New York State
Department of Environmental Conservation

Division of Lands & Forests

KEUKA HIGHLANDS
UNIT MANAGEMENT PLAN

FINAL

Towns of Urbana, Wheeler, and Pulteney in Steuben County

February, 2011

Lead Agency:
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Region 8 Sub-Office
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DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

MEMORANDUM

TO: The Record

FROM: Joseph Martens JM

DATE: FEB 14 2011

SUBJECT: Final Keuka Highlands UMP

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

PREFACE

It is the policy of the New York State Department of Environmental Conservation (NYS DEC) to manage state lands for multiple benefits to serve the people of New York State. This Unit Management Plan (UMP) is the first step in carrying out that policy. The plan has been developed to address management activities on this Unit for the next 10 year period. Some management recommendations may extend beyond the 10 year period.

Factors such as budget constraints, wood product markets, and forest health problems may necessitate deviations from the scheduled management activities.

Green Certification

New York State DEC-Bureau of State Land Management contracted with NSF-International and Scientific Certification Systems to conduct auditing for the purpose of obtaining dual certification under Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI) program standards on over 762,000 acres of State Forests in Regions 3 through 9. This independent audit of State Forests was conducted by these auditing firms from May until July 2007, with dual certification awarded in January 2008.

With the dual certification the wood harvested off State Forests from this point forward could now be labeled as "green certified" through chain-of-custody certificates. Green Certified labeling on wood products may assure consumers that the raw material was harvested from well-managed forests.

The Department has joined only an elite few states representing less than 10% of working forests certified as well-managed throughout the Northeastern Region of the United States. The Department's State Forests can be counted as well-managed to protect habitat, cultural resources, water, recreation and economic values, now, and for future generations.

#SCS-FM/COC-00104N
©1996 Forest Stewardship Council
FSC certification means that NY DEC State Forests are managed according to strict environmental, social and economic standards.

#NSF-SFIS-6l741
NY DEC use of the Sustainable Forestry Initiative® program logo mark indicates that State Forests have been certified by a qualified independent auditor to be in conformance with the SFI Standard.

The Unit Management Planning Process

New York State's management policy for public lands follows a multiple use concept established by New York's Environmental Conservation Law. This allows for diverse enjoyment of state lands by the people of the state. Multiple use management addresses all demands placed on these lands, such as: watershed management, timber management, wildlife management, mineral resource management, rare plant and community protection, recreational use, taxes paid, and aesthetic appreciation.

In this plan, an initial resource inventory and other information is provided, followed by an assessment of existing and anticipated uses and demands. This information is used to set goals and management objectives. Management actions tables provide an estimated cost and timetable for accomplishing these objectives.

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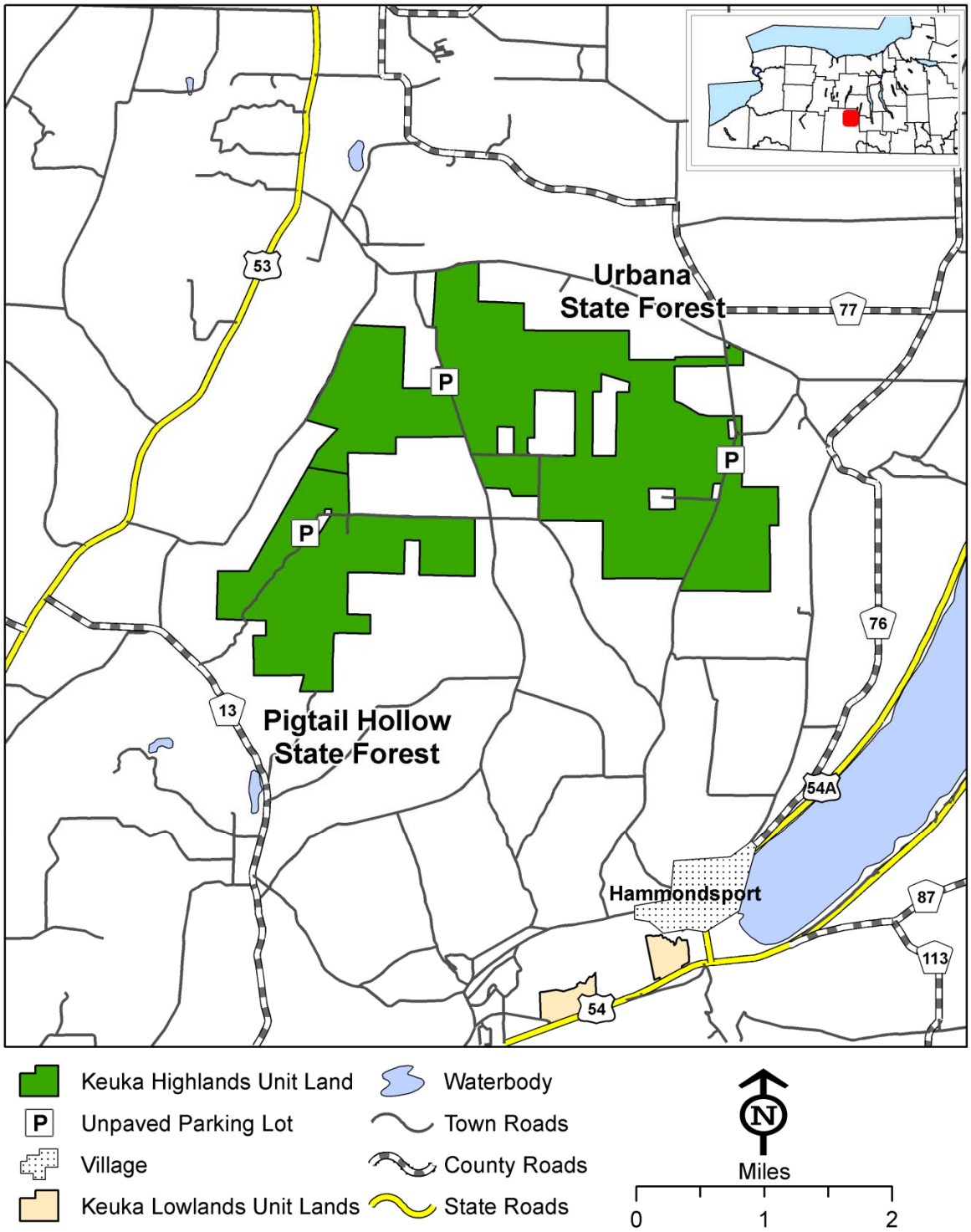
KEUKA HIGHLANDS UNIT LOCATION MAP



Additional Maps are in Appendix K, starting on page 104

INTRODUCTION

History of State Forests and Wildlife Management Areas

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

As the less fertile soils proved unproductive, they were abandoned, and settlement was attempted elsewhere. The stage of succession was set and new forests of young saplings re-occupied the ground once cleared.

The State Reforestation Law of 1929 and the Hewitt Amendment of 1931 set forth the legislation which authorized the Conservation Department to acquire land by gift or purchase for reforestation purposes. 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”. This broad program is presently authorized under Article 9, Title 5, of the NYS 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) was begun. 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, little was accomplished on the reforestation areas. Plans for further planting, construction, facility maintenance, and similar tasks had to be curtailed. However, through postwar funding, conservation projects once again received needed attention.

The Park and Recreation Land Acquisition Act of 1960 and the Environmental Quality Bond Acts of 1972 and 1986 contained provisions for the acquisition of state 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.

Wildlife management areas in New York, like state forests, have a varied history of acquisition. Many were gifted to the New York State by the Federal Government or other cooperating public or private organization. Some parcels were purchased with Bond Act funds or Federal Aid in Wildlife Restoration Program funds. The latter which is commonly called the Pittman-Robertson Act is a federal fund supported by hunters from their purchase of hunting licenses, firearms and ammunition.

Today there are over 770,000 acres of State Forests, approximately 751,000 acres of conservation easements, and over 223,000 acres of Wildlife Management Areas throughout the state. The use of these lands is important to the economy and to the health and well-being of the people of the state.

History of Keuka Highlands Unit Management Area

The area was originally inhabited by Seneca Indians, the Seneca are a member of the Haudenosaunee (people of the long house) or Iroquois Confederacy. It is known that Seneca settlements occupied both the Fivemile Creek Valley to the west of the Unit and the area surrounding Keuka Lake to the east. The famous Seneca chief, Red Jacket, resided in what is now Branchport on the north end of Keuka Lake. The Senecas undoubtedly hunted the area of the management Unit and practiced agriculture in the surrounding valleys.

The destruction and devastation of the Seneca homeland by the Sullivan-Clinton Campaign of 1779 resulted in the opening of Seneca lands, as well as other Haudenosaunee lands, to American expansion. The Campaign was ordered by General George Washington during the middle of the American Revolution in order to deal both with a perceived threat of potential Indian alliances on the Colonies' western frontier, as well as retribution for actual alliances some Haudenosaunee made with the British in response to the Revolution. The Campaign came close to achieving its essential goal that Indian country "not be merely overrun, but destroyed".

In 1788, Oliver Phelps and Nathaniel Gorham purchased 2,600,000 acres from the State of Massachusetts. In 1790, they sold 1,250,000 acres to Robert Morris, who immediately sold 750,000 acres to William Pulteney. Colonel Charles Williamson, an entrepreneur from Philadelphia was the chief land agent for the Pulteney purchase. He subdivided the Pulteney tract and sold by contract to individual homesteaders. By the late 1800s, only 30 percent of the land was forested.

The first half of the 20th century was characterized by a decline in agriculture and subsequent reversion of open land back to forest. Acquisition under the Reforestation Law and Hewitt Amendment began on the Unit in 1937. Records indicate that at least some cultural activity, namely timber stand improvement, boundary line surveying, and boundary line marking, was accomplished by enrollees of the Kanona Civilian Conservation Corps Camp.

The major emphasis immediately after World War II was tree planting. Between 1946 and 1955, almost 400,000 trees were hand-planted on 525 acres.

On both Urbana and Pigtail Hollow State Forest the first parcels were purchased in 1937, for $4 per acre. Additional acres were acquired during the mid 1940's and early 50's. In 1961-64, several acquisitions under the Park and Recreation Land Acquisition Bond Act totaled 1121.5 acres. This brought the total acreage of the Unit to the 3,688 acres it contains today.

During the 1960s, the major management impetus was reforestation of the newly acquired Bond Act properties. State forest crews machine-planted over 200,000 seedlings on 360 acres during this period. The 1970s saw the forest maturing and an emphasis shift from acquisition and reforestation to management and stewardship.

During the 1980s, a significant change occurred in the land ownership patterns on private lands in the vicinity of the Unit. Farms were subdivided, and new seasonal and full-time residences were built. The trend toward subdivisions or “fragmentation” of surrounding lands is expected to continue. Keuka Highlands is a large block of state-owned land. As such, it will become an even more valuable public asset in the future.

INFORMATION ON THE UNIT

Identification

The approximately 3,688 acre Keuka Highlands Unit is comprised of two state forests. For management purposes, each state forest is consecutively numbered in the order in which they were purchased in each county. Urbana State Forest (Steuben RA #6) comprises 2,690 acres, and Pigtail Hollow State Forest (Steuben RA #11) comprises 998 acres.

Table 1 – Acreage of State Land

NAME	STATE FOREST NUMBER	ACREAGE
Urbana State Forest	Steuben Reforestation Area # 6	2,690
Pigtail Hollow State Forest	Steuben Reforestation Area # 11	998

Geography

This Unit is located in Steuben County in the towns of Pulteney, Urbana and Wheeler. The area is located on the Allegany Plateau, west of Keuka Lake and northwest of the Village of Hammondsport. Table 2 lists the towns/counties where the individual units fall. On the north, it is bounded by Bean Station Road and on the west, by Dineharts Crossing Road. The Bully Hill Road lies immediately to the east of the Unit, and the hamlet of Mitchellsville immediately to the south.

The Unit is located on the divide between the Susquehanna River Basin and the Southeastern Lake Ontario Basin. Local watersheds for this Unit are the Keuka Lake watershed, Upper Fivemile and Lower Fivemile Creek Watersheds.

The Keuka Highlands Unit is generally located 5-10 miles north east of the town of Bath. Bath sits off exits 39 and 38 of US Interstate 86/State Route 17. This region is generally rural. The city of Corning is approximately 15 miles to the south east.

The Keuka Highlands Unit lies on the northern edge of the Allegheny Plateau. Elevations on the unit range from 1400 to 1900 feet. One and one-half miles to the east of the Unit lies Keuka Lake at 715 feet. The name “Keuka Highlands” is derived from this dramatic change in elevation of 1200 feet.

Table 2 – Towns of the Keuka Highlands Unit

Name	Town(s)
Urbana State Forest	Urbana, Wheeler, Pulteney
Pigtail Hollow State Forest	Wheeler

Climate

The average length of the freeze-free growing season on the Unit is 140 days. The average daily high temperature in winter is 34° F and the average daily minimum temperature is 15°F. In summer, the average daily high temperature is 80°F and the average daily minimum temperature is 55°F. Plateau summits are markedly cooler than the lowland farming areas.

Annual precipitation averages 36 inches. Precipitation is well distributed throughout the year and is usually adequate for all crops. Keuka Lake moderates temperatures sufficiently along its borders to accommodate vineyards.

Average seasonal snowfall is 70-75 inches. In winter snow depths vary greatly with elevation, but on the average, snow depths are measurable for 3 months. Monthly totals of 8 to 20 inches of snow are common from December through March. Sunshine occurs for 65% of daylight hours in the summer and 30% in the winter. The prevailing wind is from the west to southwest. Average wind speed is at its highest, 12 m.p.h., in February.

Climatic data is supplied by the United States Department of Agriculture (USDA) Natural Resource Conservation Service.

Adjacent Land - Existing Uses

The lands immediately adjacent to the Keuka Highlands Unit are all in private ownership. Recreational, residential, and second home properties are the primary uses. Land cover is characterized as either “mixed forest”, “evergreen forest”, or “cropland - pasture”. (USGS, Land Use and Land Cover, Anderson’s Classification)

While agricultural production is not a significant use of lands immediately adjacent to the Keuka Highlands Unit, it is an important use in the broader general area surrounding the Unit. Numerous vineyards are found to the east of the Unit, and produce and vegetable farms are located on the Prattsburg Muck to the north.

Small scale forestry projects are carried out on some of the adjacent properties. There are no large industrial forest tracts adjacent to, or in proximity to, the Keuka Highlands Unit.

Taxes

State forest lands acquired for reforestation purposes pursuant to Section 9-0501 of the Environmental Conservation Law are subject to taxation for all purposes except county tax.

Town tax and school tax are paid annually to the county clerk for distribution to the appropriate towns and school districts. State forests are valued as if privately owned and assessed in accordance with subdivision 1, Section 542 of the Real Property Tax Law.

State forest lands and multiple use areas less than 3000 acres in size acquired using monies from the Park and Recreation Land Acquisition Bond Act of 1960 are not subject to real property

taxes. Portions of this Unit were acquired using 1960 bond act funds and are therefore not subject to property taxes.

