DEC

Division of Lands and Forests

Tioga Unit Management Plan

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New York State Department of Environmental Conservation

George E. Pataki, ***Governor*** **Denise Sheehan,** ***Commissioner***

TIOGA UNIT MANAGEMENT PLAN

A Management Unit Consisting of Four State Forests in Eastern Tioga County

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PREFACE

It is the policy of the Department of Environmental Conservation (DEC) to manage State lands for multiple benefits to serve the people of New York State. This Unit Management Plan (UMP) guides the implementation of that policy. It has been developed to identify and address land management needs and stewardship opportunities on the Tioga Unit.

Located in New York State's central southern tier, the 3,692 acre Tioga Unit is comprised of the Fairfield, Jenksville, Oakley Corners, and Ketchumville State Forests. These forests were largely acquired by the State during the Great Depression, and are located in the Tioga County towns of Berkshire, Candor, Newark Valley, and Owego.

The Plan's vision is to maintain and enhance ecosystem health, biodiversity, and sustainability while providing environmental, social, and economic benefits to the people of New York State. Specific goals, objectives, and actions to achieve this vision have been developed and are a core part of the Plan. They were developed using the dynamic principles of ecosystem management, public input, geographic information system (GIS) technologies, land use history, and professional judgement.

The State lands in the Unit are working forests, and provide valuable products and services such as open space, recreation, wildlife habitat, jobs, tourism, forest products, clean water, clean air, and potentially oil and natural gas mineral resources.

State Forests provide open-space for many kinds of outdoor recreation. As such, the Plan supports and embraces the concept of multiple-use. It encourages public land use through activities such as cross country skiing, hiking, fishing, hunting, mountain biking, horseback riding, bird watching, nature study, and snowmobiling. It also provides all terrain vehicle (ATV) access to People with Mobility Impairments.

Adaptive ecosystem based management philosophies will be applied to help sustain and enhance the number of plants and animals found in the Unit - and sustain the many values, products, and services that the land provides.

In order to make the Plan's vision a reality, it schedules forest harvesting, fisheries, and wildlife habitat improvement projects by location, year, and management strategy. It also provides information on the oil and gas exploration tract assessment process, maps, and well placement guidelines to select appropriate drilling sites and minimize environmental impacts.

Maintenance of the Unit's physical infrastructure is addressed as well. Scheduled activities include maintenance of recreational trails, parking lots, State Forest roads, boundary lines, signs, witness posts, pond impoundment(s), and regularly scheduled clean-up. In an effort to consolidate boundary lines and reduce long term costs, the Plan calls for purchase of about 148 acres of private land from willing sellers. The estimated cost to implement the entire Plan over a twenty year period is $590,950, or about $8 per acre annually.

It should be noted that changes in recreation demand, wood product markets, global trade, climate, weather, forest health, budgets, and human resource capabilities may require elements of the Plan to be modified.

The Plan's recommended management actions will be in compliance with State Environmental Quality Review (SEQR), 6NYCRR Part 617, and Generic Environmental Impact Statements (GEIS) concerning minerals, commercial forest product sales, open space, recreational use, and wildlife habitat management.

As lead agency on the project, DEC has completed a full Environmental Assessment Form. The DEC has determined that implementation of the Unit Management Plan will not cause large environmental impacts. As such, a negative declaration was made and is included at the end of the Plan.

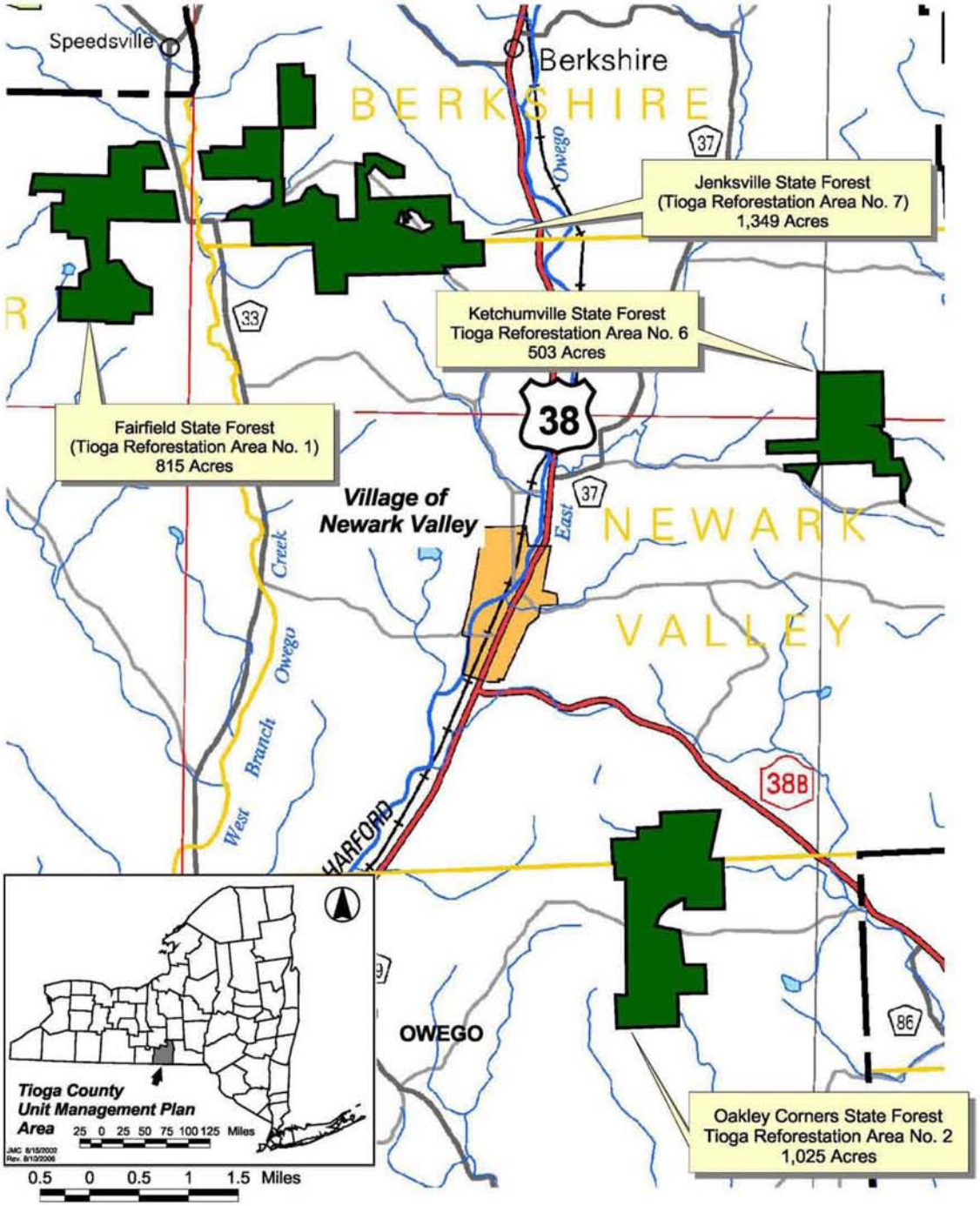
Article 9, Titles 5 and 7, of the Environmental Conservation Law authorize the Department of Environmental Conservation to manage lands acquired outside the Adirondack and Catskill Parks. Management, as defined by these laws, includes watershed protection, the production of timber and other forest products, recreation, and kindred purposes. The Draft State Forest Land Master Plan provides direction and a framework for meeting this legal mandate.

VISION STATEMENT

State Forests on this Unit will be managed to maintain and enhance ecosystem health, biodiversity, and sustainability while providing environmental, social, and economic benefits to the people of New York State.

TABLE OF CONTENTS

State Forests of the Tioga Unit Management Plan



Selected Photos of the Tioga Management Unit

Oakley Corners Pond

Oakley Corners State Forest

Arrowhead Spiketail Photo by J.W. Jaycox

A Unique Insect Found on the Tioga Unit

Recreating at Jenksville

Jenksville State Forest

What is a Unit Management Plan?
A Unit Management Plan (UMP) is an assessment of the natural and physical resources on land managed by the Department of Environmental Conservation. The UMP guides the Department's activities for a twenty-year period. Each Plan addresses specific objectives for public use and ecosystem management which are consistent with the land classification guidelines and the wild character of these lands.

Who Writes the Unit Management Plan?
State Forest UMP's are written by the Division of Lands and Forests forestry staff with public input, and assistance from the Division of Fish, Wildlife, and Marine Resources, the Division of Operations, the Division of Mineral Resources, and the Division of Forest Protection and Fire Management. A description of each Division's responsibilities is listed below as paraphrased from the Department's website.

Division of Lands and Forests
The Division of Lands and Forests is responsible for the stewardship, management, protection, and recreational use of State Forest lands, the care of the people who use these lands, and the acquisition of additional lands to conserve unique and significant resources. The Division also provides forestry leadership by providing technical assistance to private forest landowners and the forest products industry.

Division of Fish, Wildlife, and Marine Resources
The Division of Fish, Wildlife, and Marine Resources serves the public by using their collective skills to describe, understand, manage, and perpetuate a healthy and diverse assemblage of fish, wildlife, and ecosystems.

Division of Operations
The Division of Operations provides technical services, facilities management, and maintenance of physical assets to insure effective and efficient operation of the Department and safe public use of Department lands and facilities.

Division of Mineral Resources
The Division of Mineral Resources is responsible for ensuring the environmentally sound, economic development of New York's non-renewable energy and mineral resources for the benefit of current and future generations.

Division of Forest Protection and Fire Management
The Division of Forest Protection and Fire Management is responsible for the preservation, protection, enhancement of the state's forest resources, and the safety and well-being of the public using these resources.

How is a Unit Management Plan Developed?

There are a series of steps involved in developing a unit management Plan:

Step 1: Conduct a resource inventory of the unit.

Step 2: Solicit written and verbal input from the public through press releases and public scoping sessions.

Step 3: Develop a draft UMP

Step 4: Internal review and approval of draft UMP.

Step 5: Release draft UMP and conduct public meetings to gather comments on the draft Plan.

Step 6: Address issues and develop a final UMP.

Step 7: Comply with State Environmental Quality Review (SEQR).

Step 8: DEC Commissioner approves final UMP and implementation begins.

Public Scoping Session

Initially, a public scoping session may be held to kick off the process of developing a UMP. People are encouraged to help identify issues that need to be addressed in the Plan. Scoping sessions take several different forms. They can be an open house or a discussion forum. Sometimes they involve small discussion groups or "breakout sessions."

Unit Management Plan Development

Information gathered at the scoping session is incorporated into the draft UMP. After the scoping session, Department staff also do additional fieldwork and conduct in-depth research on topics related to the Plan. All of this information is necessary to comply with the State Environmental Quality Review Act (SEQRA). The draft UMP includes local history, information on the Unit, project and treatment schedules, and a budget.

Draft Unit Management Plan

Once the draft UMP is formally released, timeliness and deadlines become more formal and important. This is due to the noticing and comment requirements related to the State Environmental Quality Review Act and also due to the need to issue a final UMP and begin implementation. Once again, meetings are held to gather public input on the draft UMP. Individuals that can't attend the public meeting are encouraged to submit written comments by writing, by telephone, fax, or e-mail up to 30 days after the public meeting. Written and verbal comments are greatly appreciated - and carry equal weight.

INFORMATION ON THE UNIT

A. The Tioga Unit

The four State Forests on the Unit are:

Number	Name	Acres
Tioga #1	Fairfield	815
Tioga #2	Oakley Corners	1,025
Tioga #6	Ketchumville	503
Tioga #7	Jenksville	1,349
	Total State Forest Acres	**3,692**

B. 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. After the Revolutionary War, increased pressure for land encouraged westward expansion. Up to 91% of woodlands were cleared for cultivation and pasture.

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

The State Reforestation Law of 1929 and the Hewitt Amendment of 1931 set forth the legislation that authorized the Conservation Department to acquire land, by gift or by 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 for recreation and kindred purposes" (Article 9, Title 5, Environmental Conservation Law).

In 1930, Forest Districts were established and the tasks of land acquisition and reforestation were started. In 1933, the Civilian Conservation Corps (CCC) began. Thousands of young men were assigned to plant millions of trees on the newly acquired State Forests. 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 reforestation areas. Further planning, construction, facility maintenance and similar tasks were 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 Forest lands. These lands would serve multiple purposes involving the conservation and development of natural resources, including the preservation of scenic areas, watershed protection, forestry, and recreation.

Today there are more than 700,000 acres of State Forest land throughout New York State. The use of these lands for a wide variety of purposes such as forest products, hiking, skiing, fishing, trapping, and hunting is of tremendous importance economically and to the health and well-being of the people of the State.

C. Local History

This Unit Management Plan includes four State Forests in Tioga County. They are located in the Towns of Berkshire, Candor, Newark Valley, and Owego.

European settlement in the region began in the late eighteenth century. A close look at the history of Jenksville State Forest (Tioga #7) will illustrate the background shared by all of the State Forests on the Unit. This local history was provided by the Newark Valley Historical Society.

Early settlers in the Newark Valley area include Laban Jenks. He and his brother, Elisha, accompanied their cousin, Michael Jenks, and Jonas Muzzy from their home in Berkshire County, Massachusetts, to the Boston Purchase in 1796. The Boston Purchase was the original subdivision and sale of land between the Owego and Chenango Rivers.

When the Jenks brothers arrived, they had very few resources and not much money. It was common practice in those days to basically stake out (the lots had been surveyed a decade earlier) and start clearing the land, then file a deed and pay for the land a few years later.

Laban and Elisha settled on Lot 300 of the Boston Purchase, which was in the southwestern corner of the Town of Union (Berkshire). Michael Jenks settled on Lot 261 in the northwestern corner of Newark Valley. Michael's father, Isaac, was also one of the sixty associates in the purchase of the ten townships. Laban and Elisha split Lot 300 in half, each getting about 135 acres. Laban took the southern half and Elisha took the northern section. Laban's wife, Prudence, and their children arrived from Massachusetts soon afterwards.

By 1811, the Jenks farm was recognizable and the little settlement of Jenksville was beginning to prosper. In 1814, Laban traded his farm for 415.5 acres covering what is now Speedsville. While in Speedsville (also called Jenksville in those early days), Laban sold off small lots and a prospering settlement soon developed. In November 1821, Laban and Prudence moved to Bloomfield Township (Michigan), taking the smaller children with them.

Settlement continued and forested valleys were cleared for farmland. Upland areas that were not farmed saw continued wood harvesting. The harsh economic times and the onset of the Great Depression in the 1930's drove many upland farm properties into bankruptcy. The State Reforestation Law and the Hewitt Amendment of 1931 provided funding to acquire abandoned farmland and create State reforestation areas. These areas were to be forever devoted to "reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber, and for recreation and kindred purposes."

The State of New York purchased the Jenks family farm in 1940. Jenksville and Jenksville State Forest are named for the Jenks family. The former family farm is now part of Jenksville State

Forest (Tioga #7). Additional parcels were added between 1941 and 1945. Previous owners included the Allison, Burlington, Rinas, Baker, Delameter, Ford, Young, Allen, Wadell, and Heller families.

Soil erosion was a serious problem on the newly acquired lands. To solve this problem, a massive tree planting campaign began. The labor used to establish these plantations was provided by the Civilian Conservation Corps (CCC). This work program was established by the Roosevelt Administration to create jobs. CCC Camp S-125 was established in Slaterville Springs and planted more than 822,000 trees on Jenksville State Forest (Tioga #7) in 1940 and 1941. This monumental task consumed 1364 workdays of labor, since each tree was planted by hand.

The history of other State Forests on the Unit is similar to Jenksville.

Fairfield State Forest (Tioga #1) was purchased in 1932 and 1940, with one additional purchase in 1962. The former owners included the Barden, Zimmer, Lathrop, Palmer, Evans, Gray, and Cobler families. More than 434,000 tree seedlings were hand planted by the Cornell CCC Camp in 1934. In 1938, the Slaterville Springs CCC Camp S-125 hand planted 30,750 more tree seedlings. Conservation Department employees planted 18,700 more tree seedlings in 1963 using a tractor and spade.

Oakley Corners State Forest (Tioga #2) is approximately ten miles north of the Village of Owego. Owego was the site of a Native American village. It was named after nearby Owego Creek which was called “Ah-wah-ga” meaning “where the valley widens.” Most of this State Forest was purchased in 1933, with smaller additions purchased in 1937 and 1947. These properties formerly belonged to the Livermore, Hoffman, Gage, Kinnan, Mills, and Laughlin families. The Slaterville Springs CCC Camp planted more than 837,000 tree seedlings at Oakley Corners State Forest (Tioga #2) in 1936 using 1317 workdays of labor.

Ketchumville State Forest (Tioga #6) was purchased in 1941 from lands formerly owned by the Waite, Zimmer, Chamberlain, Bailey, and Andrews families. This area was not reforested until 1961, when more than 153,000 tree seedlings were planted. The delay in reforesting this property is due to the fact that the CCC Camps and their programs were terminated as the United States entered World War II. Following the war, tree planting was resumed, but at a much slower rate. Existing evidence of the early settlers and the original inhabitants includes stone walls, foundations, scattered quarries, small family cemeteries, and portions of original road systems. Vegetative remnants from homesteads include fruit trees, introduced ground cover, and flowers.

D. Geographical Information

The Tioga Unit Management Plan includes four State Forests located in the Towns of Berkshire, Candor, Newark Valley, and Owego in eastern Tioga County, New York. It is part of the Susquehanna watershed, with its waters eventually flowing into the Chesapeake Bay. One of the most outstanding natural resource features on the Unit is the Oakley Corners Pond, located on Tioga #2 (Oakley Corners). New York State Route 38 bisects the Unit.

This area is part of the Central Allegheny Plateau section of south central New York State (Keyes, Jr. 1995).

Elevations in Tioga County range from approximately 700 to 2000 feet. The lower extremes are found along the East and West Branches of Owego Creek and the Susquehanna River while the higher elevations are scattered across the many hilltops. The highest point on the Unit is 1740 feet on Tioga #1 (Fairfield). The average annual rainfall ranges from 35 to 38 inches. The average annual temperature is approximately 47 degrees Fahrenheit. The annual growing season is approximately 155 days (Soil Survey of Tioga County, New York 1953).

E. Information about the Landscape Surrounding the Unit

General Observations

The landscape surrounding and including the Tioga Unit is similar to that found throughout Tioga County. The higher elevation uplands surrounding the unit are typically heavily forested. The lower elevations and/or gently sloping lands surrounding the unit are a matrix of agriculture, small woodlands, residences, and commercial uses.

According to the United States Forest Service 1993 inventory statistics for Tioga County:

- Approximately 55% of the county is forested.
- None of the forestland is listed as reserved from forest management.
- 92% of the total land base is held by private non-industrial owners.
- 5% is State land, mostly in the State Forest classification.
- 2.6% is privately owned by forest-industry-related businesses.
- 0.3% is owned by the county or municipalities.

F. Geological Information

Surface Geology

Most surface geology in the Finger Lakes region and Allegheny Plateau of the Southern Tier of New York was influenced by the processes of glaciation that occurred during the Pleistocene Epoch. Ice sheets from the last glaciation episode (Wisconsinan glaciation episode) retreated from the area approximately 10,000 years ago, leaving behind numerous sedimentary deposits and surficial features, including elongated scour features. Some of these elongated features filled with water creating numerous small and large lakes; some are now the Finger Lakes.

Most soils and sediments in the region are related to past glacial activity and subsequent weathering and erosion processes over the past 20,000 years. The underlying parent rocks (rocks that were subjected to the processes of glaciation, weathering, and erosion) of this region are sedimentary rocks (specifically shale, sandstone, and minor limestone) that were deposited in shallow seas that existed in this region during the Upper Devonian Period of the Paleozoic Era (approximately 370 million years ago). All post-Devonian rocks have been eroded from the region. The presence of rounded igneous and metamorphic clasts are indicative of past glacial activity transporting material into the region from the Canadian Shield to the north.

Surface Geology of the Tioga Unit

The surface geology of the State Forests on this Unit consists of glacial till (clays and silts that were deposited beneath glacial ice) as the dominant deposit in the area. Bedrock outcrops and subcrops of Upper Devonian shales, siltstones, and intermittent limestones of the West Falls Group and Sonyea Group are located intermittently on the sides and crests of ridges and hills in these areas. These bedrock exposures are most likely due to the erosion of overlying glacial till.

Table 1 - Surficial Geologic Material

State Forest	Surficial Material
Tioga #1 (Fairfield)	Glacial till: Deposition of clays and silts beneath glacial ice. Bedrock: Shales, siltstones, and intermittent limestones of the Upper Devonian West Falls Group.
Tioga #2 (Oakley Corners)	Glacial till: Deposition of clays and silts beneath glacial ice. Bedrock: Shales, siltstones, and intermittent limestones of the Upper Devonian West Falls Group.
Tioga #6 (Ketchumville)	Glacial till: Deposition of clays and silts beneath glacial ice. Bedrock: Shales, siltstones, and intermittent limestones of the Upper Devonian West Falls Group.
Tioga #7 (Jenksville)	Glacial till: Deposition of clays and silts beneath glacial ice. Bedrock: Shales, siltstones, and intermittent limestones of the Upper Devonian West Falls Group and Sonyea Group.

Additional information on the surface geology in the region is available in the Surficial Geologic Map of New York, New York State Museum, Geologic Survey, Map and Chart Series #40 (1986).

Soils of the Tioga Unit
Lordstown (44%), Volusia (29%), and Mardin (15%) are the Unit's dominant soil types. These soils are common throughout Tioga County. All of the Unit's soils developed from glacial deposits of sandstone and shale. The Unit's soils are chiefly medium textured and clay based; they are also moderately deep and gently to moderately sloping. In terms of drainage, forty-five percent (45%) of the soils are classified as well drained, thirty-eight percent (38%) are poorly drained, and seventeen percent (17%) are moderately well drained. Many of the soils have a fragipan that restricts root growth and water movement. In summary, the Unit's soils are very well suited for growing forests as they have major limitations for agricultural crop production including a seasonally high water table, low fertility, high acidity, and erodibility on steep slopes. Additional information regarding the region's soils is provided by the United States Soil Conservation Service (SCS) Soil Survey of Tioga County, New York (1953).

Bedrock Geology
Bedrock underlying the Finger Lakes Region and Allegheny Plateau of the Southern Tier of New York is inclusive of sedimentary rock units deposited in association with ancient seas and their marine-fluvial-deltaic environments of deposition during the Cambrian (550-500 million years ago), Ordovician (500-430 million years ago), Silurian (430-400 million years ago) and Devonian (400-350 million years ago) Periods of the Paleozoic Era.

Younger bedrock units deposited during the post-Devonian Periods (such as Mississippian and Pennsylvanian Periods) have been subsequently eroded away by erosional and glacial processes. Underlying the Paleozoic rocks are pre-Paleozoic rocks or Precambrian rocks generally considered to be composed of igneous and metamorphic rocks. These rocks are generally referred to as "basement" rocks.

Appendix 1 provides additional information on the stratigraphic profile of southwestern New York.

Bedrock Geology of the Tioga Unit
Rock units (bedrock) outcropping or subcropping at the surface on Tioga #1 (Fairfield), Tioga #2 (Oakley Corners), and Tigoa #6 (Ketchumville) are shales, siltstones, sandstones, and intermittent limestones of the West Falls Group. These were deposited during the Upper Devonian Period (350-400 million years ago).

The bedrock encountered at outcrops and subcrops on Tioga #7 (Jenksville) is shale, siltstone, sandstone, and intermittent limestone of the Sonyea and West Falls Groups. These were deposited during the Devonian Period (350-400 million years ago). The older and underlying Sonyea Group is encountered at the western edge of Tioga #7 (Jenksville) in a valley area along West Creek Road. The overlying West Falls Group is encountered at higher elevations in the surrounding hills.

Additional information on the bedrock geology in the region is available in the Geologic Map of New York, Finger Lake Sheet, New York State Museum and Science Service, Map and Chart Series #15 (1970).

A very limited number of wells have been drilled in the area surrounding the Tioga Unit. Subsurface information pertaining to the bedrock (that does not outcrop) has been acquired through three specific wells:

Atlantic Richfield Company - Propane Storage #3 well
Shell Oil Company - Klossner #1 well
Belden and Blake Corporation - Beagell #2 well

These wells were drilled between 1969 and 2002 while exploring for oil and natural gas reserves. They are located within 15 miles from the State Forests of the Tioga Unit, demonstrating the scarcity of past drilling activity in the area.

The wells were drilled to depths ranging from 3,400 feet to 10,206 feet into the subsurface to test the Oriskany Sandstone Formation in the areas north and southwest of the Unit and the deeper Trenton/Black River (limestone and dolomite) Formations in an area southeast of the Unit near Binghamton. These Formations were deposited during the Lower Devonian Period (Oriskany) approximately 400 million years ago and the Ordovician Period (Trenton/Black River) more than 450 million years ago.

At a surface location approximately eight miles north of Tioga #7 (Jenksville), the Atlantic Richfield Company - Propane Storage #3 well (American Petroleum Institute # 31-023-06778) encountered the top of the Devonian Tully Limestone at 1,035 feet, the top of the Onondaga Limestone at 2,479 feet, the top of the Oriskany Sandstone at 2,552 feet, and the top of the Salina Salt at 3,045 feet. The well reached a total depth of 3,381 feet and bottomed in salt. This well was drilled and completed as a propane storage well in 1969.

At a surface location approximately ten miles west of Tioga #2 (Oakley Corners), the Shell Oil Company - Klossner #1 well (American Petroleum Institute # 31-107-09557) encountered the top of the Devonian Tully Limestone at 2,720 feet, the top of Onondaga Limestone at 4,346 feet, the top of Oriskany Sandstone at 4,394 feet, and top of Silurian Salt at 5,025 feet. The well reached a total depth of 5,141 feet and bottomed in salt. This well was drilled, plugged, and abandoned as a dry hole in 1979.

At a surface location approximately fifteen miles southeast of Tioga #2 (Oakley Corners), the Belden and Blake Corporation - Beagell #2 well (American Petroleum Institute # 31-097-22886) encountered the top of the Devonian Tully Limestone at 2,772 feet, the top of Onondaga Limestone at 4,677 feet, the top of Oriskany Sandstone at 4,743 feet, the top of Silurian Salt at 5,614 feet, the top of Lockport Dolomite at 7,010 feet, the top of Ordovician Loraine at 8,528 feet, the top of Trenton Limestone at 9,690 feet, and the top of Black River Limestone/Dolomite at 9,935 feet into the earth. The well reached a total depth of 10,181 feet. This well was drilled,

plugged, and abandoned as a dry hole in 2002.

Geologic Structure
Regional structure of the area is a homocline that dips (is becoming deeper) to the south-southwest at an average dip angle of approximately one degree or deepens 100 feet per each mile traveled to the south-southwest. The Geologic Map of New York - Finger Lakes Sheet #15 (1970), depicts progressively older rock units outcropping farther to the north, confirming the southerly dip of strata in the region.

Lineaments, faulting, and anticlinal/synclinal structures in the region generally trend in a northeast to southwest direction. North-south trending faults have also been identified in the region. These structures are thought to be due to compressional stress and resulting strain associated with plate tectonics and the opening of the Atlantic Ocean Basin that began at the end of the Paleozoic Era. Structural reference is available in the Preliminary Brittle Structures Map of New York, New York State Museum, Map and Chart Series #31E (1974).

G. Land Classifications and Stages

Table 2 - Present Land Uses and Cover Ecotypes

		Average Stand Diameters			
		1-5"	6-11"	12"+	
Land Classification*	**Total Acres**	**Acres**	**Acres**	**Acres**	**Percent of Total**
Shale Pits (5)	3	-	-	-	0.1
Ponds (6)	50	-	-	-	1.4
Brush (**)	31	-	-	-	0.8
Wetlands (**)	24	-	-	-	0.7
Natural Conifer	20	0	12	8	0.5
Conifer Plantations	1,305	80	626	599	35.4
Conifer Plantations w/ Hardwood	282	18	227	37	7.6
Hardwood/Natural Conifer Mixed	590	82	171	337	16.0
Hardwood	1,442	292	668	482	39.0
TOTAL	**3,692**	**472**	**1,704**	**1,463**	**100.00**

Table 2 provides a summary of acres occupied by conifers and hardwoods as well as the average diameters of the trees in those stands. The above data was compiled from existing inventory records and field reconnaissance estimates. Land classifications denoted with shading and two asterisks (**) comprise various portions of other forest types.

* Key to Land Classifications:

Shale Pits are sites where shale has been extracted for construction and maintenance projects.
Ponds are small, still bodies of water that are sometimes human-made.
Brush represents early successional communities commonly containing shrubs.
Wetlands are areas that have few trees and may be open wet meadows or lightly wooded swamps.
Natural Conifer are stands comprised of softwoods. Natural conifers are evergreens and/or cone bearing trees that have been established without direct human intervention.
Conifer Plantations contain trees that have been established by direct human action and are composed of species such as red pine, white pine, Scotch pine, Norway spruce, white spruce, white cedar, and larch (Japanese and European).
Conifer Plantations w/ Hardwood are conifer plantations with a natural hardwood component.
Hardwood/Natural Conifer Mixed are stands that have been established without direct human intervention.
Hardwood stands have also been established without direct human intervention, but consist almost entirely of hardwood species such as sugar maple, red maple, red oak, beech, white ash, and black cherry. Detailed information about plant communities can be found in Ecological Communities of New York State (Edinger 2002).

H. Forest Resources

The character and structure of the forest resources on this Unit have been shaped by past land use patterns and human influence. In the 1800's almost all of the land was cleared for agricultural use, leaving approximately one-quarter of the forests to be intensively used as farm woodlots for heating fuel, maple syrup production, pastures, and construction material for barns and homes. None of the original forests remained in their pre-settlement state.

In the first half of the 1900's many of the farms failed to be successful and through natural succession and tree planting efforts of the Department (Conservation Department at that time) and the Civilian Conservation Corps, new forests were "reborn." More than 50% of the State Forests on this Unit became forest through natural succession and approximately 36% of the acreage was planted. For these reasons, more than 87% of the State Forests on this Unit exhibit an even-aged character. These forests now provide a variety of habitats and ecological communities and their transformation continues to this day.

The hardwood stands have become more mature, leaving only traces of the early successional brush and seedling/sapling stages. The softwood plantations are maturing as well. Many of the red pine and some Scotch pine and larch plantations are reaching the end of their biological maturity. In some cases, the stands that were planted on poor sites have started to decline with a majority of the trees losing their vigor and health. The spruce and white cedar plantations are maturing as well; however, these species have a longer life span and in most cases have still retained their health.

I. Wetlands and Water Resources

Wetlands

In New York, wetlands 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 (please see Appendix 2 for State wetland classifications).

The Tioga Unit contains one 30-acre Class II state-designated freshwater wetland (Oakley Corners Pond).

Wetlands may qualify for federal protection based on size, hydrology, vegetation, and soils - regardless of size (please see Appendix 3 for Federal wetland classifications).

There are 17 federally-designated freshwater wetlands on the Unit totaling approximately forty two (42) acres (please see Appendix 3 for the list of Federal wetlands).

Ponds

The Unit has five (5) shallow ponds totaling fifty (50) acres that range from two (2) to thirty (30) acres in size. Beaver damming has strongly impacted the formation and depth of the ponds. On Oakley Corners, there is a thirty (30) acre pond, a ten (10) acre pond, a five (5) acre beaver pond, and a one (1) acre pond. The 30 acre Oakley Corners Pond is the most viable and popular public fishery on the State Forests in the Unit. There is also a four (4) acre shallow pond on the Jenksville State Forest. Appendix 4 provides a complete list of ponds and open waters on the Unit.

Oakley Corners Pond was constructed in the 1950's as a wildlife impoundment. The dike was repaired in 1987. There is a great deal of flooded timber in this shallow, 30-acre pond. The Department's Bureau of Fisheries has been stocking the pond with hybrid "tiger" muskellunge since 1989. A fisheries survey in 1991 resulted in the capture of two 18 inch tiger musky indicating that survival and growth in the pond is occurring. In addition to tiger muskellunge, other species caught during the survey were largemouth bass, pumpkinseed, brown bullhead, white sucker, and golden shiner. Bureau of Fisheries survey data is listed in Appendix 5.

A "winter-kill" occurred in Oakley Corners Pond during the winter of 1992/1993 resulting in the death of hundreds of fish. Winter-kill events generally occur in shallow ponds that have an abundance of organic material and/or aquatic vegetation. A kill will generally occur in years when a deep blanket of snow covers the ice for an extended period of time. This blanket of snow does not allow light penetration into the pond, thus stopping photosynthesis. Under the ice, oxygen is consumed by the breakdown of organic material and the respiration of plants and aquatic organisms. With no photosynthesis, there is no production of oxygen. Eventually, so little oxygen remains that fish begin to die, usually the biggest fish first. When the ice finally thaws in the spring, the shoreline is littered with dead fish.

The pond was restocked with adult bass and pumpkinseed sunfish in the summer of 1993 by the Department's Bureau of Fisheries. It is likely that some of the original fish also survived the winter-kill. Recent angler reports indicate that good numbers of a variety of species once again inhabit the pond including chain pickerel, which were not captured in the 1991 fisheries survey.

Specific angler usage at Oakley Corners Pond is not known. Ice fishing is a popular winter sport and anglers often go to the pond in search of sunfish, pickerel, and "tigers." Shoreline angling occurs during the open water season. Canoes, kayaks, and car-top boats are permitted.

Streams

Title 5 of Article 15 of the Environmental Conservation Law was enacted to preserve and protect State waters including streams. The Department's Protection of Waters Program regulates four categories:

1. Disturbances of the bed or banks of a protected stream;
2. Construction and maintenance of dams or impoundment structures;
3. Construction, reconstruction, or repair of docks and installation of mooring structures;
4. Excavation and/or filling in navigable waters.

Individual stream classifications for the Susquehanna River Drainage Basin Series may be found in 6NYCRR Part 931 of the Environmental Conservation Law.

The Tioga Unit contains no protected streams. All of the streams on the Unit are small headwater streams which do not support a viable fishery. No formal fisheries assessments have been conducted on any of the streams on the Unit. Since many of these streams are intermittent (seasonal), it is likely that few, if any, species of fish are present. The primary management objective for these small streams is to maintain good water quality by maintaining streambank stability. Good water quality in these streams will help to ensure good water quality in their receiving waters. Most of these streams ultimately drain into either the Owego or Nanticoke Creek watersheds, both of which support trout populations. In addition, smallmouth bass and walleye are present in these drainage basins as are a variety of other species. The maintenance and improvement of water quality in waterways throughout the Southern Tier of New York State is taking on an ever-increasing importance. A map of wetlands and water resources on the Unit is included at the end of this Plan.

J. Wildlife Resources

The Tioga Unit lies within the Central Appalachians ecological subzone as mapped and identified by the United States Forest Service. Zones and subzones have been established to recognize distinct ecological units in New York State. They provide a logical basis for the collection and analysis of data pertaining to wildlife, the analysis of problems, the statement of needs, and wildlife management program formulation and implementation.

The Central Appalachians ecological subzone is characterized by oaks on southern slopes, mixtures of hardwoods, and hemlock in the ravines. This is the largest subzone of the Appalachian Plateau. It supports a wide variety of mammals, reptiles, amphibians, fish, and birds as residents (please see appendices 5, 6, and 7, respectively).

The Central Appalachians ecological subzone is 8,830 square miles in size and covers much of the Southern Tier of New York State. This ecozone contains a wide array of habitats from mountains, hills, and valleys to extensive low-lying riverine systems, most notably the Susquehanna River. The habitat diversity on the Unit allows for a moderate diversity of wildlife species including many game species. Deer, turkey, song birds, grouse, and squirrels are numerous. Black bear are becoming more common (Keyes, Jr., et. al., 1995).

No formal wildlife survey has been done on the specific State Forests on this Unit. Dr. Robert Chambers, in his handbook, “Integrating Timber and Wildlife Management,” compiled an extensive list of wildlife species presumed to live within the Central Appalachians ecozone. His mapping of the ecological zones overlaps with the United States Forest Service 1995 mapping which classified the area in the Central Appalachian Plateau. He further qualified his list by categorizing wildlife species by forest type, stage, and special habitat needs. Based on these general characteristics, 49 species of mammals, 19 species of reptiles, 22 species of amphibians, and 122 species of birds could possibly be found on the Unit (please see Appendix 6 for additional information).

Records compiled between 1980 and 1985 for The Atlas of Breeding Birds in New York State list all bird species that are known to be breeding or suspected of breeding in certain areas of the State. It also includes their legal status. There are 94 species of birds that may occur on the Tioga Unit and its surrounding landscape (please refer to Appendix 7). Block 3968C of The Atlas of Breeding Birds corresponds to Tioga #1 (Fairfield) and Tioga #7 (Jenksville). Block 4066A corresponds to Tioga #2 (Oakley Corners) and Block 4067A corresponds to Tioga #6 (Ketchumville).

White-tailed deer are an important component of the Unit’s fauna. Deer populations in the State are managed in Wildlife Management Units (WMUs). Tioga #1 (Fairfield), Tioga #6 (Ketchumville), and Tioga #7 (Jenksville) are part of Wildlife Management Unit 7R. Tioga #2 (Oakley Corners) is part of Wildlife Management Unit 7S. Deer management permits are issued to control the number of female deer taken by hunters in each Unit. Citizen Task Forces are formed in each WMU to represent the various community interests in deer management. Task forces consider hunting and agricultural interests, the number of deer/auto collisions, damage to residential landscaping, and any other impacts deer have on society. They then make a recommendation as to how many deer they want to see in any given Wildlife Management Unit - more, less, or the same. The Department’s Bureau of Wildlife then sets the quota of deer management permits that will be issued to move the deer population in the direction recommended by the task force.

The Department’s Bureau of Wildlife collects data from tags returned by successful deer hunters to determine the number of deer that were taken during each hunting season. From this data, the number of bucks taken per square mile is calculated and is then used to estimate the total deer harvests in counties, towns, and Wildlife Management Units.

The deer herd is somewhat uniformly distributed throughout the Tioga Unit although more deer are probably found at lower elevations in valley bottomlands where agricultural activities are concentrated.

The Department's Wildlife Biologists monitor and manage wildlife populations throughout the entire State. Until recently, deer populations were generally on the increase. During the past decade this increase was attributed to: 1) a number of winters with favorable conditions for deer survival, 2) an overall decline in the number of hunters, 3) large private parcels being subdivided and sold, resulting in fragmentation of habitat, and 4) large private landowners posting their property against hunting. High deer populations can reduce plant species richness and the overall productivity and health of forest ecosystems.

It should be noted, however, that recent severe winters have reduced the deer herd in several portions of the State. Based on Department deer take records from 2000 to 2004, it appears that deer populations are down in the towns within and surrounding the Unit. As such, it is reasonable to expect that damage to forest ecosystems from excessive deer browsing will be reduced in the short term. Department records indicate that total number of deer taken in the towns of Berkshire, Candor, Newark Valley, and Owego declined approximately fourteen percent (14%) from 2002 to 2003. From 2003 to 2004, the deer take declined in all of the towns within and surrounding the Unit by approximately twenty-five (25%). Both the winters of 2002/2003 and 2003/2004 were relatively severe in terms of temperature and snowfall. The number of deer reported taken by hunters is very useful as it provides a broad measure of the overall population. Detailed deer harvest information is listed in Appendix 8.

Maintaining an appropriate deer population reduces deer related impacts to forest ecosystems. For example, in portions of the Allegheny National Forest in northwestern Pennsylvania with excessive deer populations, researchers have noted changes in the forest understory associated with excessive deer browsing. In some instances, certain trees, shrubs, and herbaceous plants which are preferred browse sources for deer (including birch, white ash, red oak, sugar maple, witch hobble, sumac, wild raisin, blueberry, wintergreen) have become scarce in the forest understory. Lack of a herbaceous/shrub layer leads to higher nest predation of ground-nesting and shrub-nesting birds. It also directly alters the habitat and food sources for small mammals. To address deer population issues, the Department's Wildlife Biologists are actively managing deer populations through a combined strategy of public education, hunter education, and issuance of an appropriate number of antlerless deer hunting permits.

Wild turkeys are found throughout the Tioga County landscape and provide excellent hunting opportunties. The reported turkey harvest for the Fall of 1999 in Tioga County was 262 birds. The reported turkey harvest for the Spring of 2000 in Tioga County was 162 birds.

Wildlife trapping, small game hunting, and furbearer harvest data are listed in Appendix 9, Appendix 10, and Appendix 11, respectively.

The Tioga Unit is within black bear range and bear are becoming more common. More sightings have been reported in recent years and the number of nuisance complaints have risen as well.

K. Mineral Resources

Article 23, Title 11, Section 23-1101 of the Environmental Conservation Law and State Finance Law authorizes the Department to make leases on behalf of the State for exploration, production, and development of oil and gas on State lands. Oil and natural gas are valuable resources which can provide energy. Exploration and development can create open space and enhance habitat diversity. As with any other human activity on State land, oil and natural gas exploration and development can impact the environment. Most impacts are short term and occur during the siting and drilling phases of a well. The Department's Division of Lands and Forests is responsible for the stewardship of the surface resources and the Department's Division of Minerals is responsible for managing the subsurface resources on the State Forests in this Unit Management Plan.

Any party desiring to procure minerals, rocks, oil, or natural gas resources (or for the use of those minerals in the case of gas or liquid storage) from the mineral estate under the State Forests on this Unit, must obtain contractual rights (such as a lease contract) to those minerals from the appropriate State entity administering those resources. The party must also obtain appropriate consent (through the Temporary Revocable Permit process) from the State to access the surface estate during operations. Prior to the commencement of operations all appropriate permits must be obtained. These procedures are further outlined below.

All activity associated with mining minerals and rocks, solution mining of minerals, and oil and gas drilling (including production and storage), are regulated by the Department's Division of Mineral Resources (including the issuance of mining permits and drilling permits).

The surface estate of the State Forests on this Unit is managed by the Department's Division of Lands and Forests. In the event the surface estate is to be used in the evaluation and/or extraction of mineral resources from State lands, a Temporary Revocable Permit (TRP) must be obtained from the Department's Division of Lands and Forests prior to conducting any operations. If the mineral estate is under a lease agreement, only the lessee or entities authorized by the lessee, will be issued a TRP for these purposes.

It is Department policy to recommend excluding surface operations in areas with sensitive habitats (streambanks, wetlands, steep slopes, rare communities) or intensive recreational use. Any proposal for mineral development other than oil and gas would require State Environmental Quality Review (SEQR).

Historical Exploration, Drilling, and Production Activity
The drilling of the first commercial oil and natural gas well in the United States occurred in northwestern Pennsylvania during the middle 1800's. The results of this drilling activity carried over into neighboring New York State. Eventually this activity extended into western New York and to a very limited extent the areas surrounding what is now the Tioga Unit.

The only commercial natural gas production in Tioga County was discovered in 1986 at Stage Coach Field, in the Towns of Nichols and Owego, approximately ten miles south of Tioga #2 (Oakley Corners). Gas totaling approximately 16 billion cubic feet has been produced from the Oriskany Sandstone Formation that was deposited during the Late Devonian Period. Gas was produced from depths of approximately 5,000 feet into the earth.

Approximately eight miles north of Tioga #7 (Jenksville) in the Town of Harford (Cortland County), New York Liquid Petroleum Gas Storage operates a gas storage facility. This facility stores liquified petroleum gas in the Salina Salt at approximately 3,000 feet into the earth.

Fields drilled prior to 1986 are shown on the New York State Gas Field Map, Department of Environmental Conservation, Division of Mineral Resources (1986).

Recent Exploration, Drilling, and Production Activity
Natural gas has recently (2002 to present) been discovered from older and deeper Lower Ordovician age rocks of the Trenton/Black River Formations in neighboring Broome County. Exploration for gas in the Trenton/Black River Formations continues to expand into western Broome County. This activity increases the possibility that State Forests on this Unit may be impacted by gas exploration operations in the near future.

The closest exploration activity to this Unit is by Phillips Production Company of Warrendale, Pennsylvania. The company has been issued drilling permits dated December 11, 2003 by the Department's Division of Mineral Resource for two wells that are proposed to test the Trenton/Black River Formations in western Broome County. Both well permits have proposed depths of 8,500 feet into the subsurface. The proposed well sites are located approximately three and five miles east of Tioga #6 (Ketchumville).

A number of gas wells have recently been completed in the Binghamton area, approximately fifteen miles southeast of Tioga #2 (Oakley Corners). Gas is being produced from the Trenton/Black River Formations at a depth of approximately 10,000 feet into the subsurface.

Mining
Sand, gravel, topsoil, and hard rock resources in the areas of and surrounding the State Forests on the Tioga Unit are limited. This is due largely to the local dominance of steep-sided hilly terrain which is underlaid by unmarketable shale and sandstone. There are no mining contracts, permits, or operations on any of the State Forests on this Unit. The current Department practice is to deny any commercial mining applications.

Very limited sand, gravel, and topsoil mining occurs near State lands on the Tioga Unit. There are no known mining operations in the surrounding glacial till-covered upland areas (thin, poorly sorted, variously textured material). The very few local mining operations are located in the valley-fill materials, which consist of reworked glacial outwash below recent floodplain materials including topsoil. There are no permits on file with the Department for hard rock quarries in the area surrounding the Unit. Rock units comprising the bedrock on the Tioga Unit consist of Upper Devonian West Falls Group shales and siltstones, which are generally unsuitable for aggregate product by commercial mining operations. Surface deposits in the upper elevation lands of the Tioga Unit are generally comprised of a thin (one meter) layer of glacial till overlying shale bedrock.

There are no permits on file with the Department for mines near Tioga #1 (Fairfield).
The three closest commercial sand and gravel mines to Tioga #2 (Oakley Corners) are located three to four miles west where glacial outwash deposits or thin topsoil are mined in the Owego Creek valley. There is one small municipal mine located approximately two miles southwest of Tioga #6.

Additionally, there is one very small municipal sand and gravel mine located approximately one mile east of Tioga #7 (Jenksville). There is also one commercial sand and gravel mine located approximately two miles south of Tioga #7 (Jenksville). Both mines are located in the East Branch Owego Creek valley-fill gravels.

L. Significant Habitats - Rare, Threatened, Endangered, and Special Concern Species
A significant habitat is an area that supports a community of rare, threatened, or endangered plants or animals. No significant habitats are reported on the Unit.

A check of the element occurrence records for the New York Natural Heritage Program's Biological and Conservation Data System indicates that one endangered plant is known to have existed on the Unit. The plant, blunt-nose grape fern, was last reported in 1911. Additionally, in 2005, the Natural Heritage Program completed a biodiversity inventory of all of the State lands in DEC Region 7. During the survey, Natural Heritage staff found the Arrowhead Spiketail (Cordulegaster obliqua) on the Jenksville State Forest (Tioga #2.). The insect is unprotected, but it has a state rarity rank of S2. This rank means that there are typically 6 to 20 occurrences, and few remaining individuals or factors make it very vulnerable in New York State (New York Natural Heritage Conservation Guide: www.acris.nynhp.org).

No rare, threatened, or endangered species of animals are known to exist on the Unit at this time. The Element Occurrence Records for the New York Natural Heritage Program's Biological and Conservation Data System was consulted for this information.

Species of Special Concern are those animal species not yet recognized as threatened or endangered but for which documented concern exists for their continued welfare in New York. They may frequent the Unit where suitable habitat exists. Special Concern species which are likely to be found within the Central Appalachians ecozone include the eastern hellbender, spotted and longtail salamanders, wood turtle, Cooper's hawk, sharp-shinned hawk, horned lark, northern goshawk, red-shouldered hawk, vesper and grasshopper sparrows. Not all Special Concern species found in the ecozone will be found on the Unit. As an example, it is unlikely either of the sparrows would be found on the Unit since very little grassland habitat exists. Cooper's hawks likely frequent the Unit's forests.

The New York Natural Heritage Program's Biological and Conservation Data System uses survey data from surveys such as The Atlas of Breeding Birds in New York State and the New York Amphibian and Reptile Atlas Project. These formal surveys collect data for blocks of land laid out in a grid-work over the face of the land. The blocks are uniform in size. Blocks in The Atlas of Breeding Birds in New York State are five square kilometers. Those used in the New York Amphibian and Reptile Atlas Project are United States Geological Survey topographic quadrangle maps. Species can be found in a block and not be on the Unit. For example, Unit lands may be at the top of a hill on one end of a survey block and the species may be found along a river at lower elevations at the other end of the survey block (i.e., different locations, different habitat types, same survey block). One must understand survey methodology and what the resulting data represent to know how they relate to the Unit. Additional information on the Natural Heritage Program is provided in Appendix 12.

The New York Natural Heritage Program conducted a biological inventory of the State Forests in DEC Region 7 (including the Tioga Unit) in the Summer of 2004 to identify unique or rare forest communities as well as rare and endangered species. Made possible by the NYS Biodiversity Research Institute, a final report was issued in May, 2005. The report documented one new occurrence - the presence of Arrowhead spiketail (Cordulegaster obliqua) dragonfly on the Jenksville (Tioga #7) State Forest.

M. Cultural Resources

The term cultural resources encompasses a number of categories of human-created resources including structures, old stone walls along abandoned agricultural land, archaeological sites, and related resources. The Department is required by the New York State Historic Preservation Act (PRHPL Article 14) and SEQRA (ECL Article 8) to include these resources in the environmental values that we manage on public lands. These resources are protected by the New York State Historic Preservation Act.

The number of standing structures on lands managed by the Division of Lands and Forests is limited due to the nature of past land use. There is only one structure on the unit, a radio transmission tower located on the Jenksville State Forest which is leased to National Public Radio station WSKG.

Archaeological sites are locations where materials (artifacts, ecofacts) or modifications to the landscape reveal evidence of past human activity. This includes resources that range from precontact Native American camps and villages to Euroamerican homesteads and industrial sites. Such sites can be entirely subsurface or can contain above ground remains such as foundation walls or earthwork features.

As part of the inventory associated with the development of this Plan, the Department arranged for the archaeological inventories maintained by the New York State Museum and the Office of Parks, Recreation, and Historic Preservation to be searched to identify known archaeological resources that might be located on or near the Unit. The two inventories overlap to an extent but they do not entirely duplicate each other. The inventories did not identify any protected cultural resources on or near the Unit.

The quality of the site inventory information varies a great deal in all respects. Very little systemic archaeological surveying has been conducted 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 nineteenth century antiquarian information (artifact collector reports that have not been 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 in the future, it is very likely that additional resources could be identified.

There is a cemetery on the Unit. Very little information is known about this cemetery. Deed records indicate that it existed as the Livermore family burial ground in 1871. It is approximately 1/12 of an acre (60 feet square) and was excepted from the deed when New York State purchased the property in 1933. The deed states that conveyance of ownership would revert to the purchaser when it ceases to be used as a burial ground. According to the Newark Valley Historical Society, Black workers from the former Livermore Farm are reported to be buried here, but this has not been confirmed. Numerous old foundations from the homes of early settlers are common throughout the Unit. There are also many stone walls which were created on the edges of cultivated fields as the stones were removed from the fields during plowing.

N. Recreation

Varied recreational opportunities exist and are occurring on the Unit. State Forests offer opportunities for recreational activities that are best enjoyed in remote, relatively undisturbed natural forest areas. Such activities typically require few or no facilities.

Currently, the following activities are occurring on the Unit: hiking, cross-country skiing, small and large game hunting, fishing, trapping, mountain biking, horseback riding, camping, snowshoeing, snowmobiling, boating, picnicking, orienteering, geocaching, and nature observation. Target shooting has been prohibited by Department signs on Tioga #2 (Oakley Corners) and Tioga #7 (Jenksville).

Additionally, the Unit was evaluated for potential all terrain vehicle (ATV) use. All terrain vehicle riding is not a specific program offered on public lands owned in fee and managed by the Department. Within the State Forests in the Region, public ATV use is allowed only on trails designated and designed for use by individuals with mobility impairments. These trails provide specific access for individuals with mobility impairments to a recognized recreational program such as hunting, fishing, camping, or wildlife observation. To help meet the needs of individuals with mobility impairments, a 4,200 foot trail loop with be built in the northern portion of the Oakley Corners (Tioga #2) State Forest in 2012.

It should be noted that roads or trails that are open to ATV use, but which are suffering significant adverse environmental impacts as a result of such use, may be summarily closed by the Department in order to protect the resource. Appropriate soil conditions and maintenance funds must exist to ensure that roads and trails can be maintained to prevent recurrence of muddy or eroded soil conditions. As such, a road or trail that was opened to public ATV access but was closed due to such impacts may reopened to public ATV access only where such impacts have been mitigated.

Multiple-use trail systems are present on Tioga #2 (Oakley Corners) and Tioga #7 (Jenksville). Tioga #2 (Oakley Corners) offers 16 miles of marked trails for cross-country skiing, hiking, and mountain biking. Tioga #7 (Jenksville) offers 12 miles of marked trails for cross-country skiing, hiking, mountain biking, and horseback riding. The variety of the terrain, the challenging trails, and the proximity of these State Forests to Binghamton have made these premiere trails a popular

destination throughout the year. These trails have received recognition in nationally published mountain bike magazines and on related websites. The trails were developed and are maintained with assistance from the Triple Cities Ski Club through an Adopt-A-Natural Resource Agreement with the Department. Trail maps are included at the end of this Plan.

There is a one-mile snowmobile trail on Tioga #1 (Fairfield) and a three-mile snowmobile trail on Tioga #2 (Oakley Corners). Both of these snowmobile trails are local trails. There is a four-mile horse trail on Tioga #6 (Ketchumville). Snowmobiles are using Tioga #6 (Ketchumville), but there is no established or maintained trail. For this trail to be formalized, a local snowmobile club must have an Adopt-A-Natural Resource (AANR) Agreement with the Department. Permission from adjacent landowners is also required.

The Tioga Unit is also a popular destination for wildlife-based forest recreation (hunting, fishing, trapping, bird watching). These activities have been an important part of the recreational use of State forests since they were first purchased. With pressures from the subdivision of private lands and posting it is expected that State Forests will continue to provide significant opportunities for these user groups.

Non-motorized watercraft (canoes, kayaks, car-top boats) are permitted at Oakley Corners Pond. There is a two-car parking area adjacent to the pond and a foot trail that leads to the pond for launching. Swimming, while not encouraged on State Forests, is not a prohibited activity on the Unit. No site improvements or supervision is provided with respect to swimming activities or opportunities.

State Forests provide opportunities for group events. Any group organizing a competitive or group event must apply for a Temporary Revocable Permit (TRP) from the Department. The permit process offers the Department an opportunity to address health, safety and resource protection issues related to the event. There is a $25 fee for this permit. A group event is defined as any gathering that has been advertised to public by the sponsoring organization in flyers, newsletters, newspapers, websites, or through other media. To hold any event, the sponsoring organization must request permission in writing at least 30 days in advance of the date of the proposed activity. The sponsoring organization must provide proof of liability insurance.

O. Roads

The Public Forest Access Road System provides for both public and administrative access to the Unit. The roads are constructed by the Department to standards that will provide reasonably safe travel and keep maintenance costs at a minimum. These roads are not normally plowed or sanded. There are three types of roads: Public Forest Access Roads (formerly called truck trails), Haul Roads, and Access Trails. They provide different levels of access depending on the standards to which they are constructed (please see Appendix 13 for a complete list of roads on the Unit.

Public forest access roads (PFARs) are permanent, unpaved roads. These roads are open for public use unless the road is gated and/or signed. PFARs may be designed for all-weather use depending on their location and surfacing. These roads provide primary access on the Unit. The standards for these roads are those of the Class A and Class B access roads as described in the Department's Forest Road Handbook. The speed limit on PFARs is 25 miles per hour.

Tioga #1 (Fairfield) - 2.0 miles
Tioga #2 (Oakley Corners) - 1.8 miles
Tioga #6 (Ketchumville) - 1.1 miles

Haul roads are permanent, unpaved roads, but are not designed for all weather use. They are constructed primarily for the removal of forest products and provide only limited access on the Unit. As such, most of these roads are not open for motor vehicle use by the public.

The standards for these roads are those of Class C roads as described in the Department's Forest Road Handbook.

