ANDREW M. CUOMO
GOVERNOR

JOE MARTENS
COMMISSIONER

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

MEMORANDUM

TO: The Record

FROM: Joseph J. Martens

DATE: 12/18/13

SUBJECT: Winona UMP

The Unit Management Plan for Winona Unit has been completed. The Plan is consistent with Department policy and procedure, involved public participation and is consistent with the Environmental Conservation Law, Rules and Regulations. The plan includes management objectives for a ten year period and is hereby approved and adopted.

New York State
Department of Environmental Conservation

Division of Lands & Forests | Bureau of Public Lands

WINONA STATE FOREST

UNIT MANAGEMENT PLAN

Towns of Lorraine, Ellisburg, & Boylston
Counties of Jefferson & Oswego

DECEMBER 2013

NYS Department of Environmental Conservation
Region 6 Sub-Office
7327 State Route 812
Lowville, NY 13367

Governor **ANDREW M. CUOMO** *Commissioner* **JOE MARTENS**

State Forester **ROB DAVIES**

Winona
Unit Management Plan

A planning unit consisting of 1 State Forest, in 2 Counties

Prepared by the Winona Unit Management Planning Team:
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Acknowledgments

The Winona Unit Management Planning Team would like to gratefully acknowledge the efforts of all those who contributed to this plan. We particularly would like to thank the following for information and review they provided:

Pat Putman, Forester, Lowville; Retired
Terry Podolski, Forester, Lowville; Deceased

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DEC'S MISSION

"The quality of our environment is fundamental to our concern for the quality of life. It is hereby declared to be the policy of the State of New York to conserve, improve and protect its natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being." - Environmental Conservation Law 1-0101(1)

VISION STATEMENT

State Forests on the Winona Unit will be managed in a sustainable manner by promoting ecosystem health, enhancing landscape biodiversity, and protecting/enhancing soil productivity and water quality. In addition, the State Forests on this unit will continue to provide the many recreational, social and economic benefits valued so highly by the people of New York State. DEC will continue the legacy which started more than 80 years ago, leaving these lands to the next generation in better condition than they are today.

This plan sets the stage for DEC to reach these ambitious goals by applying the latest research and science, with guidance from the public, whose land we have been entrusted to manage.

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PREFACE

State Forest Overview

The public lands comprising this unit play a unique role in the landscape. Generally, the State Forests of the unit are described as follows:

- large, publicly owned land areas;
- managed by professional Department of Environmental Conservation (DEC) foresters;
- green certified jointly by the Forest Stewardship Council (FSC) & Sustainable Forestry Initiative (SFI);
- set aside for the sustainable use of natural resources, and;
- Open to recreational use.

Management will ensure the **sustainability**, **biological diversity**, and protection of **functional ecosystems** and optimize the ecological benefits that these State lands provide, including the following:

- maintenance/increase of local and regional biodiversity
- response to shifting land use trends that affect habitat availability
- mitigation of impacts from invasive species
- response to climate change through carbon sequestration and habitat, soil and water protection

Legal Considerations

Article 9, Titles 5 and 7, of the Environmental Conservation Law (ECL) authorize DEC to manage lands acquired outside the Adirondack and Catskill Parks. This management includes **watershed protection**, production of **timber** and other forest products, **recreation**, and **kindred purposes**. For additional information on DEC's legal rights and responsibilities, please review the statewide Strategic Plan for State Forest Management (SPSFM) at http://www.dec.ny.gov/lands/64567.html. Refer specifically to pages 33 and 317.

Management Planning Overview

The Winona Unit Management Plan (UMP) is based on a long range vision for the management of Winona State Forest, balancing long-term ecosystem health with current and future demands. This Plan addresses management activities on this unit for the next ten years, though some management recommendations will extend beyond the ten-year period. Factors such as budget constraints, wood product markets, and forest health problems may necessitate deviations from the scheduled management activities.

Public Participation

One of the most valuable and influential aspects of UMP development is public participation. Public meetings are held to solicit input and written and verbal comments are encouraged while management plans are in draft form. Mass mailings, press releases and other methods for soliciting input are often also used to obtain input from adjoining landowners, interest groups and the general public.

Strategic Plan for State Forest Management

This unit management plan is designed to implement DEC's statewide Strategic Plan for State Forest Management (SPSFM). Management actions are designed to meet local needs while supporting statewide and eco-regional goals and objectives.

The SPSFM is the statewide master document and Generic Environmental Impact Statement (GEIS) that guides the careful management of natural and recreational resources on State Forests. The plan aligns future management with principles of landscape ecology, ecosystem management, multiple use management and the latest research and science available at this time. It provides a foundation for the development of Unit Management Plans. The SPSFM divides the State into 80 geographic "units," composed of DEC administered State Forests that are adjacent and similar to one another. For more information on management planning, see SPSFM page 21 at http://www.dec.ny.gov/lands/64567.html.

DEC's Management Approach and Goals

Sustainability and Forest Certification

Sustainability, in this instance, means the capacity of State Forest to maintain their health, productivity, diversity, and overall integrity, over the long run in the context of human activity and use. Forest certification is DEC's method of making certain and public that State Forests are sustainably managed. In 2000, New York State DEC-Bureau of State Land Management received Forest Stewardship Council® (FSC®) certification under an independent audit conducted by the National Wildlife Federation - SmartWood Program. This certification included 720,000 acres of State Forests in DEC Regions 3 through 9 managed for water quality protection, recreation, wildlife habitat, timber and mineral resources (multiple-use). To become certified, the Department had to meet more than 75 rigorous criteria established by FSC. Meeting these criteria established a benchmark for forests managed for long-term ecological, social and economic health. The original certification and contract was for five years.

By 2005 the original audit contract with the SmartWood Program expired. Recognizing the importance and the value of dual certification, the Bureau sought bids from prospective auditing firms to reassess the Bureaus State Forest management system to the two most internationally accepted standards - FSC and the Sustainable Forestry Initiative® (SFI®) program. However, contract delays and funding shortfalls slowed the Departments ability to award a new agreement until early 2007.

Following the signed contract with NSF-International Strategic Registrations and Scientific Certification Systems, the Department was again audited for dual certification against FSC and additionally the SFI program standards on over 762,000 acres of State Forests in Regions 3 through 9. This independent audit of State Forests was conducted by these auditing firms from May until July 2007 with dual certification awarded in January 2008.

State Forests continue to maintain certification under the most current FSC and SFI standards. Forest products derived from wood harvested off State Forests from this point forward may now be labeled as "green certified" through chain-of-custody certificates. Forest certified labeling on wood products may assure consumers that the raw material was harvested from well-managed forests.

The Department is part of a growing number of public, industrial and private forest land owners throughout the United States and the world whose forests are certified as sustainably managed. The Department's State Forests can also be counted as part a growing number of working forest land in New York that is *third-party certified* as well managed to protect habitat, cultural resources, water, recreation, and economic values now and for future generations.

FSC
www.fsc.org
The mark of responsible forestry
FSC® C002027

SUSTAINABLE FORESTRY INITIATIVE
SFI-00102

Ecosystem Management Approach

Winona State Forest will be managed using an ecosystem management approach which will holistically integrate principles of landscape ecology and multiple use management to promote habitat biodiversity, while enhancing the overall health and resiliency of the State Forest.

Ecosystem management is a process that considers the total environment - including all non-living and living components; from soil micro-organisms to large mammals, their complex interrelationships and habitat requirements and all social, cultural, and economic factors. For more information on ecosystem management, see SPSFM page 39 at http://www.dec.ny.gov/lands/64567.html.

Multiple-use Management

DEC will seek to simultaneously provide many resource values on the unit, such as fish and wildlife, wood products, recreation, aesthetics, minerals, watershed protection, and historic or scientific values.

Landscape Ecology

The guiding principle of multiple use management on the unit will be to provide a wide diversity of habitats that naturally occur within New York, while ensuring the protection of rare, endangered and threatened species and perpetuation of highly ranked unique natural communities. The actions included in this plan have been developed following an analysis of habitat needs and overall landscape conditions within the planning unit (i.e. the geographical area surrounding and including the State Forest), the larger eco-region and New York State.

Landscape ecology seeks to improve landscape conditions, taking into account the existing habitats and land cover throughout the planning unit, including private lands

Ecosystem Management Strategies

The following strategies are the tools at DEC's disposal, which will be carefully employed to practice landscape ecology and multiple-use management on the unit. The management strategy will affect species composition and habitat in both the short and long term. For more information on these management strategies, please see SPSFM page 81 at http://www.dec.ny.gov/lands/64567.html.

Passive Management

DEC foresters will employ passive management strategies through the designation of natural and protection areas, and buffers around those areas, such as along streams, ponds and other wetlands, where activity is limited.

Silviculture (Active Management)

DEC foresters will practice silviculture, the art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands, in an effort to promote biodiversity and produce sustainable forest products. There are two fundamental silvicultural systems which can mimic the tree canopy openings and disturbances that occur naturally in all forests; even-aged management and uneven aged management. Each system favors a different set of tree species. In general, even-aged management includes creating wide openings for large groups of trees that require full sunlight to regenerate and grow together as a cohort, while uneven-aged management includes creating smaller patch openings for individual trees or small groups of trees that develop in the shade but need extra room to grow to their full potential.

State Forest Management Goals

It will be the goal of the Department to manage state lands for multiple benefits to serve the needs of the People of New York State. This management will be considered on a landscape level, not only to ensure the biological diversity and protection of the ecosystem, but also to optimize the many benefits to the public that these lands provide.

Goal 1 – Provide Healthy and Biologically Diverse Ecosystems

Ecosystem health is measured in numerous ways. One is by the degree to which natural processes are able to take place. Another is by the amount of naturally occurring species that are present, and the absence of non-native species. No single measure can reveal the overall health of an ecosystem, but each is an important part of the larger picture. The Department will manage State Forests so that they demonstrate a high degree of health as measured by multiple criteria, including the biodiversity that they support.

Goal 2 – Maintain Man-made State Forest Assets

Man-made assets on State Forests include structures, boundary lines, trails, roads and any other object or infrastructure that exists because it was put there by people. Many of these items need no more than a periodic check to make sure they are still in working order. Others need regular maintenance to counteract the wear of regular use. It is the Department's intent to ensure that all man-made items on State Forests are adequately maintained to safely perform their intended function.

Goal 3 – Provide Recreational Opportunities for People of all Ages and Abilities

State Forests are suitable for a wide variety of outdoor recreational pursuits. Some of these activities are entirely compatible with one another, while others are best kept apart from each other. Equally varied are the people who undertake these activities, as well as their abilities, and their desire to challenge themselves. While not all people will be able to have the experience they desire on the same State Forest, the Department will endeavor to provide recreational opportunities to all those who wish to experience the outdoors in a relatively undeveloped setting.

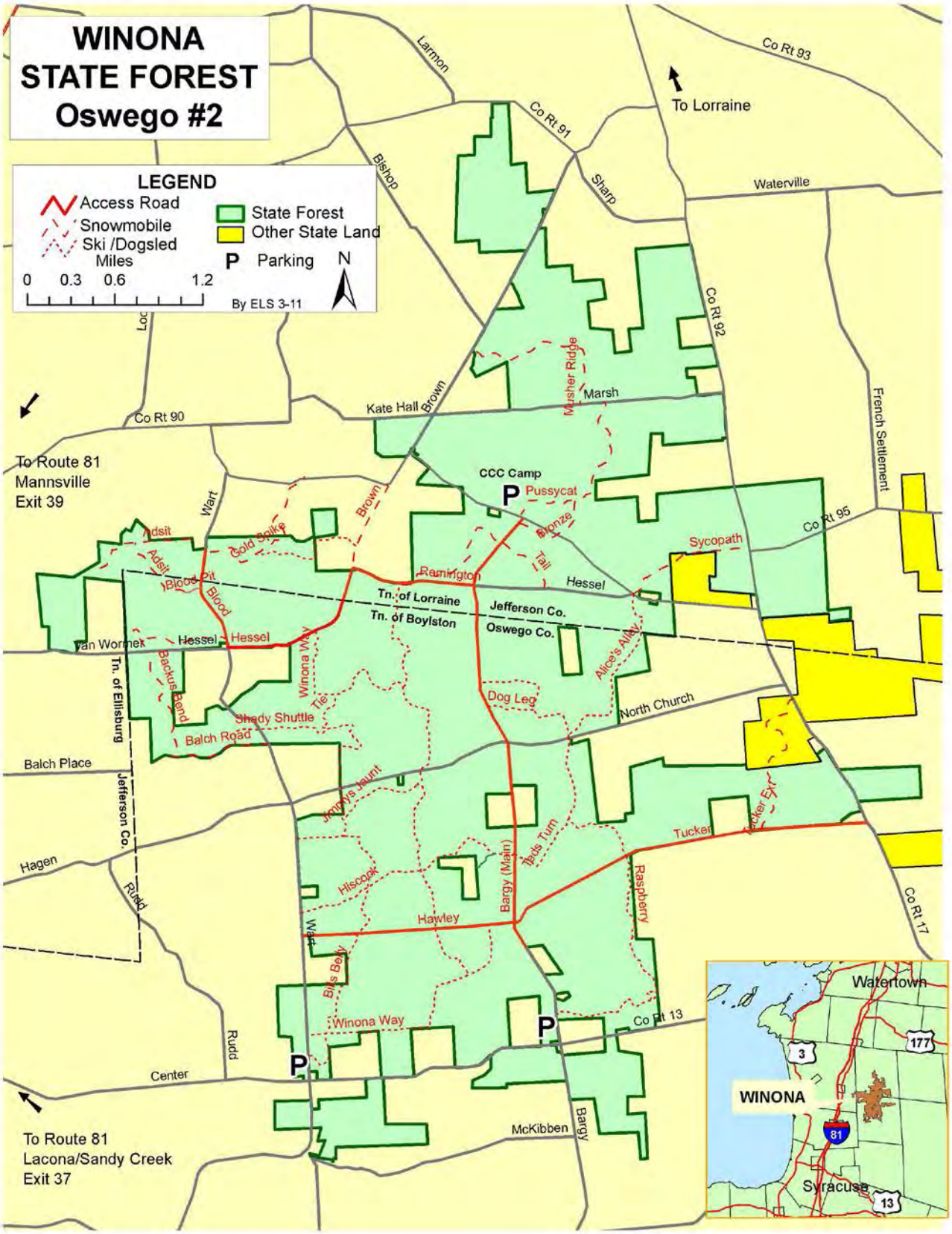
Goal 4 – Provide Economic Benefits to the People of the State

ECL §1-0101(1) provides in relevant part that "It is hereby declared to be the policy of the State of New York to conserve, improve and protect its natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall **economic** and social well being." (Emphasis added) In considering all proposed actions, the Department will attempt to balance environmental protection with realizing potential economic benefit.

Goal 5 – Provide a Legal Framework for Forest Conservation and Sustainable Management of State Forests

Staff must have clear and sound guidance to direct their decisions and actions. Likewise, the public must have clear information regarding what they are and are not allowed to do on State Forests. Both functions are provided by well-written laws, regulations and policies. DEC will work to improve existing legal guidance where it has proven to be inadequate, and create new guidance that is needed.

LOCATION MAP



I. INFORMATION ON THE WINONA UNIT

A. Historical Background

1. State Forest History

The forest lands outside the Adirondack and Catskill regions owe their present character, in large part, to the impact of pioneer settlement. Following the close of the Revolutionary War, increased pressure for land encouraged westward expansion. Up to 91% of woodlands in New York State outside of the Adirondacks and Catskills were cleared for cultivation and forage.

Early farming efforts met with limited success. As the less fertile soils proved unproductive, they were abandoned and settlement was attempted elsewhere. The stage of succession was set and new forests of young saplings pioneered the cleared ground.

The State Reforestation Law of 1929 and the Hewitt Amendment of 1931 set forth the legislation which authorized the Conservation Department to acquire land by gift or purchase for reforestation areas. These state forests, consisting of not less than 500 acres of contiguous land, were to be forever devoted to "reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber and other forest products, and for recreation and kindred purposes". This broad program is presently authorized under Article 9, Title 5 of the Environmental Conservation Law.

In 1930, Forest Districts were established by the Conservation Dept. and the tasks of land acquisition and reforestation were started. In 1933 the Civilian Conservation Corps (CCC) was established. Thousands of young men were assigned to plant millions of trees on the newly acquired state lands. In addition to tree planting, these men were engaged in road and trail building, erosion control, watershed restoration, forest protection and other projects.

During the war years of 1941-1945, very little was accomplished on the state lands. Plans for further planting, construction and facility maintenance had to be curtailed. However, through postwar funding, conservation projects once again received needed attention. The Park and Recreation Land Acquisition Act of 1960, and the Environmental Quality Bond Acts of 1972 and 1986 contained provisions for the acquisition of state lands. These lands would serve multiple purposes involving the conservation and development of natural resources, including the preservation of scenic areas, watershed protection, forest management and recreation. The Environmental Protection Fund, created in 1994, has continued to fund open space acquisition, including state forest lands.

As of 2010, there are over 760,000 acres of State Forests throughout the state. The use of these lands for the purposes of timber production, watershed protection, hiking, skiing, fishing, trapping, hunting and other recreational activities is of tremendous importance economically and to the health and well-being of the people of the state.

2. History of Winona State Forest

The Winona State Forest is located on the boundary of southern Jefferson County (towns of Lorraine and Ellisburg) and northern Oswego County (town of Boylston). It is east of Interstate 81, west of Littlejohn Wildlife Management Area and is on the western edge of the Tug Hill Plateau. The forest can be accessed by exits 37, 38, 39, and 40 of Interstate 81.

This 9,233-acre State Forest offers many recreational opportunities, including: hiking, skiing, mountain biking, hunting, fishing, trapping, dog sledding, bird watching, orienteering, snowmobiling and horseback riding. The unit contains 21 miles of cross-country ski trails, 8.7 miles of snowmobile trails (some designated New York State Snowmobile Corridor Trails), 9 miles of forest roads, and 3 parking lots. ATV use is allowed on 1.9 miles of the Blood Public Forest Access Road (Wart Road) and Remington Public Forest Access Road (Hessel Road). This use was to facilitate the connection of various public ATV trails on Jefferson County Forest lands and in adjacent Oswego County.

This reforestation land was once farmland, and during the late 1930s and 1940s, the CCC planted evergreen trees, and built roads, ponds and buildings on this land. As the trees have grown to maturity, foresters have marked many stands for wood products, including red pine poles going to Canada, pulpwood to local paper mills, black cherry to sawmills and veneer plants around the world, and wood chips for energy.

With the melding of ideas, resources and manpower, Winona State Forest has become one of New York State's best venues for outdoor recreation, and at the same time, provides valuable timber resources.

Two Jefferson County Forests adjoin Winona, comprising 1,107 acres. Many activities including snowmobile and skiing continue seamlessly onto County forest. While Jefferson County lands and State Forest lands are managed separately, there is coordination between the Department and Jefferson County to help insure the public is best served.

To get to this forest, from Interstate 81, take Mannsville exit 39, and then take County Route 90 east through Mannsville. About 2.75 miles out of Mannsville, County Route 90 meets Dixon Road and turns to the right. This route bears left at the intersection with Wart Road and then right at Brown Road. The historical CCC camp is another mile down the road.

3. The Mannsville CCC S-116 Camp

The Civil Conservation Corps was formed in 1933 by an act of Congress upon the request of president Franklin Delano Roosevelt. This Depression-era project is often said to have “saved a generation of men” by providing employment and education during a time of rampant unemployment and economic despair. CCC camps operated as military companies, headed by actual military officers. About 100 young men, usually 16-17 years old, made up each company.

Across the United States, each camp was referred to by a project number; Project S-116 (S= State Land) was the Mannsville camp. Though its location is actually within the town of Lorraine, the camp was named for the nearest post office at Mannsville, several miles to the

west, in the Town of Ellisburg.

The Mannsville CCC camp was operated from September 14, 1935 thru November 7, 1941. In the first six months of operation alone 1,300,000 trees were planted. It housed Company 3216 from 1936 until 1941 and Company 246-C from 1941 till its close later in 1941. Company 246-C was somewhat unique. It was created in 1933 in Fort Dix, NJ and was staffed primarily by Black Americans from NYC, Long Island and New Jersey. It had stints in locations across the country before it was relocated to Winona. About 10% of CCC participants nationwide were Black Americans.

Several thousand acres of mature forestland now stand as evidence of the great contribution made by men of the Mannsville CCC camp over 70 years ago.

In addition to long days of seedling planting, road building and fire prevention work, the men of the CCC camp took educational courses, published a newspaper and participated in sporting events.

There are two buildings, a fire pit and some foundations left of the old CCC camp. It was built as Winona Camp in 1935 and renamed Mannsville Camp two years later. In 2005, the architectural and preservation planning firm of Crawford and Sterns were hired to do an onsite review of the property and produced a list of recommendations. These recommendations included the stabilization and restoring of the buildings to original conditions as reasonably possible (see section J. Cultural Resources, 1. Management Actions). The Mannsville camp is believed to be the most well preserved CCC camp in New York State. An effort is under way to rehabilitate the original office and shop buildings, and restore the grounds to preserve the history of the Mannsville CCC camp. In October of 2006, an application for a national Register of Historical Places listing was made for the site. The camp is currently used as a field office, staging area for projects, storage area for maintenance equipment and as a base for recreational activities such as picnics, dog sledding, cross country skiing and other events.

B. Geographical Information

The Winona Management Unit is located in the Towns of Ellisburg and Lorraine in Jefferson County and Town of Boylston in Oswego County. The lands are situated south of Jefferson County Route 91, north of Oswego County Route 15, east of NY Route 11 and west of Little John Wildlife Management Area.

The unit consists of one State Reforestation Area: Oswego Reforestation Area #2, Winona State Forest, and encompasses 9,233 acres.

The unit lies on the westerly edge of the Tug Hill plateau. Elevations range from 660 feet in the valley of Skinner Creek to 1350 feet on the easterly rolling uplands. This plateau, east of Lake Ontario, receives more snow than any area east of the Rockies.

Climate is dominated by cold snowy winters with January temperatures of 9° for the average low and 29° for the average high, wet summers with July temperatures of 61° for the average

low, 80° for the average high and an average of 41 inches of rainfall per year. The average snowfall is 103 inches.

C. Geology/Soils Resources

The area around this forest is dotted with many gravel pits revealing the composition of the local soils. The surface geology of this unit consists of four types: Till - Silt to Boulders, Abalation - Silt to Boulders, Outwash- Sand and gravel and Kame deposit -gravel and/or sand.

The bedrock geology is of two types: Pulaski Formation and Oswego Sandstone both of which are Ordovician (sand and shale). A majority of the unit is Pulaski Formation. Natural Resource Conservation Service [1] (see- Appendix D- Soils/Surface Geology)

D. Water Resources

There are no principal aquifers identified under the individual land areas of the Winona Unit. There are three secondary aquifers located in the very southern portion of this State Forest. They are 10-100 gal/min Unconfined and mid yield. It is unknown if there exists minor recharge areas. Adequate protection for all aquifers is provided by using standard Best Management Practices (BMPs) for Water Quality. This guide was recently revised in 2010. [2]

No wild, scenic or recreational rivers are present on the unit.

1. Watershed and Stream Characteristics

The unit lies mainly within the "Salmon River to South Sandy Creek" watersheds with the more northerly section reaching into "South Sandy" watershed. Waters from both watersheds flow directly into Lake Ontario.

The unit is an integral part of the Sandy Creeks Eco-system- Based Management project. [3] As a collaborative effort between NYSDEC, The Nature Conservancy, Tug Hill Commission and consultants Biohabitat and Camoin Associates, the ecosystem-based management planning process emphasizes stakeholder involvement and local input.

Streams in New York are classified, under Part 701 of the rules and regulations by their best use, meaning the highest classifications (AA and A) are suitable for drinking water; (B) is suitable for recreation and fishing, and (C) for fishing. These classifications can also be accompanied by a (t) and (ts) designation which indicates the waters support trout populations and trout spawning respectively (see Appendix B for a full description of the classifications). On Winona there are 26 miles of classified streams, well distributed on the Unit, and they provide some good trout fishing. There are 3 miles of Class A which includes Little Sandy Creek (a designated inland waterway) and part of Skinner Creek. There are 23 miles of Class C, which includes Raystone Creek, Bear Creek, and the remainder of Skinner Creek

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[1] http://soils.usda.gov/technical/classification/osd/index.html
[2] http://www.dec.ny.gov/docs/lands_forests_pdf/dlfbmpguide.pdf
[3] http://www.tughill.org/wp-content/uploads/2011/10/SandyCreeksEBMFinalRreportFeb2008.pdf

2. Wetlands

It is the public policy of New York, as set forth in the Freshwater Wetlands Act (ECL Article 24), to preserve, protect and conserve freshwater wetlands and the benefits derived from them. Wetlands in New York are legally protected by the State if they meet the criteria found in section 24-0107 of the Freshwater Wetlands Act and occupy at least 12.4 acres as determined and/or mapped by the Department. A wetland smaller than 12.4 acres may also be classified protected if demonstrated locally unique or significant. In all cases, an upland area of 100 feet wide surrounding the protected wetland, defined as the adjacent area, is also protected. The Freshwater Wetlands Act recognizes the value of wetlands and their function as flood and storm water control, wildlife habitat, water quality, recreation, open space, education and scientific research, among others and serves to prevent unnecessary loss of these values and functions in a manner consistent with the general welfare and beneficial economic, social and agricultural development of the State.

The federal Clean Water Act considers all wetlands larger than one acre as significant. Administration and federal guidelines protecting wetlands less than 12.4 acres falls under the jurisdiction of the Army Corps of Engineers.

Of the 786 acres of wetlands described in the inventory, 159 acres of DEC classified (protected) wetlands are found primarily in the southern portion of this unit. Class I wetlands, the highest quality, includes 10.2 acres; Class II, 145.6 acres, and Class III, 3.2 acres. The wetlands on the Unit contribute to a more diverse landscape; the high, continuous forest canopy opens up and allows for varied habitat. Wetlands can be dominated by trees, shrubs, grasses or herbs or a combination of these plant types thriving in an environment with saturated or inundated soils. Wetlands in Winona are a combination of forested wetlands, alder swamps and open swamps. (see - Appendix B- Streams and Wetlands)

E. Biological Resources

1. Ecozone

The Winona Forest exists entirely within “Ecozone J - Tug Hill Transition”. [4]
The Tug Hill Transition comprises some 1,113 square miles of low rolling hills ranging in elevation between 1,000 and 1,700 feet. The bedrock is Hudson River shale and is associated with low productivity soils of the Worth-Empyville-Westbury series. Although the annual snowfall is comparable to that of Central Tug Hill, the lower elevation results in a little longer growing season, 135 to 140 days. The forest is predominately northern hardwood, although to the west hemlock becomes a more important species. Marginal dairy farms, the majority of which are located in the southern part of the zone, are characteristic of local agriculture. Over the past four decades, much of the farmland has been abandoned resulting in the encroachment of pioneer species and establishment of softwood plantations, the latter mainly on State reforestation areas. Sub-marginal farmland and the nature of past land use are probably the most characteristic feature of this zone. It is entirely surrounded by zones of the Agrarian Category where the soils are more fertile and the climate milder. Greater access and

[4] New York Fish and Game Journal Volume 29 Number 1 page 20

higher human population density separate it from the more heavily forested Central Tug Hill. Ecozone J is part of the much larger Northern Appalachian/Boreal Forest EcoRegion (see page 65 of SPSFM). The Northern Appalachian/Boreal Forest encompasses a large portion of northern New York including the Adirondack Park. Ecozone J is just Tug Hill and more closely relates to this state forest.

2. Vegetative Types

The vegetative cover of Winona Forest is nearly half conifer plantations, and another almost 20% in mixed conifer/hardwoods, much of which started out as plantations, emphasizing how much of this landscape was open farmlands when it was acquired. There is also a significant amount of wetlands, nearly 800 acres. This combination makes for a unique landscape, different than the adjacent private lands and the nearby forested Tug Hill lands.

Vegetative Types by Acreage and DBH

Vegetative Type	Acres	0-5" DBH*	6-11" DBH*	12"+ DBH*	% of SF
Natural Hardwoods	2219	159	1623	437	24
Conifer/Hardwoods	1681	0	1206	475	18
Conifer Plantations	4493	102	2072	2319	49
Wetlands	786	0	0	0	9
Ponds	0	0	0	0	0
Open/Brush	21	0	0	0	<1
Other	33	0	0	0	<1
TOTAL	9233	261	49010	32310	100
%		3	53	35	100

The above data was compiled using the inventory records .
* = mean stand diameter

3. Wildlife Resources

The Winona Unit lies on the western edge of the Tug Hill plateau which directly influences the type of wildlife found here. The unit was once mostly farmland and has transitioned back into forest land through reforestation and natural regeneration. It is on the very northern range of the oak-hickory forest type. Apart from the replanted softwood stands, Winona's hardwood is mostly the northern hardwood forest type. Some of the animals commonly found here are gray and red squirrels, whitetail deer, raccoon, red fox, coyote and opossum. A complete list of birds compiled from the Breeding Bird Atlas can be found in Appendix A. (see - Appendix A - Breeding Bird Atlas) Most of the unit is located within Deer Management Unit 6K with just a small portion in 6N on the eastern edge. Deer yards are generally not found on the unit due to the excessive snow depth. Movement of the deer west toward the lake shore area for the winter is common.

4. Natural Heritage

A review of the NYSDEC Natural Heritage Program database revealed that no rare plant communities, exemplary natural communities, rare or endangered plants, threatened or special concern species are documented as present on the unit. This area has been given "a relatively low priority for field surveys because there doesn't seem to be a high probability of finding

areas with rare species or significant communities."[5]

F. Recreation

Recreational use of this State Forest historically has been very high. Renowned particularly for its high snowfall, Winona has an extensive trail system providing excellent opportunities for winter activities such as snowmobiling, cross country skiing and dog sledding: however, the trail network is increasingly used year round. Fall is another busy time with numerous hunters making use of the forest.

High use can bring the potential for significant environmental impact. The table below lists the potential environmental impacts of the various recreation activities that occur in Winona.