Appendix C lists the taxes paid in 2005 on the lands of the Keuka Highlands Unit Management Area. Further details may be found in Section 534 of the Real Property Tax Law.

Geology

Surface Geology

Background

Most surface geology in the Finger Lakes region and 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 ten thousand (10,000) years ago, leaving behind numerous sedimentary deposits and surficial features; including elongated scour features. Some filled with water creating numerous lakes, small and large, some are now call the Finger Lakes.

Most soils and sediments in the region are related to past glacial activity, and subsequent weathering and erosion processes over the last 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 Devonian Period of the Paleozoic Era, approximately 370 million years ago. Any post Devonian rocks have been eroded from the region. The presence of rounded igneous and metamorphic clasts is indicative of past glacial activity transporting material into the region from the Canadian Shield to the north.

Keuka Highlands Unit

The State lands included in this Unit management plan have similar surface geology. Pigtail Hollow State Forest and the Urbana State Forest include surface geology consisting of glacial till as the dominant surface sediments in the area. Bedrock outcrops and subcrops of Upper Devonian shales, siltstones, sandstones and minor limestones (Westfalls Group) are located intermittently on the sides and crests of ridges and hills in these two State Forests. This is most likely due to the erosion of overlying glacial sediments, causing the exposure of the bedrock. Further information on the surface geology of the region is provided by the Surficial Geologic Map of New York, New York State Museum - Geologic Survey - Map and Chart series #40, 1986.

Table 3 – Surficial Geologic Material

Name	Surficial Geologic Material
Pigtail Hollow State Forest	Glacial Till - Deposition of clays, silts and boulders beneath glacial ice Bedrock - Shales, silts and minor limestones of the Devonian Westfalls Group, intermittent outcrops/subcrops
Urbana State Forest	Glacial Till - Deposition of clays, silts and boulders beneath glacial ice Bedrock - Shales, silts and minor limestones of the Devonian Westfalls Group, intermittent outcrops/subcrops

Soils

Soils on this area are of the Mardin-Volusia-Lordstown association. Specific soil series occurring on the Unit are described and mapped in the USDA publication, Soil Survey of Steuben County, New York. The survey was published by the USDA, Soil Conservation Service. The Steuben County survey was published in 1978. Digital soils data is now available for Steuben County. Appendix K contains maps of the soil types.

The major soil limitation which affects management is the depth of the soil to the hardpan or the fragipan. The Chippewa, Volusia, and Mardin soils all have shallow fragipans which create seasonal wetness and restrict depth of rooting.

Bedrock Geology

Background

Bedrock underlying the Finger Lakes region and 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 (mya)), Ordovician (500-440 mya), Silurian (440-400 mya) and Devonian (400-350 mya) 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 is pre - Paleozoic Era rocks or Pre-Cambrian rocks generally considered to be composed of igneous and metamorphic rocks. These rocks are generally referred to as “basement” rocks.

Keuka Highlands Unit

Rock units (bedrock) outcropping or subcropping at the surface in the Pigtail Hollow State Forest and the Urbana State Forest of the Finger Lakes region and southerntier of New York are shales, siltstones, sandstones and intermittent limestones of the West Falls Group that were deposited during the Upper Devonian Period (approximately 350 - 400 million years ago).

Further information on the bedrock geology of the region is provided by the: Geologic Map of New York - Finger Lake Sheet - New York State Museum and Science Service - Map and Chart #15, 1970.

Subsurface information pertaining to the bedrock (that does not outcrop) has been acquired through two wells drilled during 1979 and 2004 while exploring for oil and natural gas reserves in areas within and surrounding the Keuka Highlands Unit. These two wells were drilled to vertical depths ranging from 8,315 feet to 9,794 feet into the subsurface. Testing the Black River Formation in an area (offsetting Urbana State Forest), south of the Keuka Highlands Unit, and testing in the deeper Potsdam Sandstone Formation in an area in the northern section of the Urbana State Forest.

These formations were deposited during the Middle Ordovician Period (Black River) approximately 450 million years ago and the Upper Cambrian Period (Potsdam Sandstone), over 500 million years ago.

At a surface location approximately 900 feet west of the southern portion of Urbana State Forest and east of Glen Brook Road, the Cabot Oil and Gas Corporation - McDaniels #1 well (American Petroleum Institute (API) # 31-101-23,151-00) encountered the top of the Devonian Tully Limestone at 1,843 feet, Onondaga Limestone at 2,610 feet, Oriskany Sandstone at 2,655 feet, Silurian Salt at 2,990 feet, Lockport Dolomite at 4,174 feet, Medina Sandstone at 4,697 feet, Queenston Shale at 4,895 feet, Trenton Limestone at 7,076 feet, and Black River Limestone/Dolomite at 7,875 feet. The well was drilled to a total depth of 8,147 feet in 2004.

At a surface location in the northeastern portion of Urbana State Forest and along the west side of Colegrove Hill Road, the Columbia Gas Transmission Corporation - NYS Reforestation Area #6 well (API# 31-101-13,699) encountered the top of the Devonian Tully Limestone at 2,059 feet, Onondaga Limestone at 2,825 feet, Oriskany Sandstone at 2,886 feet, Silurian Salt at 3,200 feet, Lockport Dolomite at 4,474 feet, Medina Sandstone at 4,989 feet, Queenston Shale at 5,157, feet, Trenton Limestone at 7,092 feet, Black River Limestone/Dolomite at 7,868 feet, and Theresa Sandstone at 8,791 feet. The well was drilled to a total depth of 9,808 feet in 1979. It was plugged and abandoned in 1979. (See Appendix H for geologic cross section of area).

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 (1) 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 southern dip of strata in the region.

Linements, 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 that began at the end of the Paleozoic Era. Structural reference is available at the Preliminary Brittle Structures Map of New York, New York state Museum-Map and Chart Series No. 31E, 1974.

Mineral Resources

Oil and Gas

Section 23-1101 of the Environmental Conservation Law and State Finance Law authorizes the Department of Environmental Conservation to make leases on behalf of the State for exploration, production and development of oil and gas on State lands. Proposals to lease parcels of Department of Environmental Conservation administered State lands for this purpose may be considered following public notice in the Environmental Notice Bulletin (ENB), and in local newspapers.

Oil and natural gas are valuable resources which can provide energy and revenue, as well as the opportunity for improvements to the existing infrastructure of the Keuka Highlands Unit (such as improving safe and restricted access through upgrading existing roads, culverts and gates) and creation of grassy openings to enhance habitat diversity. As with any other human activity on State lands, oil and natural gas exploration and development can impact the environment. Most of the readily visible impacts are short term and occur during the siting and drilling phases of a well.

In all areas covered by this Unit Management Plan New York State manages the surface estate through the NYS DEC Division of Lands and Forests, and the mineral estate is managed through the NYS DEC Division of Mineral Resources.

For more information on the procedures of gas leasing, see the Mineral Resources section on page 53, as well as Chapter 5 of the Strategic Plan for State Forest Management.

Historical Drilling & Production

The drilling of the first commercial oil and natural gas well in the United States occurred in northwestern Pennsylvania during the middle 1800s. The results of this drilling activity carried over into neighboring New York State. Eventually this activity extended into western New York and areas surrounding what is now the Keuka Highlands Unit.

Natural gas was discovered approximately five miles east of the Keuka Highlands Unit in the northwestern corner of Schuyler County at the Wayne Dundee Field during the late 1950s. (See map in Appendix K) Production was from the Oriskany Sandstone Formation that was deposited during the Late Devonian Period. Gas was produced from depths of approximately 2,000 feet.

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 Activity

Drilling & Production

Natural gas has been discovered recently (1990s to present) from older and deeper Lower Ordovician age rocks of the Trenton / Black River Formations in the northeast corner of Steuben County.

The closest Trenton/Black River gas production to the Keuka Highlands Unit is located in two

fields north of the Unit. These fields are the Glodes Corners Road Field and the Muck Farm Field, which are approximately five and two miles, respectively, to the north. The closest producing well to the Unit is approximately two miles north of the Keuka Highlands Unit. The Columbia Natural Resources Incorporated - Faber # 1 well (API#: 31-101-22,745) was drilled and completed in 1998 in the Muck Farm Field. Production was from the Black River Formation at depths of approximately 7,000 feet (see map Appendix K).

Exploration & Drilling

Exploration for gas in the Trenton / Black River Formations of the southern tier of New York State has diminished during the past two years, but may be replaced with exploration for gas in the shallower Marcellus Shale formation. The most recent drilling activity proximal to the Keuka Highlands Unit occurred during 2004 at a location approximately 900 feet west of the southern portion of Urbana State Forest. When Cabot Oil and Gas Corporation tested the Black River Formation by drilling and completing the Cabot Oil and Gas Corporation - McDaniels #1 well (API#: 31-101-23,151) as a dry hole to a measured depth of 8,315 feet. The well was subsequently re-entered and completed by the Eastern American Energy Corporation as a Marcellus Shale gas well at a depth of approximately 2,600 feet. (See map Appendix K)

Leasing Activity

Initial title review indicates the State owns the mineral estate under all areas covered by this Unit, with the qualification that mineral reservations may exist and no expressed or implied warranty of title is being offered in this document.

Both State Forests in the Keuka Highlands Unit were under oil/gas lease contracts. Leases on the mineral estate under Urbana State Forest and Pigtail Hollow State Forest were effective on June 2, 2003 between the NYS DEC as “lessor” and Cabot Oil and Gas Corporation as “Lessee”, and grant Cabot Oil and Gas Corporation oil and gas rights under both State Forests, located in Steuben County and the Towns of Urbana and Wheeler. These leases were for a period of five years or as long as oil or gas is produced from the property in commercially paying quantities. No commercial gas production was established during the primary term of the leases, hence leases expired in 2008.

Future Leasing Activity

Due to recent drilling and production activity in western New York, the State may again receive requests to nominate lands for leasing. In the event of this occurrence, the procedures outlined in the Minerals section on page 51 will be used. For further information contact the NYSDEC Mineral Resource staff, Region 8, 6274 East Avon-Lima Road, Avon, New York 14414-959.

Mining

Sand, Gravel & Hard Rock

There are no mining contracts, permits, or operations located in the Urbana State Forest or the Pigtail Hollow State Forest. Under Article 7 of the New York consolidated Laws/Public Lands, any citizen of the United States may apply for permission to explore and/or extract any mineral on State

lands. However, current Department policy is to decline any commercial mining application(s) associated with lands in this Unit.

Although there are no mines within State land limits, there are a number of permitted sand and gravel operations surrounding the Keuka Highlands area. Hard rock quarries are not found in this area. Rock units may be exposed or within one meter of the surface and includes Paleozoic shales that are not considered suitable for commercial mining. Sand and gravel is excavated from kame and till deposits.

The surficial geology of the Urbana State Forest and Pigtail Hollow State Forest predominately consists of poorly sorted glacial till of variable texture. Kame and till moraine deposits are common in the area. The bedrock consists of mostly shales, siltstone and sandstone. Commercial sand and gravel mining operations occur approximately 2.5 miles to the north, 4 miles to the southwest and 2.5 miles to the southeast and one is located over 2 miles to the west. (See map, Appendix K) Mining operations are located where well sorted till, kame and alluvial deposits exist.

Timber and Vegetation

Green Certification of State Forests

In 2000, New York State DEC-Bureau of State Land Management received Forest Stewardship Council (FSC) certification under an independent audit conducted by the National Wildlife Federation - SmartWood Program. This certification included 720,000 acres of State Forests in Regions 3 through 9 managed for water quality protection, recreation, wildlife habitat, timber and mineral resources (multiple-use). To become certified, the NYS DEC had to meet more than 75 rigorous criteria established by FSC. Meeting these criteria established a benchmark for forests managed for long-term ecological, social and economic health. The original certification and contract was for five years.

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

Following the signed contract with NSF-International and Scientific Certification Systems, the NYS DEC was again audited for dual certification against FSC and additionally the SFI program standards on over 762,000 acres of State Forests in Regions 3 through 9. This independent audit of State Forests was conducted by these auditing firms from May until July 2007 with dual certification awarded in January 2008. Forest products derived from wood harvested off State Forests from this point forward could now be labeled as “green certified” through chain-of-custody certificates. Green Certified labeling on wood products may assure consumers that the raw material was harvested from well-managed forests.

The NYS DEC now joins only an elite few states representing less than 10% of working forests certified as well managed throughout the Northeastern Region of the United States. The NYS DECs State Forests can also be counted as part of over 2.3 million acres of public, private and industrial certified forests in New York. That's over 15% of the total working forest land in New York third-

party certified as well managed to protect habitat, cultural resources, water, recreation, and economic values now and for future generations.

Current Vegetative Types and Stages

Plant communities are by nature dynamic and ever changing. Young stands of trees get older, and species composition changes with time. Disturbances from fire, wind, insects, disease, timber harvest, and other land-use practices have been an important part of the history of New York forests and have determined the composition and structure of today's forests. By applying different forest management or silvicultural practices, land managers can affect change in vegetative types and stages and associated use by wildlife. The production of forest products is a clearly stated goal in the Reforestation Law of 1929 and is consistent with the proposed management actions in the Keuka Highlands Unit. Future management is covered in the Timber and Vegetation Management section on page 32 and in Appendix F.

The vegetation of the Keuka Highlands Unit contains a mix of species, but is dominated by Oak/Hickory, mostly pole sized (6 to 11inch diameter) natural hardwood forests. The dominant species are red, white and black oak; other species present to a lesser extent include red maple, hickories, ash, aspen, birches, beech, and apple. There are fewer Seedling/sapling and sawtimber stands on the Unit. These stands are typically "even-aged". (All of the trees in a stand are approximately the same age.) Non-forest land consists of wetland, bog, grassland and brushy cover.

The conifer segment is largely plantation, mostly red pine, white pine, larch, and Norway spruce. Hemlock and white pine comprise most of the natural conifer stands. In addition, many of the hardwood forest stands have a softwood component made up of white pine and/or hemlock.

Most of the rest of the stands fit into either the category of "transition hardwoods" or "pioneer hardwoods". Common species include red oak, red maple, aspen, basswood, white ash, and sugar maple. Former agricultural fields have reverted back to "pioneer" forest types. There are no significant areas of brushy or grassy upland meadows.

The following tables (Tables 4 and 5) list vegetative types and stages for the Keuka Highlands Unit. These records are estimated from the most recent inventories available. Pigtail Hollow State Forest and Urbana State Forest were inventoried in 2003. Current division policy requires that a forest inventory be conducted every 10 years and whenever stands are changed by any silviculture operation or by the forces of nature. Forest inventory is accomplished by a statistical analysis of stands. Samples are taken from random locations (called plots) within each stand. Information collected during a forest inventory includes, among other items, species, forest type, tree density, forest health issues, topography, drainage, previous management, and site limiting factors. The required number of plots for each stand varies according to the variability of the stand, subject to a minimum number.

