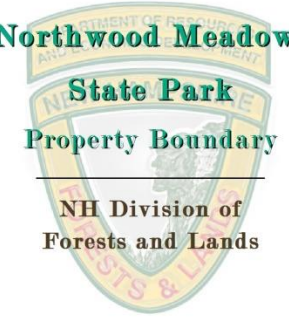


Northwood Meadows SP



Northwood Meadows State Park Property Boundary

NH Division of
Forests and Lands



- Project Area
- Town Boundaries
- Local Roads
- State Routes
- DRED Lands



*May contain only partial counties dependent on FNL Management Region

HISTORY & CULTURAL RESOURCES

- Stone walls and old wire fences present
- Evidence of logging pre-State ownership
- Acquired through Land Conservation Investment Program (LCIP) and Land and Water Conservation (LWC) funds between 1989 and 1993
- 15-year Master Plan in 1996
 - Development as a full recreational park with visitor's center & camping facilities – never implemented
- 1993 - P1-355 – 2.7 acre pre-commercial crop tree release of white pine
- 2007 - P1-506 – 8.3 acre habitat project – field restoration/early successional expansion
- This will be the first large-scale forest project on this property under state ownership

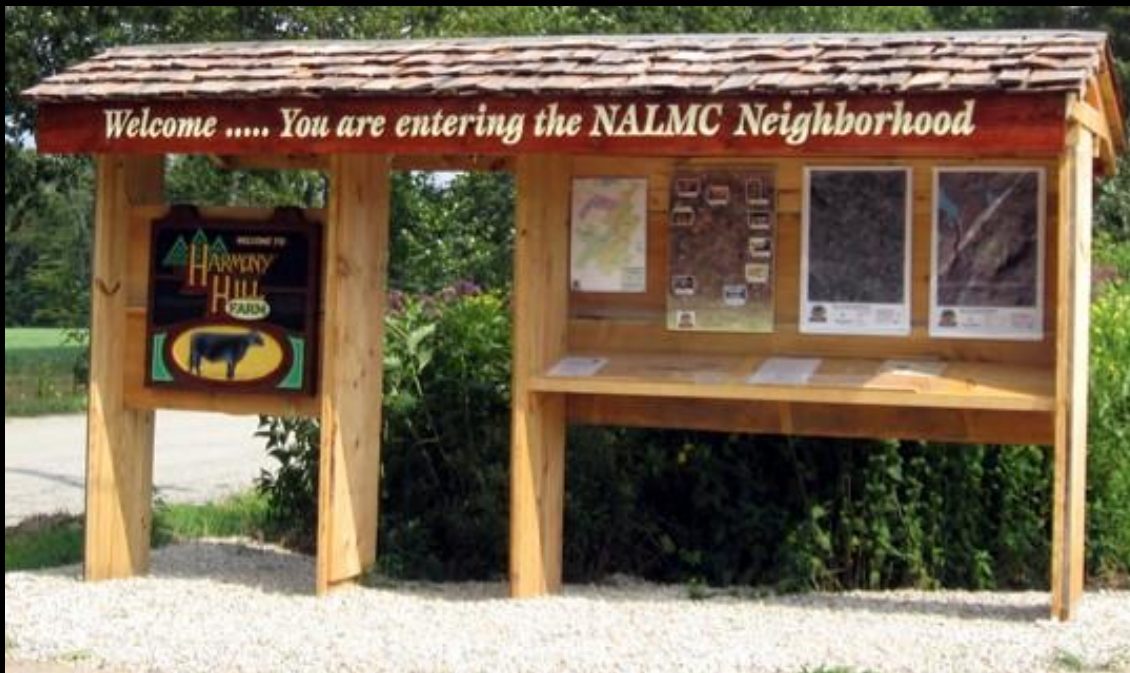
HISTORY & CULTURAL RESOURCES





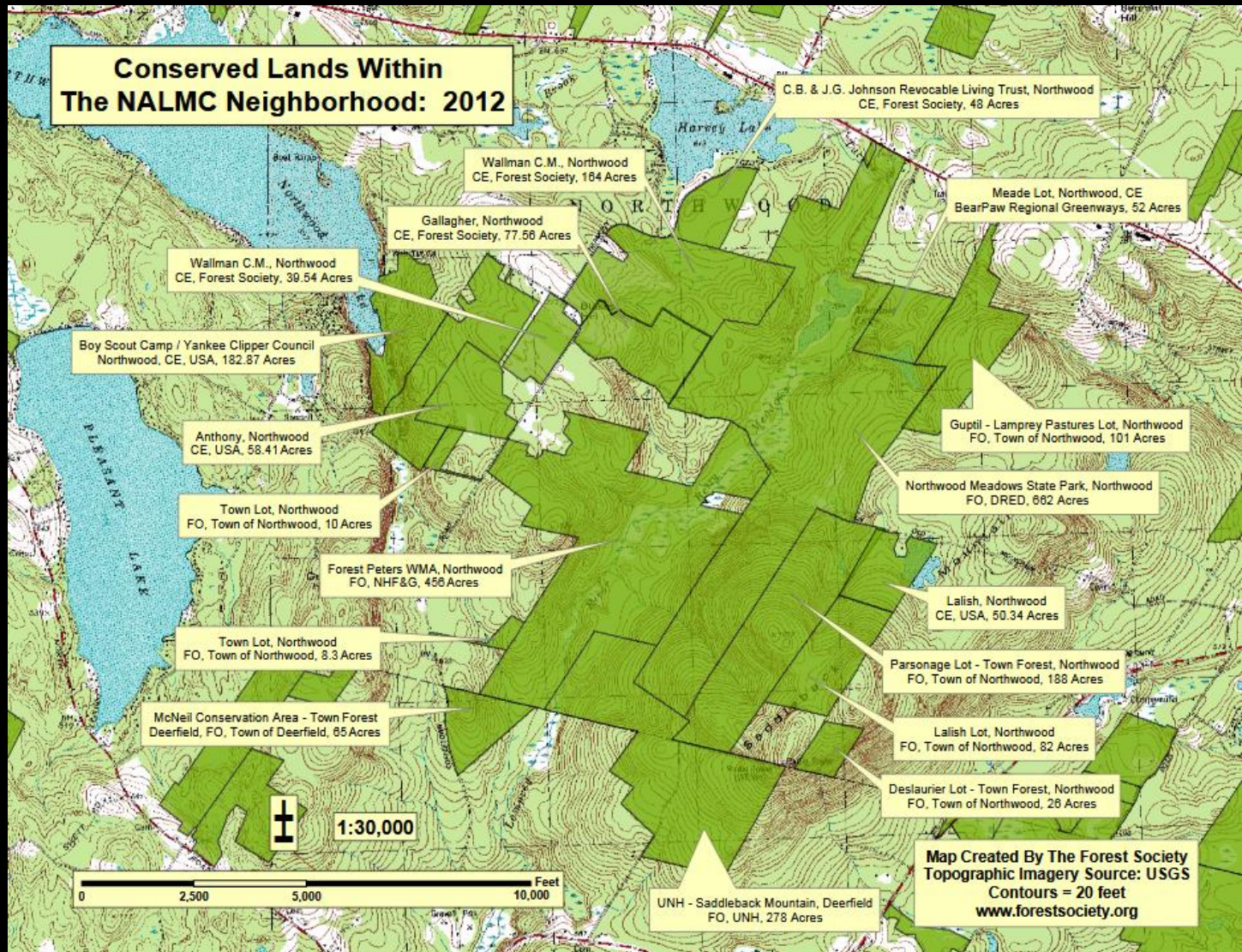
NALMC

Working Together Across Our Stone Walls



NORTHWOOD AREA LAND MANAGEMENT COLLABORATIVE (NALMC)

- Formed in 2006
 - Essentially an informal, community-based organization concerned with land stewardship in the Northwood Area
 - The State has been in partnership with this group since its inception, with Northwood Meadows SP and Forest Peters WMA making up a large chunk of the land base of the NALMC neighborhood
- In 2009, NALMC commissioned an ecological assessment, which has been described as a 30,000 foot view of the area, a landscape-scale assessment done by Ellen Snyder. This report had an addendum in 2012.
 - Side benefit of several property owners pursuing conservation easements