Recreation	Active/Passive	Use	Environmental Impact
Bike Riding	Active	Low	Medium
Camping	Active	Low	Medium
Cross country Skiing	Active	High	Low
Fishing	Passive	Low	Low
Hiking	Passive	Medium	Low
Horseback Riding	Active	Low	Medium
Hunting	Passive	Medium	Low
Nature Observation	Passive	Low	Low
Sled Dogs	Active	High	Low
Snowmobiling	Active	High	Medium
Trapping	Active	Low	Low
Geocache	Passive	Low	Low
ATV	Active	Medium	High

Partnerships are important tools in maintaining the Winona trail system. The Winona Forest Recreation Association (WFRA) has had an Adopt-A-Natural Resource agreement (AANR) with NYSDEC for many years. They have helped to implement work plans for Alice's Alley, Musher Ridge, Winona Way and Franks Fancy trails. They groom the majority of the trails in the winter and aid the DEC's operations crew in the maintenance of trails year round. They also host the annual Tug Hill Tourathon and Try it Classic cross country ski races and a Winterfest. The Pulaski-Boylston Snowmobile Club, through another AANR, grooms a section of Bargy PFAR, Tucker PFAR and the trail they built to the adjacent Little John Wildlife Management Area. The Pennsylvania Sled Dog Club, a member of WFRA, has hosted the Tug Hill Challenge, a two day sled dog race, for many years. Central NY Orienteering also utilizes Winona for a yearly orienteering exercise.

On October 1, 2008, a Commissioner Order was signed providing for the opening of Wart Road and Hessel Road on Winona State Forest (Oswego 2) in Jefferson and Oswego Counties to ATV traffic pursuant to Vehicle and Traffic Law Section 2405. Effective October 1, 2008, Commissioner Grannis ordered that a 1.1 mile section of the Hessel Road (also known as Remington Public Forest Access Road) and a 0.7 mile section of the Wart Road (also known as

[5] NY Natural Heritage Program- Study for Regions 5 & 6

Blood Public Forest Access Road) are open to ATV traffic. These roads were requested to be opened by Jefferson County Trail Coordinator in order to connect two sections of ATV trails on the Jefferson County Forest. After this authorization an AANR agreement was signed with Winona Forest Recreational Association to maintain and oversee use on these roads, with one of the most important conditions being that if abuse occurred, such as off road use of ATVs, the route would be closed. Users have cooperated and the route remains open.

G. Facilities Inventory

1. Roads and Trails

The State Forest road and trail system provides for both public and administrative access to the unit. Roads and trails are constructed to standards that will provide reasonably safe travel and keep maintenance costs at a minimum. There are six types of transportation corridors providing different levels of access, depending on the standards to which they are constructed. see SPSFM page 58 at http://www.dec.ny.gov/lands/64567.html.

2. Road and Trail Inventory

a) Public Forest Access Roads (PFAR) and allowed uses;

Bargy (Main)	3.1 miles	motorized vehicle and snowmobile
Tucker	2.6 miles	motorized vehicle and snowmobile
Hawley	1.5 miles	motorized vehicle and snowmobile
Wart (Blood)	0.7 miles	motorized vehicle, snowmobile and ATV
Hessel (Remington)	2.0 miles	motorized vehicle, snowmobile and a portion for ATV

b) Haul Roads (administrative access) and allowed uses;

Blood Pit	0.1 miles	walk, ski, bike, horse, sled dog, snowmobile

c) Recreational Trails and allowed uses;

Adsit	1.3 miles	walk, ski, bike, horse, sled dog, snowmobile
Backus Bend	1.8 miles	walk, ski, bike, horse, sled dog, snowmobile
Balch road	0.7 miles	walk, ski, bike, horse, sled dog, snowmobile
Bargy Trail	0.3 miles	walk, ski, bike, horse, sled dog, snowmobile
Gold Spike	0.7 miles	walk, ski, bike, horse, sled dog, snowmobile
Tucker Ext	1.2 miles	walk, ski, bike, horse, sled dog, snowmobile
Musher Ridge	1.2 miles	walk, ski, bike, horse, sled dog, snowmobile
Pussycat	0.5 miles	walk, ski, bike, horse, sled dog, snowmobile
Tail	0.5 miles	walk, ski, bike, horse, sled dog, snowmobile
Bronze	1.5 miles	walk, ski, bike, sled dog, snowmobile
Sycopath	0.9 miles	walk, ski, bike, sled dog, snowmobile
Franks Fancy N	1.0 miles	walk, ski, bike, sled dog, snowmobile
Franks Fancy S	0.9 miles	walk, ski, bike, horse, sled dog
Dog Leg	0.9 miles	walk, ski, bike, horse, sled dog
Dog Leg Ext.	0.3 miles	walk, ski, bike, horse, sled dog
Jimmys Jaunt	0.6 miles	walk, ski, bike, horse, sled dog

Sally's Ride	0.4 miles	walk, ski, bike, horse, sled dog
Shady Shuttle	2.2 miles	walk, ski, bike, horse, sled dog
Skinner Creek	0.8 miles	walk, ski, bike
Teds Turn	0.6 miles	walk, ski, bike, horse, sled dog
Tie	0.3 miles	walk, ski, bike, horse, sled dog
Hiscock	1.7 miles	walk, ski, bike, horse, sled dog
Alice's Alley	2.5 miles	walk, ski, bike, sled dog
Bill's Belly	2.1 miles	walk, ski, bike, sled dog
Raspberry	1.9 miles	walk, ski, bike, sled dog
Winona Way	5.0 miles	walk, ski, bike, sled dog

d) County and Town Roads

Name	*Municipality*	*Plowed*	*Miles*
Van Wormer	Ellisburg	Yes	0.2
Brown	Lorraine	No	1.3
Kate Hall	Lorraine	No	0.4
Marsh	Lorraine	No	2.0
Hessel	Lorraine	No	2.7
Co Rte. 91	Jefferson Co.	Yes	0.1
Co Rte. 90	Jefferson Co.	Yes	2.1
Co Rte. 92	Jefferson Co.	Yes	1.8
Co Rte. 95	Jefferson Co.	Yes	0.5
Co Rte. 3	Oswego Co.	Yes	1.4
Co Rte. 17	Oswego Co.	Yes	0.5
Co Rte. 50	Oswego Co.	Yes	0.3
Wart	Boylston.	No	1.8
Bargy	Boylston.	No	0.8
North Church	Boylston.	Yes	2.0

e) Right of Way

A 3 rod ROW of 2.6 miles of Tucker Road (Stinson Road) was acquired by DEC(Proposal S-4) on 8-15-1984. It was obtained by means of Eminent Domain.
(see- Appendix C –Transportation Corridors/Facilities)

3. Area ID Signs

- Northeast area ID sign on Co. Rt. 92, 0.2 miles south of the intersection of Sharp Rd. and Co. Rt. 92;
- Southeast area ID sign on Co. Rt. 17, 0.2 miles north of the intersection of Tucker Rd. and Co. Rt. 17;
- One south area ID sign on Wart Rd. in parking lot near the intersection of Wart, Center, and Co. Rt. 13;
- Another south area ID sign in the parking lot near the intersection of Bargy and Co. Rt. 13;

- Northwest area ID sign on Van Wormer Rd. 0.5 miles west of the Oswego County Line.

4. Boundaries

There are 62 miles of interior and exterior boundary lines on this unit. They are maintained by the Operations staff out of the Brownville Maintenance Facility.

5. Buildings

There are three buildings on the Winona State Forest, all located at the CCC camp location. The old office and garage are original CCC Camp buildings, and there is a much newer pole barn. The CCC Camp Garage and Office/Tool Storage Building and the entire site of the S116 CCC Camp are eligible for inclusion in the State and National Registers of Historic Places. The garage, part of the original CCC buildings has deteriorated to the point where it may no longer be safe and should be inspected by an engineer to determine if repairs are possible.

There is also a small moveable timing shed stored next to the pole barn.

6. Bridges

Motor Vehicle Bridges

Most of these bridges are less than a 20 foot span and are maintained and inspected by DEC staff. Any bridge greater than 20' is also maintained by DEC but safety/structural inspections are the responsibility of the NYS Dept. of Transportation Most of these structures were built by the CCC, though some have been rebuilt(Bargy Rd. south of Tucker Rd.) and replaced(Hessel Rd.).

- Bargy PFAR, 8' long by 12' wide- concrete construction, 0.1 mile south of CCC camp;
- Bargy PFAR, 9' long by 26' wide- concrete construction, 0.7 mile south of the intersection of North Church and Bargy Road;
- Bargy PFAR, 21' long by 18.6' wide, stone arch construction, 0.05 mile south of the intersection of Tucker and Bargy Road;
- Hessel PFAR, 10' long by 15' wide- concrete construction, 0.7 mile west of the intersection of Hessel and Wart Road;
- Tucker PFAR, 16' long by 13' wide, concrete construction, 0.2 mile west of the intersection of Tucker and Bargy Road;
- Tucker PFAR, 10' long by 12' wide, concrete construction, 1.2 miles west of the intersection of Tucker and Bargy Road;
- Wart PFAR, 10' long by 12' wide, concrete construction, 0.5 miles north of the intersection of Hessel and Wart Roads.

Trail Bridges

Most of these are small bridges of treated wood construction. The exception is the bridge listed below. DEC has a standard design for snowmobile and other use bridges that can be adapted to the site needs.

- Alice's Alley Ski Trail - 75'long by 10' wide, wooden construction, 0.6 mile south of the intersection of North Church Rd. and Alice's Alley;

7. Designated Campsites

There are three designated campsites on Winona, and their locations are as follows:

- On Bargy Rd., 1.2 miles south of CCC Camp; junction North Dogleg;
- On Bargy Rd., 0.3 mile south of CCC Camp;
- On Bargy Rd., 1.3 miles south of CCC Camp; just south of stream

8. Fire Reservoirs

There are two fire reservoirs, originally established while the Mannsville CCC Camp was in operation:

- Behind the pole barn at the CCC Camp;
- On the north side of Hawley Road, 0.7 miles west of the intersection of Hawley and Bargy.

9. Information Kiosk

There are Kiosks by the parking lot at the CCC camp, at the intersection of Bargy & Tucker, at the Boylston Parking lot, at Boylston Center and on Bargy Road 0.2 miles south of the intersection of Bargy, Tucker and Hawley roads.

10. Parking Lots

There are three main parking lots on the Winona unit. The Boylston parking lot is located on the northwest corner of the intersection of Wart Road, Oswego County Route #13 and Center Road. It is plowed in the winter and has a kiosk, pit privy and register. The capacity is 20 to 30 cars. The Boylston Center parking lot is located on the west side of Bargy Road just a few feet north of the intersection of Bargy Rd. and Oswego County Route #13, and has a capacity of 20 to 30 cars, a kiosk, pit privy and a register. It is also plowed for winter use by the Town of Boyleston. The CCC parking lot is located at the north end of Bargy Road where it meets Jefferson County Route 90 at the CCC Camp. It also has a kiosk, pit privy, register and an accessible horse mounting platform near the pole barn at the CCC camp The regular parking area capacity is 40 cars, but the capacity can be more than doubled in the winter for extra parking during special winter events when the mowed areas around the buildings are plowed when the ground is frozen.

11. Registers

There are three trail registers on Winona, located at the Boylston Parking Lot, the CCC Camp and at the Boylston Center Parking Lot.

12. Road ID signs

There is a total of 15 road ID signs on Winona; one at each end of Wart, Hawley, Tucker, and Remington (Hessel) PFARs, and five on Bargy, one at either end and one each at the intersections of Hawley/Tucker, North Church and Hessel.

13. Telephones

There is one telephone inside the office at the CCC Camp for emergency and administrative use only.

14. Scenic Vistas

Due to the gentle sloping nature of the land and the forest cover which restricts distant views, there were no scenic vistas identified on the unit.

H. Administrative Facilities

The Blood Road Gravel Pit is located 650 feet west of the Blood Public Forest Access Road and is used occasionally to top dress the public forest access roads and repair trails on the unit. The volume taken per year is below the minimum requiring a mining permit of 100 tons or 750 cubic yards per year.

The buildings at the old CCC site (S-116) are used by the Department and also the public as authorized by AANR agreements and Temporary Revocable Permits (TRPs). The old garage has an , attached outhouse and a room that is used for storage by the Department for vehicles and other work items. The old office is used for small meetings and as a sub-office by the Operations crew. Both buildings are wired for telephone and electricity. Many of the recreational events held on Winona are staged at the CCC Camp facility. The large pole barn was built by Operations for the storage of equipment. The end bay has been partitioned off with a heater for winter use. A generator is located in another section of the pole barn in order to provide electricity for lights, tools and appliances. Only properly trained individuals are allowed to operate the generator under an AANR agreement or TRP.

I. Deeded Exceptions

1. Right Of Way

A right-of-way to cross Winona State Forest, Proposal K, Stand F-26 & 27 exists off Bargy Road to a property currently owned by Nicole R Gazzolli,.

2. Noncompliant Use

It is believed that sometime in 1965, Queens Dairy of Pierrepont Manor buried a pipeline diverting water from Raystone Creek to a small tributary of Bear Creek on Proposal DDDD. After this was discovered in 1968 and the site cleaned up in 1969, a $200 settlement was paid for damages and a TRP was issued to Queens Dairy allowing them to continue to use the pipeline indefinitely. The pipeline is still in place but abandoned. There have been at least two incidents of trespass on the waterline road since, but they have been resolved. There are no plans to remove the pipeline.

In the northeast corner of stand A-7 off the Brown Road, there is an alleged fence trespass. It appears a number of years ago a local farmer may have placed his pasture fence onto State Land. The area of state land affected may be as much as an acre or two. A survey of the boundaries and fence location is needed to confirm the encroachment.

There is an existing and ongoing issue with a potentially illegal road crossing state lands to in-holdings. It starts at the Hessel Road on the very northern edge of Oswego County, and heads south about ¼ mile. Department records do not show that there is a documented ROW from

the north across the state land to these properties (listed below). This issue needs to be investigated.

Oswego Co. Tax #	Owner
2-1-03	Stanley Shaw, Evans Mills, NY 13637
2-1-02	John P. Davis, 424 St RT 11 Box 177 Mansville, NY 13661
2-1-04	John P. Davis, 424 St RT 11 Box 177 Mansville, NY 13661
2-1-05	John P. Davis, 424 St RT 11 Box 177 Mansville, NY 13661
2-1-06	John P. Davis, 424 St RT 11 Box 177 Mansville, NY 13661

J. Cultural Resources

The term cultural resource encompasses a number of categories of human created resources including structures, archaeological sites and related resources. The Department is required by the New York State Historic Preservation Act (SHPA), Parks, Recreation, and Historic Preservation Law Article 14 and the State Environmental Quality Review Act (ECL Article 8) to include such resources in the range of environmental values that are managed on public lands.

On lands managed by the Division of Lands and Forests, the number of standing structures is limited due to the nature of land use. Often those that remain are structures that relate to the Department's land management activities such as fire towers, "ranger" cabins and related resources. Fire towers as a class of resources have been the subject of considerable public interest over the last decade. The majority of surviving fire towers have been found eligible for inclusion in the State and National Registers of Historic Places and a number of towers were formally listed in the Registers in 2001. For state agencies, Register listing or eligibility are effectively the same, obligating the Department to treat these resources appropriately and requiring that special procedures be followed should it be necessary to remove or otherwise effect these resources.

Archaeological sites are, simply put, any location where materials (artifacts, ecofacts) or modifications to the landscape reveal evidence of past human activity. This includes a wide range of resources ranging from pre-contact Native American camps and villages to Euro-american homesteads and industrial sites. Such sites can be entirely subsurface or can contain above ground remains such as foundation walls or earthwork features.

As a part of the inventory effort associated with the development of this plan the Department arranged for the archaeological site inventories maintained separately by the New York State Museum and the Office of Parks, Recreation and Historic Preservation to be searched in order to identify known archaeological resources that might be located within or near the unit. The two inventories overlap to an extent but do not entirely duplicate one another. The purpose of this effort was to identify any known sites that might be affected by actions proposed within the unit and to assist in understanding and characterizing past human use and occupation of the unit. This search found no inventoried resources located within the unit; however, there are two areas of archeological interest. One is to the west, north of Van Wormer Road and another immediately surrounds the CCC Camp.

The CCC Camp is the location of the existing Department Operations shop. It was a Depression era CCC Camp and also served as a prisoner of war camp during World War II. These uses may be reflected in archaeological evidence that may exist on the site. There are two buildings left from the CCC Camp that continue to be used for Department purposes. In addition to the CCC Camp location, there are picnicking and camping areas as well other features constructed by the CCC, such as the fire fighting reservoirs on Bargy and North Church Road, that may also have archeological and historical significance. The CCC camp Garage/Recreation Hall, the Office/Tool Storage Building and the entire site of the S 16 CCC Camp are eligible for inclusion in the State and National Registers of Historic Places and these resources will be managed in accordance with the New York State Historic Preservation Act of 1980 (PRHPL Article 14).

The quality of the site inventory information varies a great deal in all respects. Very little systematic archaeological surveying has been undertaken in New York State. Therefore all current inventories must be considered incomplete. Even fewer sites have been investigated to any degree that would permit their significance to be evaluated. Many reported site locations result from 19th century antiquarian information, artifact collector reports that have not been field verified. Often very little is known about the age, function or size of these sites. This means that reported site locations can be unreliable or be polygons that encompass a large area. Should systematic archaeological inventory be undertaken at some point in the future it is very likely that additional resources will be identified.

1. Management Actions

Archaeological Site Protection:
The archaeological sites located within this land unit as well as additional unrecorded sites that may exist on the property are protected by the provisions of the New York State Historic Preservation Act (SHPA - Article 14 PRHPL), Article 9 of Environmental Conservation Law and Section 233 of Education Law. No actions that would impact these resources should be proposed in this Unit Management Plan. Should any such actions be proposed in the future they will be reviewed in accordance with SHPA. Unauthorized excavation and removal of materials from any of these sites is prohibited by Article 9 of Environmental Conservation Law and Section 233 of Education Law.

2. Archaeological Research

The archaeological sites located on this land unit as well as additional unrecorded sites that may exist on the property will be made available for appropriate research. All future archaeological research to be conducted on the property will be accomplished under the auspices of all appropriate permits. Research permits will be issued only after consultation with the New York State Museum and the Office of Parks, Recreation and Historic Preservation. Extensive excavations are not contemplated as part of any research program in order to assure that the sites are available to future researchers who are likely to have more advanced tools and techniques as well as different research questions.

3. Cemeteries

There are two cemeteries and a possible third one in or immediately adjacent to Winona. The first is about one tenth of a mile to the west of Brown Road in Stand B-2. There are two upright stones with indiscernible writing on them. The old records show a narrow trail or road leading to the cemetery, but this path is not visible today because of the growth of vegetation over the years. The second cemetery is adjacent to, but not actually on, State land at the intersection of Remington PFAR and Brown Road. The cemetery there has readable grave markers and appears to be regularly maintained. There is believed to be a third cemetery about one tenth of a mile to the west of Brown Road in Stand C-58. On this location there are flat stones standing in the ground with no hint of any writing. While there is no documentation found to indicate there really is a cemetery at this location, the immediate area will be protected on the assumption that it is actually a cemetery. (see - Appendix E Archeology/Cemetery Sites)

K. Community Support

1. Partnerships

DEC staff and local cross country skiing enthusiasts met around 1980 to discuss developing a trail system, including one for cross country ski racing, and formed the Tug Hill Ski Club. This was logical since the Tug Hill Plateau has the biggest snowfall east of the Rockies and has reliable snow cover throughout the winter. The ski trails became known as the Tug Hill Tourathon Trails. The Tug Hill Ski Club eventually became the Tug Hill Ski and Snowmobile Club when they combined with the local snowmobile club to support each other's efforts. They then formed the Western Edge Recreation Association in 1993 with the support of the DEC and Tug Hill Commission as other users became involved, such as dog sledders, snowshoers, orienteers, hunters, mountain bikers, ATV riders and equestrians. That organization has now become the Winona Forest Recreation Association (WFRA). WFRA has developed and maintained trails on Winona State Forest in partnership with the DEC through an AANR agreement . They host or co-host the Tug Hill Tourathon, Try-It ski race, a Winterfest celebration, and some sled dog and snowshoe competitions. Much volunteer work has been done on these trails, which along with DEC Operations crews dedicated efforts, have made these popular trails what they are today.

2. Taxes Paid on State Lands

The New York State Real Property Tax Law provides that all reforestation areas are subject to taxation for school and town purposes. Some reforestation areas are also subject to taxation for county purposes. Most unique areas and multiple use areas are exempt from taxation. All of these lands are assessed as if privately owned. In 2011 $203,883.34 was paid to the local communities. See Appendix G- 2011 Property Tax Tables for a more detailed breakdown.

L. Use and Demand

1. Timber Resources

Timber management is used as a tool to provide a renewable supply of sustainably-harvested forest products, to enhance biodiversity, and create habitat features that might be lacking in the landscape. These products may include furniture quality hardwoods, softwoods for log

cabins, fiber for paper making, firewood, animal bedding, wood pellets, biofuel, and chips for electricity production.

There is a strong market for most of the wood products which are found on Winona State Forest. Over the past two decades, the demand for hardwood sawtimber, red pine logs and utility poles, and spruce saw logs has increased. There is also a biomass market present to utilize low grade material. In the period between 1995 and 2009 there have been over 105 forest product sales on over 2200 acres resulting in revenue of over $895,000. This revenue is deposited in a Special Revenue account to fund the costs of managing state lands.

Green Certification of State Forests

In 2008, the DEC Bureau of State Land Management received Forest Stewardship Council (FSC) and Sustainable Forestry Initiative ® (SFI) certification under an independent audit conducted by the National Wildlife Federation – SmartWood Program. Forest products now derived from wood harvested off State Forests from this point forward can be labeled as "green certified" through chain-of-custody certificates. Green Certified labeling on wood products may assure consumers that the raw material was harvested from well-managed forests. During timber harvesting operations a number of different policies, procedures, and Best Management Practices are followed to insure that the environment is protected. The Division of Lands and Forests is audited every year to see if we are fulfilling the requirements of both certifications.

2. Recreational Resources

State Forests are open for the use of the public with no entry fees and few restrictions. As subdivision, development and posting of surrounding private land continues, the recreational value of State Forests increases. Recreational demands on the Winona unit that have been identified and include: hiking, orienteering, snowmobiling, dog sledding, cross-country skiing, horseback riding, mountain biking, nature observation, hunting, fishing, and trapping. The NYSDEC will continue to work with The Winona Forest Recreation Association (WFRA) to provide several of these recreational opportunities. A DEC web site has been used for about 10 years to provide updated information and maps to the general public and will be continually updated as changes occur. Snowmobiling, skiing and sled dog uses tend to compete for the same resources and need to be monitored to prevent conflicts. Geocache is a new activity with relatively low impact on the forest.

Below is a record of visitor use based on people that signed the three registers located in Winona. It should be remembered that many people don't sign the register books so usage is undoubtedly higher. For example, those that attend the winter events rarely sign in, and that would add several hundred or more users to the CCC Camp location. Snowmobilers do not regularly sign in and neither do hunters.

Register	**Boylston Center Parking**		**CCC Camp**		**Boylston Parking Lot**	
Year	**# Visitors**	**Visitor Days**	**# Visitors**	**Visitor Days**	**# Visitors**	**Visitor Days**
1990	141	141	221	221	225	225
1991	94	134	no data	no data	408	408

1992	24	24	no data	no data	695	695
1993	49	49	49	49	1206	1212
1994	199	199	198	198	1181	1181
1995	393	393	no data	no data	504	508
1996	178	178	no data	no data	843	843
1997	252	292	28	28	1002	1002
1998	129	129	90	130	650	650
1999	196	210	10	10	594	594
2000	175	175	100	108	608	608
2001	93	93	385	385	1081	1081
2002	14	14	no data	no data	1166	1182
2003	no data	no data	no data	no data	56	56
2004	25	25	76	165	348	349
2005	72	72	119	129	442	442
2006	no data	no data	118	118	270	270
2007	39	39	120	120	404	416
2008	131	131	65	65	524	524
2009	90	90	83	83	445	470
2010	699	699	109	119	131	131
2011	371	371	166	169	61	61
2012	180	180	75	75	55	55

With adjustments made for missing registration sheets, the average annual registered users was just over 1,100 for the period 1990 thru 1999, and just over 950 for 2000 and 2009.

3. Wildlife Resources

The value of maintaining healthy populations of both plants and animals is generally well accepted. The State has a mandate to protect and manage species that are endangered, threatened or of special concern. Hunting pressure is one of the major factors considered in wildlife management on this forest.

II. Summary of Eco-Region Assessments

A. Eco-Region Summary

To practice ecosystem management, foresters, must assess the natural landscape in and around the management unit. State Forest managers utilized The Nature Conservancy Eco-Region Assessments to evaluate the landscape in and around this management unit. The Winona State Forest falls within the Northern Appalachian/Acadian Eco-Region, though it is also right on the edge of the Great Lakes Eco-Region.

Northern Appalachian – Acadian Ecoregion

The Northern Appalachian – Acadian (NAP) Ecoregion extends over large ecological gradients from the boreal forest to the north and deciduous forest to the

south (The Nature Conservancy n.d.). The Gaspé Peninsula and higher elevations support taiga elements. At lower elevations and latitudes, there is a gradual shift toward higher proportions of northern hardwood mixed-wood species which marks the transition into the Acadian forest. It also supports local endemic species, as well as rare, disjunct, and peripheral populations of arctic, alpine, Alleghenian and coastal plain species that are more common elsewhere. In New York, the primary portion of the NAP Ecoregion consists of the Adirondack Forest Preserve and Tug Hill Plateau.

The forest is a heterogeneous landscape containing varying proportions of upland hardwood and spruce-fir types. It is characterized by long-lived, shade-tolerant conifer and deciduous species, such as red spruce, balsam fir, yellow birch, sugar maple, red oak, red maple, and American beech, while red and eastern white pine and eastern hemlock occur to a lesser but significant degree.

There has been a historical shift away from the uneven-aged and multi-generational "old growth" forest toward even-aged and early successional forest types due to human activities. This mirrors the historical trends toward mechanization and industrialization within the forest resource sector over the past century and the shift from harvesting large dimension lumber to smaller dimension pulpwood.

For vertebrate diversity, the NAP ecoregion is among the 20 richest ecoregions in the continental United States and Canada, and is the second-richest ecoregion within the temperate broadleaf and mixed forest types. The forests also contain 14 species of conifers, more than any other ecoregion within this major habitat type, with the exception of the Southern Appalachian-Blue Ridge Forests and the Southeastern Mixed Forest.

Characteristic mammals include moose, black bear, red fox, snowshoe hare, porcupine, fisher, beaver, bobcat, lynx, marten, muskrat, and raccoon, although some of these species are less common in the southern parts of the ecoregion. White-tailed deer have expanded northward in the ecoregion, displacing (or replacing) the woodland caribou from the northern realms where the latter were extirpated in the late 1800s by hunting. Coyotes have recently replaced wolves, which were eradicated, along with the eastern cougar, from this ecoregion in historical times.

A diversity of aquatic, wetland, riparian, and coastal ecosystems are interspersed between forest and woodland habitats, including floodplains, marshes, estuaries, bogs, fens and peatlands. The ecoregion has many fast-flowing, cold water rocky rivers with highly fluctuating water levels that support rare species and assemblages.

B. Eco-Region Assessment[6]

[6] http://www.dec.ny.gov/lands/64567.html

Table II.A. Land Use and Land Cover for the N. Appalachian/Acadian Eco-Region in NY			
Land Use and Land Cover	**Approximate Acreage**	**Percent of Landscape**	**% of Landscape Winona**
Deciduous Forest	3,218,690	48.1	**24**
Mixed Forest	613,926	9.2	**18**
Evergreen Forest	1,309,952	19.6	**49**
Shrub/Scrub	160,737	2.4	**<1**
Forested Wetlands	762,347	11.4	**0**
Emergent Herbaceous Wetlands	41,917	0.6	**9**
Grassland/Herbaceous	36,468	0.5	**0**
Open Water	293,962	4.4	**0**
Pasture/Hay	95,350	1.4	**0**
Cultivated Crops	44,230	0.7	**0**
Developed, Open Space	85,505	1.3	<1
Developed, Low Intensity	13,051	0.2	0
Developed, Medium Intensity	2,552	0.0	0
Developed, High Intensity	516	0.0	0
Barren Land	5,623	0.1	0
Total	**6,684,826**	**100**	**100**

C. Local Landscape Conditions

The Winona State Forest is atypical of the North Appalachian/Acadian Eco Region(NAA). Much of its origin was former farm fields converted to plantations or naturally reforested. Winona sits in between the more heavily forested Tug Hill area and the more agricultural Ontario Lake plain. The most significant difference between Winona and the NAA is the higher percentage of conifer cover on Winona relative to the average over the entire NAA, while the most significant difference with the Lake Plain is the higher percentage of forest cover. Retaining a higher proportion of the forest in conifer cover relative to either local lands outside the forest or than the average for the NAA, could provide some additional biodiversity. A significant portion of the existing conifer stands are on sites that are better suited for hardwoods, so some portion of the existing 49% conifer cover will inevitably be converted to deciduous stands. Preferably, more than half of the existing conifer stands should remain in conifer cover.

III. Management Issues, Needs and Desires

Several issues were of concern to the Department and the public in the development of this plan. Information and feedback on issues was obtained from the public by way of an Open House held on September 19, 2005 at Mannsville Manor Elementary School, by mail and e-mail.

The following list of major issues, needs and desires was developed from public and DEC staff input. The issues identified by the public for this unit were expressed in general terms, for the unit as a whole, rather than a specific use at a specific location. Section IV will address specific proposed management actions, some of which are in response to input received through the participation of groups and individuals.

A. Access for ATVs

Use of ATVs on State Land was the most common issue raised by the public.

- There was a strong desire expressed to provide new routes to connect routes that are currently posted open to ATVs, provide access to additional areas of state land, and provide connections to trail networks off of state land.
- There was concern, from both public users and DEC staff, about the impacts of legal and illegal ATV (and other four-wheel drive vehicles) use on all roads and trails in Winona.

B. User Groups

There is a diverse user group on Winona from turkey hunters to horseback riders, all who have an interest in continuing or expanding their activities. Issues and ideas identified were:

- Continue to improve and integrate the recreational trail system on the forest, including connections with trails on adjacent lands.
- Provide additional trail options to reduce conflicts between users, e.g., once tracks are laid down skiers don't want them messed up by dogsleds and snowmobilers, and dog sledders sometimes have trouble with skiers with unleashed dogs. Skiers like looped trails which come back to parking areas while snowmobilers like long trails connecting to the regional trail network.

- Many feel trail maintenance should be shared by all groups.
- Current signage needs to be better organized to prevent confusion on trails.
- There is a need to better facilitate the volunteer work on the trails.