Table 4 – Vegetative Types and Stages for Pigtail Hollow and Urbana State Forests

(This data is based on the information gathered during the 2003 inventory of the state forests.)

Vegetative Type	**Acres by Size Class**					**% of Total**
	0 -5 in	**6 - 11 in**	**12+ in**	**other**	**Total**	
Natural Forest Hardwood	171	1751	386		2,308	62.6%
Natural Forest Conifer		250	5		255	6.9%
Plantation	108	806	12		926	25.1%
Wetland				50	50	1.3%
Ponds				13	13	0.4%
Open/Brush				100	100	2.7%
Other (Roads, Parking lots, etc.)				36	36	1.0%
Total (Acres)	279	2807	403	199	3,688	
% of Total	7.6%	76.1%	10.9%	5.4%		100%

Changes in the Vegetative Types and Stages Between 1993 and 2009

As can be seen from tables 4 and 5, change has happened in the time between the writing of these Unit Management Plans. Some of that change is a result of how inventory is done, and the computer programs used to crunch the numbers. Pigtail Hollow State Forest has been inventoried in 1964, 1987 and 2003 and Urbana State Forest in 1961, 1988 and 2003. In 1987/88 inventory was recorded in the field on paper, then transferred to a DOS computer program in the Bath office; since 2006 it is recorded in the field on a hand held data recorder, then electronically transferred via the internet to servers in Albany. How the maps are created has also changed. Maps used to be hand drawn on aerial photo's, and dot grids used to calculate acreage. Now they are digitally drawn using ArcGIS on the computer over top of aerial photos. Then the computer program calculates acreage to a much more accurate degree. In 2003 the process was in transition, in that data was recorded in the field on paper, but the maps were created on the computer.

In addition, small ponds, roads, and small parking lots were included in the adjoining stand acreage, and are now separated out. One shallow water impoundment was constructed; however it is less than one acre in size. The additional acres of wetland, and some of the pond, are a result of beaver activity and better type mapping.

The timber vegetation has grown. The number of acres with an average tree size 12 inches or better (sawtimber size) has doubled, and the number of acres of seedling/sapling has dropped dramatically from 1191 to 279. How this impacts future timber management will be discussed in the Timber and Vegetation Management section on page 32.

The numbers of acres of plantation decreased for two reasons. Some of it died and collapsed and converted to native seedling on its own, some was harvested and re-grew to (mostly hardwood) seedlings. Natural forest conifer changed dramatically, mostly due to changes in how much conifer is needed to qualify as natural forest conifer vs. natural forest hardwood. Plus three stands were incorrectly classified in 1993 as natural conifer when they are actually plantation.

Table 5 – Vegetative Types and Stages as Reported in the 1993 Keuka Highlands Unit for Pigtail Hollow and Urbana State Forests

(Some differences are a result of technology and inventory changes, but general trends can be seen.)

Vegetative Type	**Acres by Size Class**					**% of Total**
	0 -5 in	**6 - 11 in**	**12+ in**	**other**	**Total**	
Natural Forest Hardwood	695	1304	68		2,067	56.0%
Natural Forest Conifer	157	489	138		784	21.3%
Plantation	339	439			778	21.1%
Wetland				33	33	0.9%
Ponds						
Open/Brush				24	24	0.7%
Other (Gas well)				2	2	<0.1%
Total (Acres)	1191	2232	206	59	3,688	
% of Total	32.3%	60.5%	5.6%	1.6%		100%

Fish, Wildlife and Habitat

The fish, wildlife and their habitats found here are products of the landscape's history. Like many places in the southern tier of New York the coming of the Europeans in the 1700s and the decline of Native American cultures set the stage for widespread changes in the distribution and richness of wildlife resources. Timbering and farming along with unregulated exploitation of fish and wildlife resources caused the disappearance of many wildlife species including most big game animals as well as native brook trout and other creatures of pristine and wild environments. Over the course of time emphasis on timber harvest and farming changed with the availability of resources and markets. Most of the forests were cut heavily, some burned and most of the land cleared for farming and pasturing. Streams filled with sediments. Wetlands were filled. Very little of the landscape was left untouched.

In the 1930s the depression set the stage for the landscape pendulum to swing in a different direction. A very large portion of the area started to revert back toward the mature hardwood forests as farms failed. Young forests lacked significant age to provide timber products. Wildlife species that could quickly colonize these habitats rapidly moved back onto the landscape. Cottontail rabbits and other farm wildlife species diminished as dwellers of young forests such as grouse and deer took advantage of the unoccupied niches.

Today forests have matured and wildlife species are those commonly associated with such habitats. Today bears, white-tailed deer, bobcat, bald eagles, beavers, otter and fisher roam where farm wildlife species ventured at the beginning of the 20th century.

State lands within the Keuka Highlands Unit are contained within Wildlife Management Unit (WMU) 8P. Deer buck take objectives (BTOs) (an index to deer population size) are set by citizen task forces for each WMU. The current BTO for 8P is 4.2 bucks per square mile. Black bear continue to expand their range northward and are now firmly establish in WMU 8P, and in 2008 it was opened to bear hunting.

See the Fishing section, page 19, for a discussion on the current fish populations and locations on the Keuka Highlands Unit. Appendix A lists animals that may be found on the Keuka Highlands Unit and Appendix G for recent wildlife harvest data.

Wetlands and Water Resources

Aquifers

There is a small area of Urbana State Forest which is underlain by the Lower Cohocton primary aquifer. This area is along and adjacent to Dinehart's Crossing Road, along the west side of Urbana State Forest.

The existence of secondary aquifers or minor recharge areas is unknown.

Proper application of Best Management Practices (BMPs) during and after forestry and other construction operations will adequately protect water quality. Further information on these BMPs is provided by the publication: New York State Forestry Best Management Practices for Water Quality: BMP Field Guide.

Wetlands

There are no classified (state protected) Freshwater Wetlands. There are numerous small (unregulated by the State) wetlands, on both State Forest properties. The largest is ten acres in size and comprises Stand D-920 of Urbana State Forest. This wetland is locally known as "Huckleberry Bog".

In general, wetlands are critical habitat for various species of herps, water mammals, birds, etc. See also the wetlands maps in Appendix K.

Streams

This Unit is split nearly evenly between the Upper Susquehanna watershed and the Oswego River watershed. A small portion of the Unit drains into Fivemile Creek and is in the Susquehanna River Basin.

The headwaters of Mitchellsville Creek, Glen Brook, and Hungry Hollow Creek are on the Unit. These are Class "C" streams, which support fish survival. Fisheries resources consist primarily of suckers and minnows. Glen Brook drains directly into Keuka Lake and Mitchellsville Creek into Keuka Inlet or Cold Brook, a significant rainbow trout stream. These streams and several intermittent streams total 6.2 miles on the Unit.

Ponded Waters

There are numerous unnamed vernal pools, small dugouts, water holes, and other small seasonal ponds located throughout the Unit. They provide valuable habitat for reptiles and amphibians, such as salamanders and frogs, but do not support fish. The volume and depth of water varies seasonally, with some drying up during the summer, and others holding water year round.

See also the inventory of streams and ponded waters in Appendix E.

Significant Plants and Communities

There are no rare plants listed in the Natural Heritage database on either Urbana or Pigtail Hollow State Forests. There is, however a highbush blueberry bog thicket (Huckleberry Bog) on Urbana State Forest. It is an 8.8 acre dense shrub swamp with scattered trees and an underlying layer of peat moss, interspersed with shallow troughs of water. It is located off of Reservoir Hill Road, approximately 2.8 mi WNW of the village of Urbana on Keuka Lake and about 3.9 miles north of Hammondsport. Most of it is on state land but a small amount is located on adjoining private property. According to the Natural Heritage Survey, 60-75% of the shrubs are composed of highbush blueberry, with the remainder composed of leatherleaf, velvetleaf huckleberry, black chokeberry, catberry and common winterberry. The most common type of herb present (~10% of the total herb population) is boreal bog sedge. Other herbs that may be found there are cinnamon fern, silvery sedge, tawny cottongrass, three-seeded sedge and water arum. Sphagnum moss is the dominant moss, comprising 70% of the moss cover found there. Some scattered trees can be found throughout the swamp, with white pine, eastern hemlock, larch, black spruce and red maple being the most common.

Roads

The Unit is accessed by state, county and town roads (see location map, page 1 and Appendix K). Town maintained asphalt and gravel roads comprise the majority of access routes. Some portions of the town roads are seasonal and are not maintained for winter travel. Maintenance on four town roads has not been done for many years: on Urbana State Forest, portions of Wixon Hill Road and Bog Road, and on Pigtail Hollow State Forest, portions of Van Hussen Road, and Runner Road.

The State Forest Transportation system provides for both public and administrative access to the Unit. Roads and trails are constructed to standards that will provide reasonably safe travel and to keep maintenance costs at a minimum. There are six types of transportation corridors providing different levels of access, depending on the standards to which they are constructed. NYS DEC reserves the right to limit access to state lands when public safety issues occur, or damage to access infrastructure is likely.

Urbana and Pigtail Hollow State Forests do not have any haul roads or forest access roads. There are 3.5 miles of access trails in Urbana and 0.3 miles in Pigtail Hollow.

The next several paragraphs give brief descriptions of the six types of roads that can be found on State Land.

Public Forest Access Roads - Permanent, unpaved roads which may be designed for all-weather use depending upon their location, surfacing and drainage. These roads provide primary access for administration and public use within the Unit. The design standards for these roads are those of the Class A and Class B access roads as provided in the Unpaved Forest Road Handbook (8/04). As a general guideline, sufficient access is typically achieved when 1 mile of public forest access road is developed for each 500 acres of state land, and no position within the unit lies more than ½ mile from a public forest access road or public highway.

Haul Roads - Permanent, unpaved roads which are not designed for all weather travel, but may have hardened or improved surfaces with artificial drainage. They are constructed according to best

management practices primarily for the removal of forest products, providing limited access within the Unit by log trucks and other heavy equipment. These roads may or may not be open for public motor vehicle use, depending on management priorities and objectives. They may serve as recreational access corridors, but are not maintained according to specific standards or schedules. The design standards for these roads are below those of the Class B access roads as provided in the Unpaved Forest Road Handbook.

Access Trails - Temporary, unpaved roads which do not provide all weather access within the Unit. They are not designed for long term and repeated use by heavy equipment. These corridors were originally constructed for the seasonal removal of forest products by skidding to landings or other staging areas. Constructed according to best management practices, these trails may be used to support other management objectives such as recreational access corridors. Maintenance is limited to activities which minimally support seasonal access objectives.

Recreational Trail - Unpaved recreational corridors which do not provide all weather access within a Unit, and are designed to achieve specific recreational access objectives. Constructed according to best management practices, and following accepted regional standards for design, these trails may be used to support multiple types of seasonal recreation access. Maintenance is limited to activities which minimally support the access objectives and design.

Public Road - Permanent, paved or unpaved roads primarily designed for motor vehicle travel which are maintained by federal, state or local government. These roads may or may not provide year round access.

Rights-Of-Way - Permanent, paved or unpaved roads which allow the Department access to state forest properties while crossing private land, or, corridors across state forests allowing access to private in-holdings.

The public forest access roads and haul roads are all maintained by the NYS DEC and the access trails that are accessible by mower are also maintained. The public forest access roads are open to the public use all year round but are not maintained during the winter months. The haul roads and access trails are used by the public for hiking, biking, cross country skiing, snowshoeing and horseback riding. The public forest access roads, haul roads and some of the access trails are used by the NYS DEC for administrative access. There are also many other unmarked trails in the Unit connecting some of the access trails.

Towers

There may be the potential for generating electricity with windmills or the construction of towers for radio, cell transmission, in the area of the Keuka Highlands Unit. There are currently no windmills, or applications for windmills, for power generation on the Keuka Highlands Unit. NYS DEC does not have the legal authority to authorize the construction of windmills, or commercial towers on the lands covered by this plan. Therefore, legislation would need to be passed authorizing such use before any tower construction could take place.

Recreation

The Unit provides an abundance of recreational opportunities within a two hour drive of metropolitan Rochester and Syracuse. The cities of Corning and Geneva are within an hour drive. Consequently, recreational use can be concentrated with some seasonal variation.

Recreation Opportunities Include:

- Hunting
- Trapping
- Hiking
- Wildlife observation
- Camping
- Mountain biking
- Snowmobiling (State Forests only)
- Cross country skiing
- Snowshoeing
- Picnicking
- Photography
- Nature study
- Orienteering
- Running

There are no designated Off-Road Vehicle (ORV) trails on this Unit. New York State Vehicle and Traffic Law prohibits All Terrain Vehicle (ATV) use on Public Highways which, by definition, also include Public Forest Access Roads. ATV and ORV riding is not a specific program offered on Public Lands owned in fee and managed by the NYS DEC. Existing management actions, poor soils, possible conflicts with other uses, impacts on neighboring residents, safety concerns, maintenance costs and challenges, and existing issues with illegal ATV and ORV use were some of the factors which have prevented the NYS DEC from developing ORV or ATV trails in the past. However, people with qualifying mobility impairments who possess a valid permit from the Department may operate ATVs on specifically designated and signed accessible trails. (See Access for Persons with Disabilities, page 20)

Depositing or leaving rubbish or waste material is prohibited. Cutting, removing, or destroying any living, or standing dead trees or plants is prohibited. Users are required to extinguish all fires completely. Hunting, trapping, and fishing are allowed only during legal season; consult the NYS DEC Hunting and Trapping, and the Fishing Regulations Guides for seasons, hours, and bag limits.

Gates are used to restrict motor vehicle access to the trails and roads of both state forests and wildlife management areas.

Camping

Overnight camping is permitted anywhere on State Forests, as long as it is not within 150 feet of any road, trail, spring, stream, pond, or other water source. For groups of less than 10 people and for up to 3 days, no permit is required, longer stays and/or larger groups are allowed to camp with a permit obtained from the NYS DEC Forest Rangers, at the Bath sub-office. Regardless of location, camping sites must be left in a neat, clean, and sanitary condition.

Hunting and Trapping

Hunting and trapping are valuable wildlife management methods. (See the Fish, Wildlife and Habitat and Vegetation sections). High deer populations can have major impacts to forest regeneration

and under story vegetation. This can negatively impact plant and animal species diversity and richness. Hunting is popular on all state lands in the Unit. Both small and big game hunting opportunities exist. White-tailed deer is the primary big game species. Archery, muzzleloading, and shotgun seasons open annually in the fall. Permanent tree stands are prohibited. Also prohibited are any equipment that damages the trees, including screw in steps, eye hooks, etc. Small game include: wild turkey, ruffed grouse, woodcock, squirrels, cottontail rabbit, and waterfowl. Trapping of furbearers also occurs. Due to the limited water habitats on this Unit most trapping effort is directed toward fox, coyote, and raccoon.

Fishing

Fishing opportunities within the plan area are extremely limited. All of the streams within the Unit are too small to provide fishing opportunities.