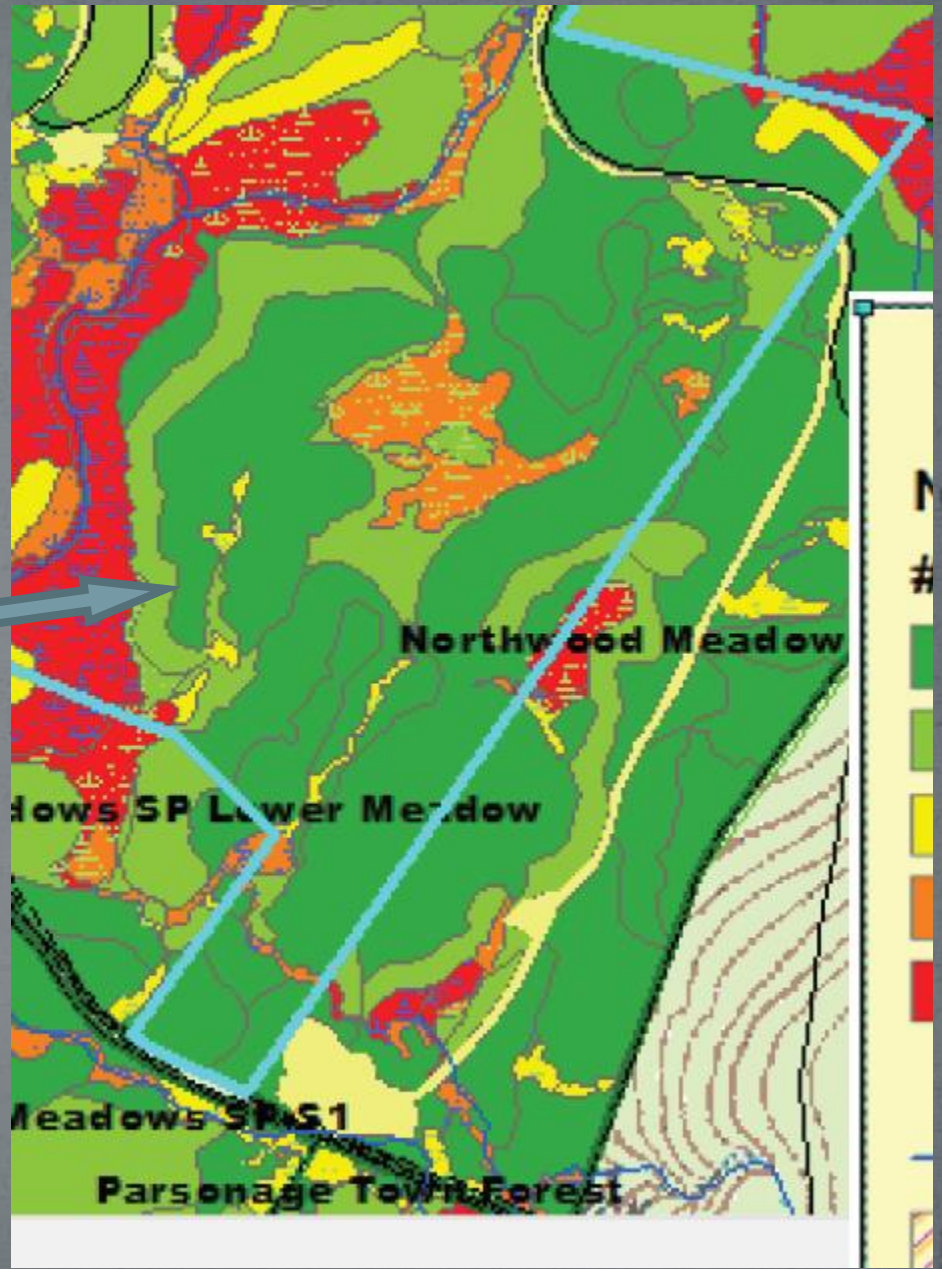
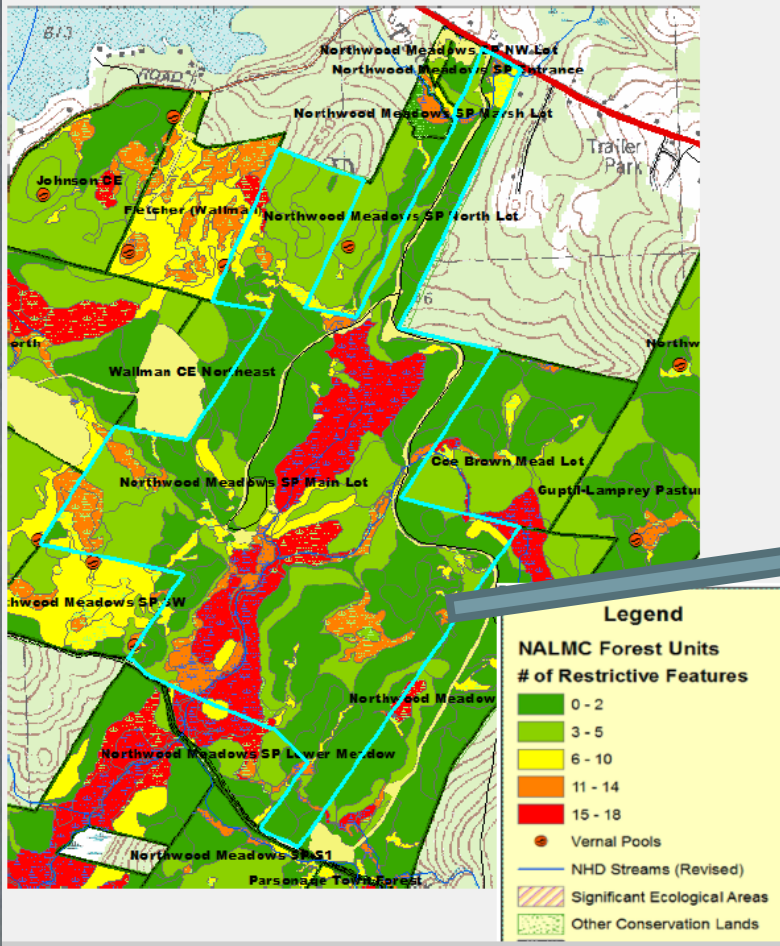


**(CPN) - Caring for the Land :
 Connecting People and Natural Resources in
 the NALMC Neighborhood**

Northwood Area Land Management Collaborative (NALMC)

- NALMC then commissioned a more detailed, ground-level survey by Rick Van de Poll, which was released last year as the CPN (connecting people with nature) report.
 - Planning of Northwood Meadows harvest was delayed specifically in order to make use of this additional resource
 - Provided a property-specific inventory of the natural resources of each of the properties within the NALMC neighborhood, along with some basic management recommendations
 - One of the series of maps produced in this report represents suitability for forest management based on limiting factors such as wetlands, rarity of habitat, etc.
 - Additional reference point to complement the planning process
 - Especially useful to the private landowner who may not have access to the same network of natural resource professionals that we do at the State