Tioga #2 (Oakley Corners) - 0.25 mile
Tioga #7 (Jenksville) - 0.5 mile

Access trails may be permanent, are unpaved, and do not provide all-weather access on the Unit. These trails are originally designed for removal of forest products and may be used to meet other management objectives such as recreational trails. These trails are constructed according to Best Management Practices (BMP's).

Tioga #1 (Fairfield) - 1.8 miles
Tioga #2 (Oakley Corners) - 1.9 miles
Tioga #6 (Ketchumville) - 0.2 mile
Tioga #7 (Jenksville) - 1.1 miles

Public highways and town roads also serve as access to, from, and through some of the State Forests on the Unit. The roads are maintained and administered by state, county, or town highway departments.

Tioga #1 (Fairfield) is accessed by Jenksville Hill Road, Lathrop Hill Road, and Newman Road.
Tioga #2 (Oakley Corners) is accessed by Dutchtown Road, Hullsville Road, and Snapp Road.
Tioga #6 (Ketchumville) is accessed by Bailey Hollow Road, Betty Lane, and Chamberlain Road.
Tioga #7 (Jenksville) is accessed by Allison Hill Road, Shirley Road (aka Baker Road), Ford Hill Road, and Rejmer Road.

There are no designated off-road motor vehicle trails on this Unit. Off-road vehicle travel is prohibited. Existing management actions, poor soils and the relatively small size of the State Forests in this Unit provide limited opportunities to develop a sustainable ATV trail system for the general public on this Unit. Intense ATV use would very likely conflict with established recreational uses on the Unit, particularly hiking, hunting, horse back riding and mountain biking. Additionally, the relative small size of the State Forests in the Unit precludes the need for the general public to use ATV's to access Department's programs.

However, individuals with qualifying mobility impairments who possess a valid permit from the Department may operate ATVs on specifically designated and signed accessible trails. Currently, there are two roads totaling two miles in length which have been designated and signed for this use on Tioga #2 (Oakley Corners). As previously mentioned, an additional 4,200 foot trail loop will be constructed in 2,012 on the northern portion of the Oakley Corners State Forest to provide additional ATV access for individuals with mobility impairments.

P. Other Facilities

Boundary Lines:

State Forest	Miles
Tioga #1 (Fairfield)	8.62
Tioga #2 (Oakley Corners)	8.59
Tioga #6 (Ketchumville)	6.48
Tioga #7 (Jenksville)	15.28
TOTAL	**38.97**

Signs and Registers:

State Forest	Type	Number
Tioga #1 (Fairfield)	Identification Sign	1
Tioga #2 (Oakley Corners)	Identification Sign	1
	Trail Register	1
Tioga #6 (Ketchumville)	Identification Sign	1
Tioga #7 (Jenksville)	Identification Sign	1
	Trail Register	2

Gates:

State Forest	Number
Tioga #2 (Oakley Corners)	2
Tioga #7 (Jenksville)	1

Impoundments (Dams):

State Forest	Number
Tioga #2 (Oakley Corners)	2
Tioga #7 (Jenksville)	1

Shale Pits:

State Forest	Number	Size
Tioga #1 (Fairfield)	1	0.51 acre
Tioga #2 (Oakley Corners)	2	0.48 acre; 0.27 acre
Tioga #6 (Ketchumville)	1	0.33 acre
Tioga #7 (Jenksville)	1 (parking area)	1.15 acres

Parking Areas:

State Forest	Location	Size (approximate)
Tioga #2 (Oakley Corners)	Oakley Corners Pond	small (2-3 cars)
Tioga #7 (Jenksville)	Shirley Road trailhead	medium (5-6 cars)
	Allison Hill Road trailhead (shale pit)	large (20-30 cars)

Miscellaneous:

State Forest	Number
Tioga #2 (Oakley Corners)	Footbridge (4)
Tioga #7 (Jenksville)	Footbridge (2)

Q. Taxes Paid on State Forests

State Forests are subject to town, school, and fire district property taxes, but are exempted from county taxes. State Forest land is taxed at the same rate as private forest land (please see Appendix 14 for additional information on the taxes paid by the State Forests in the Unit).

R. Property Use Agreements

The State Forests on this Unit are subject to the following deed restrictions and easements:

Tioga #1 (Fairfield)

Proposal C is subject to the right and easement, if any, of a telephone line crossing the said premises near the highway leading from Candor to Speedsville (Lathrop Hill Road).

Proposal G grants to New York State a right-of-way 33 feet in width from West Newark (West Creek) Road west to Proposal G.

Tioga #2 (Oakley Corners)

Proposal A includes two 3-rod wide (49.5 feet) right-of-ways granted to New York State connecting the northern boundary of Proposal A to Sherry Lipe Road. This proposal is also subject to an oil and gas lease to J. E. Turner (see Ledger 203, Page 275) dated August 14, 1930. Theresa Hoffman reserves to herself for the benefit of the persons entitled thereto, their heirs, devisees and assigns all the lessors rights and interest in and under said lease. It is not known at this time whether this lease is still valid or has been extinguished. A record search would need to be undertaken to ascertain current status.

Tioga #7 (Jenksville)

Proposal C excepts and reserves 26.38 acres (in-holding). Not subject to clauses or easements. Access to in-holding is along Shirley Road (aka Baker Road).

The Department has the statutory authority to lease a television translator station on Tioga #7 (Jenksville) to the Berkshire Emergency Squad and WSKG. The Department is currently negotiating lease arrangements that will allow Broome-Tioga BOCES to continue using the tower as well.

RESOURCE DEMANDS ON THE UNIT AND THE LANDSCAPE

A. Forest Resources

The demand for traditional and non-traditional forest products can vary over time. Following is a list of forest products and recent trends that State foresters have observed in the demand for these products in the Tioga County area.

PRODUCT	RECENT TREND
Firewood	Increased
Softwood Sawtimber	Variable
Hardwood Sawtimber	Increased
Hardwood Pulpwood	Variable
Softwood Pulpwood	Variable
Mushrooms	Stable
Maple Syrup	Stable
Medicinal Plants	Stable
Ginseng	Increased
Honey	Stable
Fence Posts	Decreased

The use trends for these products are expected to continue in the future. Increasing energy prices and global demand for quality forest products are the key factors driving these trends.

The following demands regarding forest products were received at a initial Public Scoping Session held in Caroline (Tompkins County) in February 1996. This meeting was for the Tompkins-Tioga Unit Management Plan which included the following State Forests: Tioga #1 (Fairfield), Tioga #7 (Jenksville), Tompkins #1 (Danby), and Tompkins #3 (Shindagin Hollow). Portions of the Tompkins-Tioga Unit Management Plan have been incorporated into the Tioga Unit Management Plan. Summaries of public comments received at the initial Public Scoping Session and draft Plan meeting are provided in Appendices 17 and 18.

Public Comments:

- ❒ make sure there are no “no-cut” mandates
- ❒ leave some natural areas without trails and without logging
- ❒ maintain “no-cut” areas adjacent to trails
- ❒ prevent commercial logging and building
- ❒ develop more small game habitat with more low cover
- ❒ more firewood sales and longer contract periods for cutting
- ❒ use grass seed to stabilize soil and prevent erosion after logging
- ❒ require loggers to restore site to original condition
- ❒ continue managing State Forests in same manner as before
- ❒ no prescribed burns.

B. Mineral Resources

A significant amount of interest has developed in natural gas exploration over the past five years in the central and southern tier of New York State. A relatively new "find," referred to as the Trenton/Black River Formation, has been responsible for increasing New York State's natural gas well production by more than 50% in 2001 (Division of Mineral Resources 2002).

There has been interest expressed by the oil and gas industry in exploring and developing oil and gas reserves under lands administered by the Department. The Division of Mineral Resources has received requests to nominate specific lands to lease the mineral rights. It is the Department's policy to conduct a thorough review of the lands nominated for leasing to determine:

1. Which areas can be leased with full rights granted (100% surface entry and no special conditions required);
2. Which areas may require special environmental and safety conditions; and
3. Which areas may be leased with no surface disturbance/surface entry conditions (non-drilling clause).

This review is conducted by the Division of Lands and Forests in coordination with the Division of Mineral Resources. The Division of Lands and Forests conducts tract assessments to identify sensitive areas on the Unit. Sensitive areas include: wetlands, riparian zones, steep slopes, recreational trails, unique ecological communities, habitat of rare, threatened, or endangered species, archeological resources, cultural resources, scenic vistas, and scenic viewsheds. Designated protection areas are incompatible with oil and gas well development and will be excluded from oil and gas well related surface disturbances. Protection areas are established in advance as part of the unit management planning process.

Surface disturbances associated with oil and gas well development, for the purposes of this Plan, are defined as disruptions of the soil and vegetation from seismic testing, well drilling, and the construction of pipelines and/or utilities and access roads.

If the Department determines that this unit may be leased, a public meeting will be held to provide information and receive input related to oil and natural gas development on the Unit. 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 the Unit's natural resources will be drafted by the Division of Mineral Resources in coordination with the Division of Lands and Forests. These conditions will be incorporated into contract documents. They will include, but not be limited to, criteria for site selection, mitigation of impacts, and land reclamation upon completion of drilling.

Representatives from DEC Lands and Forests, the lessee, and the DEC Division of Minerals will meet in advance "on site" to select and approve individual well sites outside of the designated protection areas.

Additionally, individual tract assessments for each State Forest on this Unit have been completed to direct the placement of oil and gas wells to the most appropriate sites. Included in the map section at the end of the Plan are maps depicting the hierarchy of areas available for oil and gas operations on this Unit. Any parcel designated as a non-surface entry lease will no longer be subject to the process detailed above due to the prohibition of surface disturbances.

If it is determined that oil and gas exploration and development can proceed on a State Forest, a lease sale is conducted. The Department's Division of Mineral Resources is the oil and gas leasing agent for these State lands. Lease sales are conducted through a competitive bid process administered by the Division of Mineral Resources and in accordance with Article 23, Title 11 of the Environmental Conservation Law and State Finance Law.

Leasing Activity
Initial title review indicates that New York State owns the mineral rights under all State Forests covered by this Unit Management Plan, with the qualification that mineral reservations may exist. No expressed or implied warranty of title is being offered in this document. Due to recent drilling and production activity in the area, the oil and gas industry has recently nominated the State Forests on the Tioga Unit for natural gas leasing.

In the event leases are granted and drilling of a well is desired by the lessee on the leased property, an Application for Permit to Drill, Deepen, Plug Back, or Convert a Well Subject to the Oil, Gas, and Solution Mining Law (form 85-12-5) must be submitted to the DEC Division of Mineral Resources. The Final Generic Environmental Impact Statement (FGEIS) on the Oil, Gas, and Solution Mining Regulatory Program (July, 1992) is used to guide the Department in determining whether the proposal will have a significant impact on the environment. Conditions are attached to the drilling permit as well as the Temporary Revocable Permit (TRP) which covers the mitigation and/or control of surface disturbances.

Once the proposal is approved, a drilling permit with site-specific conditions is issued by the Division of Mineral Resources along with the Temporary Revocable Permit (TRP) issued by the Division of Lands and Forests. Site-specific impacts are identified by the DEC Division of Lands and Forests during the TRP application and review process.The Division of Lands and Forests will also inspect the site to ensure compliance with the TRP. Additionally, site inspections are conducted by the Division of Mineral Resources to ensure compliance with Article 23 of the Environmental Conservation Law and 6NYCRR Part 550-559.

In the event underground pipelines are planned to transport gas and/or oil across State Forests, the Division of Mineral Resources in conjunction with the Division of Lands and Forests will coordinate with the lessee to determine the best route for the pipeline(s). Any pipeline greater than 1,000 feet in length and/or containing pressures greater than 125 pounds per square inch is regulated by the New York State Public Service Commission.

Surface Use for Evaluation of Mineral Resources
In the event a party desires to use the surface estate to conduct geophysical (such as a seismic survey), geochemical, and/or surface sampling procedures on Department lands after leasing, they must first obtain a TRP for the access and use of State lands. If the area is subject to a lease agreement, only the lessee or parties authorized by the lessee, can be issued a TRP for these purposes.

C. Diverse Ecosystems and Water Quality
Diverse ecosystems and water quality are general societal demands that impact this Unit. The following demands with regard to species diversity, wildlife, and water quality were received at the initial Public Scoping Session held in February 1996 at Caroline (Tompkins County) and the draft Plan public meeting held at Candor in July, 2005. Public comment summaries from the respective meetings are provided in Appendices 17 and 18**.**

- ❒ maintain and enhance biological diversity
- ❒ encourage all-age management
- ❒ avoid fragmenting the forest
- ❒ leave buffer zones along streams and steep slopes
- ❒ seasonal limitations on use to prevent soil erosion
- ❒ limit clearcutting
- ❒ manage for wildlife diversity
- ❒ conduct natural resource inventories
- ❒ enforce hunting seasons

D. "Gaps" in the Landscape Surrounding the Unit
To promote biodiversity, the vegetative cover types in the existing landscape (the geographical area) around the State Forests were assessed to determine its current diversity. This process identified "gaps" where individual components of biodiversity may be lacking. Having identified these gaps we can consider management options on State Forests which might fill the gaps and at the same time add to the biodiversity of the landscape. State Forests represent approximately five percent of the land base in Tioga County. As such, the long term public ownership of State Forests can contribute some components to biodiversity that can not be expected from private forest ownership patterns.

Identified Gaps and Landscape Issues
1. Changes in forest structure - reduced young forest acreage.
The Forest Service statistics for the South-Central Highlands Unit, which includes Tioga County, show that between 1980 and 1993 the acreage of young forests in the "seedling-sapling" classification dropped approximately 32 percent. This is an indication that the forested acreage in the area is generally maturing. Reductions in the amount of young forestlands will affect population levels of many wildlife and plant species who rely on their associated vegetation and structure.

2. Changing forest composition.
High timber values can affect the species composition of private forest lands. The three highest valued species (black cherry, hard maple, and red oak) are in very high demand by consumers and as a result, by the forest products industry as well. Harvesting the highest valued species on private lands exceeds the net growth rate of those valued species. History has shown that this practice has altered the tree species composition of some forests, and has possibly reduced the genetic potential of seed trees in some forest stands. For example, tree species like red maple, which is not in as high demand as sugar maple, has become more dominant and plentiful in the forest. Since many life forms from fungi, to insects, to birds, depend on specific tree species, their populations could also be altered.

Maturing conifer plantations will also contribute to changes in forest composition. Currently, 1333 acres on the Unit are conifer plantations and another 208 acres of conifer plantations mixed with hardwoods. Most of these trees were planted between 1940 and 1965. These forests are maturing and will naturally start converting to hardwoods. The existing red pine plantations on the Unit are reaching their biological maturity. On some sites crowns are thinning and some trees are dying. As more sunlight reaches the forest floor, it stimulates hardwood growth. This natural process has the potential to reduce the percentage of softwood cover over the next few decades. While the acreage of conifer plantations will be reduced, the acreage of conifer plantations mixed with hardwoods will increase.

Insects and diseases introduced into our forests from other countries have also had an effect on forest composition. Dutch elm disease, chestnut blight, nectria canker of beech, and gypsy moth have all had great impacts over the past century. One of the impacts has been a reduction of the number of trees which produce hard mast or nuts. Hard mast is an important food source for many wildlife species. The Asian long-horned beetle, hemlock woolly adelgid, emerald ash borer and sudden oak death are exotic (non-native) insects and diseases which have recently been introduced and established in the United States. Although not currently found in the unit, each one of these has the potential to drastically alter the forest. Federal and State governments have been trying to stop the spread of these pests with quarantines and eradication programs. If we are able to keep our forests diverse and healthy, they may be more resilient to these problems.

3. High deer populations.
The Department's Wildlife Biologists monitor and manage deer populations in the State. They have been reporting record population levels over the past decade. This can been attributed to:

a) a number of winters with favorable conditions for deer survival;
b) an overall decline in the number of hunters;
c) large private parcels being subdivided and sold, resulting in fragmentation of habitat;
d) more private landowners posting their property against hunting.

Recently, however, deer populations have been decreasing, due in part to severe winters and effective management of the deer herd by Department biologists. If the deer populations rise again, both plant and animal communities in Tioga County forests may be negatively impacted.

In ecosystems heavily impacted by excessive numbers of deer, certain trees, shrubs, and herbaceous plants that are preferred browse sources for deer (including birch, ash, witch hobble, sumac, wild raisin, blueberry, wintergreen) have become scarce in the forest understory. Lack of the herbaceous/shrub layer leads to higher nest predation of ground-nesting and shrub-nesting birds. It also directly alters the habitat and food sources for small mammals. If this situation continues, it may affect the future composition and structure of the forest.

4. Hemlock forests.
Hemlock forest types provide an important and unique ecosystem on which many plant and animal species depend. Hemlock forests are being drastically altered by the hemlock woolly adelgid in nearby counties to the south, east, and north. In addition, Department forestry staff have observed that existing hemlock forests on this Unit are not naturally regenerating or re-seeding themselves in sufficient numbers. Control of deer populations and adaptive forest management strategies such as uneven-aged group selection silviculture will help promote hemlock forest reestablishment.

5. Forest Fragmentation.
Forest fragmentation is the process by which a forested landscape is broken into small islands of vegetation. Fragmentation is a concern because of the effect of non-contiguous forest cover on wildlife habitat. Juvenile amphibians such as the American toad and spotted salamander (Rothermel 2001) and neo-tropical migratory birds such as the wood thrush, red-eyed vireo, scarlet tanager, and ovenbird (Duguay 1999) prefer large contiguous blocks of forests with closed canopy conditions - a relatively unbroken overstory of tall trees. This forest type is lacking in much of the surrounding landscape.

6. Coarse woody material, den trees, and snag trees.
Trees do not lose their value to an ecosystem when they become hollow or if they are standing dead in the forest or laying on the forest floor. These trees have value which starts at the lowest end of the “food chain” for insects, mosses, and fungi and extends to animals which hibernate, feed, or live in hollow trees. The ecosystem has greater diversity and is more resilient when greater numbers of these attributes are present in the landscape. Adaptive forest management strategies such as snag tree retention and snag tree creation increase the number of den trees, snag trees, and course woody material.

7. Old growth forests.

Old growth is the late successional stage of forest development. Structural characteristics used to describe old growth forests typically include: live trees, a staged multi-layered canopy, snags, downed trees, pit and mound micro-topography, and coarse woody material (Helms 1998). The 1993 US Forest Service inventory of New York's forests indicates that there are not any large blocks of reserved forestland in Tioga County (Alerich 1995). By U.S. Forest Service definition, reserved forestland is acreage that is "withdrawn from timber utilization through statute or administrative designation" (Alerich 1995). This designation would include land which over a long period of time could develop old growth characteristics. Some portions of the State Forests on this Unit could be reserved or so protected. Unfortunately, it takes thousands of contiguous acres of an old growth forest type with minimal human disturbances to fully provide all the characteristics and species associated with this forest type.

The DEC Division of Lands and Forests has recently developed a draft old growth forest definition. The draft definition recognizes that the term "Old Growth Forest" involves a convergence of many different, yet interrelated criteria. Each of these criteria can occur individually in an area that is not old growth, however, it is the presence of all of these factors that combine to differentiate "Old-Growth Forest" from other forested ecosystems. These factors include: an abundance of late successional tree species, at least 180 - 200 years of age in a contiguous forested landscape that has evolved and reproduced itself naturally, with the capacity for self perpetuation, arranged in a stratified forest structure consisting of multiple growth layers throughout the canopy and forest floor, featuring (1) canopy gaps formed by natural disturbances creating an uneven canopy, and (2) a conspicuous absence of multiple stemmed trees and coppices. Old growth forest sites typically (1) are characterized by an irregular forest floor containing an abundance of coarse woody materials which are often covered by mosses and lichens; (2) show limited signs of human disturbance since European settlement; and (3) have distinct soil horizons that include definite organic, mineral, illuvial accumulation, and unconsolidated layers. The understory displays well developed and diverse surface herbaceous layers.

PUBLIC USE AND FACILITY DEMANDS ON THE UNIT

A. Recreational Uses

The following lists a variety of recreational pursuits and their estimated trends based on observations by Department foresters during the past ten (10) years:

USE	TREND
Hunting	Decreased
Trapping	Decreased
Fishing	Stable
Horseback Riding	Increased
Hiking	Increased
Camping	Increased
Snowmobiling	Increased
Cross-Country Skiing	Increased
Mountain Biking	Increased Dramatically
Geocaching	Increased
Illegal ATV Use	Increased Dramatically
Nature Observation	Increased

B. Facilities

Demands for the following facilities have been expressed throughout the planning process. Public comment summaries are provided in appendices 17 and 18 of this Plan.

- ❒ all-terrain vehicle (ATV) / off-road vehicle (ORV) trails
- ❒ cross-country ski trails
- ❒ mountain biking trails
- ❒ snowmobile trails
- ❒ hiking trails
- ❒ horse trail system and camping area
- ❒ no additional trails
- ❒ areas for camping and picnicking
- ❒ improve public access to lands; open gates
- ❒ quiet peaceful zones

MANAGEMENT CHALLENGES ON THE UNIT

A. Physical Challenges

The following factors pose physical limitations on the management of the Unit's lands and waters: steep slopes; geologic properties; soil characteristics; recreational trails; potential insect and disease infestations; fluctuations in wood markets; limited access; presence of rare or endangered species; presence of cultural resources; proximity of the Unit's forests; presence of county, town, and state roads; electrical transmission lines, telephone lines, and pipelines; easements; and exotic (non-native) conifer species planted on incompatible soils.

B. Administrative Challenges

Additional capital funding and staff resources will be needed to maintain and improve the Unit's facilities and to complete all of the stewardship actions recommended by this Plan.

C. Societal Challenges

Public opinion on the following subjects pose societal considerations on the management of the Unit: trapping; hunting; clearcutting; public ownership; pesticides; old forest reserves; and recreation.

D. Departmental Rules, Regulations, Laws, and Policies

Appendix 15 lists Department Rules, Regulations, Environmental Conservation Laws, and Policies governing the management activities on the Unit.

GOALS, OBJECTIVES, AND ACTIONS

GOAL 1: Provide Healthy, Sustainable, and Biologically Diverse Forest Ecosystems.
Our goal is to provide healthy, sustainable, and biologically diverse forest ecosystems using the principles of ecosystem management. Ecosystem management is a process that considers the total environment - including all living and non-living components. It requires the skillful use of ecological, economic, social, and managerial principles to produce, restore, or sustain ecosystem integrity and desired conditions, uses, products, values, and services over the long term. Ecosystem management recognizes that people and their social and economic needs are an integral part of ecological systems (Bureau of Land Management 1994).

One of the simplest definitions of ecosystem management points out the almost unfathomable complexity of managing an ecosystem. That definition is in the form of a slogan on a United States Forest Service poster promoting ecosystem management. The slogan simply defines ecosystem management as "Considering All Things." This approach asks that management decisions consider all living things from soil micro-organisms to large mammals, including their complex interrelationships and habitat requirements; all non-living components of the ecosystem, including physical, natural, and geological components; and all social, cultural, and economic factors as well. As we apply ecosystem management in this Plan, we will blend the needs of people with those of the ecosystem to insure that State Forest management promotes biodiversity and healthy, productive, sustainable forests.

The cornerstone of ecosystem management is promotion of a biologically diverse landscape. The landscape includes the State Forests and the surrounding geographical area.

Biodiversity refers to the variety and abundance of living things, their habitats, and their interdependence in a given area or "landscape." Ecosystem integrity would not be enhanced if all factors of biodiversity were manipulated into every acre or every hundred acres. Some attributes of biodiversity need to be present in large blocks or acreages to be functional.

Biodiversity is greater if there are many species present in the landscape. It is further enhanced if each population has a wide range of genetic variability and ages. Having many different habitats also contributes to greater biodiversity. Studies have shown that diverse ecosystems are more resilient to environmental stresses, human impacts, and attacks by insects and disease.

Diversity within the forested areas on the Unit can be broadly interpreted by assessing the variety of species and the range of forest developmental stages present. Maintaining and enhancing such diversity will require a number of specific objectives and actions.

When managing forests, foresters employ two silvicultural systems which mimic natural disturbance patterns and promote biodiversity. The two systems are even-aged and all-aged management. Trees in an even-aged stand originated at approximately the same time, either naturally or by planting. They grow, are cared for, may undergo various intermediate cuttings

during their development, and they are ultimately removed in one or more major harvest cuts after which a new stand is released or established. Such a stand, consequentially, has a beginning and an ending time.

This even-aged management system is important because it creates early forest developmental stages necessary for the survival of many plant and animal species. It favors the establishment of shade intolerant tree species such as cherry, oak, and ash. These species have some of the highest timber and wildlife values. Even-aged management favors the establishment of many of the hard mast species that are important to wildlife. Over the years, the availability of hard mast producing trees has declined in the landscape, as a result of diseases which have severely impacted beech and butternut trees as well as caused the extinction of chestnut.

The all-aged management system differs from the even-aged system in several important ways. Instead of maintaining one dominant age condition in the stand, this system establishes and maintains many age groups ranging from seedlings and saplings to very large, mature trees. All-aged management uses two different harvesting methods: single tree selection and group selection. Single tree selection is used to maintain an unbroken forest canopy as desired in the all-aged unfragmented forest areas. The single tree selection system removes individual trees throughout a forest stand, thereby minimizing disturbance to the forest canopy. The small openings created by single tree selection limits the amount of sunlight that can penetrate to the forest floor. As such, the single tree selection system encourages long lived shade tolerant tree species such as American beech, sugar maple, and eastern hemlock.

Group selection is used to create larger openings in the forest canopy for the successful regeneration of shade-intolerant species such as red oak, white oak, chestnut oak, white ash, black cherry, and pin cherry. As such, the group selection system can be strategically employed to increase tree species and structural diversity in all-aged forest stands.

Both all-aged management systems create a vertical layering of the tree crown canopy . Each canopy layer provides distinct habitat niches. All-aged management creates and maintains a relatively continuous tree crown canopy which lessens the impact for plant and animal species that cannot tolerate substantial changes in their habitat.

More than 87% of the Unit’s forests are even-aged stands as result of past historical practices (see Historical Background Information). To promote biodiversity and create continuous closed canopy conditions, some even-aged stands will be converted to all-aged stands through single tree and group selection silviculture. This approach will help minimize the size of the canopy openings and provide a relatively continuous closed forest canopy. In many ways, all-aged silviculture mimics the natural process by which older trees grow to maturity, die, and are gradually replaced by young seedlings and saplings. The conversion process (from an even-aged to all-aged stand age structure) may take more than 100 years. Recommendations to convert even-aged stands to all-aged stands were made where conditions were suitable and other objectives were not compromised. Suitable conditions include soil type and sites where shade

tolerant species are best adapted. Many stands will continue to be managed on an even-aged basis to provide a diversity of species and contribute to the amount of hard mast available in the landscape.

Forest product sales are the primary means of achieving the desired structures. Forest management activities may vary slightly due to workloads, natural disturbances such as ice storms, and the availability of markets for low grade forest products.

Objective 1.1: Apply a Landscape Perspective to Decision Making.
Management decisions in this Plan will consider opportunities to increase biodiversity in the landscape. These decisions will be integrated with other management goals including economic, recreational, and environmental objectives. State Forests represent approximately five percent of the land base in Tioga County. The long term public ownership of State Forests contributes important habitat elements such as early and late successional stage forests. These habitat elements are in increasingly short supply across the Unit's landscape.

Ecosystems are very complex systems where almost all life forms are interrelated in some manner. The task of managing an ecosystem is impractical on a species-by-species basis. Enhancements made to the ecosystem to help one species will invariably affect numerous other species as well, in both positive and negative manners. It is impossible to rank the value of all the common species present on the forest to choose which populations should be helped at the expense of others. For these reasons, the management strategy in this Plan will be to promote the diversity of forest structure, composition and cover types in the landscape.

Action 1.11: ***Apply Ecosystem Management using GIS technology.***
GIS (Geographic Information Systems) and a landscape approach has been used to develop this Unit Management Plan. GIS systems use computer-based mapping and databases to assist with decision-making and natural resource analysis. GIS technology will be employed to make landscape level decisions based on adaptive (flexible) ecosystem management principles

Objective 1.2: Protect Soil and Water Resources.
Sustainability of a forest ecosystem depends on protecting the soil and water resources. While the aquatic, riparian, and wetland ecotypes on the Unit are limited, they provide food, breeding areas, and cover for numerous plant and animal species. These water resources are an integral part of the hydrologic cycle (the route water takes from rainfall to evaporation), providing sediment filters, regulating runoff, and recharging aquifers.

Action 1.21: ***Apply Best Management Practices on all operations including harvesting, the development of recreational facilities, and oil or gas exploration or development.***
Harvesting and construction activities are not a major cause of water quality problems when properly managed. However, skid trails, haul roads, landings, parking lots and any earth moving construction project have the potential to be sources of sedimentation, erosion, and siltation. Sediment and erosion are the primary potential non-point source pollution problems associated

with construction and forest management activities, especially at stream crossings. Sedimentation and turbidity (cloudiness) - caused when eroded soil gets into a stream, wetland, pond, or lake - damages fish habitat, spawning areas, and makes the water unsuitable for other uses downstream. Erosion moves soil and can damage or destroy natural resources and personal property.

The key to success is proper planning and the appropriate use of Best Management Practices (BMPs). These are simple, often low-cost practices and techniques incorporated into timber harvests and construction projects. BMPs keep water clean, maintain the productivity of the forest, improve public confidence in logging, and maintain public support for activities which are essential for sustainable forest management.

Forestry BMPs will be followed for the construction and maintenance of all logging roads and landings. All main skid trails will be located by Department Foresters prior to harvesting. BMP recommendations for road placement, grading, water diversion devices, and culverts will be followed. Whenever possible, landings will be located at least 250 feet away from water bodies. If any landings are located closer than 250 feet, additional sediment control methods will be employed (including straw bales and silt fences) to prevent sedimentation and minimize erosion. Cutting and filling on roads and trails will be limited.

Upon completion of a logging job, the landing must be back-bladed and seeded with an appropriate mix of native, warm-season grass seed to reduce erosion and provide food and cover for wildlife. The grass species may include big bluestem (Andropogon gerardi), little bluestem (Schizachyrium scoparium), Indian grass (Sorghastrum nutans), switchgrass (Panicum virgatum), eastern gamma grass (Tripsacum dactyloides) and/or Tioga deer tongue (Panicum clandestinum). A blend of at least two of these species must be used. Depending on the species used, seedling rates may range from 10 pounds to 25 pounds per acre. The grass seed mix may include up to 20% (by weight) of annual ryegrass as a cover crop.

New York's BMPs are consistent with the United States Environmental Protection Agency approved Non-Point Source Pollution Management Plan. The State's plan outlines our approach to implementing timber harvesting BMPs. Proper use of BMPs can eliminate these problems before they occur (New York Forestry BMP Field Guide 2000).

Action 1.22: ***Establish riparian zones along streambanks.*** To protect stream habitat and maintain streambank stability, riparian zone buffers will be established along all consistent and intermittent streams on the Unit with clearly defined stream channels. These zones will have a minimum buffer strip of 50 feet on each side of the stream. An additional 50 feet outside of this buffer will be managed to maintain its value as a buffer. When harvesting trees in this outer buffer, at least 75% of the basal area (tree density) must be maintained.

Harvesting will be restricted on 120 acres of riparian zones. These zones will be sheltered from most mechanical activities for environmental and aesthetic reasons. Streambanks will be protected so that mechanical disturbance does not cause excessive soil movement, erosion, and

degradation of water quality. Vegetation will be retained along water courses and stream crossings during timber harvesting, recreational facility development, and all other construction activities. If steam crossings are necessary, temporary bridges or culverts will be required to protect the streambank and prevent sedimentation from entering the stream channel. All stream crossings will comply with the Department's Protection of Waters Program and the New York State Forestry Best Management Practices for Water Quality.

Action 1.23: ***Establish a 100-foot buffer on water resources during harvesting operations*****.** Regeneration harvests and land clearing will be avoided within 100 feet of all water resources (stream, pond, wetland) on the Unit. Studies conducted in the western United States, in areas that have been clearcut, indicate that ambient air temperature in adjacent, uncut narrow stream corridor riparian zones tends to be much higher after clearcutting than previous to it. Increased ambient air temperature usually leads to increased water temperatures which, in turn, can negatively impact resident fish and invertebrate populations.

Action 1.24: ***Protect 24 acres of State-designated freshwater wetlands from harvesting, recreational development, and oil/natural gas exploration activities***. A 250-foot buffer of protection forest will be established around the State-designated freshwater wetland on the Unit (Oakley Corners Pond). Harvesting will be prohibited in this buffer. Any newly constructed forest access roads, haul roads, and trails will avoid these areas. A permit must be applied for to do any work which might place fill in a wetland.

Action 1.25: ***Protect aquatic and terrestrial ecosystems by controlling invasive exotic species*****.** Herbicides, insecticides, and biological controls may be used on a limited basis to control invasive exotic (non-native) plants and insects. The DEC will use the concept of Integrated Pest Management (IPM) when managing invasive species. IPM is a comprehensive approach to controlling insects, weeds, and plant pathogens with environmentally and economically sound practices that minimize risks to people and the environment. Monitoring of pest levels is a key component of IPM. - and the DEC monitors forested ecosystems using aerial flights on a regular basis. Promoting species diversity, structural diversity, a variety of size classes, and enhancing forest health are additional key components practicing IPM on our State Forests. Healthy forests are better able to resist insect and disease infestations.

When invasive exotic (non-native) species and undesirable native competing vegetation (such as beech sprouts and hayscented fern) are not able to be controlled by the methods described above, all other available methods of eradication and control will be considered, including the use of herbicides and/or pesticides if necessary. If it is determined that herbicides and/or pesticides are necessary, SEQR (State Environmental Quality Review) will be followed.

Objective 1.3: Protect Endangered Species.
Protection of endangered species is a priority. No endangered species of animals are known to exist on the Unit at this time. The only endangered plant (blunt-nose grape fern) known on the Unit was last reported in 1911. There are 30 rare plant species historically known from Tioga County that could occur on the Unit.

Action 1.31: ***Work with the New York Natural Heritage Program to identify the locations of rare and endangered species on the Unit***. The New York Natural Heritage Program partners with the DEC to enable and enhance the conservation of the state's biodiversity by delivering high-quality information from field inventories, expert interpretation, and the most comprehensive database on New York's distinctive biodiversity.

The New York Natural Heritage Program conducted a biological inventory of the State Forests in DEC Region 7 (including the Tioga Unit) in the Summer of 2004 to identify unique or rare forest communities as well as rare and endangered species. Made possible by the NYS Biodiversity Research Institute, a final report was issued in May, 2005. The report documented one new occurrence - the presence of Arrowhead spiketail (Cordulegaster obliqua) dragonfly on the Jenksville (Tioga #7) State Forest. The arrowhead spiketail is unprotected in New York State, and is not listed federally. However, the dragonfly may be quite rare in parts of its range, especially at the edge of its range. At this time, the dragonfly has been recorded at approximately 16 locations in 11 separate counties across a broad extent of the southern tier, Finger Lakes, and Hudson Valley. A number of these locations have been found in the past five (5) to ten (10) years. The most important negative impacts would come from changes in the natural hydrology such as the building of dams, increases in the stream sediment load, changes in dissolved oxygen content, direct effects of pesticides, and chemical contamination by agricultural runoff.

Protection of seepage areas are key for this species. The Plan seeks to protect and buffer all streams and wetlands (and associated seepages) on the Unit to shade surface waters and reduce sedimentation. No large scale changes to the Unit's hydrology through activities such as dam construction or wide scale use of pesticides is planned. Agricultural runoff is of minimal concern as over 70% of the surrounding landscape has reverted to forest - and most of the remaining agriculture is taking place in the fertile deep valley soils in the region.

The Natural Heritage Program is always updating and collecting new data. As such, any management activities which might affect any unique or rare forest community or threatened and/or endangered species will be adapted to properly protect that species. Conservation guides concerning the Arrowhead spiketail and blunt-nosed grape fern are included in Appendices 18 and 19 of this Plan. The New York Natural Heritage program designed the conservation guides to help land managers, decision-makers, planners, scientists, consultants, and the interested public better understand the rare species and natural communities that characterize New York. Additional guides are available on the New York Natural Heritage website at http://www.acris.nynhp.org/.

Objective 1.4: Update Forest Inventories.

Natural resource research influences and updates management decisions and strategies. Periodic data collection of vegetation and wildlife will monitor ecosystem conditions and future changes. A forest inventory was conducted on this Unit during the Fall of 2001 and the Winter of 2002. Periodic inventories and re-inventory after each silvicultural treatment will continue to be conducted.

Action 1.41: ***An updated and improved forest inventory program is being implemented by the Department. This inventory program will be integrated with the Department's GIS system, collect a wider array of forest ecosystem information, and provide enhanced ecosystem based decision-making capabilities.***

Action 1.42: ***Forest inventories will be conducted according to the following schedule*****:**

State Forest Number	State Forest Name	Acres	Last Inventory	Inventory Update	Next Inventory
Tioga #1	Fairfield	815	1986	2002	2012
Tioga #2	Oakley Corners	1,025	1987	2002	2012
Tioga #6	Ketchumville	503	1987	2001	2011
Tioga #7	Jenksville	1,349	1987	2002	2012
Total State Forest Acres		**3,692**			

Objective 1.5: Address the Habitat "Gaps" Identified in the Landscape Surrounding the Unit.

Action 1.51: ***Address changes in forest structure by increasing young early successional forest acreage through natural regeneration harvests.***

A). Over the term of this Plan, an additional 431 acres of even-aged early successional forests will be created through even-aged regeneration harvests. These harvests will strategically promote plant species that require high amounts of sunlight, such as aspen, red oak, chestnut oak, white ash, black cherry, pin cherry. Young early successional forests provide critical habitat for a suite of wildlife species that require early successional cover such as the ruffed grouse, American woodcock, white-throated sparrow, chestnut side warbler, yellow warbler, adler flycatcher, brown thrasher, gray catbird, and white tailed deer. These regeneration harvests, listed below, are scheduled evenly throughout the time line of this Plan.

Overstory Removal

Year	Acres	State Forest (Stand)	Species
2009	4	Tioga 2 (B-09)	NH
2011	5	Tioga 6 (A-18.1)	PH
2012	10	Tiogoa 6 (A-18.2)	PH
2017	17	Tioga 2 (A-09)	RM-ASP
2024	16	Tioga 1 (A-24)	NS
2031	49	Tioga 7 (B-10.2)	RP-EL
Total	**101 acres**		

Red Pine Thinning/Conversion

Year	Acres	State Forest (Stand)	Species
2011	6	Tioga 6 (A-31.1)	RP
2011	2	Tioga 6 (A-31.2)	RP
Total	**8 acres**		

Red Pine, White Pine and Larch Conversion

Year	Acres	State Forest (Stand)	Species
2009	38	Tioga 2 (A-03)	RP-SP
2009	12	Tioga 2 (A-07)	WP
2010	6	Tioga 2 (A-20)	RP-NH
2013	20	Tioga 7 (B-23)	RP-NH
2013	51	Tioga 7 (B-31)	NS-RP
2013	24	Tioga 7 (B-35)	RP-EL
2016	30	Tioga 1 (A-04)	RP-EL
2016	24	Tioga 1 (A-27)	RP
2018	10	Tioga 2 (A-27)	NH-WP
2020	12	Tioga 7 (A-19)	EL-NH
2027	7	Tioga 7 (A-15)	EL-NH
2028	10	Tioga 7 (A-14)	EL-RP
2029	37	Tioga 2 (A-14)	RP-WP
2029	26	Tioga 2 (B-24)	RP-JL
2033	15	Tioga 2 (B-14)	RP-NH
Total	**322 acres**		

B). Manage 15 acres of aspen on a 60-year rotation.

Aspen is a relatively short-lived tree with an average life span of about 60 to 80 years. It can be a prolific seeder, with good germination, given the proper conditions. The preferred method of aspen regeneration is by even-aged management. Aspen is well known for its sprouting capabilities. Cutting stands to induce regeneration by sprouts is known as the coppice method. The conditions created in this approach provide essential habitat for many species, most notably woodcock and ruffed grouse. The regenerated aspen thickets provide ideal brood cover while older trees provide good winter food. Aspen management will be accomplished as a component of the next commercial forest products sale that is conducted in the vicinity of these stands.

Action 1.52: ***Address changing forest composition on the landscape level by promoting the natural regeneration and retention of high value mast producing tree species.***

Changes in the prevalence of oak types provide a picture of this issue. According to the United States Forest Service surveys between 1980 and 1993, the oak types in the South Central Highlands Unit have declined 35 percent (Alerich 1995). The Tioga Unit lies within the South Central Highlands Unit. From the standpoint of biological diversity, it is important to continue to perpetuate oak types within this Unit. Insects and diseases have effected other mast-producing species including beech, ash, and butternut. The decline of these hardwood species has the potential to negatively impact wildlife populations.

Manage 163 acres of oak mixed with hardwoods and 79 acres of oak using the even-aged management system on 20-year cutting intervals. The oak component of these sites will be enhanced and maintained for the benefit of biodiversity and hard mast production. Red oak and white oak are highly valued as a food source for wildlife and as a timber resource. The oak forest types in the region have been called transition oak types, since the percentage of oak declines as shade tolerant species such as American beech occupy the site. Heavy disturbance of the forest overstory, either natural or human-implemented, significantly increase light levels to the forest floor and favor the perpetuation of oak species provided that oak is established in the forest understory - and interfering species such as American beech or fern have not become heavily established. Light disturbance tends to favor non-oak species.

Prior to marking, forest stands will be evaluated using the SILVAH (Silviculture of Allegheny Hardwoods) method developed by the U.S. Forest Service. SILVAH is a system of stand analysis, prescription, and forest stand treatment guidelines specifically developed for hardwood stands of Allegheny Plateau Region. It is well suited for managing the transition oak stands that are found in the Tioga Unit.

To help maintain tree species diversity, the Department will promote the regeneration and retention of selected high quality red oak, white oak, black cherry, and hard (sugar) maple seed trees whenever possible. Tools such as tree shelters, deer fencing, prescribed fire, and site specific herbicide applications will be used as necessary to reestablish native oak. Natural regeneration from seed trees and stump sprouts will be the chief method to reestablish oak - but tree planting may be necessary on challenging sites. Hunting will be encouraged to help maintain acceptable deer populations levels.

Action 1.53: ***Address changing forest composition by promoting the regeneration and retention of long-lived conifers.*** We will attempt to maintain at least 16% of the total forest acreage in softwood cover by perpetuating the existing hemlock component and promoting natural regeneration of spruce, when possible. Softwood cover types provide essential habitat for numerous species from fungi to birds and mammals. This will add to the biodiversity of both the State Forests and the surrounding landscape. We will also manage 20 acres of natural hemlock to favor the retention and regeneration of hemlock using all-aged management. The softwood component will be further enhanced by managing 305 acres of Norway spruce plantations and 274 acres of Norway spruce mixed with hardwoods using even-aged management techniques to create future forests which are predominately comprised of conifers. Group and individual tree selection cutting will be strategically employed to encourage the natural regeneration of conifers, particularly hemlock. Continued control of deer populations through licensed hunting will be necessary to reduce excessive browsing of hemlock seedlings and saplings.

On occasion, trees may be replanted as part of a timber harvest to maintain the long lived conifer component. Each site will be assessed prior to harvesting to determine if tree planting is necessary, given the pre-existing conditions at the site. To insure success, new tree planting will require expensive site preparation that includes the use of selective use herbicides or controlled burning.

Action 1.54: ***Address changing forest composition by promoting regeneration and retention of tree species impacted by insects and disease.*** Beech, ash, and butternut trees have been declining in recent years. Beech bark disease has damaged and killed many of the oldest beech trees. The disease is a pathogen complex involving a scale insect and a nectria fungus. The insect pierces the bark to feed, creating a place for the fungus to enter at a later date. The fungus begins to grow within the bark, resulting in round scars. Fungal activity interrupts the tree's normal physiological processes and a severely infected tree will most likely die. Trees that do not die will remain weak and become more susceptible to wind damage.

Ash decline has been used to describe the decline and death of ash trees by unknown pathogens. Some pathogens may include diseases, poor soil/sites, cankers, insects, winter injury, or drought. The discovery of the emerald ash borer in Michigan in 2002 may contribute to ash decline in New York in the future. There are many other problems that affect ash trees including ash yellows and ash anthracnose.

The Tioga Unit is within the native range of butternut but these trees are very rare on the Unit. Butternut is being killed throughout its range by a fungus most likely introduced from outside North America. The fungus initially infects trees through buds, leaf scars, and possibly insect wounds or other openings in the bark. The fungus rapidly kills small branches and spreads throughout the tree. Butternut is the only natural host known to be killed by the fungus. The fungus can survive on dead trees for at least two years.

Healthy beech, ash, and butternut trees are occasionally found growing among diseased and dying trees. Forest management activities will retain these potentially resistant trees using the following guidelines:

1. Retain trees with more than 70% live crown and with less than 20% of the combined circumference of the stem and root flares affected by symptoms;

2. Retain some dead or declining trees for their wildlife value (snags and/or coarse woody material), and

3. Retain trees free of symptoms with at least 50% live crown and growing among diseased trees. These trees may be resistant and have value for the gene pool.

Action 1.55: ***Address high deer populations*****.** The Department's Wildlife Biologists are actively addressing the high deer population through public education and by issuing a greater number of antlerless deer hunting permits in Wildlife Management Unit 7R [includes Tioga #1 (Fairfield), Tioga #6 (Ketchumville), and Tioga #7 (Jenksville)] and Wildlife Management Unit 7S [includes Tioga #2 (Oakley Corners)].

Action 1.56: ***Perpetuate hemlock*****.** Manage 20 acres of natural hemlock stands by favoring the retention and regeneration of hemlock and by employing all-aged management. The existing hemlock component will be perpetuated as part of the 20% softwood cover on the Unit.

Manage 353 acres of native northern hardwoods mixed with hemlock using the all-aged management system on 20-30 year cutting intervals to perpetuate the hemlock component.

Action 1.57: ***Address forest fragmentation*****.** Unfragmented forests with continuous closed canopy conditions are noticeably lacking in the surrounding landscape. To promote biodiversity, each State Forest on the Unit will have an unfragmented area. We will manage 860 acres for unfragmented forest attributes to provide continuous closed canopy habitat. It will take nearly a century to create these conditions as some of this acreage is currently even-aged. These even-aged stands will gradually be converted to all-aged stands by fostering advanced regeneration and converting softwood plantations to hardwoods.

Unfragmented forest areas, when fully established, will be managed using an all-aged management regime with a single tree and group selection approach to thinning and harvests designed to limit the size of forest openings. The goal is to keep artificially created forest openings to between 1/4 and 1/3 acre in size. Such openings mimic a natural disturbance regime, and will allow crowns of adjacent trees to regrow and close the openings within relatively short period of time (7 to 10 years). Patches of light from the disturbance will allow a new layer of shade tolerant seedlings and saplings to be released or established before the canopy closes. Skid

trails will be constructed to limit their respective impact on canopy closure.

Surface disturbances related to oil and gas exploration and their development, including well sites and utility or pipeline right-of-ways, will be significantly limited within these designated unfragmented forest areas as determined by the DEC Region 7 oil and gas tract assessment process, DEC policy, and the DEC's Response to Public Comments 2006 State Land Lease Sale document. A map of the unfragmented forest areas on the Unit is included in the map section at the end of this Plan.

A total of 259 acres have been set aside as natural forest areas. The natural forest areas are strategically linked with the unfragmented forest areas, and thereby compliment the landscape. A map of these natural forest areas is included at the end of this Plan. State Forest natural areas are excluded from forest management, oil and gas exploration, and some recreational activities to protect sensitive sites. These areas include steep slopes, wet woodlands, and riparian zones along stream corridors. As such, natural forest areas will provide unfragmented landscape characteristics, and, in the long term, old-growth forest characteristics.

Action 1.58: ***Provide coarse woody material, den trees, and snag trees.*** Coarse woody material is an important component of the forest ecosystem. This woody material stores moisture, cycles nutrients as it decays, and provides habitat niches for insects, reptiles, plants, and fungi. Coarse wood material naturally occurs when limbs break, trees are blown over, or snags fall.

Coarse woody material will be provided as follows:

- ❑ Tops of felled trees will not be sold for firewood following sawtimber harvests, except along travel corridors or where aesthetics are important.
- ❑ Non-commercial logs will be left in the woods during harvesting.
- ❑ Minimum utilization limits will generally not be required in timber harvests.
- ❑ Whole tree harvesting will not be permitted.

Where den trees and snags are present, at least one den tree and three snag trees per acre will be retained during forest management activities. This will provide foraging, perching, and nesting opportunities for cavity nesting birds (woodpeckers, owls, wrens, nuthatches, vultures, ducks) and cavity nesting mammals (raccoons, squirrels, bats, mice, opossum, black bear, porcupine) as well as insects. Snags will eventually become coarse woody material. To provide wildlife habitat, emphasis will be given to maintain den trees and snags near water, fields, and edges where possible. This will be applied in both even-aged and all-aged systems. In many instances, dens trees and snags are not present (i.e. red pine plantations). If den trees and snags do not exist, they will not be created. Some declining trees will be retained to become future snag trees where needed.

Action 1.59: ***Address the lack of forests with old growth characteristics in the landscape.***
Presently, there are no old growth forests in the landscape surrounding the Unit. The long term public ownership of State Forests can contribute some components to biodiversity that can not be expected from private forest ownership patterns. On this Unit, 259 acres of State Forests have been designated as natural forest areas. Natural forest areas are restricted from harvesting and sheltered from most mechanical activities for environmental and aesthetic reasons. These forests occupy sensitive sites such as wetlands, steep slopes, and streambanks. They may include important cultural resources or significant wildlife habitat. Natural forest areas provide continuous closed canopy conditions and eventually have the potential to exhibit some old growth characteristics.

Objective 1.6: Provide for Species and Structural Diversity by Employing a Variety of Silvicultural Systems and Strategies Throughout the Time Frame of this Plan.

Action 1.61: ***Manage 860 acres using all-aged silvicultural systems to provide shade tolerant species and conifers.***

Action 1.62: ***Manage 2,483 acres using even-aged silvicultural systems to promote natural regeneration of shade intolerant species.***

Action 1.63: ***Manage 41 acres using all-aged or even-aged silvicutural systems.***

Objective 1.7: Gradually convert 666 Acres of Conifer Plantations to Native Hardwoods Using Even-aged Silviculture.

Action 1.71. ***Manage 512 acres of conifer plantations for conversion to native northern hardwoods mixed with conifers using strip cuts, row thinnings, intermediate thinnings, and noncommercial thinnings.***

Action 1.72. ***Manage 154 acres of even-aged conifer plantations mixed with native northern hardwoods for conversion to native northern hardwoods using even-aged management on 20-30 year cutting intervals.***

Objective 1.8: Enhance Wildlife Habitat.

Action 1.81. *Maintain wood duck boxes to compensate for the lack of natural nesting cavities at Oakley Corners Pond.* Artificial nesting structures are often mistakenly erected close together and in highly visible locations, such as the center of a pond. This creates a situation where egg dumping is common. Dumping is a practice where female wood ducks lay eggs, but abandon the nest before the eggs hatch.

Since nest predation is higher in boxes placed directly on the shoreline, future replacement boxes will be located from 30 to 150 feet away from the shoreline and at least 600 feet apart.

Action 1.82. *Thin 1,551 acres of poletimber stands to improve forest health by increasing vertical structure, adding coarse woody material, and by increasing individual tree growth rates.* Poletimber stands (trees 6-11 inches in diameter) often have the least vertical structure and sparse ground vegetation. Vertical structure refers to the distinct vegetative layers in the forest (canopy, understory, shrub layer, and groundcover). Not all forests have all layers. Thinning these stands, will add coarse woody material, provide cover and browse for wildlife, and stimulate natural vegetation regeneration on the forest floor while promoting structural diversity. Diverse vertical forest structure benefits birds by improving habitat for nesting and foraging.

Action 1.83 . *Protect habitat for birds of prey.* Birds of prey on the Unit may include sharp-shinned hawk, northern goshawk, red-shouldered hawk, and Cooper's hawk. Management activities will be adapted to minimize disturbance in areas where these birds are known to be actively nesting. Harvesting activities in and adjacent to active nests will be restricted during the period of March 1st through July 31st.

Action 1.84. *Protect raptors on the Unit by prohibiting their removal by licensed falconers.* No permits will be issued to licensed falconers to remove raptors from the Unit.

GOAL 2: Provide Forest-Based Recreational Opportunities Including Accommodations for People with Mobility Limitations

Our goal is to provide a variety of rustic, forest-based recreational opportunities that are sustainable and compatible with the Unit's resources. Trails are designed for family enjoyment for beginner-to intermediate-level users. New recreational facilities will be designed to provide access for people with disabilities as required by the Americans with Disabilities Act (ADA). Construction will be guided by the principles of Universal Design.

Compatible recreation is a mainstay in a use-oriented management plan. Outdoor activities are widely enjoyed by millions of Americans. The Tioga Unit provides opportunities for both active and passive forms of outdoor recreation. Some of the important attributes that contribute to pleasurable recreational experiences include public safety, accessibility, aesthetic character, and quality of facilities.

A landscape perspective was applied when considering recreational opportunities. The Tioga Unit Management Plan proposes not to duplicate services and opportunities found nearby or within the landscape. Many developed recreational opportunities are provided at other locations in the area.

Objective 2.1: Provide Opportunities for Passive Recreational Activities Without Formal Trails.

Some recreational activities do not require formal trail systems. These activities include: walking, hunting, trapping, fishing, hiking, back-country camping, orienteering, geocaching, and nature observation. Many people who participate in these activities go to State Forests to seek more remote areas and solitude.

Action 2.11: ***Designate Tioga #1 (Fairfield) a State Forest without recreational trails.***
To accommodate the activities listed above, Tioga #1 (Fairfield) has been designated a State Forest without recreational trails. Formal trail systems and recreation facilities will not be developed on this State Forest. Requests to cross this State Forest with corridor trail connections will be considered on a case-by-case basis provided they do not compromise the intent of this designation. The Regional Forester may designate new recreational trails on a case by case basis by amending this Plan.

Objective 2.2: Maintain Existing Recreation Trails.

The Department will focus resources on the maintenance of the 28 miles of existing multiple use trail systems in a way that protects the resource and maintains the rustic character of the State Forests. The Department will continue to work cooperatively with user groups through Adopt-A-Natural Resource (AANR) Agreements to maintain the existing trails. The Plan schedules new construction of a 4,200 foot ATV trail for people with mobility impairments on the Oakley Corners State Forest during year 2012. It also calls for maintenance of the gravel trail surfaces at Oakley Corners, and installation of new geotextile fabric, gravel, and culverts in problem wet areas on approximately 6000 feet of the Jenksville State Forest trail network (please see the work schedule at the end of the Plan for additional information). Additionally, occasional trail relocations will be necessary - particularly in wet areas and during forest ecosystem management activities. The Department plans on maintaining a 28 to 30 mile formal marked trail network at any given point in time on the Tioga Unit. It should be noted that building trails without authorization from the Department is prohibited. Trail relocations will be evaluated on a case-by-case basis with DEC's Adopt-A-Natural Resource (AANR) Partners before being implemented.

Action 2.21: ***Maintain multiple-use trails with the assistance of volunteers under the DEC's Adopt-A-Natural Resource (AANR) Program***. An Adopt-A-Natural Resource Agreement currently exists with the Triple Cities Ski Club to maintain the multiple-use trail systems on Tioga #2 (Oakley Corners) and Tioga #7 (Jenksville). Routine trail maintenance is performed by volunteers in cooperation with Department Foresters. In keeping with the natural character, ski trails on the Unit will not be groomed. The DEC may supply trail maintenance materials such as geotextile fabric, plastic culverts, signs, and gravel.

Action 2.22: *Maintain snowmobile trails.* The DEC has Adopt-A-Natural Resource Agreements with the Candor Valley Snowmobile Club for the grooming and maintenance of the snowmobile trail on Tioga #1 (Fairfield) and the Tioga Ridgerunners Snowmobile Club for grooming and maintenance of the snowmobile trail on Tioga #2 (Oakley Corners). Routine trail maintenance is performed by DEC Adopt-A-Natural Resource (AANR) partners in cooperation with DEC foresters. Funding for trail establishment and maintenance on State forests is provided by the Snowmobile Trail Fund administered by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP), local clubs, and the DEC.

