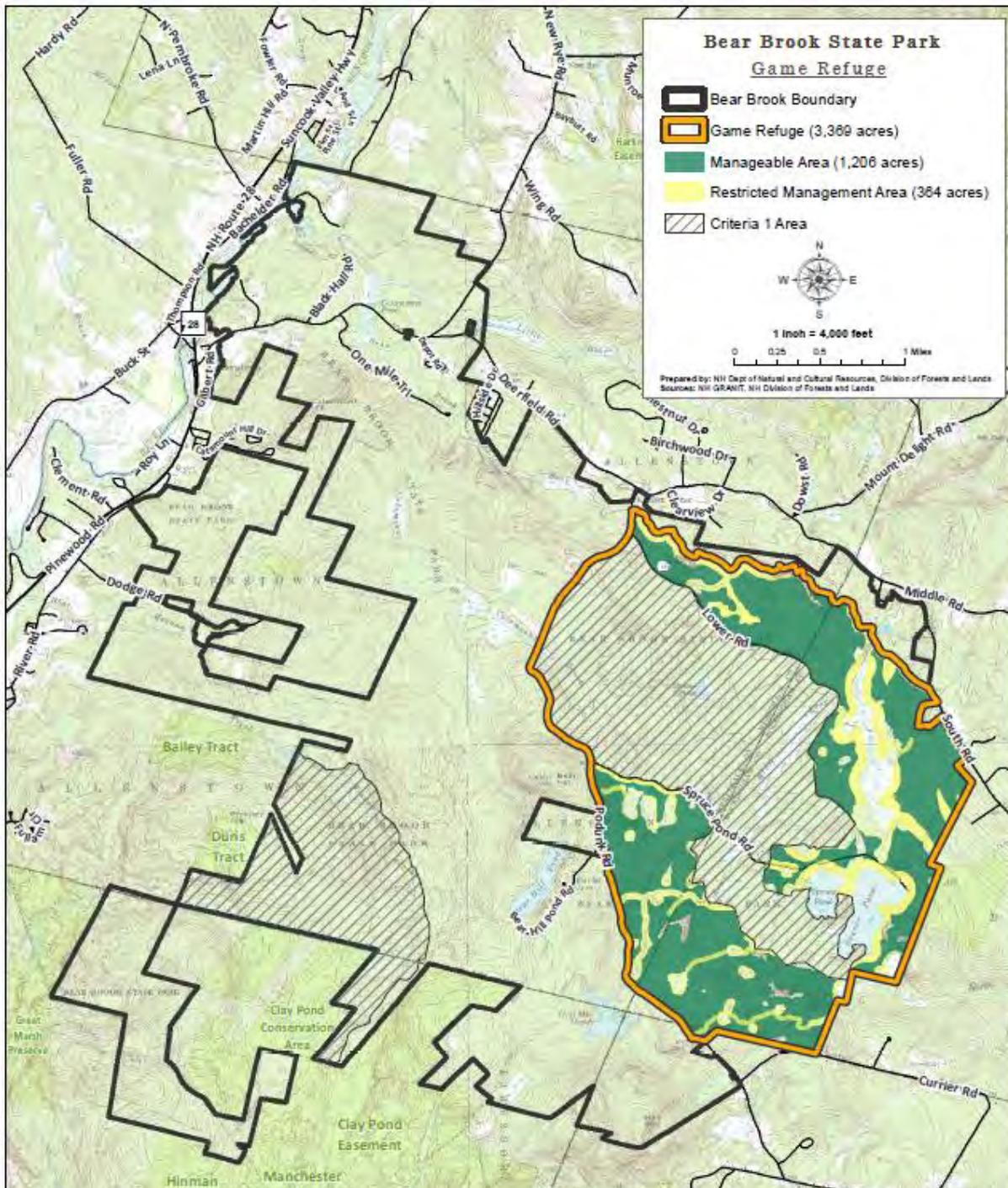
Bear Brook State Park



Mammals

- White-tailed deer
 - Game Refuge 1943 - low pops
 - Today - over goal
 - NHFG Big Game Plan - ↓22%





Bear Brook State Park
Game Refuge

-  Bear Brook Boundary
-  Game Refuge (3,369 acres)
-  Manageable Area (1,206 acres)
-  Restricted Management Area (364 acres)
-  Criteria 1 Area