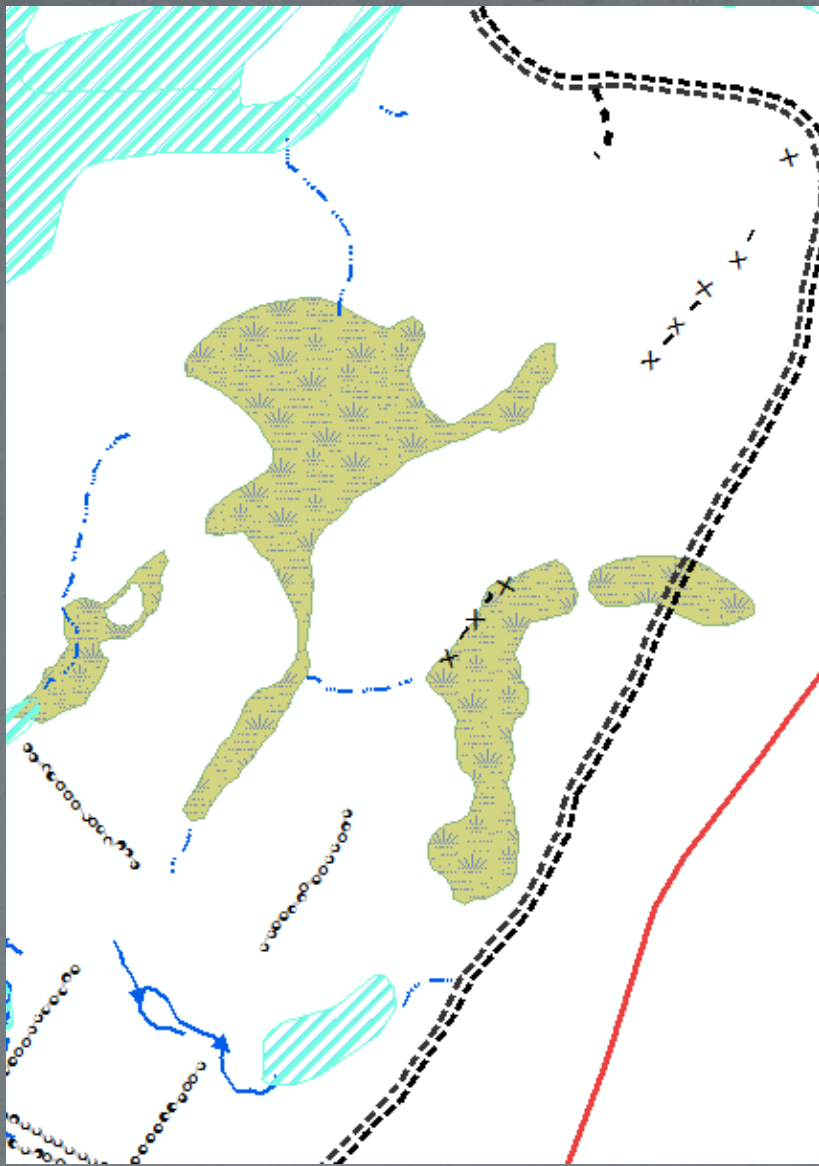
NALMC Forest Management Restrictions Map



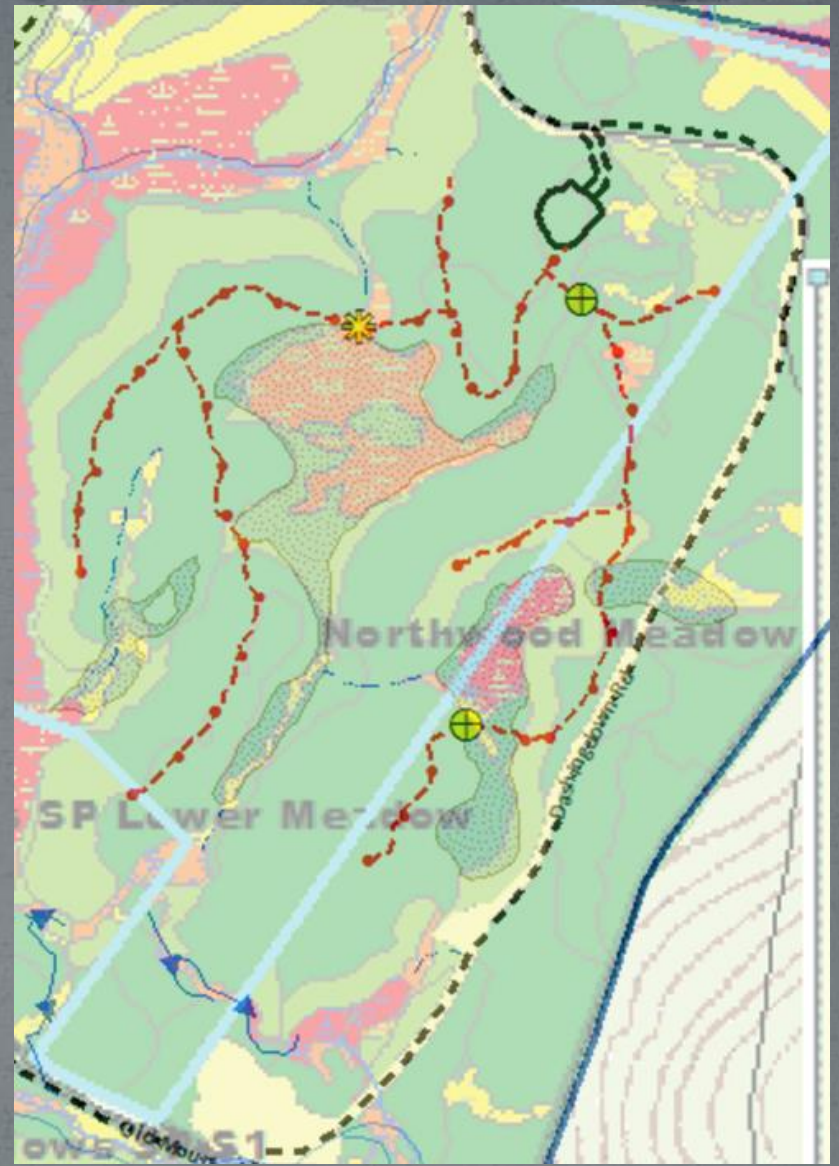
CPN Report map showing management restrictions in the project area