Objective 2.3: Enhance Public Information and Access.

Action 2.31: ***Construct a new parking area on Tioga #2 (Oakley Corners).***
Due to increasing public use, a new parking area for approximately ten cars will be constructed at the intersection of Dutchtown and Hullsville Roads on Tioga #2 (Oakley Corners) in 2012. This parking area will include parking for people with mobility impairments.

Action 2.32: ***Produce public use brochures and maps for Tioga #1 (Fairfield) and Tioga #6 (Ketchumville).***
Brochures for Tioga #1 (Fairfield) is scheduled to be produced in 2018. Brochures for Tioga #6 (Ketchumville) is scheduled to be produced in 2008. Both brochures will use at least 12-point type to accommodate the Principles of Universal Design. Brochures for Tioga #2 (Oakley Corners) and Tioga #7 (Jenksville) are currently available at trailheads courtesy of DEC's AANR Partner - the Triple Cities Ski Club. The DEC will try to produce the Fairfield and Ketchumville brochures sooner through recreation internships with SUNY ESF or SUNY Cortland.

Action 2.33: ***Construct and install informational kiosks***.
New single panel kiosks are scheduled to be constructed and installed on Tioga #1 (Fairfield) in 2018 and Tioga #6 (Ketchumville) in 2010. Replacement triple panel kiosks are scheduled to be constructed and installed on Tioga #2 (Oakley Corners) in 2012 and Tioga #7 (Jenksville) in 2014. The informational kiosks will hold brochures and maps of the State Forest and contain information pertinent to public use of State Forests.

Action 2.34: ***Collaborate with Albany Lands and Forests staff to periodically update the DEC Environmental Navigator maps and post a digital copy of this Plan on the Department's website.***

Action 2.35: ***Use effective information, education and communication to implement trail rules***. Education and communication are the best ways to implement new trail rules. As such, recreationists will be notified of trail rules through signs, brochures, and informational kiosks. Trail rules will also be communicated and enforced by the DEC's Office of Public Protection's Forest Ranger and Environmental Conservation Police Officers.

Objective 2.4: Provide Recreational Opportunities While Protecting Forest Sustainability.

Action 2.41: ***Provide opportunities for horseback riding with seasonal restrictions to protect trails from excess erosion and damage***. Horseback riding season is from May 1 until October 31 on the Tioga Unit. The twelve (12) mile multiple-use trail network on Tioga #7 (Jenksville) provides the best formal horseback riding opportunities on the Unit. To conserve the Unit's natural resources and to prevent conflicts with other recreationists, horseback riders are encouraged to stay on designated trails. Horses are not permitted on the multiple-use trails on Tioga #2 (Oakley Corners) due to heavy clay soil conditions and the poorly drained (nearly level) topography. Informal riding is permitted on Tioga #6 (Ketchumville) and Tioga #1 (Fairfield). Groups rides and competitive events will be considered on formal trail systems from May through September when soil moisture conditions are favorable. A DEC Temporary Revocable Permit (TRP) is required. According to 6NYCRR 190.8-n.1, n.2, n.3, horses are not permitted on snowmobile trails and cross-country ski trails when they are covered with ice or snow.

From November 1st to April 30th , the horseback trail will be closed. The former four (4) mile horse trail on Tioga #6 (Ketchumville) was closed due to soil erosion and has seen limited use over the past few years. However, a new trail of about two (2) miles in length is scheduled to be constructed if a volunteer group comes forward and is willing to collaborate with the Department on the project and its future maintenance through a DEC Adopt-A-Natural Resource (AANR) Agreement.

Action 2.42: ***Provide opportunities for mountain biking in a sustainable manner*****.**
There is a 16-mile multiple-use trail on Tioga #2 (Oakley Corners) and a 12-mile multiple-use trail on Tioga #7 (Jenksville) that provides good mountain bike riding opportunities. Due to past challenges with unauthorized trail and structure construction, mountain bikers are required to stay on designated trails when riding on Oakley Corners and Jenksville. Dispersed, informal mountain bike riding on Tioga #1 (Fairfield) and Tioga #6 (Ketchumville) is currently permitted. No new trails are scheduled to be constructed on the Unit - although reroutes may occasionally be necessary in wet - problem areas. All reroutes will be reviewed with DEC's Adopt-A-Natural (AANR) partners before implementation.

To conserve the Unit's popular trails and natural resources, and prevent conflicts with cross country skiers, mountain biking will not be allowed on designated trails during snow covered conditions. The majority of trails on Tioga #2 (Oakley Corners) are flat, poorly drained, and receive limited snow cover. As such, the snow season can be short, and the thin snowpack can be significantly impacted by mountain bike use. Sections of both the north and south trails have become significantly damaged (rutted) when the soils are saturated from rainfall and melting snow. The remote nature of these trails makes it challenging and costly to continuously transport gravel to maintain the trail surface - and to provide the quality trail conditions recreationists have come to expect.

Temporary trail closures may be required if soils remain continuously saturated and significant damage starts to occur. This decision may be made in consultation with our Adopt-A-Natural (AANR) partners. Group rides and competitive events will not be permitted during saturated soil conditions. Advertised competitive events require a temporary revocable permit (TRP) from the DEC.

Action 2.43: ***Provide opportunities for snowmobiling on designated trails.***

Snowmobiles primarily use corridor trails which pass through the State Forests. There is a one-mile snowmobile trail on Tioga #1 (Fairfield) along Jenksville Hill Road and the public forest access road. There is a three-mile snowmobile trail on Tioga #2 (Oakley Corners). It runs along the public forest access road on the north side of Dutchtown Road and through Stands B1, B14, B22, and B25 on the south side of Dutchtown Road. Snowmobiling is allowed only on these designated roads and trails. Requests from snowmobile clubs for additional corridor trail connections will be considered on a case-by-case basis.

Action 2.44: ***Prohibit target shooting on all of the Unit's State Forests.***

Target shooting has caused significant damage to trees and signs on the Unit; it produces noise and creates litter. As such, it reduces the quality of outdoor recreation provided by the natural resources of the Unit. As such, target shooting is not appropriate or reasonable given the high use of the Unit's recreational trails. DEC land managers have received numerous complaints from recreationists and neighboring property owners on this issue. The DEC recommends that people join a local fish and game club and/or target shoot at an appropriate facility.

Action 2.45: ***Prohibit use by all-terrain vehicles.***

All-terrain vehicles (ATVs) are prohibited everywhere on the Unit, except for trails specifically signed for use by people with mobility impairments. Permission for individuals to use these trails must be granted by the Department through a Temporary Revocable Permit (TRP) per Department policy known as Commissioner Policy (CP) three (3). This policy provides the criteria which is used to determine if a person qualifies for such TRP's. The policy also establishes a procedure for the appeal of TRP's which have been denied, suspended, or revoked. Overall, it is the policy of the Department to provide a qualified person with a certified mobility impairment access to appropriate lands under its jurisdiction. Currently, there are two roads, totaling approximately two miles in length, signed for people with mobility impairments on Tioga #2 (Oakley Corners State Forest). As previously mentioned, an additional 4,200 foot loop trail for people with mobility impairments is scheduled to be constructed in 2012 on the Oakley Corners State Forest.

The construction of a new ATV trail system for the general public in this Unit is not proposed for the following reasons:

- ❑ Many of the soils are fine textured and imperfectly drained on the Unit, particularly on the Oakley Corners State Forest, and therefore cannot sustainably support intense ATV use.

- ❑ To provide rustic recreational opportunities, the Fairfield State Forest will remain as an area without designated trails (of any type).

- ❑ The multiple-use trail systems on Jenksville and Oakley Corners State Forests already occupy a significant portion of these areas. As such, ATV's would not be a compatible long term additional use on these trails.

- ❑ Per Department policy, Public ATV riding is not a program on Reforestation, Multiple Use, and Unique Areas per se.

- ❑ Overall, appropriate soil conditions and maintenance funds must exist to ensure that roads and trails can be maintained to prevent a recurrence of muddy or eroded conditions.

Objective 2.5: Provide Access for People with Mobility Impairments.

The Americans with Disabilities Act (ADA) and its influence on management actions for recreation and related facilities. The Americans with Disabilities Act (ADA), along with the Architectural Barriers Act of 1968 (ABA) and the Rehabilitation Act of 1973, Title V, Section 503, 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 that prohibits discrimination against people with disabilities in employment practices, in the use of public transportation, telecommunication facilities, and public accommodations. Title II of the ADA applies to the Department and requires, in part, that reasonable modifications must be made to its services and programs, 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 such modification would create an undue financial or administrative burden on the Department. Since recreation is an acknowledged public accommodation program of the Department, and there are services and activities associated with that program, the Department is obligated to comply with the ADA, Title II and ADA Accessibility Guidelines, as well as Section 504 of the Rehabilitation Act.

The ADA requires a public entity to thoroughly examine each of its programs and services to determine the level of accessibility provided. The examination involves the identification of all existing programs and services and a formal assessment to determine the degree of accessibility provided to each. The assessment includes the use of the standards established by Federal Department of Justice Rule as delineated by the Americans with Disabilities Act Accessibility Guidelines (ADAAG, either adopted or proposed) and/or the New York State Uniform Fire Prevention and Building Codes, as appropriate. This Unit Management Plan includes an inventory and assessment of all the recreational facilities that support the programs and services available on the Unit. The need for new or upgraded facilities is also included in this assessment. The Department is not required to make each of its existing facilities and assets accessible. The facilities or assets proposed in this Plan are identified in the “Management Actions” section.

The Americans with Disabilities Act Accessibility Guidelines (ADAAG) and Universal Design: The Americans with Disabilities Act (ADA) requires public agencies to employ specific guidelines to ensure that buildings, facilities, programs, and vehicles are accessible to people with disabilities. The Access Board, a federal government agency, has issued the ADAAG for this purpose. The Department of Justice Rule provides authority for these guidelines.

Currently adopted ADAAG address the built environment: buildings, ramps, sidewalks, and rooms within buildings. The Access Board has proposed guidelines to expand ADAAG to cover outdoor developed facilities: trails, campgrounds, picnic areas, and beaches. The proposed ADAAG is contained in the September 1999 Final Report of the Regulatory Negotiation Committee for Outdoor Developed Areas.

ADAAG apply to newly constructed structures and facilities and alterations to existing structures and facilities. Further, it applies to fixed structures or facilities, i.e., those that are attached to the earth or attached to another structure that is attached to the Earth. When the Department is planning the construction of new recreational facilities or assets that support them, or the alteration of existing recreational facilities or assets that support them, it considers providing access to the facilities or elements for people with disabilities. The standards which exist in ADAAG or are contained in the proposed ADAAG also provide guidance to achieve modifications to trails, picnic areas, campgrounds (or campsites), and beaches in order to obtain programmatic compliance with the ADA.

Taking ADAAG one step further is the application of the Principles of Universal Design. Universal Design makes products and environments usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. The intent of Universal Design is to make things easily usable by as many people as possible at little or no extra cost. Universal design benefits people of all ages and abilities (Ron Mace, founder and program director of The Center for Universal Design, North Carolina State University, Raleigh, North Carolina).

Application of The Americans with Disabilities Act Accessibility Guidelines (ADAAG):
Current and proposed ADAAG and Principles of Universal Design will be used in the development and construction of new facilities. Management recommendations in this Plan are proposed in accordance with the ADAAG for the built environment, the proposed ADAAG for outdoor developed areas, the New York State Uniform Fire Prevention and Building Codes, and other appropriate guiding documents. Until such time as the proposed ADAAG becomes an adopted rule of the Department of Justice, the Department is required to use the best information available to comply with ADA. This includes the proposed guidelines.

Action 2.51: ***All new construction of facilities and trails on the Unit will follow Americans with Disabilities Act (ADA) requirements, the Principles of Universal Design, and the Americans with Disabilities Act Accessibility Guidelines (ADAAG).***

"Universal Design makes products and environments usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. The intent of universal design is to make things easily usable by as many people as possible at little or no extra cost. Universal design benefits people of all ages and abilities" (Ron Mace, founder and program director of The Center for Universal Design, North Carolina State University, Raleigh, North Carolina).

Action 2.52: ***Formal camping. Develop three new permit-only campsites on Tioga #2 (Oakley Corners) in 2012.*** Camping is allowed for up to three nights by groups of ten (10) or less people without a permit on any of the State Forests in this Unit with the following restrictions. Camping is not allowed within 150 feet of a road, trail, or water body unless otherwise signed. Designated campsites are established in areas where a high level of past public use has caused degradation of the resource. Five years ago, campsites around Oakley Corners Pond were unsightly and unsanitary. Many complaints were received by the Department from neighbors and campers about this situation. Due to increased public use, three designated campsites will be constructed at Tioga #2 (Oakley Corners). Camping at other locations within 250 feet of Oakley Corners Pond is not permitted. Camping at these three designated sites will be by on-site self-registration. All three sites will be designed and built using principles of Universal Design. No other high use recreational areas require the construction of additional designated formal campsites on the Unit.

Action 2.53: ***Informal (primitive) camping.*** Informal camping is permitted in the unit. A camping permit is required for groups of 10 persons or more or for stays longer than 3 nights. Camping permits are issued by the New York State DEC Forest Ranger. Camping is not permitted within 150 feet of open water, roads, or designated recreational trails. Campers are encouraged to use camping stoves, rather than an open fire, for cooking.

Action 2.54: ***Enhance access for people with mobility impairments*****.** There are two roads located on Tioga #2 (Oakley Corners) available for four (or more) wheeled ATV use by people with mobility impairments. A no-fee permit to use these roads must be issued by the Department.

The first road runs from the Oakley Corners Pond parking area on Hullsville Road to a forest products landing 0.25 mile away. The second is the public forest access road on the north side of Tioga #2 (Oakley Corners) at the junction of Hullsville and Dutchtown Roads. This road terminates at the end of the public forest access road 1.8 miles away. A map of these roads is included at the end of this Plan. Both of these roads have gates that limit general public use.

A new trail 4,200 foot trail loop will is scheduled to be constructed at the north end of the Tioga #2 (Oakley Corners) by the end of 2012. This loop will improve access to the northeastern corner of the State Forest for people with mobility impairments.

At this time, no additional designated accessible roads or trails are planned. The Department will consider requests for additional access roads for use by people with mobility impairments on a case-by-case basis.

GOAL 3: Provide Economic Benefits to the Local Community and to the State of New York.

Ecotourism

State Forests provide a base for eco-tourism business. Individuals using the forests for recreational purposes also frequent local businesses for other needs. By providing recreational opportunities we also help the local economy.

Renewable Resources

A valuable tool in managing the forest is harvesting forest products. Properly designed harvests promote biodiversity and forest health. At the same time, this provides jobs and raw materials to support the local economy.

Mineral Resources

The leasing and development of natural gas resources can provide jobs, income to the State, and a source of fuel which is cleaner to use than most alternatives.

Objective 3.1: Provide a Steady Flow of Forest Products and to Generate Income to the State of New York, Raw Materials to the Forest Products Industry, and Sustain and Create Local Jobs.

Action 3.11: ***Designate 3,356 acres (90.9%) on the Unit as available for forest management and harvesting on a sustainable basis using science-based silvicultural systems.***

Action 3.12: ***Salvage forest stands that are destroyed or severely damaged by natural events before they lose significant value from decay. Leave some snag trees and coarse woody material***.

Objective 3.2A: Lease Natural Gas Exploration and Development Rights on all the State Forests in the Unit to Help Meet the Nation's Growing Energy Needs while Protecting Sensitive Areas and Other Management Objectives.

Action 3.21A: ***Allow all State Forests in the unit to be leased for natural gas exploration and development while protecting sensitive areas from surface disturbance.***

Action 3.22A: ***Reduce impacts related to oil and natural gas exploration and development on natural resources and other State Forest goals and objectives.*** Our objective is to manage the surface disturbances associated with oil and natural gas exploration and development to protect sensitive habitats (riparian areas, wetlands, steep slopes, unique ecological communities, rare, threatened, or endangered species), cultural resources, and formal recreational trail systems on the Unit.

Surface disturbances related to oil and natural gas development are disruptions of the soil and vegetation from seismic testing, well drilling, and the construction of pipelines and access roads related to oil and natural gas exploration and development.

Surface disturbances for oil and gas exploration and well siting will be consistent with the management objectives in this Plan. The impacts associated with oil and gas exploration and development were considered in formulating the actions below. A hierarchical approach was used to focus surface disturbances on the least sensitive areas of the Unit and to exclude the highly sensitive areas. Maps depicting this oil and gas exploration hierarchy are included in the map section at the end of this document.

Action 3.23A*: ***The hierarchical approach classifies the Unit into four categories*:**

Category A - *Compatible with well pad, road, and utility development*: Defined as areas compatible for pipelines, access roads, and associated well pad development. These areas include existing shale pits and within 250 feet of existing roads (public highways and existing public forest access roads). These areas are the least sensitive to surface disturbances or which should be considered first for well placement to limit the overall impact of (roads and pipelines) development. This category represents 1,552 acres (42.0%) of the Unit and is green on the attached oil and gas exploration hierarchy maps. Any areas within this 250 feet zone that had limitations related to soils, slope, streams and wetlands as well as high recreational use areas were excluded from this classification. Also excluded are unfragmented forest areas and natural forest areas. The intent is to focus as much of the surface disturbances as possible in this zone to reduce the overall environmental impact.

Category B - Unfragmented Forests - One well per State Forest: These areas will be managed to maintain or develop an unfragmented forest canopy through all-aged silvicultural methods. To reduce fragmentation, only one well pad per State Forest will be permitted in this category. Only roads and pipelines servicing this well will be permitted. Category B covers approximately 287 acres (7.8%) of the Unit.

Category C - 250 foot stream and designated recreational trail buffers: Not compatible with well pad development; may be compatible with road and utility development. Stream and recreational buffers are necessary to adequately protect water quality and aesthetic resources. This category buffers an additional 490 acres (13.3%) of the Unit from well pad development. Specifically, Category C areas include:

- streams and their 250 foot buffer;
- designated and signed recreational trails and a 250 foot buffer.

Category D - Protection Areas - Not compatible with well pad, road, or utility development. Category D areas include:

- wetlands and a 250 foot buffer;
- slope greater than 15%;
- archeological and cultural sites;
- rare and endangered (Natural Heritage database occurrences);
- ponds and a 250 foot buffer;
- natural forest areas.

Category D represents 1,364 acres (36.9%) of the Unit and is depicted by red shading on the attached oil and gas exploration hierarchy maps. *Spring seeps and vernal pools are not shown on the maps*, but the Division of Lands and Forests reserves that right to adequately buffer seeps and vernal pools identified during future forest inventory and/or field inspections.

Action 3.24A:** ***Permit utilities (pipelines) for the extraction and transport of natural gas*.** Utilities (pipelines) associated with gas well sites should parallel existing public highways and existing public forest access roads whenever possible. Pipelines along public highways and public state forest access roads (PFAR's) are not subject to the same hierarchy as surface disturbances and well siting. Pipeline siting will be reviewed on a case-by-case basis prior to well siting. A Temporary Revocable Permit (TRP) will be required to construct pipelines on the Unit.

Action 3.25A:** ***New road development or rehabilitation***. Any new roads built to access well sites will be located in consideration of the hierarchy established above with the intent of protecting the resource and limiting their impact on other uses of the forest. Placement of these roads will be reviewed and approved by Department Foresters on a case-by-case basis. As such, a Temporary Revocable Permit (TRP) will be required for any road construction.

Note 1*: Where the criteria for these categories overlap, the most restrictive classification was applied. ***Note 2*****: The Department will allow access to State Forest land from adjacent private lands when access is required to develop wells and associated infrastructure. This will only be permitted when written permission is provided from the private landowner granting access. The lessee will be required to build a gate to Department specifications at the state boundary line and must maintain the gate for the duration of the lease. ***Note 3***:Access to private land through State land will be prohibited as a general rule.

Objective 3.2B: Protect the Properties in the Unit Management from Major Surface Mining Impacts

Action 3.2B1: ***No rock, sand, or gravel will be commercially mined on the Unit. One small existing shale pit may be used on occasion to improve or repair roads on State Forests within the unit.***

Objective 3.3: Provide Property Tax Income to Local Governments and Schools.

Action 3.31: ***All State Forests in the Unit are subject to town, school, and fire district property taxes, but are exempted from county taxes. State Forest land is taxed at the same rate as private forest land (please see Appendix 14).***

Objective 3.4: Attract Forest-Based Tourism Which Creates Income and Benefits for Local Businesses.

Action 3.41: ***Enhance the Department's website in 2008 to include downloadable trail maps.***

Action 3.42: ***Continue to collaborate with Tioga County Tourism to promote recreation on the State Forests in the Unit.***

GOAL 4: Provide Sound Stewardship of the Four State Forests on the Unit.

Objective 4.1: Protect the Cultural Resources on the Unit.

Action 4.11: ***Protect the cemetery on Oakley Corners State Forest.*** The cemetery on this Unit as well as additional unrecorded archaeological sites that may exist on the Unit are protected by the provisions of the New York State Historic Preservation Act (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 the New York State Historic Preservation Act. 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 cemetery will be protected as follows:

a) A 150 foot buffer has been established to minimize site disturbance during forest management activities.
b) A foot 250 buffer will be established from the area for disturbances related to oil and gas exploration and/or well siting.
c) Recreational trails will be not permitted within 150 feet of the site.
d) If a group organizes and advertises a visit to the cemetery, they must comply with the Department's Temporary Revocable Permit (TRP) process.

Action 4.12: ***Protect stone walls and old foundations.***Stone walls and old foundations on the Unit will be protected during forest ecosystem management activities, oil and gas exploration and drilling, and recreational trail development. Should stone wall disturbances be necessary for access during forest product sales, the contract will require that the structures be returned to their pre-impact condition.

Objective 4.2: Protect the Natural Resources on the Unit.

Action 4.21: ***Protect the natural resources from wildfire***. A program of protection from wildfire will be maintained to assure minimum risk of loss to humans, structures, and forest resources. This program is the responsibility of Forest Rangers from the Department's Division of Forest Protection and Fire Management.

Action 4.22: ***Protect the natural resources from insects, diseases, and invasive species.***
The protection of resources from injurious insects, diseases, and invasive exotic (non-native) species will be accomplished through a program of integrated pest management (IPM). This program includes elements of reconnaissance, analysis, and determination of thresholds and controls when necessary, emphasizing natural methods. Aerial detection flights will be scheduled annually to identify significant insect and disease problems. Forest ecosystem management

activities have been designed to promote a wide diversity of tree species and forest structure. Diverse forests are more resilient to insect and disease attacks.

Objective 4.3: Prevent Illegal Activities on the Unit.

Action 4.31: ***Increase patrols and enforcement on the Unit.*** Communicate closely with Forest Rangers and Conservation Officers to increase patrols and enforcement on the Unit on a regular basis. Encourage the public to provide specific information on any illegal activities they observe.

Action 4.32: ***Install barriers to restrict illegal use by four-wheel drive and all terrain vehicles***. Illegal ATV (all terrain vehicle) and 4x4 use is a serious problem on Tioga #6 (Ketchumville). This has resulted in erosion and environmental degradation. Litter and fires are also a problem due to the increased public access. Eight illegal entrances were blocked with earthen berms in 2002. If damage continues, a gate may be installed at the end of the public forest access road.

Action 4.33: ***Close the gate on the north side of Tioga #2 (Oakley Corners).***
ATVs, 4x4 trucks, litter, fires, trash burning, under-age drinking, target shooting, and abandoned vehicles have become serious problems on Tioga #2 (Oakley Corners). The gate on the public forest access road on the north side of Tioga #2 (Oakley Corners) will be closed to public motor vehicle use in 2006. It will be opened each year during snowmobile season as the road is part of a corridor snowmobile trail. The road will continue to be open to people on ATV's with mobility impairments (by DEC permit only).

Action 4.34: ***Upgrade gate***
Due to excessive littering and at the request of neighboring landowners, a gate was installed on the south side of Tioga #2 (Oakley Corners), near Oakley Corners Pond. This gate will remain closed and will continue to be maintained. The gate is scheduled to be upgraded in 2008. As previously mentioned, the road will continue to be open to people with mobility impairments (by DEC permit only).

Objective 4.4: Maintain Public Forest Access Roads, Access Trails, Haul Roads and Parking Areas.

The public forest access road system exists to provide reasonable vehicular access throughout the Unit for management activities and recreational purposes. Well maintained roads are important for safe, enjoyable vehicular travel. Periodic maintenance activities include road grading, culvert cleaning, road shoulder mowing, and replacement of culverts and signs.

Access trails are not built to public forest access road standards. They endure less travel and, therefore, require less maintenance, sufficient only to keep the road passable unless scheduled for an upgrade. Haul roads, used at the time of forest product sales, are maintained during forest product sales.

Action 4.41: ***Maintain 4.9 miles of existing public forest access roads.***
Roads are scheduled to be graded every three (3) to five (5) years and resurfaced as necessary. To maintain water quality standards, all road maintenance activities on State Forests, including but not limited to ditch cleaning, stream bank stabilization, and culvert replacement, will be done in accordance with Bureau of Fisheries/Bureau of Habitat guidelines or as described in "New York Guidelines for Urban Erosion and Sediment Control."

Presently the public forest access roads on Tioga #1 (Fairfield) and Tioga #6 (Ketchumville) need to be resurfaced with good quality shale or crusher run gravel. This work and related expenses will chiefly be accomplished through a future commercial timber sale. A limited portion of the financial compensation received from the sale of forest products can be re-invested in the State Forest infrastructure used to accommodate the sale. Road resurfacing is scheduled for 2010 and 2019 for Tioga #1 and Tioga#6, respectively. The scheduling of the road resurfacing will depend on the relative forest product market conditions and DEC's capabilities to grade the surfacing material (gravel and/or shale) at the time of the sale.

Action 4.42: ***Maintain three existing parking areas.***
The existing parking areas on Tioga #2 (Oakley Corners) and Tioga #7 (Jenksville) will be maintained. Maintenance will include brushing, grading, and litter removal on at least an annual basis. Use will be monitored to determine if adequate parking is provided. A list of parking areas on the Unit is included in the 'Information on the Unit' section at the beginning of this Plan.

Objective 4.5: Maintain Boundary Lines to Prevent Timber Theft and Encroachment.

Timber theft is a real threat to the proper management of public lands. Properly marked and maintained boundary lines are a significant deterrent to trespass and theft. Periodic maintenance of about 40.7 miles of boundary lines on the Unit and surveying when necessary will maintain the integrity of the property lines.

Action 4.51: ***Post State Forest signs every 0.1 mile (about every 528 feet) along public roads passing through the Unit and repaint all 40.7 miles of boundary lines every seven years according to the following schedule***:

State Forest	Miles	Last Year Painted/Signed	Next Year Painted/Signed
Tioga #1 (Fairfield)	8.6	2003	2010
Tioga #2 (Oakley Corners)	10.3	2006	2013
Tioga #6 (Ketchumville)	6.5	2006	2013
Tioga #7 (Jenksville)	15.3	2006	2013
TOTAL	**40.7**		

Action 4.52: ***Conduct property line surveys on Tioga #1 (Fairfield) and Tioga #6 (Ketchumville).*** Tioga #1 (Fairfield): Proposal G (also part of Proposal C and D), north of Jenksville Hill Road.

Proposal G and its 33 foot-wide access easement leading from West Creek Road have never been surveyed. The east lines of Proposals C and D are also in need of a survey. Estimated cost of a consultant survey service contract is $11,000. A survey will be conducted as soon as funds can be made available.

Tioga #2 (Oakley Corners): Sbarra Estate Survey

A survey is needed to paint, blaze, and set corners on the newly acquired Sbarra Estate. About 7,000 feet of new boundary needs to be surveyed and painted at an estimated cost of $8,750.00. This work is scheduled for year 2010.

Tioga #6 (Ketchumville): Proposal C.

A survey is needed to establish the east and west boundaries of Proposal C. Lines are poorly marked although the corners have been located. A survey will be conducted as soon as funds can be made available.

Action 4.53: ***Attempt to resolve boundary line dispute on Tioga #2 (Oakley Corners).***

Tioga #2 (Oakley Corners): Proposal B. An alleged trespass has been identified on the forest which includes a pond and fence. In addition, there are disagreements with an adjoining owner

over the issue of title, adverse possession, and an unrecorded deed. The problem has been investigated and thoroughly researched by the Department's Bureau of Real Property. Although this has been an ongoing issue since 1966, it has not been resolved. A survey will be conducted as soon as funds can be made available.

Objective 4.6: Acquire Adjacent Land from Willing Sellers.

Action 4.61: ***It is the intention of the Department to purchase parcels that will consolidate State ownership (in-holdings and properties surrounded on three sides by State property) or will protect endangered species. The purchase of in-holdings and the consolidation of boundary lines will facilitate public and administrative access and reduce management costs. The Department will pursue fee title of unimproved parcels which fit the criteria above, if they are put up for sale by their owner. Purchases will only be made from willing sellers***.

Objective 4.7: Maintain and Repair Impoundments (Dams).

Action 4.71: ***Maintain two impoundments (dams) on Tioga #2 (Oakley Corners) and one impoundment (dam) on Tioga #7 (Jenksville).*** The DEC has scheduled armoring of the spillway of the 30 acre Oakley Corners Pond with gabion stone in year 2009. This will help reduce erosion of the spillway from rising waters associated with beaver activity. Regular maintenance activities such as annual mowing the dike after August 1st, and inspecting and cleaning the and spillway every three (3) years or after heavy rain events are scheduled as well. The Department's Bureau of Fisheries, Forest Rangers, and DEC's Adopt-A-Natural Resource (AANR) Partners will be notified by DEC Region 7 Land Managers (Forestry Staff) when maintenance activities are planned. At present, no major pond repairs or draw downs are scheduled.

Objective 4.8: Close and Reclaim Shale Pits.

Four (4) of the five (5) shale pits on the Unit will be closed and reclaimed according to the reclamation plan in Appendix 17. The 1.2-acre shale pit on Tioga #7 (Jenksville) will remain a parking area.

Action 4.81: ***Close and reclaim the .5-acre shale pit on Tioga #1 (Fairfield) in 2018.***

Action 4.82: ***Close and reclaim the two shale pits (.5 acre and .3 acre) on Tioga #2 (Oakley Corners) in 2012.***

Action 4.83: ***Close and reclaim the .3-acre shale pit on Tioga #6 (Ketchumville) in 2016.***

SUMMARY OF LAND CLASSIFICATIONS

Table 3 - Present and Objective Land Uses and Cover Types

Land Classification	Present Acres	Percent (%)	Objective Acres	Percent (%)	Change Acres
Shale Pits (5)	3	0.1	1	0.03	-2
Pond Natural Areas (6)	50	1.4	50	1.4	0
Town and State **P**ublic **F**orest **A**ccess **R**oads (PFARS) (**)	45	1.1	45	1.1	0
Oil and Gas Well Drilling Sites (Short term conversion from forest to grass or brush) (*)(**)	0	0.0	45	1.1	+45
Brush (Seedling/Sapling) (E)(**)	31	0.8	(462)	(12.5)	+431
Wetland Natural Areas (**)	24	0.7	(24)	(0.7)	0
Natural Forest Areas (**)	0	0	(259)	(7.0)	+259
Natural Conifer	20	0.5	87	2.4	+67
Conifer Plantations	1,305	35.4	359	9.7	-946
Conifer Plantations w/ Hardwood	282	7.6	543	14.7	+261
Hardwood/Natural Conifer Mixed	590	16.0	567	15.4	-23
Hardwood	1,442	39.0	2,085	56.4	+643
TOTAL	**3,692**	**100**	**3,692**	**100**	******

Notes: (*) This is an estimate based on the oil and gas tract assessment well siting guidelines and assumes a well pad density of one (1) well per three hundred and twenty (320) acres, with three (3) acres per well site being cleared for drilling operations.

(**) Land classifications denoted with shading and double asterisks (**) comprise various portions of other forest types. As such, acreages for these land classification types should not be included in a total land acreage calculation.

(E) Even-aged management will create additional acreage of seedling/sapling stands over the term of this Plan. These stands are being converted to a hardwood/natural conifer mix or to hardwoods.

MANAGEMENT ACTION SCHEDULES

Maps of existing and proposed management directions are provided in the map section at the end of this Plan.

A. Key to Land Management Action Schedules

Tables 4 and 5 list planned management actions by State Forest, stand identification number, and year of management. Maps showing specific stand locations are in the map section at the end of this Plan. Abbreviations used in the management action tables are listed below.

State Forest Codes

State Forest Number	Common Name
Tioga #1	Fairfield State Forest
Tioga #2	Oakley Corners State Forest
Tioga #6	Ketchumville State Forest
Tioga #7	Jenksville State Forest

Land Use Codes

Land Type	Type Code	Additional Description
Brush	BR	woody vegetation
Apple	AP	
Shale Pit	SP	
Pond	PD	
Wetland - open	WO	includes herbaceous vegetation
Wetland - forested	WF	
Aspen	ASP	
Aspen/White Pine	ASP-WP	
Black Locust	BL	
Pioneer Hardwood	PH	
Pioneer Hardwood/White Pine	PH-WP	
Northern Hardwood	NH	
Northern Hardwood/Black Cherry	NH-BC	
Northern Hardwood/Oak	NH-OAK	more than 15% oak
Northern Hardwood/Hemlock	NH-HEM	more than 15% hemlock
Northern Hardwood/Larch	NH-LA	

Land Use Codes (continued)

Land Type	Type Code	Additional Description
Northern Hardwood/White Pine	NH-WP	more than 15% white pine
Northern Hardwood/Norway Spruce	NH-NS	more than 15% Norway spruce
Oak	OA	
Oak/Northern Hardwood	O-NH	more than 15% northern hardwoods
Oak/Hemlock	O-HEM	more than 15% hemlock
Oak/White Pine	O-WP	more than 15% white pine
Oak/Hickory	O-HI	more than 15% hickory
Hickory		
Hickory/Ash	HI-AS	
Hardwood/Softwood	HS	less than 30% softwood
Softwood/Hardwood	SH	more than 30% softwood
Hemlock	HEM	
Hemlock/Oak	HEM-O	more than 15% oak
Hemlock/White Pine	HEM-WP	more than 15 % white pine
Plantation	PL	
Norway Spruce	NS	
Norway Spruce/Aspen	NS-ASP	
Norway Spruce/Douglas Fir	NS-DF	
Norway Spruce/Natural	NS-NA	
Norway Spruce/Northern Hardwood	NS-NH	more than 15% northern hardwood
Norway Spruce/White Pine	NS-WP	more than 15% white pine
Norway Spruce/White Cedar	NS-WC	
White Spruce/White Cedar	WS-WC	
Red Pine	RP	
Red Pine/Larch	RP-L	
Red Pine/Northern Hardwood	RP-NH	more than 30% northern hardwood
Red Pine/Norway Spruce	RP-NS	
White Pine/Northern Hardwood	WP-NH	a plantation or natural white pine stand managed to eventually become a hardwood stand while retaining the white pine
White Pine/Hemlock	WP-HEM	more than 15% hemlock
White Pine/Scotch Pine	WP-SP	
White Spruce/White Cedar	WS-WC	
Pine/Larch	PI-LA	
Japanese Larch	JL	
European Larch/N. Hardwood	EL-NH	

Land Use Codes (continued)

Land Type	Type Code
European Larch/Red Pine	EL-RP
White Spruce	WS

Management Codes	Definition
A	All-aged
E	Even-aged
EA	Even-aged or All-aged

Size Class Codes	
PT	Poletimber
ST	Sawtimber
SS	Seedling-Sapling

General Forest Type	Definition
C	Conifer
CH	Conifer/Hardwood
CHP	Conifer/Hardwood Plantation
CP	Conifer Plantation
SP	Shale Pit

Treatment Codes	Definition
FP	Fence Posts
TS	Timber Stand Improvement (non-commercial thinning)
FW	Firewood
IT	Intermediate Thinning of even-aged stand
OR	Overstory Removal with no advanced regeneration
PR	Protection (Natural Forest Areas, Ponds, Wetlands)
RC	Convert Red Pine, White Pine and/or Larch to Northern Hardwood
RE	Remove overstory to release natural regeneration
RT	Red Pine Thinning
SH	Sawtimber Harvest
ST	Spruce Thinning (for pulp or sawtimber)
SW	Shelterwood Cut (two or three stage)

Treatment Codes	Definition
TC	Red Pine Thinning/Conversion (combination treatment where a portion of the stand is thinned and another portion of the stand is converted to release northern hardwoods)
**	No forest treatment specified.

Please note: These codes were adapted from the Region 7 Sherburne Forestry Office.

Table 4 - Land Management Action Schedule (by State Forest)

State Forest	Stand	Acres	Current/Future Forest Type		Current/Future Management Strategy		Treat. Type	Year Scheduled
TIOGA 1	A-01	16.7	NH	NH	EA	EA	SH	2008
TIOGA 1	A-02	32.2	NH	NH	E	E	TS	2008
TIOGA 1	A-03	31.0	NH	NH	E	E	TS	2008
TIOGA 1	A-04	30.1	RP-JL	NH-JL	E	E	RC	2016
TIOGA 1	A-05	13.4	NH	NH	EA	EA	SH	2024
TIOGA 1	A-06	8.0	RP-WP	NH-OAK	E	E	TS	2008
TIOGA 1	A-07	23.0	NS-NA	NS-NA	E	E	TS	2008
TIOGA 1	A-08	7.8	NH	NH	E	E	SH	2008
TIOGA 1	A-09	10.4	O-WP	OA	A	A	PR	no treatment
TIOGA 1	A-10	13.5	NH	NH	E	E	TS	2029
TIOGA 1	A-11	8.1	NH-HEM	NH-HEM	A	A	PR	no treatment
TIOGA 1	A-12.1	41.3	RP-NS	NS-NA	E	E	SH	2007
TIOGA 1	A-12.2	2.2	RP-NS	NS-NA	E	E	SH	2007
TIOGA 1	A-13	3.9	NH	NH	A	A	**	no treatment
TIOGA 1	A-14	12.8	NH-HEM	NH-HEM	A	A	PR	no treatment
TIOGA 1	A-15	11.1	NH	NH	A	A	TS	2007
TIOGA 1	A-16	5.7	NS	NS	E	E	ST	2029
TIOGA 1	A-17	54.7	PH-WP	NH-WP	E	E	TS	2032
TIOGA 1	A-18	16.7	NS-WP	NS-NH	E	E	TS	2029
TIOGA 1	A-19	15.6	NH-WP	NH-WP	E	E	TS	2007
TIOGA 1	A-20	8.2	BR	NH-OAK	E	E	TS	2032
TIOGA 1	A-21	21.1	NH	RP-OAK	E	E	FW	2007
TIOGA 1	A-22	5.7	NH	NH	A	A	SH	2007
TIOGA 1	A-23	11.2	RP-WP	RP-WP	E	E	SH	2016
TIOGA 1	A-24	15.7	NS	NS-OAK	E	E	RE	2024
TIOGA 1	A-25	16.6	NH	NH	A	A	SH	2007
TIOGA 1	A-26	26.5	NS-RP	NS-NH	E	E	SH	2032
TIOGA 1	A-27	23.8	RP	NH	E	E	RC	2016
TIOGA 1	A-28	3.4	HI-AS	HI	E	E	TS	2032
TIOGA 1	A-29	14.6	NH-HEM	NH-HEM	A	A	PR	no treatment
TIOGA 1	A-30	15.4	RP	RP	E	E	SH	2032
TIOGA 1	A-31	1.9	BR	BR	E	E	**	no treatment
TIOGA 1	B-01	6.2	WP	WP	E	E	SH	2024

Table 4 - Land Management Action Schedule (by State Forest)

State Forest	Stand	Acres	Current/Future Forest Type		Current/Future Management Strategy		Treat. Type	Year Scheduled
TIOGA 1	B-02	14.8	O-NH	OA	E	E	SH	2016
TIOGA 1	B-03	62.0	O-NH	OA	E	E	SH	2016
TIOGA 1	B-03.1	0.5	SP		**	**	**	2018
TIOGA 1	B-04	21.7	NS-RP	NS-NH	E	E	SH	2024
TIOGA 1	B-05	9.9	OA-HI	OA	E	E	SH	2024
TIOGA 1	B-06	13.7	NH-OAK	OA	E	E	SH	2024
TIOGA 1	B-07	6.5	OA	OA	E	E	FW	2016
TIOGA 1	B-08	27.8	NS-RP	NS-NA	E	E	SH	2029
TIOGA 1	B-09	15.7	NH-WP	NH-WP	E	E	TS	2007
TIOGA 1	B-10.1	4.8	NS-RP	NS-NA	E	E	SH	2029
TIOGA 1	B-10.2	17.8	RP-NH	NH	E	E	SH	2029
TIOGA 1	B-11	12.5	HEM	HEM	A	A	PR	no treatment
TIOGA 1	B-12	33.2	NH	NH	A	A	SH	2032
TIOGA 1	B-13	20.2	NS	NS-NH	E	E	SH	2029
TIOGA 1	B-14	19.8	NS	NS	E	E	SH	2029
TIOGA 2	A-01	24.5	NH-HEM	NH-HEM	A	A	SH	2024
TIOGA 2	A-02	12.8	NH	NH	A	A	SH	2024
TIOGA 2	A-03	38.1	RP-SP	NH	E	E	RC	2009
TIOGA 2	A-04	20.6	NH	NH	E	E	**	2034
TIOGA 2	A-05	7.6	RP-WP	NH	E	E	SH	2010
TIOGA 2	A-06	10.4	RP-WP	NH	E	E	SH	2009
TIOGA 2	A-07	12.2	WP	NH	E	E	RC	2009
TIOGA 2	A-08	8.1	NH	NH	A	A	SH	2025
TIOGA 2	A-09	16.9	NH	NH	E	E	OR	2017
TIOGA 2	A-10	4.3	NH-HEM	NH-HEM	A	A	SH	2019
TIOGA 2	A-11	18.6	NH	NH	A	A	SH	2025
TIOGA 2	A-12	5.6	NH-RP	NH	A	A	IT	2025
TIOGA 2	A-12.1	0.5	SP	SP	**	E	**	2012
TIOGA 2	A-13	11.9	OA	OA	A	A	SH	2019
TIOGA 2	A-14	37.1	RP-WP	NH	E	E	RC	2029
TIOGA 2	A-15	9.3	NH	NH	E	E	IT	2029
TIOGA 2	A-16	8.9	WP-RP	NH	E	E	RT	2033
TIOGA 2	A-17.1	6.3	WO	WO	E	E	PR	no treatment

Table 4 - Land Management Action Schedule (by State Forest)

State Forest	Stand	Acres	Current/Future Forest Type		Current/Future Management Strategy		Treat. Type	Year Scheduled
TIOGA 2	A-17.2	52.7	NH-HEM	NH-HEM	A	A	PR	no treatment
TIOGA 2	A-18	17.8	OA	OA	A	A	SH	2025
TIOGA 2	A-19	5.5	NH-WP	NH-WP	A	A	SH	2026
TIOGA 2	A-20	6.0	RP-NH	NH	E	E	RC	2010
TIOGA 2	A-21	19.8	NH	NH	E	E	SH	2025
TIOGA 2	A-22	7.8	WP-NH	NH	E	E	IT	2010
TIOGA 2	A-23	8.7	PH	NH	A	A	PR	no treatment
TIOGA 2	A-24.1	3.2	NH-HEM	NH-HEM	A	A	SH	2009
TIOGA 2	A-24.2	4.4	NH-HEM	NH-HEM	A	A	SH	2009
TIOGA 2	A-25.1	5.8	NH-HEM	NH-HEM	A	A	SH	2009
TIOGA 2	A-25.2	2.4	NH-HEM	NH-HEM	A	A	SH	2010
TIOGA 2	A-26	1.1	NH	NH	A	A	PR	no treatment
TIOGA 2	A-27	10.4	NH-WP	NH	E	E	RC	2018
TIOGA 2	A-28	35.8	WP-EL	NH	E	E	IT	2017
TIOGA 2	A-29	3.9	BR	NH	E	E	PR	no treatment
TIOGA 2	A-30	7.9	BR	NH	E	E	**	no treatment
TIOGA 2	A-31	8.8	NH	NH	A	A	SH	2018
TIOGA 2	A-32	6.5	NH	NH	E	E	IT	2017
TIOGA 2	A-33	18.5	NH-WP	NH	E	E	TS	2017
TIOGA 2	A-34	9.8	NH-HEM	NH-HEM	A	A	SH	2017
TIOGA 2	A-35	8.6	WP-EL	NH	E	E	IT	2017
TIOGA 2	A-36	14.1	NH	NH	E	E	IT	2018
TIOGA 2	A-37	16.5	NH	NH	E	E	IT	2017
TIOGA 2	A-38	22.1	NH	NH	E	E	TS	2033
TIOGA 2	A-39	3.9	PH	NH	A	A	IT	2018
TIOGA 2	A-40	37.3	NH-HEM	NH-HEM	A	A	SH	2017
TIOGA 2	A-40.1	0.3	SP	SP	**	**	**	2012
TIOGA 2	A-41	8.7	NS	NS	A	A	ST	2018
TIOGA 2	A-42	5.3	WS	WS	E	E	ST	2018
TIOGA 2	B-01	33.5	NS-NH	NS-NH	A	A	ST	2025
TIOGA 2	B-02.1	15.8	RP-JL	RP-JL	E	E	SH	2019
TIOGA 2	B-02.2	14.7	PH	NH	E	E	TS	2033
TIOGA 2	B-03	5.6	BL	BL	E	E	FP	2025

Table 4 - Land Management Action Schedule (by State Forest)								
State Forest	**Stand**	**Acres**	**Current/Future Forest Type**		**Current/Future Management Strategy**		**Treat. Type**	**Year Scheduled**
TIOGA 2	B-04	8.2	NH	NH	E	E	IT	2025
TIOGA 2	B-05	17.0	NH	NH	E	E	TS	2033
TIOGA 2	B-06	6.4	PH	NH	E	E	IT	2009
TIOGA 2	B-07	7.2	WC	WC	E	E	IT	2010
TIOGA 2	B-08	2.5	WO	WO	**	**	PR	no treatment
TIOGA 2	B-09	4.2	RM-ASP	OR	E	E	OR	2009
TIOGA 2	B-10	6.2	JL	NH	E	E	IT	2010
TIOGA 2	B-11	7.2	NH-WP	NH-WP	A	A	PR	no treatment
TIOGA 2	B-12	30.4	PD	PD	**	**	PR	no treatment
TIOGA 2	B-13	4.5	PH	NH	A	A	PR	no treatment
TIOGA 2	B-14	14.8	RP-NH	NH	E	E	RC	2033
TIOGA 2	B-15.1	15.6	NS-JL	NS-NH	E	E	IT	2010
TIOGA 2	B-15.2	0.8	PD	PD	**	**	PR	no treatment
TIOGA 2	B-15.3	2.0	WF	WF	A	A	PR	no treatment
TIOGA 2	B-15.4	22.0	NS-JL	NS-NH	E	E	IT	2010
TIOGA 2	B-16	14.6	ASP	NH	E	E	TS	2033
TIOGA 2	B-17	13.6	RM-ASP	NH	E	E	TS	2033
TIOGA 2	B-18	15.4	NH-HEM	NH-HEM	A	A	IT	2018
TIOGA 2	B-19.1	17.7	NH-HEM	NH-HEM	A	A	SH	2019
TIOGA 2	B-19.2	6.1	WF	WF	A	A	PR	no treatment
TIOGA 2	B-20	5.0	PD	PD	**	**	PR	no treatment
TIOGA 2	B-21	1.2	PD	PD	**	**	PR	no treatment
TIOGA 2	B-22	2.5	WO	WO	A	A	PR	no treatment
TIOGA 2	B-23	25.6	NS	NS	E	E	TS	2032
TIOGA 2	B-24	25.9	RP-JL	NH-JL	E	E	RC	2029
TIOGA 2	B-25	4.7	PH	PH	E	E	TS	2032
TIOGA 2	B-26	9.4	PD	PD	**	**	PR	no treatment
TIOGA 2	B-27	22.2	RP-NS	NS-NH	E	E	IT	2025
TIOGA 2	B-28	7.3	BR	NH	E	E	TS	2033
TIOGA 2	B-29	4.2	RM-ASP	NH	E	E	IT	2019
TIOGA 2	B-30	8.0	RM-ASP	NH	A	A	PR	no treatment
TIOGA 2	B-31.1	4.4	NS-HEM	NS-HEM	E	E	IT	2018
TIOGA 2	B-31.2	1.5	NS-HEM	NS-HEM	A	A	PR	no treatment

Table 4 - Land Management Action Schedule (by State Forest)

State Forest	Stand	Acres	Current/Future Forest Type		Current/Future Management Strategy		Treat. Type	Year Scheduled
TIOGA 2	B-32	17.0	NH	NH	E	E	SH	2019
TIOGA 6	A-01	7.6	RP	NH	E	E	TS	2012
TIOGA 6	A-02.1	50.1	NS	NS	E	E	ST	2020
TIOGA 6	A-02.2	1.8	NS	NS	E	E	PR	2019
TIOGA 6	A-02.3	2.4	NS	NS	E	E	ST	2020
TIOGA 6	A-03	5.3	NH	NH	A	A	FW	2020
TIOGA 6	A-04	14.9	RP	NH	E	E	RT	2019
TIOGA 6	A-05	4.6	WF	WO	A	A	PR	no treatment
TIOGA 6	A-06	62.6	NH	NH	A	A	FW	2020
TIOGA 6	A-07	12.5	NH-HEM	NH-HEM	A	A	SH	2020
TIOGA 6	A-08	10.9	NH-HEM	NH-HEM	A	A	IT	2012
TIOGA 6	A-09	9.2	NH	NH	A	A	PR	no treatment
TIOGA 6	A-10	1.9	WP	WP-NH	E	E	TS	2011
TIOGA 6	A-11	9.6	NH-OAK	NH-OAK	A	A	IT	2011
TIOGA 6	A-12	24.0	O-NH	O-NH	A	A	IT	2026
TIOGA 6	A-13	2.5	NS	NS	A	A	ST	2030
TIOGA 6	A-14	39.6	NH-HEM	NH-HEM	A	A	IT	2012
TIOGA 6	A-15	7.1	NH-HEM	NH-HEM	A	A	PR	no treatment
TIOGA 6	A-16	7.5	ASP-WP	NH-WP	E	E	TS	2030
TIOGA 6	A-17	35.2	NS	NS	E	E	ST	2030
TIOGA 6	A-18.1	5.0	PH	NH	E	E	OR	2011
TIOGA 6	A-18.2	9.6	PH	NH	E	E	OR	2012
TIOGA 6	A-19	12.2	RP	NH	E	E	TS	2020
TIOGA 6	A-20	28.1	OAK-NH	O-NH	E	E	FW	2012
TIOGA 6	A-21	6.6	NS-NH	NS-NH	E	E	TS	2030
TIOGA 6	A-22	8.7	NH-HEM	NH-HEM	A	A	FW	2012
TIOGA 6	A-23	19.8	NH-HEM	NH-HEM	A	A	FW	2012
TIOGA 6	A-24.1	17.4	NH-HEM	NH-HEM	E	E	FW	2011
TIOGA 6	A-24.2	1.9	NH-HEM	NH-HEM	E	E	FW	2011
TIOGA 6	A-24.3	0.7	NH-HEM	NH-HEM	E	E	FW	2011
TIOGA 6	A-25	6.8	O-NH	O-NH	E	E	IT	2020
TIOGA 6	A-26	2.5	PH	NH	E	E	**	no treatment
TIOGA 6	A-27	2.5	NH-OAK	NH	E	E	IT	2026

Table 4 - Land Management Action Schedule (by State Forest)

State Forest	Stand	Acres	Current/Future Forest Type		Current/Future Management Strategy		Treat. Type	Year Scheduled
TIOGA 6	A-28	10.0	RP	RP	E	E	TS	2012
TIOGA 6	A-29	8.2	NH-OAK	NH	E	E	IT	2026
TIOGA 6	A-30	38.6	NS	NS	E	E	ST	2030
TIOGA 6	A-30.1	0.3	SP	SP	**	E	**	2016
TIOGA 6	A-31.1	5.6	RP	NH	E	E	TC	2011
TIOGA 6	A-31.2	2.2	RP	NH	E	A	TC	2011
TIOGA 6	A-32	2.5	NH	NH	A	A	PR	no treatment
TIOGA 7	A-01	18.5	NH	NH	A	A	SH	2015
TIOGA 7	A-02	8.9	NH-HEM	NH-HEM	A	A	SH	2015
TIOGA 7	A-03	9.9	NH	NH	A	A	SH	2015
TIOGA 7	A-04	14.3	NH	NH	A	A	SH	2014
TIOGA 7	A-05	17.7	NH	NH	A	A	SH	2014
TIOGA 7	A-06	13.4	NH	NH	A	A	TS	2015
TIOGA 7	A-07	27.8	NH-WP	NH-WP	E	E	TS	2014
TIOGA 7	A-08	9.2	NH	NH	E	E	TS	2015
TIOGA 7	A-09	5.9	NH	NH	E	E	TS	2015
TIOGA 7	A-10	11.0	NH-WP	NH-WP	EA	EA	TS	2015
TIOGA 7	A-11	9.4	NH	NH	A	A	SH	2014
TIOGA 7	A-12	6.3	NH	NH	A	A	TS	2014
TIOGA 7	A-13	17.9	NH-HEM	NH-HEM	A	A	SH	2014
TIOGA 7	A-14	9.8	EL-RP	NH	E	E	RC	2028
TIOGA 7	A-15	6.8	EL-NH	NH	E	E	RC	2027
TIOGA 7	A-16	24.3	NH	NH	A	A	PR	no treatment
TIOGA 7	A-17	10.7	NH	NH	A	A	SH	2014
TIOGA 7	A-18	13.9	NH	NH	A	A	TS	2013
TIOGA 7	A-19	11.1	EL-NH	NH	E	E	RC	2028
TIOGA 7	A-20	18.8	RP-EL	NH	E	E	SH	2028
TIOGA 7	A-21	55.8	RP-NS	NH	E	E	SH	2028
TIOGA 7	A-22	22.5	NH	NH	E	E	TS	2013
TIOGA 7	A-23	4.0	NH	NH	E	E	TS	2014
TIOGA 7	A-24	4.9	NS-ASP	NS-ASP	A	A	PR	no treatment
TIOGA 7	A-25	7.7	HEM	HEM	A	A	PR	no treatment
TIOGA 7	B-01	22.8	WP-NH	NH	E	E	SW	2021

Table 4 - Land Management Action Schedule (by State Forest)

State Forest	Stand	Acres	Current/Future Forest Type		Current/Future Management Strategy		Treat. Type	Year Scheduled
TIOGA 7	B-02	6.0	NH-HEM	NH-HEM	A	A	PR	no treatment
TIOGA 7	B-03	13.2	WP-NH	NH	E	E	SW	2023
TIOGA 7	B-04	5.6	NH	NH	E	E	IT	2035
TIOGA 7	B-05	1.9	NH	NH	A	A	PR	no treatment
TIOGA 7	B-06	61.9	RP	NH	E	E	SH	2035
TIOGA 7	B-07	8.9	NH	NH	E	E	SH	2031
TIOGA 7	B-08	7.9	NH	NH	E	E	SH	2031
TIOGA 7	B-09	1.6	BR	NH	A	A	PR	no treatment
TIOGA 7	B-10.1	49.9	PH	NH	E	E	TS	2034
TIOGA 7	B-10.2	48.2	RP-EL	NH	E	E	OR	2031
TIOGA 7	B-11	6.4	NH	NH	A	A	PR	no treatment
TIOGA 7	B-12	9.0	NH-HEM	NH-HEM	A	A	PR	no treatment
TIOGA 7	B-13	5.3	NH-WP	NH	E	E	SH	2027
TIOGA 7	B-14	13.0	NH	NH	E	E	IT	2026
TIOGA 7	B-15	10.0	WP-ASP	NH-WP	E	E	SW	2026
TIOGA 7	B-16	7.7	NH	NH	A	A	**	no treatment
TIOGA 7	B-17	15.9	NS	NS-NH	E	E	SH	2028
TIOGA 7	B-18	4.2	NS-NH	NS-NH	E	E	SH	2028
TIOGA 7	B-19	19.1	NS	NS-NH	E	E	SH	2028
TIOGA 7	B-20	1.5	NH-HEM	NH-HEM	A	A	SH	2027
TIOGA 7	B-21	21.9	NS	NS-NH	E	E	SH	2026
TIOGA 7	B-22	15.2	NS	NS-NH	E	E	SH	2027
TIOGA 7	B-23	20.3	RP-NH	NH	E	E	RC	2013
TIOGA 7	B-24	9.1	NH	NH	E	E	TS	2027
TIOGA 7	B-25	31.7	NH-HEM	NH-HEM	A	A	SH	2023
TIOGA 7	B-26	22.9	NH	NH	A	A	SH	2023
TIOGA 7	B-27	15.9	NS-WC	NS-NH	E	E	ST	2013
TIOGA 7	B-28	5.8	NH	NH	A	A	SH	2023
TIOGA 7	B-29	12.5	NS-WP	NS-NM	E	E	ST	2023
TIOGA 7	B-30.1	3.7	WO	WO	A	A	PR	no treatment
TIOGA 7	B-30.2	4.0	NH-WP	NH-WP	E	E	IT	2022
TIOGA 7	B-31	50.6	NS-RP	NS-NH	E	E	RC	2013
TIOGA 7	B-32	10.9	NH	NH	A	A	SH	2021