1 inch = 4,000 feet
0 0.25 0.5 1 Mile

Prepared by: NH Dept of Natural and Cultural Resources, Division of Forests and Lands
Sources: NH GRANIT, NH Division of Forests and Lands



Wildlife Habitat Management

Bear Brook State Park





Wildlife Habitat Management

Bear Brook State Park



Focal Species & Management Recommendations

- SGCN
- Potential habitat impacts
- Social or economic importance
- 30 species
 - Fish - 1
 - Herps - 7
 - Birds - 14
 - Mammals - 8

FISH
<p>Focal Species: Eastern Brook Trout</p> <p>Relevant Criteria: 1, 2, 3, 4</p> <p>Justification: SGCN species that is sensitive to the management of riparian areas.</p> <p>Habitat: Coldwater and <u>coolwater</u> streams</p> <p>Status in Bear Brook State Park: Documented in several streams</p> <p>Management Recommendations:</p> <ul style="list-style-type: none">• Maintain vegetated buffers along the streams and allow for the short- and long-term recruitment of <u>fallen</u> trees to the streams.
REPTILES
<p>Focal Species: Eastern ribbon snake</p> <p>Relevant Criteria: 1, 2, 3</p> <p>Justification: SGCN species. Suitable habitat exists and can continue to exist with management.</p> <p>Habitat: Being semi-aquatic, Eastern ribbon snakes are found near emergent marshes, wet meadows, scrub-shrub wetlands, beaver impoundments, bogs, river and stream floodplains, and vegetated shorelines of ponds and lakes. They will use muskrat (<u>Ondatra zibethica</u>) bank burrows and lodges, ant mounds, mammal tunnels, and rock crevices for hibernation.</p> <p>Status in Bear Brook State Park: Documented</p> <p>Management Recommendations:</p> <ul style="list-style-type: none">• Maintain vegetated buffers along the edges of wetlands and vernal pools in accordance with current best management practices for forestry.• Eastern ribbon snakes utilize similar habitats as Blanding's turtles. See Blanding's turtle Management Recommendations for guidance.



Wildlife Habitat Management

Bear Brook State Park



Habitat Recommendations

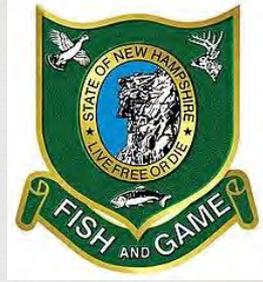
- Assess and monitor focal species
- Manage for high priority wildlife habitat for the Focal Species – SGCN and T&E species





Wildlife Habitat Management

Bear Brook State Park



Habitat Recommendations

- Identify, document, and protect vernal pools and vernal pool complexes
- Protect the integrity and function of wetlands





Wildlife Habitat Management

Bear Brook State Park



Habitat Recommendations

- Provide a mix of forest age and size classes across the landscape

	Criteria 1		Criteria 2		Criteria 3	
	Acres	Percent	Acres	Percent	Acres	Percent
Forested Habitats						
Seedling	0	0%	150	4%	260	7%
Sapling-Pole	0	0%	450	13%	780	20%
Sawtimber	0	0%	750	22%	1,300	33%
Lg Sawtimber	1,702	79%	1,716	50%	1,268	32%
Non-forested Habitats						
Upland Openings	13	1%	100	3%	100	3%
Wetlands	452	21%	260	8%	196	5%
TOTAL	2,167	100%	3,426	100%	3,904	100%



Wildlife Habitat Management

Bear Brook State Park



Habitat Recommendations

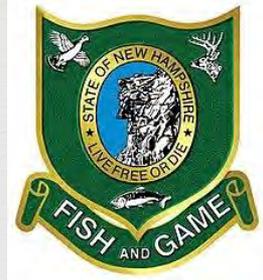
- Maintain or provide within-stand features for wildlife
- Re-introduce prescribed fire management
- Conserve grasslands and upland openings