C. Flora and Fauna

The primary concerns dealt with the removal of downed trees, leaving some stands uncut, control of the coyote population, providing grouse habitat, and monitoring and reintroduction of wildlife species.

D. Facility Improvements

The CCC Camp is the center of many activities on Winona which can lead to problems parking along the road and at the CCC Camp during large events. Some of the other needs and desires include accessible toilet facilities, additional universally accessible recreation opportunities, use of generators and heaters in buildings and increased horse trail facilities. Additionally, the cemeteries along with CCC constructed fire ponds are in dire need of restoration.

Restoring the CCC camp to near its original condition while maintaining its functional uses(maintenance equipment storage, headquarters for sporting events such as cross country skiing, sled dogging and snowshoe races) would be a very desirable enhancement to the existing facility. As one of the best surviving examples of the CCC Camp, it could be a real attraction if the existing buildings were restored to near their original condition and enhanced with historical kiosks highlighting the history and features of the site.

E. Forest Composition

Conifer stands on Winona, most planted in the 1930's by CCC crews, are beginning to reach maturity, at which time decisions must be made with regards to whether they will be replaced with more conifers(either thru replanting or natural regeneration) or allowed/encouraged to convert to hardwoods. Conifer stands represent a significant component of the Winona Forest; 49% of the forest is conifers, and 18% mixed hardwood and conifer. This differs significantly from the surrounding landscape, which is approximately 20% conifer. Pure stands of conifers provide a different kind of forest, both visually, environmentally, and with regards to the forest products they produce. For example, goshawks prefer to nest in conifer stands, and most identified nests in the Tug Hill region are in state forest plantations. Conifer stands are appealing to recreationists for the visual difference from hardwoods stands, particularly in the winter. There is also a significant local market for pines, both for local sawmills and for utility poles.

Maintaining a significant component of conifer stands would complement the much lower concentration of conifer stands in the surrounding region, and provide some definite biodiversity and other local benefits. The main challenge in doing so is getting the regeneration needed to perpetuate a stand. Some sites, due to soils and moisture, are prone to naturally regenerate to hardwoods. Some sites could be suitable for encouraging natural regeneration, while others could require replanting, which can be expensive unless linked to the final timber sale. The best approach would be to expect that the percentage of conifer cover would have to decline, but target maintaining it at some percentage higher than the surrounding landscape.

Something on the order of 30% would be desirable, though without a detailed assessment of the potential of the existing sites to remain in conifers that can be only a rough target.

IV. Winona Forest Objectives and Actions

The objectives of this plan provide a bridge between the overall State Forest Management goals (identified in the Preface and also listed below above each set of objectives) and the specific stand-by-stand or location specific management actions. Well-stated objectives are the heart and soul of the unit management plan. Objectives are developed by staff in reaction to state requirements (laws, regulations, policies, and guidance), staff input, and public/user input.

The Winona Forest is unique from most other state forests in the region by the fact that there are many more user groups using a relatively concentrated resource, the trails. In the winter there are events scheduled for almost every weekend or at least vying for the best weekends. There are snowmobilers, dogsledders, skiers and snowshoers all using shared resources. In the summer use is less intense, but there are still likely to be horses, mountain bikers and hikers using the trails.

The management actions recommended in the plan are consistent with the 1992 Sessions Law, Chapter 486, an act in relation to the creation of a Tug Hill reserve, to provide for the protection and beneficial use of productive forest, farm and recreation lands as working lands. The plan is in line with Section 5 of the act, and all proposed actions are consistent with maintaining the rural character of Tug Hill. The Unit, along with other state lands on the Tug Hill, is seen as an integral part of the Tug Hill working lands landscape and an important part of the local forestry and recreational industry.

Goal 1 – Provide Healthy and Biologically Diverse Ecosystems

Objectives:

1. Sustainably manage the forest.

Conduct even-aged management on 4567 acres.

- Most of the conifer stands on the unit were planted, so are composed of trees about the same age, and therefore are and will be managed as even-aged stands.
- Much of the hardwood stands are also even-aged due to past harvesting and/or have returned to forest naturally following farm abandonment, and will continue to be managed as even-aged stands.
- Early successional and late successional (young and old stands) are lacking in this unit (see Table IV.A. below) so even-aged management in particular can provide the early successional component following final harvest/regeneration of a mature stand. However, there are no stands currently slated for overstory removal, therefore no new early successional habitat is planned to be created in the next 10 years.

Table IV.A Vegetative Types by Acreage and DBH

Vegetative Type	*Acres*	*0-5" DBH**	*6-11" DBH**	*12"+ DBH**	*% of SF*
Natural Hardwoods	*2219*	*159*	*1623*	*437*	*24*
Conifer/Hardwoods	*1681*	*0*	*1206*	*475*	*18*
Conifer Plantations	*4493*	*102*	*2072*	*2319*	*49*
Total	*8393*	*261*	*4901*	*3231*	*100*
		3%	*59%*	*38%*	*100*

Conduct Uneven-aged management on 3792 acres.

- Uneven-aged silviculture is a system for maintaining and regenerating forest stands with at least three distinct age classes. This system favors shade tolerant species such as sugar maple, eastern hemlock and American beech. This system also creates a stratified stand structure with trees of different heights represented in all levels of the forest canopy. Regeneration and control of uneven-age stand structure will be accomplished using individual tree and/or group selection harvests using a 20-30 year cutting interval. Many stands on the unit are currently even-aged making conversion to uneven-aged condition a long term commitment to regenerating the multiple age classes. Uneven-aged management is suitable for the management of certain species as well as when maintaining a continuum of trees size classes is desired. The latter may be the case surrounding recreational trails. Harvesting will be conducted at a rate which does not exceed net annual growth rates
- Harvesting will occur per the schedule below, though the exact timing may vary due to market conditions, weather, natural events (storms, insect impacts,, etc.).

Table IV.B. Harvest Schedule by Compartment for Winona SF

Compartment	1 to 5 years	6 to 10 years	11 to 15 years	16 to 20 years	21 + years	Total Acres
A	71	77	70	60	58	336
B	242	227	191	217	64	941
C	174	165	155	130	32	656
D	119	103	100	144	183	649
E	186	152	79	36	23	476
F	116	111	119	87	125	558
G	58	42	33	150	143	426
H	127	148	101	145	279	800
I	55	52	45	0	30	182
TOTAL						

*See Appendix F for a detailed list of all stands and schedule of harvesting activities.

- Most harvests will consist of improvement cuts, or thinnings, over the life of this plan.
- Manage 112 acres as protection forests. Timber harvesting will be precluded from these stands. These stands were identified as protection forests based on unique values including steep slopes, scenic resources, significant cultural resources, or where stands are inaccessible.

- Aim to maintain over the long term approximately 30% of Winona in conifer stands, a reduction from current levels but significantly higher than in the surrounding landscape.

2. Apply sound, current silvicultural practices for all timber management activities.

Public Lands staff will be guided by the following policies and procedures to assure sound silviculture is practiced on every forest product sale:

- "Plantation Management on State Forests", policy ONR-DLF-1,[G] . It generally encourages moving away from planted forest stands to naturally regenerated ones;
- "Retention on State Forests", policy ONR-DLF-2[H],. It promotes the variable retention harvest system, which is defined as "an approach to harvesting based on the retention of structural elements or biological legacies (live and dead trees, snags, downed logs, etc) to benefit the long term ecological health of the forest";
- "Clearcutting on State Forests", policy ONR-DLF-3,.[I] This ensures all even-age regeneration methods on State Forests, including clearcutting, are undertaken in a sustainable and ecologically responsible manner with appropriate levels of agency oversight and public notice and in accordance with the Standards and Procedures of this policy.
- Sugar maple stands suitable for the extraction of sap will be identified.
    - 22 stands with the potential for sap production have been found. These stands will be examined further for access and production feasibility
- Harvesting plans will be used to enhance diversity of species, conserve and enhance habitats and guide the structure of the subject forest
    - A pre-harvest timber inventory will be performed;
    - A pre-sale search using GIS data will be done to locate streamside Special Management Zones, rare, threatened or endangered plants and animals and uncommon habitats;
    - A conceptual approval will be prepared and approved before marking begins;
    - A post harvest inventory and report will be prepared after harvest to document the results.

3. Prevent erosion, compaction and nutrient depletion.

The two primary approaches to preventing and minimizing soil erosion, compaction and nutrient depletion are keeping soils from being disturbed or following management practices that minimize soil disturbance as well as impacts on water quality.

There are some areas of the unit that have been identified for protection, meaning they will typically not be harvested except possibly in circumstances related to habitat protection or enhancement. Basically, disturbance of these stands will be kept to a minimum.

- There are 78 stands in the "Wildlife" category (770 ac.), many of them wetlands and stands with a high water table, so minimal activities will be scheduled for these areas;

[G] http://www.dec.ny.gov/docs/lands_forests_pdf/policysfplantation.pdf
[H] http://www.dec.ny.gov/docs/lands_forests_pdf/policysfrention.pdf
[I] http://www.dec.ny.gov/docs/lands_forests_pdf/policysfclearcutting.pdf

- There are five stands that were placed in the "Protection" category(48 ac.) primarily due to steep slopes, which will remain undisturbed.

Management practices will be implemented on all sales to minimize impacts on soils and water quality:

- Best Management Practices [J](BMPs) are outlined in the New York State Forestry BMP Field Guide printed in January of 2000 and revised in 2010;
- "Rutting Guidelines For Timber Harvesting and TRPs on State Forest" [K] will be followed;
- Harvesting during "mud season" will be allowed but actively monitored; sales will be shut down when operating threatens soils and water quality;

4. Protect surface water resources

Surface waters will be protected by guidelines the Department has developed specifically for state forest lands. "DEC Division of Lands & Forests Management Rules for Establishment of Special Management Zones on State Forest"[L] .

5. Protect at-risk species and natural communities.

DEC does not have the resources to pursue a full inventory of all state forest lands for at-risk species and natural communities. However, with funding from the Div. of Lands & Forests, the Natural Heritage program conducted a natural heritage inventory of state forests (and other state lands) which identified some locations of at-risk species and natural communities[M]. That information will be incorporated into state forest management plans. Natural Heritage has also developed a process that Public Lands staff can use for identifying additional locations of at-risk species and natural communities;

- Use the "Predicted Richness Overlays"(PROs) to identify locations on this state forest that have a higher likelihood of harboring at-risk species and natural communities, to date, no at-risk species or natural communities have been found on this unit, but if any are discovered at some future date, they will be protected appropriately.
- The landscape scale management of the Unit will be guided through ecosystem management. The landscape is a mosaic of habitat patches across which organisms move, feed, reproduce, die and eventually return to the soil. Ecosystem management is identifying the pattern these patches create and then managing them in a way that enhances the diversity and connectivity of this patchwork. Ecosystem management considers three main components of the landscape: the matrix, patches and corridors.[N] Although no major matrix forest blocks are identified on the unit, smaller scale blocks are present. Future management will take these smaller blocks into consideration when prescribing management actions.

[J] http://www.dec.ny.gov/docs/lands_forests_pdf/dlfbmpguide.pdf
[K] http://www.dec.ny.gov/docs/lands_forests_pdf/ruttingguidelines.pdf
[L] http://www.dec.ny.gov/docs/lands_forests_pdf/sfsmzbuffers.pdf
[M] "State Lands Assessment Project: Biodiversity Inventory of Regions 5&6 State Forest and Forest Preserve" New York Natural Heritage Program, 2008.
[N] *Thomas G. Barnes, Extension Wildlife Specialist, FOR-76, Landscape Ecology and Ecosystem Management.*

6. Protect and enhance fish and wildlife resources.

Fish and wildlife considerations are integrated into every management activity conducted on the unit. Where wildlife can benefit from direct stand management, such as apple tree releases, aspen clear cuts, or mowing to maintain a brush cover type, those actions will be taken. Some of the actions that will be implemented with respect to fish and wildlife resources include:

- Fish and wildlife species needs will be considered in timber management decisions and, where appropriate, management actions will be taken to enhance their populations by employing specific habitat management techniques.
- The master habitat database will be consulted for potential species habitat and presence before activities are implemented, and the PROs process will be applied/or results considered;
- 843 acres will be managed with the main objective being to benefit wildlife.
- Important wildlife habitats, including those used by songbirds, reptiles, and amphibians, will be monitored, maintained and enhanced as the opportunity arises;
- Den trees will be identified and protected during harvest operations;
- Any population(s) of Rare, Threatened, and Endangered species and Species of Special Concern identified will be protected and potentially enhanced through a combination of habitat protection and management techniques.

7. Address visual resources and aesthetics.

The visual and aesthetic appeal of state forests is part of what makes them appealing places for the public to recreate. This appeal can be as simple as a native wildflower in deep woods, or a spectacular waterfall. Winona is short on the latter, but long on deep forest scenes, with natural brooks and streams, wetlands and maturing second growth softwood and hardwood forests. Consideration of visual impacts of management activities and structures on public users should be part of any planning and implementation process:

- Natural materials, such as wood and stone, should be used where feasible for most structures on the unit, particularly in areas that experience greater amounts of recreational use.
- In the case of new construction, roads and trails will be laid out to highlight unique natural features of the land and provide opportunities, where available, to access scenic vistas;
- Kiosks will be developed to provide information and education material in an attractive setting and to concentrate signage to reduce sign pollution;
- Visual buffers between main roads and landings and skid trails will be used where feasible;
- Where possible, clear cutting over and across recreational trails will be avoided.

8. Use timber sales to improve forest health and the diversity of species.

As stands mature and begin to show symptoms of stress and decline, or forest pests and pathology issues reduce the vigor and health of stands, timber sales can be used to enhance forest health, as well as salvage dying trees.

- Visual surveys by forestry staff to monitor impacts of various insects should be conducted on a regular basis;

    - Forest Tent and Eastern Tent Caterpillars have been the major insects defoliating the trees in this unit. Varying in intensity from year to year, a significant amount of mortality has been attributed to these insects during outbreaks.
    - Other insects affecting this forest to a lesser degree are Fall Webworm and Gypsy Moth. The Fall Webworm attacks the trees so late in the growing season that little damage to the tree is realized. Gypsy Moths have been seen on the unit in low numbers and have not caused significant damage.
    - White Pine Blister Rust and basal canker exists throughout the unit. It continues to cause degrade in the quality of white pine timber.
- When marking sales, favor will be shown toward leaving a diversity of species, so that the future impact of a species specific pest is likely to have less impact on the overall stand.
- Removal of damaged, diseased and high risk trees by means of thinning is a continuing process to control these diseases.

Invasive plants such as Japanese Knotweed and Glossy Buckthorn have been identified on the unit. Efforts will be made to reduce occurrences of these species, as resources become available.

- A GIS layer will be used to document the location of known invasive species.
- St. Lawrence Eastern Lake Ontario PRISM can help address invasive species.
- Educational brochures and web pages on invasive species will be made available.
- Invasive Plant control methods[O] will be used to control and eliminate invasives.

9. Manage to reduce deer impacts.

Deer can have a significant impact on the character and health of a forest, on both the trees and understory plants, which can affect biodiversity and the sustainability of a forest management program.

- The inventory process has a mechanism to record deer browsing levels on forest regeneration. When deer density becomes excessive Division of Fish, Wildlife and Marine Resources biologists will be contacted to identify active deer population control measures, such as Deer Management Assistance Program deer take permit issuance.
- Other measures that may be used to reduce deer browsing impact include improving hunter access and thus success rates by;
    - Providing web-based information and maps;
    - Maintaining public forest access roads in good condition.

10. Conduct active fire management

Fire is both a threat to forest health and a tool to promote it. Active fire management can bring the most benefits from dealing with fire.

- When significant mortality from blowdown, disease or insect infestation creates high fuel loading, salvage harvests should be conducted to mitigate the risk.
- Consult and work with Forest Rangers in controlling the ignition and spread of wildfires.

[O] http://www.dec.ny.gov/docs/lands_forests_pdf/sfinvasivecontrol.pdf

- Consult and work with Forest Rangers to conduct prescribed burns where suited to the forest management needs of a site or sites.

11. Enhance carbon sequestration.

Carbon sequestration is one tool to reducing our carbon footprint that could help reduce global warming. There are a number of actions that can be implemented when managing forests that will increase the rate of carbon sequestration.

- Lengthen rotation or harvest intervals in some stands;
- Focus timber growth on high value timber species which are more likely to be used in long lasting durable goods, which thus enhances carbon sequestration
- Manage timber harvests to protect forest soils and to reduce soil organic carbon (SOC) loss.
- Conduct thinning operations on young forests, to concentrate and enhance growth on crop trees; this action mimics natural events with enhanced results.
- Stem the spread of invasive insects and diseases which can cause widespread mortality in a forest, resulting in large carbon emissions when those trees die and decay
- Conduct timber sales from State Forest lands on a sustainable basis, following sound silvicultural systems described within this plan.[P]

12. Maintain up to date forest inventory

Maintenance of updated inventory information on the unit provides the data needed to manage the forests effectively and professionally.

- Inventory will be maintained and updated at 10 year intervals in the State Forest Inventory Database (SFID).
    - Data collection for future management needs includes desirable regeneration, undesirable regeneration, forest health, exotics, infestations, and recommended management treatment, as well as the basal area and individual tree data.
- Following inventory data entry;
    - The stand versioning GIS layer will be edited and updated to show corrected stand lines.
    - New mosaic maps will be made from updated data.
    - The inventory system will be used pre-harvest to generate a stand analysis and prescription, and post-harvest to analyze residual results relative to targets.

Goal 2 – Maintain Man-made State Forest Assets

Objectives:

1. Historic and cultural resources will be preserved and protected.

- The GIS Layer "Archeological Sites" will be use to identify historic sites.

[P] http://www.dec.ny.gov/docs/lands_forests_pdf/ccspamphlet.pdf

- An application for a National Register of Historical Places listing has been made to protect the historic Civilian Conservation Corp (CCC) buildings and will continue to be pursued.
- Restore the CCC camp buildings to near their original condition and enhance the site further with kiosks/displays highlighting the history and features of the site while maintaining its functional uses (maintenance equipment storage, headquarters for sporting events such as cross country skiing, sled dogging and snowshoe races, etc.)
- Disturbances to cemeteries will not be allowed except when necessary to maintain the integrity of the site (eg. cutting and removing trees).
- CCC era fire reservoirs will be protected, and reconstruction to their original condition encouraged.
- Historic and cultural resources on State Forests that are identified will be added to the GIS layer for state forest assets and maintained for future reference/identification of cultural resources.
- The archaeological sites located within this unit as well as additional unrecorded sites that may exist are protected by the provisions of the New York State Historic Preservation Act (SHPA - Article 14 PRHPL), Article 9 of Environmental Conservation Law and Section 233 of Education Law. No actions that would impact these resources are proposed in this Unit Management Plan. Should any such actions be proposed in the future they will be reviewed in accordance with SHPA. Unauthorized excavation and removal of materials from any of these sites is prohibited by Article 9 of Environmental Conservation Law and Section 233 of Education Law.
- The archaeological sites located on this unit as well as additional unrecorded sites that may exist will be made available for appropriate research. All future archaeological research to be conducted on the property will be accomplished under the auspices of all appropriate permits. Research permits will be issued only after consultation with the New York State Museum and the Office of Parks, Recreation and Historic Preservation. Extensive excavations are not contemplated as part of any research program in order to assure that the sites are available to future researchers who are likely to have more advanced, less intrusive tools and techniques as well as different research questions.

2. Boundary lines and corners will be maintained.

The Brownville Operations crew is responsible for boundary line maintenance and has repainted and posted boundary lines on a seven year cycle. Interior roads are posted while exterior boundaries are painted yellow and posted.
Below is a chart of the maintenance schedule of the 62 miles of boundary line. It does not include posting of interior roads mileage.

- Maintain boundary lines on approximately a 7 year cycle: see table below.

Table IV.C. Boundary Line Maintenance Schedule

Map #	Compartment	Last Paint and Post	Next Paint and Post	Miles
1	A & B	2011	2018	19
2	C, D & F	2010	2017	16

3	E & G	2010	2017	10
4	H & I	2011	2018	17

- Operations crews will report incidents of boundary line deficiencies, trespass and encroachments while performing boundary line maintenance.
- L&F staff and Forest Rangers will observe boundary lines over the course of their performing other job duties and report incidents of boundary line deficiencies, trespass and encroachments.

3. Trails will be maintained to standards appropriate to their use and protected from damage from other activities.

Trails on the unit are fairly well used, particularly during the winter. Regular maintenance is needed to keep them useable for the activity they are designed for.

- Existing trails will be cleared and brushed annually and as needed per adopted trail standards; there are 33.6 miles of trails that need regular mowing and brushing.
- Signs will be replaced when no longer readable.
- Clearcutting over and across any recreational trail will usually not be allowed.
- Whenever harvesting close to a recreational trail;
    - Contact will be made with representatives of the known trail adopter or trail user groups to make them aware of the activity.
    - Educational or interpretive signs explaining the rationale for the harvest may be installed on site.
    - Tops & slash must be kept at least 25' back from the edge of trails. Generally there will be a less heavily cut buffer of trees on either side of the trail.
    - Winter logging will only be allowed if compatible with safety considerations for winter recreation.

4. Maintain public forest access roads (PFAR) for public access and timber harvesting activities while minimizing environmental impacts.

- Conduct regular road assessments to document and then schedule maintenance needs.
- Conduct yearly maintenance of PFARs(total of 9.9 miles) including brushing, hazard tree removal, ditch and culvert cleaning, culvert head wall reconstruction, grading and raking the road bed, and mowing the shoulders of the road, as needed.
- Work toward eliminating perched culverts by following current guidelines to bury approximately 20% of the area of the opening in the stream bed, which will facilitate the movement of fish and other aquatic organisms through the culverts.
- Update the State Forest Transportation GIS layer to show the legal jurisdictional status of all access roads.
- Upgrade, replace or relocate infra-structure out of riparian areas, where feasible.
- Road construction within 250' of wetlands will be avoided whenever possible.
- BMP Field Guide recommendations will be followed during any road construction activities.

5. Maintain parking lots, kiosks, and area ID signs to provide information and access to users.

- Continue to maintain the three parking lots annually, including mowing and grading.
- Continue to plow the three parking lots to provide for parking for winter recreationists; this will continue to be done cooperatively by the Town of Boylston on the two southern parking lots, and the Town of Lorraine and DEC at the CCC parking lot.
- The kiosks at each parking lot, at Bargy Road and at the CCC camp will be checked yearly for condition and the information provided kept up to date.
- The five area ID signs will be maintained annually.

6. Establish land acquisition needs in accordance with Department policy and the current version of the NYS Open Space Conservation Plan.

At the present time there is limited opportunity for new state land acquisitions due to limited acquisition funds and a back log of large acquisitions. However, when the opportunity arises;

- NYSDEC will consider the purchase of selected parcels from willing sellers when funding becomes available, particularly in-holdings that will consolidate holdings, reduce impacts of development immediately adjacent to the state forest, reduce boundary line maintenance, and reduce the likelihood of encroachments.
- Acquisition considerations will also include the benefits of an acquisition to the adjacent Little John Wildlife Management Area east of Winona.

7. Update surveys of the property where needed.

Many of the existing boundary surveys for Winona State Forest were done in the 30's, 40's and 50's, as the land was acquired. Boundaries need to be maintained to assure lines are clearly marked and survey markers, such as corner posts, remain identifiable. Where they are not, problems with encroachment can begin to occur. As development of adjacent private lands increases, encroachment issues are expected to also increase.

There have been many requests for surveys to clearly establish sections of the state boundary lines in the Winona Forest and surrounding areas. Unfortunately, because of low levels of survey staff and funding and the need to give attention to areas where current problems exist, there is no guarantee that these lands will be surveyed in the near future. A dedicated fund for boundary surveys and mapping would allow a portion of the necessary survey work to be completed each year until all the needs are completed.

- Prioritize boundary line survey needs; see list below.

Table IV.C. List of Survey Needs by Priority

Req. Yr	Comp.	Proposal	Comment
1978	A	CCCC	Map1 corners/line 29,30
1979	G	PPPP	Map 3 Corner 27 run over

1979	H		corners 25, 31, 36C, 39A, 42, 32, 44, 47, 58, 63 missing
1979	I		corners 16,21,35 missing line 33-34 missing
1979	H	M, N, QQQ, EEE ,SSS	line 102-106, 29-33, 35-37, 61-64 missing
1981	D	KK	Map 2 corners 78-82 missing
1982	E	VV	Map 3 corner #3
1982	G	PPPP	Map 3 line 25-26 missing
1991	G	EEE	Map 2, 72-74
1991	H	HHHH	Map 4, 55-56

- Set aside a percentage of each year's stewardship funds for survey work.

Goal 3- Provide Recreational Opportunities for People of all Ages and Abilities

Objectives:

1. Provide public access to state forest

Public use and recreation is one of the obvious benefits that these lands provide to the public. There has been a long history of cooperation with local interests on this forest. The first trails were developed in the early 1980s with a group of dedicated cross country skiers, sled dog racers and snowmobilers. All now work together as part of the Winona Forest Recreation Association, which has an AANR with DEC.

- The existing motor vehicle access to the unit is adequate in most cases. Public forest access roads will be maintained to Class A standards on a routine basis.
- The three main parking lots will continue to be made available year round, with winter plowing being done by DEC or the Towns of Boylston and Lorraine. Additional parking is available at the many log landings which provide adequate seasonal off road parking.
- Due to the well established existing network of trails and facilities, few new facilities are proposed; maintenance and improvement of existing facilities will be the main goal of this plan.
- Efforts will continue to be made to route skiers, dog sleds and snowmobiles off plowed town roads. Conflicting uses, such as skiing and snowmobiling, will be separated wherever possible.
- Provisions will be made to limit use where degradation of the Unit's resources is occurring.

- In order to make the public aware of recreational opportunities on Winona, the web page for the State Forest will be updated regularly, and linked to other websites, such as that maintained by Winona Forest Recreation Association, that provides additional detail on recreation opportunities and conditions. The site will include a printable flyer/map showing the location of recreational amenities and related info on Winona, including contact information. http://www.dec.ny.gov/lands/8072.html
- Forest Rangers and other DEC staff will continue to work on controlling vandalism, dumping, and other illegal activities, which tends to occur more frequently when a state forest has good access, by regular patrols of the area.

2. Recreational Opportunities for Persons with Disabilities

Application of the Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA), along with the Architectural Barriers Act of 1968 (ABA) and the Rehabilitation Act of 1973; Title V, Section 504, have had a profound effect on the manner by which people with disabilities are afforded equality in their recreational pursuits. The ADA is a comprehensive law prohibiting discrimination against people with disabilities in employment practices, use of public transportation, use of telecommunication facilities and use of public accommodations. Title II of the ADA requires, in part, that reasonable modifications must be made to the services and programs of public entities, so that when those services and programs are viewed in their entirety, they are readily accessible to and usable by people with disabilities. This must be done unless such modification would result in a fundamental alteration in the nature of the service, program or activity or an undue financial or administrative burden on the department.

Consistent with ADA requirements, the Department incorporates accessibility for people with disabilities into the planning, construction and alteration of recreational facilities and assets supporting them. This UMP incorporates an inventory of all the recreational facilities or assets supporting the programs and services available on the unit, and an assessment of the programs, services and facilities on the unit to determine the level of accessibility provided. In conducting this assessment, DEC employs guidelines which ensure that programs are accessible, including buildings, facilities, and vehicles, in terms of architecture and design, transportation and communication to individuals with disabilities. A federal agency known as the Access Board has issued the ADA Accessibility Guidelines (ADAAG) for this purpose.

An assessment was conducted, in the development of this UMP, to determine appropriate accessibility enhancements which may include developing new or upgrading of existing facilities or assets. The Department is not required to make each of its existing facilities and assets accessible so long as the Department's programs, taken as a whole, are accessible. Any new facilities, assets and accessibility improvements to existing facilities or assets proposed in this UMP are identified in the section containing proposed management actions.

For copies of any of the above mentioned laws or guidelines relating to accessibility, contact the DEC Universal Access Program Coordinator at 518-402-9428 or UniversalAccessProgram@gw.dec.state.ny.us

3. Collaborate with local organizations and governments to provide public recreation opportunities.

- Continue to use Volunteer Stewardship Agreements as the main device to facilitate cooperation with private organizations to provide and enhance public recreation opportunities
    - In particular, continue to work closely with the Winona Forest Recreation Association and its associated member organizations to provide the integrated trails network for snowmobiling, dog sledding, cross country skiing, mountain biking, horseback riding, orienteering and other uses of the trail network.
- Use Temporary Revocable Permits (TRPs) with local governments to enhance facilities and recreational opportunities on Winona.

4. Recreation facilities and opportunities.

Winona has fairly well developed recreational opportunities compared to most other state forests, relying not on dramatic scenic vistas or challenging mountain hikes, but on a well managed scenic forest of hardwoods and softwoods, running streams and small wetlands, and **lots of snow**. It is also quite accessible, being just a few miles off US Route 81, and about an hour north of the metropolitan area of Syracuse. This combination of resources, plus some local citizens with a vision particularly of winter opportunities that could enhance local lifestyles and the economy has resulted in the mix of recreation trails on Winona. More recent diverse interests have added opportunities in the rest of the year

a. Ski trails

There are about 20 miles of trails suitable for cross country skiing and not open to motorized vehicles.

- Ski trails will be posted at each end of the trail with a sign stating “Ski and Snowshoe Only”.
- A classification system for ski trails will be developed and trails signed accordingly based on their difficulty and skill level needed. Secondary ski trails will have a lower level of improvement than primary trails in order to maintain a more primitive experience.
- The trail formerly called Sally’s Ride will be changed to Winona Way and the section of Winona Way from the southern end of Sally’s Ride northeast to Hawley Road will be renamed Sally’s Ride. This will be done to reduce trail name confusion and make Winona Way a continuous trail.
- Skinner Creek Trail has degraded to a point it is not feasible to rehabilitate, so it will be abandoned.
- A new trail is proposed to provide a ski only trail between the CCC Camp and Frank’s Fancy south of the Hessel Road; more field work is needed to find a final route for this trail (approximately 0.6 miles).
- A new trail (Cross Leg) has been proposed beginning at the southern leg of Dogleg Trail where it meets Bargy Road to a point on Winona Way approximately 1/3 mile north of North Church Road. This trail would provide a shorter “loop” for skiers and sled dogs. (approximately 0.40 miles)

b. Snowmobile trails

There are about 13 miles of snowmobile trails (in addition to roads that are open to snowmobiles) in Winona.