Table 4 - Land Management Action Schedule (by State Forest)

State Forest	Stand	Acres	Current/Future Forest Type		Current/Future Management Strategy		Treat. Type	Year Scheduled
TIOGA 7	B-33	4.7	NH	NH	A	A	SH	2022
TIOGA 7	B-34	3.0	NH	NH	E	E	TS	2013
TIOGA 7	B-35	23.5	RP-EL	NH	E	E	RC	2013
TIOGA 7	B-36	6.6	WC	WC	E	E	TS	2013
TIOGA 7	B-37	23.9	WS-WC	WS-NH	E	E	SH	2031
TIOGA 7	B-38	10.2	OA	OA	E	E	SH	2022
TIOGA 7	B-39	11.9	NH	NH	A	A	SH	2022
TIOGA 7	B-40	25.8	WP-SP	WP-SP	E	E	IT	2034
TIOGA 7	B-41	41.7	OA	OA	A	A	SH	2035
TIOGA 7	B-42	9.6	NH	NH	E	E	IT	2035
TIOGA 7	B-43	29.3	NS-DF	NS-NH	E	E	ST	2022
TIOGA 7	B-44	11.7	NH-WP	NH-WP	E	E	TS	2034
TIOGA 7	B-45	13.2	NH	NH	E	E	TS	2034
TIOGA 7	B-46.1	3.8	NS	NS-NH	E	E	TS	2034
TIOGA 7	B-46.2	10.4	NS	NS-NH	E	E	TS	2034
TIOGA 7	B-47	2.7	RP	NH	E	E	TS	2027
TIOGA 7	B-48	10.1	NH	NH	E	E	SH	2026
TIOGA 7	B-49	51.2	NH	NH-BC	E	E	TS	2035
TIOGA 7	B-50	25.4	EL	NH	E	E	SH	2035
TIOGA 7	B-50.1	1.1	SP	SP	**		**	no treatment
TIOGA 7	B-51	10.0	NH	NH	E	E	SH	2020
TIOGA 7	B-52	6.6	NH	NH	A	A	SH	2021
TIOGA 7	B-53	10.1	NH	NH	A	A	SH	2021
TIOGA 7	B-54	23.9	EL-RM	NH-NS	E	E	SH	2023
TIOGA 7	B-55	4.7	PH	PH	E	E	TS	2034
TIOGA 7	B-56	8.0	NS-DF	NS-NH	E	E	SH	2027
TIOGA 7	B-57	5.9	NH	NH	A	A	PR	no treatment
TIOGA 7	B-58	4.6	NS-WP	NS-NH	E	E	ST	2015
TIOGA 7	B-59	18.0	OA-WA	OA	E	E	FW	2022
TIOGA 7	B-60	10.2	NH	NH	A	A	TS	2021
TIOGA 7	B-61	15.8	NH-HEM	NH-HEM	A	A	SH	2021
TIOGA 7	B-62	3.5	NH	NH	A	A	TS	2021
TIOGA 7	B-63	7.8	NH	NH	A	A	SH	2021

Table 5 - Land Management Action Schedule (by Year)								
State Forest	**Stand**	**Acres**	**Size Class**	**Current Land Use Type**	**Management Strategy**	**Treat. Type**	**General Long Term Forest Type**	**Year Scheduled**
TIOGA 1	A-12.1	41.3	ST	RP-NS	E	SH	C	2007
TIOGA 1	A-12.2	2.2	ST	RP-NS	E	SH	C	2007
TIOGA 1	A-15	11.1	PT	NH	A	TS	H	2007
TIOGA 1	A-19	15.6	PT	NH-WP	E	TS	CH	2007
TIOGA 1	A-21	21.1	PT	NH	E	FW	CHP	2007
TIOGA 1	A-22	5.7	ST	NH	A	SH	H	2007
TIOGA 1	A-25	16.6	PT	NH	A	SH	H	2007
TIOGA 1	B-09	15.7	PT	NH-WP	E	TS	CH	2007
TIOGA 1	A-01	16.7	ST	NH	EA	SH	H	2008
TIOGA 1	A-02	32.2	PT	NH	E	TS	H	2008
TIOGA 1	A-03	31.0	PT	NH	E	TS	H	2008
TIOGA 1	A-06	8.0	ST	RP-WP	E	TS	H	2008
TIOGA 1	A-07	23.0	PT	NS-NA	E	TS	C	2008
TIOGA 1	A-08	7.8	ST	NH	E	SH	H	2008
TIOGA 2	A-03	38.1	ST	RP-SP	E	RC	H	2009
TIOGA 2	A-06	10.4	ST	RP-WP	E	SH	H	2009
TIOGA 2	A-07	12.2	PT	WP	E	RC	H	2009
TIOGA 2	A-24.1	3.2	ST	NH-HEM	A	SH	CH	2009
TIOGA 2	A-24.2	4.4	ST	NH-HEM	A	SH	CH	2009
TIOGA 2	A-25.1	5.8	ST	NH-HEM	A	SH	CH	2009
TIOGA 2	B-06	6.4	PT	PH	E	IT	H	2009
TIOGA 2	B-09	4.2	PT	RM-ASP	E	OR	H	2009
TIOGA 2	A-05	7.6	ST	RP-WP	E	SH	H	2010
TIOGA 2	A-20	6.0	ST	RP-NH	E	RC	H	2010
TIOGA 2	A-22	7.8	PT	WP-NH	E	IT	H	2010
TIOGA 2	A-25.2	2.4	ST	NH-HEM	A	SH	CH	2010
TIOGA 2	B-07	7.2	PT	WC	E	IT	CP	2010
TIOGA 2	B-10	6.2	PT	JL	E	IT	H	2010
TIOGA 2	B-15.1	15.6	PT	NS-JL	E	IT	CHP	2010
TIOGA 2	B-15.4	22.0	PT	NS-JL	E	IT	CHP	2010
TIOGA 6	A-10	1.9	PT	WP	E	TS	CHP	2011
TIOGA 6	A-11	9.6	PT	NH-OAK	A	IT	H	2011
TIOGA 6	A-18.1	5.0	PT	PH	E	OR	H	2011
TIOGA 6	A-24.1	17.4	PT	NH-HEM	E	FW	CH	2011
TIOGA 6	A-24.2	1.9	PT	NH-HEM	E	FW	CH	2011
TIOGA 6	A-24.3	0.7	PT	NH-HEM	E	FW	CH	2011
TIOGA 6	A-31.1	5.6	PT	RP	E	TC	H	2011

Table 5 - Land Management Action Schedule (by Year)								
State Forest	**Stand**	**Acres**	**Size Class**	**Current Land Use Type**	**Management Strategy**	**Treat. Type**	**General Long Term Forest Type**	**Year Scheduled**
TIOGA 6	A-31.2	2.2	PT	RP	E	TC	H	2011
TIOGA 2	A-12.1	0.5	NF	SP	**	**	SP	2012
TIOGA 2	A-40.1	0.3	NF	SP	**	**	SP	2012
TIOGA 6	A-01	7.6	PT	RP	E	TS	H	2012
TIOGA 6	A-08	10.9	PT	NH-HEM	A	IT	CH	2012
TIOGA 6	A-14	39.6	ST	NH-HEM	A	IT	CH	2012
TIOGA 6	A-18.2	9.6	PT	PH	E	OR	H	2012
TIOGA 6	A-20	28.1	ST	OAK-NH	E	FW	H	2012
TIOGA 6	A-22	8.7	ST	NH-HEM	A	FW	CH	2012
TIOGA 6	A-23	19.8	ST	NH-HEM	A	FW	CH	2012
TIOGA 6	A-28	10.0	PT	RP	E	TS	H	2012
TIOGA 7	A-18	13.9	PT	NH	A	TS	H	2013
TIOGA 7	A-22	22.5	ST	NH	E	TS	H	2013
TIOGA 7	B-23	20.3	PT	RP-NH	E	RC	H	2013
TIOGA 7	B-27	15.9	PT	NS-WC	E	ST	CHP	2013
TIOGA 7	B-31	50.6	ST	NS-RP	E	RC	CHP	2013
TIOGA 7	B-34	3.0	PT	NH	E	TS	H	2013
TIOGA 7	B-35	23.5	ST	RP-EL	E	RC	H	2013
TIOGA 7	B-36	6.6	PT	WC	E	TS	CP	2013
TIOGA 7	A-04	14.3	PT	NH	A	SH	H	2014
TIOGA 7	A-05	17.7	PT	NH	A	SH	H	2014
TIOGA 7	A-07	27.8	SS	NH-WP	E	TS	CH	2014
TIOGA 7	A-11	9.4	ST	NH	A	SH	H	2014
TIOGA 7	A-12	6.3	PT	NH	A	TS	H	2014
TIOGA 7	A-13	17.9	ST	NH-HEM	A	SH	CH	2014
TIOGA 7	A-17	10.7	PT	NH	A	SH	H	2014
TIOGA 7	A-23	4.0	PT	NH	E	TS	H	2014
TIOGA 7	A-01	18.5	PT	NH	A	SH	H	2015
TIOGA 7	A-02	8.9	ST	NH-HEM	A	SH	CH	2015
TIOGA 7	A-03	9.9	PT	NH	A	SH	H	2015
TIOGA 7	A-06	13.4	SS	NH	A	TS	H	2015
TIOGA 7	A-08	9.2	SS	NH	E	TS	H	2015
TIOGA 7	A-09	5.9	PT	NH	E	TS	H	2015
TIOGA 7	A-10	11.0	ST	NH-WP	EA	TS	CH	2015
TIOGA 7	B-58	4.6	PT	NS-WP	E	ST	CHP	2015
TIOGA 1	A-04	30.1	ST	RP-JL	E	RC	CHP	2016
TIOGA 1	A-23	11.2	PT	RP-WP	E	SH	CP	2016
TIOGA 1	A-27	23.8	ST	RP	E	RC	H	2016

Table 5 - Land Management Action Schedule (by Year)								
State Forest	**Stand**	**Acres**	**Size Class**	**Current Land Use Type**	**Management Strategy**	**Treat. Type**	**General Long Term Forest Type**	**Year Scheduled**
TIOGA 1	B-02	14.8	ST	O-NH	E	SH	H	2016
TIOGA 1	B-03	62.0	ST	O-NH	E	SH	H	2016
TIOGA 1	B-07	6.5	PT	OA	E	FW	H	2016
TIOGA 6	A-30.1	0.3	NF	SP	**	**	SP	2016
TIOGA 2	A-09	16.9	PT	NH	E	OR	H	2017
TIOGA 2	A-28	35.8	PT	WP-EL	E	IT	H	2017
TIOGA 2	A-32	6.5	PT	NH	E	IT	H	2017
TIOGA 2	A-33	18.5	PT	NH-WP	E	TS	H	2017
TIOGA 2	A-34	9.8	ST	NH-HEM	A	SH	CH	2017
TIOGA 2	A-35	8.6	ST	WP-EL	E	IT	H	2017
TIOGA 2	A-37	16.5	PT	NH	E	IT	H	2017
TIOGA 2	A-40	37.3	ST	NH-HEM	A	SH	CH	2017
TIOGA 1	B-03.1	0.5	NF	SP	**	**	SP	2018
TIOGA 2	A-27	10.4	PT	NH-WP	E	RC	H	2018
TIOGA 2	A-31	8.8	ST	NH	A	SH	H	2018
TIOGA 2	A-36	14.1	PT	NH	E	IT	H	2018
TIOGA 2	A-39	3.9	PT	PH	A	IT	H	2018
TIOGA 2	A-41	8.7	PT	NS	A	ST	CP	2018
TIOGA 2	A-42	5.3	PT	WS	E	ST	CP	2018
TIOGA 2	B-18	15.4	ST	NH-HEM	A	IT	CH	2018
TIOGA 2	B-31.1	4.4	PT	NS-HEM	E	IT	CHP	2018
TIOGA 2	A-10	4.3	ST	NH-HEM	A	SH	CH	2019
TIOGA 2	A-13	11.9	ST	OA	A	SH	H	2019
TIOGA 2	B-02.1	15.8	ST	RP-JL	E	SH	CP	2019
TIOGA 2	B-19.1	17.7	ST	NH-HEM	A	SH	CH	2019
TIOGA 2	B-29	4.2	PT	RM-ASP	E	IT	H	2019
TIOGA 2	B-32	17.0	ST	NH	E	SH	H	2019
TIOGA 6	A-02.2	1.8	PT	NS	E	PR	CP	2019
TIOGA 6	A-04	14.9	PT	RP	E	RT	H	2019
TIOGA 6	A-02.1	50.1	PT	NS	E	ST	CP	2020
TIOGA 6	A-02.3	2.4	PT	NS	E	ST	CP	2020
TIOGA 6	A-03	5.3	PT	NH	A	FW	H	2020
TIOGA 6	A-06	62.6	ST	NH	A	FW	H	2020
TIOGA 6	A-07	12.5	PT	NH-HEM	A	SH	CH	2020
TIOGA 6	A-19	12.2	PT	RP	E	TS	H	2020
TIOGA 6	A-25	6.8	PT	O-NH	E	IT	H	2020
TIOGA 7	B-51	10.0	PT	NH	E	SH	H	2020
TIOGA 7	B-01	22.8	PT	WP-NH	E	SW	H	2021

Table 5 - Land Management Action Schedule (by Year)								
State Forest	**Stand**	**Acres**	**Size Class**	**Current Land Use Type**	**Management Strategy**	**Treat. Type**	**General Long Term Forest Type**	**Year Scheduled**
TIOGA 7	B-32	10.9	ST	NH	A	SH	H	2021
TIOGA 7	B-52	6.6	ST	NH	A	SH	H	2021
TIOGA 7	B-53	10.1	PT	NH	A	SH	H	2021
TIOGA 7	B-60	10.2	PT	NH	A	TS	H	2021
TIOGA 7	B-61	15.8	PT	NH-HEM	A	SH	CH	2021
TIOGA 7	B-62	3.5	PT	NH	A	TS	H	2021
TIOGA 7	B-63	7.8	ST	NH	A	SH	H	2021
TIOGA 7	B-30.2	4.0	PT	NH-WP	E	IT	CH	2022
TIOGA 7	B-33	4.7	PT	NH	A	SH	H	2022
TIOGA 7	B-38	10.2	ST	OA	E	SH	H	2022
TIOGA 7	B-39	11.9	PT	NH	A	SH	H	2022
TIOGA 7	B-43	29.3	PT	NS-DF	E	ST	CHP	2022
TIOGA 7	B-59	18.0	PT	OA-WA	E	FW	H	2022
TIOGA 7	B-03	13.2	PT	WP-NH	E	SW	H	2023
TIOGA 7	B-25	31.7	ST	NH-HEM	A	SH	CH	2023
TIOGA 7	B-26	22.9	ST	NH	A	SH	H	2023
TIOGA 7	B-28	5.8	ST	NH	A	SH	H	2023
TIOGA 7	B-29	12.5	PT	NS-WP	E	ST	CHP	2023
TIOGA 7	B-54	23.9	PT	EL-RM	E	SH	CHP	2023
TIOGA 1	A-05	13.4	ST	NH	EA	SH	H	2024
TIOGA 1	A-24	15.7	PT	NS	E	RE	CHP	2024
TIOGA 1	B-01	6.2	PT	WP	E	SH	CP	2024
TIOGA 1	B-04	21.7	ST	NS-RP	E	SH	CHP	2024
TIOGA 1	B-05	9.9	PT	OA-HI	E	SH	H	2024
TIOGA 1	B-06	13.7	PT	NH-OAK	E	SH	H	2024
TIOGA 2	A-01	24.5	ST	NH-HEM	A	SH	CH	2024
TIOGA 2	A-02	12.8	ST	NH	A	SH	H	2024
TIOGA 2	A-08	8.1	PT	NH	A	SH	H	2025
TIOGA 2	A-11	18.6	ST	NH	A	SH	H	2025
TIOGA 2	A-12	5.6	PT	NH-RP	A	IT	H	2025
TIOGA 2	A-18	17.8	ST	OA	A	SH	H	2025
TIOGA 2	A-21	19.8	ST	NH	E	SH	H	2025
TIOGA 2	B-01	33.5	PT	NS-NH	A	ST	CHP	2025
TIOGA 2	B-03	5.6	PT	BL	E	FP	H	2025
TIOGA 2	B-04	8.2	PT	NH	E	IT	H	2025
TIOGA 2	B-27	22.2	PT	RP-NS	E	IT	CHP	2025
TIOGA 2	A-19	5.5	ST	NH-WP	A	SH	CHP	2026
TIOGA 6	A-12	24.0	PT	O-NH	A	IT	H	2026

Table 5 - Land Management Action Schedule (by Year)								
State Forest	**Stand**	**Acres**	**Size Class**	**Current Land Use Type**	**Management Strategy**	**Treat. Type**	**General Long Term Forest Type**	**Year Scheduled**
TIOGA 6	A-27	2.5	PT	NH-OAK	E	IT	H	2026
TIOGA 6	A-29	8.2	PT	NH-OAK	E	IT	H	2026
TIOGA 7	B-14	13.0	PT	NH	E	IT	H	2026
TIOGA 7	B-15	10.0	PT	WP-ASP	E	SW	CHP	2026
TIOGA 7	B-21	21.9	ST	NS	E	SH	CHP	2026
TIOGA 7	B-48	10.1	PT	NH	E	SH	H	2026
TIOGA 7	A-15	6.8	PT	EL-NH	E	RC	H	2027
TIOGA 7	B-13	5.3	PT	NH-WP	E	SH	H	2027
TIOGA 7	B-20	1.5	ST	NH-HEM	A	SH	CH	2027
TIOGA 7	B-22	15.2	ST	NS	E	SH	CHP	2027
TIOGA 7	B-24	9.1	PT	NH	E	TS	H	2027
TIOGA 7	B-47	2.7	SS	RP	E	TS	H	2027
TIOGA 7	B-56	8.0	PT	NS-DF	E	SH	CHP	2027
TIOGA 7	A-14	9.8	PT	EL-RP	E	RC	H	2028
TIOGA 7	A-19	11.1	PT	EL-NH	E	RC	H	2028
TIOGA 7	A-20	18.8	ST	RP-EL	E	SH	H	2028
TIOGA 7	A-21	55.8	ST	RP-NS	E	SH	H	2028
TIOGA 7	B-17	15.9	ST	NS	E	SH	CHP	2028
TIOGA 7	B-18	4.2	ST	NS-NH	E	SH	CHP	2028
TIOGA 7	B-19	19.1	ST	NS	E	SH	CHP	2028
TIOGA 1	A-10	13.5	SS	NH	E	TS	H	2029
TIOGA 1	A-16	5.7	SS	NS	E	ST	CP	2029
TIOGA 1	A-18	16.7	SS	NS-WP	E	TS	CHP	2029
TIOGA 1	B-08	27.8	PT	NS-RP	E	SH	CHP	2029
TIOGA 1	B-10.1	4.8	PT	NS-RP	E	SH	CP	2029
TIOGA 1	B-10.2	17.8	PT	RP-NH	E	SH	H	2029
TIOGA 1	B-13	20.2	ST	NS	E	SH	CHP	2029
TIOGA 1	B-14	19.8	PT	NS	E	SH	CP	2029
TIOGA 2	A-14	37.1	ST	RP-WP	E	RC	H	2029
TIOGA 2	A-15	9.3	PT	NH	E	IT	H	2029
TIOGA 2	B-24	25.9	ST	RP-JL	E	RC	CP	2029
TIOGA 6	A-13	2.5	SS	NS	A	ST	CP	2030
TIOGA 6	A-16	7.5	PT	ASP-WP	E	TS	CH	2030
TIOGA 6	A-17	35.2	PT	NS	E	ST	CP	2030
TIOGA 6	A-21	6.6	SS	NS-NH	E	TS	CHP	2030
TIOGA 6	A-30	38.6	SS	NS	E	ST	CP	2030
TIOGA 7	B-07	8.9	ST	NH	E	SH	H	2031
TIOGA 7	B-08	7.9	ST	NH	E	SH	H	2031

Table 5 - Land Management Action Schedule (by Year)								
State Forest	**Stand**	**Acres**	**Size Class**	**Current Land Use Type**	**Management Strategy**	**Treat. Type**	**General Long Term Forest Type**	**Year Scheduled**
TIOGA 7	B-10.2	48.2	PT	RP-EL	E	OR	H	2031
TIOGA 7	B-37	23.9	PT	WS-WC	E	SH	CP	2031
TIOGA 1	A-17	54.7	SS	PH-WP	E	TS	CH	2032
TIOGA 1	A-20	8.2	SS	BR	E	TS	H	2032
TIOGA 1	A-26	26.5	ST	NS-RP	E	SH	CHP	2032
TIOGA 1	A-28	3.4	PT	HI-AS	E	TS	H	2032
TIOGA 1	A-30	15.4	PT	RP	E	SH	CP	2032
TIOGA 1	B-12	33.2	PT	NH	A	SH	H	2032
TIOGA 2	B-23	25.6	PT	NS	E	TS	CP	2032
TIOGA 2	B-25	4.7	PT	PH	E	TS	H	2032
TIOGA 2	A-16	8.9	PT	WP-RP	E	RT	H	2033
TIOGA 2	A-38	22.1	SS	NH	E	TS	H	2033
TIOGA 2	B-02.2	14.7	SS	PH	E	TS	H	2033
TIOGA 2	B-05	17.0	SS	NH	E	TS	H	2033
TIOGA 2	B-14	14.8	PT	RP-NH	E	RC	H	2033
TIOGA 2	B-16	14.6	PT	ASP	E	TS	H	2033
TIOGA 2	B-17	13.6	PT	RM-ASP	E	TS	H	2033
TIOGA 2	B-28	7.3	NF	BR	E	TS	H	2033
TIOGA 2	A-04	20.6	SS	NH	E	**	H	2034
TIOGA 7	B-10.1	49.9	SS	PH	E	TS	H	2034
TIOGA 7	B-40	25.8	PT	WP-SP	E	IT	CP	2034
TIOGA 7	B-44	11.7	SS	NH-WP	E	TS	CHP	2034
TIOGA 7	B-45	13.2	SS	NH	E	TS	H	2034
TIOGA 7	B-46.1	3.8	SS	NS	E	TS	CHP	2034
TIOGA 7	B-46.2	10.4	SS	NS	E	TS	CP	2034
TIOGA 7	B-55	4.7	SS	PH	E	TS	H	2034
TIOGA 7	B-04	5.6	PT	NH	E	IT	H	2035
TIOGA 7	B-06	61.9	ST	RP	E	SH	H	2035
TIOGA 7	B-41	41.7	ST	OA	A	SH	H	2035
TIOGA 7	B-42	9.6	SS	NH	E	IT	H	2035
TIOGA 7	B-49	51.2	SS	NH	E	TS	H	2035
TIOGA 7	B-50	25.4	ST	EL	E	SH	H	2035
TIOGA 1	A-09	10.4	ST	O-WP	A	PR	H	****
TIOGA 1	A-11	8.1	ST	NH-HEM	A	PR	CH	****
TIOGA 1	A-13	3.9	PT	NH	A	**	H	****
TIOGA 1	A-14	12.8	ST	NH-HEM	A	PR	CH	****
TIOGA 1	A-29	14.6	ST	NH-HEM	A	PR	CH	****
TIOGA 1	A-31	1.9	NF	BR	E	**	H	****

Table 5 - Land Management Action Schedule (by Year)								
State Forest	**Stand**	**Acres**	**Size Class**	**Current Land Use Type**	**Management Strategy**	**Treat. Type**	**General Long Term Forest Type**	**Year Scheduled**
TIOGA 1	B-11	12.5	PT	HEM	A	PR	C	****
TIOGA 2	A-17.1	6.3	NF	WO	E	PR	H	****
TIOGA 2	A-17.2	52.7	PT	NH-HEM	A	PR	CH	****
TIOGA 2	A-23	8.7	PT	PH	A	PR	H	****
TIOGA 2	A-26	1.1	ST	NH	A	PR	H	****
TIOGA 2	A-29	3.9	NF	BR	E	PR	H	****
TIOGA 2	A-30	7.9	NF	BR	E	**	H	****
TIOGA 2	B-08	2.5	NF	WO	**	PR	H	****
TIOGA 2	B-11	7.2	PT	NH-WP	A	PR	CH	****
TIOGA 2	B-12	30.4	NF	PD	**	PR	PD	****
TIOGA 2	B-13	4.5	PT	PH	A	PR	H	****
TIOGA 2	B-15.2	0.8	NF	PD	**	PR	PD	****
TIOGA 2	B-15.3	2.0	PT	WF	A	PR	H	****
TIOGA 2	B-19.2	6.1	ST	WF	A	PR	H	****
TIOGA 2	B-20	5.0	NF	PD	**	PR	PD	****
TIOGA 2	B-21	1.2	NF	PD	**	PR	PD	****
TIOGA 2	B-22	2.5	SS	WO	A	PR	H	****
TIOGA 2	B-26	9.4	NF	PD	**	PR	PD	****
TIOGA 2	B-30	8.0	PT	RM-ASP	A	PR	H	****
TIOGA 2	B-31.2	1.5	PT	NS-HEM	A	PR	CH	****
TIOGA 6	A-05	4.6	PT	WF	A	PR	H	****
TIOGA 6	A-09	9.2	ST	NH	A	PR	H	****
TIOGA 6	A-15	7.1	ST	NH-HEM	A	PR	CH	****
TIOGA 6	A-26	2.5	PT	PH	E	**	H	****
TIOGA 6	A-32	2.5	PT	NH	A	PR	H	****
TIOGA 7	A-16	24.3	PT	NH	A	PR	H	****
TIOGA 7	A-24	4.9	PT	NS-ASP	A	PR	CHP	****
TIOGA 7	A-25	7.7	ST	HEM	A	PR	C	****
TIOGA 7	B-02	6.0	PT	NH-HEM	A	PR	CH	****
TIOGA 7	B-05	1.9	SS	NH	A	PR	H	****
TIOGA 7	B-09	1.6	NF	BR	A	PR	H	****
TIOGA 7	B-11	6.4	PT	NH	A	PR	H	****
TIOGA 7	B-12	9.0	ST	NH-HEM	A	PR	CH	****
TIOGA 7	B-16	7.7	SS	NH	A	**	H	****
TIOGA 7	B-30.1	3.7	NF	WO	A	PR	H	****
TIOGA 7	B-50.1	1.1	NF	SP	**	**	SP	****
TIOGA 7	B-57	5.9	PT	NH	A	PR	H	****

Table 6 - Budget Needs Summary				
Description of Need(s)	Location	Year(s)		Estimated
		Begin	End	Cost
Annual Needs				
Stock Oakley Corners Pond with 120 Tiger Muskie (DEC Fisheries)	Tioga No. 2	2008	2027	$2,400.00
Trash pickup along forest roads and shale pits	Unit wide	2008	2027	$21,750.00
				$24,150.00
Periodic Needs				
Build 4,200 foot ATV trail loop for people with mobility limitations	Tioga No. 2	2012	2013	$12,000.00
Construct 3 universally accessible campsites that meet ADA standards	Tioga No. 2	2012	2013	$7,500.00
Construct 10 ADA compliant car parking area	Tioga No. 2	2012	2013	$6,500.00
				$26,000.00
Natural Resouce Inventory				
Update natural resource inventory	Unit wide	2011	2022	$21,350.00
				$21,350.00
Property Boundary Needs				
Survey and blaze Proposal G and its 33 foot-wide access easement leading from W. Creek Rd.	Tioga No. 1	2010	2010	$11,000.00
Paint 8.6 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 1	2010	2010	$1,500.00
Survey and blaze Sbarra Aquisition (approx. 7000 feet of new boundary line)	Tioga No. 2	2010	2010	$8,750.00
Survey and blaze the east and west boundaries of Proposal C (approx. 5800 feet of line).	Tioga No. 6	2010	2010	$7,250.00
Paint 15.3 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 7	2013	2013	$3,000.00
Paint 8.6 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 1	2017	2017	$1,500.00
Paint 15.3 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 7	2020	2020	$3,000.00
Paint 8.6 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 1	2024	2024	$1,500.00
				$37,500.00
Gate Maintenance Needs				
Install heavy duty gate on the north public forest access road with rocks	Tioga No. 2	2008	2008	$2,500.00

Table 6 - Budget Needs Summary				
Inspect and paint gate to radio tower on Shirley Rd., replace if necessary	Tioga No. 7	2013	2013	$500.00
Inspect and paint gate to radio tower on Shirley Rd., replace if necessary	Tioga No. 7	2014	2014	$500.00
Paint and inspect Oakley Corners north gate; repair as necessary	Tioga No. 2	2015	2015	$500.00
Inspect and paint gate to radio tower on Shirley Rd., replace if necessary	Tioga No. 7	2020	2020	$500.00
Paint and inspect Oakley Corners north gate; repair as necessary	Tioga No. 2	2022	2022	$500.00
				$5,000.00
Mowing Needs				
Mow shoulders of public forest access road to daylight maintain site distance (4.0 miles total)	Tioga No. 1	2009	2009	$500.00
Mow shoulders of public forest access road to daylight maintain site distance (3.6 miles total)	Tioga No. 2	2009	2009	$250.00
Mow shoulders of public forest access road to daylight maintain site distance (2.2 miles total)	Tioga No. 6	2009	2009	$250.00
Paint and post 10.3 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 2	2010	2010	$1,800.00
Mow shoulders of public forest access road to daylight maintain site distance	Tioga No. 1	2012	2012	$500.00
Mow shoulders of public forest access road to daylight maintain site distance (3.6 miles total)	Tioga No. 2	2012	2012	$500.00
Mow shoulders of public forest access road to daylight maintain site distance (2.2 miles total)	Tioga No. 6	2012	2012	$250.00
Mow shoulders of public forest access road to daylight maintain site distance	Tioga No. 1	2015	2015	$500.00
Paint 6.5 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 6	2013	2013	$1,300.00
Mow shoulders of public forest access road to daylight maintain site distance (3.6 miles total)	Tioga No. 2	2015	2015	$500.00
Mow shoulders of public forest access road to daylight maintain site distance (2.2 miles total)	Tioga No. 6	2015	2015	$250.00
Paint and post 10.3 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 2	2017	2017	$1,800.00
Mow shoulders of public forest access road to daylight maintain site distance (4.0 miles total)	Tioga No. 1	2018	2018	$500.00
Mow shoulders of public forest access road to daylight maintain site distance (3.6 miles total)	Tioga No. 2	2018	2018	$500.00
Mow shoulders of public forest access road to daylight maintain site distance (2.2 miles total)	Tioga No. 6	2018	2018	$250.00
Paint 6.5 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 6	2020	2020	$1,300.00
Mow shoulders of public forest access road to daylight maintain site distance (4.0 miles total)	Tioga No. 1	2021	2021	$500.00
Mow shoulders of public forest access road to daylight maintain site distance (3.6 miles total)	Tioga No. 2	2021	2021	$500.00
Mow shoulders of public forest access road to daylight maintain site distance (4.0 miles total)	Tioga No. 1	2024	2024	$500.00

Table 6 - Budget Needs Summary				
Paint and post 10.3 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 2	2024	2024	$1,800.00
Mow shoulders of public forest access road to daylight maintain site distance (3.6 miles total)	Tioga No. 2	2024	2024	$500.00
Mow shoulders of public forest access road to daylight maintain site distance (2.2 miles total)	Tioga No. 6	2024	2024	$250.00
Mow shoulders of public forest access road to daylight maintain site distance (4.0 miles total)	Tioga No. 1	2027	2027	$500.00
Mow shoulders of public forest access road to daylight maintain site distance (3.6 miles total)	Tioga No. 2	2027	2027	$500.00
Paint 6.5 miles of boundary line; inspect and replace witness posts as needed	Tioga No. 6	2027	2027	$1,300.00
Mow shoulders of public forest access road to daylight maintain site distance (2.2 miles total)	Tioga No. 6	2027	2027	$250.00
				$17,550.00
Pond Needs				
Inspect and mow (2) pond impoundments	Tioga No. 2	2012	2012	$500.00
Inspect and mow (2) pond impoundments	Tioga No. 2	2015	2015	$500.00
Maintain, repair, or replace 2 wooduck boxes on the south pond	Tioga No. 2	2021	2021	$100.00
				$1,100.00
Road Maintenance Needs				
Inspect and replace culverts as needed, clean ditches on 2.0 miles of roads	Tioga No. 1	2009	2009	$5,000.00
Grade, inspect culverts, and clean ditches on 1.8 miles of roads; replace culverts as necessary	Tioga No. 2	2009	2009	$2,500.00
Inspect, mow, and repair (2) pond impoundments; armor spillways with gabion stone	Tioga No. 2	2009	2009	$10,000.00
Grade, inspect culverts, and clean ditches on 1.1 miles of roads	Tioga No. 6	2009	2009	$1,250.00
Resurface 2.0 miles of PFAR with 4,000 yards of crusher run gravel delivered to site (material cost only) *	Tioga No. 1	2010	2010	$96,000.00
Grade, inspect culverts, and clean ditches on 2.0 miles of roads	Tioga No. 1	2012	2012	$2,500.00
Reslope (2:1) and block (2) shale pits with rocks and/or earth berms	Tioga No. 2	2012	2012	$4,500.00
Grade, inspect culverts, and clean ditches on 1.8 miles of roads	Tioga No. 2	2012	2012	$2,500.00
Inspect, and mow (2) pond impoundments	Tioga No. 2	2012	2012	$500.00
Grade, inspect culverts, and clean ditches on 1.1 miles of roads	Tioga No. 6	2012	2012	$1,250.00
Grade, inspect culverts, and clean ditches on 2.0 miles of roads	Tioga No. 1	2015	2015	$3,000.00
Grade, inspect culverts, and clean ditches on 1.8 miles of roads; replace culverts as necessary	Tioga No. 2	2015	2015	$2,500.00

Table 6 - Budget Needs Summary				
Grade, inspect culverts, and clean ditches on 1.1 miles of roads	Tioga No. 6	2015	2015	$1,250.00
Reslope (2:1) and block (1) shale pit with rocks and/or earth berms (see map)	Tioga No. 1	2018	2018	$3,000.00
Grade, inspect culverts, and clean ditches on 2.0 miles of roads	Tioga No. 1	2018	2018	$2,500.00
Inspect, mow, and repair (2) pond impoundments	Tioga No. 2	2018	2018	$500.00
Grade, inspect culverts, and clean ditches on 1.8 miles of roads	Tioga No. 2	2018	2018	$2,500.00
Grade, inspect culverts, and clean ditches on 1.1 miles of roads	Tioga No. 6	2018	2018	$1,250.00
Reslope (2:1) and block (1) shale pit with rocks and/or earth berms (see map)	Tioga No. 6	2018	2018	$3,000.00
Resurface 1.1 miles of PFAR with 2,000 yards of crusher run gravel delivered to site (material cost only) *	Tioga No. 6	2019	2019	$48,000.00
Grade, inspect culverts, and clean ditches on 2.0 miles of roads	Tioga No. 1	2021	2021	$2,500.00
Inspect, mow, and repair (2) pond impoundments	Tioga No. 2	2021	2021	$500.00
Grade, inspect culverts, and clean ditches on 1.8 miles of roads	Tioga No. 2	2021	2021	$2,500.00
Grade, inspect culverts, and clean ditches on 2.0 miles of roads	Tioga No. 1	2024	2024	$2,500.00
Grade, inspect culverts, and clean ditches on 1.8 miles of roads	Tioga No. 2	2024	2024	$2,500.00
Inspect, mow, and repair (2) pond impoundments	Tioga No. 2	2024	2024	$500.00
Grade, inspect culverts, and clean ditches on 1.1 miles of roads	Tioga No. 6	2024	2024	$1,250.00
Grade, inspect culverts, and clean ditches on 2.0 miles of roads	Tioga No. 1	2027	2027	$2,500.00
Inspect, mow, and repair (2) pond impoundments	Tioga No. 2	2027	2027	$500.00
Grade, inspect culverts, and clean ditches on 1.1 miles of roads	Tioga No. 6	2027	2027	$1,250.00
				$210,000.00
Sign and General Maintenance Needs				
Replace 4' x 2' State Forest identification sign at Legge Hill Rd. intersection	Tioga No. 1	2010	2010	$500.00
Replace 8"x12" SF id. signs every .1 mile of PFAR and town road frontage (26,720 feet)	Tioga No. 1	2010	2010	$500.00
Replace 4' x 2' State Forest identification sign on Dutchtown Road	Tioga No. 2	2010	2010	$500.00
Replace 4' x 2' State Forest identification sign on Bailey Road	Tioga No. 6	2010	2010	$500.00
Grade and clean parking lots - replace 4' x 2' State Forest identification signs	Tioga No. 7	2014	2014	$500.00
				$2,500.00

Table 6 - Budget Needs Summary				
Trail Maintenance Needs				
Inspect and replace fabric and gravel as required on Blue(B)1 and B2 (2 miles total)	Tioga No. 2	2008	2008	$5,000.00
Inspect and replace fabric and gravel as required on Yellow (Y)1 and Y2 (3 miles total)	Tioga No. 2	2008	2008	$5,000.00
Develop an Adopt-A-Natural Resource Agreement (AANR) and redesign horse trail about 2 miles in length	Tioga No. 6	2008	2008	$2,000.00
Install new fabric, bank run gravel, and (2) 15 inch plastic culverts on about 3,500 ft. of the blue trail	Tioga No. 7	2008	2008	$17,000.00
Inspect and replace fabric and gravel as required on Blue(B)3 and B4 (2.3 miles)	Tioga No. 2	2010	2010	$5,000.00
Close unauthorized snowmobile trail (reestablish if Adopt-A-Natural resource partners emerge)	Tioga No. 6	2010	2010	$2,000.00
Install new fabric and bank run gravel, and (2) 15 inch plastic culverts on about 2,500 feet of the yellow trail	Tioga No. 7	2010	2010	$12,000.00
Inspect and replace fabric and gravel as required on Blue(B)5 and B6 (2 miles)	Tioga No. 2	2012	2012	$5,000.00
Inspect and replace fabric and gravel as required on Yellow (Y)3, Y4, Y5, and Y6 trails (3 miles total)	Tioga No. 2	2012	2012	$5,000.00
Inspect and replace fabric and gravel as required on Yellow (Y)7 and Y8 (1.7 miles total)	Tioga No. 2	2014	2014	$5,000.00
Inspect 3.5 miles of yellow trail; replace broad based dips and water control structures as necessary	Tioga No. 7	2014	2014	$2,500.00
Drain wet areas, ditch, and harden wet spots along the red trail 1 (.5 long) - improve access to radio tower *	Tioga No. 7	2014	2014	$5,000.00
Inspect 3.6 miles of yellow trail; replace broad base dips and water control stuctures as necessary	Tioga No. 7	2020	2020	$2,500.00
				$73,000.00
Public Information Needs				
Update digital brochure and print map	Tioga No. 2	2008	2008	$400.00
Create digital trail brochure and map	Tioga No. 6	2008	2008	$400.00
Update brochure/map to digital format - reprint	Tioga No. 7	2008	2008	$400.00
Update digital brochure and print map	Tioga No. 2	2010	2010	$400.00
Update digital trail brochure and reprint map	Tioga No. 6	2010	2010	$400.00
Update brochure/map to digital format - reprint	Tioga No. 7	2010	2010	$400.00
Update digital brochure and print map	Tioga No. 2	2012	2012	$400.00
Install 2-triple panel kiosks with maps	Tioga No. 2	2012	2012	$3,500.00
Update digital trail brochure and reprint map	Tioga No. 6	2012	2012	$400.00
Update brochure/map to digital format - reprint	Tioga No. 7	2012	2012	$400.00
Update digital brochure and print map	Tioga No. 2	2014	2014	$400.00

Table 6 - Budget Needs Summary				
Update digital brochure and print map	Tioga No. 2	2014	2014	$400.00
Update digital trail brochure and reprint map	Tioga No. 6	2014	2014	$400.00
Update brochure/map to digital format - reprint	Tioga No. 7	2014	2014	$400.00
Install 2 triple panel kiosks at trail heads in parking lots	Tioga No. 7	2014	2014	$1,000.00
Update digital brochure and print map	Tioga No. 2	2016	2016	$400.00
Update digital trail brochure and reprint map	Tioga No. 6	2016	2016	$400.00
Update brochure/map to digital format - reprint	Tioga No. 7	2016	2016	$400.00
Create digital brochure and map	Tioga No. 1	2018	2018	$400.00
Install single-panel kiosk with map	Tioga No. 1	2018	2018	$2,500.00
Update digital brochure and print map	Tioga No. 2	2018	2018	$400.00
Install single-panel kiosk with map	Tioga No. 6	2018	2018	$2,500.00
Update digital trail brochure and reprint map	Tioga No. 6	2018	2018	$400.00
Update brochure/map to digital format - reprint	Tioga No. 7	2018	2018	$400.00
Update digital brochure and print map	Tioga No. 2	2020	2020	$400.00
Update digital trail brochure and reprint map	Tioga No. 6	2020	2020	$400.00
Update brochure/map to digital format - reprint	Tioga No. 7	2020	2020	$400.00
Update digital brochure and print map	Tioga No. 1	2022	2022	$400.00
Update digital brochure and print map	Tioga No. 2	2022	2022	$400.00
Update digital trail brochure and reprint map	Tioga No. 6	2022	2022	$400.00
Update brochure/map to digital format - reprint	Tioga No. 7	2022	2022	$400.00
Update digital brochure and print map	Tioga No. 1	2024	2024	$400.00
Update digital brochure and print map	Tioga No. 2	2024	2024	$400.00
Update digital trail brochure and reprint map	Tioga No. 6	2024	2024	$400.00
Update brochure/map to digital format - reprint	Tioga No. 7	2024	2024	$400.00
Update digital brochure and print map	Tioga No. 1	2026	2026	$400.00
Update digital brochure and print map	Tioga No. 2	2026	2026	$400.00

Table 6 - Budget Needs Summary				
Update digital trail brochure and reprint map	Tioga No. 6	2026	2026	$400.00
Update brochure/map to digital format - reprint	Tioga No. 7	2026	2026	$400.00
				$23,500.00
Acquisition Needs				
Acquire adjacent property 29.00-1-20.11 totaling 54.8 acres from a willing seller at appraised value	Tioga No. 1	2010	2010	$54,800.00
Acquire adjacent property 40.00-1-11 totaling 6.0 acres from a willing seller at appraised value	Tioga No. 1	2010	2010	$6,000.00
Acquire adjacent property 40.00-1-10 totaling 24.4 acres from a willing seller at appraised value	Tioga No. 1	2010	2010	$24,400.00
Acquire adjacent property 54.00-2-34.2 totaling 40.8 acres from a willing seller at appraised value	Tioga No. 6	2010	2010	$40,800.00
Acquire adjacent property 42.00-2-14 totaling 0.9 acres from a willing seller at appraised value	Tioga No. 7	2010	2010	$1,000.00
Acquire adjacent property 42.00-2-15 totaling 22.3 acres from a willing seller at appraised value	Tioga No. 7	2010	2010	$22,300.00
				$149,300.00
		Total		**$590,950.00**

GLOSSARY

Aesthetics - forest value, rooted in beauty and visual appreciation, affording inspiration, contributing to the arts, and providing a special quality of life.

All-aged - a condition of a forest or stand that contains trees of at least three separate age classes. Age classes must differ by at least ten years to be considered a separate age class.

All-aged group selection - a type of forest management used to create openings more than one acre in size.

All-aged single tree selection - a type of forest management used to create openings less than 1/4 acre in size.

Ash decline - the decline and death of ash trees by unknown pathogens. Some pathogens may include diseases, poor soil/sites, cankers, insects, winter injury, or drought. The discovery of the emerald ash borer in Michigan in 2002 could be a contributing factor in ash decline. There are many other problems that can affect ash trees including ash yellows and ash anthracnose.

Beech bark disease - is a pathogen complex involving a scale insect and a nectria fungus. The insect pierces the bark to feed, creating a place for the fungus to enter at a later date. The fungus begins to grow within the bark, resulting in round scars. Fungal activity interrupts the tree's normal physiological processes and a severely infected tree will most likely die. Trees that do not die will remain weak and become more susceptible to wind damage.

Biological diversity (Biodiversity) - the variety of plants and animals, the communities they form, and the ecological functions they perform at the genetic, stand, landscape, and regional levels.

Browse - portions of woody plants including twigs, shoots, and leaves used as food by animals such as deer.

Buffer strips - forestland left relatively undisturbed to lessen visual or environmental impacts of timber harvesting or mineral resource extraction, usually along a road, waterway, recreation area, or environmentally sensitive area.

Butternut canker - a disease of butternut trees caused by a fungus (*Sirococcus clavigignenti-juglandacearum*). The fungus was most likely introduced from outside North America. It initially infects trees through buds, leaf scars, and possibly insect wounds or other openings in the bark. The fungus rapidly kills small branches and spreads throughout the tree. Butternut is the only natural host known to be killed by the fungus. The fungus can survive on dead trees for at least 2 years.

Canopy - the upper level of a forest, consisting of branches and leaves of taller trees. A canopy is complete (or has 100% cover) if the ground is completely hidden when viewed from above the trees.

Cavity tree - tree containing an excavation sufficiently large enough for nesting, dens, or shelter; tree may be dead or alive.

Clearcutting - a harvesting and regeneration technique that removes all trees in an area, regardless of size, in one operation. Clearcutting is most often used with species like aspen or black cherry, which require full sunlight to reproduce and grow well. It is also used to create specific habitat for certain wildlife species. Clearcutting produces an even-aged forest.

Climax forest - the oldest stage in forest succession.

Coarse woody material - pieces of dead woody material usually found on the forest floor or in streams. The type and size of material designated as coarse woody material can vary extensively.

Community - living organisms in an ecosystem.

Conversion - the process by which one cover type is changed to another cover type. In particular, when red pine stands are changed to native hardwood stands.

Corridor - a strip of wildlife habitat, unique from the landscape on either side of it, that links one isolated ecosystem “island” (e.g., forest fragment) to another. Corridors allow certain species access to isolated habitat areas, which consequently contributes to the genetic health of the populations involved.

Cover type - the species or mix of trees growing in a particular area.

Cultural resources - significant historical or archaeological assets that are the result of past human activity.

Cutting interval - the number of years between harvest/regeneration cuts in a stand using the all-aged system.

Den tree - a tree with cavities in which birds, mammals, or insects such as bees may nest (also known as cavity tree).

Disturbance - a natural or human-induced environmental change that alters one or more of the floral, faunal, or microbial communities within an ecosystem.

Dumping - a practice where female wood ducks lay eggs, but abandon the nest before the eggs hatch.

Ecosystem - a natural unit of living organisms and their interactions with their physical environment, including the circulation, transformation, and accumulation of energy and matter.

Edge - the boundary between open land and woodland or between any two distinct ecological communities. This transition area between environments provides valuable wildlife habitat for some species, but can be problematic for sensitive species due to increased predation and parasitism.

Endangered species - species in danger of extinction throughout all or a significant portion of their range. Protection is mandated by the United States Endangered Species Act of 1973.

Even-aged - a group of trees that do not differ in age by more than 10 years. Also a type of forest management directed to establish and maintain stands of trees of the same age. The guidelines and methods employed for this system differ greatly from the all-aged system.

Forest - a biological community dominated by trees and other woody plants.

Forest development stages - the various stages of forest stand growth and development ranging from seedling/sapling to mature trees.

Forest stand improvement - precommercial silvicultural treatments, intended to regulate stand density and species composition while improving wood product quality and fostering individual tree health and vigor.

Forest types - associations of tree species that commonly occur because of similar ecological requirements.

Forested wetland - an area characterized by woody vegetation more than 20-feet tall where soil is periodically saturated with or covered by water.

Fragipan - a dense and brittle pan or 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.

Fragmentation - the process by which a landscape is broken into small islands. Fragmentation is a concern because of the effect of non-contiguous forest cover on wildlife habitat.

Gaps - places in the landscape where individual components of biodiversity may be lacking. Once gaps are identified, we can consider management options on State Forests which might fill the gaps and at the same time add to the biodiversity of the landscape.

Geocaching - is high-tech hide and seek for GPS (Global Positioning System) users. Individuals hide caches all over the world, usually without permission of the landowner. They share the locations of these caches on the Internet for others to find.

Grassland - land on which the vegetation is dominated by grasses.

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.

Landing - a cleared area in the forest where forest products are temporarily stored before being loaded onto trucks for transport.

Large sawtimber - trees greater than 18 inches in diameter at breast height.

Late successional forest - forest stages which include mature and old growth tree age classes and ecological characteristics such as large course woody material (material). Hardwood forests in the central-southern tier region of New York State are typically need to reach 150 to 200 years of age before they reach this stage.

Mast - all fruits of trees and shrubs used as food for wildlife. Hard mast includes nut-like fruits such as acorns, beechnuts, and chestnuts. Soft mast includes the fleshy fruits of black cherry, dogwood, and serviceberry.

Medium sawtimber - trees 15-17 inches in diameter at breast height.

Multiple-use - a strategy of deliberate land management for two or more purposes which utilizes, with minimal compromises, the capabilities of the land to meet different demands simultaneously.

Natural Areas - forest land excluded from forest management, oil and gas exploration, and some recreational activities to protect sensitive sites. These sites most often include steep slopes, wet woodlands, and riparian zones along stream corridors.

Neo-tropical migratory birds - the songbirds that represent more than 50% (340 of the 600 species) of North American birds. As spring begins, they migrate north to breed and raise young in the United States and Canada. In the fall, they return to warmer climates in tropical regions of Mexico, Central America, South America, and the Caribbean.

Old growth forest - The definition of "Old-Growth Forest" involves a convergence of many different, yet interrelated criteria (the DEC Division of Lands and Forests has adopted the following draft definition). Each of these criteria can occur individually in an area that is not old growth, however, it is the presence of all of these factors that combine to differentiate "Old-Growth Forest" from other forested ecosystems. These factors include: an abundance of late successional tree species, at least 180 - 200 years of age in a contiguous forested landscape that has evolved and reproduced itself naturally, with the capacity for self perpetuation, arranged in a stratified forest structure consisting of multiple growth layers throughout the canopy and forest floor, featuring (1) canopy gaps formed by natural disturbances creating an uneven canopy, and (2) a conspicuous absence of multiple stemmed trees and coppices. Old growth forest sites typically (1) are characterized by an irregular forest floor containing an abundance of coarse woody materials which are often covered by mosses and lichens; (2) show limited signs of human disturbance since European settlement; and (3) have distinct soil horizons that include definite organic, mineral, illuvial accumulation, and unconsolidated layers. The understory displays well developed and diverse surface herbaceous layers.

Overstory - the portion of trees that form the uppermost canopy layer.

Poletimber - trees 6-11 inches in diameter at breast height.

Regeneration - the replacement of one forest stand by another as a result of natural seeding, sprouting, planting, or other methods; also young trees that will develop into the future forest.

Regeneration cut - a tree harvest designed to promote and enhance natural establishment of trees. Even-aged stands are perpetuated by three types of regeneration cuts: seed tree, shelterwood, and clearcutting. All-aged stands are perpetuated by selecting individual or small groups of trees for removal.

Release - removal of an overstory of trees to allow the understory (established seedlings or saplings) or overtopped trees to grow in response to increased light.

Riparian zone - an area adjoining a body of water, normally having soils and vegetation characteristic of floodplains or areas transitional to upland zones. These areas help protect the water by removing or buffering the effects of excessive nutrients, sediments, organic matter, pesticides, or pollutants.

Rotation - the period of years required to establish and grow forest products to a specified maturity. Rotation being the predetermined time frame between successive harvest/regeneration cuts in a given stand under even-aged management.

Sapling - a small tree, usually defined as being between 1 and 5 inches in diameter at breast height.

Seed tree cut - a cut where mature trees are left standing in a harvested area to provide seed for regeneration.

Seedling - a young tree originating from seed that is less than 4 feet tall and smaller than 2 inches in diameter at ground level.

Selection cut - a regeneration cut designed to create and perpetuate an all-aged forest. Trees may be removed singly or in small groups. A well-designed selection cut removes trees of lesser quality and trees in all diameter classes along with merchantable and mature high-quality sawlog trees. Should be differentiated from “select” or “selective” cuts, which often equate to high-grading.

Shelterwood - a regeneration cut designed to stimulate reproduction by removing all overstory trees. This is achieved by a series of cuts over several years. Gradual reduction of stand density protects understory trees and provides a seed source for regeneration.

Silviculture - the art, science, and practice of establishing, tending, and reproducing forest stands.

Site - the combination of biotic, climatic, topographic, and soil conditions of an area; the environment at a location.

Site quality - the inherent productive capacity of a specific location (site) in the forest affected by available growth factors (light, heat, water, nutrients, anchorage); often expressed as tree height at a given age.

Small sawtimber - trees 12-14 inches in diameter at breast height.

Snag - a standing dead tree with or without cavities. Snags may function as perches, foraging sites, and/or a source of cavities for dens, roosting, and/or nesting wildlife.

Stand - any area of forest vegetation with site conditions, past history, current species composition, and age sufficiently uniform to distinguish it from surrounding vegetation and managed as a single unit.

Succession - the natural series of replacements of one plant community (and the associated fauna) by another over time and in the absence of disturbance.

Thinning - removal of trees to encourage growth of other selected individual trees. May be commercial or pre-commercial.

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.

Unfragmented Forest Area - forests with continuous closed canopy. These areas will be managed using an all-aged management regime with a single tree selection approach to thinning and harvests to limit the size of forest openings. The goal is to keep forest openings to less than 1/4 acre in size. This will insure that the crowns of adjacent trees will close openings withing a relatively short period of time. Landings and haul roads will not be permitted in unfragmented forest areas. Surface disturbances related to oil and gas exploration and their development, including well sites and utility or pipeline right-of-ways, will be discouraged within these designated unfragmented forest areas.

Universal Design - the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. The intent of universal design is to make things easily usable by as many people as possible at little or no extra cost. Universal design benefits people of all ages and abilities.

Watershed - a region or area defined by patterns of stream drainage. A watershed includes all the land from which a particular stream or river is supplied.

Wetlands - areas that are either transitional between land and water (where the water table is at or near the land surface) or areas of land that are covered by shallow water (such as marshes, swamps, bogs, and fens). These areas fulfill an essential role in the landscape by maintaining water quality, stabilizing shores and stream banks, controlling floods and erosion, and providing critical habitat to many plant and animal species.

PLAN REFERENCES

Alerich, C. L. and D. A. Drake. 1995. Forest Statistics for New York: 1980 and 1993. United States Forest Service Northeast Forest Experiment Station Resource Bulletin NE-132.

Allen, Mary K., et. al. Tompkins-Tioga Unit Management Plan (Draft). 2000. New York State Department of Environmental Conservation. Cortland, New York.

Anderle, R. F. and J. R. Carroll. 1998. The Atlas of Breeding Birds in New York State. Cornell University Press. Ithaca, New York.