Northwood Area Land Management Collaborative (NALMC)

- As part of the planning process, State natural resource professionals do a lot of work looking at the ecological resources and limiting factors on a property
 - Good confirmation of that process – we are identifying many of the same sorts of things that the CPN Report recognized
 - Report also provided additional insights, such as the presence of a hemlock-cinnamon fern swamp with habitual bear use sign within the proposed harvest area
 - Possibly would have been left alone regardless as too wet to operate without causing excessive damage to the soil, but this provided an additional incentive to not push the bounds into that area and to leave it as mature forest cover.



Division of Forests and Lands basic wetlands and streams map



Overlay of streams and skid trails on Van de Poll forest restrictions map



PLANNING PROCESS

- After gathering preliminary information on a property, a forester performs a prescription cruise, making measurements of a sample of trees to estimate timber volume, as well as recording various data and notes on the characteristics of the forest
- Cruise information is then used to develop a recommendation for the best way to treat the forest - ranging anywhere from a large clearcut, to group selection, to doing nothing at all, or various treatments in between
- The forester then presents those recommendations for review and comment by several state agencies, including Fish and Game, Natural Heritage Bureau, Division of Parks and Recreation, Trails Bureau, and Division of Historic Resources



PLANNING PROCESS

- Following the initial review process, the forester writes a planning report
- After that is approved, the forester lays out the sale by hanging flags in the woods to delineate harvest areas, skid trails, log yards, stream crossings, etc.
- Once the layout is complete, the sale is marked with paint by a team of foresters with the trees tallied by product, size, and species
- The sale is then shown to prospective bidders in a field tour, after which the job is awarded to the highest bidder in good standing





MANAGEMENT OBJECTIVES

- Uneven-aged management on all operable/accessible areas – 340 acres (81 acres this entry)
 - Working toward creating a full range of age and size classes of forest on the property
 - Establish groups of regenerating forest, 1/2-2 acres in size, to provide food and cover for a suite of wildlife species.
 - Total acres in groups ~19 – average group = 1.3 acres
 - Designed to somewhat mimic natural processes like a windstorm blowdown event
 - Result in small pockets of young forest regeneration spaced across the forest
 - Targeting pine and oak regeneration
 - Also thinning between groups to encourage mast production (acorns, etc.) and to improve growth on residual trees