- Trails will be posted with snowmobile trail markers only, any ski trail marker will be removed.
- The reassignment of Dog Leg and Dog Leg Extension trail from snowmobile trail to ski trail will occur only after further review and if reassigned, then after a new snowmobile trail (Cross Leg Trail) has been built between Bargy Rd. and Winona Way.
- Pussycat Trail will be re-signed from ski trail only to snowmobile trail.
- Musher Ridge Trail (1.2 miles) Army Corps Permits have been obtained to improve drainage and repair mud holes on the trail. This snowmobile trail provides a connection between Marsh Road and Brown Road.
- A new snowmobile trail (Wag) has been proposed to begin on Bronze Trail just south of County Route 90, cross a classified stream and connect with Tail Trail. (approximately 0.20 miles) Major consideration for the development of this trail would be securing necessary permits and securing funding for a bridge to protect water quality. This trail is meant to reduce conflicts with snowmobile use around the CCC camp during special winter events.

c. Dog sledding, horseback riding and mountain biking

Dog sledding, horseback riding and mountain biking are permitted on all trails unless specifically posted against such use.

5. Off-Highway and All-Terrain Vehicle Use

Off-highway and all-terrain vehicle use is not a program or activity of the department, though per the guidance provided in the SPSFM limited ATV use may occur on designated routes, generally PFAR for limited distances. Presently ATV use is limited to 1.5 miles on Hessel and Wart Roads. This use was requested to link up public ATV trails systems in Oswego and Jefferson counties. This plan will continue to allow ATV use on these two roads as long as the adjacent county public ATV trail system is open and as long as significant damage from ATV use does not occur to the roads or adjacent trails. Regular monitoring of the impacts of this use has been and will continue to occur. Any additional new ATV use will be accommodated on State Forests via consideration of requests for ATV connector routes on a case-by-case basis, including a formal public input process, as described in the SPSFM.

ATV and OHV trespass has been a major problem on this unit. Illegal ATV, and especially OHV (four-wheel drive pickups/SUVs)use has caused damage to trails not suitable, nor open, to their use. Forest Rangers have conducted numerous enforcement actions which have curtailed some illegal use, but some problems still occur. The WFRA group continues to focus much of their efforts on repairing impacts caused from illegal use by ATVs and OHVs.

Goal 4 – Provide Economic Benefits to the People of the State

Objectives:

1. Provide economic support to New York State and local communities

Winona State Forest, and the goals and objectives of this plan, will provide economic support to local communities and New York State in several ways:

- Continue to conduct timber harvests at a level suitable for the condition and age of the forests on Winona as long as staff resources remain the same or greater, not to exceed the statewide sustainable threshold.
- Local governments and school districts will be supported through payment of property taxes assessed on the lands of Winona Forest according to law.
- Cooperate with local organizations and governments in promoting recreational opportunities on Winona and sponsoring special events such as ski races, sled dog races, snowshoe races, etc. that bring people into the community Include a link on the Winona State Forest webpage to local chambers of commerce.

2. Provide for Mineral Resources development

Provide for mineral exploration and development while protecting natural resources and recreation[Q].

a. Oil and Gas

Section 23-1101 of the Environmental Conservation Law authorizes the Department to make leases on behalf of the State for exploration, production and development of oil and gas on State lands. Proposals to lease parcels of DEC regulated State lands for this purpose will be considered following public notice in the Environmental Notice Bulletin (ENB), and in local newspapers. A public meeting will be held to provide information about natural gas development specific to the Unit and receive comments. A 30-day public comment period will follow. The Department will consider all comments prior to making a decision.

If the Department decides to pursue leasing, the site specific conditions for limiting impacts on natural resources encompassed in this plan will be drafted by land managers and incorporated into contract documents. These conditions will include, but not be limited to, criteria for site selection, mitigation of impacts and land reclamation upon completion of drilling. A number of factors are considered when determining where surface disturbance will be allowed or disallowed. The presence of regulated wetlands, riparian areas, steep slopes, significant recreation areas, presence of rare, threatened or endangered species or unique ecological communities will be considered when determining the compatibility of surface disturbance from oil or gas development. Certain land management strategies, such as reserves where timber harvesting is precluded, which may be incompatible with oil and gas well development, may result in exclusion from surface disturbance. A tract assessment will be conducted if and when part or all of the unit is nominated for leasing.

[Q] http://www.dec.ny.gov/docs/lands_forests_pdf/sfoilgasmou.pdf

A hierarchical approach will be applied prior to leasing that classifies areas of Winona State Forest into four disturbance categories as follows:

Category A - Compatible with well pad, road, and utility development.

Category B - High Forest Canopy Areas with one well pad per State Forest.

Category C - 250 foot stream and designated recreational trail buffers. Not compatible with well pad development; may be compatible with road and utility development.

Category D – Infrastructure Exclusion areas. Not compatible with well pad, road, or utility development.

Categories A-D are included in Appendix H, Draft Oil and Gas Tract Assessment.

b. Pipelines

Pipelines may be constructed on State Forest lands only if a portion of the mineral resources to be transported was extracted from State lands. Pipeline and road development must be in compliance with State Forest tract assessments, and the SPSFM.

Pipelines will be located immediately adjacent to Public Forest Access Roads. The location of the roads and pipelines will be in compliance with tract assessments. Pipelines may be located in stands managed for closed canopy conditions only along pre-existing roads that intersect such area. Additional surface disturbance associated with such construction will be considered only in areas other than stands which are managed for relatively unbroken canopy conditions. Areas managed for unbroken canopy conditions may be referred to using various terms such as "uneven-aged," "uneven-aged variable retention," "all aged," "high canopy," "closed canopy" or others.

Pipeline development on State land will not be permitted if the Department determines that it creates a significant long-term conflict with any management activities or public use of the State Forests, or with other management objectives in this plan. All pipelines will be gated to restrict motorized access and, if necessary, hardened crossings or bridges will be installed to allow heavy equipment access across pipelines. These requirements will be satisfied by the Lessee.

Exceptions to the above guidance must be approved by the Division of Lands and Forests, in consultation with the Division of Mineral Resources.

Note: More detailed revegetation principles and practices are available in the Division of Mineral Resource's "Revegetation Procedures Manual[R]" for surface mining reclamation.
(see Appendix H Oil and Gas tract Assessment)
(see Appendix I –Mined Land Reclamation Standards)

3. Coordination with Adjacent Landowners

Jefferson County Forest, managed by the Jefferson County Soil and Water Conservation District, and Little John Wildlife Management Area, managed by Region 7 DEC wildlife staff, share many

[R] http://www.dec.ny.gov/lands/5401.html

boundary lines with Winona. The management objectives and interests of these adjacent landowners, especially regarding recreation trails, wood product sales and trespass, have been considered during the planning process. There are several trail connections shared by Winona, Jefferson County Forest and Little John WMA that have involved coordination between these entities and are reflected in this plan.

4. Supporting Local Communities

DEC will:

- Encourage and support volunteer groups (recreation groups) for events like the Winona Tourathon, dogsled races and snowmobile events;
- Add local chambers of commerce to the Winona state Forest webpage;
- Take into consideration local concerns and interests when proposing changes to recreational management.

V. Ten-Year List of Management Actions

Listed in the table below is a summary of the proposed management actions for Winona State Forest over the next ten years, compiled from the objectives and actions presented above. Completion of each of these actions will be dependent on sufficient funding, staffing and things beyond staff control such as weather events.

Annual Maintenance	
Regrade all PFARs	9.9 miles /5 staff days
Trails mowed and cleared of blowdown	33.6 miles / 20 staff days
Parking Lot mow or regrade	3 staff days
Replace Signs	
Trails will be continuously assessed for compliance with universal trail access guidelines.	
Year 1 State Forest Actions	
Rehabilitate Sycopath	WFRA volunteers
Re-inventory Compartments A & B- 2578 acres	52 staff days
Administer 230 acres of sales 3ac/staffday	77 staff days
Close Skinner Creek Trail	3 staff days
Year 2 State Forest Actions	
Re-inventory Compartments C, D & F-3172 acres	63 staff days
Reroute and bridges on Bills Belly	WFRA volunteers
Switch name of Sally's Ride and Winona Way	1 staff day
Administer 230 acres of sales	77 staff days
Year 3 State Forest Actions	
Re-inventory Compartments E & G-1747 acres	35 staff days
Rehabilitate Alice's Alley (near bridge)	WFRA volunteers
Administer 230 acres of sales	77 staff days
Year 4 State Forest Actions	
Re-inventory Compartments H & I-1736 acres	35 staff days
Make Pussycat Trail accessible	WFRA volunteers
230 acres of sales	77 staff days

Year 5 State Forest Actions	
230 acres of sales	77 staff days
Replace Bargy Road Bridge	No estimate yet
Year 6 State Forest Actions	
Pussycat Trail will be re-signed	2 staff days
215 acres of sales	72 staff days
Year 7 State Forest Actions	
215 acres of sales	72 staff days
Build Cross Leg Trail	35 staff days
Year 8 State Forest Actions	
215 acres of sales	72 staff days
Finalize decision to redesignate or not Dog Leg and Dog Leg extension to ski only	1 staff day
Year 9 State Forest Actions	
215 acres of sales	72 staff days
Year 10 State Forest Actions	
Build new ski trail from CCC Camp to Franks Fancy south of Hessel	45 staff days
215 acres of sales	72 staff days

VI. INFORMATION in SUPPORT of the GOALS AND OBJECTIVES

Policy Constraints

The laws, regulations, and policies listed provide broad guidelines within which this plan is prepared. The Environmental Conservation Law of the State of New York and DEC's regulations (6 NYCRR) are available to the public at local libraries, NYS DEC offices, from private vendors, see SPSFM page 317 at http://www.dec.ny.gov/lands/64567.html and on DEC's website [S].

[S] http://www.dec.ny.gov/regulations/regulations.html

VII. BUDGETARY NEEDS for MANAGEMENT ACTIONS

Funding for the management of NYSDEC lands is primarily derived from:

- Capital Construction Account (State General Funds monies)
- Rehabilitation & Improvement account (State General Funds monies)
- Stewardship – Special Revenue Other (SRO) account
- Stewardship – Environmental Protection Fund
- Services in lieu of payment during commercial sales
- Acquisition - Environmental Protection Fund
- Various Management Activities for hunting, trapping, fishing - Conservation Fund

VIII. RECORD of ACCOMPLISHMENTS

- The Winona State Forest webpage (http://www.dec.ny.gov/lands/8072.html) and associated maps/pages has been in existence for several years and has greatly increased the distribution of information to the public. Efforts will be made to continually update the web page as circumstances warrant.
- A rudimentary brochure has been in distribution and a new brochure is being produced in conjunction with the WFRA and expected in 2014.
- The WFRA group is continually doing maintenance and improvements on the trail system.
- A timing shed was built on skids to be used during winter events and stored behind the CCC camp buildings for the summer.
- In 2006 The Bargy Road Bridge was rehabilitated.
- A kiosk was built and placed at the intersection of Bargy and Tucker Roads for public information distribution.
- The bridge on Hessel Road was replaced.
- The Tucker Ext. trail was built in cooperation with Region 7 wildlife staff across Stand G-33 and the Little John Wildlife Management Area connecting Tucker Road with trails on the Wildlife Management Area.
- In 2013 three new privies are scheduled to be installed at P1, P2 and CCC parking lots.

IX. BIBLIOGRAPHY

GIS layers

1. Breeding Bird Atlas
2. Surface geology
3. Bedrock geology
4. Soils layer
5. Heritage data
6. NYS 11 Digit HUC (watersheds)

X. APPENDICES,

MAPS and CHARTS

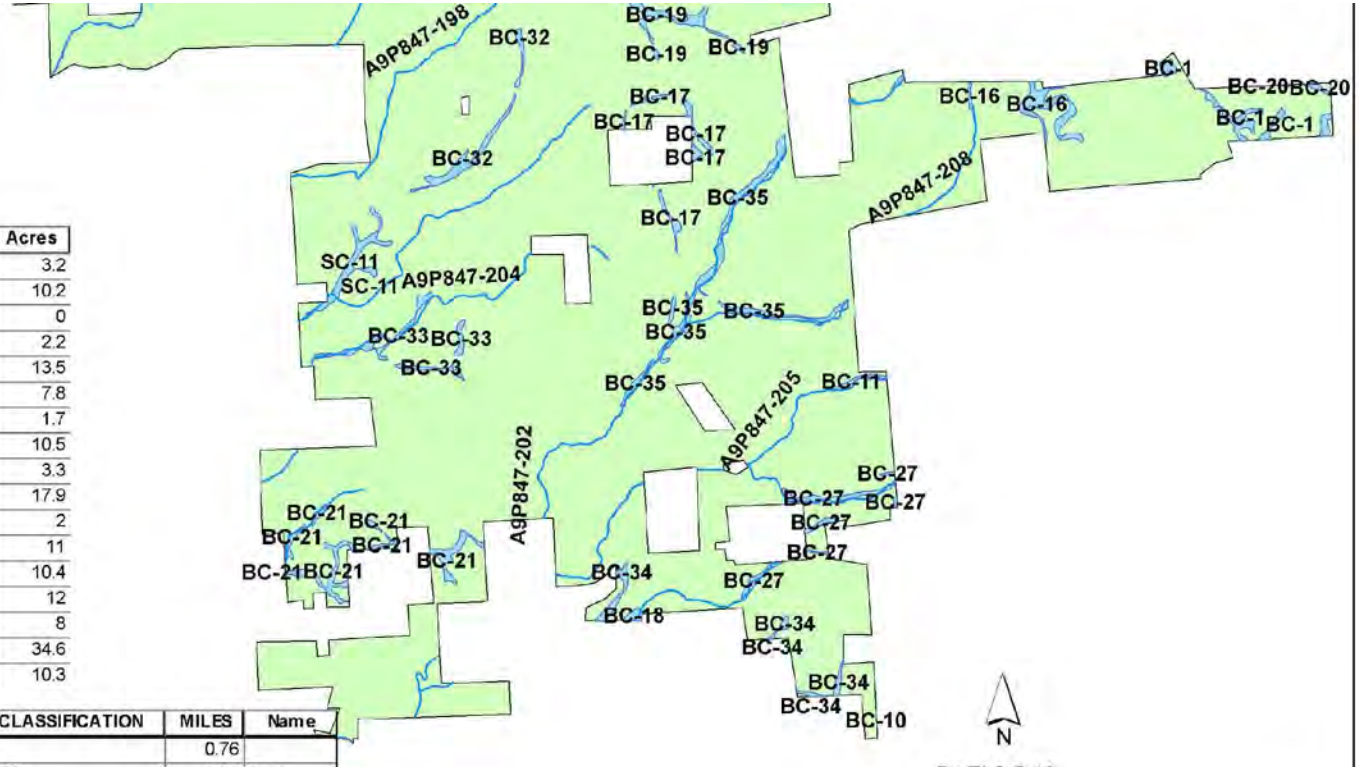
Appendix A -Breeding Bird Atlas for Winona State Forest and Surrounding Area

Common Name	Scientific Name	Status
Alder Flycatcher	Empidonax alnorum	Protected
American Goldfinch	Carduelis tristis	Protected
American Crow	Corvus brachyrhynchos	Game Species
American Goldfinch	Carduelis tristis	Protected
American Redstart	Setophaga ruticilla	Protected
American Robin	Turdus migratorius	Protected
American Kestrel	Falco sparverius	Protected
American Woodcock	Scolopax minor	Game Species
Baltimore Oriole	Icterus galbula	Protected
Bank Swallow	Riparia riparia	Protected
Barn Swallow	Hirundo rustica	Protected
Barred Owl	Strix varia	Protected
Belted Kingfisher	Ceryle alcyon	Protected
Black-and-white Warbler	Mniotilta varia	Protected
Black-capped Chickadee	Poecile atricapillus	Protected
Black-throated Blue Warbler	Dendroica caerulescens	Protected
Black-throated Green Warbler	Dendroica virens	Protected
Black-billed Cuckoo	Coccyzus erythropthalmus	Protected
Blackburnian Warbler	Dendroica fusca	Protected
Blue-headed Vireo	Vireo solitarius	Protected
Blue-winged Warbler	Vermivora pinus	Protected
Blue Jay	Cyanocitta cristata	Protected
Bobolink	Dolichonyx oryzivorus	Protected
Brewster's Warbler	Vermivora pinus x V. chrysoptera	Protected
Broad-winged Hawk	Buteo platypterus	Protected
Brown Thrasher	Toxostoma rufum	Protected
Brown Creeper	Certhia americana	Protected
Brown-headed Cowbird	Molothrus ater	Protected
Canada Warbler	Wilsonia canadensis	Protected
Canada Goose	Branta canadensis	Game Species
Cedar Waxwing	Bombycilla cedrorum	Protected
Chestnut-sided Warbler	Dendroica pensylvanica	Protected
Chipping Sparrow	Spizella passerina	Protected
Cliff Swallow	Petrochelidon pyrrhonota	Protected
Common Raven	Corvus corax	Protected
Common Yellowthroat	Geothlypis trichas	Protected
Common Grackle	Quiscalus quiscula	Protected
Cooper's Hawk	Accipiter cooperii	Prot. Special Con.
Dark-eyed Junco	Junco hyemalis	Protected
Downy Woodpecker	Picoides pubescens	Protected
Eastern Phoebe	Sayornis phoebe	Protected

Eastern Kingbird	Tyrannus tyrannus	Protected
Eastern Meadowlark	Sturnella magna	Protected
Eastern Bluebird	Sialia sialis	Protected
Eastern Wood-Pewee	Contopus virens	Protected
Eastern Towhee	Pipilo erythrophthalmus	Protected
European Starling	Sturnus vulgaris	Unprotected
Field Sparrow	Spizella pusilla	Protected
Golden-winged Warbler	Vermivora chrysoptera	Prot. Special Con.
Golden-crowned Kinglet	Regulus satrapa	Protected
Gray Catbird	Dumetella carolinensis	Protected
Great Crested Flycatcher	Myiarchus crinitus	Protected
Great Horned Owl	Bubo virginianus	Protected
Great Blue Heron	Ardea herodias	Protected
Hairy Woodpecker	Picoides villosus	Protected
Hermit Thrush	Catharus guttatus	Protected
Hooded Merganser	Lophodytes cucullatus	Game Species
Hooded Warbler	Wilsonia citrina	Protected
House Wren	Troglodytes aedon	Protected
House Finch	Carpodacus mexicanus	Protected
House Sparrow	Passer domesticus	Unprotected
Indigo Bunting	Passerina cyanea	Protected
Killdeer	Charadrius vociferus	Protected
Lawrence's Warbler	Vermivora chrysoptera x V. pinus	Protected
Least Flycatcher	Empidonax minimus	Protected
Magnolia Warbler	Dendroica magnolia	Protected
Mallard	Anas platyrhynchos	Game Species
Mourning Warbler	Oporornis philadelphia	Protected
Mourning Dove	Zenaida macroura	Protected
Nashville Warbler	Vermivora ruficapilla	Protected
Northern Waterthrush	Seiurus noveboracensis	Protected
Northern Harrier	Circus cyaneus	Threatened
Northern Flicker	Colaptes auratus	Protected
Northern Rough-winged Swallow	Stelgidopteryx serripennis	Protected
Northern Goshawk	Accipiter gentilis	Prot. Special Con.
Northern Cardinal	Cardinalis cardinalis	Protected
Ovenbird	Seiurus aurocapilla	Protected
Pileated Woodpecker	Dryocopus pileatus	Protected
Pine Siskin	Carduelis pinus	Protected
Pine Warbler	Dendroica pinus	Protected
Purple Finch	Carpodacus purpureus	Protected
Red-breasted Nuthatch	Sitta canadensis	Protected
Red-winged Blackbird	Agelaius phoeniceus	Protected
Red-tailed Hawk	Buteo jamaicensis	Protected
Red-eyed Vireo	Vireo olivaceus	Protected
Red-shouldered Hawk	Buteo lineatus	Prot. Special Con.

Rock Pigeon	Columba livia	Unprotected
Rose-breasted Grosbeak	Pheucticus ludovicianus	Protected
Ruby-throated Hummingbird	Archilochus colubris	Protected
Ruffed Grouse	Bonasa umbellus	Game Species
Savannah Sparrow	Passerculus sandwichensis	Protected
Scarlet Tanager	Piranga olivacea	Protected
Sharp-shinned Hawk	Accipiter striatus	Prot. Special Con.
Song Sparrow	Melospiza melodia	Protected
Swamp Sparrow	Melospiza georgiana	Protected
Tree Swallow	Tachycineta bicolor	Protected
Turkey Vulture	Cathartes aura	Protected
Veery	Catharus fuscescens	Protected
Vesper Sparrow	Pooecetes gramineus	Prot. Special Con.
Warbling Vireo	Vireo gilvus	Protected
White-throated Sparrow	Zonotrichia albicollis	Protected
White-winged Crossbill	Loxia leucoptera	Protected
White-breasted Nuthatch	Sitta carolinensis	Protected
Wild Turkey	Meleagris gallopavo	Game Species
Willow Flycatcher	Empidonax traillii	Protected
Wilson's Snipe	Gallinago delicata	Game Species
Winter Wren	Troglodytes troglodytes	Protected
Wood Duck	Aix sponsa	Game Species
Wood Thrush	Hylocichla mustelina	Protected
Yellow-rumped Warbler	Dendroica coronata	Protected
Yellow Warbler	Dendroica petechia	Protected
Yellow-bellied Sapsucker	Sphyrapicus varius	Protected
Yellow-throated Vireo	Vireo flavifrons	Protected

Appendix B -Streams and Wetlands



By ELS 5-13

0 0.5 1 2 Miles

WETID	Class	Acres
B-1	2	3.2
BC-1	1	10.2
BC-10	1	0
BC-11	2	2.2
BC-16	2	13.5
BC-17	2	7.8
BC-18	2	1.7
BC-19	2	10.5
BC-20	2	3.3
BC-21	2	17.9
BC-26	3	2
BC-27	2	11
BC-32	2	10.4
BC-33	2	12
BC-34	2	8
BC-35	2	34.6
SC-11	2	10.3

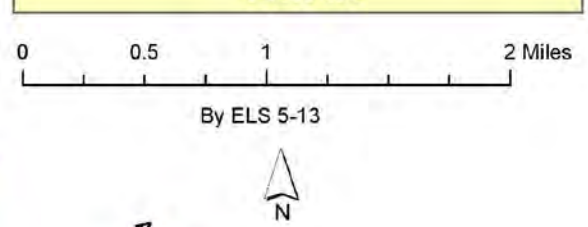
APT	CLASSIFICATION	MILES	Name
A9P847-108.5		0.76	
A9P847-136	C(TS)	1.94	Bear
A9P847-139.1	C(T)	1.02	
A9P847-144	C	0.13	Raystone
A9P847-155	C(T)	0.51	Raystone
A9P847-180.1	A(TS)	0.23	Skinner
A9P847-180.2	C(TS)	2.04	Skinner
A9P847-180.3	C	2.08	
A9P847-180.4	C(TS)	4.13	
A9P847-185	C(TS)	1.19	Lindsey
A9P847-198	C(TS)	3.38	
A9P847-202	A(TS)	2.78	
A9P847-203	C	0.51	
A9P847-204	C(TS)	2.44	
A9P847-205	C(TS)	1.53	Stinson
A9P847-206	C(TS)	0.75	
A9P847-208	C(T)	1.35	

Winona UMP
Map of Classified Streams and Classified Wetlands South

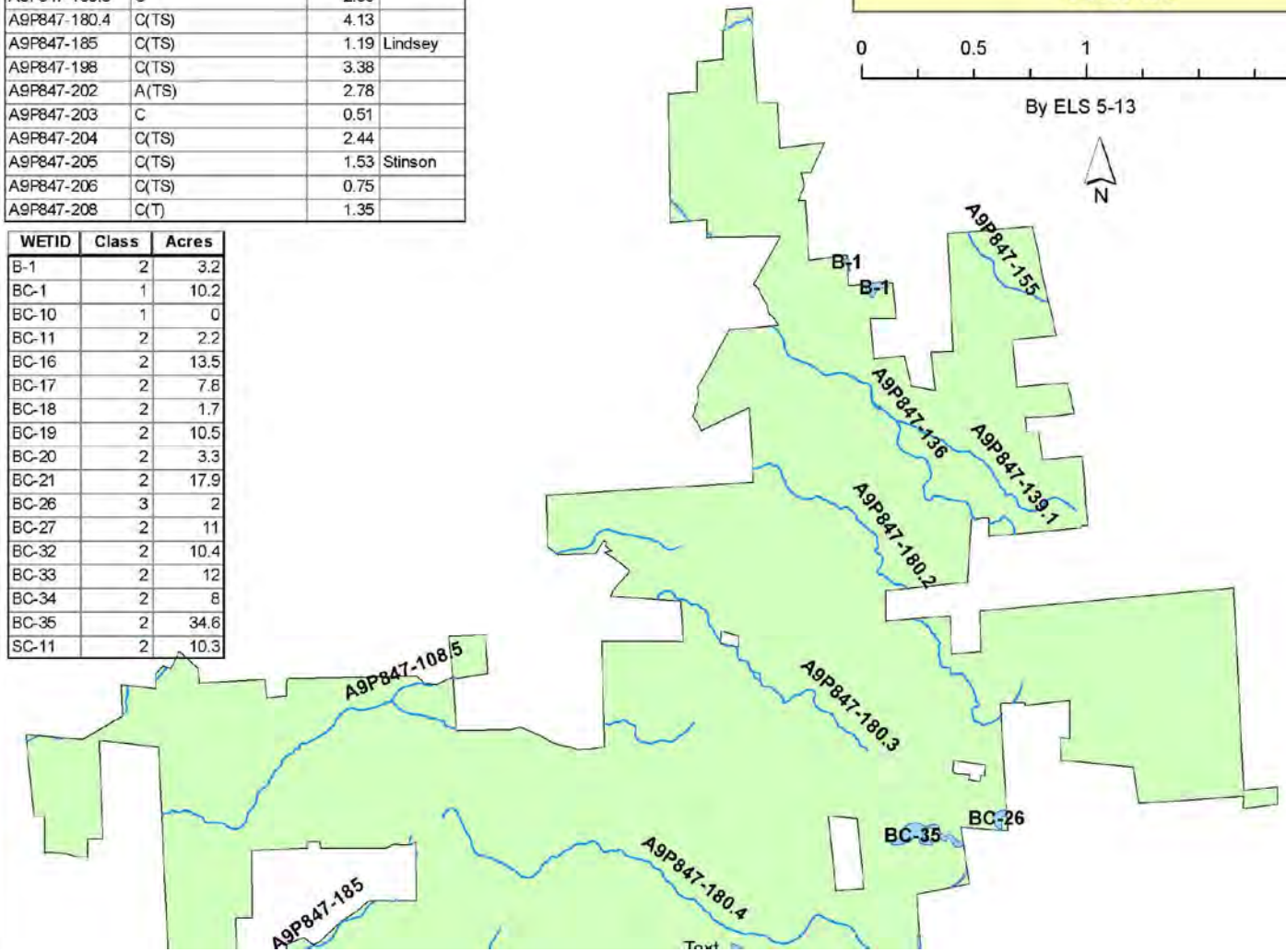
APT	CLASSIFICATION	MILES	Name
A9P847-108.5		0.76	
A9P847-136	C(TS)	1.94	Bear
A9P847-139.1	C(T)	1.02	
A9P847-144	C	0.13	Raystone
A9P847-155	C(T)	0.51	Raystone
A9P847-180.1	A(TS)	0.23	Skinner
A9P847-180.2	C(TS)	2.04	Skinner
A9P847-180.3	C	2.08	
A9P847-180.4	C(TS)	4.13	
A9P847-185	C(TS)	1.19	Lindsey
A9P847-198	C(TS)	3.38	
A9P847-202	A(TS)	2.78	
A9P847-203	C	0.51	
A9P847-204	C(TS)	2.44	
A9P847-205	C(TS)	1.53	Stinson
A9P847-206	C(TS)	0.75	
A9P847-208	C(T)	1.35	

WETID	Class	Acres
B-1	2	3.2
BC-1	1	10.2
BC-10	1	0
BC-11	2	2.2
BC-16	2	13.5
BC-17	2	7.8
BC-18	2	1.7
BC-19	2	10.5
BC-20	2	3.3
BC-21	2	17.9
BC-26	3	2
BC-27	2	11
BC-32	2	10.4
BC-33	2	12
BC-34	2	8
BC-35	2	34.6
SC-11	2	10.3

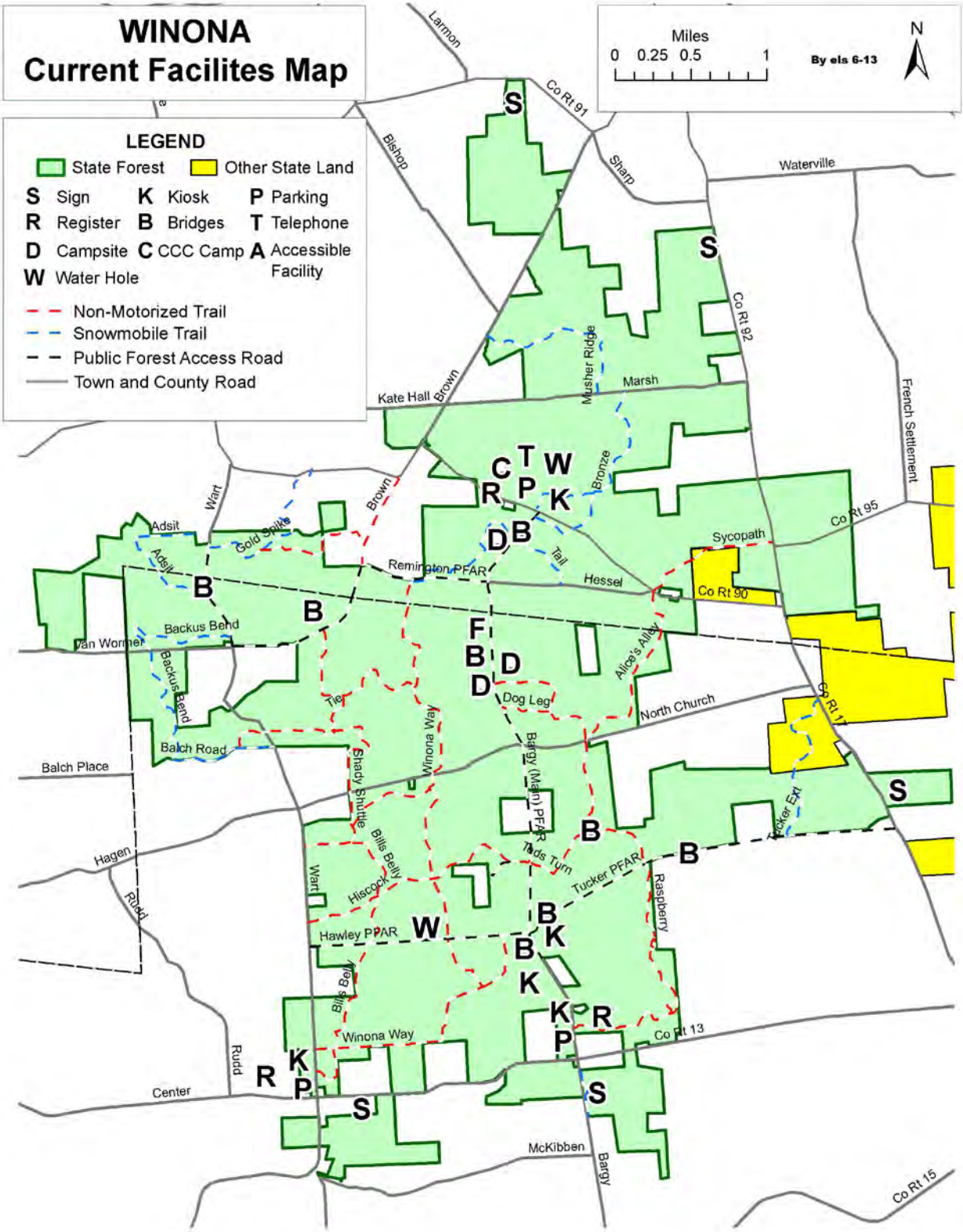
Winona UMP
Map of Classified Streams and Classified Wetlands North