Chambers, R. E. 1983. Integrating Timber and Wildlife Management. State University of New York College of Environmental Science and Forestry and New York State Department of Environmental Conservation. Syracuse and Albany, New York.

Checklist of the Amphibians, Reptiles, Birds, and Mammals of New York State, Including Their Protective Status. 1987. New York State Department of Environmental Conservation. Albany, New York.

Cowardin, L. M., et. al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. United States Department of the Interior Fish and Wildlife Service. Washington, D.C.

Davison, Stephen S., et. al. 1991. Ahwaga Unit Management Plan. New York State Department of Environmental Conservation. Albany, New York.

Duguay, Jeffrey P., et. al. 2001. Songbird Abundance and Avian Nest Survival Rates in Forests Fragmented by Different Silvicultural Treatments. Conservation Biology. Volume 15, Number 5, pages 1405-1415.

Edinger, G. J., et. al (editors). 2002. Ecological Communities of New York State. Second Edition. New York Natural Heritage Program. New York State Department of Environmental Conservation. Albany, New York.

Generic Environmental Impact Statement on the Oil, Gas, and Solution Mining Regulatory Program. 1988. New York State Department of Environmental Conservation. Albany, New York.

Grazing Administration Regulations, proposed rule. 1993. Federal Register 58(155): 43208-43209. United States Department of the Interior Bureau of Land Management.

Helms, J. A. (editor). 1998. The Dictionary of Forestry. Society of American Foresters. Bethesda, Maryland.

Houston, David R. and James T. O'Brien. 1998. Beech Bark Disease. Forest Insect and Disease Leaflet 75. United States Department of Agriculture Forest Service. Northeastern Forest Experiment Station. Hamden, Connecticut.

Keys Jr., James E., et. al. (editors). 1995. Ecological Units of the Eastern United States: First Approximation. United States Department of Agriculture Forest Service. Southern Region Geometronics. Atlanta, Georgia.

New York State Forestry Best Management Practices for Water Quality, Field Guide. 2000. New York State Department of Environmental Conservation. Albany, New York.

New York State Herpetological Atlas. 1990-1999. New York State Department of Environmental Conservation. Albany, New York.

New York State Open Space Conservation Plan (Draft). 2001. New York State Department of Environmental Conservation. New York State Office of Parks, Recreation, and Historic Preservation. Albany, New York.

Newark Valley Historical Society, P.O. Box 222, Newark Valley, New York, 13811.

Ostrey, M. E., et. al. 1996. United States Department of Agriculture Forest Service. How To Identify Butternut Canker and Manage Butternut Trees. North Central Forest Experiment Station. St. Paul, Minnesota.

Pancoe, Richard G., et. al. Treaty Line Unit Management Plan. 2001. New York State Department of Environmental Conservation. Albany, New York.

Region 7 Recreation Master Plan for State Forests and Unique Areas (Draft). 2001. New York State Department of Environmental Conservation. Albany, New York.

Rothermel, Betsie B. and Raymond D. Semlitsch. 2002. An Experimental Investigation of Landscape Resistance of Forest versus Old-Field Habitats to Emigrating Juvenile Amphibians. Conservation Biology. Volume 16, Number 5, pages 1324-1332.

Soil Survey of Tioga County, New York. Series 1939, Number 20. 1953. United States Department of Agriculture Soil Conservation Service. Washington, D.C.

State Lands Assessment Project: Biodiversity Inventory of Region 7 State Forests. 2005. New York Natural Heritage Program. Albany, New York.

State Land Unit Management Planning Handbook (Draft). 1996. New York State Department of Environmental Conservation. Albany, New York.

Stout, N. J. 1958. Atlas of Forestry in New York. State University College of Forestry at Syracuse University. Syracuse, New York.

United States Architectural and Transportation Barriers Compliance Board. 1999. Regulatory Negotiations Committee on Accessibility Guidelines for Outdoor Developed Areas. Final Report.

States Department of the Interior, Bureau of Land Management, et. al. 1993. Forest Ecosystem Management: An Ecological, Economic, and Social Assessment. Report of the Forest Ecosystem Management Team.

Welsch, D. J., et. al. 1995. Forested Wetlands: Functions, Benefits, and the Use of Best Management Practices. United States Department of Agriculture. United States Army Corps of Engineers. United States Environmental Protection Agency. United States Department of the Interior. NA-PR-01-95.

Appendix 1 - Stratigraphic Profile of Southwestern New York (modified after Van Tyne and Copley)

PERIOD		GROUP	UNIT	LITHOLOGY	
Pennsylvanian		Pottsville	Olean		quartz pebble conglomerate and sandstone, quartz pebble, conglomerate, sandstone, and minor shale
Mississippian		Pocono	Knapp		
Devonian	Upper	Conewango			shale and sandstone scattered conglomerates
		Conneaut	Chadakon		shale and sandstone scattered conglomerates
		Canadaway	Undifferentiated	oil/gas	shale and siltstone
			Perrysburg	oil/gas	minor sandstone
		West Falls	Java Nunda Rhinestreet		shale and siltstone apollaceous limestone
		Sonyea	Middlesex	gas	shale and siltstone
		Genesee			shale with minor siltstone and limstone
	Middle		Tully	gas	limestone with minor siltstone and sandstone
		Hamilton	Moscow Ludlowville Skaneateles Marcellus	gas	shale with minor sandstone and conglomerate
			Onondaga	oil/gas	limestone
	Lower	Tristates	Oriskany	gas	sandstone
		Helderberg	Manlius Rondout		limestone and dolostone
Silurian	Upper		Akron	oil/gas	dolostone
		Salina	Camillus Syracuse Vernon		shale, siltstone, anhydrite, and halite
		Lockport	Lockport	gas	limestone and dolostone

PERIOD		GROUP	UNIT	LITHOLOGY	
		Clinton	Rochester Irondequoit		shale and sandstone
	Lower		Sodus Reynales Thorold		limestone and dolostone
		Medina	Grimsby Whirlpool	gas gas	sandstone and shale quartz sandstone
Ordovician	Upper		Queenston Oswego Lorraine Utica	gas gas	shale and siltstone with minor sandstone
	Middle	Trenton- Black River	Trenton Black River	gas	limestone and minor dolostone
	Lower	Beekmantow n	Tribes Hill Chuctanunda		limestone
Cambrian	Upper		Little Falls Galway (Theresa) Potsdam	 gas gas	quartz sandstone and dolostone; sandstone and sandy dolostone; conglomerate base
Precambrian			Gneiss, Marble, Quartzite		metamorphic and igneous rocks

Appendix 2 - State Wetland Classifications

There is one 30-acre Class II state-designated freshwater wetland on the Unit (Oakley Corners Pond).

6NYCRR Part 664 establishes four separate classes that rank wetlands according to their ability to perform wetland functions and provide wetland benefits. Class I wetlands have the highest rank and the ranking descends through Class II, Class III, and Class IV.

Class I wetlands:
A wetland shall be a Class I wetland if it has any of the following seven enumerated characteristics:

Ecological associations

1. it is a classic kettlehole bog;

Special features

2. it is resident habitat of an endangered or threatened animal;

3. it contains an endangered or threatened plant;

4. it supports an animal in abundance or diversity unusual for the state or for the major region of the state in which it is found;

Hydrological and pollution control features:

5. it is tributary to a body of water which could subject a substantially developed area to significant damage from flooding or from additional flooding should the wetland be modified, filled, or drained;

6. it is adjacent or contiguous to a reservoir or other body of water that is used primarily for public water supply, or it is hydraulically connected to an aquifer which is used for public water supply; or

Other

7. it contains four or more of the enumerated Class II characteristics. The Department may, however, determine that some of the characteristics are duplicative of each other, therefore do not indicate enhanced benefits, and so do not warrant Class I classification. Each specie to which paragraphs 664.5(b)(6) through (8) apply shall be considered a separate Class II characteristic for this purpose.

Class II wetlands:

A wetland shall be a Class II wetland if it has any of the following seventeen enumerated characteristics:

Cover Type

1. it is an emergent marsh in which purple loosestrife and/or reed (phragmites) constitutes less than two-thirds of the cover type;

Ecological association

2. it contains two or more wetland structural groups;

3. it is contiguous to a tidal wetland;

4. it is associated with permanent open water outside the wetland;

5. it is adjacent or contiguous to streams classified C(t) or higher under Article 15 of the Environmental Conservation Law;

Special features

6. it is traditional migration habitat of an endangered or threatened animal;

7. it is resident habitat of an animal vulnerable in the state;

8. it contains a plant vulnerable in the state;

9. it supports an animal in abundance or diversity unusual for the county in which it is found;

10. it has demonstrable archaeological or paleontological significance as a wetland;

11. it contains, is part of, owes its existence to, or is ecologically associated with, an unusual geological feature which is an excellent representation of its type;

Hydrological and pollution control features

12. it is tributary to a body of water which could subject a lightly developed area, an area used for growing crops for harvest, or an area planned for development by a local planning authority, to significant damage from flooding or from additional flooding should the wetland be modified, filled, or drained;

13. it is hydraulically connected to an aquifer which has been identified by a government agency as a potentially useful water supply;

14. it acts in a tertiary treatment capacity for a sewage disposal system;

Distribution and location

15. it is within an urbanized area;

16. it is one of the three largest wetlands within a city, town, or New York City borough; or

17. it is within a publicly owned recreation area.

Class III wetlands:
A wetland shall be a Class III wetland if it has any of the following fifteen enumerated characteristics:

Cover Type

1. it is an emergent marsh in which purple loosestrife and/or reed (phragmites) constitutes two-thirds or more of the cover type;
2. it is a deciduous swamp;
3. it is a shrub swamp;
4. it consists of floating and/or submerged vegetation;
5. it consists of open water;

Ecological associations

6. it contains an island with an area or height above the wetland adequate to provide one or more of the benefits described in section 664.6(b)(6);

Special features

7. it has a total alkalinity of at least 50 parts per million;
8. it is adjacent to fertile upland;
9. it is resident habitat of an animal vulnerable in the major region of the state in which it is found, or it is traditional migration habitat of an animal vulnerable in the state or in the major region of the state in which it is found;
10. it contains a plant vulnerable in the major region of the state in which it is found;

Hydrological and pollution control features

11. it is part of a surface water system with permanent open water and it receives significant pollution of a type amenable to amelioration by wetlands;

Distribution and location

12. it is visible from an interstate highway, a parkway, a designated scenic highway, or a passenger railroad and serves a valuable aesthetic or open space function;
13. it is one of the three largest wetlands of the same cover Type within a town;
14. it is in a town in which wetland acreage is less than one percent of the total acreage; or
15. it is on publicly owned land that is open to the public.

Class IV wetlands:
A wetland shall be a Class IV wetland if it does not have any of the characteristics listed as criteria for Class I, II, or III wetlands. Class IV wetlands will include wet meadows and coniferous swamps which lack other characteristics justifying a higher classification.

Appendix 3 - Federal Wetland Classifications

There are 17 federally-designated Palustrine wetlands on the Unit.

Palustrine wetlands include all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 percent. They also include wetlands lacking such vegetation, but with all of the following four characteristics:

1. area less than 20 acres
2. active wave-formed or bedrock shoreline features lacking
3. water depth in the deepest part of basin less than 6.6 feet at low water
4. salinity due to ocean-derived salts less than 0.5 percent

The Palustrine System was developed to group the vegetated wetlands traditionally called by such names as marsh, swamp, bog, fen, and prairie, which are found throughout the United States. It also includes the small, shallow, permanent, or intermittent water bodies often called ponds. Palustrine wetlands may be situated shoreward of lakes, river channels, or estuaries; on river floodplains; in isolated catchments; or on slopes. They may also occur as islands in lakes or rivers.

State Forest	Size (approximate)	Classification
Tioga #2 (Oakley Corners)	6.60 acres	PSS1Eb
	2.33 acres	PSS1Fb
	0.30 acre	PSS1Fb
	2.95 acres	PFO5F
	3.05 acres	PSS3Ba
	1.18 acres	PFO4Ba
	0.75 acres	PSS1E
	1.73 acres	PFO1E
	2.99 acres	PSS1E

State Forest	Size (approximate)	Classification
	0.71 acres	PUBHh
	6.50 acres	PUBHh
	0.94 acre	PSS1Fh
	0.92 acre	PSS1Fh
Tioga #6 (Ketchumville)	6.71 acres	PSS1E
	0.43 acre	PEM1E
Tioga #7 (Jenksville)	2.36 acres	PEM1Fh
	1.99 acres	PEM1E
TOTAL	**42.44 acres**	

Key to Federal Wetland Classifications:

P = Palustrine

SS = Scrub-Shrub - Includes areas dominated by woody vegetation less than 20 feet tall.

FO = Forested - Characterized by woody vegetation that is 20 feet or taller.

UB = Unconsolidated Bottom - Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 2.5 inches) and a vegetative cover less than 30%.

EM = Emergent - Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

1 = Broad-Leaved Deciduous - Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash (Fraxinus nigra).

E = Seasonally Flooded/Saturated - Surface water is present for extended periods especially early in the growing season and when surface water is absent, substrate remains saturated near the surface for most of the growing season.

b = Created or modified by beaver.

F = Semi-permanently Flooded - Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land's surface.

5 = Dominated by dead woody vegetation taller than 20 feet. They are most common in, or around the edges of, man-made impoundments and beaver ponds.

3 = Broad-leaved Evergreen.

B = Saturated to surface for extended periods during the growing season, but surface water is seldom present.

a = Acidic - pH less than 5.5.

4 = Needle-leaved Evergreen - Woody gymnosperms with green, needle-shaped, or scale-like leaves that are retained by plants throughout the year; e.g. black spruce (Picea mariana).

H = Permanently Flooded - Water covers the land surface throughout the year in all years.

h = Diked / Impounded - Created or modified by a human-made barrier or dam which obstructs the inflow or outflow of water.

1 = Persistent - Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.

Example: PSS1Fb = Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Semi-permanently Flooded, Created or modified by beaver.

Appendix 4 - Ponds and Open Waters

State Forest	Stand	Name	Acres
Tioga #2 (Oakley Corners)	B-12	Oakley Corners Pond	30.74
	B-26	unnamed	9.52
	B-20	unnamed	5.05
	B-21	unnamed	1.22
	B-15.2	unnamed	0.79
Tioga #7 (Jenksville)	B-30.1	unnamed	3.78
TOTAL			**51.10**

Appendix 5 - Bureau of Fisheries Survey Data (1991)

Name	Length	Acres	Year of	Species
tributary of West Branch of Owego Creek	0.451			Data not available
tributary of West Branch of Owego Creek	0.276			Data not available
tributary of West Branch of Owego Creek	0.369			Data not available
tributary of West Branch of Owego Creek	0.347			Data not available
tributary of West Branch of Owego Creek	0.527			Data not available
sub-tributary of West Branch of Owego Creek	0.012			Data not available
tributary of East Branch of Owego Creek	1.088			Data not available
tributary of Little Nanticoke Creek	0.521			Data not available
Oakley Corners Pond		30	1991	tiger muskellunge, largemouth bass, pumpkinseed, brown bullhead, white sucker, golden shiner.
tributary of Nanticoke Creek	1.119			Data not available
tributary of Nanticoke Creek	0.928			Data not available
sub-tributary of tributary of Nanticoke Creek	1.045			Data not available
sub-tributary of tributary of Nanticoke Creek	0.165			Data not available
sub-tributary of tributary of Nanticoke Creek	0.222			Data not available
unnamed water	0.333			Data not available
unnamed water	8.664			Data not available
unnamed water	1.898			Data not available

Appendix 6 - Animal Species Occurrence List within the Unit Management Plan Area

Common Name	Scientific Name	Legal Status
Mammals:		
Opossum	*Didelphis virginia*	Game species
Masked Shrew	*Sorex cinereus*	Unprotected
Smokey Shrew	*Sorex fumeus*	Unprotected
Longtail Shrew	*Sorex dispar*	Unprotected
Northern Water Shrew	*Sorex palustris*	Unprotected
Pygmy Shrew	*Microsorex hoyi*	Unprotected
Least Shrew	*Crytotis parva*	Unprotected
Shorttail Shrew	*Blarina brevicauda*	Unprotected
Star-nosed Mole	*Condylura cristata*	Unprotected
Hairytail Mole	*Parascalop breweri*	Unprotected
Little Brown Myotis	*Myotis lucifugus*	Unprotected
Keen's Myotis	*Myotis keenii*	Unprotected
Small-footed Bat	*Myotis leibii*	Unprotected - Special Concern
Silver-haired Bat	*Lasionycteris noctivagans*	Unprotected
Eastern Pipistrelle	*Pipistrellus subflavus*	Unprotected
Big Brown Bat	*Eptesicus fuscus*	Unprotected
Red Bat	*Lasiurus borealis*	Unprotected
Hoary Bat	*Lasiurus cinereus*	Unprotected
Black Bear	*Ursus americanus*	Game Species
Raccoon	*Procyon lotor*	Game Species
Fisher	*Mustela pennanti*	Game Species
Shorttail Weasel	*Mustela erminea*	Game Species

Common Name	Scientific Name	Legal Status
Longtail Weasel	*Mustela frenata*	Game Species
Mink	*Mustela vison*	Game Species
River Otter	*Lutra canadensis*	Game Species
Striped Skunk	*Mephitis*	Game Species
Coyote	*Canis latrans*	Game Species
Red Fox	*Vulpes vulpes*	Game Species
Gray Fox	*Urocyon cinereoargenteus*	Game Species
Bobcat	*Lynx rufus*	Game Species
Woodchuck	*Marmota monax*	Unprotected
Eastern Chipmunk	*Tamias striatus*	Unprotected
Gray Squirrel	*Sciurus carolinensis*	Game Species
Red Squirrel	*Tamisciurus hudsonicus*	Unprotected
Southern Flying Squirrel	*Glaucomys volans*	Unprotected
Northen Flying Squirrel	*Glaucomys sabrinus*	Unprotected
Beaver	*Castor canadensis*	Game Species
Deer Mouse	*Peromyscus maniculatus*	Unprotected
White-footed Mouse	*Peromyscus leucopus*	Unprotected
Southern Bog Lemming	*Synaptomys cooperi*	Unprotected
Boreal Red-backed Vole	*Clethrionomys gapperi*	Unprotected
Meadow Vole	*Microtus pennsylvanicus*	Unprotected
Yellownose Vole	*Microtus chrotorrhinus*	Unprotected
Pine Vole	*Microtus pinetorum*	Unprotected
Muskrat	*Ondotra zibethica*	Game Species
Meadow Jumping Mouse	*Zapus hudsonicus*	Unprotected
Woodland Jumping Mouse	*Napaeozapus insignis*	Unprotected
Porcupine	*Erethizon dorsatum*	Unprotected
Snowshoe Hare	*Lepus americanus*	Game Species

Common Name	Scientific Name	Legal Status
Eastern Cottontail	*Sylvalagus floridanus*	Game Species
White-tailed Deer	*Odocoileus virginianus*	Game Species
Reptiles:		
Common Snapping Turtle	*Chelydra serpentina*	Unprotected
Wood Turtle	*Clemmys insculpta*	Protected - Game Species - Special Concern
Painted Turtle	*Chrysemys picta*	Unprotected
Northern Water Snake	*Nerodia sipedon*	Unprotected
Northern Redbelly Snake	*Storeria occiptomaculata*	Unprotected
Common Garter Snake	*Thamnophis sirtalis*	Unprotected
Eastern Ribbon Snake	*Thamnophis sauritus*	Unprotected
Northern Ringneck Snake	*Diadophis punctatus*	Unprotected
Smooth Green Snake	*Opheodrys vernalis*	Unprotected
Eastern Milk Snake	*Lampropeltis triangulum*	Unprotected
Amphibians:		
Jefferson salamander	*Ambystoma jeffersonianum*	Unprotected - Special Concern
Spotted salamander	*Ambystoma maculatum*	Unprotected - Special Concern
Red-spotted Newt	*Notophthalmus viridescens*	Unprotected
Northern Dusky Salamander	*Desmognathus fuscus*	Unprotected
Allegheny Dusky Salamander	*Desmognathus ochrophaeus*	Unprotected
Amphibians: (continued)		
Northern Redback Salamander	*Plethodon cinereus*	Unprotected

Common Name	Scientific Name	Legal Status
Northern Slimy Salamander	*Plethodon glutinosus*	Unprotected
Northern Spring Salamander	*Gyrimophilius porphyriticus*	Unprotected
Northern Two-lined Salamander	*Eurycea bislineata*	Unprotected
Longtail Salamander	*Eurycea longicauda*	Unprotected
Eastern American Toad	*Bufo americanus*	Unprotected
Gray Treefrog	*Hyla versicolor*	Unprotected
Northern Spring Peeper	*Pseudacris crucifer*	Unprotected
Bullfrog	*Rana catesbeiana*	Protected - Game Species
Green Frog	*Rana clamitans*	Protected - Game Species
Wood Frog	*Rana sylvatica*	Protected - Game Species
Northern Leopard Frog	*Rana pipiens*	Protected - Game Species
Pickerel Frog	*Rana palustris*	Protected - Game Species

Appendix 7 - The Atlas of Breeding Birds in New York State - Interim Data 2000-2005
Blocks 3968C, 3968D, 3968D, 3966B, 3967D, 4066A, and 4067A
Total number of species: 109

The Breeding Bird Atlas is a comprehensive, statewide survey that reveals the current distribution of breeding birds in New York.

The New York State Ornithological Association and the Department of Environmental Conservation sponsor the project in cooperation with the New York Cooperative Fish and Wildlife Research Unit at Cornell University, Cornell University Department of Natural Resources, Cornell Laboratory of Ornithology, and Audubon New York. The backbone of the atlas is a dedicated group of volunteers who do the actual on the ground survey.

To conduct the breeding bird survey, the state has been divided into ten regions based upon the "Kingbird" reporting regions for the New York State Ornithological Association. One or two Regional Coordinators are responsible for seeing that all of the blocks in their region are surveyed. Each block measures 5 x 5 km (3 x 3 mi); there are 5,335 blocks in the entire state. Atlasers visit various habitats within their assigned block(s) and record evidence of breeding for the birds they see, using defined Breeding Codes.

Breeding Bird Atlas Data 2000-2005 (Interim Data) **Blocks 3966B, 3968C, 3968D, 3967D, 4066A, 4067A**			
Common Name	**Scientific Name**	**Breeding Code**	**New York Legal Status**
Cooper's Hawk	*Accipiter cooperii*	Probable	Protected-Special
Sharp-shinned Hawk	*Accipiter striatus*	Probable	Protected-Special
Red-winged Blackbird	*Agelaius phoeniceus*	Confirmed	Protected
Wood Duck	*Aix sponsa*	Confirmed	Game Species
Mallard	*Anas platyrhynchos*	Confirmed	Game Species
Ruby-throated Hummingbird	*Archilochus colubris*	Probable	Protected
Great Blue Heron	*Ardeo herodias*	Possible	Protected
Tufted Titmouse	*Baeolophus bicolor*	Confirmed	Protected
Cedar Waxwing	*Bombycilla cedrorum*	Confirmed	Protected
Ruffed Grouse	*Bonasa umbellus*	Probable	Game Species
Canada Goose	*Branta canadensis*	Confirmed	Game Species
Great Horned Owl	*Bubo virginianus*	Probable	Protected
Red-tailed Hawk	*Buteo jamaicensis*	Confirmed	Protected
Red-shouldered Hawk	*Buteo lineatus*	Confirmed	Protected-Special
Broad-winged Hawk	*Buteo platypterus*	Confirmed	Protected
Green Heron	*Butorides virescens*	Possible	Protected
Northern Cardinal	*Cardinalis cardinalis*	Confirmed	Protected
American Goldfinch	*Carduelis tristis*	Confirmed	Protected
House Finch	*Carpodcacus mexicanus*	Confirmed	Protected
Purple Finch	*Carpodcacus purpureus*	Confirmed	Protected
Turkey Vulture	*Cathartes aura*	Probable	Protected
Veery	*Catharus fuscescens*	Confirmed	Protected
Hermit Thrush	*Catharus guttatus*	Confirmed	Protected
Brown Creeper	*Certhia americana*	Confirmed	Protected
Belted Kingfisher	*Ceryle alcyon*	Probable	Protected
Chimney Swift	*Chaetura pelagica*	Probable	Protected
Killdeer	*Charadrius vociferus*	Confirmed	Protected
Northern Harrier	*Cicus cyaneus*	Probable	Threatened
Yellow-billed Cuckoo	*Coccyzus americanus*	Probable	Protected
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Possible	Protected
Northern Flicker	*Colaptes auratus*	Confirmed	Protected
Northern Bobwhite	*Colilnus virgninianus*	Possible	Game Species
Rock Pigeon	*Columba livia*	Confirmed	Unprotected
Eastern Wood-Pewee	*Contopus virens*	Confirmed	Protected
American Crow	*Corvus brachyrhynchos*	Confirmed	Game Species

Breeding Bird Atlas Data 2000-2005 (Interim Data) **Blocks 3966B, 3968C, 3968D, 3967D, 4066A, 4067A**			
Common Name	**Scientific Name**	**Breeding Code**	**New York Legal Status**
Common Raven	*Corvus corax*	Probable	Protected
Blue Jay	*Cyanocitta cristata*	Confirmed	Protected
Black-throated Blue Warbler	*Dendroica caerulescens*	Confirmed	Protected
Yellow-rumped Warbler	*Dendroica coronata*	Confirmed	Protected
Prairie Warbler	*Dendroica discolor*	Confirmed	Protected
Blackburnian Warbler	*Dendroica fusca*	Confirmed	Protected
Magnolia Warbler	*Dendrocia magnolia*	Confirmed	Protected
Chestnut-sided Warbler	*Dendrocia pensylvanica*	Confirmed	Protected
Yellow Warbler	*Dendrocia petechia*	Confirmed	Protected
Pine Warbler	*Dendroica pinus*	Probable	Protected
Black-throated Green Warbler	*Dendroica virens*	Confirmed	Protected
Bobolink	*Doilichonyx oryzivorus*	Confirmed	Protected
Pileated Woodpecker	*Dryocopus pileatus*	Confirmed	Protected
Gray Catbird	*Dumetella carolinensis*	Confirmed	Protected
Adler Flycatcher	*Empidonax alnorum*	Confirmed	Protected
Least Flycatcher	*Empidonax minimus*	Confirmed	Protected
Willow Flycatcher	*Empidonax traillii*	Confirmed	Protected
American Kestrel	*Falco sparverius*	Confirmed	Protected
Wilson's Snipe	*Gallinago delicata*	Probable	Game Species
Common Yellowthroat	*Geothlypis trichas*	Confirmed	Protected
Barn Swallow	*Hirundo rustica*	Confirmed	Protected
Wood Thrush	*Hylocichla mustelina*	Confirmed	Protected
Baltimore Oriole	*Icterus galbula*	Confirmed	Protected
Dark-eyed Junco	*Junco hyemalis*	Confirmed	Protected
Red-bellied Woodpecker	*Melanerpes carolinus*	Confirmed	Protected
Wild Turkey	*Meleagris gallopavo*	Probable	Game Species
Swamp Sparrow	*Melospiza georgiana*	Probable	Protected
Song Sparrow	*Melospiza melodia*	Confirmed	Protected
Mimus polyglottas	*Northern Mockingbird*	Probable	Protected
Common Merganser	*Mergus merganser*	Probable	Game Species
Northern Mockingbird	*Mimus polyglottos*	Probable	Protected
Black and White Warbler	*Mniotilta varia*	Possible	Protected
Brown-headed Cowbird	*Molothrus ater*	Confirmed	Protected
Grest Crested Flycatcher	*Myiarchus crinitus*	Confirmed	Protected
Mourning Warbler	*Oporornis philadelphia*	Confirmed	Protected
House Sparrow	*Passer domesticus*	Confirmed	Unprotected
Savannah Sparrow	*Passer sandwichensis*	Confirmed	Protected

Breeding Bird Atlas Data 2000-2005 (Interim Data) **Blocks 3966B, 3968C, 3968D, 3967D, 4066A, 4067A**			
Common Name	**Scientific Name**	**Breeding Code**	**New York Legal Status**
Indigo Bunting	*Passerina cyanea*	Confirmed	Protected
Ringed neck pheasant	*Phasianus colchicus*	Confirmed	Game Species
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Confirmed	Protected
Downy Woodpecker	*Picoides pubescens*	Confirmed	Protected
Hairy Woodpecker	*Picoides villosus*	Confirmed	Protected
Eastern Towhee	*Pipilo erythropthalmus*	Confirmed	Protected
Scarlet Tanager	*Pirango olivacea*	Confirmed	Protected
Black-capped Chickadee	*Poecile atricapillus*	Confirmed	Protected
Common Grackle	*Quiscalus quiscula*	Confirmed	Protected
Ruby-crowned Kinglet	*Regulus calendula*	Possible	Protected
Golden-crowned Kinglet	*Regulus satrapa*	Confirmed	Protected
Eastern Phoebe	*Sayornis phoebe*	Confirmed	Protected
American Woodcock	*Scolopex minor*	Confirmed	Protected
Ovenbird	*Seiurus aurocapilla*	Confirmed	Protected
Louisiana Waterthrush	*Seirus motacilla*	Confirmed	Protected
American Redstart	*Setophaga ruticilla*	Confirmed	Protected
Eastern Bluebird	*Sialia sialis*	Confirmed	Protected
Red-breasted Nuthatch	*Sitta canadensis*	Confirmed	Protected
White-breasted Nuthatch	*Sitta carolinensis*	Confirmed	Protected
Yellow-bellied Sapsucker	*Sphyrapicus varius*	Confirmed	Protected
Chipping Sparrow	*Spizella passerina*	Confirmed	Protected
Field Sparrow	*Spizella pusilla*	Confirmed	Protected
Barred Owl	*Strix varia*	Probable	Protected
Northern rough winged swallow	*Stelgidopteryx serripennis*	Possible	Protected
Eastern Meadowlark	*Sturnella magna*	Confirmed	Protected
EuroProtected ean Starling	*Sturnus vulgaris*	Confirmed	Unprotected
Tree Swallow	*Tachycineta bicolor*	Confirmed	Protected
Brown Thrasher	*Toxostoma rufum*	Confirmed	Protected
House Wren	*Troglodtypes aedon*	Confirmed	Protected
Winter Wren	*Troglodtypes troglodytes*	Confirmed	Protected
American Robin	*Turdus migratorius*	Confirmed	Protected
Eastern Kingbird	*Tyrannus tyrannus*	Confirmed	Protected
Vermivora pinus	*Blue winged warbler*	Possible	Protected
Nashville Warbler	*Vermivora ruficapilla*	Possible	Protected
Yellow-throated Vireo	*Vireo flavifrons*	Confirmed	Protected
Warbling Vireo	*Vireo gilvus*	Confirmed	Protected

Breeding Bird Atlas Data 2000-2005 (Interim Data) **Blocks 3966B, 3968C, 3968D, 3967D, 4066A, 4067A**			
Common Name	**Scientific Name**	**Breeding Code**	**New York Legal Status**
Red-eyed Vireo	*Vireo olivaceus*	Confirmed	Protected

Appendix 8 - Estimated Deer Harvest (2001 to 2004)

	2001		2002		2003		2004	
Town	**Bucks**	**All**	**Bucks**	**All**	**Bucks**	**All**	**Buck**	**All**
Berkshire	148	358	133	374	124	291	70	201
Candor	480	1,166	459	1,141	465	1,193	342	890
Newark Valley	263	741	258	733	182	534	172	425
Owego	661	1,728	634	1,761	574	1,573	477	1,173
Totals	**1,552**	**3,993**	**1,484**	**4,009**	**1,345**	**3,591**	**1,061**	**2,689**

* Source: New York State Department of Environmental Conservation Division of Fish and Wildlife.

Appendix 9 - Wildlife Trapper Survey (1996-1997) - Wildlife Management Unit 25*

Species	Estimated Number of Trappers	Estimated Harvest
mink	282	2,323
raccoon	298	2,833
skunk	6	658
opossum	0	943
muskrat	372	13,441
red fox	199	472
gray fox	193	751
beaver	305	3,010

* After 1997, only statewide records have been kept. Trapping information for individual Wildlife Management Units is not available. Wildlife Management Unit 25 included Tioga and Broome Counties and portions of Tompkins and Chenango Counties.

Appendix 10 - Small Game Survey (1996-1997) - Wildlife Management Unit 25*

Species	Estimated Number of Hunters	Estimated Harvest
rabbit	13,330	42,172
squirrel	12,032	71,426
hare	413	1,180
raccoon	1,062	8,906
red fox	708	177
gray fox	354	2,359
grouse	13,035	30,611
pheasant	4,718	7,137
woodcock	1,887	3,008
ducks	2,241	12,622
geese	472	944
woodchuck	8,788	74,611

* After 1997, only statewide records have been kept. Small game information for individual Wildlife Management Units is not available. Wildlife Management Unit 25 included Tioga and Broome Counties and portions of Tompkins and Chenango Counties.

Appendix 11 - Furbearer Survey (2000-2001) - Tioga County

Species	Estimated Harvest	Estimated Percent of Population
beaver	59	0.5
coyote	26	1.0

Appendix 12 - Rare, Threatened, Endangered, and Special Concern Species

Rare plants have been protected in New York State since 1933. After a long history of expanded protection efforts, the latest regulation was enacted in 1989 and includes three categories (rare, threatened, endangered) and one non-rare protection category (exploitably vulnerable). The categories of rare plants are defined as follows:

Rare Species:

- 20 to 35 sites in the state, or
- 3,000 to 5,000 individuals

Threatened Species:

- 6 to 20 sites in the state, or
- 1,000 to 3,000 individuals, or
- restricted to not less than four or more than seven United States Geological Survey 7½ minute topographical maps, or
- listed as threatened by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CAR 17.11

Endangered Species:

- 5 or fewer sites in the state, or
- fewer than 1,000 individuals, or
- restricted to fewer than four United States Geological Survey 7½ minute topographical maps, or
- species listed as endangered by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CAR 17.11

Exploitably Vulnerable Species:

- listed species are likely to become threatened in the near future throughout all or a significant portion of their range within the state if causal factors continue unchecked.

The exploitably vulnerable category contains plants that are likely to be picked for commercial, medicinal, or personal purposes and affords the landowner extra protection ability.

Rare plants included on the list are protected under the Environmental Conservation Law, Section 9-1503. Part (f) of the law reads as follows: “It is a violation for any person, anywhere in the state to pick, pluck, sever, remove, damage by the application of herbicides or defoliants, or carry away, without the consent of the owner, any protected plant. Each protected plant so picked, plucked, severed, removed, damaged, or carried away shall constitute a separate violation.” Violators of the regulation are subject to fines and penalties.

The Nature Conservancy established the New York Natural Heritage Program in 1985 as a contract unit within the Department. The Program assumed the State Museum job of compiling a status list for rare plants in the state. Each year a rare plant status review meeting is sponsored by the Natural Heritage Program botanist to review the ranks and taxonomy of the listed plants. The meeting includes the state botanist, a Department representative, and other botanists from around the state who are familiar with rare plants. After the meeting, the list is updated and each plant is assigned a global and state rarity rank devised by The Nature Conservancy. This list is used by the Department as a basis for the legal protected plant list.

Since the Heritage Program began, the status list has changed significantly. On the positive side, many plants that were originally thought to be rare were shown to be more common after historical sites and potential habitat were searched. More than 70 plants that had not been seen in the past 20 years were rediscovered, many of them with historical records more than 50 years old. On the negative side, many plants were determined to be extirpated from the state after years of searching failed to identify a single plant.

The New York Natural Heritage Program also actively surveys rare animal species of all vertebrate groups (mammals, birds, reptiles, amphibians, and fish) and selected rare species from the invertebrate groups (butterflies and moths, beetles, dragonflies and damselflies, mayflies, and freshwater bivalve mollusks). The Heritage Program collects data on significant animal concentration areas including bat hibernacula, anadromous fish, warm and cold water fish, waterfowl, raptors, and nesting areas of terns, herons, and gulls.

Appendix 13 - Roads and Status of Roads

State Forest	Type of Road	Miles
Tioga #1 (Fairfield)	Public Forest Access Road	2.0
	Access Trail	1.8
Tioga #2 (Oakley Corners)	Public Forest Access Road	1.8
	Haul Road	0.25
	Access Trail	1.9
Tioga #6 (Ketchumville)	Public Forest Access Road	1.1
	Access Trail	0.2
Tioga #7 (Jenksville)	Haul Road	0.5
	Access Trail	1.1

Status of Roads:

Tioga #1 (Fairfield):

1. Truck trail (State Lands Road) runs north from Jenksville Hill Road entirely through state lands to Lathrop Hill Road.
2. Jenksville Hill Road appears to be a long standing public road that passes through this reforestation area.
3. Newman Road has been realigned through Proposal A, south of Jenksville Hill Road, at some time after the 1932 acquisition. The former road alignment was subsequently discontinued. The adjoining owner and New York State may continue to access their land along this former road corridor.

Tioga #2 (Oakley Corners):

1. Discontinued road through Proposal B and along south side of Proposals C and D, from Hollister Road intersection with Hullsville Road east to Foster Road. Adjoining owners and New York State may continue to access their lands from the same.
2. Dutchtown Road through and along Proposal B appears to be a long standing public road that passes through this reforestation area.
3. Discontinued road section north of Dutchtown Road includes States Lands Road, discontinued road section and Snapp Road terminating at Route 38B. Adjoining owners and New York State may continue to access their lands from the same.
4. There exists a truck trail traversing through Proposals A and B. There are no private rights to this road.

Tioga #6 (Ketchumville):

1. Discontinued road section, Chamberlain Road east through Proposal C and north to Dalton Hill Road. Adjoining owners and New York State may continue to access their lands along this corridor.

2. Partially discontinued road, east and north from Bailey Hollow Road along north side of Proposal E into Proposal A (never a through road). Adjoining owner on the north side of Proposal E may have access rights to use the discontinued road corridor adjacent to their property. New York State access route to Proposal A is now along a truck trail on the east side of Proposal E and crosses at the common corner between Proposal E and Proposal A.

3. There exists a truck trail north of Bailey Hollow Road traversing through Proposals A, B, and into Proposal C. There are no private rights to this road.

Tioga #7 (Jenksville):

1. Discontinued road, from Ford Hill Road east along the south boundary of Proposal G leading to Proposal K. This was the access route to the homesite on Proposal K. New York State should be allowed continued access along this corridor and the adjoining owner may utilize same.

2. Allison Hill Road, through Proposal A, continues to be an active public road.

3. Shirley Road (aka Baker Road) passes through Proposals B, C, and D. It is a public road and is the access route to the Proposal C in-holding.

4. Ford Hill Road is a public road on the north side of Proposal G and the south side of Proposal F.

5. Rejmer Road is a public road on the west side of Proposal I.

6. The United States Geological Survey Richford Quadrangle map (1994) shows an access trail west of Ford Hill Road leading into Proposal E. The Department has no record of an easement for access over this route.

Appendix 14 - Taxes Paid on State Forests (1998 Tax Rolls)

Town	State Forest	Acres	Assessment	Town Taxes	School Taxes	Fire District Taxes
Candor	Fairfield	818.01	$528,296.21	$3,309.77	$8,921.44	$613.78
Berkshire	Jenksville	1007.05	$273,344.00	$2,201.12	$4,711.42	$427.10
Newark Valley	Oakley Corners	266.94	$120,150.02	$527.71	$1,846.34	$110.67
	Ketchumville	503.43	$229,897.52	$1,009.73	$3,532.82	$211.76
	Jenksville	361.46	$162,852.46	$715.26	$2,502.54	$150.01
Owego	Oakley Corners	775.91	$307,829.15	$773.12	$5,391.79	$319.17
TOTAL		**3732.80+**	**$1,622,369.36**	**$8,536.71**	**$26,906.35**	**$1,832.49**

+ Total acreage based on county tax roll records, not actual land surveys. Estimated total acreage according to Department land records is 3,692.

Appendix 15 - Department Rules, Regulations, Laws, and Policies

A. New York Code Rules and Regulations

Title 6

Chapter I	Fish and Wildlife
Chapter II	Lands and Forests
Chapter III	Air Resources
Chapter IV	Quality Services
Chapter V	Resource Management Services
Chapter VI	State Environmental Quality Review
Chapter VII	Sub-Chapter A - Implementation of Environmental Quality Bond Act of 1972
Chapter X	Division of Water Resources

B. Environmental Conservation Laws

ECL Article 8	Environmental Quality Review
ECL Article 9	Lands and Forests
ECL Article 11	Fish and Wildlife
ECL Article 15	Water Resources
ECL Article 23	Mineral Resources
ECL Article 24	Freshwater Wetlands
ECL Article 33	Pesticides
ECL Article 51	Implementation of Environmental Quality Bond Act/1972
ECL Article 52	Implementation of Environmental Quality Bond Act/1986
ECL Article 54	Environmental Protection Fund
ECL Article 71	Enforcement

C. Other Laws

New York State Historic Preservation Act

Article 14	PRHPL

Education Law

Section 233	State Museum Collections

D. Department Policies

Public Use	Prescribed Fire	Recreational Use
Temporary Revocable Permits	State Forest Master Plan	
Motor Vehicle Use	Inventory	
Timber Management	Acquisition	
Unit Management Planning	Road Construction	
Pesticides	Commissioner’s Policy No. 3 (CP-3)	

Appendix 16 - Shale Pit Reclamation Recommendations

1. All final slopes will be neatly graded and left no steeper than one vertical on two horizontal (26 degrees from horizontal).

2. All mine floor areas shall be ripped and/or disked in order to alleviate compaction after grading. All final slope areas that are left one vertical on three horizontal or flatter shall be ripped and/or disked in a contour fashion. If ripping shale, finishing grading after replacement of available topsoil may be necessary.

3. All available topsoil shall be replaced (evenly spread) on all affected lands after grading and ripping/disking.

4. Following replacement of topsoil at reclamation, soils must be immediately seeded, fertilized, limed, and mulched. Permittees must either obtain and follow specific written rate recommendations from the local Natural Resource Conservation Service or Agricultural Extension offices or use the following seed mixture options and general recommendations. It is recommended that seeding rates be doubled when using a broadcast type seed applicator.

A. Seeding

Seeding for Gravelly Silt Loam Soils, Medium to Fine in Texture.

Seed at 30 pounds per acre with a mixture that will provide an erosion resistant vegetative cover.

20 lb/acre Creeping Red Fescue or Tall Fescue
8 lb/acre Birdsfoot Trefoil
2 lb/acre Redtop

Alternate Seeding Option for Gravelly Silt Loam Soils, Medium to Fine in Texture.

5 lb/ac Orchargrass
10 lb/ac Flat Pea
10 lb/ac Tall Fescue or Smooth Broomegrass
2 lb/ac Red Top

Native Warm Season Grass Seeding Option

4 lb/acre Switchgrass (PLS)
4 lb/acre Indiangrass (PLS)

2 lb/acre Little Bluestem (PLS)
1.5 lb/acre Sand Lovegrass (PLS)
(PLS) - Pure live seed.

B. Fertilize at 600 pounds per acre with 5-10-10 fertilizer.

C. Mulch with straw or hydromulch to cover 100% of the soil surface (2 tons per acre).

D. Lime per soil test results and adjust between 5.5 and 7.5. Approximately 1 ton/acre will increase pH level up to one tenth of a point.

5. Vegetative cover must be established without rill or gully erosion before reclamation shall be approved by the Department.

Appendix 17 - Initial Public Scoping Meeting Comments

The following comments regarding State Forest use were received at a Public Scoping Session before the draft Plan was written. The meeting was held in Caroline (Tompkins County) on February 28, 1996. Approximately 100 people attended. This meeting was for the Tompkins-Tioga Unit Management Plan which included the following State Forests: Tioga #1 (Fairfield), Tioga #7 (Jenksville), Tompkins #1 (Danby), and Tompkins #3 (Shindagin Hollow). Portions of the Tompkins-Tioga Unit Management Plan have been incorporated into the Tioga Unit Management Plan. A future unit managment plan will specifically address Tompkins #1 (Danby) and Tompkins #3 (Shindagin Hollow) State Forests. All of the following comments were taken into consideration during the development of this Plan.

A. RECREATION

1. Create a trail system for ATVs.
2. No ATVs on state land.
3. Create a trail system for mountain bikes.
4. No mountain bikes on state land.
5. Create a trail system for cross-county skiing.
6. Create a trail system for horses.
7. No horses on state land.
8. Create a trail system for snowmobiles.
9. No snowmobiles on state land.
10. Separate trails for separate uses.
12. Use volunteers to create trail systems.
13. Keep state lands open to hunting and fishing.
12. No hunting on Sundays.
13. Consider access fees for all users (bird watchers, hikers, etc.).
14. Apply timber sale revenues back to state land.
15. Develop a Code of Conduct for recreational use.
16. No restrictions on recreational use.
17. Designate target shooting areas.
18. No target shooting on state land.
19. Seasonal limitations on uses to protect soil and water.

B. FOREST MANAGEMENT

1. Set aside areas in each State Forest for old growth stands.
2. Make sure there are no “no-cut” mandates.
3. Pioneer cover types are lacking which is affecting species such as hare and deer; develop small game habitat with more low cover.
4. More firewood and longer contract periods for firewood cutting.
5. Encourage “all age” forest management; manage for biodiversity; maintain unbroken forest; consider adjoining ecosystems and uses in the management decisions.
6. Continue to manage State Forests in the same manner as is being done today.

7. Survey plant and animal species.

8. Identify unique and sensitive areas.

9. Use a long term view of how the resources should be managed (i.e., 100 years); multi-year budgets.

10. Work with town and county officials and other organizations in managing State Forests.

11. Schedule frequent review of the Unit Management Plan after implementation.

12. Purchase in-holdings from willing sellers.

13. Control exotic (non-native) insects and diseases without the use of chemicals.

C. WILDLIFE

1. Enforce laws and out-of-season poaching. Include the TIPP (Turn in Poachers and Polluters) hotline in the Plan to raise public awareness.

D. EDUCATION

1. Use the State Forests for teaching people the proper use of the forest, land, and resources.

2. Post regulations for public education.

3. There should be better public notice concerning these meetings.

E. ACCESS

1. Emergency access is important.

2. More State land is needed; high costs of owning land makes use of private land more inaccessible.

3. Motorized access for people with disabilities.

F. MAINTENANCE

1. Control illegal dumping.

2. Continue to use correctional camp crews for maintenance of the areas.

G. GENERAL

1. Keep up the good work.

Appendix 18
Public Comment Summary and Response

Public participation is an important part of the DEC's planning process. It adds significant value by enhancing communication and helps sustain and create new partnerships between the DEC and State Forest stakeholders. The DEC greatly appreciates the many comments, observations, and suggestions received from the public during the development of the Plan. Additionally, the DEC appreciates the many Adopt-A-Natural resource volunteers that maintain the 28 miles of recreational trails on the Unit. These trails would not be possible without their advocacy and support.

Comments regarding the draft Tioga Unit Management Plan (UMP) were received by the Region 7 Division of Lands and Forests Office before, during, and after development of the draft Plan. Potentially affected interests such as DEC Adopt-A-Natural Resource (AANR) Partners, recreation groups, sporting organizations, local government officials, local residents, and forest industry were invited to participate by direct mail.

Per DEC policy, a public meeting was held on July 27, 2005 at the Candor High School in Candor, New York. An estimated one hundred and thirty (130) people attended and twenty-nine (29) people made verbal comments. Written comments were accepted until August 27, 2005. Draft Plans were available before the public meeting at local libraries, DEC offices, by mail, and on the Internet. The majority of stakeholders provided comments in-person at the public meeting or by email.

Additional written and oral comments specific to the proposed oil and natural gas lease sale were received at public meetings in Cortland on June 27 - 28, 2005 and in Elmira on June 28 - 29, 2005. The proposed lease sale included about 19,500 acres of State Reforestation and Multiple Use lands in Broome, Cayuga, Chemung, Cortland, Schuyler, Steuben, Tioga and Tompkins counties for oil and gas exploration and development. The sale included the four (4) State Forests in the Tioga Unit. Written comments concerning the oil and natural gas lease sale were accepted until October 7, 2005.

Many of the public comments received involved observations, concerns, and recommendations related to oil and gas leasing, recreation, aesthetics, and ecosystem management. To conserve space and for reading efficiency, public comments are summarized by topic. Some of the comments have been edited for length and clarity. *Responses with an asterisk (*) reference the DEC's Response to Public Comments - 2006 State Land Use Sale, May 30, 2006.*

A full transcript of the comments received during Candor Public meeting and the DEC's Response to Public Comments on the 2006 State Land Lease Sale are available upon request from the DEC Cortland Lands and Forests Office by calling **(607) 753-3095 ext. 217.**

Appendix 18 - Public Comment Summary and Response	
Topic: Aesthetics	
Comment(s)	**Response**
I am concerned about increasing amounts of trash on and near Oakley Corners State Forest. I'd like to throw out a challenge to trail users - pick up your material. DEC should consider putting out garbage barrels. In the past I've called DEC about garbage dumps and they said it would take 3 to 4 months before they could pick it up - I think everybody should be more timely.	Regular trash pick up has been scheduled in the Unit Management Plan (UMP). Closing of the Oakley Corners north road to public motor vehicle use and reclamation of shale pits on the Unit will also help reduce this problem. Garbage barrels are a good idea, but require considerable resources to place and maintain - and may encourage additional dumping. Based on past experience, it is very likely barrels would be vandalized. The DEC responds to garbage complaints as quickly as possible. Future informational kiosks will ask visitors to "carry out what they carry in."
Oil and Gas exploration and development will negatively impact aesthetics - particularly on Oakley Corners.	The eastern portion of the Jenksville State Forest - and all of Oakley Corners will be included in the proposed oil and gas lease sale as a non-surface occupancy lease; any oil and natural gas reserves will be extracted from surrounding private lands. No well pads will be constructed on State lands that are under a non-surface occupancy lease. Pipelines and utilities will be allowed along roads and will require a temporary revocable permit (TRP) approved by the Regional Forester. This will significantly minimize aesthetic impacts on the State Forests, particularly near designated recreational trails. Well operators commonly paint production facilities green to blend in with surrounding vegetation and trees are often planted to buffer them from public view. All pipelines are buried and are not visible. *****

Appendix 18 - Public Comment Summary and Response	
Topic: Economics	
Comment(s)	**Response**
The local area needs jobs and people to pay taxes to support our local schools.	The Plan addresses this need. Forest ecosystem management creates jobs and provides a steady supply of locally grown forest products. Additionally, oil and gas exploration/development will contribute to the economy. State Forests pay town, school, and fire district taxes.
Recreationists contribute to the local economy. The Plan should seek to expand - not restrict recreational opportunities.	Recreationists do contribute to the local economy. The Plan enhances - not restrict - recreational opportunities. For example, it requests about $85,000 for improvements and maintenance of the 28 mile multiple use (skiing, biking, hiking, and horseback) recreational trails and related facilities on the Jenksville and Oakley Corners State Forests. It also creates new opportunities with the proposed construction of a 4,200 foot ATV trail for people with mobility impairments. Recreation is just one of the many uses of the Unit; it is a working landscape that provides diverse wildlife habitat and a sustainable supply of forest products for society. It will likely produce natural gas as well. The DEC has also developed a regional recreation Plan to balance increasing recreational demands with the DEC's human, physical, and natural resources.
We all benefit from wood products every single day. You look around the room here - there are wood products in everything we do. It is a real benefit to our local economy to have such a tremendous forest resource, and DEC does a tremendous job of managing these lands. I would like to see DEC reach the allowable cut on all the State Forests they manage.	State Forests provide multiple benefits and values to wildlife and society. The UMP is a strategic Plan that balances these benefits and values. Harvesting activities associated with forest ecosystem management provides a steady supply of sustainably grown forest products to local industry. Increasing recreational and planning demands in the region have reduced resources available to mark and manage forest product sales. The Plan identifies forest ecosystem management needs at the forest stand level and illustrates the need for additional staff to fully implement the Plan.

Appendix 18 - Public Comment Summary and Response	
Topic: Economics (continued)	
Comment(s)	**Response**
Revenues (or portions of) from oil and gas leasing on State Land should be returned to local government to support schools and local highway maintenance. I oppose the use of State Lands for drilling purposes unless it can be proven that our local communities will receive revenue.	Funds generated from the leasing of State Reforestation Areas are required by law to be deposited in the General Fund. Municipalities receive assistance from the State through disbursement of funds via various state aid programs. Leasing of state lands provides no direct assistance to the local municipalities in which the state lands are located. However, oil and gas production from both State and private lands is subject to local taxation under provisions of the New York State Real Property Tax Law. *
Topic: Ecosystem Management	
Comment(s)	**Response**
Fragmentation of the forest canopy through activities such as clearcutting and oil and gas drilling will negatively impact wildlife habitat and increase predation of native songbirds such as woodthrush. We are concerned how land management activities will impact wildlife habitat.	The Plan will manage 1,119 acres of the Unit (259 acres of natural forest area and 860 acres of managed uneven-aged forest) as unfragmented forests with late successional characteristics. Oil and gas wells and pipelines will typically be located outside of these areas. Land management actions are planned to meet objectives to address appropriate habitat gaps at the landscape level. Therefore, planned ecosystem management actions, including overstory removals, should have an overall positive impact on wildlife diversity and special concern species that need early or late successional forest habitat.
We believe provisions should be made for song birds, especially for those on the DEC's list of greatest conservation need.	The Plan makes provisions for song birds (and all wildlife species) by seeking to enhance and develop both early and late successional (stage) wildlife habitat types.
How often will forest inventory and/or surveys be conducted?	Complete forest inventory surveys are scheduled to be conducted every ten (10) years. Historically inventory was done on a twenty (20) year cycle. Additionally, forest inventory and analysis is conducted before and after commercial forest harvesting operations.

Appendix 18 - Public Comment Summary and Response	
Topic: Ecosystem Management - (continued)	
Comment(s)	**Response**
The Plan proposes 259 acres of Natural Forest Areas. This is inadequate given the fact that no old growth is known to exist in the area. We really don't know what natural (old growth) forest looks like in a nice big block. As proposed, old growth will be limited to linear and fragmented areas that tend to suffer poor growth and frequent natural disturbance. Consider managing 400 acres for old growth forest characteristics.	The Unit is a working landscape that is managed to provide many stages and types of vegetation. Analysis of the landscape shows that both early successional stage (brush and saplings) and late successional stage (forests stocked with trees over 200 years of age) forest cover types are both needed. Our forested landscape is "middle-aged". As such, the Plan seeks to provide a total 1,119 acres of forest with late successional characteristics (with a layered forest canopy with multiple age classes of trees). About 259 acres will not be actively managed. About 860 acres of the Unit will be managed using single tree and group selection uneven-aged silvicultural techniques with the goal of maintaining a minimum of 65-70% overall forest canopy closure. Managed late successional stage forests provide many of the same environmental benefits as old growth forests.
The Plan proposes a one (1) tree length buffer around any known occupied bird of prey (hawk and owl) nest. A one (1) tree length buffer is insufficient. The UMP lacks information on how bird censuses will be conducted.	The final Plan specifies that harvesting activities adjacent to active nests will be prohibited during the period of March 1st through July 31st. Forestry staff consult with Division of Fish and Wildlife experts for wildlife habitat recommendations - particularly on birds of prey. DEC staff will assess each stand for the presence of active nests before and during marking of forest products or establishment of well pads and pipelines. Nesting reports from volunteers help DEC staff - and are greatly appreciated.

Appendix 18 - Public Comment Summary and Response	
Topic: Ecosystem Management - (continued)	
Comment(s)	**Response**
Forest openings created by well drilling will provide opportunities for invasive species such as garlic mustard to become established.	Invasive species (especially plants and insects) pose a significant threat to our forest and aquatic ecosystems. Invasive species are introduced by wind, people, migratory animals, boats, motor vehicles, and global trade - and present significant challenges to land managers. DEC collaborates with federal and state partners such as the USDA Animal and Plant Inspection Service (APHIS) and the New York State Department of Agriculture and Markets to identify invasive species - and implement appropriate control measures. State forest inventory procedures include identification of invasive species. The Plan calls for use of herbicides and appropriate biologic control measures (as they become available) to control invasive species.
There is a lack of a complete survey for plants and animals. Some forest inventory updates were recently conducted, however they were done in the fall and winter, which is not the best time for performing an inventory, especially for spring wild flowers. We request that you consider this concern as you finalize the UMP.	Resources such as the breeding bird atlas and DEC's Master Habitat database (MHDB) geographic information system (GIS) were consulted and applied during the development of the draft Plan. Additionally, New York Natural Heritage Program staff recently completed a biodiversity-inventory survey for all of the State Forests in DEC Region 7. Results from the survey were applied during development of the Plan. The New York Natural Heritage Program is a partnership between the DEC and the Nature Conservancy - and is staffed by more than 20 scientists and specialists with expertise in ecology, zoology, botany, information management, and computer mapping. The DEC (and the natural resource field in general) is continuously improving its capabilities in this area as new computer based tools such as GIS and habitat modeling (such as NY-GAP) become more accessible, powerful and accurate.