Trails

There are several trails, many old roads, and deer trails on the Unit to explore, some of these trails are currently marked and mapped, others are not. A portion of the Bristol Hills Branch of the Finger Lakes Trail is located on the Unit. The Bristol Hills Branch Trail is maintained under the Adopt-a-Natural Resource Stewardship Program by the Finger Lakes Trail Conference. An interpretive trail exists on an area known as “the Huckleberry Bog” on Urbana State Forest. A popular location for high bush blueberry picking when they are in season, this trail features many informative stops as well as an observation platform overlooking the bog. All trails on the Unit can be used for walking, running, cross-country skiing, and snowshoeing. Motorized vehicle use is prohibited. There are no designated horse or bike trails.

Application of the Americans with Disabilities Act (ADA)

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

Consistent with ADA requirements, the NYS DEC incorporates accessibility for people with disabilities into the planning, construction and alteration of recreational facilities and assets supporting them. This Unit incorporates an inventory of all the recreational facilities or assets supporting the programs and services available on the unit, and an assessment of the programs, services and facilities on the unit to determine the level of accessibility provided. In conducting this assessment, NYS DEC employs guidelines which ensure that programs are accessible, including buildings, facilities, and

vehicles, in terms of architecture and design, transportation and communication to individuals with disabilities. A federal agency known as the Access Board has issued the ADA Accessibility Guidelines (ADAAG) for this purpose.

An assessment was conducted, in the development of this UMP, to determine appropriate accessibility enhancements which may include developing new or upgrading of existing facilities or assets. NYS DEC is not required to make each of its existing facilities and assets accessible so long as the NYS DEC's programs, taken as a whole, are accessible. New facilities, assets and accessibility improvements to existing facilities or assets proposed in this Unit are identified in the **Error! Reference source not found.** section.

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

Access for Persons with Disabilities

While no ATV trails currently exist on this Unit, specific routes may be opened to allow ATV use by permitted persons with disabilities, pursuant to NYS DEC Commissioners Policy #3 (CP-3). This program is known as the Motorized Access Program for People with Disabilities (MAPPWD). A permit must first be obtained from NYS DEC. Individuals with qualifying disabilities may apply for a permit to operate an ATV on trails designated by the NYS DEC. For further information contact the NYSDEC, 7291 Coon Road, Bath, New York 14810. (See Appendix D and K)

Archaeological Resources

This Unit is not listed as an "archaeological sensitive area" by the Office of Parks, Recreation, and Historic Preservation (State Historic Preservation Officer). While Native American populations of several different periods probably used these areas as hunting grounds and wild food gathering areas, and short term campsites related to these activities may be discovered, they are not thought to be areas of continuous habitation. Village sites probably did not occupy these landscape positions.

Archaeological Site Protection

The archaeological sites located within this land Unit as well as additional unrecorded sites that may exist on the property are protected by the provisions of the New York State Historic Preservation Act (SHPA - Article 14 PRHPL), Article 9 of Environmental Conservation Law and Section 233 of Education Law. Should any actions be proposed which would impact these sites they will be reviewed in accordance with SHPA. Consultation will be given with the Seneca Nation of Indians Tribal Historic Preservation Office. 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.

Archaeological Research

Any archaeological sites located on this land Unit as well as additional unrecorded sites that may exist on the property will be made available for appropriate research. All future archaeological research conducted on the property will be accomplished under the auspices of all appropriate permits.

Research permits will be issued only after consultation with the New York State Museum and the Office of Parks, Recreation and Historic Preservation. Extensive excavations are not contemplated as part of any research program in order to assure that the sites are available to future researchers who are likely to have more advanced tools and techniques as well as different research questions.

Historic Sites

Urbana and Pigtail State Forests contain numerous cellar holes, barn foundations, stone lined water wells, and other features related to historic occupation during the historical agricultural period.

Please note: As noted above, 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.

NEEDS, ISSUES AND POLICY CONSTRAINTS

This plan strives to manage the diversity of the Keuka Highlands Unit biological and social resources for multiple use to serve the needs of the people of New York State. In order to manage the Keuka Highlands Unit for multiple use, NYS DEC must manage the ecosystem in a holistic manner while reconciling the many and sometimes conflicting demands on the ecosystem. This must be done within the framework of the Environmental Conservation Law (ECL), rules and regulations, and NYS DEC policies and procedures.

Many issues, including public needs, form the basis for the objectives and management actions set forth in this plan. The NYS DEC recognizes that planning must be done today to ensure effective management in the future.

Funding

Currently the NYS DEC's Bureau of State Land Management has a limited budget to manage all of NYS DEC lands.

Funding, when available, is primarily derived from:

- Capital construction account (State General Fund monies)
- Rehabilitation & improvement account (State General Fund monies)
- Stewardship - Special Revenue Other (SRO) account. State forests only. Note: The primary source of revenue for the SRO account is from commercial sales of forest products on State Forests.
- Services in lieu of payment during commercial sales of forest products. (These services are limited to the specific location and certain activities where the sale occurs.)
- Environmental Protection Fund (EPF). This account is primarily funded from real estate transfer tax and other appropriations by the legislature. Appropriations from this fund may be used for a wide variety of projects including habitat enhancement for plants and animals, recreational facilities and forestry improvements such as pre-commercial thinning, artificial regeneration, and control of invasive species.
- Conservation Fund. Wildlife Management Areas only. A state fund consisting primarily of income from the sale of sporting licenses, fines from penalties from fish and wildlife law violations, sale of products off lands administered by the Division of Fish, Wildlife and Marine Resources, and Return a Gift to Wildlife donations. Revenues attributable to the sale of oil and gas leases from Wildlife Management Areas are deposited into the Conservation Fund.
- Wildlife Restoration Program Funds. These are federal funds commonly referred to as Pittman-Robertson Funds. This is a federal program established from money received from excise taxes on the sale of sporting guns and ammunition. Use of land purchased, or activities funded, are federally regulated to certain activities.

Regional allocations from these accounts must be shared by all NYS DEC lands within the region. There is no specific budget established to manage an individual site. Funding is distributed based on priorities for all areas within the region. Tasks listed in the work schedule in this plan are

contingent upon available funding and commitments associated with higher priority projects within the region.

Cooperative partnerships using the “Adopt-A-Natural-Resource-Program” with private conservation organizations or other interested parties can be used to complete projects on the Keuka Highlands Unit. These partnerships are a valuable supplemental source for providing needed services.

Summary of Identified Issues

As part of any Unit management planning process, NYS DEC is committed to active citizen participation. To that end, adjacent property owners, elected officials, media and others potentially interested in the management Unit were identified. While public comments are accepted at any time, a formal citizen participation process was begun on September 6, 2007, when an introductory letter was sent to those identified on the Keuka Highlands Unit Management Plan mail list. This letter briefly described the lands identified in the Unit Management Plan and potential topics to be covered by the plan. It also asked for verbal or written comments related to the Keuka Highlands Unit Management Plan. Public comments received prior to finalizing the Draft Keuka Highlands Unit Management Plan were compiled with staff-identified issues and are included in the following section. Full public comments can be found in Appendix B, including those received at the public meeting that was held May 6, 2009, and those received during the 30 day public comment period.

Access

The demand for access to the Keuka Highlands Unit is expanding. Private land surrounding the Unit is being subdivided and posted against trespass. Access to the Keuka Highlands Unit is necessary to secure all the uses of the area. From logging to hunting, bird-watching to maintenance, safe access by all users of the state forests is an essential element of management.

It is DEC policy to provide appropriate public and operational access to the Keuka Highlands Unit. Access is a necessity for both public use and land management. Restrictions on access may however, positively contribute to the natural character of state lands.

One person asked for continued public access for hiking on the Finger Lakes Trail. Another questioned if the plan would provide an accessible parking lot in the middle of Urbana State Forest. If a parking lot were to be built, he asked that access be limited to hunting season.

Staff identified the possible need to expand parking near where the Bristol Hill Branch of the Finger Lakes Trail crosses Runner/Glen Brook Road on Urbana State Forest. Additional parking is needed on Dineharts Crossing Road and Dineharts Road. Bog Road is in very poor condition, and sections of it are actively eroding. The existing parking on Reservoir Hill Road and Colegrove Hill Road are in poor repair, and in need of work.

Vegetation Management

Plant communities are by nature dynamic and ever changing. Young stands of trees get older, and species composition changes with time. Disturbances from fire, wind, insects, disease, timber harvest, and other land-use practices have been an important part of the history of New York forests

and have determined the composition and structure of today's forests. By applying different forest management or silvicultural practices, land managers can affect change in vegetative types and stages and associated use by wildlife. The production of forest products is a clearly stated goal in the Reforestation Law of 1929 and is consistent with the proposed management actions in the Keuka Highlands Unit.

The demand for forest products from State Land has been reflected in a steady increase in prices paid for timber in recent years. This is especially true for hardwood sawtimber and veneer. The value of standing red oak sawtimber, for example, has increased six-fold since 1975. The demand for fire wood and for softwood sawtimber has remained constant. The demand for pulpwood has never been strong in this part of the state. Keuka Highlands Unit requires the basic need to protect against the threat of damaging fires, insects and diseases.

Staff identified needs such as maintaining open/early successional and unique plants and to be aware of exotic and invasive plant species, such as Giant Hogweed and purple loosestrife, etc.

There were no public comments received about vegetation management.

Water Resources

The Environmental Conservation Law (ECL) dictates that the State Forests within the Keuka Highlands be managed for watershed protection. This is also clearly consistent with Wildlife Management Area objectives and sound conservation practices and public desires. Best Management Practices for water quality are used for all silvicultural practices on state lands. These require specific conservation practices which protect soils and water quality during timber harvest. Well-managed water resources have multiple benefits, including quality fish and wildlife habitats, aesthetically pleasing sites, ground water protection, and flood water retention.

The demand for clean water and protection of soils from erosion is growing, especially in view of the increased population and development pressures on and around Keuka Lake. In addition, the demand for upland water resources for wildlife is growing. Keuka Highlands presently has limited resources to meet this demand.

One person asked if the flow of water could be increased in a stream on their property adjacent to the Unit.

Wildlife and Fish Management

Availability of wildlife species indigenous to the area receives heavy public utilization by bird-watchers, hikers, trappers, photographers, hunters, and other users of the area. To meet the demand for the increasing wildlife interests, maintaining population levels keep an ecological balance among various species and their habitats.

The Division of Fish and Wildlife is charged by Environmental Conservation Law to protect and maintain New York's rich and diverse ecosystems.

One person commented on how the numbers of deer have diminished over the last 30 years.

Staff identified the need to continue to monitor wildlife population levels. Management efforts should include creation of dug-outs for breeding and activity centers as well as protection of sensitive shallow shaded pools in swamp and bog sites.

Public Recreation and Use

One goal of DEC management is to provide suitable opportunities for the public enjoyment of compatible recreational pursuits in a natural setting. DEC is charged under Environmental Conservation Law with guaranteeing that the widest range of beneficial uses of the environment is attained without unnecessary degradation or other undesirable or unintended consequences. The public has an undeniable stake in identifying both "beneficial uses" and "undesirable consequences." The recreational use of State Forest land is a clearly stated goal in the Reforestation Law of 1929 and is consistent with the proposed management actions in the Keuka Highlands Unit.

The demand for "open space" is increasing. Along with this, there is an increase in demand for: access to public land; use of the Bristol Hills Branch of the Finger Lakes Hiking Trail; non-consumptive uses of the forest environment such as nature study, Nordic skiing, bicycling, primitive camping, and hiking. The demand for consumptive uses of the forest resources such as: hunting and trapping, have remained constant. Due to a lack of water resources, water oriented activities are not available on this Management Unit.

There were no related public comments received for the Keuka Highlands Unit.

Oil and Gas Leasing

It should be noted that all State Forests within this Unit were leased under the terms and conditions of the 2003 lease sale. No commercial gas production was established during the primary term of the leases, hence leases expired in 2008

There were no related public comments received for the Keuka Highlands Unit.

Cooperative Agreements

State funding to optimally maintain the Keuka Highlands Unit often falls short of what is desired. There is a need for cooperative agreements. There is also a need to identify additional funding and actively search out cooperative agreements and partnerships to maintain roads and trails and other facilities in the Keuka Highlands Unit.

NYSDECs' formal cooperative program, called the Adopt-a-Natural-Resource Stewardship Program, encourages individuals and groups to undertake activities that meet management needs of state-owned natural resources. Multiple benefits of such partnerships have been identified; serving as a means to complete work that helps preserve, maintain and enhance natural resources at minimal cost to the New York State. It is also an opportunity for organizations, groups and individuals to show willing support for conservation efforts, large and small. Such efforts may involve the cleanup of vandalism, litter pick up, establishment or maintenance of nature trails, providing interpretive services for school groups and other citizens, management of fish and wildlife habitats and other positive benefits to the site and natural resources.

Open Space Conservation

New York State has been a leader in recognizing the value of open, undeveloped land. In November 2006 Governor Pataki issued a plan prepared by DEC and the Office of Parks Recreation and Historical Preservation, entitled, "New York State Open Space Conservation Plan"(Open Space Plan).

The Open Space Plan of 2006 characterizes the need for perpetuation, in a grand sense, of open space and natural landscapes as, “The quality and character of the lives of the people of New York depend upon the quality and character of the land on which we live. Our mountains, lakes, rivers, forests and coastline, our natural landscapes, urban parks and historic resources shape the way we spend our leisure time, affect the long term strength of our economy, determine whether we have clean air and water, support the web of living things of which we are apart, and effect how we think about ourselves and relate to other New Yorkers.” NYS DEC will consider the purchase of selected parcels from willing sellers when funding becomes available. The area surrounding Keuka Highlands has seen an increase in development in recent years. Many farms have been subdivided and sold for second home sites. Because of this, there is an increased demand for a large block of public land which will never be subdivided

One adjacent property owner proposed a land exchange with parcels of the Urbana State Forest.

Aesthetics

In addition to providing open space and a place to experience wildlife and wild land, public lands should also be pleasing to the eye and soul. Scenic vistas, the use of natural materials, and attention to quality design and maintenance are important components of effectively managing the Keuka Highlands Unit. The challenge is to attract users to the site without destroying what has drawn them there in the first place. There is a strong demand for natural areas which present visually appealing landscapes. On Keuka Highlands we plan to enhance these values.

Staff recommends that garbage pickup continue and encourage “Pack it in, Pack it out” and “Leave no trace” ethics.

Cultural Resources and Historic Preservation

A walk in the woods will often reveal objects from past users of the area. These artifacts, such as stone walls, glass bottles or flint arrowheads should be left where they are. The illegal removal or destruction of historic or archaeological resources is a continual problem.