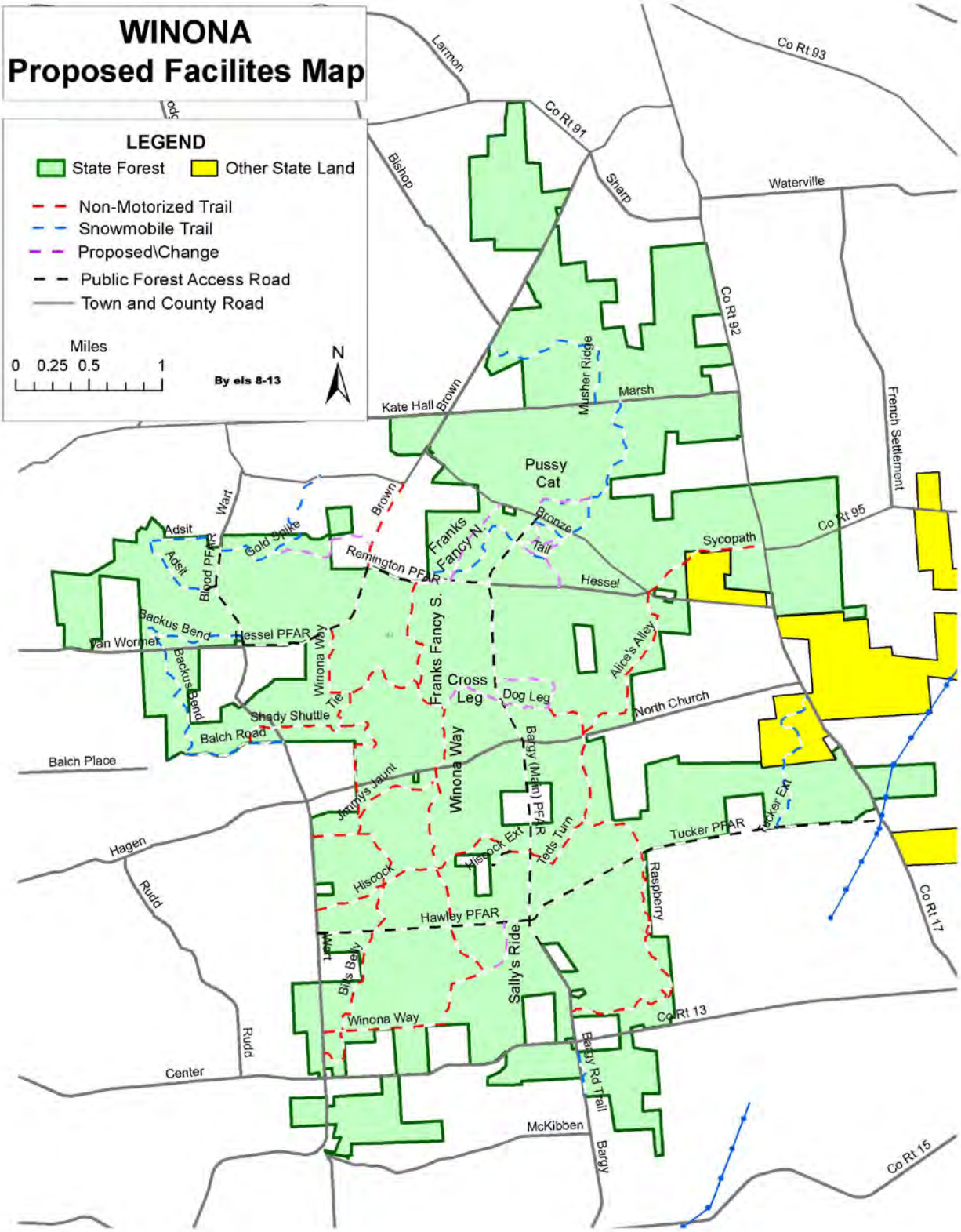


By ELS 5-13

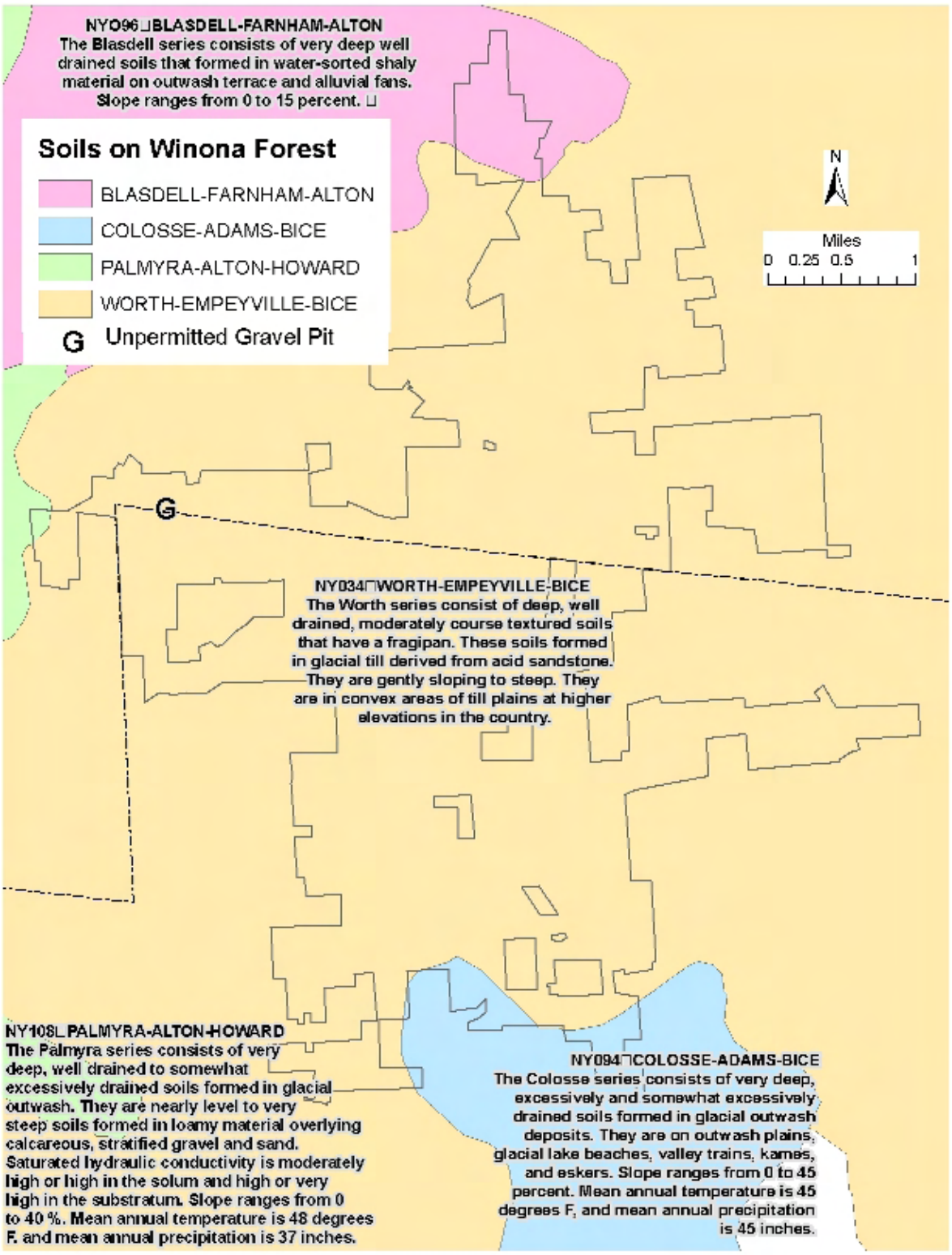


Appendix C -Roads and Trails/Facilities

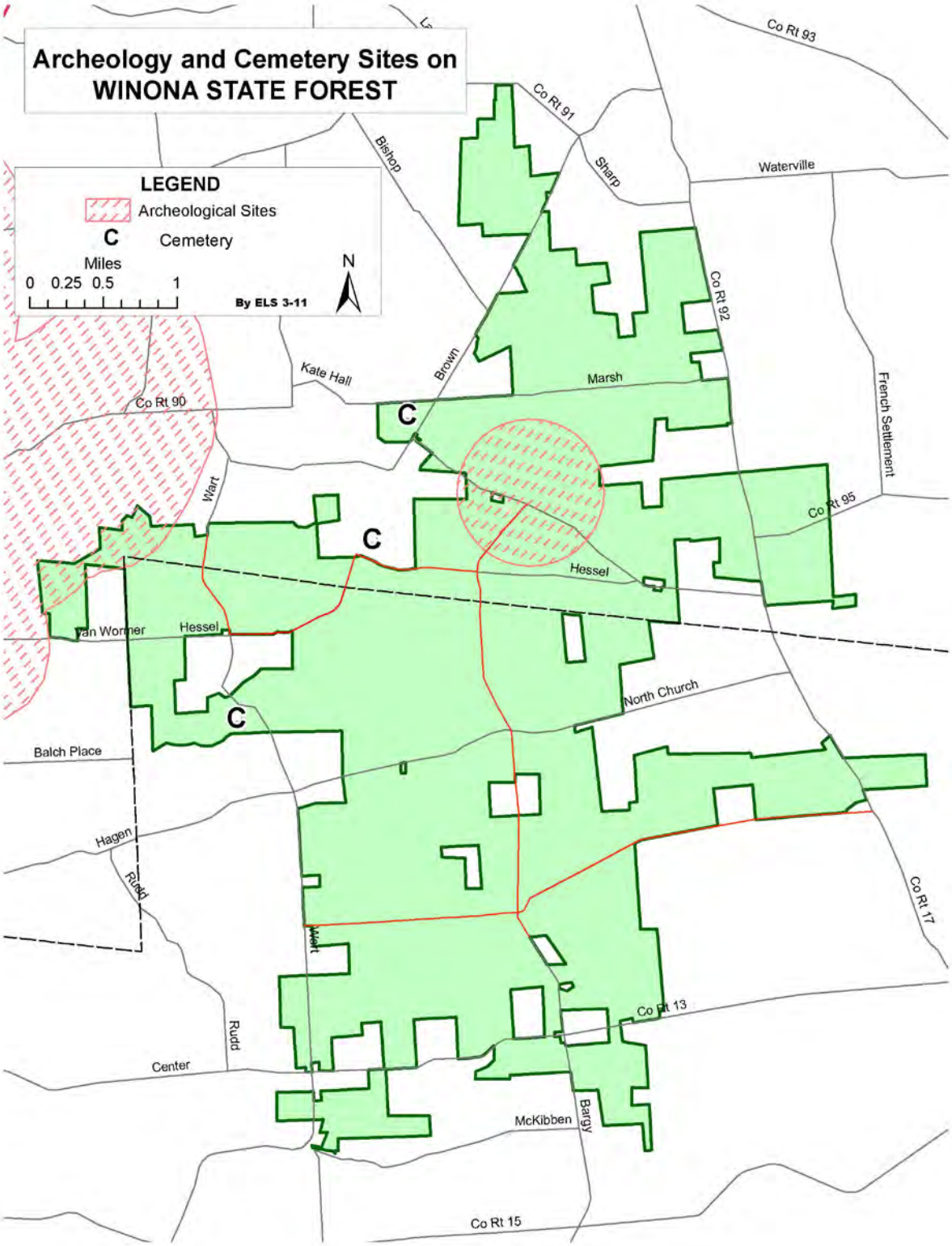



WINONA
Proposed Facilites Map
LEGEND
State Forest
Other State Land
Non-Motorized Trail
Snowmobile Trail
Proposed\Change
Public Forest Access Road
Town and County Road
Miles
0 0.25 0.5 1
By els 8-13
N
Larmon
Co Rt 93
Co Rt 91
Bishop
Sharp
Waterville
Co Rt 92
Musher Ridge
Marsh
Kate Hall Brown
French Settlement
Pussy Cat
Brown
Wart
Adsit
Gold Spike
Blood PFAR
Remington PFAR
Franks Fancy N.
Bronze Tail
Sycopath
Co Rt 95
Hessel
Backus Bend
Hessel PFAR
Van Wormer
Winona Way
Franks Fancy S.
Alice's Alley
Cross Leg
Dog Leg
Tie
Shady Shuttle
North Church
Balch Road
Balch Place
Jimmys Jaunt
Winona Way
Bargy (Main) PFAR
Tucker PFAR
Tucker Ext
Hagen
Hiscock Ext
Teds Turn
Hiscock
Raspberry
Rudd
Hawley PFAR
Co Rt 17
Bills Belly
Sally's Ride
Winona Way
Co Rt 13
Bargy Rd Trail
Center
McKibben
Bargy
Co Rt 15

Appendix D -Soils/Surface Geology



Appendix E -Archeology/Cemetery Sites



Appendix F -Stand Tables by Compartment\Compartment Maps

Management Objective Codes 1=timber 2= wildlife 3= experimental 5 =protection

Type Codes

99= non-forest
98= seedling sapling plantation
97= seedling sapling natural
71= spruce-natural species
70= pine-natural species
68= bucket mix
64= white pine-larch
63= white pine-spruce
62= red pine-larch plantation
61= red pine spruce-plantation
60= red pine-white pine
50= Douglas fir
48= European larch-plantation
47= Japanese larch
45=Norway spruce
44= jack pine
42= Scotch pine
41= white pine
40= red pine-plantation
31= transition hardwoods
20= hemlock
15= swamp hardwood
14= pioneer hardwood
13= northern hardwood-spruce fir
12= northern hardwood-white pine
11= northern hardwood-hemlock
10= northern hardwood

Stand	Ac	Mgt	Type	Age	Recommendation	Year
A- 1	7	1	10	Uneven	No treatment	
A- 2	27	2	99		Alder- Swamp No treatment	
A- 3	36	1	40	Even	pulp TSI	6-10
A- 4	4	1	11	Uneven	No treatment	
A- 5	31	1	20	Uneven	Hem-RM inaccessible	
A- 6	6	2	99		Brushy Field, No treatment	
A- 7	18	1	40	Even	RP, need pulp harvest	6-10
A- 8	43	1	40	Even	RP, need pulp harvest	6-10
A- 9	10	1	20	Uneven	No treatment	
A- 10	8	1	11	Uneven	cut in 1978, firewood harvest	6-10
A- 11	5	2	97	Even	S-S, No treatment	
A- 12	3	1	40	Even	RP, pulp harvest	1-5
A- 13	13	1	10	Uneven	No treatment	
A- 14	3	1	11	Uneven	No treatment	
A- 15	6	1	11	Uneven	No treatment	
A- 16	27	1	40	Even	No treatment	
A- 17	10	2	99	Even	SS, No treatment	
A- 18	21	1	40	Even	RP, cut in 2003, ST harvest	6-10
A- 19	49	1	40	Even	RP, cut in 1992, thinning	6-10
A- 20	10	2	20	Uneven	No treatment	
A- 21	5	1	48	Even	EL, pulp harvest- inaccessible	1-5
A- 22	7	1	48	Even	EL, cut in 2000,thinning	20+
A- 23	26	1	48	Even	EL, cut in 2000, thinning	20+

Stand	Ac	Mgt	Type	Age	Recommendation	Year
A- 24	21	1	11	Uneven	cut in 1993, next firewood harvest	1-5
A- 25	6	2	97	Even	S-S, No treatment	
A- 26	5	1	10	Uneven	cut in 1984, No treatment	
A- 27	5	1	11	Uneven	cut in 1984, No treatment	
A- 28	23	1	20	Uneven	No treatment	
A- 29	15	1	11	Uneven	No treatment	
A- 30	6	1	10	Uneven	cut in 1977, No treatment	
A- 31	11	1	10	Uneven	No treatment	
A- 32	6	1	40	Even	SP, need first pulp harvest	1-5
A- 33	5	2	99		Open- Swamp No treatment	
A- 34	10	1	62	Even	EL, No treatment	
A- 35	5	1	70	Even	WA,RP, cut in 1991,pulp harvest	16-20
A- 36	4	1	11	Uneven	No treatment	
A- 37	5	2	99		Brushy Field, No treatment	
A- 38	19	1	40	Even	RP, cut in 2001, pulp harvest	6-10
A- 39	40	1	11	Uneven	cut in 1991, No treatment	
A- 40	121	1	11	Uneven	cut in 1987, No treatment	
A- 41	7	1	11	Uneven	cut in 1987, No treatment	
A- 42	8	1	10	Uneven	cut in 1986, No treatment	
A- 43	35	1	11	Uneven	cut in 1986, No treatment	
A- 44	32	1	10	Uneven	No treatment	
A- 45	11	1	11	Uneven	No treatment	
A- 46	44	1	10	Uneven	No treatment	
A- 47	5	1	20		Wetland	
A- 48	8	1	60	Even	WP,RP, cut in 2001, pulp harvest	6-10
A- 49	10	2	99		Alder- Swamp No treatment	
A- 50	4	1	10	Uneven	No treatment	
A- 51	12	3	48	Even	EL, pulp harvest	20+
A- 52	12	1	61	Even	RP, pulp harvest	20+
A- 53	8	1	10	Uneven	No treatment	
A- 54	7	1	40	Even	RP, pulp harvest	16-20
A- 55	8	2	31		Alder- Swamp No treatment	
A- 56	7	1	98	Even	S-S, No treatment	
A- 57	9	1	40	Even	remove SP	20+
A- 58	6	1	98	Even	S-S, No treatment	
A- 59	25	1	10	Uneven	cut in 1987, No treatment	
A- 60	15	1	10	Uneven	No treatment	
A- 61	4	1	48	Even	EL, cut in 1987- pulp harvest	20+
A- 62	9	1	10	Uneven	cut in 1987, No treatment	
A- 63	4	2	15		Alder- Swamp No treatment	

Stand	Ac	Mgt	Type	Age	Recommendation	Year
A- 64	9	1	62	Even	RP,EL, pulp harvest	20+
A- 65	16	1	97	Even	S-S, No treatment	
A- 66	29	1	41	Even	WP, cut in 2006 Inventory	16-20
B- 1	20	1	11	Uneven	cut in 1991, No treatment	
B- 2	27	1	41	Even	WP, cut in 2003, ST harvest	1-5
B- 3	5	2	99		Open- Swamp No treatment	
B- 4	14	1	40	Even	RP, cut in 1992, pulp harvest	1-5
B- 5	22	2	99		Open- Swamp No treatment	
B- 6	59	1	40	Even	RP, cut in 1992, pulp harvest	1-5
B- 7	15	1	40	Even	RP, cut in 2007 Inventory	16-20
B- 8	11	1	61	Even	WS, next pulp harvest	6-10
B- 9	15	2	97		S-S No treatment	
B- 10	25	1	40	Even	RP, pulp harvest	6-10
B- 11	61	1	61	Even	RP, cut in 1993, pulp harvest	16-20
B- 12	11	2	99		Alder- Swamp, No treatment	
B- 13	17	1	40	Even	RP, cut in 1993, No treatment	
B- 14	2	1	41	Even	WP, cut in 1966	1-5
B- 15	3	1	10	Uneven	firewood thinning	6-10
B- 16	14	1	11	Uneven	firewood thinning	6-10
B- 17	17	1	98	Even	S-S No treatment	
B- 18	13	2	99		Open- Swamp No treatment	
B- 19	3	2	97	Even	S-S No treatment	
B- 20	36	1	40	Even	RP, pulp harvest	1-5
B- 21	9	1	97		S-S No treatment	
B- 22	14	1	11	Uneven	firewood harvest	6-10
B- 23	9	2	97		S-S No treatment	
B- 24	4	1	41	Even	WP, pulp harvest	1-5
B- 25	25	1	40	Even	RP, cut in 1993, no treatment	
B- 26	7	1	10	Uneven	cut in 1979, no treatment	
B- 27	40	1	63	Even	WP, cut in 1966, ST harvest	6-10
B- 28	12	1	41	Even	WP, cut in 1992, pulp harvest	1-5
B- 29	17	2	99		Alder- Swamp No treatment	
B- 30	1	2	98	Even	S-S No treatment	
B- 31	7	1	48	Even	EL, cut in 1991, ST harvest	1-5
B- 32	2	2	99		Open- Swamp No treatment	
B- 33	46	1	48	Even	EL, cut in 2005, ST harvest	6-10
B- 34	7	2	99		Open- Swamp No treatment	
B- 35	9	1	48	Even	EL, cut in 1991, no treatment	
B- 36	59	1	40	Even	RP, cut in 1994, next ST harvest	1-5
B- 37	32	1	40	Even	RP, cut in 1994, next ST harvest	1-5
B- 38	15	1	45	Even	NS, cut in 1989, next ST harvest	10-15
B- 39	2	1	40	Even	RP, pulp harvest	20+

Stand	Ac	Mgt	Type	Age	Recommendation	Year
B- 40	7	2	20	Uneven	Hem, no treatment	
B- 41	48	1	10	Uneven	Cut 1994, firewood harvest	10-15
B- 42	5	2	99		Alder- Swamp No treatment	
B- 43	7	1	41	Even	WP, cut in 1999, ST harvest	10-15
B- 44	37	1	60	Even	WP, cut in 1999, ST harvest	1-5
B- 45	25	1	40	Even	RP, no treatment	6-10
B- 46	45	1	10	Uneven	No treatment	
B- 47	5	1	97		S-S No treatment	
B- 48	3	1	10	Uneven	Cut in 1977, firewood harvest	10-15
B- 49	44	1	10	Uneven	Cut in 1977, no treatment	
B- 50	64	1	63	Even	RP, cut in 2002, no treatment	
B- 51	114	2	99		Alder- Swamp No treatment	
B- 52	7	1	98	Even	S-S No treatment	
B- 53	30	2	98	Even	S-S No treatment	
B- 54	3	2	97	Even	S-S No treatment	
B- 55	13	1	10	Uneven	Cut in 1977, no treatment	
B- 56	8	2	99		Alder- Swamp No treatment	
B- 57	81	1	41	Even	WP, cut in 2002, ST harvest	10-15
B- 58	2	1	45	Even	WS, cut in 1999, no treatment	
B- 59	7	1	97		S-S No treatment	
B- 60	5	1	70	Even	WS,WP, cut in 2002, no treatment	
B- 61	3	2	98	Even	S-S No treatment	
B- 62	25	2	99		Open- Swamp No treatment	
B- 63	7	1	70	Even	RP,BC, no treatment	6-10
B- 64	14	1	40	Even	RP, cut in 1992, pulp harvest	1-5
B- 65	27	1	70	Even	WP, need pulp harvest	10-15
B- 66	20	1	40	Even	RP, cut in 1985, pulp harvest	1-5
B- 67	13	2	99		Alder- Swamp No treatment	
B- 68	4	1	50	Even	DF, no treatment	
B- 69	17	1	63	Even	WP, pulp harvest	20+
B- 70	4	2	99		Alder- Swamp No treatment	
B- 71	3	2	99		Open- Swamp No treatment	
B- 72	21	1	41	Even	WP, cut in 2002 pulp harvest	25+
B- 73	7	1	48	Even	EL, cut in 1999, ST harvest	6-10
B- 74	8	1	41	Even	WP, pulp harvest	6-10
B- 75	9	1	48	Even	EL, cut in 1995, ST harvest	6-10
B- 76	8	1	41	Even	WP, cut in 1995, pulp harvest	6-10
B- 77	9	2	99		Alder- Swamp No treatment	
B- 78	28	1	41	Even	WP, cut in 2000 pulp harvest	16-20
B- 79	9	1	14	Uneven	cut in 1989, firewood thinning	20+
B- 80	11	1	70	Even	WP, BC, cut 1988, pulp harvest	1-5
B- 81	10	1	11	Uneven	firewood thinning	10-15

Stand	Ac	Mgt	Type	Age	Recommendation	Year
B- 82	26	1	41	Even	WP, cut in 2000, pulp thinning	16-20
B- 83	11	2	99		Open- Swamp No treatment	
B- 84	7	1	11	Uneven	firewood thinning	25+
B- 85	5	1	40	Even	RP, pulp harvest	1-5
B- 86	41	1	11	Uneven	Cut in 1989, no treatment	
B- 87	8	1	11	Uneven	Cut in 1981, thinning	25+
C- 1	9	5	70	Even	WP, no treatment	
C- 2	7	5	10	Uneven	No treatment	
C- 3	57	1	40	Even	RP, cut in 1983, pulp harvest	1-5
C- 4	12	1	97	Even	No treatment	
C- 5	20	1	61	Even	WS, pulp harvest	1-5
C- 6	12	1	61	Even	cut in 1988, no treatment	
C- 7	15	1	63	Even	WP, cut in 1999 ST harvest	6-10
C- 8	6	2	99		Open- Swamp No treatment	
C- 9	30	1	20	Uneven	No treatment, No access	
C- 10	12	1	10	Uneven	No treatment	
C- 11	21	1	40	Even	RP, cu t 2005, pulp harvest	16-20
C- 12	13	1	10	Uneven	No treatment- protection	
C- 13	46	1	61	Even	RP, cut in 1981, pulp harvest	6-10
C- 14	6	2	97	Even	S-S no treatment	
C- 15	29	1	41	Even	WP, Cut in 2003, next ST hvt '18	11-15
C- 16	30	1	40	Even	RP, cut in1986,pulp harvest	1-5
C- 17	29	1	45	Even	NS, cut in1999, next ST sale-'14	6-10
C- 18	11	1	11	Uneven	No treatment	
C- 19	13	1	61	Even	NS, cut in1999, ST harvest	6-10
C- 20	17	1	10	Uneven	Cut in 1985, FW- No Access	6-10
C- 21	17	1	64	Even	WP, ST harvest	6-10
C- 22	34	1	41	Even	WP, pulp harvest	6-10
C- 23	11	1	70	Even	WP, pulp harvest	6-10
C- 24	9	1	71	Even	NS, cut in 1981, pulp harvest	1-5
C- 25	6	1	70	Even	WP, pulp harvest	11-15
C- 26	7	1	10	Uneven	firewood sale thinning	6-10
C- 27	4	1	40	Even	RP, pulp harvest	6-10
C- 28	8	1	12	Uneven	No treatment	
C- 29	45	1	41	Even	WP, pulp harvest	6-10
C- 30	2	1	40	Even	RP, pulp harvest	6-10
C- 31	30	3	41	Even	WP, pulp harvest	16-20
C- 32	45	1	41	Even	WP, pulp harvest	1-5
C- 33	3	5	10	Uneven	No treatment, Protection	
C- 34	10	1	40	Even	RP, cut in 2005, pulp harvest	16-20
C- 35	3	2	20	Uneven	Need firewood sale-10 yr	
C- 36	35	1	41	Even	WP, no treatment	

Stand	Ac	Mgt	Type	Age	Recommendation	Year
C- 37	21	5	11	Uneven	No treatment, Protection	
C- 38	11	1	10	Uneven	No treatment	
C- 39	17	1	10	Uneven	No treatment	
C- 40	5	2	99		Open- Swamp No treatment	
C- 41	17	1	60	Even	WP, cut in 1985, ST harvest	1-5
C- 42	10	1	48	Even	EL, cut in1985, next ST sale-5 yr	1-5
C- 43	10	2	99		Open- Swamp No treatment	
C- 44	10	2	42	Even	Remove SP	16-20
C- 45	8	2	42	Even	Remove SP	16-20
C- 46	24	1	42	Even	Remove SP	16-20
C- 47	13	1	10	Uneven	No treatment	
C- 48	27	1	70	Even	Remove SP	16-20
C- 49	16	1	11	Uneven	Cut in 1992, ST harvest	1-5
C- 50	34	1	42	Even	SP, no treatment	
C- 51	7	1	11	Uneven	No treatment	
C- 52	5	1	10	Uneven	Cut in 1991, pulp harvest	1-5
C- 53	12	1	10	Uneven	No treatment	
C- 54	20	2	15	Uneven	No treatment	
C- 55	4	1	14	Uneven	No treatment	
C- 56	34	1	11	Uneven	No treatment	
C- 57	10	1	40	Even	RP, cut in 1987, pulp harvest	1-5
C- 58	32	1	41	Even	WP, pulp harvest	20+
D- 1	30	1	11	Uneven	No access	
D- 2	26	1	60	Even	RP, pulp harvest	6-10
D- 3	8	1	61	Even	RP, pulp harvest	6-10
D- 4	20	1	41	Even	No access	
D- 5	14	1	10	Uneven	No treatment - too steep	
D- 6	9	1	60	Even	RP, No treatment	
D- 7	4	1	70	Even	RP, No treatment	
D- 8	3	1	71	Even	recently cut - next cut 2010	
D- 9	6	1	41	Even	WP -pulp harvest	1-5
D- 10	31	1	40	Even	cut in 1992 - no treatment	
D- 11	5	1	63	Even	cut in 1992 - no treatment	
D- 12	7	2	99		Open- Swamp No treatment	
D- 13	8	1	60	Even	RP- pulp harvest	6-10
D- 14	11	1	10	Uneven	no treatment	
D- 15	14	1	41	Even	cut 2003- pulp harvest	6-10
D- 16	4	1	99		Open- Swamp No treatment	
D- 17	34	1	61	Even	RP cut in 1992 -pulp harvest	1-5
D- 18	47	1	63	Even	WP cut in 1992 -pulp harvest	1-5
D- 19	29	1	41	Even	WP cut in 2003 -pulp harvest	1-5
D- 20	20	1	11	Uneven	no treatment -too steep	
D- 21	11	1	11	Uneven	no treatment -too steep	