Appendix 18 - Public Comment Summary and Response	
Topic: Local History	
Local history is important. The Plan should include more detail regarding local history. I fear that historic resources might be destroyed should oil and gas drilling occur.	Section C of the Plan provides information on local history. Resources limit the amount of time that can be spent on history research - however, the DEC welcomes additional input from local historians and volunteers. Available historic and archeological resource databases were used during Plan development. The DEC will continue to protect historic and archeological resources on State land.
Topic: Oil and Gas Development (Exploration and Drilling)	
Comment(s)	**Response**
I believe a standard (spacing) of one well (1) per three hundred and twenty (320) acres should be incorporated into all State Forest UMP's.	The proposed lease sale would not allow a well pad density of less than 320 acres, unless a site specific drilling Plan is approved by the DEC. In addition, many of the tract assessments for parcels subject to leasing further restrict well spacing for certain sites. Well spacing on State Lands is determined by State Environmental Conservation Law (ECL) and the surface managers of each tract. *
Appendix 15 of the draft Tioga UMP refers to public scoping sessions that began in February of 1996; however, they did not include public comment on oil and gas leasing.	In 1996, the DEC had no immediate plans to lease lands in the Unit. In 2003, the DEC received nominations to lease the tracts included in the Tioga UMP. The DEC then conducted additional landscape analysis using GIS technology, developed an oil and gas tract assessment process, revised the UMP, notified stakeholders, and conducted public meetings.
The Tioga UMP lacks specific provisions for restoration of well pad access roads following drilling.	All oil and gas exploration/development related activities will require a DEC Temporary Revocable Permit (TRP) - approved by the Regional Forester (Land Manager). The TRP will require a performance bond, inspection of the job site, and specific road/site reclamation requirements. Some well access roads may remain open for public recreational administrative use by DEC Forest Rangers, Environmental Conservation Police, Operations, Biologists, and Foresters.

Appendix 18 - Public Comment Summary and Response	
Topic: Oil and Gas Development (Exploration and Drilling) - (continued)	
Comment(s)	**Response**
Town roads will see increased traffic from oil and gas drilling.	Roads may see increased traffic during drilling operations but, once wells are completed, traffic should return to normal levels. Typically, producing gas wells are monitored by company personnel who visit the well site in a pick-up truck.
Town roads will be damaged by heavy trucks, drilling rigs, and related machinery during construction of well pads on State Forest Land.	The DEC will work with local governments to address their concerns. Local governments have the authority and responsibility to see that road traffic conforms to the weight limits and conditions of their roads. They may recover damages caused by heavy truck traffic or require posting of bonds to guarantee repairs should damage occur. *
Drilling appears to be in direct conflict with the Plan's ecotourism objective mentioned in goal 3.	Tourism should not be adversely impacted as drilling activities are temporary, lasting in most cases thirty (30) to forty-five (45) days. Well sites are quickly reclaimed to DEC's requirements, and a producing well's footprint is typically only about one-quarter to one-half acre in size. Additionally, the DEC's setback requirements, tract assessments, and trail buffers will minimize impacts.*
The DEC bidding process leaves only the signing bonus and delay payments as items that are bid on. The royalty payments have been set a 12 ½% - this is artificially low.	It is the DEC's belief that the present system of fixing the royalty at one-eight (12.5%) and allowing companies to compete for leases based on a up-front, bonus bid provides the best mix of guaranteed revenue while providing for royalty income if, and when, successful wells are drilled. This system best balances the inherent risks of exploration while maximizing total revenue to the State. *

Appendix 18 - Public Comment Summary and Response	
Topic: Oil and Gas Development (Exploration and Drilling) - (continued)	
Comment(s)	**Response**
I think that Tioga County would benefit more if drilling was done on private land. Local private landowners would be spending their money in Tioga County, and the county would receive more sales tax revenue.	As previously mentioned, the eastern portion of the Jenksville State Forest - and all of Oakley Corners will be included in the proposed oil and gas lease sale as a non-surface occupancy lease; any oil and natural gas reserves will be extracted from surrounding private lands using horizontal drilling techniques. Horizontal drilling, however, can cost up to three (3) times more than vertical drilling and these additional costs may result in non-development of the resource. Leasing of State Lands does not deny income to private citizens but instead ensures that the State receives royalty income from oil and gas produced from State Lands. Oil and gas production from both State and private lands is subject to local taxation under provisions of the New York State Real Property Tax Law. *
I live close to a private drilling area and have been impacted by the light and noise from drilling rigs. We do have a right to the quiet enjoyment of our properties. I am concerned that gas wells will make noise, even after drilling is completed.	A typical deep gas well is actively drilling for approximately thirty (30) to fourty-five (45) days. The majority of compliants received by DEC's field offices concern noise. * Noise impacts have been mitigated in the past based upon site specific conditions and concerns. Mitigation measures include the use of stacked hay bales as a sound barrier, the reorientation of equipment on the site, and the use of mufflers. Some of the noisiest drilling activities can also be conducted during daylight hours to minimize impacts. *
There is an awful lot of pollution associated with exploration drilling. Drilling brings salt from deep down up to the soil surface. I'm concerned groundwater is going to be contaminated.	All fluids used in drilling must be contained in lined pits or steel tanks and must be disposed of properly. Drilling fluids are not allowed to be injected into the well or buried on-site. * DEC's casing and cementing requirements are designed to protect subsurface fresh water. Every well water compliant filed with DEC is investigated. Most complaints received by DEC about water wells are due to water turbidity, a temporary disturbance as the drill bit goes through the shallow water (aquifer) zone. DEC regional staff respond quickly and effectively to any reported spills on a drilling or production site. *

Appendix 18 - Public Comment Summary and Response	
Topic: Recreation	
Comment(s)	**Response**
Has the State done anything (in terms of) holding a bond from these oil companies to insure that any environmental damage is mitigated?	The DEC does hold a bond on each seismic testing and drilling operations on State Forest land. Prior to seismic testing and drilling, the DEC will require a Temporary Revocable Permit (TRP) - approved by the Regional Forester. The permit will provide specific requirements on issues such as well location, equipment size, site reclamation, sediment/erosion control, fencing, noise reduction, and timing of drilling/seismic operations.
Target shooting - I thought that target shooting was restricted ten (10) years ago. The signs were put up, but I believe they have been shot down and are no longer there.	The Plan prohibits targeting shooting on all of the Unit. Target shooting is not appropriate or reasonable given the high recreational use of the trails on the Unit. DEC forestry staff will work with Law Enforcement Staff (State Forest Rangers and Environmental Conservation Police) to enforce this policy. The DEC recommends that people join a local fish and game club and/or target shoot at an appropriate facility.
The 20 members of the Ketchumville State Forest Riders are not in favor of closing the trails on the Ketchumville State Forest.	The horse trails at Ketchumville are in poor condition, and require maintenance and/or relocation. However, the DEC would like to establish a formal Adopt-A-Natural Resource Agreement with area riders to build and maintain 2 to 4 miles of multiple use trails. The trails would also be open to hiking, cross-country skiing, and mountain biking.

Appendix 18 - Public Comment Summary and Response	
Topic: Recreation - (continued)	
Comment(s)	**Response**
Snowmobile registration fees should be kept locally.	A portion of the fees are applied locally. Thirty-five dollars ($35) of each resident and non-resident registration goes to the Snowmobile Trail Development and Maintenance Fund, which is administered by the New York State Office of Parks, Recreation, and Historic Programs (OPRHP). This fund supports over 10,000 miles of public snowmobile trails in New York State (and 4 miles on the Tioga State Forest Unit), snowmobile safety education programs and enforcement of New York State snowmobile laws.
I'm concerned with people trespassing from the State Forests onto my private land.	To reduce and prevent trespassing, the State Forest boundaries are marked with highly visible paint and posted with DEC signs. DEC Forest Rangers enforce rules and regulations on the State Forest system - and are the primary law enforcement contact. Trespass complaints originating from State Forest land should be referred to the local State Forest Ranger, State Environmental Conservation Police, State Police, or the County Sheriff.
The DEC should allow the general public to ride all terrain vehicles (ATV's) on the Unit.	A suitable trail system should be at least 30 to 40 miles long. An area of at least 5,000 contiguous acres in size would be needed to accommodate this size trail system on the Unit. As such, the 3,692 acre Tioga Unit is split into four (4) State Forests and has insufficient land to support an ATV trail network for the general public. Additionally, about 40% of the Unit has poorly drained soils - further limiting the available acreage for sustainable ATV trail development. Resources are already limited as the DEC and its Adopt-A-Natural resource partners currently manage a 28 mile multiple-use trail network on the Unit - and conflicts between ATV's and other recreationists are highly likely. As such, it would not be reasonable or responsible to establish a new ATV trail network for the general public. However, people with mobility impairments may ride ATV's on specifically designated trails with an appropriate DEC permit.

Appendix 18 - Public Comment Summary and Response	
Topic: Recreation - (continued)	
Comment(s)	**Response**
Locking the gate on the north side of Oakley Corners limits access to the forest for people with mobility limitations.	The DEC has the responsibility of providing clean, safe, and sustainable public lands. Historically, the Oakley Corners north road has had problems with trash dumping, vandalism, and parties with under-age drinking. The gate is locked to help prevent these problems and impacts to the State Forest and its neighbors. People with mobility impairments may use an all terrain vehicle (ATV) on the north road with a DEC permit. The Plan calls for a creation of a new 4,200 foot ATV trail loop for people with mobility impairments.
The DEC should not allow horses on the Jenksville State Forest - they are impacting other trail users. The DEC should allow horses on the Oakley Corners State Forest.	The Plan balances the many demands on the State Forests in the Unit. In doing so, horseback riding will be continue to be permitted at Jenksville. The Jenksville State Forest Parking lot provides ample space and a hard rock surface for horse trailers. The Plan budgets for and places a high priority on hardening of the Jenksville multiple-use trails with geotextile fabric and gravel. These trail improvements along with relocations of the wettest sections will protect the environment and result in a higher quality trail user experience, especially during wet weather. The soils at Oakley Corners are wetter, and past experience tells us that they will not support continued use by horses. Also, parking facilities are limited - especially for horse trailers.

Appendix 18 - Public Comment Summary and Response	
Topic: Recreation - (continued)	
Comment(s)	**Response**
I have difficulty with (the Plan) limiting recreational activities such as biking, hiking, and horseback riding. The (Plan's) goal of providing healthy activity and ecotourism is contradicted by the proposed six (6) month mountain bike trail closure. I think that there is short time when the trails do need to be closed. DEC's Adopt-A-Natural Resource (AANR) Partner - the Triple Cities Ski Club - estimates that 12,000 to 24,000 people use the Oakley Corners trail network each year. Voluntary trail closures do seem to work at Oakley Corners. The DEC has worked with the Triple Cities Ski Club to post voluntary trail closures - and it worked fairly well - people did respect the signs.	The DEC is responsible for sustaining the Unit's natural resources while providing a quality recreational experience. Seasonal and voluntary trail use restrictions are responsible, sensible, and necessary. The Plan focuses activities on designated trails to provide a quality experience for a wide range of uses and users, and seeks to minimize long term maintenance costs. It balances recreational demands with all of the other competing demands/uses on the Unit's natural resources and human capabilities. Chronic damage to the trail network during saturated (wet) soil conditions is a concern - especially in light of increasing trail use. Trail use during wet conditions can cause rutting, trail widening - and diminishes overall trail quality and user experience. Ground pressure, wheel torque/speed (when applicable) and frequency of use is directly linked to chronic trail damage. For example, a 200 pound hiker with a 20 square inch sole generates approximately 10 pounds of pressure per square inch (psi) on one foot; or 5 psi standing. Mountain bikes generate ground pressures of 15 to 30 psi (depending on the size of the wheels, tire width, bike weight, and rider weight). Based on these facts and observations, hikers do the least damage to trails. As such, no seasonal restrictions are placed on hiking. - To prevent conflicts with cross-country skiers, mountain bikes will not be allowed on designated trails during snow covered conditions. This is less restrictive than the May 1 to October 31 season proposed in the draft Plan as the mountain bike community voiced the desire to work in concert with DEC and the Triple Cities Ski Club to post voluntary trail closures. It should be noted that the Oakley Corners trail system was initially designed for cross country skiers, then upgraded by the Triple Cities Ski Club, Adopt-A-Natural Resource volunteers and the DEC to better accommodate mountain bikers and hikers. - Horseback riding season is from May 1 to October 31. Horses are heavy animals - a 1,800 pound horse hoof generates ground pressures of 75 to 125 psi, (depending on the rider's weight, hoof size, and horseshoe size) and causes more damage to wet trails. *Additional voluntary trail restrictions may be put in place on a temporary basis following severe weather (ice, wind, heavy rain) events. DEC Adopt-A-Natural Resource Partners will be asked to help post voluntary trail closures to protect trails from degradation.*

617.20
Appendix A
State Environmental Quality Review
FULL ENVIRONMENTAL ASSESSMENT FORM

Purpose: The full EAF is designed to help applicants and agencies determine, in an orderly manner, whether a project or action may be significant. The question of whether an action may be significant is not always easy to answer. Frequently, there are aspects of a project that are subjective or unmeasurable. It is also understood that those who determine significance may have little or no formal knowledge of the environment or may not be technically expert in environmental analysis. In addition, many who have knowledge in one particular area may not be aware of the broader concerns affecting the question of significance.

The full EAF is intended to provide a method whereby applicants and agencies can be assured that the determination process has been orderly, comprehensive in nature, yet flexible enough to allow introduction of information to fit a project or action.

Full EAF Components: The full EAF is comprised of three parts:

Part 1: **Provides objective data and information about a given project and its site. By identifying basic project data, it assists a reviewer in the analysis that takes place in Parts 2 and 3.**

Part 2: **Focuses on identifying the range of possible impacts that may occur from a project or action. It provides guidance as to whether an impact is likely to be considered small to moderate or whether it is a potentially-large impact. The form also identifies whether an impact can be mitigated or reduced.**

Part 3: **If any impact in Part 2 is identified as potentially-large, then Part 3 is used to evaluate whether or not the impact is actually important.**

DETERMINATION OF SIGNIFICANCE -- Type 1 and Unlisted Actions

Identify the Portions of EAF completed for this project: [X] **Part 1** [X] **Part 2** [ ] **Part 3**

Upon review of the information recorded on this EAF (Parts 1 and 2 and 3 if appropriate), and any other supporting information, and considering both the magnitude and importance of each impact, it is reasonably determined by the lead agency that:

[X] **A.** **The project will not result in any large and important impact(s) and, therefore, is one which will not have a significant impact on the environment, therefore a negative declaration will be prepared.**

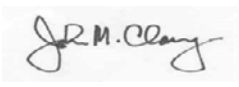
[ ] **B.** **Although the project could have a significant effect on the environment, there will not be a significant effect for this Unlisted Action because the mitigation measures described in PART 3 have been required, therefore a CONDITIONED negative declaration will be prepared.***

[ ] **C.** **The project may result in one or more large and important impacts that may have a significant impact on the environment, therefore a positive declaration will be prepared.**

***A Conditioned Negative Declaration is only valid for Unlisted Actions**

Adoption of the Tioga Unit Management Plan
Name of Action

New York State Department of Environmental Conservation
Name of Lead Agency

John Michael Clancy	**Senior Forester**
Print or Type Name of Responsible Officer in Lead Agency	**Title of Responsible Officer**
	
Signature of Responsible Officer in Lead Agency	**Signature of Preparer (If different from responsible officer)**

August 8, 2006
Date

PART 1--PROJECT INFORMATION
Prepared by Project Sponsor

NOTICE: This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please complete the entire form, Parts A through E. Answers to these questions will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete Parts 2 and 3.

It is expected that completion of the full EAF will be dependent on information currently available and will not involve new studies, research or investigation. If information requiring such additional work is unavailable, so indicate and specify each instance.

NAME OF ACTION Adoption of the Tioga Unit Management Plan		
LOCATION OF ACTION (INCLUDE STREET ADDRESS, MUNICIPALITY AND COUNTY)		
NAME OF APPLICANT/SPONSOR NYS DEC, Region 7 Division of Lands and Forests	BUSINESS TELEPHONE (607) 753-3095	
ADDRESS 1285 Fisher Avenue		
CITY/PO Cortland	STATE New York	ZIP CODE 13045-1090
NAME OF OWNER (IF DIFFERENT)	BUSINESS TELEPHONE ( )	
ADDRESS		
CITY/PO	STATE	ZIP CODE

DESCRIPTION OF ACTION

This plan analyzes the natural, social, and recreational resources on four State Forests that encompass 3,692 acres in New York's central-southern tier and provides short and long term ecosystem based goals, objectives, and management actions. The plan's chief goal is to provide healthy and biologically diverse ecosystems for humans, fish, and wildlife - and continued opportunities for recreational use, environmental education, and research.

Plan Highlights: Proposed management actions include: 1) construction of a new 4,200 foot long trail loop to improve ATV access for people with mobility impairments; 2) construction of additional parking facilities and three universally accessible campsites; 3) maintenance of 28 miles of highly valued recreational trails on the Unit in partnership with Adopt-A-Natural Resource (AANR) volunteers; 4) implementation of forestry and best management practices (BMP's) that sustain or enhance overall ecosystem health and wildlife species diversity; 5) continued opportunities for public hunting, fishing, and trapping; 6) prohibiting of general all-terrain vehicle (ATV) use; 6) leasing of the State Forests for oil and natural gas exploration/development with significant restrictions - especially regarding surface occupancy in environmentally sensitive and designated recreational use areas.

Please Complete Each Question--Indicate N.A. if not applicable

A. SITE DESCRIPTION

Physical setting of overall project, both developed and undeveloped areas.

1. **Present Land Use:** ☐ Urban ☐ Industrial ☐ Commercial ☐ Residential (suburban) ☒ Rural (non-farm) ☒ Forest ☐ Agriculture ☐ Other _____

2. **Total acreage of project area:** 3,692 acres.

	PRESENTLY		AFTER COMPLETION	
APPROXIMATE ACREAGE	3,692	acres	3,692	acres
Meadow or Brushland (Non-agricultural)	31	acres	462	acres
Forested	3,528	acres	3,054	acres
Agricultural (Includes orchards, cropland, pasture, etc.)	0	acres	0	acres
Wetland(Freshwater or tidal as per Articles 24,25 of ECL)	30	acres	30	acres
Water Surface Area	50	acres	50	acres
Unvegetated (Rock, earth or fill)	3	acres	1	acres
Roads, buildings and other paved surfaces	50	acres	50	acres

Other (Indicate type)	Oil/gas well pads and pipelines (estimate)	0 acres	45 acres

3. What is predominant soil type(s) on project site? Lordstown (44%), Volusia (29%), and Mardin (15%)
   a. Soil drainage: ☐ Well drained 44.7 % of site ☐ Moderately well drained 17.2 % of site. ☐ Poorly drained 38.1 % of site
   b. If any agricultural land is involved, how many acres of soil are classified within soil group 1 through 4 of the NYS Land Classification System? _____ Acres (see 1NYCRR 370).
4. Are there bedrock outcroppings on project site? ☐ Yes ☒ No
   a. What is depth to bedrock? (in feet) Bedrock depth varies from 2 to 20 feet; typical depth is 2 to 4 feet.
5. Approximate percentage of proposed project site with slopes: ☐ 0-10% 29 % ☐ 10-15% 34 % ☐ 15% or greater 37 %
6. Is project substantially contiguous to, or contain a building, site, or district, listed on the State or National Registers of Historic Places? ☐ Yes ☒ No
7. Is project substantially contiguous to a site listed on the Register of National Natural Landmarks? ☐ Yes ☒ No
8. What is the depth of the water table? 0 to 10 feet (in feet)
9. Is site located over a primary, principal, or sole source aquifer? ☐ Yes ☒ No
10. Do hunting, fishing or shell fishing opportunities presently exist in the project area? ☒ Yes ☐ No
11. Does project site contain any species of plant or animal life that is identified as threatened or endangered? ☒ Yes ☐ No
    According to: DEC Master Habitat Database (Oakley Corners - Tioga No. 2, State Forest) last reported 4-1911.
    Identify each species: Blunt lobe grape fern (Botrychium oneidense)
12. Are there any unique or unusual land forms on the project site? (i.e., cliffs, dunes, other geological formations? ☐ Yes ☒ No
    Describe:
13. Is the project site presently used by the community or neighborhood as an open space or recreation area? ☒ Yes ☐ No
    If yes, explain: The project site has nearly 28 miles of officially designated recreational trails; 16 miles of multiple use trail on Oakley Corners State Forest (Tioga No. 2) for cross country skiing, mountain biking and hiking -12 miles of multiple use trail (that includes horseback riding) on Jenksville State Forest (Tioga No. 7). These trails are chiefly used by local residents and people from the Binghamton Metropolitan Area.
14. Does the present site include scenic views known to be important to the community? ☐ Yes ☒ No
15. Streams within or contiguous to project area: No named streams but 6.2 miles of class C tributaries the flow into the West and East Branches of Owego Creek, Nanticoke Creek, Doolittle Creek, and Crocker Creek. All of these streams flow into the Susquehanna River.
    a. Name of Stream and name of River to which it is tributary: No named streams are on the lands that comprise the Unit (please see above).
16. Lakes, ponds, wetland areas within or contiguous to project area:
    a. Name: Oakley Corners Pond and a NYS DEC class II freshwater wetland; several smaller ponds.
    b. Size (in acres): The wetland area is 30 acres; a total of 6 shallow ponds comprising about 50 acres. On Oakley Corners (Tioga No. 2) there are a 30 acre, 10 acre, and 5 acre pond, and two smaller ponds. On Jenksville (Tioga No. 7) there is a 5 acre pond. The 30 acre Oakley Corners shallow pond is stocked by the DEC, and is also listed a class II NYS DEC regulated wetland.
17. Is the site served by existing public utilities? ☐ Yes ☒ No
    a. If YES, does sufficient capacity exist to allow connection? ☐ Yes ☐ No

b. If YES, will improvements be necessary to allow connection? ☐ YES ☐ NO

18. Is the site located in an agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ YES ☒ NO

19. Is the site located in or substantially contiguous to a Critical Environmental Area designated pursuant to Article 8 of the ECL, and 6 NYCRR 617? ☐ YES ☒ NO

20. Has the site ever been used for the disposal of solid or hazardous wastes? ☐ YES ☒ NO

B. Project Description

1. Physical dimensions and scale of project (fill in dimensions as appropriate).

a. Total contiguous acreage owned or controlled by project sponsor 3,692 acres.

b. Project acreage to be developed: 0 acres initially; 0 acres ultimately.

c. Project acreage to remain undeveloped 3,692 acres.

d. Length of project, in miles: NA (if appropriate)

e. If the project is an expansion, indicate percent of expansion proposed NA %

f. Number of off-street parking spaces existing 20 ; proposed 30

g. Maximum vehicular trips generated per hour 20 (upon completion of project)?

h. If residential: Number and type of housing units:

	One Family	Two Family	Multiple Family	Condominium
Initially	N/A	N/A	N/A	N/A
Ultimately	N/A	N/A	N/A	N/A

I. Dimensions (in feet) of largest proposed structure NA height; NA width; NA length.

J. Linear feet of frontage along a public thoroughfare project will occupy is? NA ft.

2. How much natural material (i.e. rock, earth, etc.) will be removed from the site? 2,500 cubic yards tons/cubic yards.

3. Will disturbed areas be reclaimed? ☐ N/A ☒ YES ☐ NO

a. If yes, for what intended purpose is the site being reclaimed? Early successional wildlife habitats

b. Will topsoil be stockpiled for reclamation? ☒ YES ☐ NO

c. Will upper subsoil be stockpiled for reclamation? ☒ YES ☐ NO

4. How many acres of vegetation (trees, shrubs, ground covers) will be removed from site? 476 acres.

5. Will any mature forest (over 100 years old) or other locally-important vegetation be removed by this project? ☒ YES ☐ NO

6. If single phase project: Anticipated period of construction N/A months, (including demolition)

7. If multi-phased:

a. Total number of phases anticipated 20 (number)

b. Anticipated date of commencement phase 1 April month 2007 year, (including demolition)

c. Approximate completion date of final phase April month 2027 year.

d. Is phase 1 functionally dependent on subsequent phases? ☐ YES ☒ NO

8. Will blasting occur during construction? ☐ YES ☒ NO

9. Number of jobs generated: during construction 10 ; after project is complete 5

10. Number of jobs eliminated by this project 0

11. Will project require relocation of any projects or facilities? ☐ YES ☒ NO
If yes, explain:

12. Is surface liquid waste disposal involved? ☐ YES ☒ NO

a. If yes, indicate type of waste (sewage, industrial, etc) and amount _____

b. Name of water body into which effluent will be discharged _____

13. Is subsurface liquid waste disposal involved? Type _____ [ ] Yes [X] No

14. Will surface area of an existing water body increase or decrease by proposal? [ ] Yes [X] No
If yes, explain: _____

15. Is project or any portion of project located in a 100 year flood plain? [X] Yes [ ] No

16. Will the project generate solid waste? [ ] Yes [X] No

a. If yes, what is the amount per month _____ tons

b. If yes, will an existing solid waste facility be used? [ ] Yes [ ] No

c. If yes, give name _____ ; location _____

d. Will any wastes not go into a sewage disposal system or into a sanitary landfill? [ ] Yes [X] No

e. If yes, explain: _____

17. Will the project involve the disposal of solid waste? [ ] Yes [X] No

a. If yes, what is the anticipated rate of disposal? _____ tons/month.

b. If yes, what is the anticipated site life? _____ years.

18. Will project use herbicides or pesticides? [X] Yes [ ] No

19. Will project routinely produce odors (more than one hour per day)? [ ] Yes [X] No

20. Will project produce operating noise exceeding the local ambient noise levels? [X] Yes [ ] No

21. Will project result in an increase in energy use? [ ] Yes [X] No
If yes, indicate type(s) _____

22. If water supply is from wells, indicate pumping capacity NA gallons/minute.

23. Total anticipated water usage per day NA gallons/day.

24. Does project involve Local, State or Federal funding? [X] Yes [ ] No
If yes, explain: State payrolls as well as Federal FEMA funding

25. Approvals Required:

			Type	Submittal Date
City, Town, Village Board	[X] Yes	[ ] No	New land aquisition	As needed
City, Town, Village Planning Board	[ ] Yes	[X] No		
City, Town Zoning Board	[ ] Yes	[X] No		
City, County Health Department	[ ] Yes	[X] No		
Other Local Agencies	[ ] Yes	[X] No		
Other Regional Agencies	[ ] Yes	[X] No		
State Agencies	[X] Yes	[ ] No	Oil and gas drilling plan	As needed
Federal Agencies	[ ] Yes	[X] No		

C. Zoning and Planning Information

1. Does proposed action involve a planning or zoning decision? [X] Yes [ ] No

If Yes, indicate decision required:

[ ] Zoning amendment [ ] Zoning variance [ ] New/revision of master plan [ ] Subdivision

[ ] Site plan [ ] Special use permit [X] Resource management plan [ ] Other _____

2. What is the zoning classification(s) of the site? Residential -Rural

3. What is the maximum potential development of the site if developed as permitted by the present zoning?

Site is comprised of State Forests on which no development is planned.

4. What is the proposed zoning of the site? Residential-Rural

5. What is the maximum potential development of the site if developed as permitted by the proposed zoning?

N/A - No site development is planned.

6. Is the proposed action consistent with the recommended uses in adopted local land use plans? [X] Yes [ ] No

7. What are the predominant land use(s) and zoning classifications within a ¼ mile radius of proposed action?

Residential-Rural

8. Is the proposed action compatible with adjoining/surrounding land uses with a ¼ mile? [X] Yes [ ] No

9. If the proposed action is the subdivision of land, how many lots are proposed? NA

   a. What is the minimum lot size proposed? _____

10. Will proposed action require any authorization(s) for the formation of sewer or water districts? [ ] Yes [X] No

11. Will the proposed action create a demand for any community provided services (recreation, education, police, fire protection? [X] Yes [ ] No

    a. If yes, is existing capacity sufficient to handle projected demand? [X] Yes [ ] No

12. Will the proposed action result in the generation of traffic significantly above present levels? [ ] Yes [X] No

    a. If yes, is the existing road network adequate to handle the additional traffic. [ ] Yes [ ] No

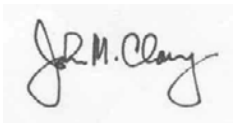
D. Informational Details

Attach any additional information as may be needed to clarify your project. If there are or may be any adverse impacts associated with your proposal, please discuss such impacts and the measures which you propose to mitigate or avoid them.

E. Verification

I certify that the information provided above is true to the best of my knowledge.

Applicant/Sponsor Name John M. Clancy Date August 8, 2006

Signature  Title Senior Forester

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment.

PART 2 - PROJECT IMPACTS AND THEIR MAGNITUDE

Responsibility of Lead Agency

General Information (Read Carefully)

- **In completing the form the reviewer should be guided by the question: Have my responses and determinations been reasonable? The reviewer is not expected to be an expert environmental analyst.**
- **The Examples provided are to assist the reviewer by showing types of impacts and wherever possible the threshold of magnitude that would trigger a response in column 2. The examples are generally applicable throughout the State and for most situations. But, for any specific project or site other examples and/or lower thresholds may be appropriate for a Potential Large Impact response, thus requiring evaluation in Part 3.**
- **The impacts of each project, on each site, in each locality, will vary. Therefore, the examples are illustrative and have been offered as guidance. They do not constitute an exhaustive list of impacts and thresholds to answer each question.**
- **The number of examples per question does not indicate the importance of each question.**
- **In identifying impacts, consider long term, short term and cumulative effects.**

Instructions (Read carefully)

a. **Answer each of the 20 questions in PART 2. Answer Yes if there will be any impact.**

b. **Maybe answers should be considered as Yes answers.**

c. **If answering Yes to a question then check the appropriate box(column 1 or 2)to indicate the potential size of the impact. If impact threshold equals or exceeds any example provided, check column 2. If impact will occur but threshold is lower than example, check column 1.**

d. **Identifying that an Impact will be potentially large (column 2) does not mean that it is also necessarily significant. Any large impact must be evaluated in PART 3 to determine significance. Identifying an impact in column 2 simply asks that it be looked at further.**

e. **If reviewer has doubt about size of the impact then consider the impact as potentially large and proceed to PART 3.**

f. **If a potentially large impact checked in column 2 can be mitigated by change(s) in the project to a small to moderate impact, also check the Yes box in column 3. A No response indicates that such a reduction is not possible. This must be explained in Part 3.**

IMPACT ON LAND

1. Will the Proposed Action result in a physical change to the project site?	☐ NO ☒ YES	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
Examples that would apply to column 2				
• Any construction on slopes of 15% or greater, (15 foot rise per 100 foot of length), or where the general slopes in the project area exceed 10%.		☒	☐	☐ Yes ☒ No
• Construction on land where the depth to the water table is less than 3 feet.		☐	☐	☐ Yes ☒ No
• Construction of paved parking area for 1,000 or more vehicles.		☐	☐	☐ Yes ☒ No
• Construction on land where bedrock is exposed or generally within 3 feet of existing ground surface.		☐	☐	☐ Yes ☒ No
• Construction that will continue for more than 1 year or involve more than one phase or stage.		☐	☐	☐ Yes ☒ No
• Excavation for mining purposes that would remove more than 1,000 tons of natural material (i.e., rock or soil) per year.		☐	☐	☐ Yes ☒ No
• Construction or expansion of a sanitary landfill.		☐	☐	☐ Yes ☒ No
• Construction in a designated floodway.		☐	☐	☐ Yes ☒ No
• Other impacts construction of a new trail loop		☐	☐	☐ Yes ☐ No

2. Will there be an effect to any unique or unusual land forms found on the site? (i.e., cliffs, dunes, geological) [X] NO [ ] YES	☐	☐	☐ Yes	☐ No
• **Specific land forms:** _____	☐	☐	☐ Yes	☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change	
IMPACT ON WATER				
3. Will Proposed Action affect any water body designated as protected? (Under Articles 15, 24, 25 of the Environmental Conservation Law, ECL) [X] NO [ ] YES				
Examples that would apply to column 2				
• **Developable area of site contains a protected water body.**	☐	☐	☐ Yes	☐ No
• **Dredging more than 100 cubic yards of material from channel of a protected stream.**	☐	☐	☐ Yes	☐ No
• **Extension of utility distribution facilities through a protected water body.**	☐	☐	☐ Yes	☐ No
• **Construction in a designated freshwater or tidal wetland.**	☐	☐	☐ Yes	☐ No
• **Other impacts** _____	☐	☐	☐ Yes	☐ No
4. Will Proposed Action affect any non-protected existing or new body of water? [X] NO [ ] YES				
Examples that would apply to column 2				
• **A 10% increase or decrease in the surface area of any body of water or more than a 10 acre increase or decrease.**	☐	☐	☐ Yes	☐ No
• **Construction of a body of water that exceeds 10 acres of surface area.**	☐	☐	☐ Yes	☐ No
• **Other impacts** _____	☐	☐	☐ Yes	☐ No
5. Will Proposed Action affect surface or groundwater quality or quantity? [X] NO [ ] YES				
Examples that would apply to column 2				
• **Proposed Action will require a discharge permit.**	☐	☐	☐ Yes	☐ No
• **Proposed Action requires use of a source of water that does not have approval to serve proposed (project) action.**	☐	☐	☐ Yes	☐ No
• **Proposed Action requires water supply from wells with greater than 45 gallons per minute pumping capacity.**	☐	☐	☐ Yes	☐ No
• **Construction or operation causing any contamination of a water supply system.**	☐	☐	☐ Yes	☐ No
• **Proposed Action will adversely affect groundwater.**	☐	☐	☐ Yes	☐ No
• **Liquid effluent will be conveyed off the site to facilities which presently do not exist or have inadequate capacity.**	☐	☐	☐ Yes	☐ No
• **Proposed Action would use water in excess of 20,000 gallons per day.**	☐	☐	☐ Yes	☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
• Proposed Action will likely cause siltation or other discharge into an existing body of water to the extent that there will be an obvious visual contrast to natural conditions.	☐	☐	☐ Yes ☐ No
• Proposed Action will require the storage of petroleum or chemical products greater than 1,100 gallons.	☐	☐	☐ Yes ☐ No
• Proposed Action will allow residential uses in areas without water and/or sewer services.	☐	☐	☐ Yes ☐ No
• Proposed Action locates commercial and/or industrial uses which may require new or expansion of existing waste treatment and/or storage facilities.	☐	☐	☐ Yes ☐ No
• Other impacts _____	☐	☐	☐ Yes ☐ No
6. Will Proposed Action alter drainage flow or patterns, or surface water runoff? ☒ NO ☐ YES			
Examples that would apply to column 2			
• Proposed Action would change flood water flows	☐	☐	☐ Yes ☐ No
• Proposed Action may cause substantial erosion.	☐	☐	☐ Yes ☐ No
• Proposed Action is incompatible with existing drainage patterns.	☐	☐	☐ Yes ☐ No
• Proposed Action will allow development in a designated floodway.	☐	☐	☐ Yes ☐ No
• Other impacts _____	☐	☐	☐ Yes ☐ No
IMPACT ON AIR			
7. Will Proposed Action affect air quality? ☒ NO ☐ YES			
Examples that would apply to column 2			
• Proposed Action will induce 1,000 or more vehicle trips in any given hour.	☐	☐	☐ Yes ☐ No
• Proposed Action will result in the incineration of more than 1 ton of refuse per hour.	☐	☐	☐ Yes ☐ No
• Emission rate of total contaminants will exceed 5 lbs. per hour or a heat source producing more than 10 million BTU's per hour.	☐	☐	☐ Yes ☐ No
• Proposed Action will allow an increase in the amount of land committed to industrial use.	☐	☐	☐ Yes ☐ No
• Proposed Action will allow an increase in the density of industrial development within existing industrial areas.	☐	☐	☐ Yes ☐ No
• Other impacts _____	☐	☐	☐ Yes ☐ No
IMPACT ON PLANTS AND ANIMALS			
8. Will Proposed Action affect any threatened or endangered species? ☒ NO ☐ YES			
Examples that would apply to column 2			
• Reduction of one or more species listed on the New York or Federal list, using the site, over or near the site, or found on the site.	☐	☐	☐ Yes ☐ No
• Removal of any portion of a critical or significant wildlife habitat.	☐	☐	☐ Yes ☐ No
• Application of pesticide or herbicide more than twice a year, other than for agricultural purposes.	☐	☐	☐ Yes ☐ No
• Other impacts _____			

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
	☐	☐	☐ Yes ☐ No
9. Will Proposed Action substantially affect non-threatened or non-endangered species? ☒ NO ☐ YES			
Examples that would apply to column 2			
• Proposed Action would substantially interfere with any resident or migratory fish, shellfish or wildlife species.	☐	☐	☐ Yes ☐ No
• Proposed Action requires the removal of more than 10 acres of mature forest (over 100 years of age) or other locally important vegetation.	☐	☐	☐ Yes ☐ No
IMPACT ON AGRICULTURAL LAND RESOURCES			
10. Will Proposed Action affect agricultural land resources? ☒ NO ☐ YES			
Examples that would apply to column 2			
• The Proposed Action would sever, cross or limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc.)	☐	☐	☐ Yes ☐ No
• Construction activity would excavate or compact the soil profile of agricultural land.	☐	☐	☐ Yes ☐ No
• The Proposed Action would irreversibly convert more than 10 acres of agricultural land or, if located in an Agricultural District, more than 2.5 acres of agricultural land.	☐	☐	☐ Yes ☐ No
• The Proposed Action would disrupt or prevent installation of agricultural land management systems (e.g., subsurface drain lines, outlet ditches, strip cropping); or create a need for such measures (e.g. cause a farm field to drain poorly due to increased runoff).	☐	☐	☐ ☐
• Other impacts _____	☐	☐	☐ Yes ☐ No
IMPACT ON AESTHETIC RESOURCES			
11. Will Proposed Action affect aesthetic resources? (If necessary, use the Visual EAF Addendum in Section 617.20, Appendix B.) ☐ NO ☒ YES			
Examples that would apply to column 2			
• Proposed land uses, or project components obviously different from or in sharp contrast to current surrounding land use patterns, whether man-made or natural.	☒	☐	☒ Yes ☐ No
• Proposed land uses, or project components visible to users of aesthetic resources which will eliminate or significantly reduce their enjoyment of the aesthetic qualities of that resource.	☐	☐	☐ Yes ☐ No
• Project components that will result in the elimination or significant screening of scenic views known to be important to the area.	☐	☐	☐ Yes ☐ No
• Other impacts Conversion of middle- aged forest to young forest	☐	☐	☐ Yes ☐ No
IMPACT ON HISTORIC AND ARCHAEOLOGICAL RESOURCES			
12. Will Proposed Action impact any site or structure of historic, prehistoric or paleontological importance? ☒ NO ☐ YES			

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change	
Examples that would apply to column 2				
• Proposed Action occurring wholly or partially within or substantially contiguous to any facility or site listed on the State or National Register of historic places.	☐	☐	☐ Yes	☐ No
• Any impact to an archaeological site or fossil bed located within the project site.	☐	☐	☐ Yes	☐ No
• Proposed Action will occur in an area designated as sensitive for archaeological sites on the NYS Site Inventory.	☐	☐	☐ Yes	☐ No
• Other impacts _____	☐	☐	☐ Yes	☐ No

IMPACT ON OPEN SPACE AND RECREATION

13. Will Proposed Action affect the quantity or quality of existing or future open spaces or recreational opportunities?

☒ NO ☐ YES

Examples that would apply to column 2				
• The permanent foreclosure of a future recreational opportunity.	☐	☐	☐ Yes	☐ No
• A major reduction of an open space important to the community.	☐	☐	☐ Yes	☐ No
• Other impacts _____	☐	☐	☐ Yes	☐ No

IMPACT ON CRITICAL ENVIRONMENTAL AREAS

14. Will Proposed Action impact the exceptional or unique characteristics of a critical environmental area (CEA) established pursuant to subdivision 6NYCRR 617.14(g)?

☒ NO ☐ YES

_____

_____

_____

_____

_____

Examples that would apply to column 2				
• Proposed Action to locate within the CEA?	☐	☐	☐ Yes	☐ No
• Proposed Action will result in a reduction in the quantity of the resource?	☐	☐	☐ Yes	☐ No
• Proposed Action will result in a reduction in the quality of the resource?	☐	☐	☐ Yes	☐ No
• Proposed Action will impact the use, function or enjoyment of the resource?	☐	☐	☐ Yes	☐ No
• Other impacts _____	☐	☐	☐ Yes	☐ No

IMPACT ON TRANSPORTATION

15. Will there be an effect to existing transportation systems?

☒ NO ☐ YES

Examples that would apply to column 2				
• Alteration of present patterns of movement of people and/or goods.	☐	☐	☐ Yes	☐ No
• Proposed Action will result in major traffic problems.	☐	☐	☐ Yes	☐ No
• Other impacts _____	☐	☐	☐ Yes	☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change	
IMPACT ON ENERGY				
16. Will Proposed Action affect the community's sources of fuel or energy supply? [X] NO [ ] YES				
Examples that would apply to column 2				
• Proposed Action will cause a greater than 5% increase in the use of any form of energy in the municipality.	[ ]	[ ]	[ ] Yes	[ ] No
• Proposed Action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two family residences or to serve a major commercial or industrial use.	[ ]	[ ]	[ ] Yes	[ ] No
• Other impacts _____	[ ]	[ ]	[ ] Yes	[ ] No
NOISE AND ODOR IMPACT				
17. Will there be objectionable odors, noise, or vibration as a result of the Proposed Action? [ ] NO [X] YES				
Examples that would apply to column 2				
• Blasting within 1,500 feet of a hospital, school or other sensitive facility.	[ ]	[ ]	[ ] Yes	[ ] No
• Odors will occur routinely (more than one hour per day).	[ ]	[ ]	[ ] Yes	[ ] No
• Proposed Action will produce operating noise exceeding the local ambient noise levels for noise outside of structures.	[X]	[ ]	[ ] Yes	[X] No
• Proposed Action will remove natural barriers that would act as a noise screen.	[ ]	[ ]	[ ] Yes	[ ] No
• Other impacts noise produced as a result of timber harvesting	[ ]	[ ]	[ ] Yes	[ ] No
IMPACT ON PUBLIC HEALTH				
18. Will Proposed Action affect public health and safety? [ ] NO [X] YES				
Examples that would apply to column 2				
• Proposed Action may cause a risk of explosion or release of hazardous substances (i.e. oil, pesticides, chemicals, radiation, etc.) in the event of accident or upset conditions, or there may be a chronic low level discharge or emission.	[X]	[ ]	[ ] Yes	[X] No
• Proposed Action may result in the burial of "hazardous wastes" in any form (i.e. toxic, poisonous, highly reactive, radioactive, irritating, infectious, etc.)	[ ]	[ ]	[ ] Yes	[ ] No
• Storage facilities for one million or more gallons of liquefied natural gas or other flammable liquids.	[ ]	[ ]	[ ] Yes	[ ] No
• Proposed Action may result in the excavation or other disturbance within 2,000 feet of a site used for the disposal of solid or hazardous waste.	[ ]	[ ]	[ ] Yes	[ ] No
• Other impacts _____	[ ]	[ ]	[ ] Yes	[ ] No
IMPACT ON GROWTH AND CHARACTER OF COMMUNITY OR NEIGHBORHOOD				
19. Will Proposed Action affect the character of the existing community? [X] NO [ ] YES				

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
Examples that would apply to column 2			
• The permanent population of the city, town or village in which the project is located is likely to grow by more than 5%.	☐	☐	☐ Yes ☐ No
• The municipal budget for capital expenditures or operating services will increase by more than 5% per year as a result of this project.	☐	☐	☐ Yes ☐ No
• Proposed Action will conflict with officially adopted plans or goals.	☐	☐	☐ Yes ☐ No
• Proposed Action will cause a change in the density of land use.	☐	☐	☐ Yes ☐ No
• Proposed Action will replace or eliminate existing facilities, structures or areas of historic importance to the community.	☐	☐	☐ Yes ☐ No
• Development will create a demand for additional community services (e.g. schools, police and fire, etc.)	☐	☐	☐ Yes ☐ No
• Proposed Action will set an important precedent for future projects.	☐	☐	☐ Yes ☐ No
• Proposed Action will create or eliminate employment.	☐	☐	☐ Yes ☐ No
• Other impacts _____	☐	☐	☐ Yes ☐ No

20. Is there, or is there likely to be, public controversy related to potential adverse environment impacts?

☐ **NO** ☒ **YES**

If Any Action in Part 2 Is Identified as a Potential Large Impact or
If you Cannot Determine the Magnitude of Impact, Proceed to Part 3

State Environmental Quality Review
NEGATIVE DECLARATION
Notice of Determination of Non-Significance

Identifying # _____

Date August 8, 2006

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The NYS Department of Environmental Conservation as lead agency, has determined that the proposed action described below will not have a significant environmental impact and a Draft Environmental Impact Statement will not be prepared.

Name of Action: Adoption of the Tioga State Forest Unit Management Plan (UMP)

SEQR Status: **Type 1** X
Unlisted ___

Conditioned Negative Declaration: ___ **Yes**
X **No**

Description of Action:

Background

The Tioga Unit Management Plan (UMP) sets forth the proposed goals, objectives, management actions, environmental benefits/impacts and economic costs associated with 3,692 acres of State land in the Tioga County Towns of Berkshire, Candor, Newark Valley, and Owego. The plan details all proposed management activities for a 10-year period, and outlines potential projects for the next 20 years. A review and update of the UMP will take place at the end of the 10 year planning period. Public input has been sought through direct mailings to potentially affected parties via press releases, public notices, public television, and three (3) public meetings.

Public participation is an important part of the Department of Environmental Conservations's (DEC) planning process. It adds significant value by enhancing communication between the DEC and its State Forest potentially affected interests. Also, public participation helps sustain and create new relationships between the Department and its State Forest stakeholders. Ultimately, public participation improves the quality of the final plan.

Natural Resource Assessment

Development of a comprehensive UMP requires extensive natural resource assessment. Natural resource observations were made in the field and evaluated with computer based geographic information system (GIS) tools - and combined with DEC staff knowledge, expertise, and public input to make informed land use decisions and craft management actions.

Management Actions

The Plan schedules and estimates the costs of capital improvement, routine maintenance, and land acquisition projects. Additionally, it lists forest management, fisheries, and wildlife habitat actions by location, year, silvicultural management strategy, and forest treatment type.

Regular management activities planned for the Unit include maintenance of recreational trails, State Forest roads, boundary lines, signs, witness posts, pond impoundment(s), and regularly scheduled trash clean-up.

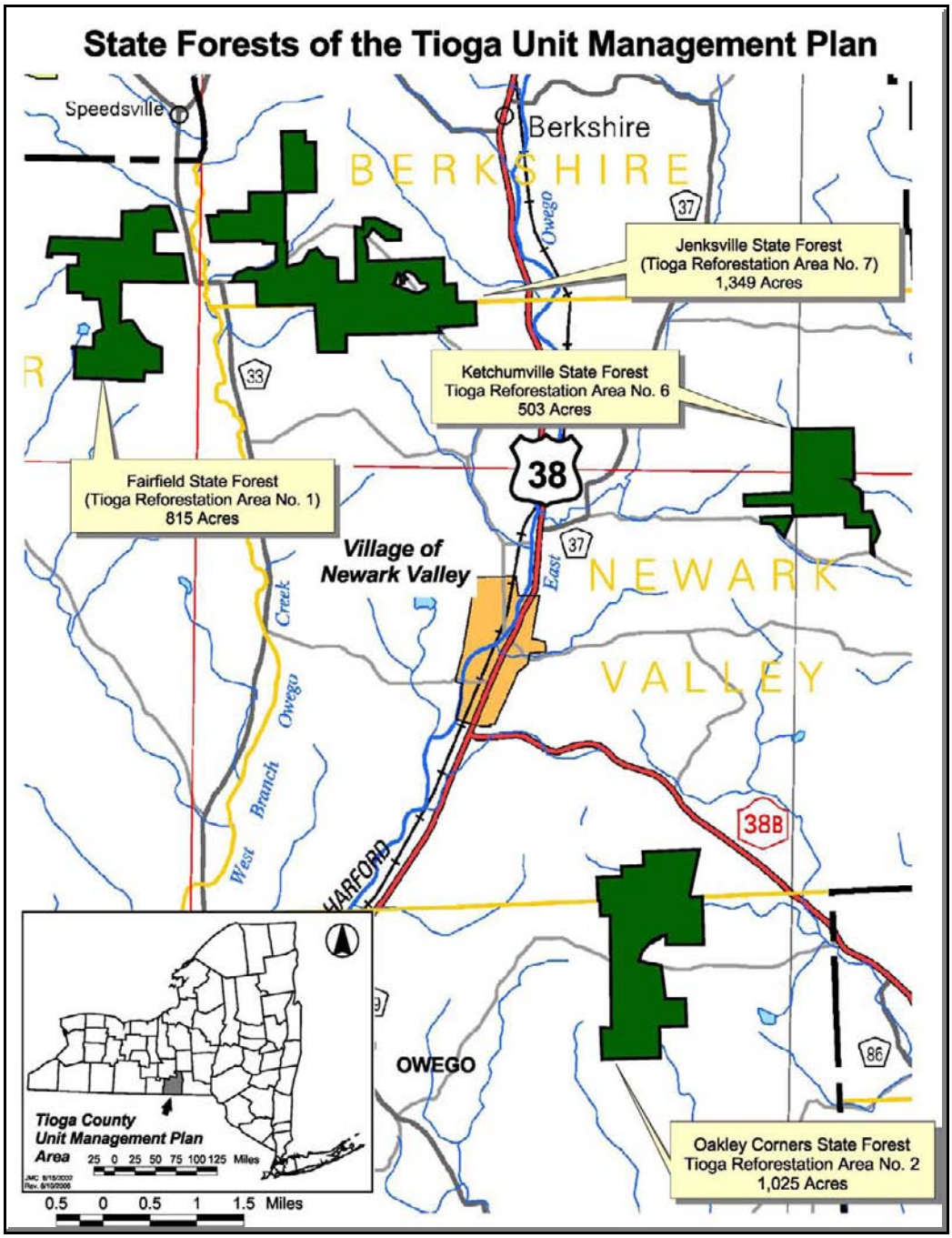
Location: (Include street address and the name of the municipality/county. A location map of appropriate scale is also recommended.)

A. Fairfield State Forest (Tioga County Reforestation Area No. 1) 815 acres - located in the Tioga County Towns of Candor; accessible by Lathrop Hill Rd. and Jenksville Hill Road.

B. Oakley Corners State Forest (Tioga Reforestation Area No. 2) 1,025 acres - located in the Tioga County Towns of Newark Valley and Owego; accessible by Dutchtown Road.

C. Ketchumville State Forest (Tioga County Reforestation Area No. 6) 503 acres - located in the Tioga County Town of Newark Valley; accessible by Bailey Hollow Road.

D. Jenksville State Forest (Tioga County Reforestation Area No. 7) 1,349 acres - located in the Tioga County Towns of Berkshire and Newark Valley; accessible by Allison Hill Rd., Shirley Rd., and West Creek Road.



Reasons Supporting This Determination:

(See 617.7(a)-(c) for requirements of this determination; see 617.7(d) for Conditioned Negative Declaration)

1. Summary

The Tioga Unit Management Plan (UMP) conducts an assessment of the Unit's natural resources on a landscape scale. It also makes informed land use decisions, and outlines stewardship management actions for the next 10 to 20 years. In doing so, the Plan will establish stewardship benchmarks for the Unit's ecosystems. Several projects will be accomplished through DEC Adopt-A-Natural resource volunteer partnerships.

A Long Environmental Assessment Form (EAF) was prepared to help evaluate the potential for significant adverse impacts caused by implementation of the UMP.

None of the proposed management actions will cause potentially large impacts on air quality, traffic, solid waste production, flooding, significant fish and wildlife habitats, rare, threatened or endangered species of plants or animals, historic or cultural resources, community character, recreation, open space, public access, energy use, agriculture, human health, wetlands, or aesthetic visual resources.

Small scale aesthetic impacts may be created during the harvesting of forest products and the establishment of oil and gas well pads. Aesthetic impacts will be minimized by locating log landings off road, establishing vegetative buffer zones along roads when possible, and limiting the size of wildlife habitat regeneration harvests to 40 acres.

Additionally, all commercial forestry operations and oil and gas development will follow the guidelines established by applicable State and Federal regulations, the Generic Environmental Impact Statement (GEIS) for Oil and Gas Development, the GEIS for State Forest Commercial Product Sales, DEC Policy, and the Unit Management Plan (UMP). Each well drilling site will require an additional site specific environmental analysis and an individual drilling plan approved by DEC's Division of Mineral Resources and the DEC Region 7 Regional Forester or his/her designee.

In the vast majority of cases, the management actions listed in the plan will maintain or increase the number of plants and animals (biodiversity) while protecting water quality. For example, about 259 acres of minimally disturbed late successional natural forest areas will be established on the Unit, with an additional 860 acres being actively

managed as late-successional closed canopy forest to provide habitat for wildlife species such as the Cerulean warbler, Scarlet tanager, Northern goshawk, Canada warbler, and Black-throated blue warbler. Additionally, the plan calls for the creation of 431 acres of early successional (brush and shrubs) vegetation for bird species that are in regional decline such as the Golden-winged warbler, Ruffed grouse, and the American woodcock .

No new roads or wood frame structures are planned for the site. Total available parking capacity on the Unit will increase from 30 to 40 cars with construction of a parking lot on the Oakley Corners (Tioga Reforestation Area No. 2) State Forest. Additional parking is required as no formal parking facility currently exists for the 16 miles of recreational trail on the Oakley Corners State Forest. As such, only a minor increase in parking or local traffic is expected to occur.

No significant change in existing land use or land cover will occur during implementation of the UMP - as the vast majority (about 90%) of the Unit's landscape will remain covered by forest at any given point in time. Activities planned for the Unit will be covered by the following Generic Environmental Impact Statements (GEIS) and Environmental Impact Statements (EIS); 1). Plan and Final GEIS for Conserving Open Space in New York State, 2). EIS for Recreational Use on State Forests, 3). DEC Division of Minerals GEIS, and, 4). the DEC Programmatic EIS for Wildlife Habitat Management and 5). the DEC Progammatic EIS for the State Forest Commercial Sales Program. After final approval of the plan, if activities are added to the plan to provide better management of the Unit and are not covered under this Negative Declaration or cited under the GEIS and/or EIS, the Department will undertake a site specific environmental review.

Herbicide use may be necessary for management purposes. Prior to any herbicide use, a site specific environmental review will be completed along with an Herbicide Application Plan.

The following best management practices will be followed for the parking area, trail and campsite construction projects:

Parking Areas

• Locating parking lots to minimize necessary cut and fill;

• Locating parking lots away from streams, wetlands, and unstable slopes wherever possible;

• Locating parking lots on flat, stable, well-drained sites;
• Locating parking lots in areas that require a minimum amount of tree cutting;
• Limiting construction to periods of low or normal rainfall;
• Wherever possible, using wooded buffers to screen parking lots from roads;
• Limiting the size of the parking lot to the minimum necessary to address the intended use.