Current Known Illegal Use

Regular patrols are made by law enforcement officials such as Forest Rangers, Environmental Conservation Officers and even local Sheriff Deputies of the Keuka Highlands Unit, and all other NYS DEC lands. But with the limited resources available it is difficult to stop all illegal activities such as:

- ATV and dirt bike use
- Off road driving
- Dumping / littering
- Vandalism
- Construction of permanent blinds and/or tree stands
- Harvest of ginseng and protected plants
- Cultivation of marijuana
- Poaching
- Underage drinking
- Boundary line encroachments / trespass
- Non-permitted use of state land

Whenever possible, fines or other punishments as the law allows are imposed. As money and other resources allow the damage is fixed, dumping is cleaned up and illegal plants are removed.

Policy Constraints

The laws, regulations, and policies listed below provide broad guidelines within which this plan is prepared. The Environmental Conservation Law of the State of New York is available to the public at local libraries, NYS DEC offices, from private vendors, and at http://public.leginfo.state.ny.us/menugetf.cgi?commonquery=laws on the internet.

State Laws

State Finance Law
State Historic Preservation Act (SHPA) - Article 14 PRHPL

Environmental Conservation Law (ECL)

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 of 1972
ECL Article 71 - Enforcement

New York Code Rules and Regulations (6NYCRR)
Available online at: www.dec.ny.gov/regulations/regulations.html

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 - General Regulations
Chapter VII - State Aid
Chapter VIII - Law Enforcement
Chapter IX - Independent Agencies within the Department
Chapter X - Division of Water

NYS DEC Policies

Public Use
Temporary Revocable Permits
Motor Vehicle Use
Timber Management
Unit Management Planning
Pesticides
Prescribed Burns
State Forest Master Plan
Inventory
Acquisition
Road Construction
Motorized Access Program for People with Disabilities (MAPPWD) (CP-3)
Best Management Practices (Water quality)
General Freshwater Wetlands Permit for Wildlife Management Area Management Activities
Bureau of Fisheries Fish Stocking Policies
Archaeological Site Protection
Archaeological Research
Adopt a Natural Resource
Memorandum of Understanding with BLM for FYO 2004/2005 (leasing of gas wells)
Draft ATV Policy for Public ATV Access to Recreation Programs
etc.

Federal Law

Americans with Disabilities Act
Federal Wetland Law 404 - Water quality
Federal Land Policy and Management Act of 1976 (FLPMA)
National Environmental Policy Act of 1969 (NEPA)
General Stormwater SPDES Permit.
etc.

GOALS AND OBJECTIVES

Vision

The vision of this plan is to ensure the biological integrity, improvement and protection of the Keuka Highlands Unit. This shall be done within the multiple use concept of management, which strives to serve the needs of the people of New York State by providing a broad based, biologically diverse ecosystem. Management will be considered over a broad geographical area, not only to ensure the biological diversity and protection of the ecosystem, but also to optimize the many benefits to the public that these lands provide.

The legal mandate enabling the Department of Environmental Conservation to manage state forests for multiple use is located in Article 9, Title 5, of the Environmental Conservation Law. Under this law, state forest lands shall 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".

As stated earlier, it is the policy of the Department to manage state forests for multiple use to serve the needs of the people of New York State. This management will be carried out not only to ensure the ecological enhancement and protection of the forest ecosystem, but also to optimize the many benefits to the public that forest land provides. Management of state forests will be directed toward those activities which will enhance the resources of the land. They will be carried out in a manner which reflects the land's capability for these uses and strives to optimize the benefits of state forests to the public.

NYS DEC lands within Keuka Highlands Unit are unique compared with most private properties in the surrounding landscape. Private landowners have differing management objectives and property size is generally much smaller. State lands provide large expanses open to public recreation. State land management planning horizons extend over a very long time frame. This allows for a commitment to provide healthy and diverse ecosystems and to manage and enhance unique vegetative types.

To achieve the vision, this plan will provide specific management goals with measurable planning objectives. The objectives will be augmented and supported by a plan of action and a timetable. We have chosen, for planning purposes, to separate these into categories, while recognizing that they are interrelated.

Schedule and Budget

The following sections and tables outline a schedule for the implementation of proposed management actions. Accomplishments and listed years are targets, and are contingent upon sufficient staffing levels and funding. It is expected that most tasks will be done by NYS DEC staff. To conform with program budgeting practices, estimated project costs are based on current costs for materials and

wages for seasonal staff labor, excluding fringe benefits and indirect costs. The construction or maintenance projects costs do not include permanent program staff salaries. Therefore costs are significantly lower than they would be for outside contractors.

Access

The management goal for access is to maintain an infrastructure system sufficient to manage the Unit's natural resources and provide for public use of the area. Access is a basic necessity for both public use and land management. The existing public road infrastructure provides adequate public access throughout most of the Unit. However, there is a need for additional parking to alleviate safety problems which occur when users park on existing road right-of-ways. Staff suggested creating or improving additional parking areas on Urbana State Forest on Runner/Glen Brook Road and Dineharts Crossing Road. Pigtail Hollow could use additional parking on Dineharts Road. Each unpaved parking area would accommodate up to 4 vehicles. The existing parking on Reservoir Hill Road and Colegrove Hill Road are in poor repair, and in need of work. The parking on Hungry Hollow Road is in good repair.

The area signs are in poor repair, and missing completely in some cases. Currently there is one on Reservoir Hill Road for Urbana State Forest, and one on Dinehart Road for Pigtail State Forest. New ones will be placed on Bean Station Road and Hungry Hollow Road. Maintain these area signs on each forest and seek permission to erect a directional sign on the intersection of Hungry Hollow Road and the Mitchellsville Road (County Route 13). Boundary line maintenance will continue to include signing all road sides and corners, and painting and signing interior boundaries, to conspicuously identify State Forest land.

Some portions of the town roads are seasonal and are not maintained for winter travel. Maintenance on four town roads has not been done for many years: on Urbana State Forest, portions of Wixon Hill Road and Bog Road, and on Pigtail Hollow State Forest, portions of Van Hussen Road, and Runner Road. This lack of maintenance means large portions of Urbana State Forest are not accessible, except by foot.

Bog Roads status is unknown, it may never have been officially abandoned, but it definitely has not had maintenance in decades, and most of it has had no vehicle traffic in years. In order to provide better access to Urbana State Forest, portions of the road will be repaired, to haul road standards, as part of several timber sales. This will be a several year, and several different sale, process. For additional details, see the Timber and Vegetation Management section. Haul roads are not wide roads, and will not contribute to forest fragmentation.

A very short section of Runner Rd on Pigtail Hollow was rehabilitated as part of a timber sale, with the log landing at the end of the fixed up section. It was not intended to be a parking lot, but has been used as such by the public. It can get muddy, some filter fabric and gravel would make it a more usable parking lot. Placing a gate that can be locked open, or closed, at the end on Dinehart Road would

allow the control of use of the road during muddy seasons. Most of the time this gate would be locked open.

There is currently only one gate on the Unit, but if needed, restricting motor access to haul roads by gates and signs will continue. The costs to upgrade haul roads for public access are prohibitive. Access restrictions are needed to maintain the "backwoods character" of the land as well as protecting sensitive areas. NYS DEC reserves the right to limit access to state lands when public safety issues occur, or damage to the infrastructure is likely.

Urbana State Forest has about 20.9 miles worth of boundary line, and Pigtail Hollow State Forest has about 8.9 miles. In addition, Urbana State Forest has about 2.9 miles of internal road frontage and Pigtail Hollow has about 1.2 miles of internal road frontage, where NYS DEC owns both sides of the road. At the time of acquisition, or when a boundary dispute arises, licensed surveyors put pins in the ground at the corners, and blaze the trees in between along the line. The blazes in the trees are painted yellow and posted with DEC State Forest signs. The goal is to re-paint and post every 5 years, but currently it is on a 7 to 8 year cycle. Urbana and Pigtail Hollow State Forests share a mutual boundary line of about 0.3 miles, which is not marked.

Table 6 – Management Objectives and Actions for Access

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
1	Identify need for additional access	1.0	Survey site(s)	As Needed
		1.1	Receive public comments	On-Going
		1.2	Solicit public comments	Every 10 yrs
2	Maintain roads	2.0	Inspect culverts	Annually
		2.1	Replace culverts on about a 25 year interval.	Replace 1culvert, year 10
		2.2	Public access roads - grade and maintain surface.	Every 2 years.
		2.3	Haul roads - grade and maintain surface.	Every 5 yrs
		2.4	Mow roads right of way	Annually
		2.5	Repair “Bog Rd” in sections, mostly with timber sale tradeoffs.	Years 1, 2, 7, 9, and 10.
3	Construct additional parking lots	3.0	Locate and construct parking lots on Dineharts Crossing, Runner/Glen Brook, and Dineharts Roads.	Years 5, 5 and 8.

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
4	Maintain parking areas	4.0	Litter removal	At least annually.
		4.1	Maintain all parking areas	Years 3 & 10
		4.3	Maintain informational signs	Annually
		4.4	Mow all parking areas	Annually
5	Control access	5.0	Construct a gate at the new parking on Dinehart Rd parking on Pigtail Hollow State Forest	Year 5
		5.1	Maintain gates and signs	Annually
		5.2	Enforce NYS DEC policies	On-Going
6	Identify state property boundary lines.	6.0	Paint and post boundaries.	Every 5 yrs – Urbana SF 2014 Pigtail HLW SF 2010 & 2015
		6.1	Identify and resolve boundary encroachment issues. (No currently known issues.)	As Needed
		6.2	Survey and blaze boundaries. (No currently known issues)	As Needed
		6.3	Repair and replace area signs as they are vandalized or fade.	Year 1
		6.4	Place new area signs on Bean Station Rd and Hungry Hollow Rd.	Year 1
		6.5	Seek permission to erect a directional sign on the intersection of Hungry Hollow Road and the Mitchellsville Road (County Route 13)	Year 5

Timber and Vegetation Management

Staff has identified the following management objectives: strive to maintain a balance of vegetative types and stages, enhance biodiversity, produce healthy and sustainable forest resources, and enhance wildlife habitat diversity.

Commercial Timber Sales

The primary method used to meet these objectives is the commercial sale of timber. Tables 4 and 5, listing vegetative types and stages, are located on pages 13 and 14.

Timber resources include hardwood and softwood sawtimber, pulpwood, and firewood. Some of the factors affecting timber demand on the Unit include timber value, distance to markets, timber species and quality, the availability or scarcity of similar timber in the area, international trade policies and market demand.

The demand for timber on the Unit is part of the larger regional timber market which is part of the global market for wood products. For example - a hardwood tree grown and cut on the Unit's State Forests are often purchased by local loggers or sawmills, sawn into lumber at a mill within the region, and may eventually end up in a consumer product sold in Europe, Asia, or South America. The United States is a large part of the global market and has the highest per capita wood consumption of any nation on the planet. Wood products have been essential to the development of our country and continue to be an essential need of our society. As worldwide population continues to increase and the economies of other countries develop, there will be a continued long term increase in the global timber demand.

At the local scale, there is a somewhat different demand for wood products. While many local loggers supply larger mills with hardwood logs, lesser valued products such as hemlock or larch logs and firewood can be profitably cut and sold to local markets. Hemlock and larch are often sawn by small local band mills for use in barn construction. Firewood is cut by individuals for their own use or for resale to home owners.

The authority to sell forest products from NYS DEC-administered lands is provided by the Environmental Conservation Law. To perpetuate the growth, health, and quality of the forest resources, the Department has implemented a sustained yield timber management program for State Forest lands.

The program is governed in part by a Timber Management Handbook which includes both policies and guidelines to insure that management is carried out in a deliberate and professional manner. The Timber Management Handbook directs and regulates the practice of timber management on NYS DEC lands. This handbook contains technical references, as well as direction on regulation, allowable cutting, silvicultural systems and procedures.

Other sources of direction for NYS DEC timber and vegetation management activities include Commissioner's policy, Division directives and the guidance and thresholds established in the State Forest Commercial Sales Program Environmental Impact Statement (EIS). All timber management activities that may be carried out on this Unit will comply with these guidelines and directives, as authorized under the Environmental Conservation Law. Direction is also given in the NYS DEC publication Best Management Practices for Water Quality, and in the recently issued Management Rules for Special Management Zones.

Forest areas that are considered for timber harvesting are prioritized based on the following criteria, in order of importance:

1. Adequate access
2. Present and future forest health concerns;
3. Current distribution of vegetative stages within the unit management plan area and surrounding landscape;
4. Wildlife considerations;
5. Ability to regenerate stands (if a regeneration harvest);
6. Priority needs of management proposals that must be implemented from other unit management plans;
7. Market conditions;
8. Potential growth response of stands to treatment.

By law, any trees to be removed in a harvest must be designated, and paid for, prior to removal. Designation is made by NYS DEC forestry staff. After designation is completed, a fair market appraisal is conducted. No products may be sold at less than the fair market value. Forest stands are prioritized for treatment based on the criteria outlined above, and the desired future conditions identified by this Unit Management Plan. Prioritization is done by NYS DEC forestry staff, with input by wildlife staff. Any one sale may be composed of a partial stand to many stands combined. The preferred method is to include only entire stand(s), but sometimes natural events or natural features dictate otherwise.

The Environmental Conservation Law requires that different procedures are employed based on the appraised value of a timber sale. Sales that are appraised greater than $10,000 are called “revenue sales” and sales that are appraised at less than $10,000 are known as “local sales.” The New York State Comptroller must approve revenue sale contracts. The Regional Forester has the authority to execute local sale contracts. All sales valued at more than $500 (and those less than $500 which are thought to have “substantial public interest”) are publicly advertised and competitively bid. Law requires that forest product sales can only be awarded to the highest responsible bidder. The Regional sub-office in Bath maintains a mailing list of prospective bidders for forest product sales. Those interested in receiving bid information should contact the Bath office.

Depending upon the sale, there may be an opportunity to use up to 25% of the appraised value for in kind services that enhance state facilities within the sale area. An assessment of the potential will be done with each and every sale of forest products for the impact and possible enhancement. Potential enhancements include; a layer of gravel on a haul road, trail, or public access road, relocation of a trail or road for better placement, conversion of a skid trail to a recreation trail through grading and water control measures, creation of informal or formal parking areas by placement of the log landings, construction of small dug out ponds, installation of vehicle control barriers and other possible work as opportunity presents itself.

In order to have access to most of northern Urbana State Forest, Bog Rd will be rehabilitated to haul road status by this process. If, for some reason, Bog Rd. cannot be repaired to usability, then

several stands will be un-accessible and thus not treated. Afterwards it will be gated to minimize vehicular damage to the newly repaired road bed. The cost to upgrade it all the way to public access road, and keep it maintained, is more than the anticipated appraised value.

Green Certification

In January 2008 NYS DEC was awarded dual certification by NSF-International and Scientific Certification Systems. Forest products derived from wood harvested off State Forests from this point forward could now be labeled as "green certified" through chain-of-custody certificates. Green Certified labeling on wood products may assure consumers that the raw material was harvested from well-managed forests.

FSC #SCS-FM/COC-00104N ©1996 Forest Stewardship Council
FSC certification means that NY DEC State Forests are managed according to strict environmental, social and economic standards.