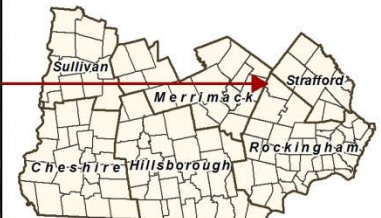
Northwood Meadows

State Park

Landscape

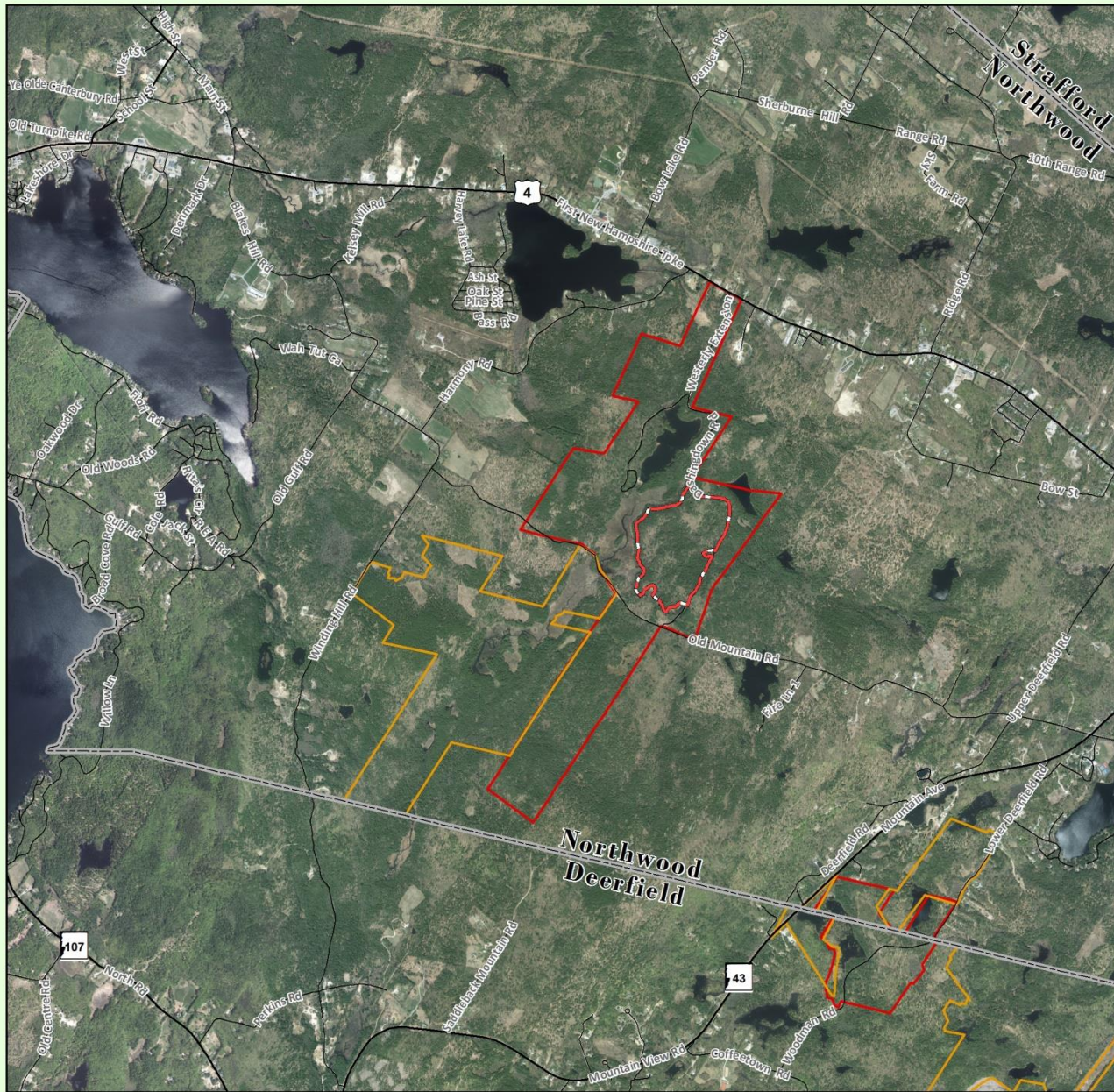
NH Division of
Forests and Lands

- DRED Lands
- NHFG WMAs
- Project Area
- Town Boundaries
- Local Roads
- State Routes