Stand	Ac	Mgt	Type	Age	Recommendation	Year
D- 22	66	1	40	Even	RP pulp harvest	6-10
D- 23	26	2	99		Alder- Swamp No treatment	
D- 24	22	1	60	Even	no treatment	
D- 25	6	1	14		riparian zone -no treatment	
D- 26	15	1	41	Even	WP cut in 2003 -pulp harvest	6-10
D- 27	30	1	11		riparian zone -no treatment	
D- 28	49	1	60	Even	RP cut in 1987 -pulp harvest	1-5
D- 29	22	1	60	Even	RP- pulp harvest marked	1-5
D- 30	22	1	60	Even	RP- pulp harvest marked	1-5
D- 31	7	1	71	Even	NS- pulp harvest	1-5
D- 32	35	1	20	Uneven	Hem- no treatment	
D- 33	15	1	11	Uneven	no treatment	
D- 34	35	1	11	Uneven	ST harvest	1-5
D- 35	77	1	63	Even	pulp harvest	1-5
D- 36	6	1	71	Even	pulp harvest	1-5
D- 37	33	1	15	Uneven	no treatment	
D- 38	31	1	11	Uneven	no treatment	
D- 39	28	1	11	Uneven	cut in 1993- no treatment	
D- 40	48	1	11	Uneven	cut in 1993- no treatment	
D- 41	74	1	11	Uneven	no treatment	
D- 42	8	1	14	Uneven	no treatment	
D- 43	3	1	15	Uneven	riparian zone -no treatment	
D- 44	13	1	11	Uneven	thinning	6-10
D- 45	3	1	41	Even	thinning	6-10
D- 46	7	1	15	Uneven	riparian zone -no treatment	
D- 47	8	1	10	Uneven	cut in 1992- no treatment	
D- 48	12	2	99		Alder- Swamp No treatment	
D- 49	44	1	46	Even	WS cut in 2003 -pulp harvest	6-10
D- 50	9	1	10	Uneven	no treatment	
D- 51	30	1	11	Uneven	no treatment	
D- 52	15	1	45	Even	cut in 2000 pulp harvest	1-5
D- 53	16	1	45	Even	cut in 1992 pulp harvest	1-5
D- 54	9	1	14	Uneven	no treatment	
D- 55	37	1	41	Even	no treatment	
D- 56	17	1	41	Even	no treatment	
D- 57	4	2	99		Alder- Swamp No treatment	
D- 58	28	1	45	Even	cut in 2000- pulp harvest	20+
E- 1	56	1	61	Even	pulp harvest	6-10
E- 2	3	1	45	Even	cut in 1991 pulp harvest	6-10
E- 3	20	1	60	Even	cut in 1997 pulp harvest	6-10
E- 4	23	1	10	Uneven	thinning	20+
E- 5	3	1	10	Uneven	no treatment	
E- 6	2	2	99		Open- Swamp No treatment	

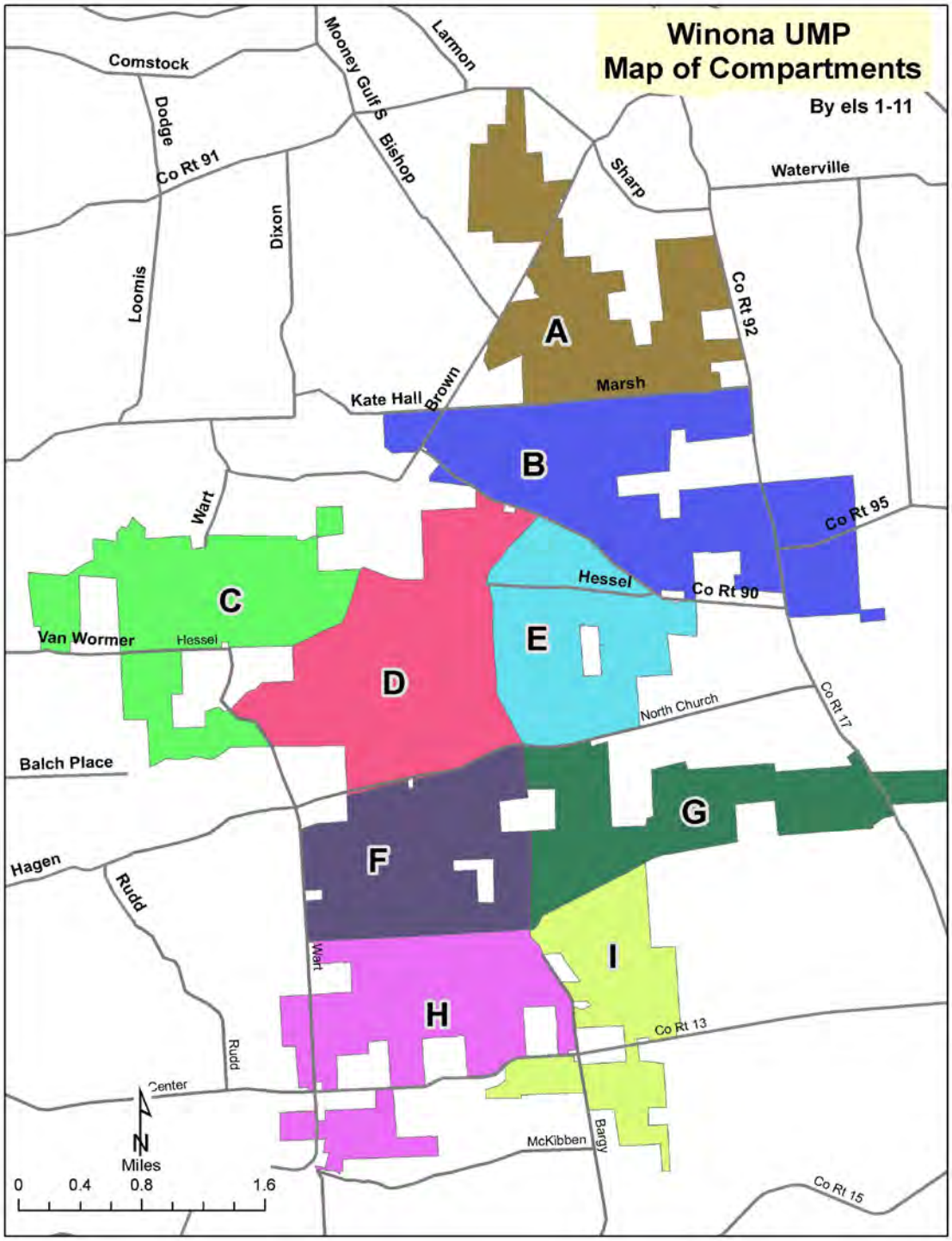
Stand	Ac	Mgt	Type	Age	Recommendation	Year
E- 7	10	1	63	Even	pulp harvest	6-10
E- 8	5	1	61	Even	cut in 1994 pulp harvest	6-10
E- 9	6	1	10	Uneven	no treatment	
E- 10	6	1	63	Even	cut in 2000 pulp harvest	16-20
E- 11	29	2	99		Open- Swamp No treatment	
E- 12	8	1	40	Even	pulp harvest	16-20
E- 13	18	1	60	Even	pulp harvest	16-20
E- 14	29	1	60	Even	cut in 1999 pulp harvest	10-16
E- 15	15	1	40	Even	cut in 1999 pulp harvest	10-16
E- 16	35	1	63	Even	pulp harvest	10-16
E- 17	20	1	41	Even	no treatment	
E- 18	13	1	40	Even	pulp harvest	6-10
E- 19	12	1	41	Even	cut in 2002 pulp harvest	6-10
E- 20	54	2	99		Alder- Swamp No treatment	
E- 21	3	1	45	Even	no treatment	
E- 22	4	1	41	Even	cut in 2002 pulp harvest	16-20
E- 23	6	1	10	Uneven	no treatment	
E- 24	7	1	15	Uneven	no treatment	
E- 25	70	1	60	Even	pulp harvest	6-10
E- 26	23	1	97	Even	seedling sapling no treatment	
E- 27	237	1	11	Uneven	no treatment	
E- 28	14	1	40	Even	pulp harvest	6-10
E- 29	9	1	63	Even	cut in 1993 pulp harvest	6-10
E- 30	10	1	45	Even	cut in 1998 pulp harvest	6-10
E- 31	102	1	40	Even	cut in 1993 pulp harvest	6-10
F- 1	4	1	97	Even	SS Wildlife- No Management	
F- 2	19	1	60	Even	pulp harvest	1-5
F- 3	19	1	61	Even	pulp harvest	1-5
F- 4	3	1	10	Uneven	pulp harvest	1-5
F- 5	45	1	40	Even	pulp harvest	1-5
F- 6	13	1	10	Uneven	no treatment	
F- 7	9	2	99		Open- Swamp No treatment	
F- 8	45	1	63	Even	pulp harvest	10-16
F- 9	32	1	44	Even	no treatment	
F- 10	20	1	41	Even	pulp harvest	16-20
F- 11	10	1	40	Even	pulp harvest	16-20
F- 12	11	1	45	Even	pulp harvest	16-20
F- 13	12	1	98	Even	SS none	
F- 14	15	1	45	Even	pulp harvest	16-20
F- 15	20	1	10	Uneven	no treatment	
F- 16	4	1	45	Even	pulp harvest	16-20
F- 17	5	1	45	Even	pulp harvest	1-5
F- 18	7	2	99		Open- Swamp No treatment	

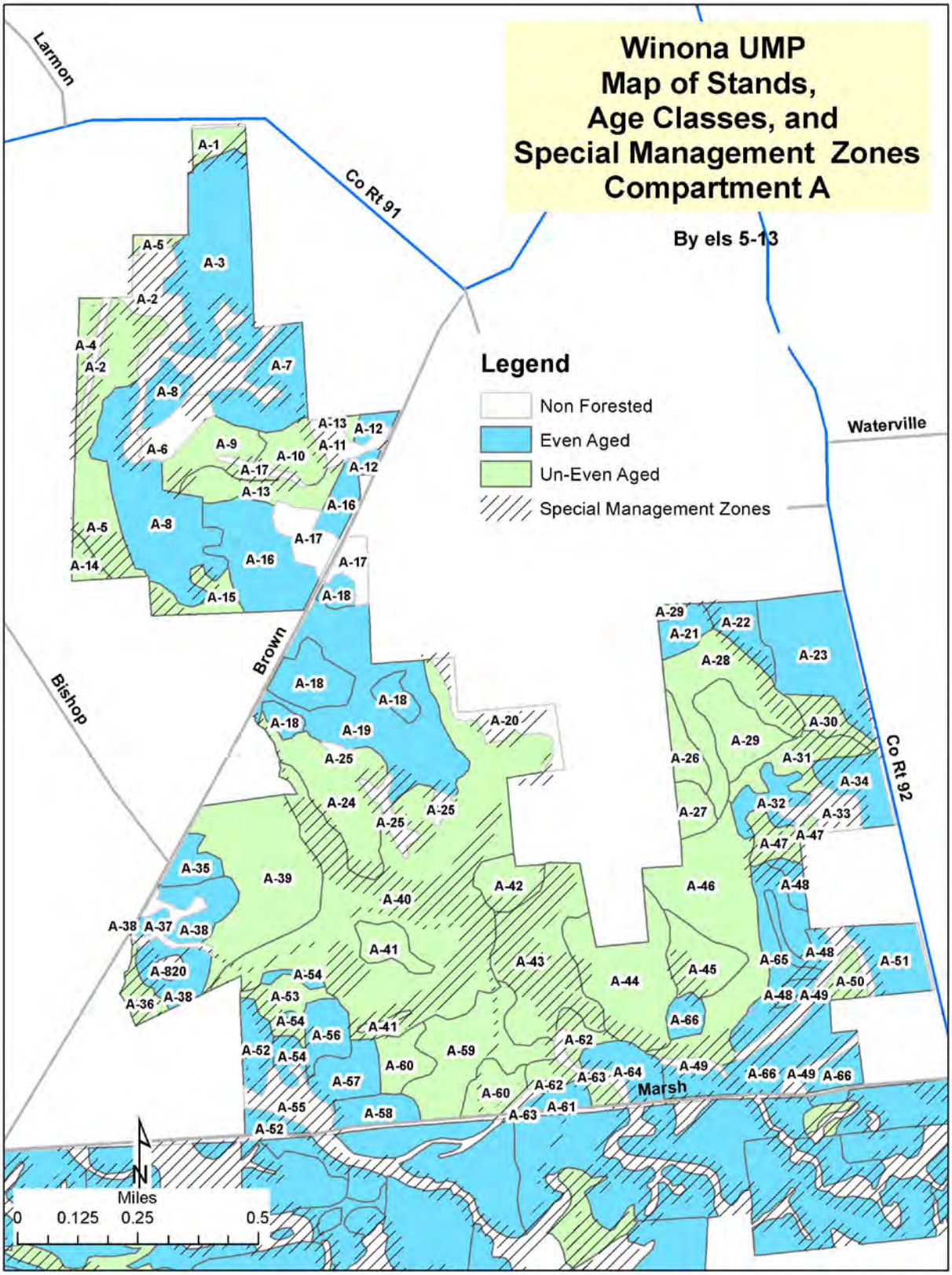
Stand	Ac	Mgt	Type	Age	Recommendation	Year
F- 19	68	1	11	Uneven	no treatment	
F- 20	66	1	45	Even	pulp harvest	6-10
F- 21	39	1	11	Uneven	no treatment	
F- 22	104	1	11	Uneven	thinning	20+
F- 23	6	1	15	Uneven	no treatment	
F- 24	18	1	40	Even	pulp harvest	16-20
F- 25	6	1	40	Even	pulp harvest	1-5
F- 26	49	1	11	Uneven	no treatment	
F- 27	9	1	61	Even	St harvest	6-10
F- 28	7	1	11	Uneven	no treatment	
F- 29	7	2	99		Alder- Swamp No treatment	
F- 30	6	1	10	Uneven	thinning	11-16
F- 31	11	1	45	Even	pulp harvest	11-16
F- 32	2	1	12	Uneven	thinning	6-10
F- 33	11	2	20	Uneven	thinning	6-10
F- 34	6	1	60	Even	pulp harvest	1-5
F- 35	4	1	41	Even	pulp harvest	1-5
F- 36	5	1	20	Uneven	no treatment	
F- 37	65	1	10	Uneven	1992 thinning	10-16
F- 38	16	1	13	Uneven	no treatment	
F- 39	12	1	11	Uneven	no treatment	
F- 40	7	1	41	Even	pulp harvest	1-5
F- 41	11	1	12	Uneven	firewood thinning	20+
F- 42	9	1	45	Even	pulp harvest	16-20
F- 43	10	1	10	Uneven	firewood thinning	20+
F- 44	4	2	15	Uneven	no treatment	
F- 45	8	1	10	Uneven	no treatment	
F- 46	5	1	40	Even	pulp harvest	6-10
F- 47	1	1	45	Even	pulp harvest	6-10
F- 48	9	1	15	Uneven	firewood thinning	10-16
G- 1	13	1	41	Even	No treatment	
G- 2	13	1	45	Even	pulp harvest	10-16
G- 3	9	1	40	Even	St Harvest	10-16
G- 4	11	1	40	Even	St harvest	10-16
G- 5	69	1	11	Uneven	No treatment	
G- 6	5	1	15	Uneven	No treatment	
G- 7	15	1	63	Even	pulp harvest	1-5
G- 8	20	1	10	Uneven	No treatment	
G- 9	14	5	99		Open- Swamp No treatment	
G- 10	24	1	41	Even	St thinning	20+
G- 11	8	2	99		Open- Swamp No treatment	
G- 12	34	1	10	Uneven	No treatment	
G- 13	22	1	11	Uneven	No treatment	

Stand	Ac	Mgt	Type	Age	Recommendation	Year
G- 14	58	1	10	Uneven	No treatment	
G- 15	9	1	45	Even	pulp harvest	16-20
G- 16	41	1	10	Uneven	No treatment	
G- 17	11	2	99		Open- Swamp No treatment	
G- 18	22	1	63	Even	pulp harvest	1-5
G- 19	10	1	10	Uneven	No treatment	
G- 20	5	1	40	Even	pulp thinning	1-5
G- 21	125	1	11	Uneven	St thinning	16-20
G- 22	10	2	99		Open- Swamp No treatment	
G- 23	9	1	60	Even	inaccessible	
G- 24	17	1	11	Uneven	inaccessible	
G- 25	17	1	20	Uneven	inaccessible	
G- 26	9	1	60	Even	pulp harvest	1-5
G- 27	10	1	40	Even	partially inaccessible	
G- 28	16	1	40	Even	pulp harvest	16-20
G- 29	23	1	99		Open- Swamp No treatment	
G- 30	21	1	63	Even	pulp harvest	1-5
G- 31	3	2	99		Alder- Swamp No treatment	
G- 32	49	1	10	Uneven	thinning	25+
G- 33	53	1	10	Uneven	thinning	25+
G- 34	15	1	41	Even	pulp harvest	1-5
G- 35	8	1	98		SS	
G- 36	6	2	99		Alder- Swamp No treatment	
G- 37	14	1	40	Even	pulp harvest	1-5
G- 38	27	1	11	Uneven	No treatment	
G- 39	6	1	97	Uneven	SS	
G- 40	17	1	20	Uneven	thinning	20+
H- 1	5	1	70	Even	No treatment	
H- 2	4	1	41	Even	pulp harvest	1-5
H- 3	8	2	99		Alder- Swamp No treatment	
H- 4	12	1	60	Even	pulp harvest	16-20
H- 5	2	1	40	Even	pulp harvest	16-20
H- 6	2	1	71	Even	pulp harvest	16-20
H- 7	4	2	99		Alder- Swamp No treatment	
H- 8	2	2	99		Alder- Swamp No treatment	
H- 9	23	1	40	Even	cut in 2006 pulp harvest	16-20
H- 10	22	1	61	Even	cut in 1993 pulp harvest	16-20
H- 11	1	2	99		Open- Swamp No treatment	
H- 12	19	1	61	Even	pulp harvest	16-20
H- 13	27	1	10	Uneven	thinning	20+
H- 14	17	1	63	Even	pulp harvest	1-5
H- 15	42	1	10	Uneven	thinning	20+
H- 16	26	1	60	Even	cut in 2000 pulp harvest	6-10

Stand	Ac	Mgt	Type	Age	Recommendation	Year
H- 17	63	1	10	Uneven	cut in 2004 thinning	20+
H- 18	3	1	97		SS	
H- 19	25	1	10	Uneven	Thinning	20+
H- 20	13	5	99		Open- Swamp No treatment	
H- 21	61	1	10	Uneven	No treatment	
H- 22	2	1	14	Uneven	No treatment	
H- 23	8	1	70	Uneven	thinning	20+
H- 24	8	1	10	Uneven	cut in 2005 thinning	20+
H- 25	9	1	11	Uneven	no treatment	
H- 26	12	1	97		SS	
H- 27	1	1	97		SS	
H- 28	34	1	10	Uneven	thinning	6-10
H- 29	15	1	10	Uneven	thinning	6-10
H- 30	1	2	99		Open- Swamp No treatment	
H- 31	48	1	60	Even	pulp harvest	6-10
H- 32	13	1	63	Even	pulp harvest	1-5
H- 33	4	1	11	Uneven	thinning	10-15
H- 34	6	1	10	Uneven	thinning	10-15
H- 35	52	1	10	Uneven	thinning	10-15
H- 36	5	1	70	Even	No treatment	
H- 37	4	1	11	Uneven	thinning	20+
H- 38	11	1	71	Even	pulp harvest	6-10
H- 39	2	2	99	Even	Swamp No treatment	
H- 40	8	1	10	Uneven	thinning	16-20
H- 41	2	1	61	Even	pulp harvest	1-5
H- 42	9	1	71	Even	pulp harvest	16-20
H- 43	17	1	71	Even	pulp harvest	16-20
H- 44	9	1	10	Uneven	St thinning	6-10
H- 45	13	2	99		Alder- Swamp No treatment	
H- 46	10	1	10	Uneven	no treatment	
H- 47	14	1	41	Even	pulp harvest	1-5
H- 48	8	2	99		Open- Swamp No treatment	
H- 49	39	1	68	Even	cut in 2006, pulp harvest	6-10
H- 50	21	1	70	Even	pulp harvest - no access	1-5
H- 51	6	1	50	Even	No treatment	
H- 52	10	2	99		Alder- Swamp No treatment	
H- 53	7	1	70	Even	pulp harvest	1-5
H- 54	20	1	46	Even	cut in 2000, thinning	16-20
H- 55	6	1	10	Uneven	No treatment	
H- 56	4	1	10	Uneven	thinning	20+
H- 57	10	1	70	Even	Remove SP	20+
H- 58	2	2	99		Alder- Swamp No treatment	
H- 59	11	1	70	Even	Remove SP	15-20

Stand	Ac	Mgt	Type	Age	Recommendation	Year
H- 60	5	1	10	Uneven	ST harvest	5-10
H- 61	9	1	70	Even	pulp thinning	1-5
H- 62	5	2	99		Alder- Swamp No treatment	
H- 63	32	1	70	Even	pulp thinning	20+
H- 64	11	1	10	Uneven	no treatment	
H- 65	16	1	48	Even	cut in 2001 pulp thinning	1-5
H- 66	24	1	40	Even	RP-cut in 1992 pulp thinning	1-5
H- 67	37	1	10		Thinning	20+
H- 68	19	1	10	Uneven	Thinning	20+
H- 69	4	2	99		Open- Swamp No treatment	
H- 70	1	4	99		Parking	
I- 1	8	5	99		Alder- Swamp No treatment	
I- 2	6	1	71	Even	NS-cut 1993 pulp thinning	1-5
I- 3	3	1	10	Uneven	cut in 1978 firewood tinning	20+
I- 4	25	1	40	Even	RP-cut in -1992 pulp thinning	1-5
I- 5	3	2	97		seedling sapling- asp	
I- 6	6	1	70	Even	WP pulp thinning	6-10
I- 7	3	1	10	Uneven	WA,RM thinning	20+
I- 8	22	1	70	Even	RP,WP pulp thinning	1-5
I- 9	5	1	97		seedling sapling- brush	
I- 10	289	1	10	Uneven	HM,RM no treatment	
I- 11	33	1	61	Even	WS,RP pulp thinning	1-5
I- 12	11	1	98	Even	SS- softwood--no treatment	
I- 13	5	1	60	Even	WP-RP pulp thinning	1-5
I- 14	4	1	60	Even	RP,WP pulp thinning	1-5
I- 15	6	1	10	Uneven	BC,RM Firewood thinning	10-15
I- 16	8	1	40	Even	RP pulp thinning	6-10
I- 17	6	2	97	Uneven	SS hardwood -no treatment	
I- 18	4	1	10	Uneven	BC- RM- No treatment	
I- 19	16	2	99		Alder- Swamp No treatment	
I- 20	3	1	11	Uneven	Hem- BC -no treatment	
I- 21	22	1	47	Even	JL harvest in 2000 pulp thinning	20+
I- 22	4	1	47	Even	JL harvest in 2000 pulp thinning	6-10
I- 23	5	1	48	Even	EL, no treatment	
I- 24	33	1	10	Uneven	RM,HM no treatment	
I- 25	2	1	71	Even	WS, pulp thinning	20+
I- 26	46	1	10	Uneven	RM,BC no treatment	
I- 27	33	1	60	Even	RP,WP cut in 2001 pulp thinning	6-10
I- 28	56	1	10	Uneven	RM-BC- no treatment	
I- 29	11	1	71	Even	WS- inaccessible	
I- 30	14	1	10	Uneven	no treatment inaccessible	


Winona UMP
Map of Compartments
By els 1-11
Comstock
Dodge
Co Rt 91
Mooney Gulf S
Larmon
Bishop
Sharp
Waterville
Dixon
Loomis
Co Rt 92
A
Marsh
Kate Hall
Brown
B
Wart
Co Rt 95
Hessel
Co Rt 90
C
Van Wormer
Hessel
E
D
North Church
Co Rt 17
Balch Place
G
F
Hagen
Rudd
Wart
I
H
Co Rt 13
Rudd
Center
N
Miles
0
0.4
0.8
1.6
McKibben
Bargy
Co Rt 15


Winona UMP
Map of Stands,
Age Classes, and
Special Management Zones
Compartment A
By els 5-13
Legend
Non Forested
Even Aged
Un-Even Aged
Special Management Zones
Larmon
Co Rt 91
Waterville
Brown
Bishop
Co Rt 92
Marsh
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Miles
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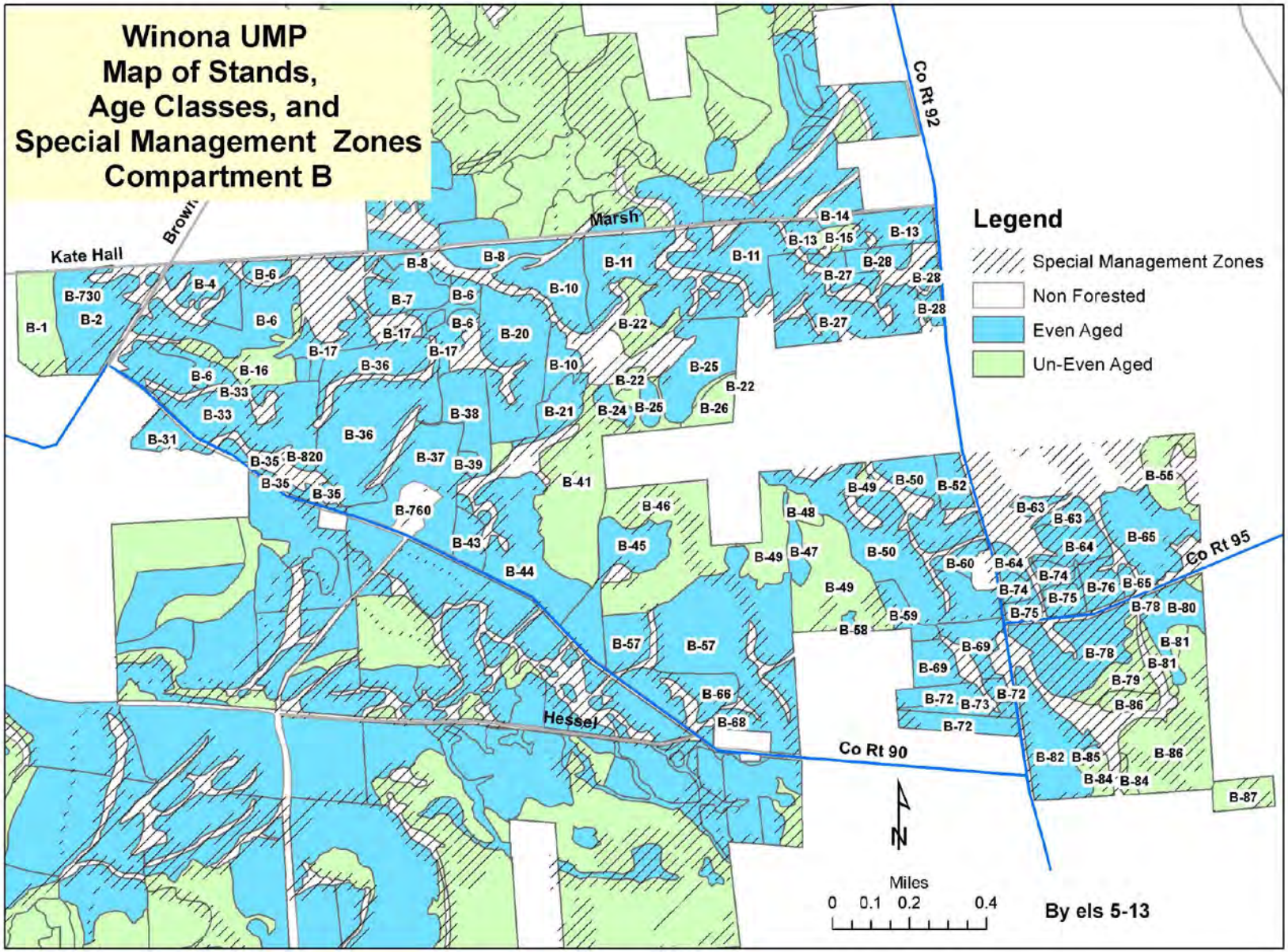
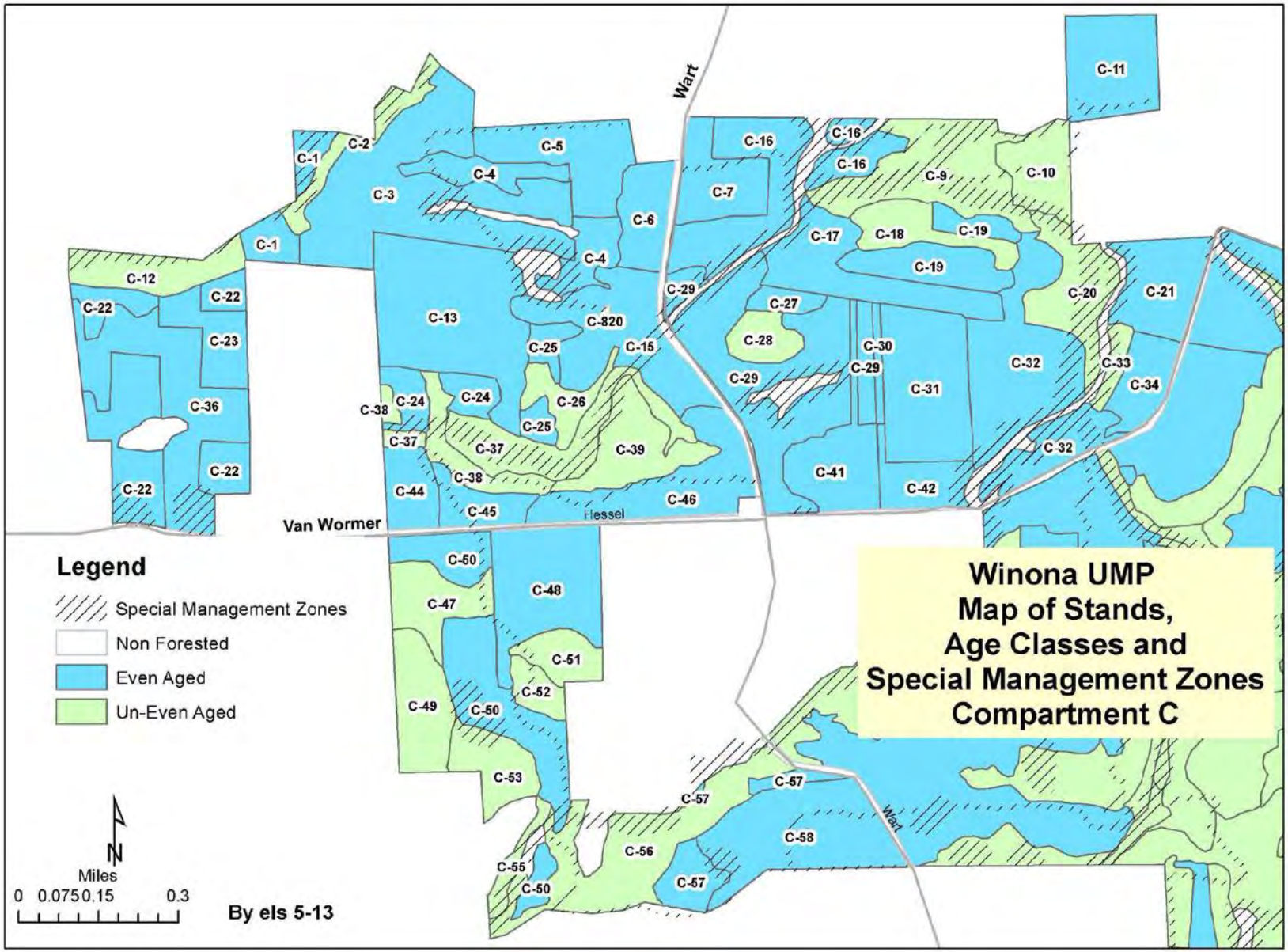
0.25
0.5