Trails

• Locating trails to minimize necessary cut and fill;
• Wherever possible, lay out trails on existing old roads or clear or partially cleared areas;
• Locating trails away from streams, wetlands, and unstable slopes wherever possible;
• Use of proper drainage devices such as water bars and broad-based dips;
• Constructing stream crossings at right angles to the stream;
• Locating trails to minimize grade;
• Using stream crossings with low, stable banks, firm stream bottom and gentle approach slopes;
• Limiting stream crossing construction to periods of low or normal flow;
• Using natural materials to blend the structure into the natural surroundings;
• Using stream bank stabilizing structures made of natural materials such as rock or wooden timbers;

Campsites

• Locating campsites to minimize cut and fill;
• Locating campsites to minimize tree cutting;
• Locating campsites so that they are properly separated form one another;
• Locating campsites away from wetlands, streams, and unstable slopes;
• Locating campsites on flat, stable, well drained sites;
• Use of drainage structures on access trails to prevent water flowing into the site

2. Potential Impacts of Specific Management Actions

The Tioga Unit Management Plan (UMP) lists the following management actions on the four (4) State Forests in the Unit. None of the following actions are deemed to extensively impact the existing environment and/or surrounding community.

Action 2.1 - Construction of a new 4,200 foot long trail loop to improve ATV access for people with mobility impairments on the Oakley Corners State Forest.

Impact(s): very limited. Construction will require grading with a small dozer and use of geotextile fabric and gravel. Tree removal and soil disturbance will be minimized by proper trail layout.

Action 2.2 - Routine maintenance of State Forest boundary lines in the Unit.

Impact(s): none. Boundary lines will be painted and in some instances blazed. Trees will not be significantly damaged by blazing during the land survey.

Action 2.3 - Maintenance of 4.9 miles of public forest access roads (PFAR) and forest product haul roads on the Unit.

Impact(s): very limited. Regular maintenance includes mowing, grading, culvert replacement, ditching, clearing of brush from the road shoulder, and occassional use of shale from existing pits on the State Forest. Major road resurfacing will require gravel from a commercial source. All of the shale pits will be reclaimed per the DEC guidelines.

Action 2.4 - Closing of 1.6 miles of the Oakley Corner north PFAR to public motor vehicle access; provide continued access to snowmobiles, people with mobility impairments, hikers, horseback riders, and mountain bikes.

Impact(s). none. Closing of the road to public motor vehicle access will reduce maintenance needs, target shooting, and trash dumping.

Action 2.5 - Construction of an additional 10 car parking lot, informational kiosks for each State Forest, and three (3) permit only camp sites - all facilities will be built to universal (use) design standards.

Impact(s): very limited. Parking lot and camp sites will require minimal grading and use of geotextile fabric and gravel. The parking lot will be limited in size and surfaced with gravel to minimize storm water drainage impacts.

Action 2.6 - Continued fish stocking of Oakley Corners Pond by DEC's Bureau of Fisheries.

Impact(s): none*.* Fish stocking helps add to the diversity of plants and animals on the Unit. All fish stocking projects will be in compliance with the "*Programmatic Environmental Impact Statement on Fish Species Management Activities of the Department of Environmental Conservation, Division of Fish and Wildlife,"* dated December 1979.

Action 2.7 - Mowing and maintenance of pond outlets/impoundments.

Impact(s): none. Mowing will provide grassland habitat for early successional species.

Action 2.8 - Maintenance of 34 miles of highly valued cross-country skiing, hiking, snowmobile, horseback and mountain bike trails on the Unit in partnership with DEC Adopt-A-Natural Resource (AANR) volunteers.

Impact(s): very limited*.* Maintenance typically involves periodic grading, installing of geotextile fabric, ditching, and trimming of vegetation with hand tools. Regular maintenance reduces soil erosion and associated water quality impacts.

Action 2.9 - Continued implementation of best management practices (BMP's) to sustain or enhance ecosystem health, reduce soil erosion, and protect water quality.

Impact(s): none. Implementation of BMP's benefits ecosystem health and sustainability.

Action 2.10 - Creation of a shifting mosaic of early and late successional wildlife habitats by strategically applying both even and uneven-aged silvicultural techniques, and by establishing 259 acres of natural forest areas.

Impact(s): very limited. Creation of diverse habitat will be achieved through application of scientifically based forest ecosystem management. Periodic harvesting of forest products from the Unit will be designed to mimic natural disturbance regimes and provide about 460 acres (10% of the Unit's landscape) of early successional cover - a land cover type that is rapidly diminishing in the Unit as the surrounding agricultural land regrows into forest or is divided into residential building lots.

Action 2.11. Leasing of State Forests in the Unit for oil and natural gas exploration/ development with significant surface occupancy restrictions on the construction of well pads and pipelines (and related surface disturbances) - which will minimize impacts to aesthetics, recreational trails, soils, late successional forests, natural areas, wetlands, streams, and unique wildlife habitats.

Impact(s): limited. Based on public input and the natural resource assessment of the Unit, surface occupancy by well pads and pipelines will be limited and specifically located to minimize environmental impact. Well site development will require an additional temporary revocable permit (TRP) from the DEC Division of Lands and Forests, and require development of a site specific plan designed to minimize soil erosion and manage storm water during and after construction of well pads and pipelines. Additionally, the DEC will require that the site be reclaimed with native vegetation.

Action 2.12. Protection of streams, wetlands, ponds and unique wildlife habitats on the Unit by establishing appropriate vegetative buffer zones and/or minimally disturbed natural areas.

Impact(s): none.

Action 2.13. Protection of cultural resources, in particular stone walls and a cemetery on the Oakley Corners State Forest (Tioga No. 2).

Impact(s): none.

Action 2.14. Painting and signing of State Forest boundaries every seven (7) years.

Impact(s): none.

Action 2.15. Purchasing of 148 acres of privately owned land from willing sellers (at fair market value) adjacent to the State Forests in the Unit.

Impact(s): none. State ownership of the land would reduce parcelization and consolidate boundary lines.

Action 2.16 - Land Survey. Survey, blaze, and paint about 5,800 feet of existing boundary line on the Ketchumville (Tioga No. 6) State Forest.

Impact(s): none. Boundary lines will be painted. Trees will not be significantly damaged by blazing during the land survey.

If Conditioned Negative Declaration, provide on attachment the specific mitigation measures imposed, and identify comment period (not less than 30 days from date of publication in the ENB)

For Further Information:
Contact Person: John M. Clancy, Senior Forester
Address: NYS DEC, Lands & Forests, 1285 Fisher Ave, Cortland, NY 13045-1090
Telephone Number: (607) 753-3095, ext. 258

For Type 1 Actions and Conditioned Negative Declarations, a Copy of this Notice is sent to:
Region 7 Office of the Department of Environmental Conservation

Tioga County Legislature
The Honorable Donald J. Burns - Chair
56 Main Street, Owego, NY 13827

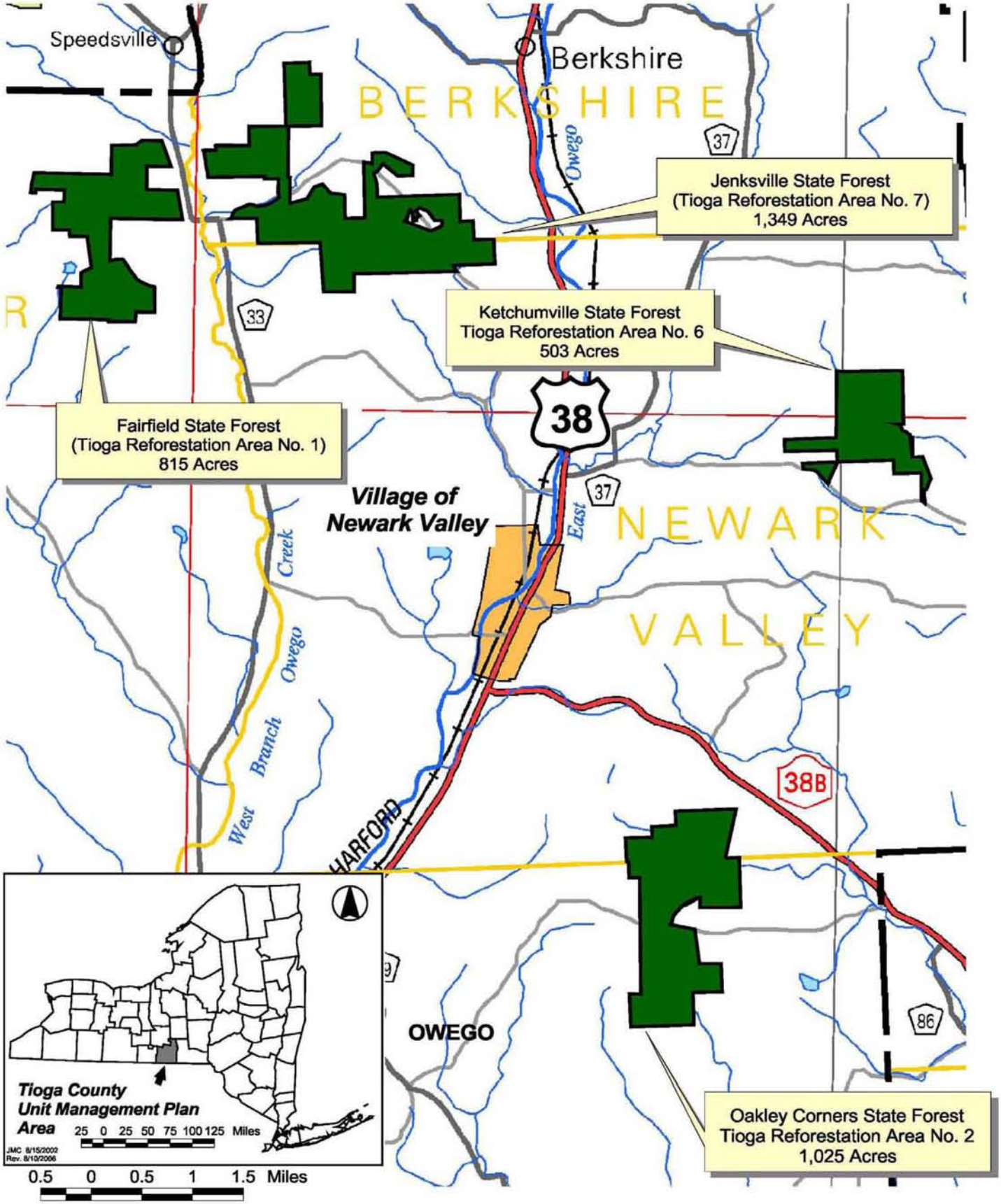
Town of Berkshire
The Honorable Lillian Hoffmier - Supervisor
18 Railroad Ave.
Berkshire, NY 13736-2238

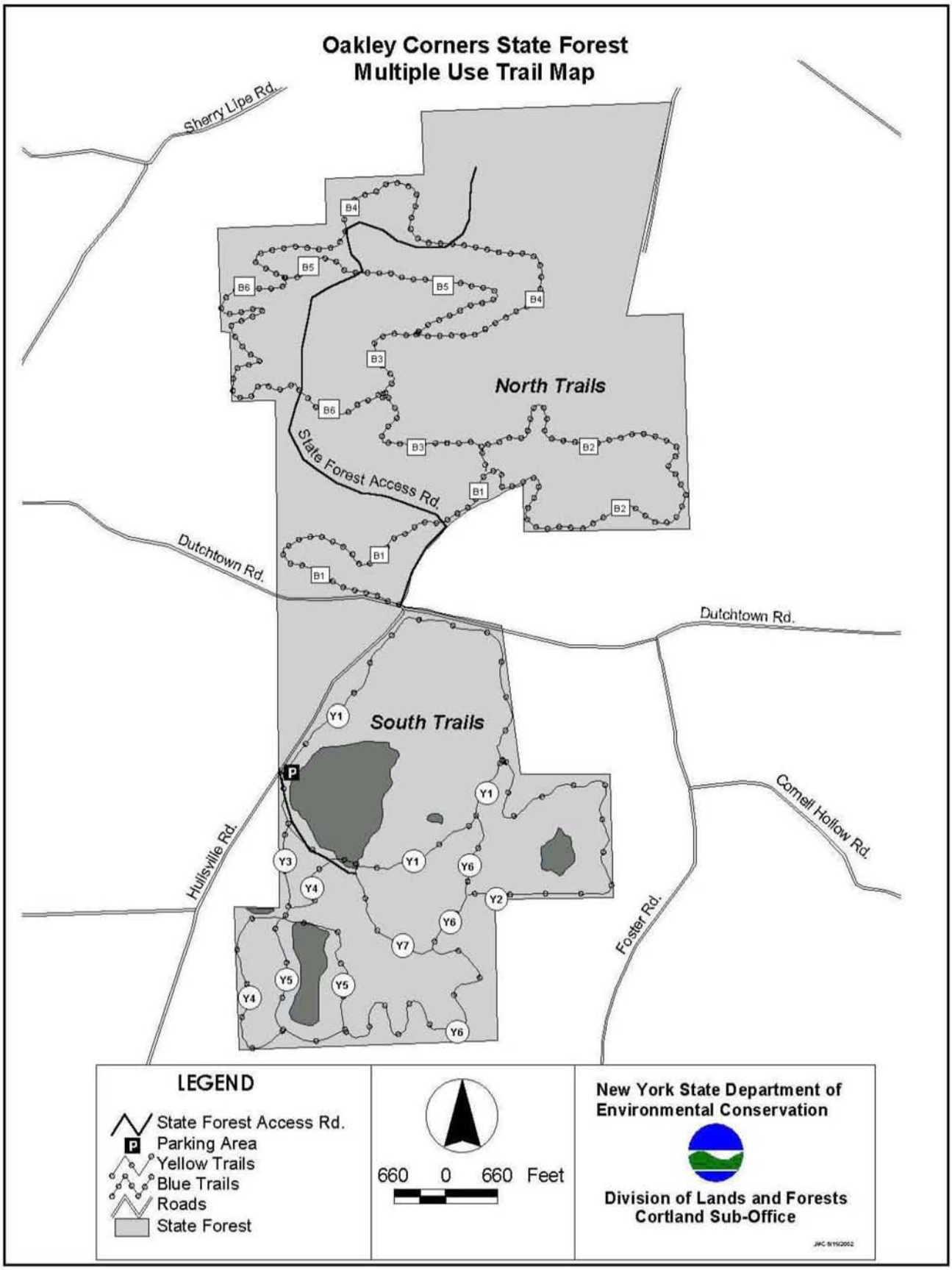
Town of Candor
The Honorable Terry E. Collins- Supervisor
101 Owego Road
Candor, NY 13743

Town of Newark Valley
The Honorable Stuart L. Yetter Jr. - Supervisor
109 Whig Street
Newark Valley, NY 13811

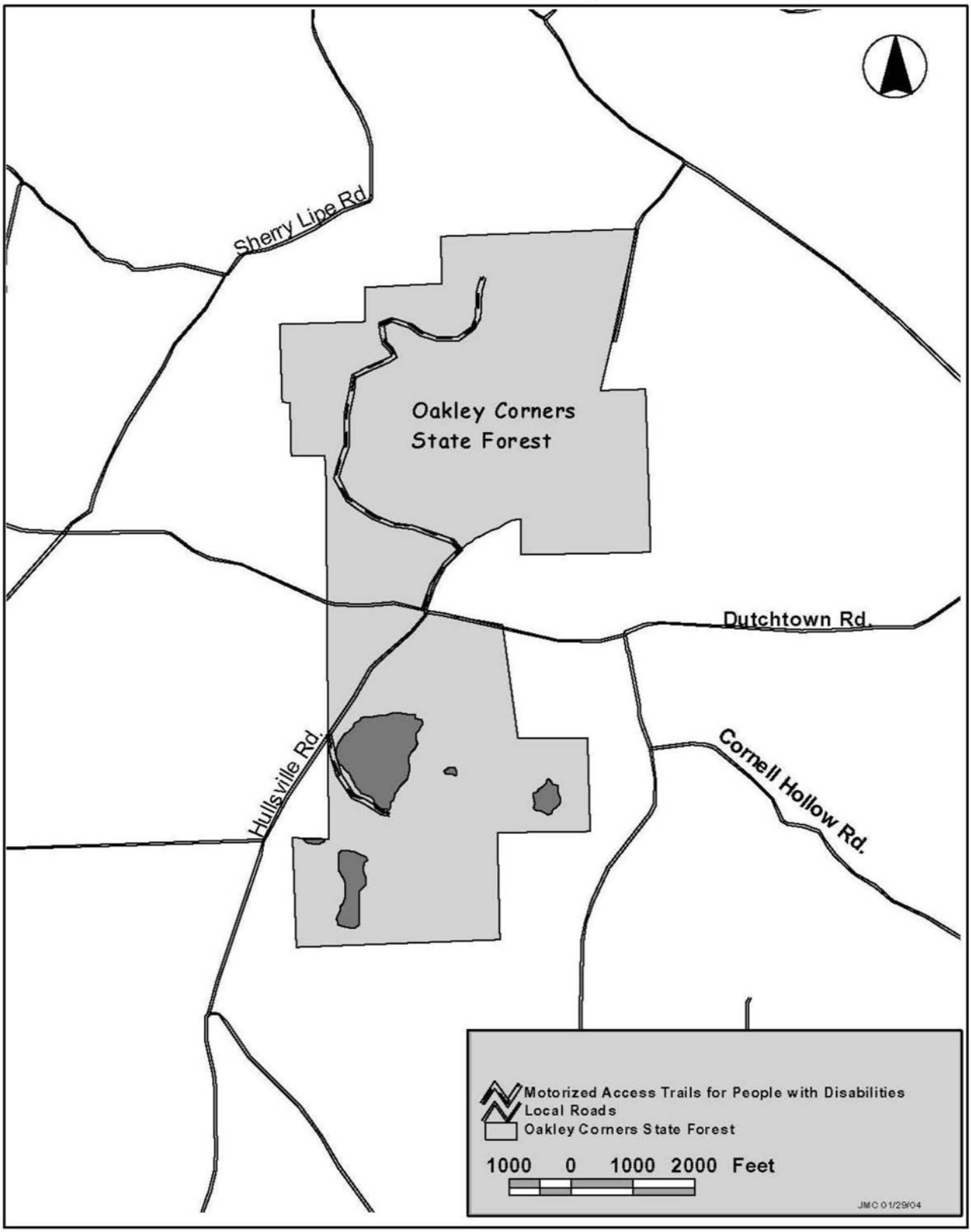
Applicant
Environmental Notice Bulletin - NYS DEC - 625 Broadway - Albany, NY 12233-1750
(Type One Action Only)

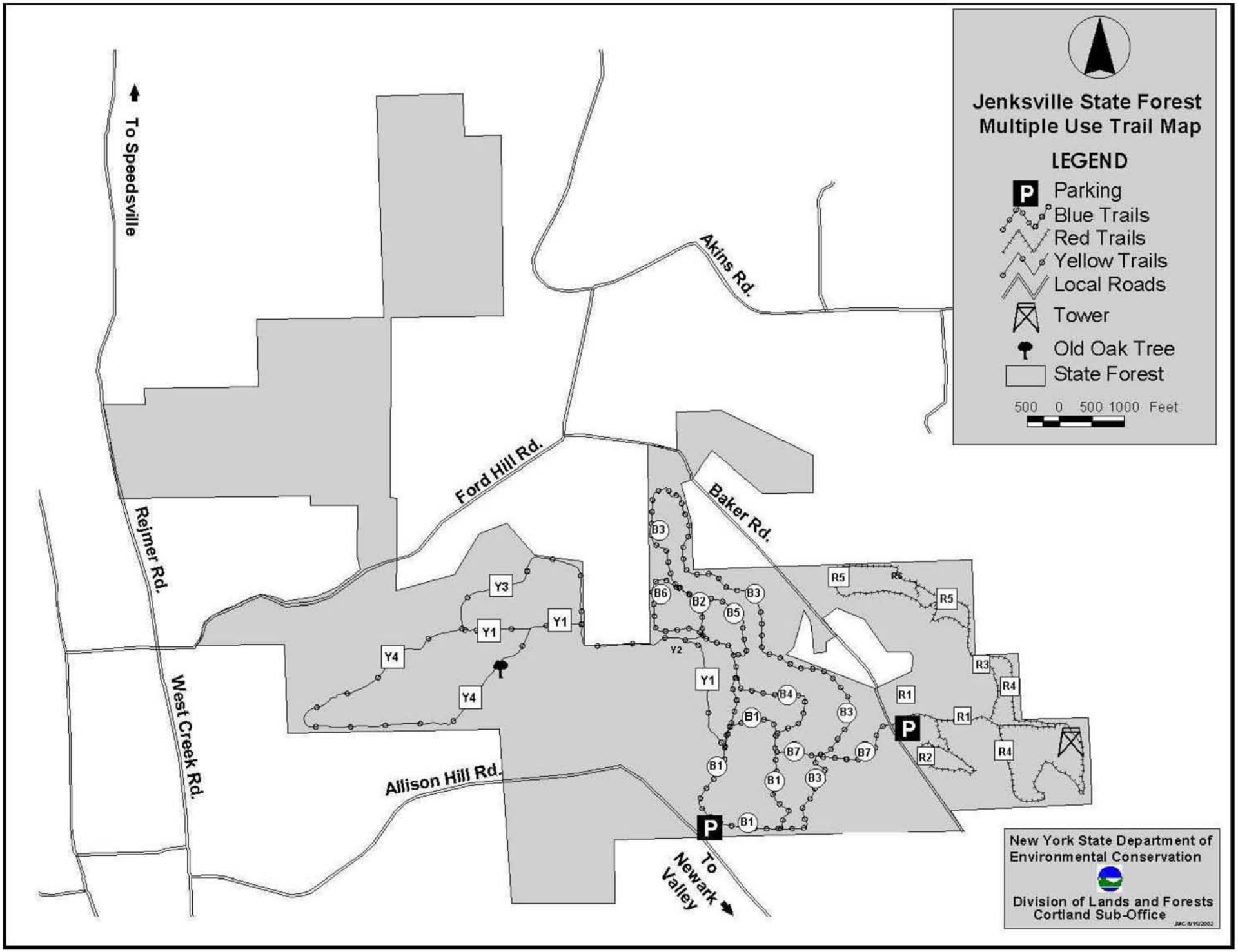
State Forests of the Tioga Unit Management Plan



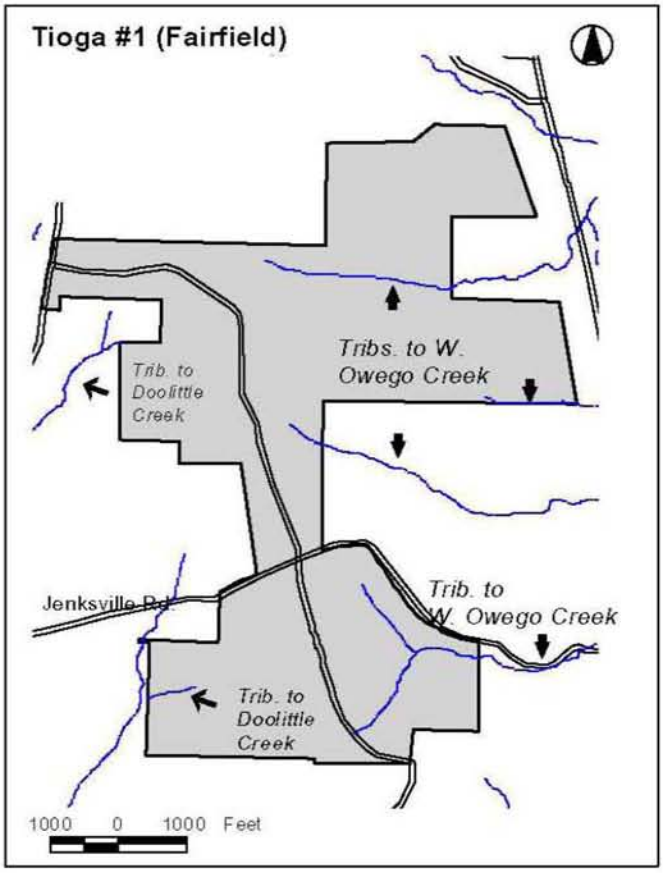

Oakley Corners State Forest
Multiple Use Trail Map
Sherry Lipe Rd.
North Trails
State Forest Access Rd.
Dutchtown Rd.
Dutchtown Rd.
South Trails
Hullsville Rd.
Cornell Hollow Rd.
Foster Rd.
B1
B2
B3
B4
B5
B6
Y1
Y2
Y3
Y4
Y5
Y6
Y7
P
LEGEND
State Forest Access Rd.
Parking Area
Yellow Trails
Blue Trails
Roads
State Forest
660 0 660 Feet
New York State Department of Environmental Conservation
Division of Lands and Forests
Cortland Sub-Office

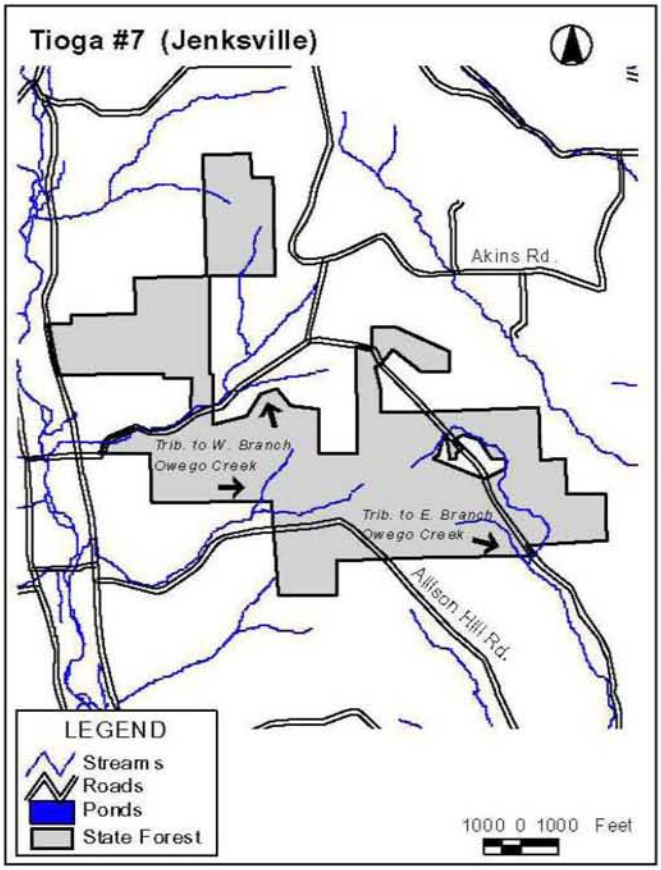
Motorized Access Trails for People with Disabilities

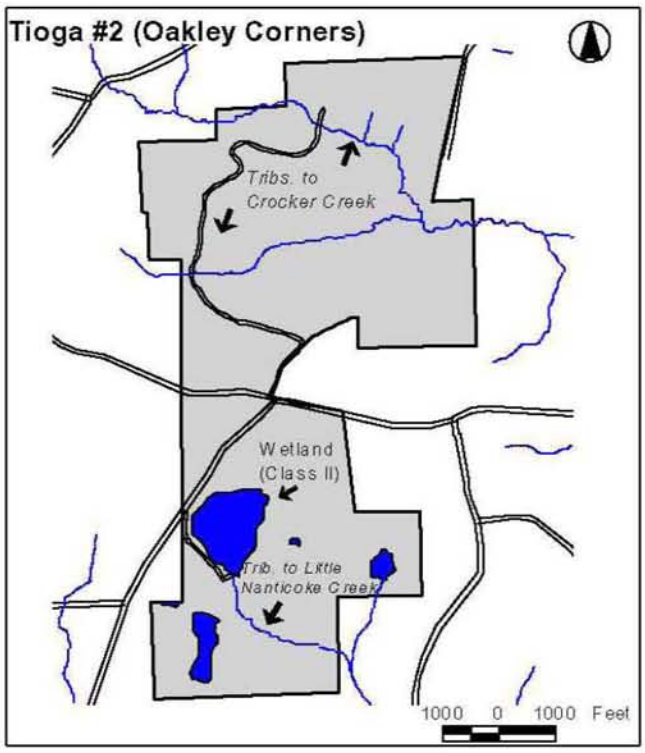


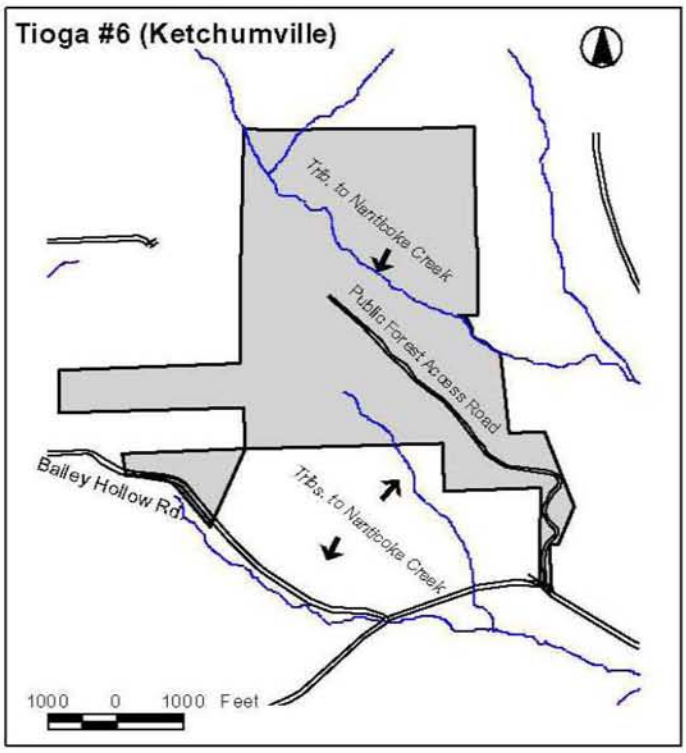

Jenksville State Forest
Multiple Use Trail Map
LEGEND
Parking
Blue Trails
Red Trails
Yellow Trails
Local Roads
Tower
Old Oak Tree
State Forest
500 0 500 1000 Feet
To Speedsville
Akins Rd.
Ford Hill Rd.
Baker Rd.
Rejmer Rd.
West Creek Rd.
Allison Hill Rd.
To Newark Valley
New York State Department of Environmental Conservation
Division of Lands and Forests
Cortland Sub-Office