SOUTH REGION*

*May contain only partial counties dependent on FNL Management Region

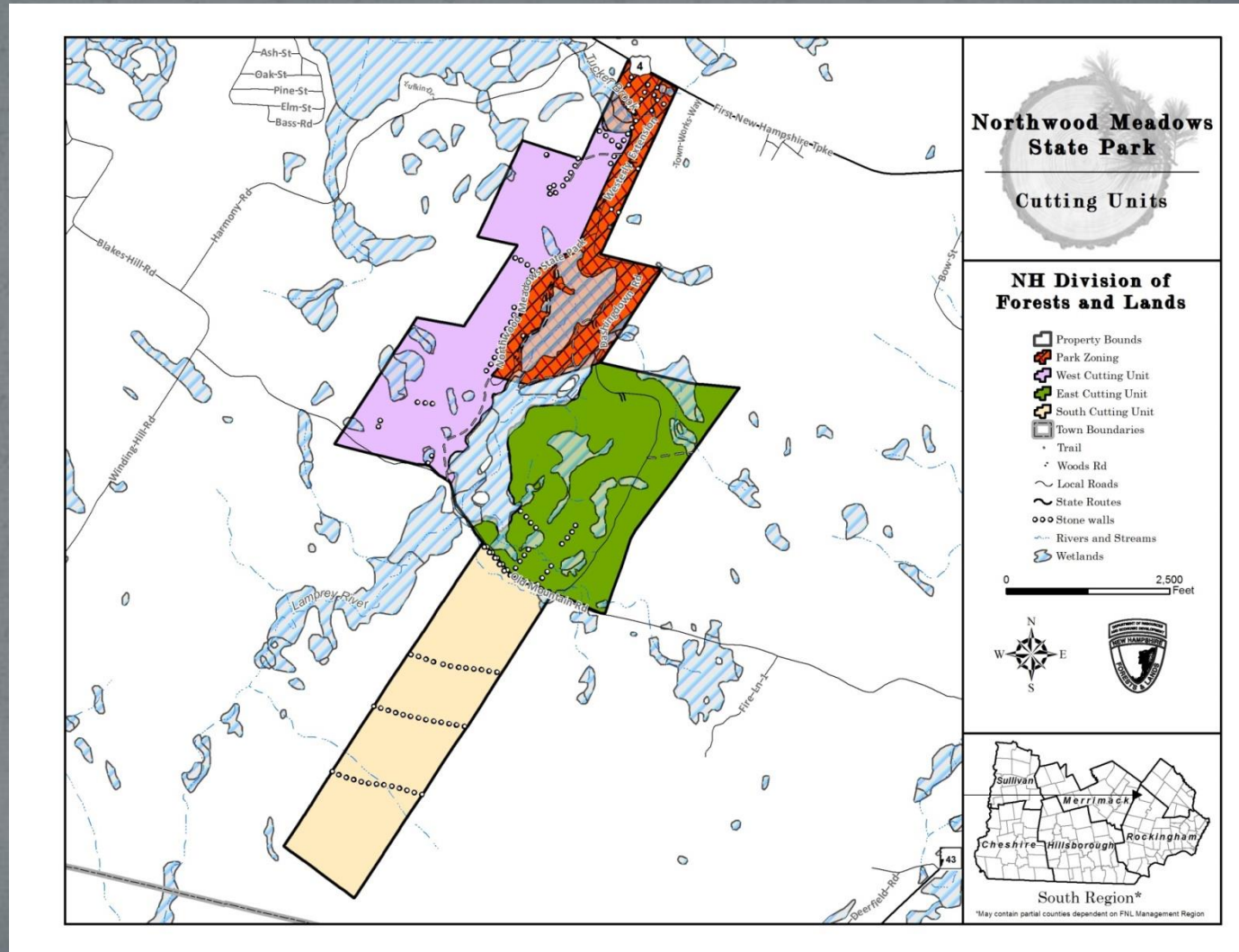


DIVERSITY OF HABITAT

- Largely forested landscape
 - Good, but not very diverse
 - Wider variety of habitats will support a wider variety of wildlife species
 - Structural diversity is also important
 - Creating a new cohort of young forest through group selection provides both horizontal (across the landscape) and vertical (within the canopy) structural diversity
 - Essentially, the forest will have trees of a greater range of sizes, from seedlings to mature timber
 - Smaller openings like these will complement the management we're doing at neighboring Forest Peters WMA, where larger openings are being created

PROPERTY WIDE OBJECTIVES

- Property is 666 total acres (~340 operable)
- 105 Year Rotation
- Split into 3 cutting units – East, West, & South
- Harvest entry into each cutting unit every 7 years



AREA CONTROL

- Technique used to ensure that we don't cut more than we can grow back over a certain time period.
 - In this case, 105 years – called the rotation length
 - When we come back in 7 years, we'll harvest another 20 acres in a different part of the property, and so on until at the end of 105 years, all operable acreage on the property will have been harvested, and the cuts we're doing at this entry will be full of 105-year-old trees.
 - There will be trees older than this on the property – roughly half of the property is inaccessible or inoperable due to terrain, wetland characteristics, or stream buffers, or is zoned for recreation rather than forestry
 - Many of those areas will likely grow into and develop old growth characteristics, so we'll truly have a full range of ages present across the 666 acre property.

GROUP SELECTION APPEARANCE

- Potentially jarring when freshly cut – mini-clearcuts
- Important to remember that in the life of the forest, these openings are very short-term
 - Over half the state was cleared off just 100-150 years ago
 - Now over 84% forested
 - Within a few years, groups should be getting bushy and brushy with a combination of shrubby plants and young trees



Fresh group selection cut at Fall Mountain State Forest (cut fall/winter 2016-17)



Oak seedlings in same group cut (spring 2017)

PURPOSE OF PROJECT

- Forest regeneration
 - Starting over to get the next generation of trees growing
 - Targeting areas of already-mature timber, areas where the health of the trees is declining through either age or disease, or areas with opportunity for particular wildlife benefits
- Wildlife habitat creation/enhancement
- Revenue to support future management activities



WILDLIFE OPPORTUNITIES

- Re-sprouting hardwoods provide woody browse for animals like deer
- Raspberry bushes that are often an early colonizer of these openings provide fruit and seeds for birds and other animals
- Increased mast production in remaining trees by giving them increased sunlight and growing space
- Some groups have large cavity trees retained, as well as standing and down dead trees, which are used for nest sites, as well as food sources for things like woodpeckers
- At the recommendation of specialists at Fish & Game, we are planning to leave the log yard unseeded to provide potential nesting habitat for Blanding's turtles, which are known on the property
 - The timing of the harvest has been chosen in part to avoid the Blanding's turtle active season



WILDLIFE TARGET SPECIES IMPACT

PRIMARY TARGET SPECIES

Canada warbler ^{RC}

Scarlet tanager ^{RC}

Veery ^{RC}

Wood thrush ^{RC}

Big brown bat ^{RC}

Little brown bat ^{RC}

Blanding's turtle ^{E, RC}

Smooth greensnake ^{T, RC}

- Primary Species Impacts:
 - Groups and thinning will enhance nesting and foraging cover for veery and Canada warbler
 - Scarlet tanager and wood thrush may forage in regenerating groups during post-fledgling/pre-migratory period
 - Retained snags and cavity trees will provide roosting habitat for bats, and proximity to Betty Meadows provides ample available foraging space
 - Harvest timing limited to after September 1 to protect Blanding's turtle and bats
 - Regenerating groups will add to habitat diversity for northern black racer
 - More open canopy conditions created by groups and thinning may benefit smooth greensnake