Winona UMP
Map of Stands,
Age Classes, and
Special Management Zones
Compartment B
Legend
Special Management Zones
Non Forested
Even Aged
Un-Even Aged
Kate Hall
Marsh
Hessel
Co Rt 92
Co Rt 95
Co Rt 90
Miles
0 0.1 0.2 0.4
By els 5-13


Winona UMP
Map of Stands,
Age Classes and
Special Management Zones
Compartment C
Legend
Special Management Zones
Non Forested
Even Aged
Un-Even Aged
Miles
0 0.075 0.15 0.3
By els 5-13
Wart
Van Wormer
Hessel
C-1
C-2
C-3
C-4
C-5
C-6
C-7
C-9
C-10
C-11
C-12
C-13
C-15
C-16
C-17
C-18
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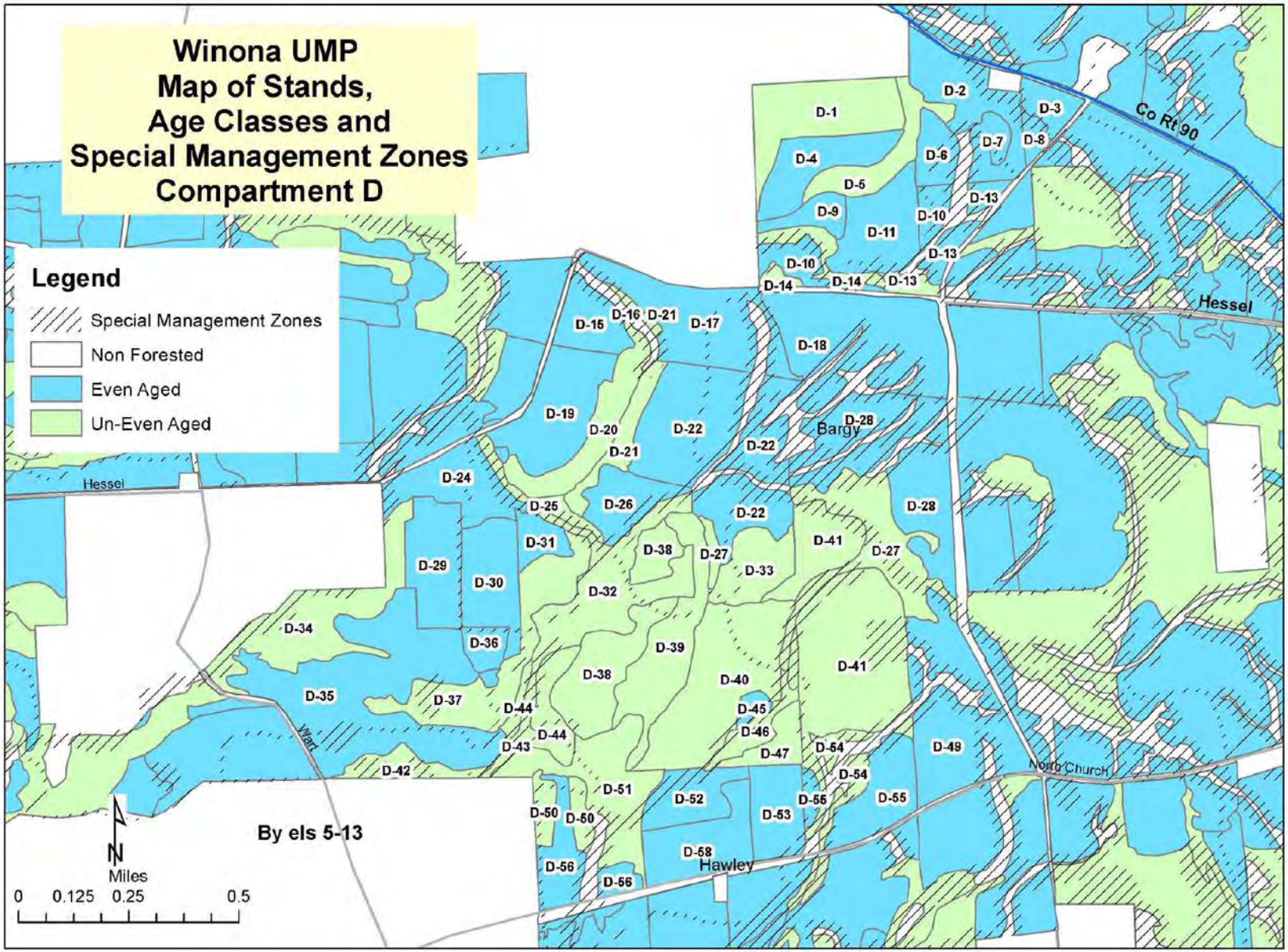
C-57
C-58
C-820


Winona UMP
Map of Stands,
Age Classes and
Special Management Zones
Compartment D
Legend
Special Management Zones
Non Forested
Even Aged
Un-Even Aged
Co Rt 90
Hessel
Barry
Hawley
North Church
By els 5-13
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Miles
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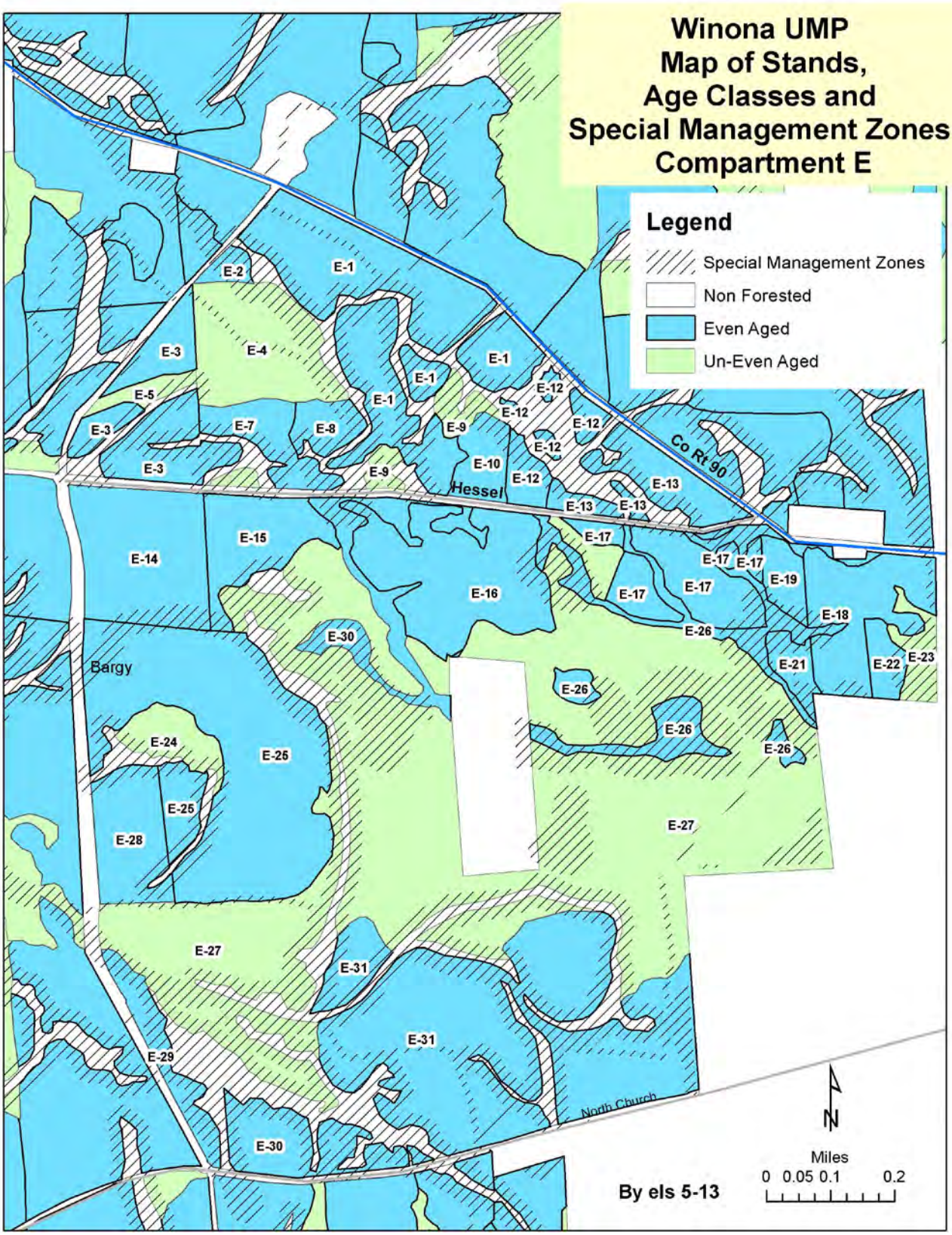
Winona UMP
Map of Stands,
Age Classes and
Special Management Zones
Compartment E
Legend
Special Management Zones
Non Forested
Even Aged
Un-Even Aged
Co Rt 90
Hessel
Bargy
North Church
E-1
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E-12
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E-14
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E-21
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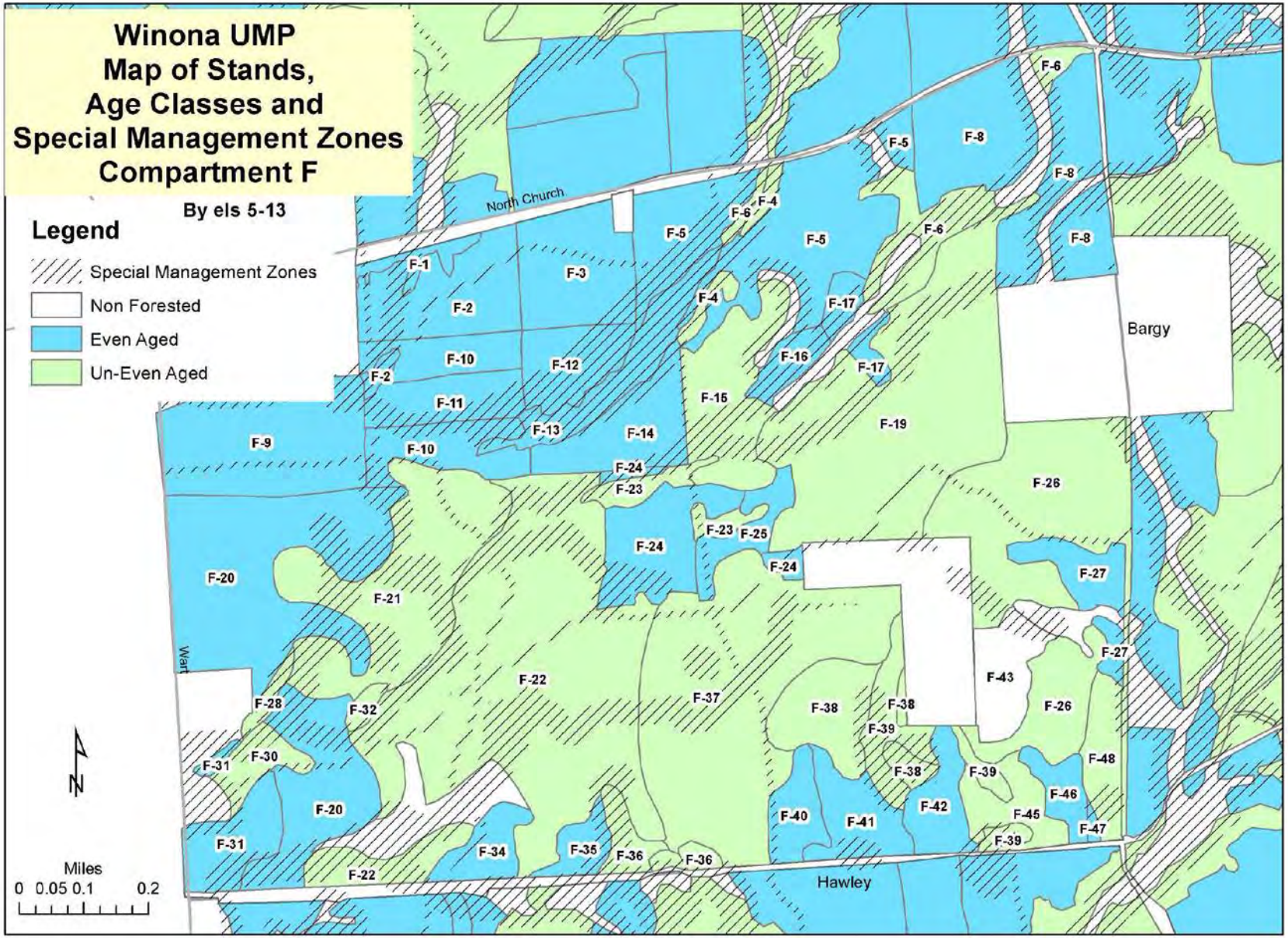
E-30
E-31
N
Miles
0 0.05 0.1 0.2
By els 5-13


Winona UMP
Map of Stands,
Age Classes and
Special Management Zones
Compartment F
By els 5-13
Legend
Special Management Zones
Non Forested
Even Aged
Un-Even Aged
North Church
Bargy
Hawley
Wart
Miles
0 0.05 0.1 0.2
N
F-1
F-2
F-3
F-4
F-5
F-6
F-8
F-9
F-10
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F-12
F-13
F-14
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F-16
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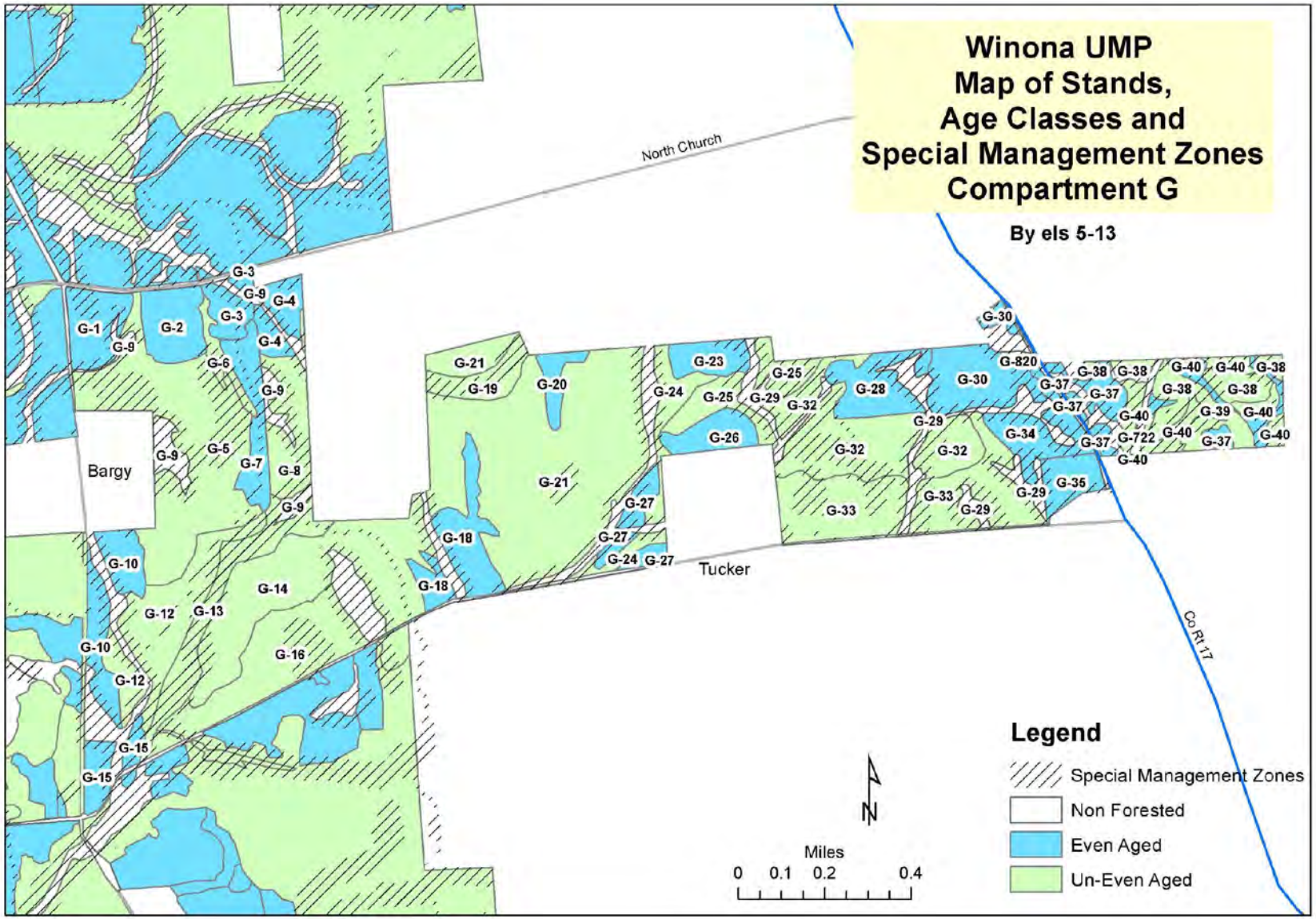
F-48


Winona UMP
Map of Stands,
Age Classes and
Special Management Zones
Compartment G
By els 5-13
North Church
Tucker
Bargy
Co Rt 17
G-1
G-2
G-3
G-4
G-5
G-6
G-7
G-8
G-9
G-10
G-12
G-13
G-14
G-15
G-16
G-18
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G-23
G-24
G-25
G-26
G-27
G-28
G-29
G-30
G-32
G-33
G-34
G-35
G-37
G-38
G-39
G-40
G-722
G-820
Legend
Special Management Zones
Non Forested
Even Aged
Un-Even Aged
N
Miles
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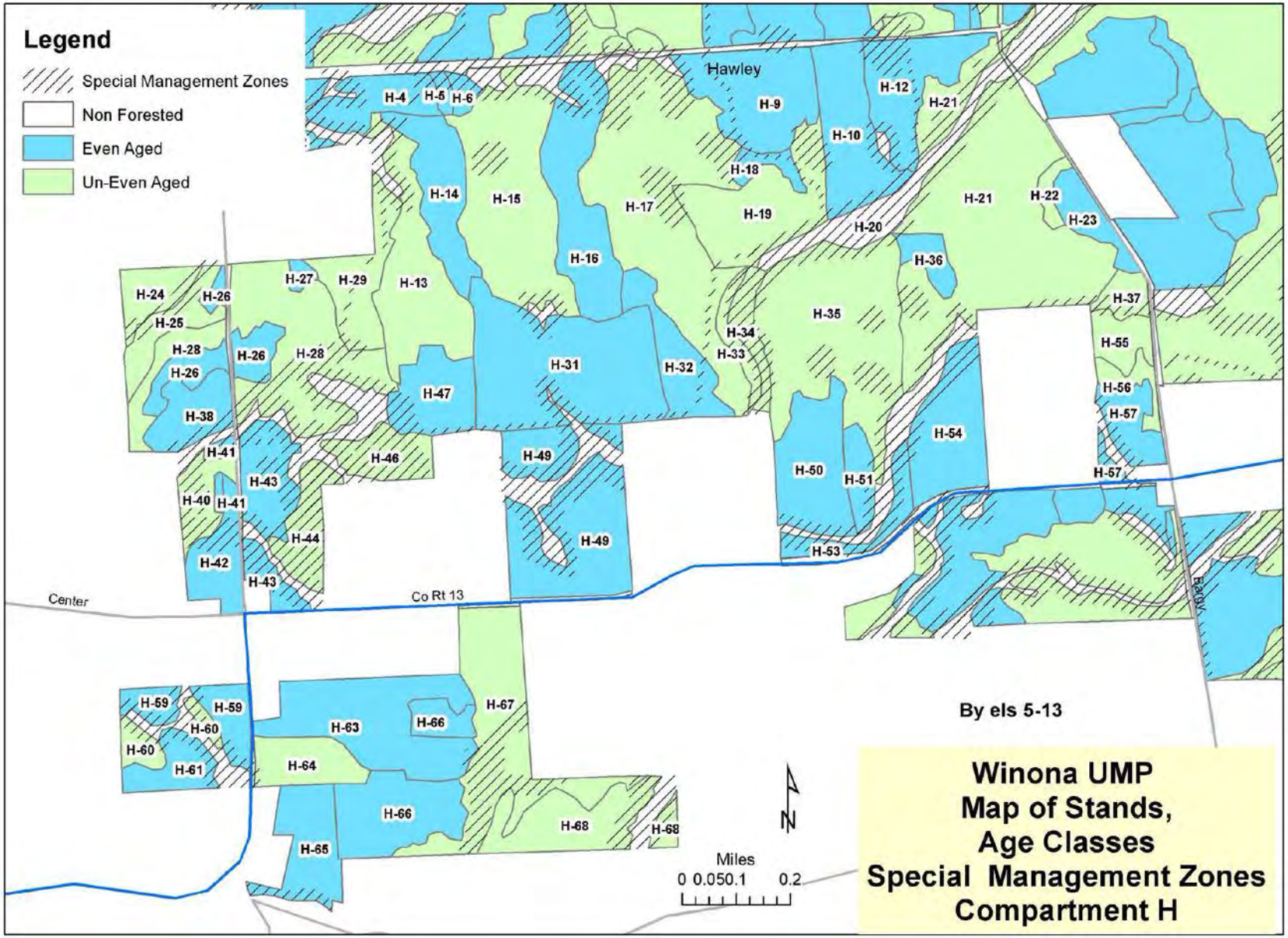
Legend
Special Management Zones
Non Forested
Even Aged
Un-Even Aged
Hawley
Center
Co Rt 13
Barry
H-4
H-5
H-6
H-9
H-10
H-12
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H-14
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H-56
H-57
H-59
H-60
H-61
H-63
H-64
H-65
H-66
H-67
H-68
Miles
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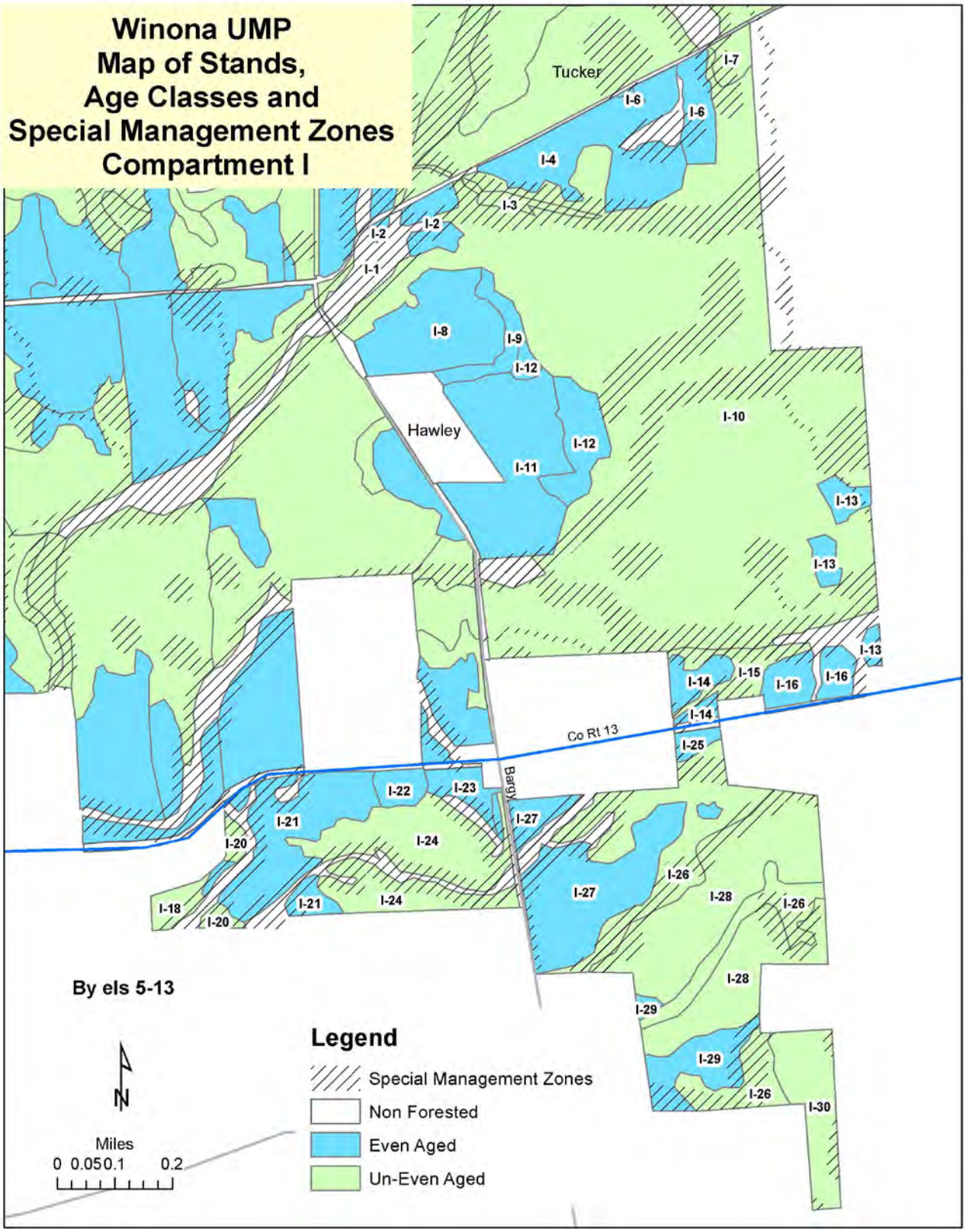
N
By els 5-13
Winona UMP
Map of Stands,
Age Classes
Special Management Zones
Compartment H


Winona UMP
Map of Stands,
Age Classes and
Special Management Zones
Compartment I
Tucker
Hawley
Co Rt 13
Bargy
I-1
I-2
I-3
I-4
I-6
I-7
I-8
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I-18
I-20
I-21
I-22
I-23
I-24
I-25
I-26
I-27
I-28
I-29
I-30
By els 5-13
Legend
Special Management Zones
Non Forested
Even Aged
Un-Even Aged
N
Miles
0 0.05 0.1 0.2

Appendix G -2011 Property Tax Tables/Acquisition History

County	Town	Acres	Assessment	Real Property Tax	School Tax
Oswego	Boylston	5550.00	$5,499,200	$50,647.63	$85,402.58
Jefferson	Lorraine	3490.01	$3,048,900	$27,240.18	$39,962.94
Jefferson	Ellisburg	133.73	$161,900	$457.23	$172.78
TOTALS			$8,710,000	$78,345.04	$125,538.30
Taxes for the year 2011			**GRAND TOTAL**		$203,883.34