Wetlands and Water Resources

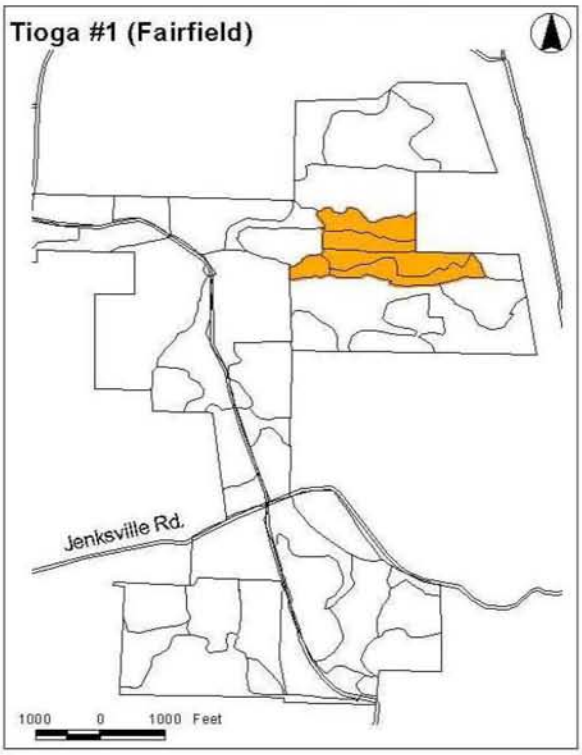


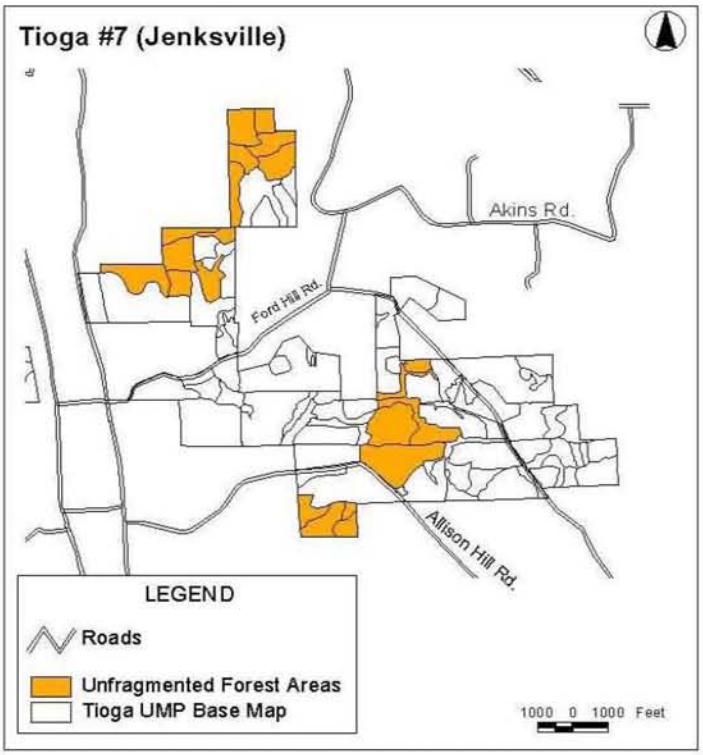


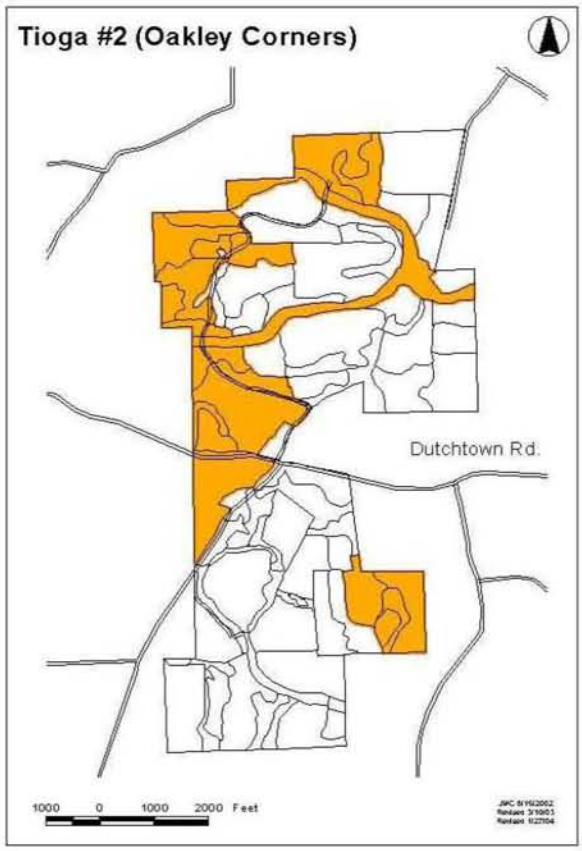


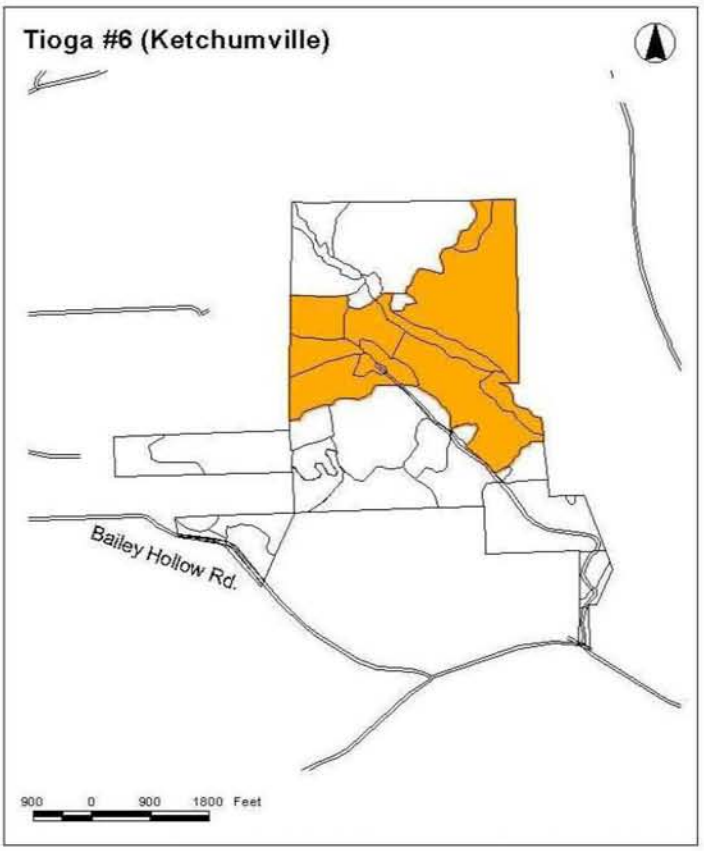


Unfragmented Forest Areas

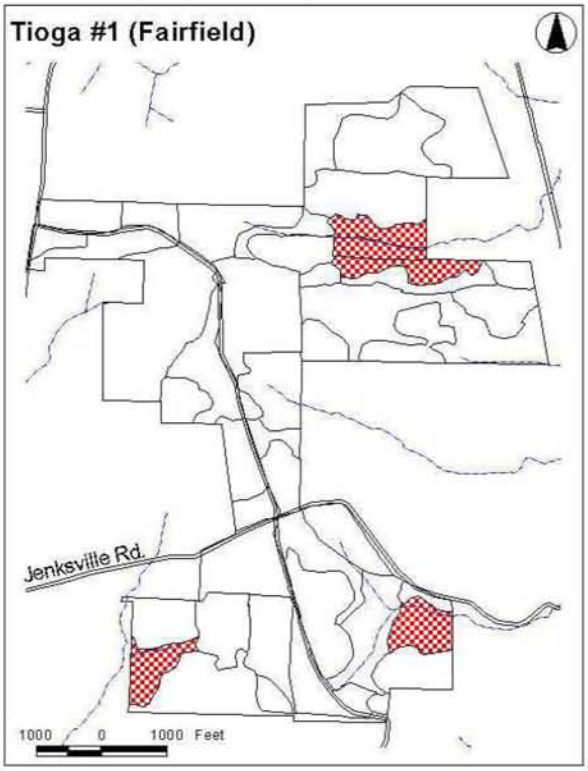


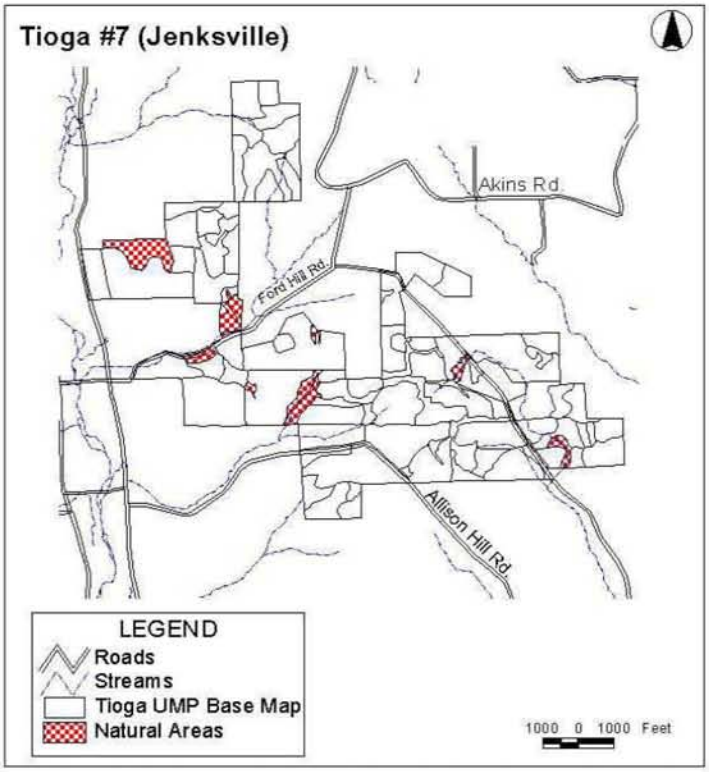


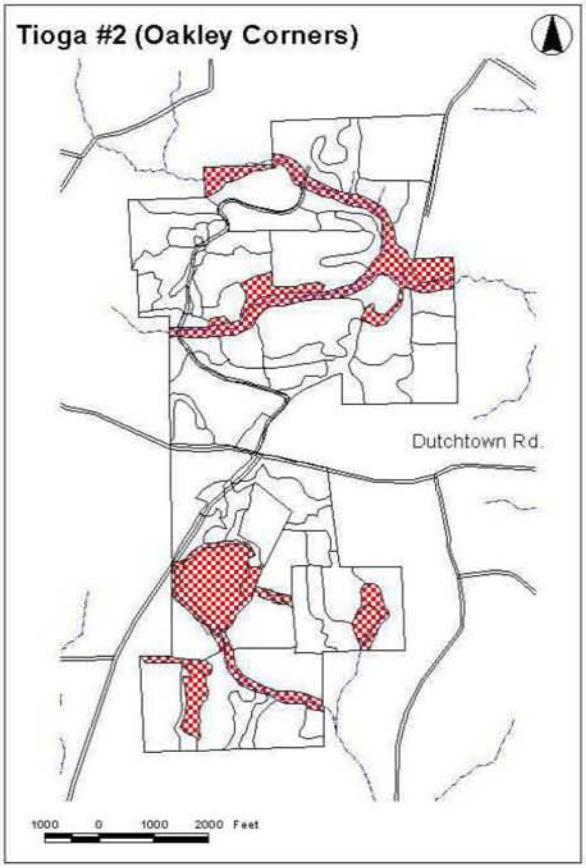


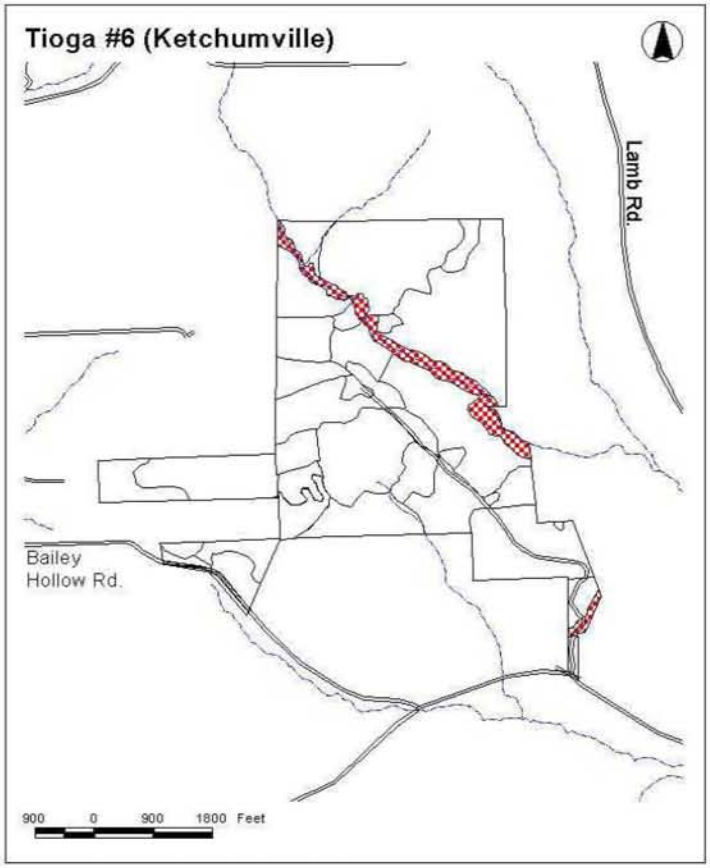


Natural Areas

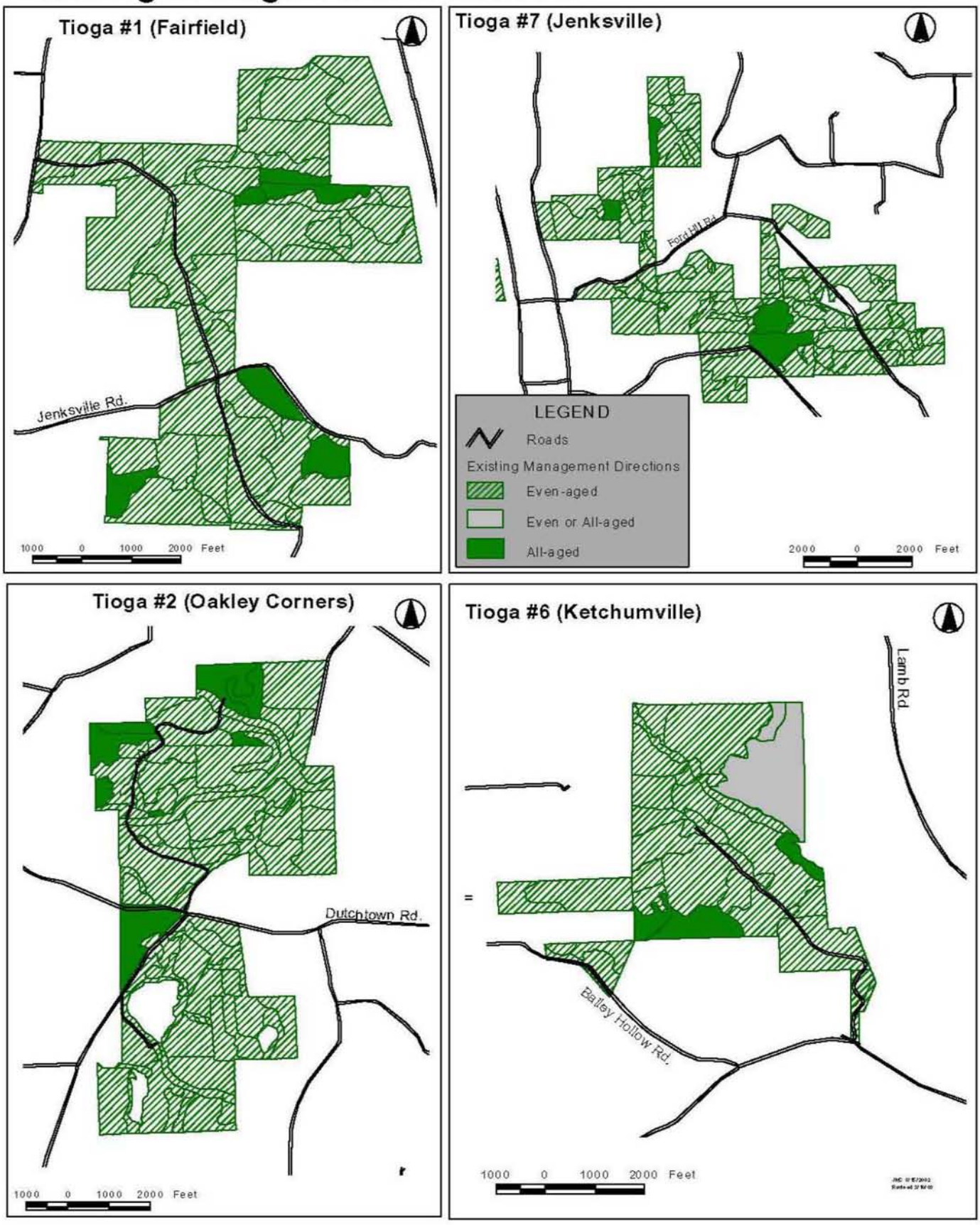




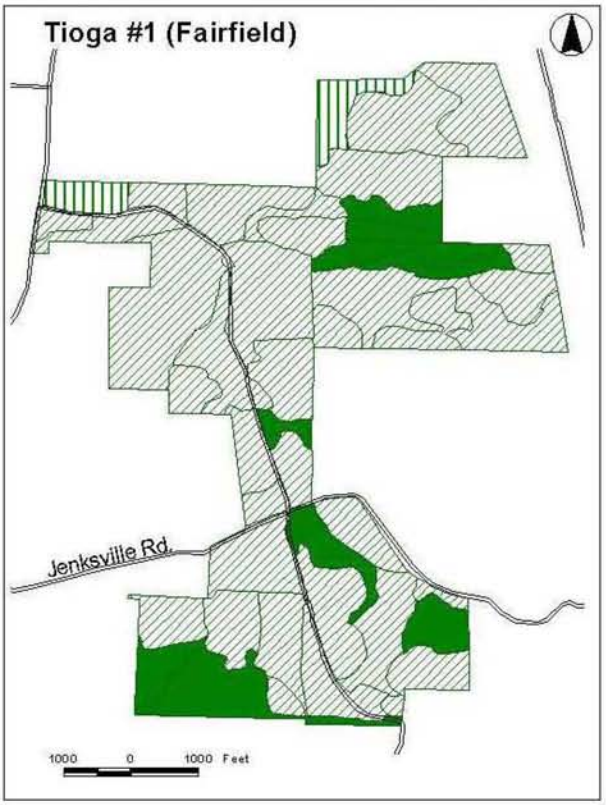


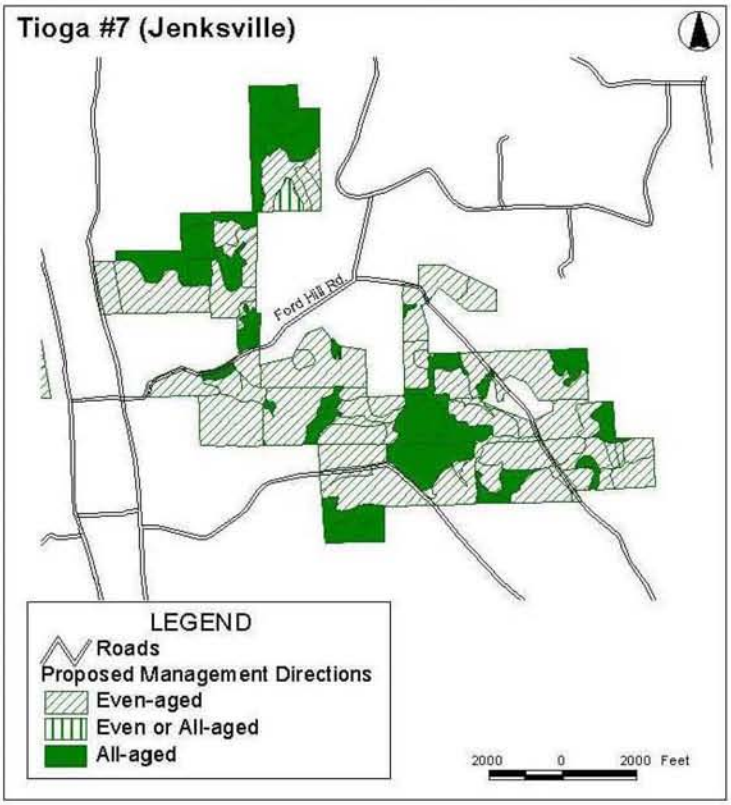


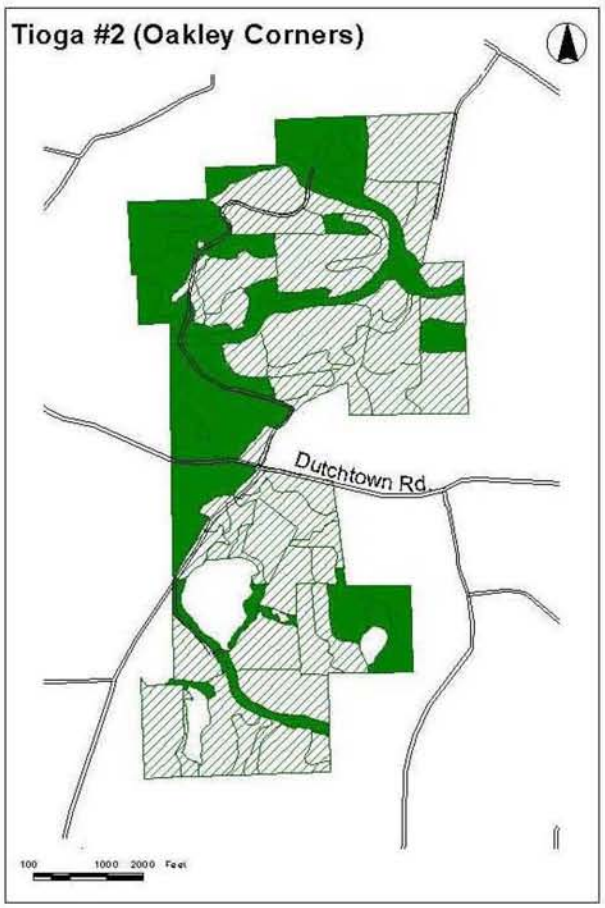
Existing Management Directions

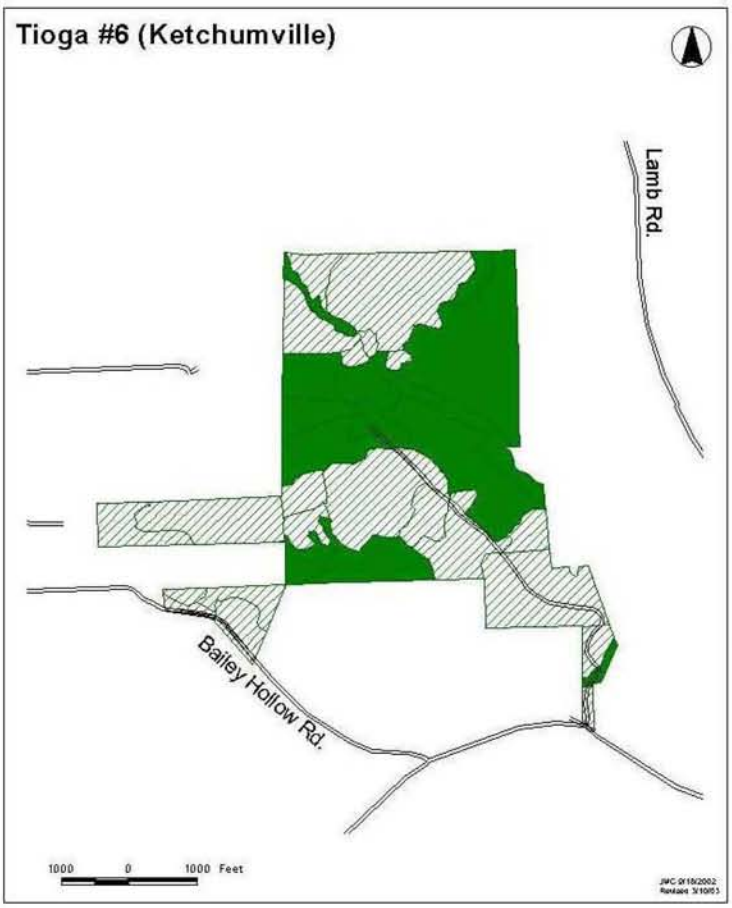


Proposed Management Directions

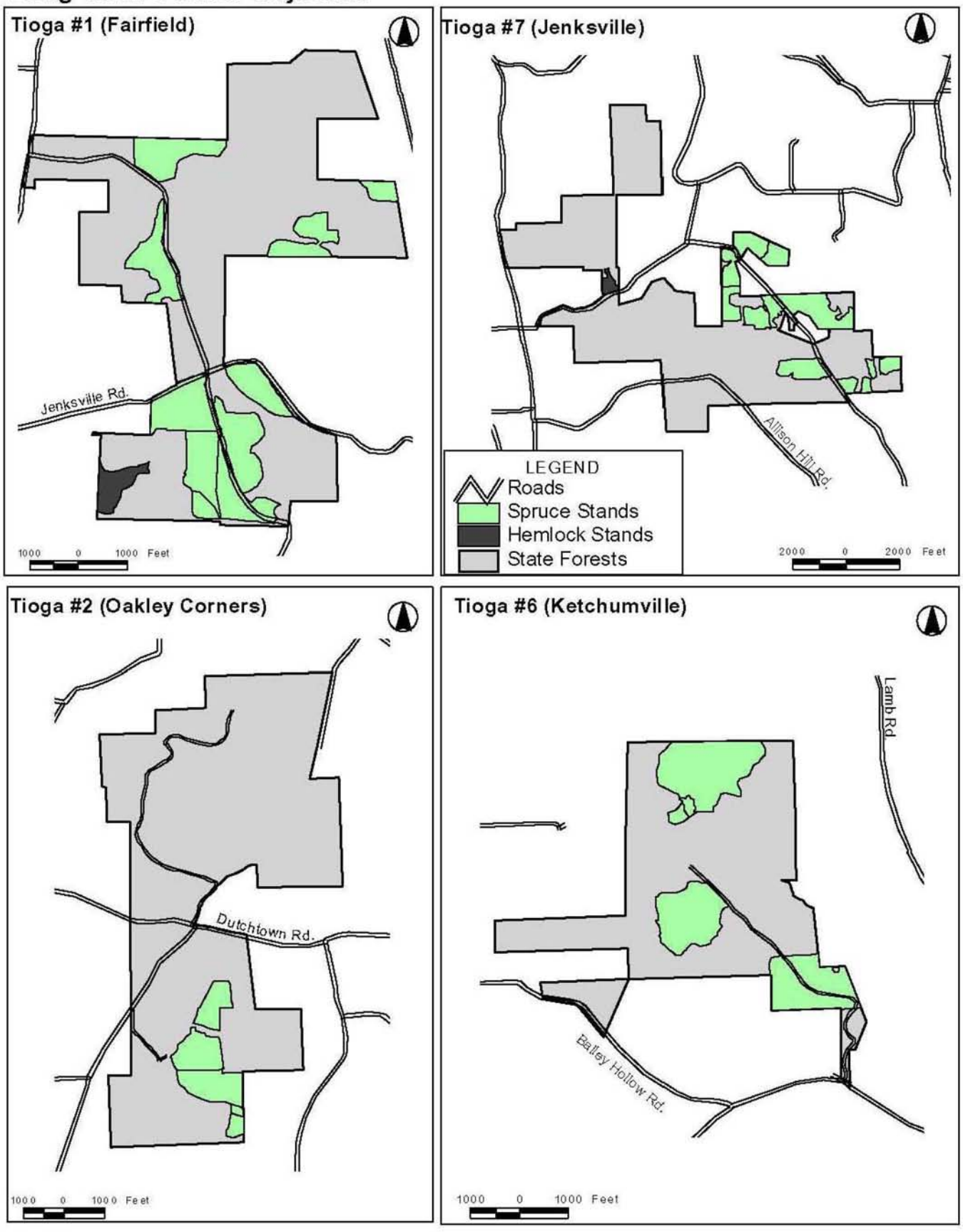




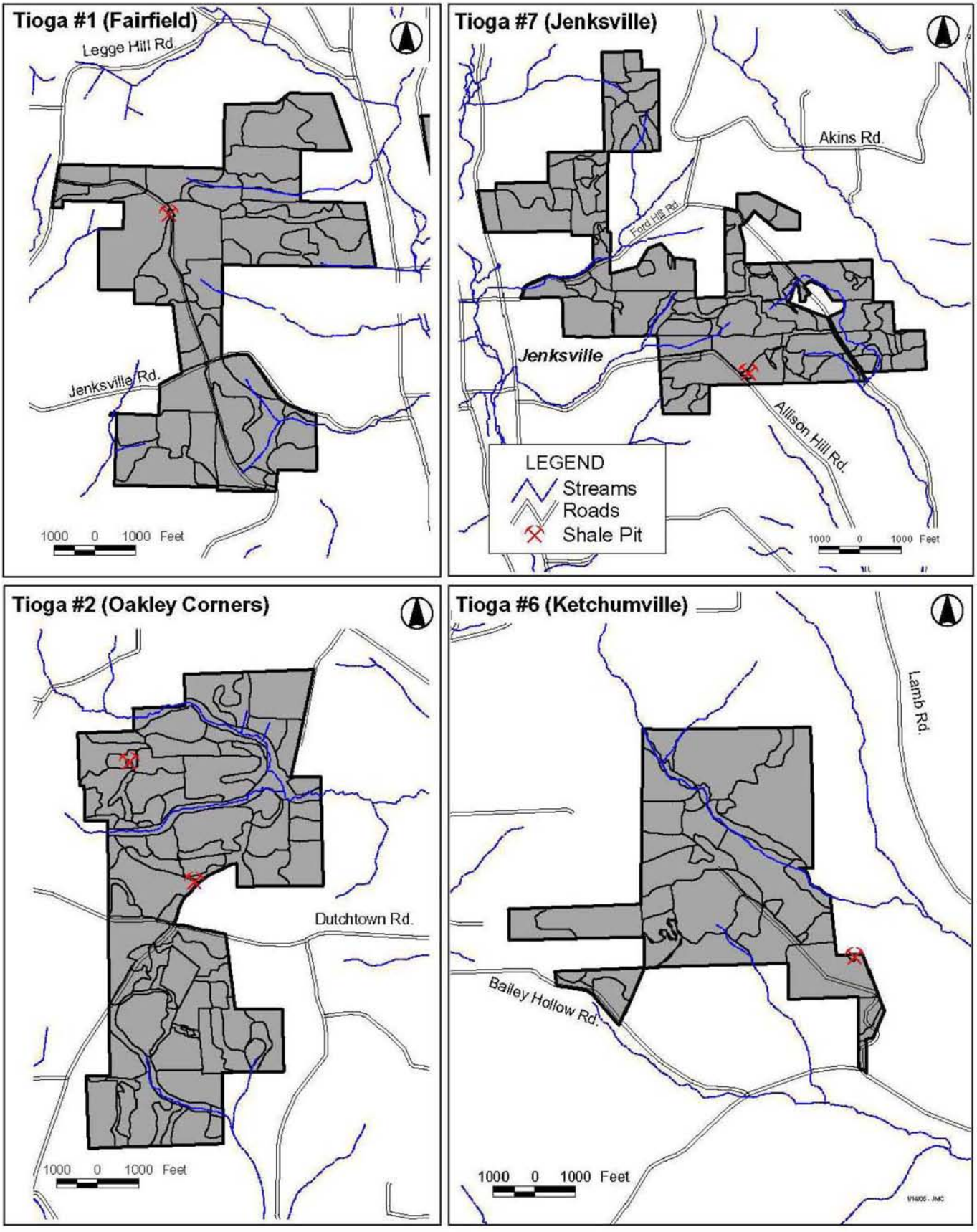


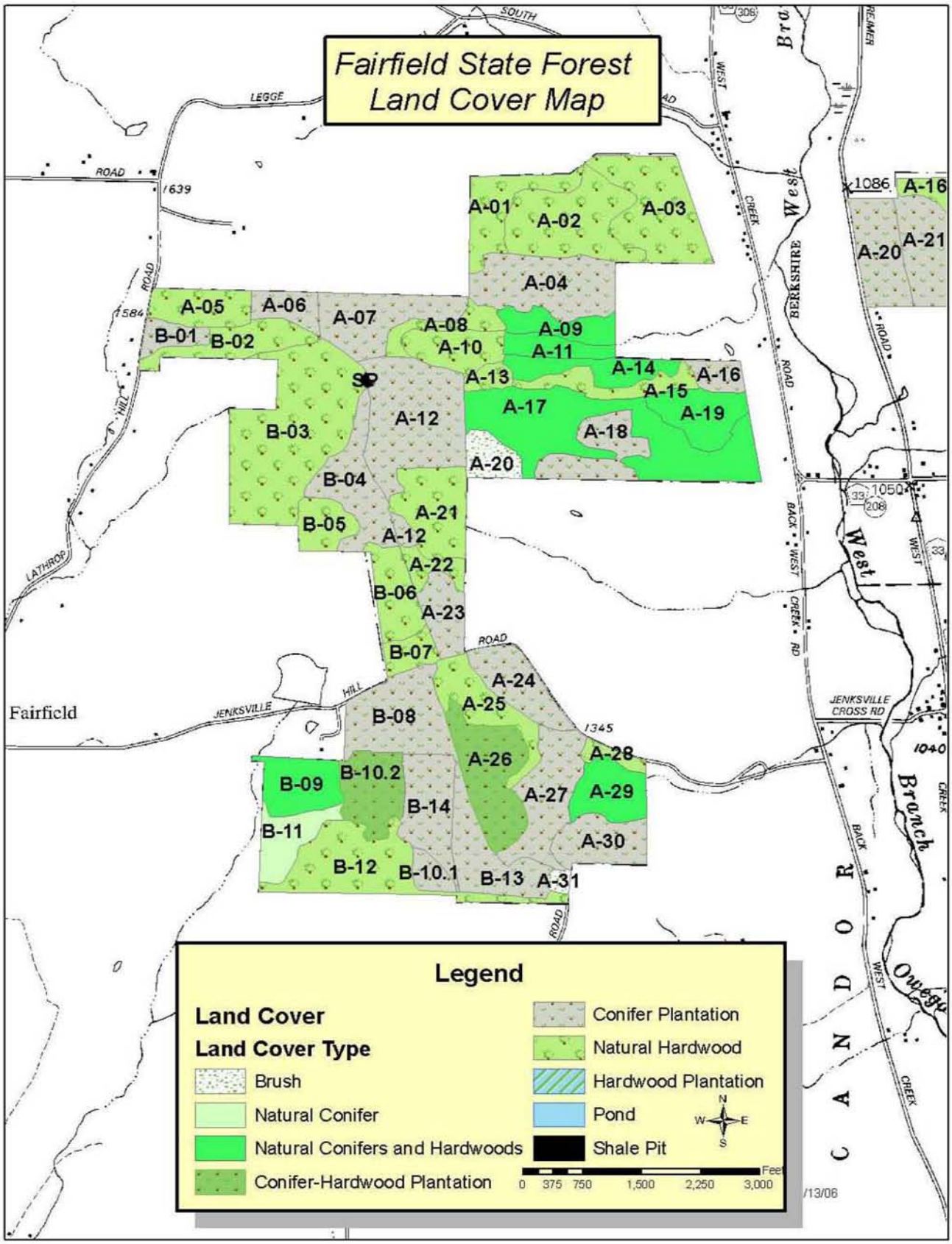


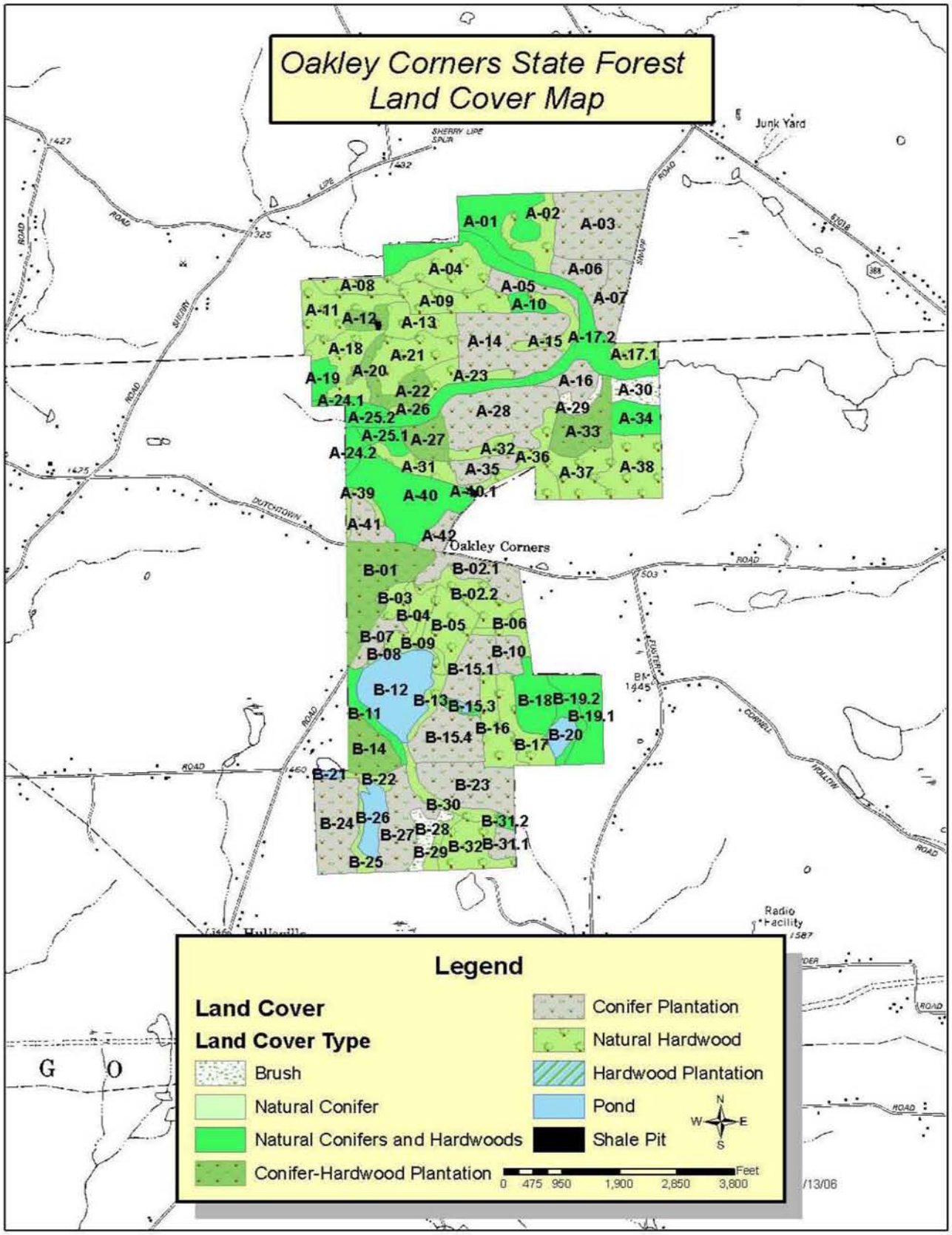
Long Term Conifer Objective



Shale Pit Locations




Fairfield State Forest
Land Cover Map
A-01
A-02
A-03
A-04
A-05
A-06
A-07
A-08
A-09
A-10
A-11
A-12
A-13
A-14
A-15
A-16
A-17
A-18
A-19
A-20
A-21
A-22
A-23
A-24
A-25
A-26
A-27
A-28
A-29
A-30
A-31
B-01
B-02
B-03
B-04
B-05
B-06
B-07
B-08
B-09
B-10.1
B-10.2
B-11
B-12
B-13
B-14
Fairfield
LEGGE
ROAD
1639
1584
HILL
LATHROP
JENKSVILLE
1086
1050
1345
1040
BERKSHIRE
BACK
WEST
CREEK
RD
JENKSVILLE CROSS RD
Owego
CANDOR
Legend
Land Cover
Land Cover Type
Brush
Natural Conifer
Natural Conifers and Hardwoods
Conifer-Hardwood Plantation
Conifer Plantation
Natural Hardwood
Hardwood Plantation
Pond
Shale Pit
N
W
E
S
0 375 750 1,500 2,250 3,000
Feet
/13/06


Oakley Corners State Forest
Land Cover Map
Junk Yard
Oakley Corners
Radio Facility
A-01
A-02
A-03
A-04
A-05
A-06
A-07
A-08
A-09
A-10
A-11
A-12
A-13
A-14
A-15
A-16
A-17.1
A-17.2
A-18
A-19
A-20
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A-23
A-24.1
A-24.2
A-25.1
A-25.2
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A-32
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A-36
A-37
A-38
A-39
A-40
A-40.1
A-41
A-42
B-01
B-02.1
B-02.2
B-03
B-04
B-05
B-06
B-07
B-08
B-09
B-10
B-11
B-12
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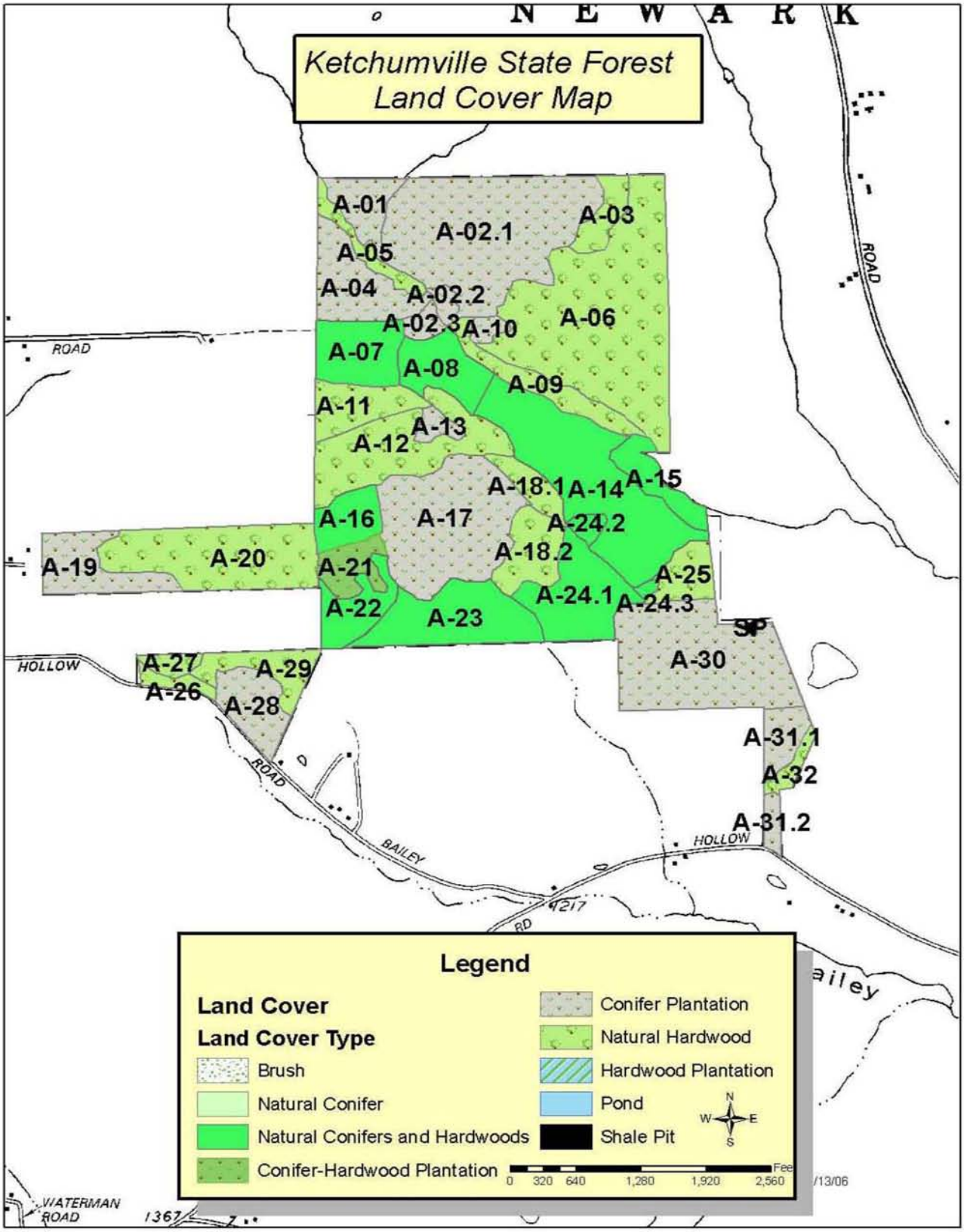
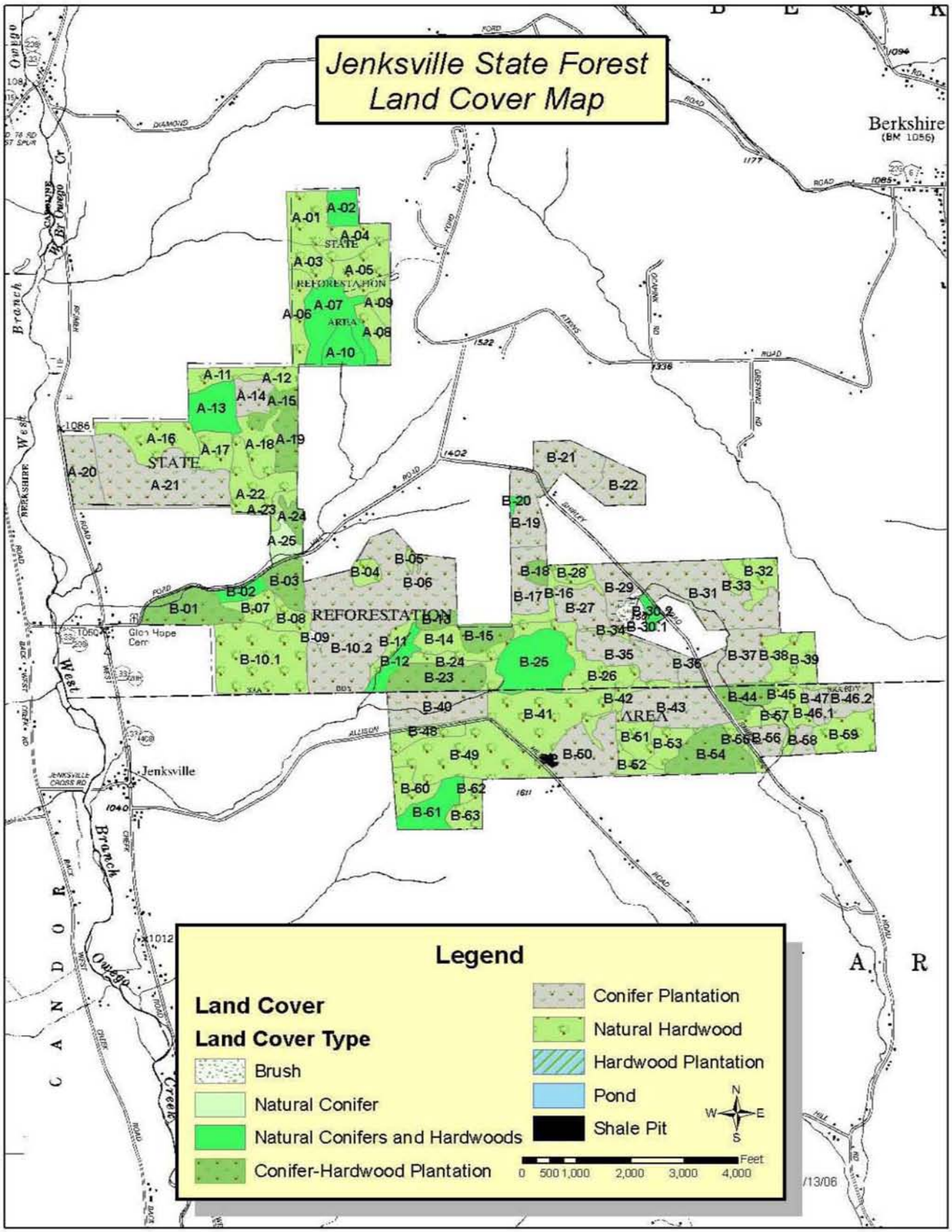
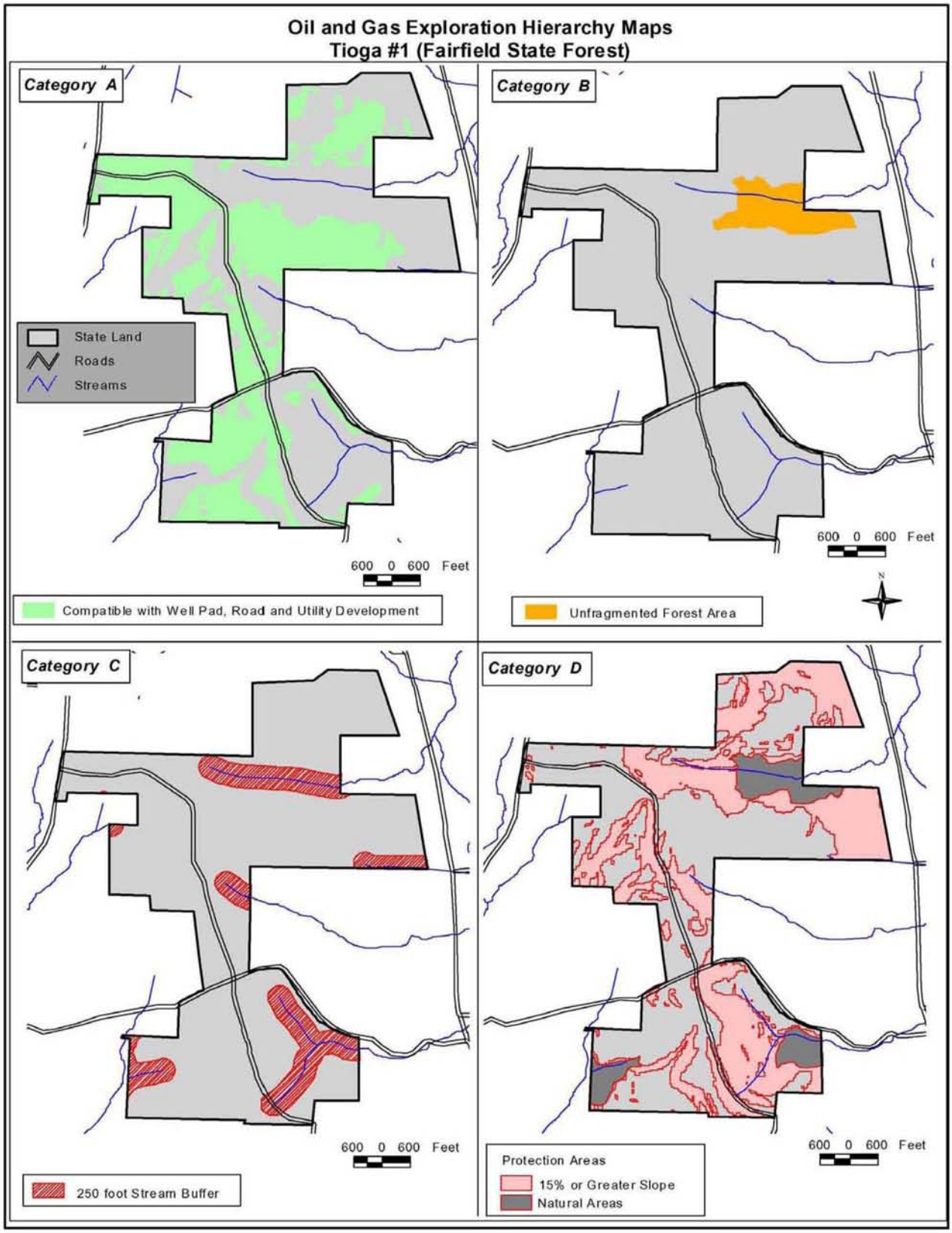
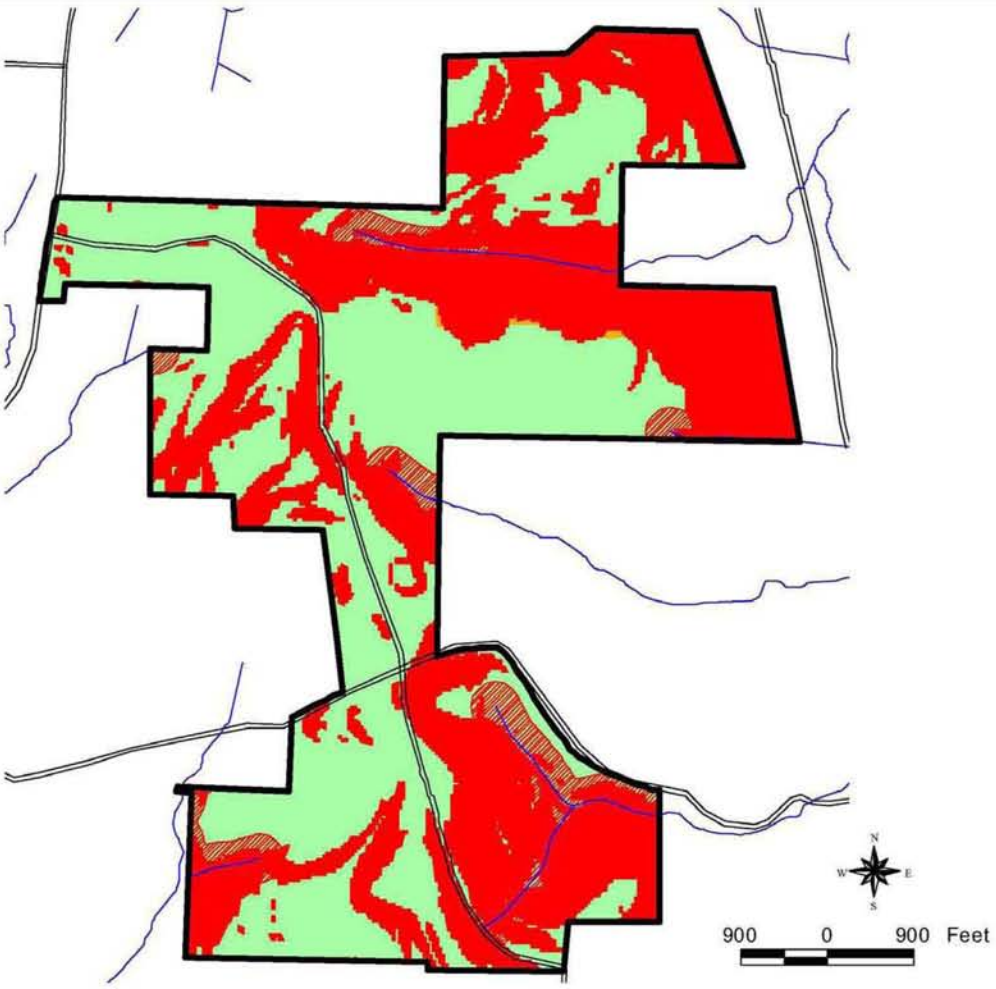
B-15.1
B-15.3
B-15.4
B-16
B-17
B-18
B-19.1
B-19.2
B-20
B-21
B-22
B-23
B-24
B-25
B-26
B-27
B-28
B-29
B-30
B-31.1
B-31.2
B-32
Legend
Land Cover
Land Cover Type
Brush
Natural Conifer
Natural Conifers and Hardwoods
Conifer-Hardwood Plantation
Conifer Plantation
Natural Hardwood
Hardwood Plantation
Pond
Shale Pit
N
W
E
S
0 475 950 1,900 2,850 3,800
Feet


Ketchumville State Forest
Land Cover Map
NEWARK
A-01
A-02.1
A-03
A-05
A-04
A-02.2
A-02.3
A-10
A-06
A-07
A-08
A-09
A-11
A-13
A-12
A-18.1
A-14
A-15
A-16
A-17
A-24.2
A-19
A-20
A-21
A-18.2
A-25
A-22
A-23
A-24.1
A-24.3
SP
A-30
A-27
A-29
A-26
A-28
A-31.1
A-32
A-31.2
ROAD
HOLLOW
BAILEY
RD
4217
WATERMAN
ROAD
1367
Legend
Land Cover
Land Cover Type
Brush
Natural Conifer
Natural Conifers and Hardwoods
Conifer-Hardwood Plantation
Conifer Plantation
Natural Hardwood
Hardwood Plantation
Pond
Shale Pit
N
W
E
S
0 320 640 1,280 1,920 2,560
/13/06


Jenksville State Forest
Land Cover Map
Berkshire
(BM 1056)
STATE
REFORESTATION
AREA
Jenksville
Glen Hope Cem
Legend
Land Cover
Land Cover Type
Brush
Natural Conifer
Natural Conifers and Hardwoods
Conifer-Hardwood Plantation
Conifer Plantation
Natural Hardwood
Hardwood Plantation
Pond
Shale Pit
N
W
E
S
Feet
0 500 1,000 2,000 3,000 4,000

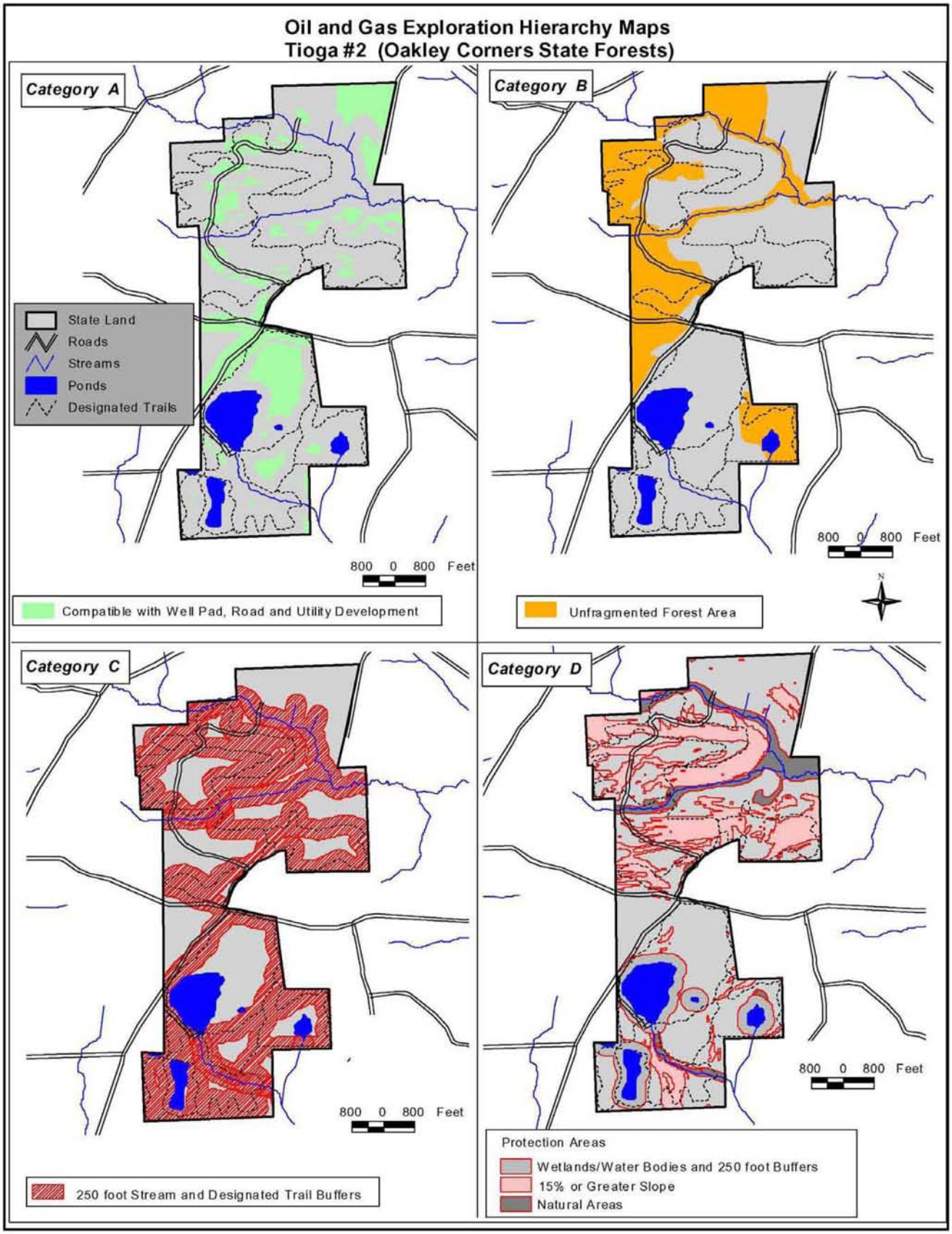

Oil and Gas Exploration Hierarchy Maps
Tioga #1 (Fairfield State Forest)
Category A
State Land
Roads
Streams
600 0 600 Feet
Compatible with Well Pad, Road and Utility Development
Category B
600 0 600 Feet
N
Unfragmented Forest Area
Category C
600 0 600 Feet
250 foot Stream Buffer
Category D
600 0 600 Feet
Protection Areas
15% or Greater Slope
Natural Areas

Comprehensive Oil and Gas Exploration Map
Tioga #1 (Fairfield State Forest)

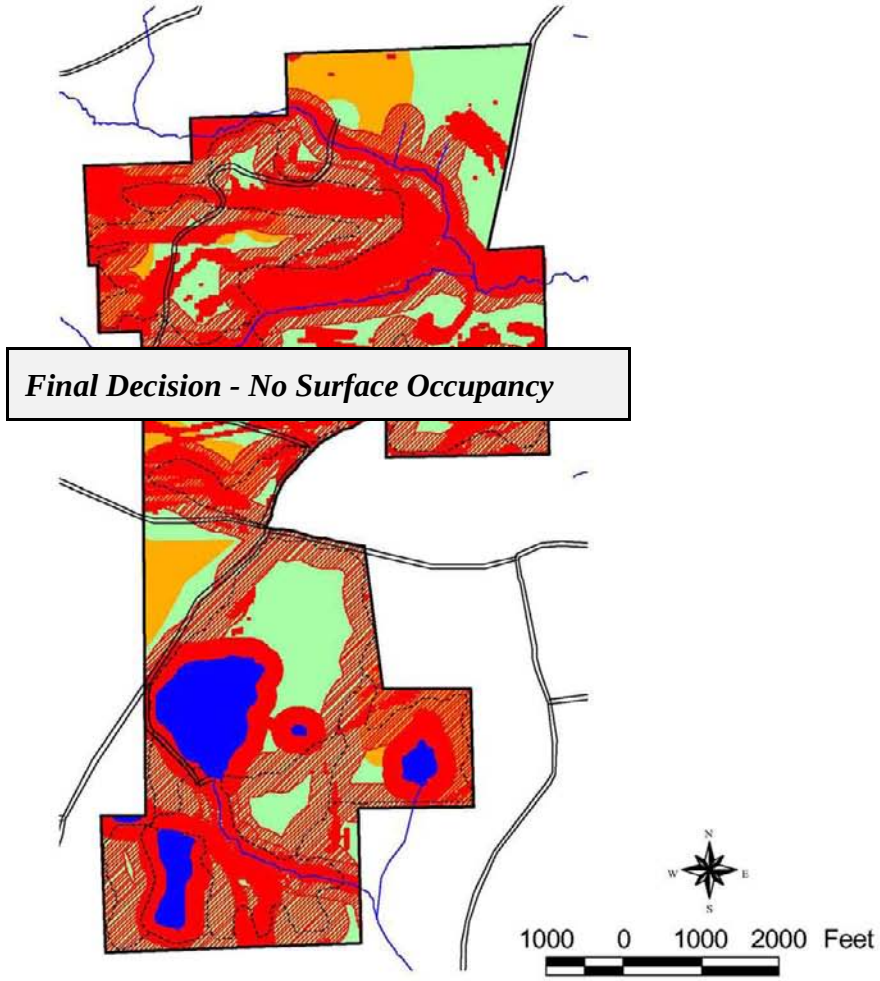


Oil & Gas Exploration Hierarchy Map Legend

- Category A - Compatible with well pad, road and utility development.
- Category B - Unfragmented Forest Area - One well pad per State Forest.
- Category C - 250 foot Stream & Designated Trail Buffers
  Not compatible with well pad development; compatible with road and utility development.
- Category D - Protection Areas - Not compatible with well pad, road or utility development.
- State Boundary
- Roads
- Designated Recreational Trails
- Streams


Oil and Gas Exploration Hierarchy Maps
Tioga #2 (Oakley Corners State Forests)
Category A
State Land
Roads
Streams
Ponds
Designated Trails
800 0 800 Feet
Compatible with Well Pad, Road and Utility Development
Category B
800 0 800 Feet
N
Unfragmented Forest Area
Category C
800 0 800 Feet
250 foot Stream and Designated Trail Buffers
Category D
800 0 800 Feet
Protection Areas
Wetlands/Water Bodies and 250 foot Buffers
15% or Greater Slope
Natural Areas

Comprehensive Oil and Gas Exploration Map
Tioga #2 (Oakley Corners State Forest)



Oil & Gas Exploration Hierarchy Map Legend

- Category A - Compatible with well pad, road and utility development.
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- Category C - 250 foot Stream & Designated Trail Buffers
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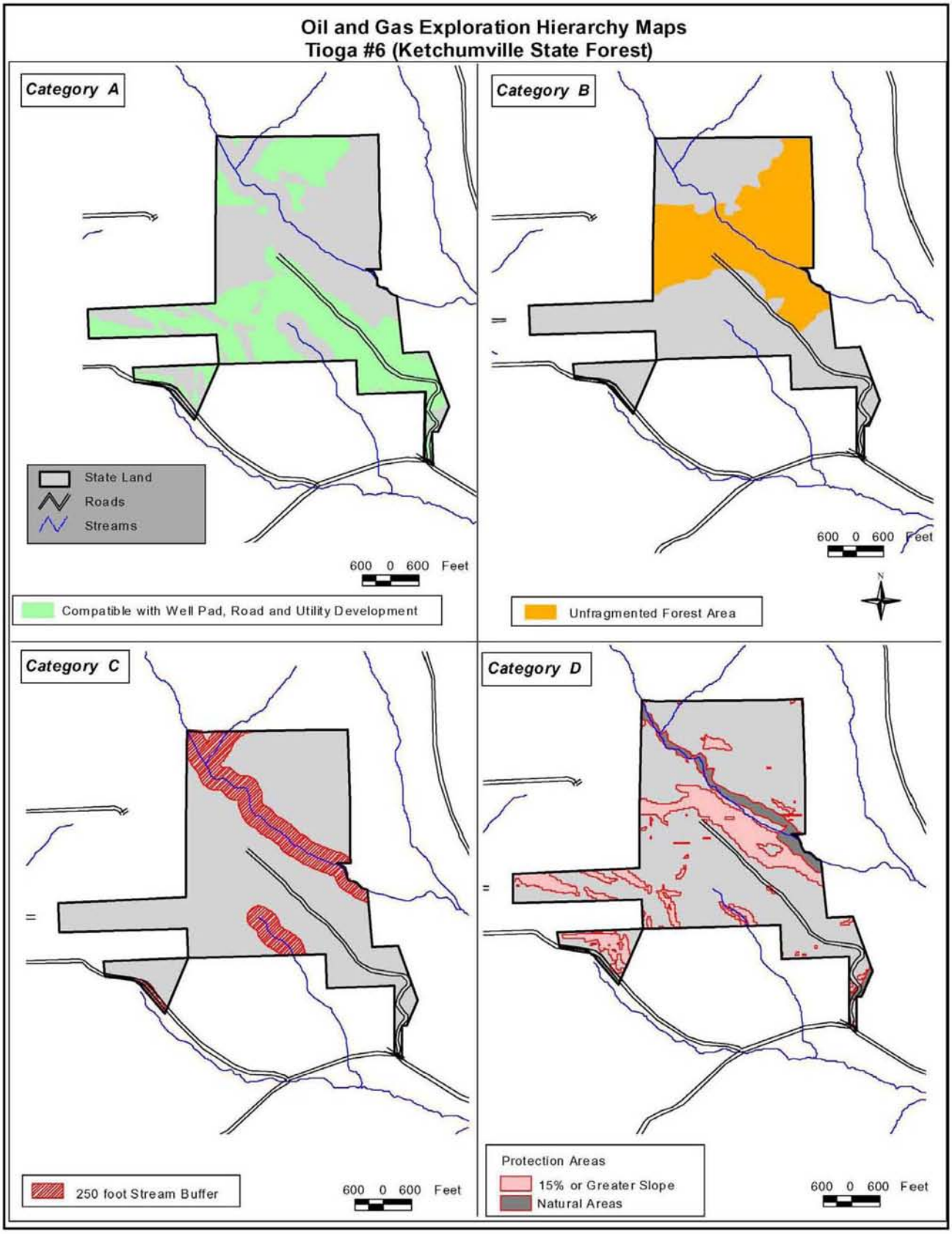
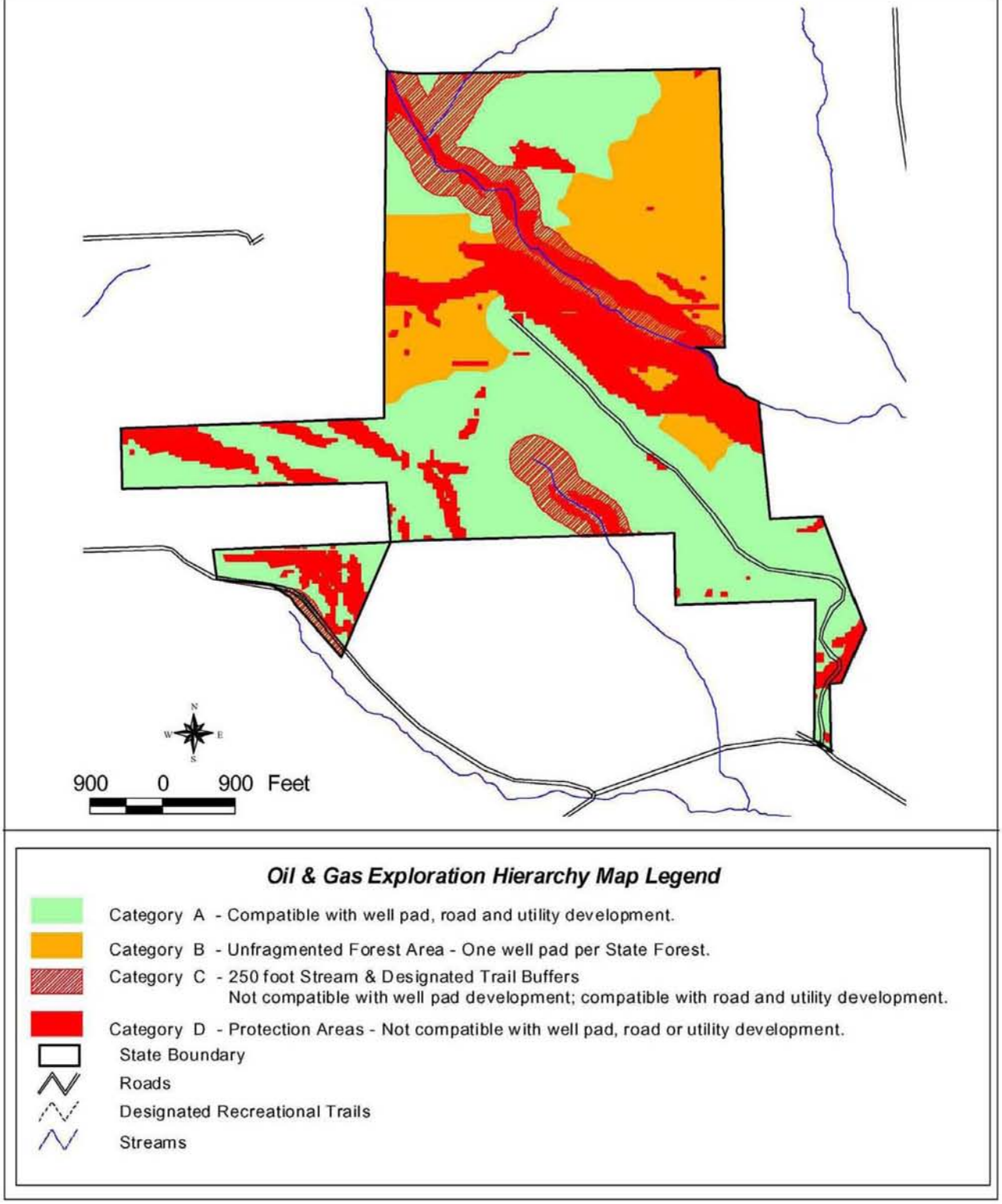
- Category D - Protection Areas - Not compatible with well pad, road or utility development.
- State Boundary
- Roads
- Designated Recreational Trails
- Streams
- Water Bodies


Oil and Gas Exploration Hierarchy Maps
Tioga #6 (Ketchumville State Forest)
Category A
State Land
Roads
Streams
600 0 600 Feet
Compatible with Well Pad, Road and Utility Development
Category B
600 0 600 Feet
N
Unfragmented Forest Area
Category C
250 foot Stream Buffer
600 0 600 Feet
Category D
Protection Areas
15% or Greater Slope
Natural Areas
600 0 600 Feet

Comprehensive Oil and Gas Exploration Map
Tioga #6 (Ketchumville State Forest)



Oil & Gas Exploration Hierarchy Map Legend

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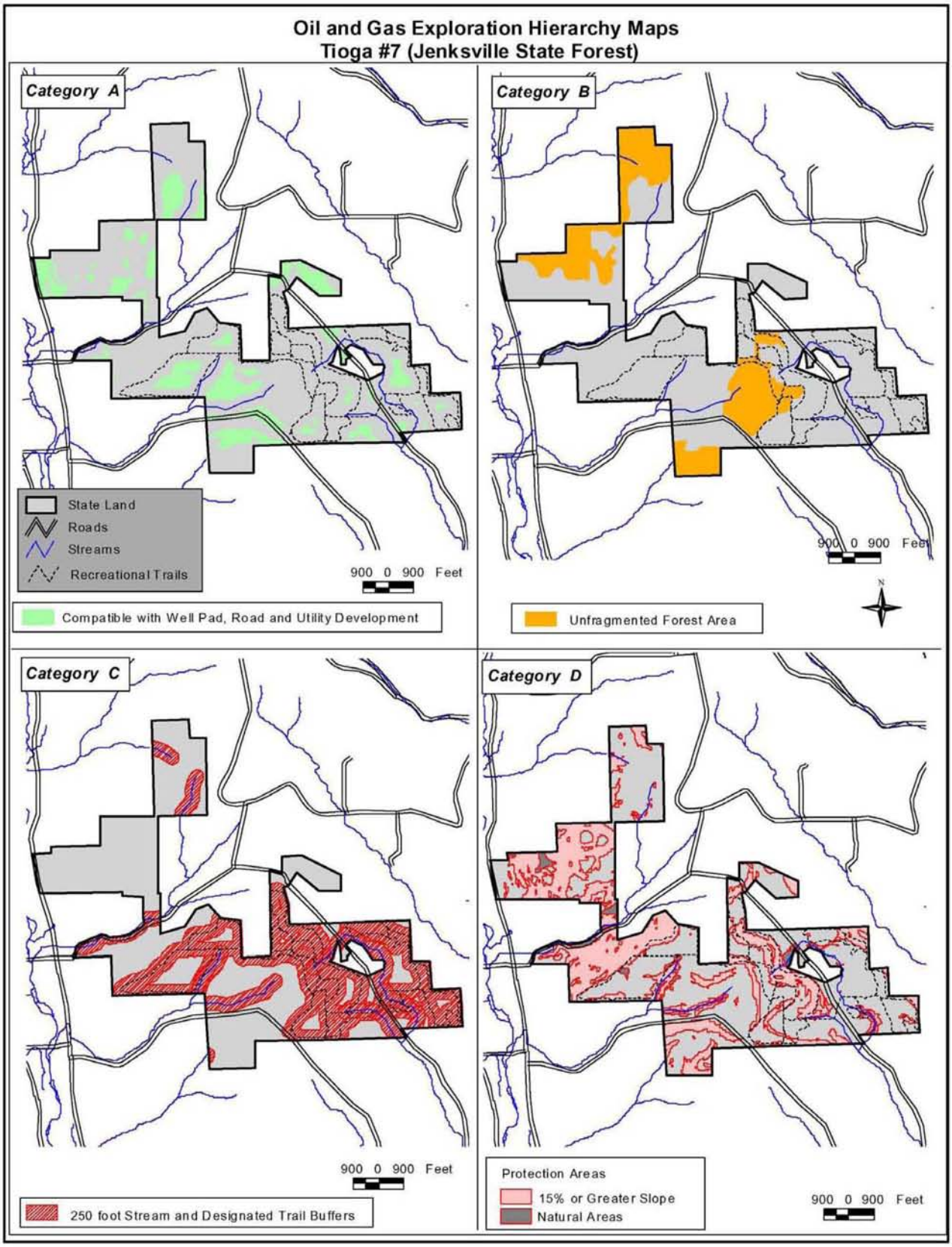
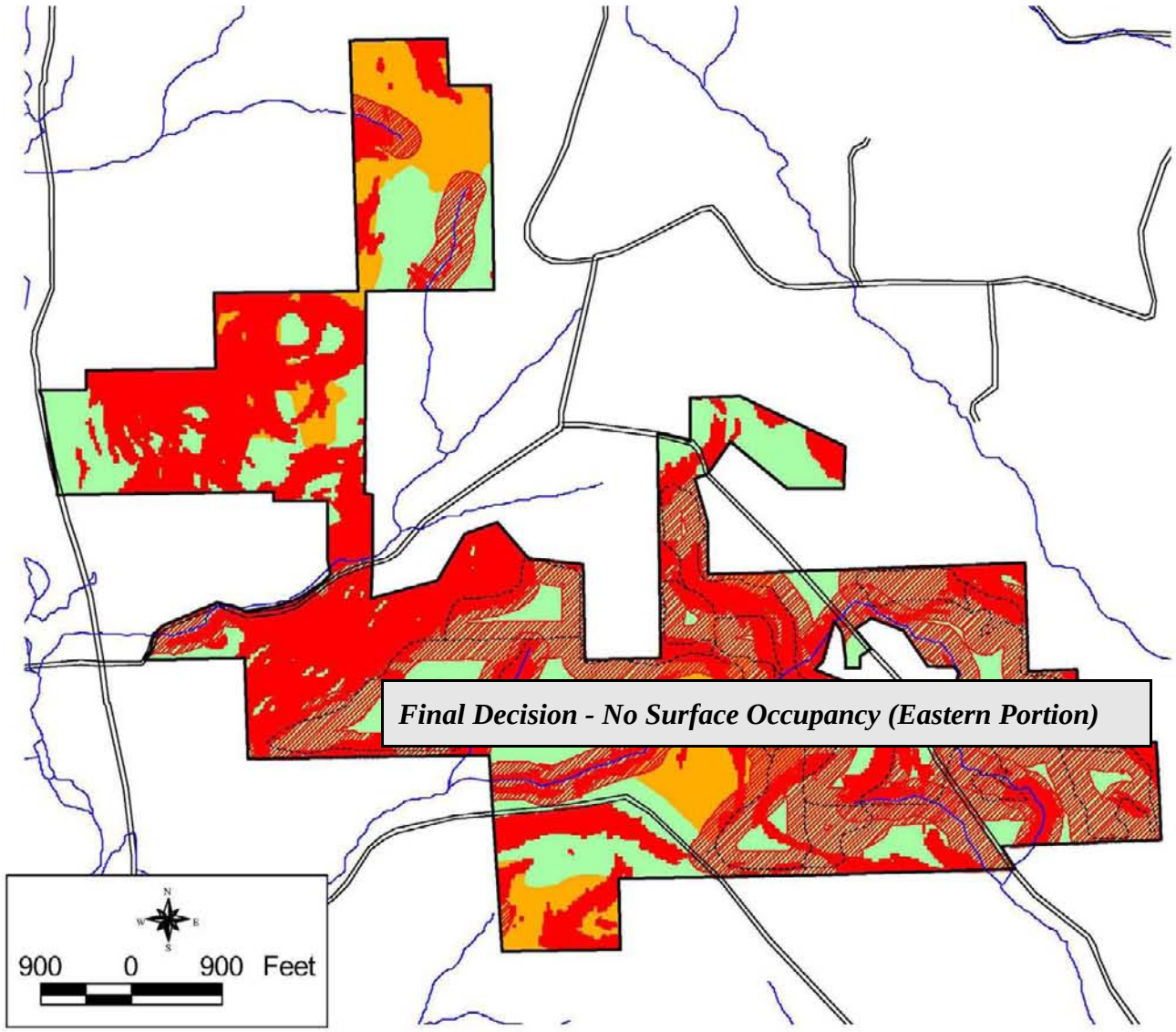
- Category B - Unfragmented Forest Area - One well pad per State Forest.
- Category C - 250 foot Stream & Designated Trail Buffers
  Not compatible with well pad development; compatible with road and utility development.
- Category D - Protection Areas - Not compatible with well pad, road or utility development.
- State Boundary
- Roads
- Designated Recreational Trails
- Streams


Oil and Gas Exploration Hierarchy Maps
Tioga #7 (Jenksville State Forest)
Category A
State Land
Roads
Streams
Recreational Trails
900 0 900 Feet
Compatible with Well Pad, Road and Utility Development
Category B
900 0 900 Feet
N
Unfragmented Forest Area
Category C
900 0 900 Feet
250 foot Stream and Designated Trail Buffers
Category D
Protection Areas
15% or Greater Slope
Natural Areas
900 0 900 Feet

Comprehensive Oil and Gas Exploration Map
Tioga #7 (Jenksville State Forest)



Oil & Gas Exploration Hierarchy Map Legend

- Category A - Compatible with well pad, road and utility development.
- Category B - Unfragmented Forest Area - One well pad per State Forest.
- Category C - 250 foot Stream & Designated Trail Buffers
  Not compatible with well pad development; compatible with road and utility development.
- Category D - Protection Areas - Not compatible with well pad, road or utility development.
- State Boundary
- Roads
- Designated Recreational Trails
- Streams