SUSTAINABLE FORESTRY INITIATIVE #NSF-SFIS-6l741 NY DEC use of the Sustainable Forestry Initiative® program logo mark indicates that State Forests have been certified by a qualified independent auditor to be in conformance with the SFI Standard.

Current and Future Vegetation Types and Stages

As noted above, one management objective is to maintain a balance of vegetative types and stages. Presently, the State Forests within this Unit do not have a balanced mix of vegetative stages, but do have an adequate mix of vegetative types.

Stand composition and vegetative type are influenced by many things. For these forests the most important factors would be:

1. Site capability
2. Seed source
3. Past management
4. Deer Density

The most recent forest inventory data shows there is an over abundance of pole size timber (6-11 inches in diameter) making up almost 76% of the acreage: the rest is split between the sawtimber size (12+ inches in diameter) 11%, and the seedling/sapling size (1-5 inches in diameter) 7%. Less than 3% is classed as grass or brushy openings; and, about 3% was in the pond/wetland/other categories.

For a better distribution of stages, seedling/sapling acres should be created, and sawtimber encouraged, primarily out of the stands currently of pole size. Most pole sized stands will eventually

move to the sawtimber size class on their own as a natural result of growth. Thinning a stand encourages faster growth on the remaining trees, allowing them to reach sawtimber size faster.

There are opportunities to create some seedling/sapling acres by treating mature sawtimber areas, but this must be done with discretion to avoid impacting the total number of sawtimber acres. Most of the acreage listed as “plantation sawtimber” will be converted to “hardwood seedling - sapling” during this planning period, either through management actions or natural processes. Smoothing out the “bump” of pole size class acreage will be a many decade process, much longer than this 10 year plan covers.

Please note that it is impossible to predict exactly what our percentages of the various types and stages will be at the end of this plan period. This is due to two factors:

1. The significant role played by natural forces in the type and stage exhibited by any stand.

2. The fact that most tree species do not lend themselves to management over a 10 year period. In some cases it may require 40 - 50 years before the results of any given management action can be adequately assessed.

Success in this objective will be measured simply by a decrease in pole timber acreage, with a corresponding increase in seedling / sapling acres or sawtimber acres.

There is a low percent of grassy/brushy openings, about 3%. Over the 10 years of this plan that amount should be increased to 4%, or an additional 47 acres. This will be created out of stands, or portions of stands, in the pole size class which contain only sparse tree cover.

Silviculture

When managing forests, foresters employ two silvicultural systems to mimic natural disturbance patterns and promote biodiversity, even-aged and all-aged management.

Even-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. Consequently, such a stand has a beginning and an ending time.

Even-aged management systems are important because they create young forests that are necessary for the survival of many plant and animal species. They favor the establishment of shade intolerant and mid - tolerant 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

critically 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 American beech, butternut, and American chestnut trees.

Actions taken under even - aged management systems might include

1. pre-commercial thinnings of young stands
2. intermediate thinning cuts of middle aged stands
3. actions aimed at regenerating stands
    a. shelterwood (either two cut or three cut)
    b. seed tree
    c. final harvest (clear cut)

All-aged Management

The all-aged management systems differ from the even-aged systems in several ways. Instead of maintaining one dominant age condition in the stand, these systems establish and maintain 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 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 Sugar Maple, and Eastern Hemlock.

Group selection removes small groups of trees, in an attempt to mimic natural disturbance regimes. Group sizes will vary depending on the species group being managed. As group size increases, the differences between this system and an even - age system begin to blur.

Current and Future Silviculture Management

Due to the current vegetative types, stages, and species assemblages presented by these forests, we expect that the even - age system will continue to be the primary silvicultural system applied over this Unit during this planning period. Note that this is only for this planning period, and may change as vegetative types and stages change.

A variety of silvicultural techniques will be used to manage the forests within this Unit, including:

- thinning and regenerating, even-aged stands
- converting even-age stands to all-aged stands (where site and species assemblages are favorable)

- establishing protection areas to maintain and enhance diversity
- protecting ecologically sensitive areas such as stream banks, wetlands, and steep slopes from intensive management.

It takes time for trees to grow into the sawtimber size, thinning cuts speed up this process. Over the 10 years of this plan approximately 1,090 acres of thinnings have been scheduled. It is anticipated that some of that acreage will still be in the pole size class in 10 years, especially those cut near the end of the cycle. However, at least some of the early cuts will be closer to, if not in, the sawtimber size class. A regeneration cut results in a seedling/sapling stand. There is about 278 acres of regeneration cuts scheduled for the 10 years of this plan. This is less than the ideal number of acres to create an even flow of age classes, however, biologically, and economically, it is best not to attempt to regenerate stands before they reach maturity.

On Urbana State Forest, stand H-1 will be split into about thirds, with each part being regenerated at least five years apart. The end result is three new stands each at a different stage of growth, and thus providing three different kinds of habitat for wildlife to use.

No pre-commercial thinnings have been scheduled to specific years. By definition, pre-commercial cuts require funding to pay someone to cut trees, and funding has not been consistently provided for this purpose in the past. If finding becomes available the seedling/sapling and smaller pole size stands will be evaluated for such activities. In addition several stands cannot be accessed with modern logging equipment, even though they could be treated. If access improves through additional acres being purchased, or new types of logging equipment being developed, these stands will also be evaluated for silvicultural activities. If, for some reason, Bog Rd. cannot be repaired to usability, then several stands will be un-accessible and thus not treated.

Most of the stands scheduled for all-aged cuts are not currently all-aged stands, and it will take several cycles of cuts to reach that status. This is well beyond the 10 years of this plan, in addition, natural events, such as ice storms or insect infestations may cause changes in the end goal.

Protection areas receive special consideration whenever management activities, of any kind, are planned which may impact these areas. Examples include:

- seasonal harvest limitations,
- restrictions of type and/or size of harvesting equipment,
- special considerations for access.

Some protection areas are managed specifically to restrict or prohibit management activities. These practices may also be employed on other areas not designated as protection forest whenever site or vegetation protection is needed. Examples include: poorly drained soils, slopes over 15%, presence of historical or archeological features, rare and/or endangered species, recreational use, wildlife considerations, and preparation for forest regeneration. As might be expected from the landscape position, wetlands are not a large proportion of these forests. Wetlands do represent unique habitat types, and require special management zones. See the Fish, Wildlife and Habitat and the Watershed and

Wetlands Protection sections for further details.

In 2006 a new forest inventory system was implemented, which allows identification of areas receiving special management considerations.

Oaks and American chestnut are native tree species on the Keuka Highlands Unit. However, historical management and disease have discriminated against these species. The objective is to maintain and enhance well-adapted, native species in the Keuka Highlands Unit by using the most current silvicultural knowledge.

Difficulties with regenerating oak, conifer and other shade-intolerant and mid-tolerant species, have led to shade tolerant species such as Sugar and Red Maple becoming well-established. The presence of shade tolerant species will challenge the land managers abilities to meet the overall vegetative goals of balancing forest types and stages.

The establishment of oak stands on these forests came about due to an unusual set of circumstances, which will be rather difficult to reproduce. When the time comes to regenerate these oak stands it may be necessary to use techniques (such as prescribed fire, scarification, pesticide, etc.) which are not well known in this area. Outreach to user groups, and the general public, will be critical in explaining the science behind these techniques, why they are required, and why it is critical to reproduce the existing oak stands. In some cases additional forms, plans, and/or SEQR may be required.

See also the discussion under Even Aged Management, above.

Plantation Management

Most of the conifer plantations on this Unit were planted between 1935 and 1968. Many of the existing red pine plantations on the Unit are reaching their biological maturity. On most sites tree crowns are thinning and many stands are experiencing mortality. Natural succession within these maturing plantations is likely to follow one of two very different pathways.

The first would be characterized by slow decline of the existing softwood overstory and a gradual release of the current crop of young seedling - sapling hardwoods in the understory.

The second would be characterized by the existing softwood overstory being removed by a single catastrophic event (i.e. ice storm, heavy late season snow, unusual wind event, aggressive insect attack, etc.). This pathway would result in a much more rapid release of species in the understory.

The composition of the understory is the key in both cases. Note that, particularly in the case of the second scenario, if the understory is dominated by shrub species, a forested stand may not be the result. Rather a shrub savannah may result which might (depending on site factors) slowly succeed to a young hardwood stand.

In both scenarios there is also the possibility that, if site factors are favorable, some of the

softwood species from the original plantation may participate in the “new” stand. Anecdotal evidence suggests that we should expect this, at least through the seedling - sapling stage. Long term persistence of these species on these sites may be somewhat less likely. We have not been following this type of situation long enough to have much information on the likely outcome. See also the discussion relating to desired conifer component for this management Unit.

The objective for managing these plantations should be to try to mimic the first scenario. Enough trees will be removed during thinning to reduce the density of trees and allow the establishment of desirable tree species in the understory. This will be followed by removal of the softwood overstory once the number of new, young, trees in the understory is sufficient to assure a “new” stand.

While this is our primary objective, we recognize that, in spite of our best efforts, there will be those situations where nature will take its course and the second scenario will be played out. Once the catastrophic event occurs, the decision on salvaging the remaining woody material on the site will need to be made. This will be done on a case by case basis, depending on site and regeneration factors. It is impossible for us to estimate, at this time, the acreage which could be involved in salvage operations.

Conifer Component

Forest ecologists have identified conifers as an important component of the ecosystem. The establishment of conifers through planting has created a significant conifer component on these forests. The area in conifer plantations amounts to 23% of the total, natural conifer acreage amounts to about 5% of the area, for a total of 28% conifer of one type or another.

Staff has not identified softwood plantations on this Unit which serve as a habitat niche for native wildlife species. Most of the plantations do not occur on soil types which are conducive to success by plantation conifer species. Therefore, we are not proposing to replant any plantations. The better course is to allow these areas to succeed (either through management intervention or by natural forces) to native, natural, vegetation. This may, or may not, include a significant conifer component.

For the purposes of this plan a conifer natural stand is any stand (that was not planted by humans) where the most prevalent species is eastern hemlock, eastern white pine, other conifer species, or where these species in combination compose 33% or more of the stand. Care must be taken to assure that the conifer natural stands “reproduce to type”; no conversion of conifer natural stands to other types should occur as a result of management actions.

Grass and Brush Management

Over the 10 years of this plan the amount of grass and brush acreage should be increased to 4%, or an additional 47 acres. This will be created out of stands, or portions of stands, in the pole size class which contain only sparse tree cover. Any one grassy opening will be 5 acres, or more, in size. The timing on clearing to create these openings will depend on funding, because of this; an exact year of

action has not been picked.

Existing, and future, grassy and brushy opening will need to be maintained, or they will revert to forest. Grass needs to be mowed at least every 3 years, and Brush hydro-axed about every 5 years. If it isn't mowed the grass converts to brush and then the brush grows into trees. The clock can be set back even more by converting brush to grass, which if the funding becomes available, may be done. Applying lime, or even more rarely fertilizer, can enhance the health of grasses over invasive plants such as goldenrod. Fire can also be used to maintain an area in grasses. Most warm-season type grasses grow the best following a fire. Additional paperwork, such as a burn plan and SEQR are required prior to doing a controlled burn.

Grassland acres are created out of timber acres by removing the trees, including stumps and roots, and planting grass seed. The soil pH will be tested, and if money is available, lime may be applied prior to seeding. Best Management Practices will be used to control erosion.

Forest Health Threats

Often, stands that are stressed by overcrowding become susceptible to forest health threats. One such threat currently causing concern is the Sirex wood wasp (Sirex Noctilio). The Sirex wood wasp is a devastating pest of pine plantations. It is native to Europe and Asia and has destroyed millions of pines in Australia, South America and South Africa. In September of 2004, a Sirex wood wasp was discovered in a research trap in Fulton, New York. An expanded trapping effort in 2006 confirmed the presence of Sirex in most counties in western New York. Utilizing literature from around the world, NYS DEC has developed management direction in regard to dealing with the Sirex wood wasp. The literature suggests that dominant trees with a good crown ratio in managed / thinned stands experienced very little to no damage from Sirex. Unhealthy, suppressed and over-crowded trees in unmanaged stands, on the other hand, experienced mortality rates of up to 65% over a three year period in one study. As the infestation in New York is still young, we do not yet know what the impacts will be. Therefore, silvicultural management options, at this point in time, do not include consideration for liquidation cuts or work to convert stands to a non-pine species composition, unless this is a management objective for other valid silvicultural reasons. Periodic, judicious application of thinning operations to maintain stand densities at levels recommended in applicable stocking guides for optimum growth is currently NYS DEC's approach to silviculture in consideration of the potential threat of Sirex.

There are many biotic factors that influence the health of a forest. A few prominent factors for the forests in the Unit are animals and insects or disease. White tailed deer eat young tree seedlings, and by doing so, play a major role in the success or failure of establishing young forests, particularly those comprised of shade-intolerant species. In accordance with established procedures used by NYS DEC to determine deer management decisions, a reduction in the number of deer on the landscape by liberal harvest via hunting is encouraged.

Some level of insect, disease and natural disaster are recognized as being a beneficial factor in shaping our vegetation. Various endemic and epidemic occurrences of insect, diseases, fires and storms

periodically impact the vegetative communities of the Keuka Highlands Management Unit. Infestations of introduced insects such as Gypsy Moth and Hemlock Woolly Adelgid and the previously mentioned Sirex wood wasp are of present concern and require regular monitoring. Native insect species such as Pear Thrips and Fall Cankerworms are cyclic in population and may be expected to impact vegetation at some time in the future as they have in the past. The professional foresters of NYS DEC will continue to observe the effects of these factors which influence the vegetation on the Unit. By closely monitoring these outbreaks management actions may be able to lesson undesirable impacts.

Invasive exotic insects, fungi, animals, or plants can cause problems. Some exotics, such as chestnut blight, and beech bark disease, invaded years ago, and have all but exterminated the chestnut and beech tree. The hope is to avoid this again, by closely monitoring for new arrivals, and if possible eliminating them from North America before they can spread. At the time of this writing, some known insect/fungi invaders posing threats to New York's forests include the Sirex wood wasp, Emerald Ash Borer and the Asian Longhorned Beetle.

Insects, fungus, wind, ice or snow storms can all cause unexpected but devastating damage to stands of trees. In the event of such widespread damage occurring, a salvage cut may be the best action. A salvage cut removes the dead and/or dying trees, and functions as a regeneration cut on an even aged management that Mother Nature initiated. This cannot be scheduled at this time, but has the potential to completely re-arrange the cutting schedule in Appendix F. If this happens, there is the potential to be a lot more acres regenerated.

Invasive plants are also crowding out native species. Current exotic invaders include purple loosestrife, buckthorn, honeysuckle, garlic mustard, hogweed, multiflora rose, and Japanese knotweed. Unfortunately, there are many more that are not listed here. As money and time allow, they will be monitored, removed when found, or other management actions taken to lessen the effects.