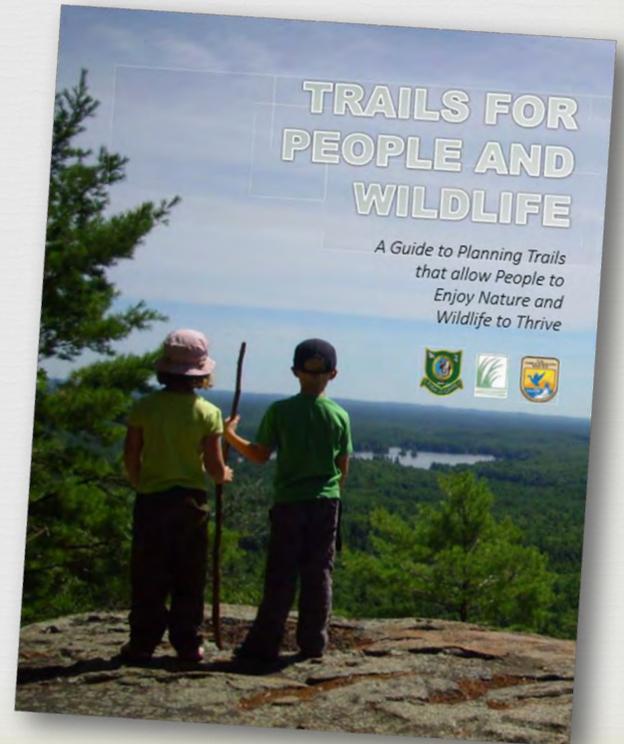
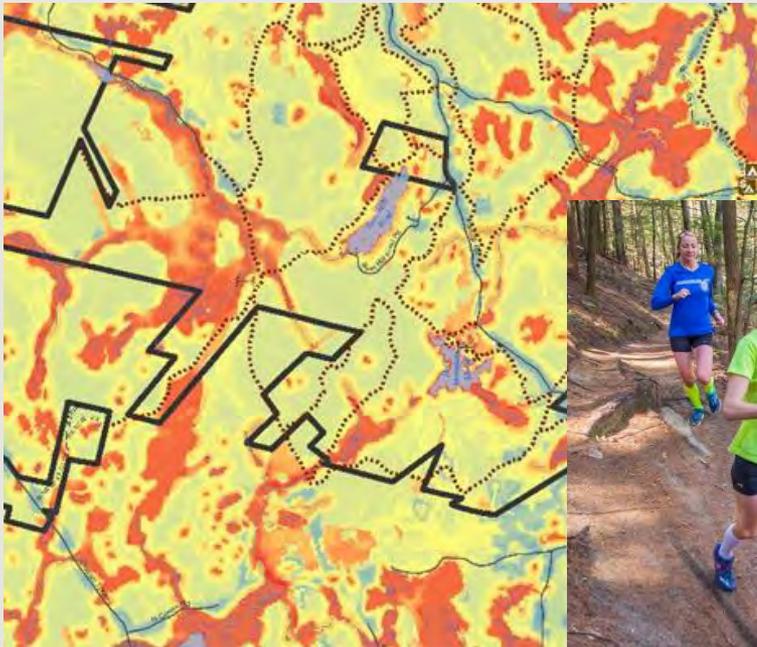
Wildlife Habitat Management

Bear Brook State Park



Habitat Recommendations

- Assess the recreational trail systems for impacts to Focal Species and their habitats.





Wildlife Habitat Management Bear Brook State Park



Habitat Recommendations

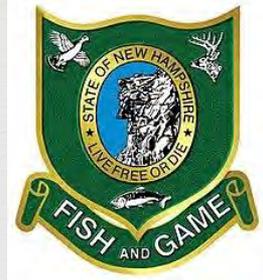
- Provide opportunities for the public to use and enjoy the wildlife resources including hunting, fishing, trapping, wildlife viewing and photography





Wildlife Habitat Management

Bear Brook State Park



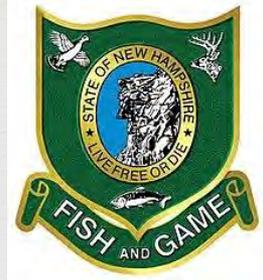
Habitat Recommendations

- Evaluate and determine if the laws governing hunting in the game refuge should be modified to help meet population objectives of game species and/or social desires.
- Work with partners to develop wildlife focused educational programs.



Wildlife Habitat Management

Bear Brook State Park



Thank you!