RECREATION IMPACT

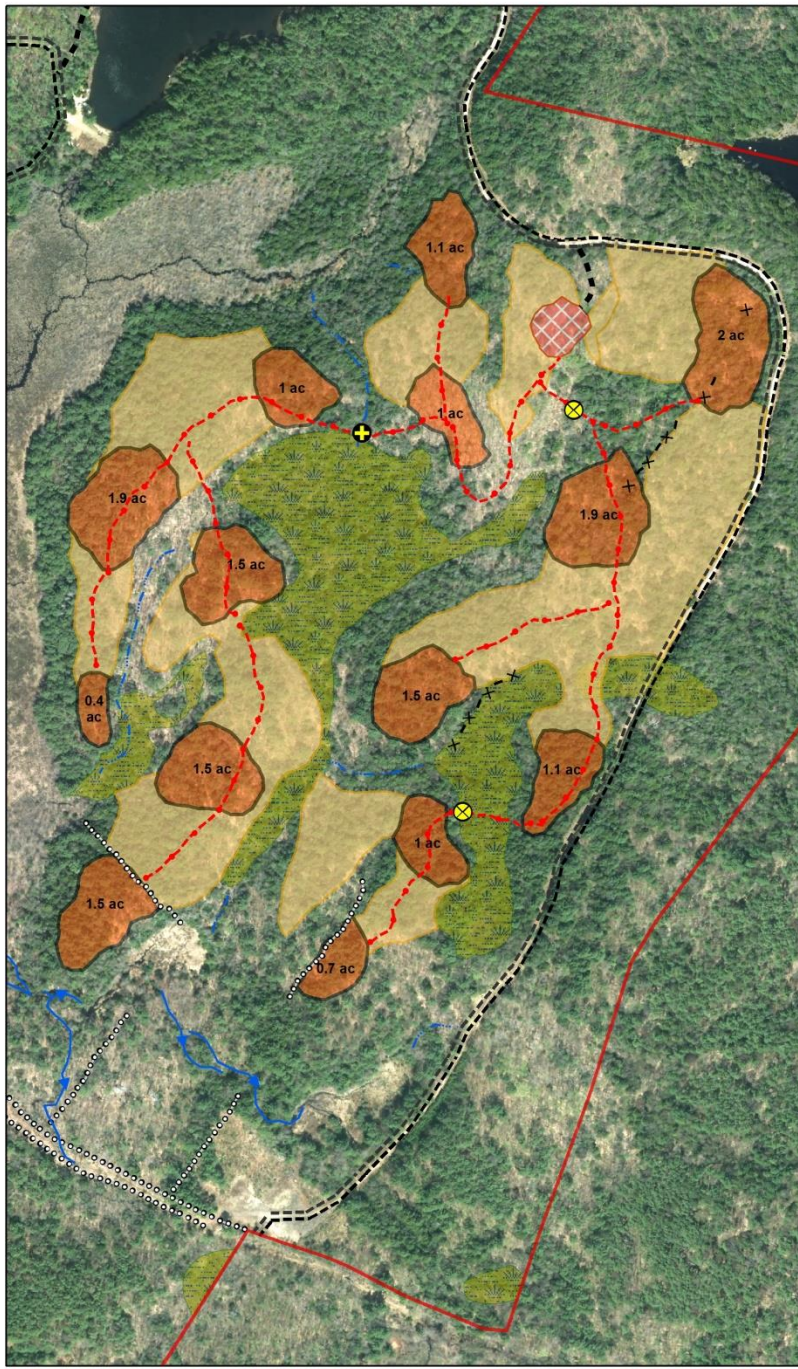
- Impact should be minimal
 - Harvest is occurring outside of both snowmobile season and summer
 - Fall trail users will be sharing Dashingdown Road with log trucks
 - Recommending people not use the stretch between the lake turnoff and Old Mountain Road while the harvest is active along the road
 - Noise while the harvest is active, particularly in the area around the log yard where the processing equipment will be located
 - Three of the groups are directly adjacent to the road – generally have a small forested buffer left (around 25 feet), but will definitely be visible

Northwood Meadows State Park Timber Sale

NH Division of
Forests and Lands



-  Property boundary
-  Group
-  Log yard
-  Thinning area
-  Skid trail
-  Pole ford
-  Skidder bridge
-  Access road
-  Private road
-  Forested wetland
-  Intermittent stream
-  Perennial stream
-  Stone wall
-  Wire fence



RESPONSIBLE FOREST MANAGEMENT

- Planning our harvests not just to take trees out and get whatever value we can, but rather to start growing the next generation of forest
 - Planning around what we hope to get back, rather than just what we're taking out
 - Growing better, more resilient trees for the future
 - This is the difference between silviculture (science and art of growing and tending of trees), and some of the more destructive historic harvesting practices