The application of control methods will be determined using Integrated Pest Management (IPM). IPM is a science-based decision-making process that guides land managers when investigating a pest situation. The IPM approach determines the most appropriate and cost effective management solution for the specific pest situation. IPM includes identification of the pest, understanding the use and significance of a site or the importance of protecting unique resources, and education of the people involved. IPM also establishes pest tolerance levels and monitoring protocols. Then, with the help of technical experts and on a case–by-case basis, NYS DEC foresters develop an effective, site specific and low risk strategy to manage the pest. This includes altering conditions which attracted pests to the site in the first place. IPM often involves changing human behavior as well.

The following priorities will guide the application of control methods with varying degrees of environmental impacts. The most impactful methods hold the lowest priority and will not be applied unless all higher priority methods are not effective. Low priority methods will be applied in concert with higher priority methods in order to increase effectiveness. As new technologies are developed, they will be incorporated into management actions following appropriate review and assessment.

1. Silvicultural Remedies
   Changes in forest composition and structure may create conditions that are less favorable to some invasive species.
2. Hunting
   Invasive and nuisance species can be kept in balance within the ecosystem by applying hunting as addressed within the Deer Management section of the Strategic Plan for State Forest Management.
3. Mechanical Control
   Digging, pulling or cutting may be effective in altering site conditions to control invasives and directly controlling some plant species.
4. Grazing
   Although many invasive plants may be resistant to applied scientific grazing, this method may be appropriate for some species. Grazing on State Forest lands would require the availability of an agricultural partner along with staff and funding resources.
5. Biological Control
   Biological control is the science of reconnecting invasive plants with the specialized natural enemies that often limit their density in their native ranges. The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) is responsible for controlling introductions of species brought into the United States for biological control of plants, in accordance with the requirements of several plant quarantine laws, the National Environmental Policy Act, and the Endangered Species Act. Petitions for release of plant biological control agents are judged by a Technical Advisory Committee, which represents the interests of a diverse set of federal and other agencies. (Van Driesche, et al. 2002)
6. Herbicide Treatment
   All pesticide/herbicide use will conform to guidelines identified in the Active Forest Management section of the Strategic Plan for State Forest Management.

Inventory

Division policy requires that a forest inventory be conducted every 10 years and whenever stands are changed by any silviculture operation or by the forces of nature. Forest inventory is the critical task in the vegetation management planning process, as it forms the basis for all science based vegetative management decisions in this plan.

Forest inventory is accomplished by a statistical analysis of stands. Samples are taken from random locations (called plots) within each stand. Information collected during a forest inventory includes, among other items, tree and shrub species and size, forest type, tree density, forest health issues, topography, drainage, previous management, and site limiting factors. The required number of plots for each stand varies according to the variability of the stand, subject to a minimum number.

See Appendix F for a schedule of stands and management actions, and maps in Appendix K.

Table 7 – Management Objectives and Actions for Vegetation

	Management Objectives	Mgt. Action #	Management Actions	Frequency of Action
1	Maintain knowledge of forest stands.	1.0	Perform State Forest inventories	Every 10 yrs.
2	Maintain healthy vegetation	2.0	Practice Integrated Pest Management	On-Going
		2.1	Reduce Deer population, to reduce damage to the low growing vegetation (understory).	Annually
3	Develop the Following Vegetative Balance:			
	Grassy/Brushy Openings (100 current acres, plus 47 additional acres)	3.0	Create about 47 acres.	By year 10
		3.1	Maintain grassy openings with a 3 year rotation of mowing. Or annual burn.	Every 3 yrs. (Or annually)
		3.2	Maintain brushy openings with a 5yr rotation of hydro-axing.	Every 5 yrs.
	All Age silviculture - 20 yr cutting rotation	3.3	Timber management on 126 acres / 7 stands	See schedule, Appendix F
3	Even Age silviculture, Natural hardwood at about a 100 yr rotation	3.4	Regenerate 325 acres / 12 stands	See schedule, Appendix F
	Plantation softwood at about a 75 yr rotation	3.5	Thin 1,090 acres / 40 stands	See schedule, Appendix F
	Roads, ponds, wetlands etc.	3.6	Maintain per "Unit Maintenance and Facilities Management" and/or "Fish and Wildlife Habitat" and/or "Public Recreation and Use"	On-Going

Wetlands Protection

The Reforestation Law of 1929 mandates watershed protection as one of the most basic goals of the state forest system. Although the Keuka Highlands Unit contains no classified streams, classified freshwater wetlands or large ponds, it forms the headwaters of two streams which flow into Keuka Inlet and Keuka Lake. Watershed protection was a primary objective of the original acquisition of State Forest lands and will be a primary objective on Keuka Highlands.

Compliance with the New York State Freshwater Wetlands Act (ECL Article 24) and the Water Resources Law (ECL Article 15, Title 5) is required by NYS DEC when conducting management activities or construction projects that involve regulated activities within protected wetlands, water bodies, or streams. Timber Harvesting Guidelines which are mandatory for all silvicultural practices on state lands, require specific conservation practices which protect soils and water quality. The ECL dictates that, among other purposes, State Forests within this Unit be managed for watershed protection, and sound conservation practices and public desires.

Regulated activities within protected wetlands, streams and waterbodies include such things as clear-cutting vegetation and construction of ponds or road crossings. Normal maintenance and repair of existing structures is generally exempt from permit requirements. Well-managed water resources have multiple benefits, including quality fish and wildlife habitats, aesthetically pleasing sites, ground water protection, and flood water retention.

The need for small dug-outs was elicited in the objectives for "Fish and Wildlife Habitat".

Table 8 – Management Objectives and Actions for Watershed and Wetlands

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
1	Protect water and wetland resources	1	Utilize Best Management Practices (BMP's) for water quality on timber sales, gas well site construction, recreation facilities, and any other construction.	On-Going
1	Protect water and wetland resources	1.1	Control erosion through proper road and trail maintenance.	On-Going
		1.2	Comply with the Water Resources Law and Freshwater Wetlands Acts.	On-Going

Fish and Wildlife Habitat

The fish and wildlife habitat goals for the Unit are to maintain and enhance habitat for fish and wildlife species and to provide public access for activities including hunting, fishing, trapping, hiking, bird watching and other compatible outdoor recreational pursuits.

There is a robust diversity of amphibian and reptile species to be found here. Management efforts should include creation of dug-outs for breeding and activity centers as well as protection of sensitive shallow shaded pools in swamp and bog sites. Dug-outs will be developed at a rate of one per 320 acres. Protection of all wetland environs should enhance these species as well as several aquatic birds.

Management for birds and mammals will largely be driven by the age of the specific forest stand and its species composition. Most of the area is dominated by pioneer hardwoods which are largely in younger age classes. Efforts need to continue to achieve a balance of age classes, so wildlife species diversity and abundance are maintained. This includes establishing new forests by clear cutting as well as maintaining older age classes via selective harvest or establishment of protection areas. All can be accomplished by continued attention to harvest of forest products. Natural conifer stands are an important component of the predominantly hardwood stands in the Unit and should receive special consideration to insure that they remain as a component in future stands. Management of hemlock stands should be designed to include multiple age classes if possible. Special attention to deer management is warranted given the ability of high deer populations to impact vegetative species diversity.

Grassland and open areas are indeed rare and should be maintained whenever possible. Opportunities to establish such habitat should be taken advantage of with gas exploration and pipeline development if such occurs.

Table 9 – Management Objectives and Actions for Fish and Wildlife Habitat

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
1	Manage habitats for endemic wildlife species and public use	1	Conduct timber management to achieve balance forest structure. (See Vegetation Management)	As needed
		1.1	Develop and maintain up to 10 small ponds and dugouts to act as amphibian activity centers.	One per year
1	Manage habitats for endemic wildlife species and public use	1.2	Maintain conifer component of natural forests	On-Going
		1.3	Maintain and enhance grassland habitats by mowing and/or burning	At least every three years.
		1.4	Protect and enhance rare plant and animal communities	Annually
2	Encourage public use to enjoy wildlife resources	2	Assist local groups in utilizing and protecting wildlife resources	Annually
		2.1	Work with local and governmental groups to enjoy wildlife habitat by building ponds, observation decks, nesting structure etc.	As opportunities arise

Public Recreation and Use

One goal of the NYS DEC is to "Connect New Yorkers to Nature" by providing suitable opportunities for the public enjoyment of compatible recreational pursuits in a natural setting. NYS DEC is charged under Environmental Conservation Law with guaranteeing that the widest range of beneficial uses of the environment is attained without unnecessary degradation or other undesirable or unintended consequences. The public has an undeniable stake in identifying both "beneficial uses" and "undesirable consequences." Recreational program opportunities for people with disabilities will be planned in perspective with those available in the region on NYS DEC lands. For a list of facilities available on The Keuka Highlands Unit see Appendix D.

Wildlife-related recreation, including wildlife viewing, hunting, and trapping, is a dominant and important use of the NYS DEC lands in the Keuka Highlands Unit. Users are encouraged to adhere to standards of equitable distribution, fair chase, ethics and the maintenance of the variety and quality of use. Additional recreational pursuits will continue to be allowed to the extent that they are compatible with habitat integrity, wildlife use and financial resources.

Haul roads, and old town roads combined with existing logging roads, hiking trails, and utility lines form an excellent network to access recreational opportunities. Parking areas and informational signs and maps are needed on most areas to help identify and promote public enjoyment and compatible use. The individual brochure for the Unit was last updated in 1987, and could use updating.

Off-Road Vehicle (ORV) or All Terrain Vehicle (ATV) trails will not be developed on this Unit. A number of factors have contributed to this decision. As stated in the Strategic Plan for State Forest Management, ATV riding is not a program offered on State Forests. The development of ATV access can be considered under this policy if it is necessary to provide access to programs and activities on the Unit. The Unit is too small to support an ATV trail system, and it would conflict with existing recreational uses. Currently, existing illegal ATV activity has created management and maintenance challenges. In addition, soil limitations on this Unit make many areas unsuitable for ATV use.

In the event another entity is establishing a legitimate public ATV trail system on lands adjacent to a State Forest, and a State Forest is needed to serve as a connecting link, or in the event that a State Forest road or trail could serve to connect already designated ATV trails open to the public, DEC will evaluate and consider the proposal. Any such trail proposal must comply with state law, department policy and regulations. If it is determined to be environmentally compatible, a connecting trail could be established on the State Forest. This would be dependent on the availability of sufficient funds to establish and maintain a sustainable trail. The State Forest based connector trail, if approved, must follow the shortest environmentally acceptable route available.

The inclusion of a connector trail in a UMP and the subsequent establishment of any such trail could only occur if it does not compromise the protection of the natural resources of the Unit, significantly conflict with neighbors of State Forests, nor interfere with other established recreational areas. Such designation shall only occur through the amendment or adoption of a UMP or another

process which provides similar opportunities for public review and comments and full SEQRA review of the proposed designation.

Connector trails will be monitored to ensure that legal use does not lead to illegal off-trail use within State Forest lands or on neighboring private property. Should illegal use increase significantly adjacent to any connector trail, that trail will be subject to closure.

While no ATV trails currently exist on this Unit, specific routes may be opened to allow ATV use by permitted persons with disabilities, pursuant to NYS DEC Commissioners Policy #3 (CP-3). This program is known as the Motorized Access Program for People with Disabilities (MAPPWD). A permit must first be obtained from the DEC. Individuals with qualifying disabilities may apply for a permit to operate an ATV on trails designated by the NYS DEC. For further information contact the NYSDEC, 7291 Coon Road, Bath, New York 14810. (See Appendix D and K)

Currently there are no MAPPWD trails on Pigtail Hollow or Urbana State Forests. Bog Rd is a possibility, but only if several requirements can be met: it needs to be repaired to a usable state, parking provided, and care taken to not overlap with the walking only Bristol Hills Branch of the Finger Lakes Trail, then it may be posted as a MAPPWD route.

In keeping with current State Forest policy, camping, and day use picnicking are acceptable recreational uses of Pigtail Hollow and Urbana State Forests. Dispersed recreation will continue to be encouraged over the entire Keuka Highlands Unit.

The Bristol Hills Branch of the Finger Lakes Trail crosses over Pigtail Hollow and Urbana State Forests. On Urbana there is also a loop trail that connects with the Bristol Hills Branch trail. Both were constructed and are maintained by the Finger Lakes Trail Conference (FLTC) under the Adopt-a-Natural Resource Stewardship Program. A portion of the trail is a guided nature walk, constructed and maintained by the FLTC steward for this part of the trail. One of the stops on the nature walk is a wooden wildlife viewing platform on Huckleberry Bog. Two kiosks hold trail books and sign-in books at the intersections of the loop trail and the Bristol Hills Branch. An initial review of the trail indicates that portions need some upgrading. Most are fine, but some sections are wet, and some are steep; re-routing, building puncheons (raised wooden trail) or other trail improvements may be needed to create a better trail experience. Exact locations and construction details would require approval by the Regional Forester or designee. Any major maintenance, re-routes or additions will be reviewed on an individual basis by NYS DEC and require approval of a Temporary Revocable Permit (TRP), or an amendment to the Adopt-a-Natural Resource Agreement.

Prior to starting this Unit Management Plan, one person contacted NYS DEC about the possibility of a horse trail being constructed on Urbana and Pigtail Hollow State Forests. However, the Unit is too small to support a horse tail system. Soils and topography restrict even further the areas that could support a trail. Horseback riding is available on the Six Nations Trail System, located on Sugar Hill and Goundry Hill State Forests in Schuyler County.

Occasionally, forest product sales may affect certain recreational facilities. Depending upon the sale, there may be an opportunity to enhance the recreational facility. An assessment of the potential will

be done with each and every sale of forest products for the impact and possible enhancement. Potential enhancements: relocation of a trail for better placement, conversion of a skid trail to a recreation trail through grading and water control measures, creation of informal, or formal, parking areas by placement of the log landings, installation of vehicle control barriers and other possible work as opportunity presents itself.