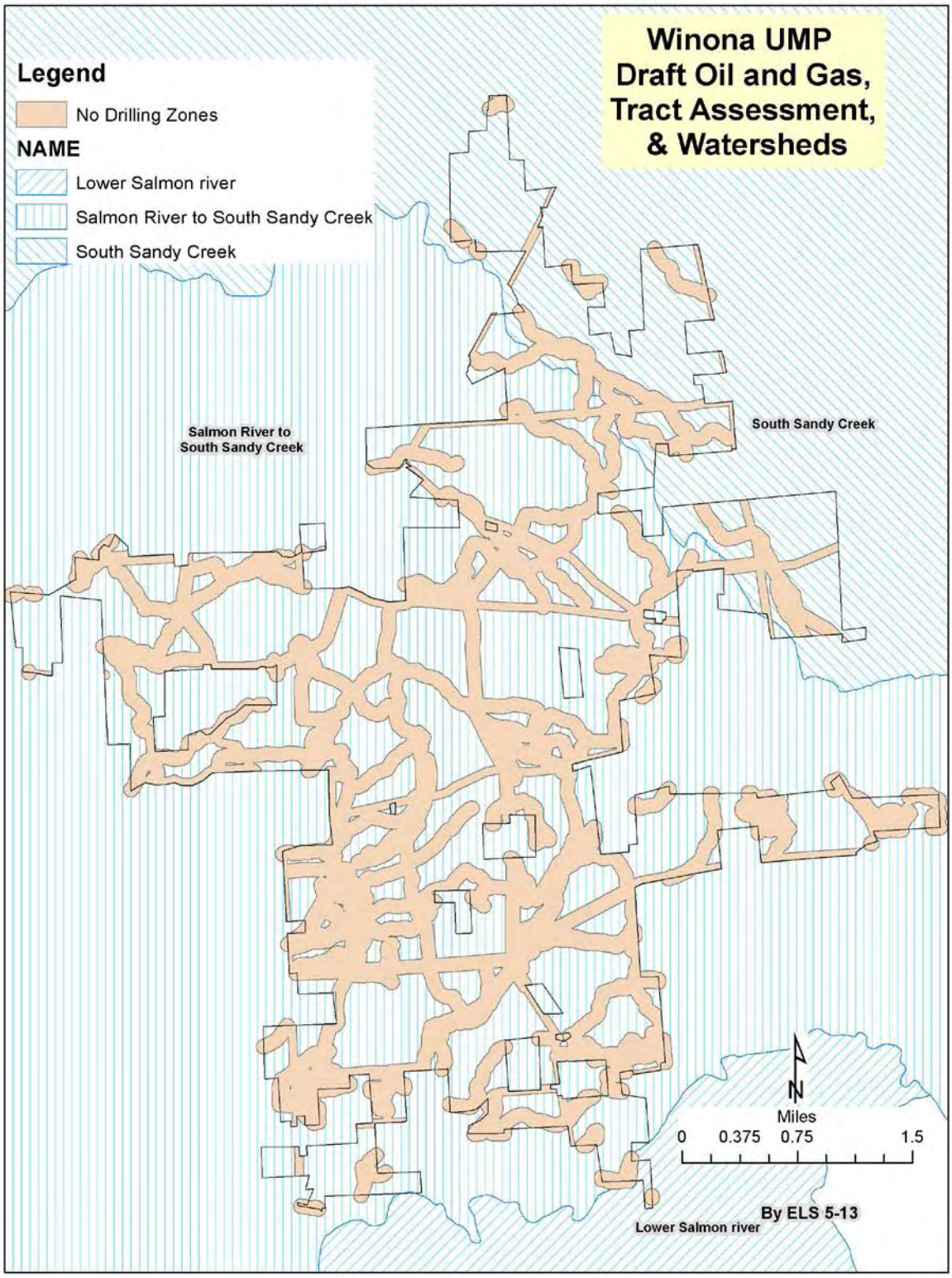
Acquisition History of Winona State Forest

PROP.	VENDOR	ACQUIRED	AC.	TOWN
A	C. Ackerman	6/9/34	459.98	Boylston
B	E. Spicer	11/27/33	53.75	Boylston
C	P. Hines	4/28/31	160.97	Boylston
D	Burt Rudd	4/28/31	99.00	Boylston
E	Blount Lumber Co.	4/28/31	241.63	Boylston
F	F. Hall	4/28/31	72.00	Boylston
G	P. Moore	3/23/32	262.78	151.87 Lorraine; 110.91 Boylston
H	Ora Shelmidine	3/24/32	276.50	128.36 Lorraine; 148.14 Boylston
I	H. Coats	5/5/32	160.28	57.58 Lorraine; 102.70 Boylston
K	H. Lester	2/10/32	180.91	Boylston
L	H. O'Rourke	7/1/36	99.99	Boylston
M	Dealing & Snyder	4/11/34	177.55	Boylston
N	Gettie Ackerman	3/25/32	90.02	Boylston
O	Nelson Shampine	4/22/32	81.46	Boylston
P	Oswego County	10/30/33	39.77	Boylston
Q	J. Borden	5/27/33	51.17	Boylston
R	C. White	1/31/34	229.42	Boylston
S	Ben Ridgeway	4/16/34	51.67	Boylston
T	Emily Blood	2/27/33	25.79	Lorraine
U	Cory & Folsome	11/23/33	227.08	Lorraine
V	C. Adsit	11/23/33	56.65	25.20 Lorraine; 31.45 Ellisburg
W	C. Adsit	11/23/33	63.17	Boylston
X	Edison Wilmot	4/3/34	103.65	Boylston
Y	Dime Loan Assn.	4/3/34	94.22	Boylston
Z	Oren Barker	5/1/34	42.06	Boylston
AA	M. Poole	5/23/34	63.76	Boylston
CC	Ora Shelmidine	8/22/33	475.73	Lorraine

DD	F. Cowell	8/22/33	67.81	Lorraine
EE	W. Hawley	5/27/33	100.00	Boylston
FF	J. Borden	10/6/34	27.99	Boylston
GG	H. White	12/19/34	75.09	Lorraine
HH	A. Moore	3/4/36	104.50	Boylston
JJ	C. Lowry	12/16/35	188.00	Boylston
KK	J. White	12/7/36	22.14	Boylston
LL	Federal Land Bank	6/2/36	142.60	Boylston
MM	Eri Maitland	9/6/35	53.30	Boylston
NN	O. Lowery	12/16/35	190.00	Boylston
OO	John Hansen	11/1/35	44.67	Boylston
PP	Federal Land Bank	2/13/36	57.46	Lorraine
QQ	W. Brown	12/10/36	10.54	Lorraine
RR	Emily Blood	11/6/35	66.73	Boylston
SS	F. Cowell	6/23/36	59.89	Lorraine
TT	F. Hill	1/14/37	3.93	Boylston
UU	Nelson Shampine	1/5/37	30.75	Boylston
VV	Lettie Gardner	1/5/37	173.12	Lorraine
WW	C. Cox	1/17/39	43.86	Boylston
XX	J. Chase	2/15/38	68.24	Boylston
ZZ	Ben Ridgeway	7/17/39	17.51	Boylston
AAA	Charles White	8/8/39	111.09	Boylston
BBB	Herman Loop	11/17/39	103.86	Boylston
CCC	Daniel Snyder	9/22/65	104.98	Boylston
DDD	Austin Minckler	11/17/39	47.13	Boylston
EEE	A. Ridgeway	4/9/41	47.18	Boylston
FFF	Lavy Hamilton	8/15/40	120.25	Lorraine
GGG	Mettie Howard	6/29/40	140.13	Lorraine
HHH	A. Boyd	10/16/40	27.05	Lorraine
III	E. Pierce	9/23/40	11.15	Boylston
JJJ	J. White	9/4/40	71.57	Boylston
KKK	Emory Rudd	8/24/40	86.43	Lorraine
LLL	Damin Shultz	2/21/41	210.47	Lorraine
MMM	Lettie Gardner	12/16/40	71.49	Lorraine
NNN	Adams Bank	4/14/41	56.88	Boylston
OOO	A. Dennis	2/6/41	102.28	Ellisburg
PPP	W. Brown	6/16/41	18.76	Lorraine
QQQ	Ben Ridgeway	4/17/41	48.95	Boylston
RRR	C. Hughes	6/24/41	225.60	Boylston
SSS	Edith Deir	6/7/41	106.61	Boylston
TTT	Oren Barker	7/1/41	12.97	Boylston
UUU	Blount Lumber Co.	2/3/41	145.01	Boylston
VVV	Oswego Co. Welfare	12/13/41	69.68	Boylston
WWW	Town of Lorraine	2/21/41	2.83	Lorraine
XXX	Nellie Davis	4/23/41	71.30	Lorraine

YYY	G. Davis	11/25/41	7.97	Lorraine
BBBB	Leslie Ackerman	10/16/41	85.50	Boylston
CCCC	Federal Land Bank	5/15/42	301.09	Lorraine
DDDD	Belleville Academy	7/15/43	191.19	Lorraine
EEEE	Ross Caulkins	9/18/42	19.00	Lorraine
FFFF	Federal Land Bank	8/23/43	198.44	Lorraine
HHHH	Anna Riley	3/19/46	98.93	Boylston
IIII	John Helbock	8/10/46	68.31	Boylston
JJJJ	Nathan Whitford	3/3/47	313.00	Lorraine
KKKK	G. Van Brocklin	2/20/48	73.42	Lorraine
LLLL	James Witchley	7/12/51	101.67	Lorraine
MMMM	Earl Pierce	12/17/58	47.29	Boylston
NNNN	William Davey	8/19/63	22.07	Boylston
OOOO	Earl Gardiner	11/29/61	72.26	Boylston - Bond
PPPP	Richard White	3/1/62	66.82	Boylston - Bond
QQQQ	Bert Pitkin	5/9/63	59.30	Lorraine - Bond
RRRR	Lettie Gardner	7/2/70	1.58	Lorraine - Bond
K	supp unknown	5/19/59	2.90	Boylston - Bond
SSSS	Tucker Road	8/15/84	3 Rod ROW	Boylston - Env. Bond
	Sub-Total		5548.86	Boylston
	Sub-Total		133.73	Ellisburg
	Sub-Total		3550.89	Lorraine
	Grand Total	12/3/71	9,233.48	

Appendix H –Draft Oil and Gas Tract Assessment



Appendix I -Mined Land Reclamation Standards

The following mined land reclamation standards apply to lands operated and maintained by the Department of Environmental Conservation when mineral resources are to be extracted for purposes of construction related projects. The reclamation standards apply when the amount of materials to be extracted from any one site during twelve consecutive months do not exceed the Mined Land Reclamation permit threshold, i.e., 1000 tons or 750 cubic yards.

1. Basic reclamation shall include: grading and slope treatment, disposal of refuse or spoil, drainage and water control features and re-vegetation.
2. Where possible, continuing reclamation concurrent with mineral resource extraction will be scheduled and implemented.
3. The perimeter of a mine shall be treated in a manner so as to eliminate hazards and to minimize the visual impact of the mine to the maximum extent. Treatments may include the use of berms, shrub or tree plantings and fencing.
4. Topsoil/overburden will first be stripped, stockpiled and seeded from areas to be mined for sand, gravel or shale type mineral resources. All topsoil will be saved and used exclusively for reclaiming affected land. A minimum of six inches of cover material with a soil composition capable of sustaining plant growth shall be provided on all land to be revegetated.
5. All mine floor heavy use areas will be ripped and/or disked in order to alleviate compaction after grading.
6. All final slopes will be graded off and left not steeper than one vertical on two horizontal (26 degrees form horizontal).
7. Topsoil will be replaced (evenly graded) on all affected lands after grading, ripping and/or disking.
8. Following replacement of topsoil, the exposed surface areas must be immediately seeded, fertilized, limed and mulched.
9. Seeding mixtures and application rates vary. Seed mixtures should be based upon individual forest unit management plan goals, objectives, soil texture and drainage characteristics

a. Select a seed mixture that will provide initial erosion control results and varieties that will provide the long term vegetative productivity necessary to satisfy the desired unit management plan goals and objectives.
b. Fertilize at 600 pounds per acre, 5-10-10 fertilizer.
c. Lime per soil test results and adjust between 5.5 - 7.5. Approximately 1 ton/acre application will increase the pH level up one tenth of a point
d. Mulch with hay or straw to cover 75 - 100 % of the soil surface (2 tons per acre).

Conservation Seed Mixtures

It is recommended that seeding rates be doubled when using a broadcast type seed applicator.

Gravelly Silt Loam Soils (Medium to Fine)

20 lb/ac Creeping Red Fescue or Tall Fescue
2 lb/ac Redtop
30 lb/ac
5 lb/ac Orchardgrass
10 lb/ac Flat Pea
10 lb/ac Tall Fescue or Smooth Bromegrass
2 lb/ac Red Top

27 lb/ac
Sand and Gravel Soils (Course to Medium)
4 lb/ac Switchgrass (PLS)
4 lb/ac Indiangrass (PLS)
2 lb/ac Little Bluestem (PLS)
1.5 lb/ac Sand Lovegrass (PLS)
11.5 lb/ac
PLS - Pure Live Seed

Appendix J -Summary of Public Comment

The following is a summary of comments from the final draft public meeting.
(M)=comment from meeting, (E)= comment from email, (L)= comment from letter

Recreation Comments

1. Signage and enforcement, both essential (M)
2. "Motorized Vehicle Prohibited" signs will cause confusion by some forest users on snowmobiles (M)
3. Education would go a long way about trail use (M)
4. Still need enforcement to keep inappropriate uses off certain trails (M)

Response:
See Section IV, Goal #3, Objective #4. Recreation facilities and opportunities, and Goal #2, Objective 3. Trails will be maintained to standards appropriate to their use and protected from damage from other activities. --- The signage will be updated and conform to a standard system. Use of Motorized Vehicle prohibited signs will be kept to a minimum. Education from DEC employees will be ongoing. Area will be patrolled by foresters, ranges and operations staff.

5. Safety- concerned about having logging, snowmobiling & skiing/trail prep at the same time and location(M)
6. There needs to be, Is it safe to have loggers (M)
7. Concerned about logging during winter near winter trails (M)
8. Logging on Hessel was hazardous when snow was deep due to narrow plowed routes, too narrow for groomer and snowmobiles (M)
9. Concerned about logging during winter near winter trails (M)

Response:
See Section IV, Goal #2, Objective 3. Trails will be maintained to standards appropriate to their use and protected from damage from other activities. Additional objective added— "Winter logging will only be allowed if compatible with safety considerations for winter recreation."
.

10. Q- will privies be accessible? (M)

Response:
Yes

11. Horse use seems to be up (M)
12. A lot of horse riding (M)
13. (Paraphrased Comment)Horse travel on trails and roads cause more damage (E)

Response:
Yes, it is increasing. See Section I. F. Recreation, if use increases to a significant environmental impact some restrictions may be necessary.

14. Correct ATV designated town roads (M)
15. Accurate ATV maps (M)

Response:
See Section IV, Goal #3, Objective 5. Off-Highway and All-Terrain Vehicle Use- Designation of town roads are not our jurisdiction. The DEC works with the Tug Hill Commission to produce accurate maps.

16. (Paraphrased Comment) ATV – Dogsledding. A Resident next to the forest would like to use ATVs for sled dog training. Thinks is a big need for this. (E)
17. (Paraphrased Comment) happy to see that the DEC is planning on continuing the ATV and snowmobiling access to this popular area. A unique opportunity with the access afforded to all especially veterans. (E)

Response:
See Section IV, Goal #3, Objective- 5. Off-Highway and All-Terrain Vehicle Use- limited use of ATV's

18. Some ski trails not as good as they used to be due to ATV damage (M)
19. Large 4-wheel drive trucks do the most damage to the trails (M)

Response:
See Section IV, Goal #2, Objective 3. Trails will be maintained to standards appropriate to their use and protected from damage from other activities- damaged trails will be repaired as time and funds allow

20. (Paraphrased Comment) Designated Campsites notes incorrect locations on map. Mentions usefulness of campsites and good location. Suggests a total of 5 campsite locations should be provided on this unit. (E)

    Response:
    This correction was noted and corrected, digitized GIS data was corrected. Thanks for spotting the error.

21. Proposals on changing the ski trails basically supported by skiers- get traffic away from CCC trail (M)
22. Dogleg open to snowmobilers "invites" snowmobilers to other trails, such as Alice's Alley; Dogleg narrow for two sleds when snow deep and some drive too fast(M)
23. Ski trails changes are favorable- increase access from CCC Camp (M)
24. Some snowmobilers go too fast on woods trails (M)

Response:
See changes below.

25. Q- why eliminate 2 snowmobile trails? It is nice to have woods trails off the main runs (M)
26. People concerned about reduction in snowmobile trails (M)
27. Don't just close trails, provide options or alternatives for snowmobilers (M)

Response:
Franks Fancy Trail will remain open for snowmobiling and the issue with Dogleg will be revisited when Cross Leg trail is built.

28. Hard to please all, need to balance users, safety (M)
29. Winona is good for family snowmobile riding, cause (it) is quieter, safer than elsewhere (M)

Response:
True, the UMP tries to balance human and natural resource needs and provide good recreation opportunities.

30. (Paraphrased from letter) The citizens of North Boylston would like to see snowmobiles and ATV's coming from the south on Wart Road to use Hawley Road to get to Bargy Road (L)

Response:
ATVs are not allowed on Hawley Public Forest Access Road (PFAR). That portion of the Wart Road and North Church Road are town roads and not under the DEC jurisdiction. This could be a key point to make in the new brochure.

31. (Paraphrased from letter following up from meeting) Supports changing trails to "Ski and snowshoe only." Doesn't think snowmobiles like short local trails. Thinks snowmobiles are too fast are dangerous especially when using ski and snowshoe only trails. Feels new trails should be made connecting Tail with Alice's Alley and "new" Sally's Ride with Raspberry. Suggests Cross Leg trail be Ski only. Would like to see more enforcement of trail use, and asks if coyote hunting can be banned from Winona (L)

Response:
All users will be considered when designating trail use. Sharing of trails where permitted is a must in consideration for other users and uses. Any new trails would have to be layed out, field checked, and explored for other land uses or over use. Winona has a considerable number of trails already and maintenance of existing trails is a priority. Coyote hunting cannot be banned from Winona (see Fish and Wildlife below)

Forestry Comments

32. Camp owners in the forest are concerned about forest upkeep. Blowdowns potential for fire danger. (M)
33. Camp owners w/in the forest are concerned about blowdowns not being cleaned up- hard to get through off trails, concerned about fires. (M)

Response:
See Section IV, Goal #1, Objective 2. Apply sound, current silvicultural practices for all timber management activities. Course woody debris (downed trees) are vital to small woodland creatures and must be reserved. It also falls under the category of carbon sequestering.

Facilities Comments

34. Access to Davis in holding (hard packed snow and ice from groomer-spring) (M)

Response:
The inholder accesses their land across Winona State Forest from Hessel Road, which is a town seasonal road that is groomed for snowmobiling. The legal access for this inholding is not in the location currently used by the landowner, so there should an alternate route for access to a town road that does not cross state lands.

35. Help preserve legacy of CCC camp (M)
36. (Paraphrased Comment) the old CCC Camp that I understand is one of the last surviving Camps. I would encourage maintaining and restoring this building perhaps even with historical funds? (E)

Response:
See Section IV, Goal# 2, Objective 1. Historic and cultural resources will be preserved and protected. Measures are being taken to try to restore the CCC buildings. Any funding source will be taken into consideration.

Fish and Wildlife Comments

37. Bishop Road Bear encounter – cub killed a dog (M)

Response:
The bear was likely a starving yearling coming out of winter. It was subsequently killed by an ECO following the incident. Bears have become established on Tug Hill and numbers are increasing. DEC is writing a bear management plan and will consider management options for the Hill.

38. Coyote Hunting seems incompatible with winter use- hunter ignoring ski trail signs on their snowmobiles (M)
39. Coyote Hunting overlapping with winter recreation (M)

Response:

State forests are multiple use lands. Users need to recognize this, and maintain a level of consideration for other users and uses. Forest Rangers patrolling state lands will be made aware of the issues with snowmobiles off designated trails. Coyote hunting is a form of winter recreation, as is other small game hunting. Many hunters do avoid the heavily used portions of the developed ski/snowshoe trails, but are not required to any more than an off trail skier/snowshoer is obligated to avoid trail-less areas.

40. (Paraphrased Comment) 26 miles of classified streams that do provide "good trout fishing" but I do not see any reference to future management or protection? Are there any goals? Proposed stocking? What about Indigenous or Heritage strain Brook Trout? What is currently there and what is the status of those species? If you are proposing a management approach I do not see where you can do that without assessing and addressing what is there or not there? There is a great deal of information on the birds and animals in the area but nothing on the fishery? (E)

Response:
Those streams with C(T) or higher designations are and will continue to be protected under Article 15. They all have wild brook trout populations although Little Sandy Creek may also have strays from other areas. We do and will continue to manage them for wild brook trout. Stocking of hatchery fish would be undesirable from both population dynamics and genetic perspectives and is not contemplated.

Appendix K -Environmental Assessment Form and Declaration

This Unit Management Plan (UMP) does not propose pesticide applications of more than 40 acres, any clearcuts of 40 acres or larger, or prescribed burns in excess of 100 acres. Therefore the actions in the plan do not exceed the thresholds set forth in the Strategic Plan/Generic Environmental Impact Statement for State Forest Management**.**

This Unit Management Plan also does not include any of the following:

1. Forest management activities occurring on acreage occupied by protected species ranked S1, S2, G1, G2 or G3
2. Pesticide applications adjacent to plants ranked S1, S2, G1, G2 or G3
3. Aerial pesticide spraying by airplane or helicopter
4. Any development of facilities with potable water supplies, septic system supported restrooms, camping areas with more than 10 sites or development in excess of other limits established in this plan.
5. Well drilling plans
6. Well pad densities of greater than one well pad in 320 acres or which does not comply with the limitations identified through a tract assessment
7. Carbon injection and storage or waste water disposal

Therefore the actions proposed in this UMP will be carried out in conformance with the conditions and thresholds established for such actions in the Strategic Plan/Generic Environmental Impact Statement , and do not require any separate site specific environmental review (see 6 NYCRR 617.10[d]).

Actions not covered by the Strategic Plan/Generic Environmental Impact Statement

Any action taken by the Department on this unit that is not addressed in this Unit Management Plan and is not addressed in the Strategic Plan/Generic Environmental Impact Statement may need a separate site specific environmental review.

Glossary of UMP Terms

All-Aged – (See Un-Even Aged)
Aquifer – Very deep subterranean water source (not surface water)
Allowable Cut - The amount of timber considered as available for cutting during a specified planned period of operation. Same as volume of growth for same period.
ATV- A vehicle less than 48 inches wide and less than 1000 lbs licensed for off road use only.
Basal Area/Acre (BA)- A measure of forest density, the sum total of the basal areas of all trees on one acre.
Best Management Practices (BMP) - A practice or a combination of practices that are designed for the protection of water bodies and riparian areas and determined to be the most effective and practicable means of controlling point and non-point source water pollutants.
Blowdown - Tree or trees felled or broken off by wind.
Breeding Bird Atlas – GIS database of birds found or possible in a given area.
Civilian Conservation Corps (CCC) - A government program to provide jobs during and after the great depression.
Conversion - A change from one forest type to another. i.e. plantation to natural.
Cull – A tree with no commercial value.
Cutting Interval - The number of years between harvests in a stand.
Deciduous - Tree and shrub species that lose their foliage in autumn.
Defoliation - The partial or complete loss of foliage, usually caused by an insect, disease, or drought.
Den Tree - A tree containing an excavation sufficiently large for nest, dens or shelter; tree may be alive or dead.
Diameter Breast Height (DBH) - The diameter of the stem of a tree (outside bark) measured at breast height (4.5 ft) from the ground.
EcoZone - A spatially explicit, relatively homogeneous unit of the earth that includes all interacting organisms and components of the abiotic environment within its boundaries – note usually consist of many thousand acres.
Ecosystem Management - The appropriate integration of ecological, economic, and social factors in order to maintain and enhance the quality of the environment to best meet our current and future needs. Means keeping natural communities of plants, animals, and their environments healthy and productive so people can benefit from them year to year.
EIS – Environmental Impact Statement, an evaluation of potential adverse environmental impacts of a project.
Endangered Species - Any species of plant or animal defined through the Endangered Species Act of 1976 as being in danger of extinction throughout all or a significant portion of its range, and published in the Federal Register.
Even-Aged - A class of forest or stand composed of trees of about the same age. The maximum age difference is generally 10-20 years.
Forest - An assemblage of trees and associate organisms on sites capable of maintaining at least 60% crown closure at maturity.

Forestry - The profession embracing the science, art, and practice of creating, managing, using, and conserving forests and associated resources for human benefit and in a sustainable manner to meet desired goals, needs, and values.
Forest Management - The application of business methods and technical forestry principles to the operation of a forest property.
Forest Succession - The gradual replacement of one community of plants by another. Example: an area of open grass becoming shrub which then becomes shade intolerant trees (pioneer species) and finally climax forest of mostly shade tolerant trees.
Forest Type - A group of stands of similar character as regards composition and development due to given physical and biological factors, by which they may be differentiated from other groups of stands.
Fragipan - A dense and brittle layer of soil. Its hardness results mainly from extreme density or compactness rather than from high clay content. The material may be dense enough to restrict root, nutrient, and water penetration.
Geocaching - A high-tech, hide and seek, outdoor activity for utilizing the Global Positioning System (GPS) where an item is "cached" on the landscape and needs to be found.
Habitat - The geographically defined area where environmental conditions (e.g., climate, topography, etc.) meet the life needs (e.g., food, shelter, etc.) of an organism, population, or community.
Harvest /Cut/ Logging - Altering a forest by removing trees and other plants so as to control the composition and form of forest stands.
Invasive - Species that, after they have been moved from their native habitat to a new location, or following disturbance in their native habitat, spread on their own, displacing other species, and sometimes causing environmental damage.
Kiosk- A small roofed structure designed to display information and/or maps
Large Poles - Trees 9-11 inches diameter at breast height.
Large Sawtimber - Trees 18 inches or greater diameter at breast height.
Log Landing - A cleared area in the forest to which logs are skidded and are temporarily stored before being loaded onto trucks for transport.
Medium Sawtimber - Trees 15-17 inches diameter at breast height.
Native - Species believed to have existed in a particular geographic region or ecosystem of the Northeast prior to European settlement and subsequent large-scale alteration of the landscape. The state reference for native species is Mitchell. 1997 Revised Checklist of New York State Plants.
Natural Area- an area relatively untouched by mankind

Natural Heritage- GIS database of rare animals, rare plants, and significant habitats.

Natural Regeneration - The establishment of a forest stand from natural seeding, sprouting, suckering or layering.

Northern Hardwood Forest Type - A forest type usually made up of sugar and red maple, American beech, yellow birch, and to a lesser extent black cherry and white ash. This type represents about 70 percent of all forests in New York State.
Oak Hickory Forest Type – A forest type generally found south of northern hardwoods consisting of oaks and hickories
Perched Culvert - A culvert outlet whereby water drops enough to impede the movement of fish.
Pioneer - A plant capable of invading bare sites (newly exposed soil) and persisting there or colonizing them until supplanted by successional species.
Plantation - A stand composed primarily of trees established by planting or artificial seeding - a plantation may have tree or understory components that have resulted from natural regeneration.
Pole timber - Trees that are generally 6-11 inches diameter at breast height.
Protection Forest - Forest land excluded from most active management including wood product management, oil and gas exploration and development, and some recreational activities to protect sensitive sites. These sites most often include steep slopes, wet woodlands and riparian zones along stream corridors.
Pulpwood - Low grade or small diameter logs used to make paper products, wood chips, etc.
Reforestation - The re-establishment of forest cover by natural or artificial means.
Regeneration - Seedlings or saplings of any origin. The Society of American Foresters. 1958. Forest Terminology, 3rd edition. Washington, DC.
Rights-Of-Way - Permanent, paved or unpaved roads which allow the Department access to State Forest properties while crossing private land, or, corridors across State Forests allowing access to private in-holdings.
Rotation - The period of years between stand establishment and timber harvest as designated by economic or natural decisions.
Scenic Vista – An elevated area with an expansive pleasant view.
Salvage Cutting - Recovery of the values represented by damaged trees or stands. Smith, David M. 1962, The Practice Of Silviculture. New York: John Wiley & Sons.
Sawtimber (ST) - Trees that are generally 12 inches and larger diameter at breast height.
Second Growth - The forests re-established following removal of previously unharvested or old - growth stands. Most northeastern forests are either second or third growth.
Seedling/Sapling (SS) - Trees less than 6 inches diameter at breast height.
Significant Natural Community - Communities that are either rare in New York State or are determined by New York Natural Heritage Program staff to be outstanding examples of more common natural communities.
Selection Cut - A type of cutting that removes poor quality, poor vigor, and/or diseased trees leaving healthy quality with silvicultural requirements and/or sustained yields being fulfilled.
SEQRA –State Environmental Quality Review Act. A state law which requires all government or government funded projects to evaluate the environmental impact of an action or project.

Silviculture - The application of art, science and practice to influence long term forest development.
Even aged Silviculture - A system for maintaining and regenerating forest stands in which trees are approximately the same age (cohort). This system favors shade intolerant species such as aspen, white ash and black cherry.
Uneven aged Silviculture - A system for maintaining and regenerating forest stands with at least three distinct age classes (cohorts). This system favors shade intolerant species such as sugar maple, hemlock and beech. Uneven aged silviculture creates a stratified stand structure with trees of different heights represented in all levels of the forest canopy.
Skid Trail - A temporary or permanent trail used to skid or forward felled trees from the stumps to the log landing.
Small Poles - Trees 6-8 inches diameter at breast height.
Small Sawtimber - Trees 12-14 inches diameter at breast height.
Special Management Zone (SMZ)– classified wetlands, classified streams and a buffer of 50' to mitigate the impacts of actions on adjacent lands, to enhance aesthetic values, or as a best management practice
Stand - A contiguous group of trees sufficiently uniform in species composition, arrangement of age classes, and condition to be a homogeneous and distinguishable unit.
Stand Analysis - A systematic method of evaluating stands to determine the need for treatment based on a stand inventory.
Stand Treatment - Work done in a stand which is directed towards the management of the stand.
State Reforestation Area - Lands acquired by the Department pursuant to Title 3 Article 9-0501 of the Environmental Conservation Law. Reforestation Areas are adapted for reforestation and for the establishment and maintenance thereon of forests for watershed protection, the production of timber and other forest products, and for recreation and kindred purposes.
Sustainable Forest Management - Management that maintains and enhances the long-term health of forest ecosystems for the benefit of all living things, while providing environmental, economic, social and cultural opportunities for present and future generations.
Sustainable Yield - The achievement and maintenance in perpetuity of a reasonable regular periodic output of the various renewable resources without impairment of the land's productivity.
Temporary Revocable Permit (TRP) - A Department permit which authorizes the use of state land for a specific purpose for a prescribed length of time.
Thinning - Intermediate cuttings that are aimed primarily at controlling the growth of stands through adjustments in stand density.
Understory - The smaller vegetation (shrubs, seedlings, saplings, small trees) within a forest stand, occupying the vertical zone between the overstory and the herbaceous plants of the forest floor.

Uneven-Aged Stand/Forest - A stand with trees of three or more distinct age classes, either intimately mixed or in small groups.
Vernal Pool - A small body of water that is present in the spring, but dries up by mid-summer.
Watershed - A region or area defined by a network of stream drainage. A watershed includes all the land from which a particular stream or river is supplied.
Water Quality Classes - A system of classification in ECL Article 17 which presents a ranked listing of the state's surface waters by the letters AA, A, B, C or D according to certain quality standards and specifications. AA is the highest quality rank and has the greatest suitability for human usage.
Classified Wetland – GIS database of areas inundated or saturated for periods long enough to produce hydric soils and support hydrophytic vegetation.
Wetland Classes - A system of classification set forth in ECL Article 24, section 664.5 which ranks wetland I through IV based upon wetland functions and benefits, I being the highest rank.
Wildlife Management Areas - Lands acquired by the Department pursuant to Title 21 Section 11- 2103 of the Environmental Conservation Law. Wildlife Management Areas are managed by the Division of Fish, Wildlife and Marine Resources for the purpose of establishing and maintaining public hunting, trapping and fishing grounds.