Application of the Americans with Disabilities Act (ADA)

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

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

An assessment was conducted, in the development of this UMP, to determine appropriate accessibility enhancements which may include developing new or upgrading of existing facilities or assets. NYS DEC is not required to make each of its existing facilities and assets accessible so long as the NYS DEC's programs, taken as a whole, are accessible

Table 10 – Management Objectives and Actions for Public Recreation and Use

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
1	Identify additional recreation needs.	1	Receive public opinion.	On-Going
		1.1	Monitor use patterns	On-Going
		1.2	Assess user satisfaction from comments received.	On-Going
2	Coordinate with volunteer groups, and other agencies/municipalities through the use Cooperative Agreements, to construct and/or maintain existing and/or future recreational facilities	2	Identify resources and/or volunteer groups to form additional partnerships.	On-Going
		2.1	Assist the Finger Lakes Trail Conference sponsors in maintenance and enhancement of the Bristol Hills Branch Trail and Loop Trail.	On-Going
		2.2	Provide resources or utilize opportunities as needed to maintain and enhance existing trail(s)	On-Going
		2.3	Minimize conflicts between hikers, bikers, and other users	On-Going
3	Determine feasibility and/or compatibility of proposed additional recreational opportunities.	3.0	In house review of proposed projects	On-Going
		3.1	Add proposed projects to the Keuka Highland UMP by amendment. (This includes a 30 day public comment period.)	On-Going
		3.2	Negotiate and enter into AANR agreements with sponsoring volunteer groups.	On-Going
4	Provide additional recreational opportunities.	4	Maintain and improve access for persons with disabilities by assessing the possibility of designating sections of Bog Rd as MAPPWD, after it repaired.	Year 10
4	Provide additional recreational opportunities.	4.1	Provide technical support for volunteer groups.	As Needed
		4.2	Construct barriers to discourage motorized use of skid trails and abandoned roads after logging operations.	As Needed
5	Advocate wildlife-based recreation	5	Encourage bird watching, hunting, fishing, trapping etc. according to New York State regulations.	On-Going

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
6	Maintain existing and future recreational facilities.	6	See Maintenance and Facilities	On-Going
		6.1	Maintain wildlife viewing platform, kiosks, and trails.	On-Going
7	Increase awareness of public recreation opportunities.	7	Provide brochures and maps for users.	Update Every 5 yrs
		7.1	Place kiosks at high use parking areas.	By year 10
		7.2	Update maps and brochures to reflect new facilities/trails/acquisitions	Every 5 years
8	Enhance visual appeal	8.0	Establish a litter-free environment by promoting carry in/carry out policy.	On-Going
		8.1	Remove litter from state land.	At least annually.

Unit Maintenance and Facilities Management

The goal is to maintain facilities to ensure the Units integrity, character, and safety. This must be done with the limited money and staff resources that are available. See also the “Access” and “Public Recreation” sections for additional facilities.

There may be the potential for generating electricity with windmills or the construction of towers for radio, cell, etc. transmission, in the area of the Keuka Highlands Unit. There are currently no windmills, or applications for windmills, for power generation on the Keuka Highlands Unit. NYS DEC does not have the legal authority to authorize the construction of windmills, or commercial towers, on the lands covered by this Unit Management Plan. Therefore, legislation would need to be passed authorizing such use before any tower construction could take place. This plan does not cover any actions, or construction, on any adjacent privately owned lands.

The Bristol Hills Branch of the Finger Lakes Trail (a foot trail) crosses the Unit. This trail is maintained by volunteers. It is the policy of the department to encourage the use of volunteers to maintain facilities such as these.

Table 11 – Management Objectives and Actions for Maintenance and Facilities

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
1	Maintain constructed ponds/potholes/dug-outs	1	Inspect for problems.	Annually
		1.1	Maintain dikes, control boxes, etc	Annually
		1.2	Excavate bottom of dug-out on Hungry Hollow Road.	Year 7

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
2	Solicit volunteer groups to help maintain facilities (see also Public Recreation and Use)	2	Promote Adopt a Natural Resource Program.	On-Going
		2.1	Enter into agreements with volunteer groups.	On-Going
3	Maintain existing and future facilities.	3	Identify needed maintenance	On-Going
		3.1	Do the needed maintenance, as money allows.	On-Going
		3.2	Enhance law enforcement efforts.	On-Going
4	Maintain existing and future roads and parking lots.	4	See “Access” section	On-Going

Land Acquisition

The acquisition of land by DEC in New York State is guided by the New York State Open Space Conservation Plan. The Open Space Conservation Plan serves as a blueprint that identifies the priority projects, policies and programs that will enhance land acquisition from willing sellers for the future. The plan, issued jointly with the Department and the Office of Parks, Recreation and Historic Preservation, relies heavily upon the input of Regional Advisory Committees, local governments and the public. The Open Space Conservation Plan is updated every three years, as required by law. In November 2006 NYS DEC and the NYS Office of Parks Recreation and Historical Preservation issued a plan, entitled, "New York State Open Space Conservation Plan". (www.dec.ny.gov/lands/317.html) The plan brings together: 1) an objective analysis of the State’s resources; 2) the knowledge and insight of professionals inside state agencies; and most importantly, 3) the informed and valuable ideas of the public, local government and the private sector.

Table 12 – Management Objectives and Actions for Land Acquisition

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
1	Provide improved access to the Unit.	1	Identify land acquisition needs.	On-Going
		1.1	Acquire desired properties from willing sellers as funding permits.	On-Going
2	Consolidate public ownership by eliminating in holdings	2	Identify land acquisition needs.	On-Going
		2.1	Acquire desired properties from willing sellers as funding permits.	On-Going
3	Enhance recreational opportunity.	3	Identify land acquisition needs.	On-Going
		3.1	Acquire desired properties from willing sellers as funding permits.	On-Going

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
4	Protect significant ecological areas.	4	Identify land acquisition needs.	On-Going
		4.1	Acquire by fee simple or easement desired properties from willing sellers as funding permits.	On-Going
5	Resolve other issues, such as split mineral estate.	5	Identify Land acquisition needs	On-Going
		5.1	Acquire desired properties from willing sellers as funding permits.	On-Going

Mineral Resources

Any party desiring to procure minerals, rocks or oil & gas resources (or the use of the mineral estate in the case of gas or liquid storage in geological formations) from the mineral estate under state lands included in this Unit management plan, 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 (Temporary Revocable Permit (TRP)) from the state to access the surface estate during operations. Prior to the commencement of operations the appropriate permits must be obtained. These procedures are further outlined below.

Any activity involving the procurement of oil and gas resources and/or storage of gas and liquids in the subsurface on state lands in this Unit management plan are administered by the NYS DEC Division of Mineral Resources. The procurement of minerals and rocks (inorganic substances), including the solution mining of minerals (such as salt) on these same state lands are administered by the Office of General Services. All activity associated with mining minerals and rocks, solution mining of minerals and oil & gas drilling, including production, are regulated by the NYS DEC Division of Mineral Resources (including the issuance of mining permits and drilling permits).

The surface estate of these state lands is managed through the NYS DEC Division of Lands and Forests or Division of Fish, Wildlife and Marine. 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 NYS DEC Division of Lands and Forests prior to conducting any operations. It should be noted that 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 NYS DEC policy to recommend excluding operations in surface areas with sensitive habitats (stream banks, wetlands, steep slopes, rare communities etc.) or intensive recreational use. Sites to be excluded from drilling, production and/or other surface occupancy for mining, are listed in appendix K, Maps “Recommended Exclusions for Surface Occupancy.” Any proposal for mineral development other than oil and gas would require SEQR review.

Procedures for Oil & Gas Procurement

In the event a party has an interest in exploring, and developing, oil and gas reserves under lands administered by the NYS DEC. The NYS DEC will receive requests to nominate specific lands for leasing of the mineral rights. Prior to leasing lands where the mineral estate is owned by New York State, a thorough review of the lands nominated for leasing is conducted to determine:

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

This review is conducted by the area's land manager (Division of Lands and Forests or Division of Fish and Wildlife) in coordination with the Division of Mineral Resources. A tract assessment is then conducted that identifies sensitive resources of the Unit. These resources include certain management strategies, wetland, riparian zones, steep slopes, recreational trails and areas, unique ecological communities, habitat of rare and endangered species, archeological and cultural sites and scenic vistas and view sheds.

A public meeting will be held to provide information about natural gas development specific to the Unit and receive comments. A 30-day public comment period will follow. The Department will consider all comments prior to making a decision. If the Department decides to pursue leasing, the site specific conditions for limiting impacts on natural resources will be drafted by the Division of Mineral Resources in coordination with the Division of Lands & Forests and/or Division of Fish, Wildlife and Marine(Wildlife) and incorporated into contract documents. These conditions will include but not be limited to criteria for site selection, mitigation of impacts and land reclamation upon completion of drilling. A number of factors are considered. Riparian areas, steep slopes, significant recreation areas, presence of rare, threatened or endangered species or unique ecological communities, are all areas which may be excluded from surface disturbance. Certain land management strategies, such as reserves, where timber harvesting is precluded, which may be incompatible with oil and gas well development, may result in exclusion from surface disturbance. This determination is made as part of the tract assessment process on a case by case basis. Individual tract proposal reviews for each forest within this Unit have been completed, and determinations deciding which areas would be excluded from surface disturbance (should leasing be initiated) have been made. Included in the appendix are maps depicting these areas. 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 disturbance(s). Exceptions to these tract assessments are possible if additional analysis, protective measures, new technology, or other issues warrant a change in the compatibility status of an area.

If it is determined that oil and gas exploration and development can proceed on these State minerals, a lease sale is conducted. The DEC Division of Mineral Resources is the oil and gas leasing agent for these state lands. Lease sales are then 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.

Revenues from State Reforestation Areas and Multiple Use Areas (State Forests) are deposited into the General Fund while revenues from Wildlife Management Areas are deposited into the Conservation Fund.

In the event leases are granted and the 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 Division of Mineral Resources. Site-specific impacts will then be identified by NYS DEC staff during review process and inspection of the proposed well site. The Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program (Draft, 1988) is used to guide the Department in determining whether the proposal will have a significant impact on the environment. Conditions are then attached to the drilling permit as well as the Temporary Revocable Permit (TRP) which covers the mitigation and/or control of surface disturbances.

In the event underground pipelines are planned to transport gas and/or oil across state lands; the Division of Mineral Resources in conjunction with the Division of Lands and Forests, and Division of Fish and Wildlife will coordinate with the mineral estate lessee to determine the best route for the pipeline(s). It should be noted that any pipelines greater than 1,000 feet in length and/or containing pressures greater than 125 pounds per square inch are regulated by the New York State Public Service Commission. NYS DEC has the authority to permit underground pipelines with the existence of an active mineral lease. As of the writing of this plan, NYSDEC has no authority to permit underground utilities in the absence of a mineral lease. In the absence of a valid mineral lease, special legislation by the state legislature is required.

Once the proposal is approved, a drilling permit with site specific conditions is issued by the Division of Mineral Resources along with a Temporary Revocable Permit issued by either the Division of Lands and Forests or Fish and Wildlife. These permits are administered by their respective programs and are designed to prevent and/or mitigate environmental impacts. 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. The Division of Lands and Forests or Fish and Wildlife will also inspect the site to ensure compliance with the TRP.

Procedures for Mineral and Rock Procurement

In the event a party desires to explore and procure minerals and/or rock (including salt) from state lands. The party must be issued a permit, consent or lease of such duration as the commissioner may deem advisable, from the General Services Office, under Article 7 of the New York Consolidated Laws / Public Lands. Prior to operations, a Mining Permit or Drilling Permit in the case of solution mining, must be obtained from the Division of Mineral Resources and a Temporary Revocable Permit (TRP) (for access and use of state land) must be obtained from the Division of Lands and Forests or the Division of Fish, Wildlife and Marine. Mining operations are regulated by the Division of Mineral Resources.

There are no mining contracts, permits, or operations on any areas in this Unit management plan. Under Article 7 of the New York State Consolidated Laws, any citizen of the United States may apply for permission to explore and/or extract any mineral on State lands. However, current department policy is to decline any commercial mining application(s) pertaining to any lands covered by the Keuka Highlands Unit Management Plan.

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 NYS DEC lands after leasing they must first obtain a TRP for the access and use of state lands. Only the lessee, or parties authorized by the lessee, can be issued a TRP for these purposes. A TRP can be applied for through the NYS DEC Division of Lands and Forests, 7291 Coon Road, Bath, New York 14810.

For further information contact the NYS DEC Mineral Resource staff, Region 8, 6274 East Avon-Lima Road, Avon, New York 14414-9591. Additional contacts include; New York State Department of Environmental Conservation-Division of Mineral Resources- Bureau of Oil and Gas Regulation, 3rd Floor, 625 Broadway, Albany, New York 12233.

Table 13 – Management Objectives and Actions for Mineral Resources

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
1	Decide to approve or not approve extraction of mineral resources.	1	Nominated properties are reviewed by Division of Mineral Resources(DMN) and Division of Lands and Forests(L&F) and Division of Fish, Wildlife and Marine(Wildlife) per above process. Office of General Services(OGS) makes approvals for minerals	As Needed
		1.1	A public meeting is held with a 30 day comment period after.	As Needed
If extraction is permitted...				
2	Execute consent contracts.	2	DMN conducts lease sale through competitive bid process and executes contracts for oil and gas. OGS executes contracts for minerals.	As Needed
3	Regulate operations; and access surface estate to extract mineral resources.	3	Division of Lands and Forests reviews proposed operations and if approved, issues a “Temporary Revocable Permit”	Every Time
		3.1	DMN reviews proposed operation and issues “Drilling Permit” or “Mining Permit”.	Every Time
		3.2	DMN inspects & regulates operations, production and administers royalty payments to State.	Every Time

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
4	Monitor reclamation & well plugging	4	DMN enforces Rules and Regulations pertaining to plugging procedures.	Every Time
		4.1	DMN and L&F monitors and enforces surface reclamation	Every Time
5	Administer mineral estate	5	DMN monitors lease, production and royalty payments for oil and gas. OGS does same for minerals.	Every Time
6	Pipeline access and construction	6	Granted and directed by terms of lease agreement administered by DMN.	Every Time
		6.1	L&F and/or Wildlife reviews proposed operations and if approved, issues a "Temporary Revocable Permit" (TRP)	Every Time
		6.2	Division of Lands and Forests and/or Division of Fish, Wildlife and Marine enforce TRP provisions.	Every Time

Archaeological and Historic Resources

The archaeological sites located within this Unit as well as additional unrecorded sites that may exist on the property are protected by the provisions of the New York State Historic Preservation Act (SHPA - Article 14 PRHPL), Article 9 of Environmental Conservation Law and Section 233 of Education Law. Should any actions that would impact these resources be proposed they will be reviewed in accordance with SHPA. Unauthorized excavation and removal of materials from any of these sites is prohibited by Article 9 of Environmental Conservation Law and Section 233 of Education Law.

The archaeological sites located on this Unit as well as additional unrecorded sites that may exist on the property may be made available for appropriate research. All future archaeological research to be conducted on the property will be accomplished under the auspices of all appropriate permits. Research permits will be issued only after consultation with the New York State Museum and the Office of Parks, Recreation and Historic Preservation, and the Seneca Nation of Indians Tribal Historic Preservation Office at 716-945-9427.

Table 14 – Management Objectives and Actions for Archaeological and Historical Sites

Management Objectives		Mgt. Action #	Management Actions	Frequency of Action
1	Preservation of historical and archaeological resources	1	Avoid any activity which may disturb any historical and/or archaeological resources.	On-Going
		1.1	Comply with state historic preservation act.	On-Going
		1.2	Consultation with the Seneca Nation of Indians Historical Preservation Office.	On-Going

MANAGEMENT ACTIONS SUMMARY TABLE

The following table is a summary and schedule for the implementation of all the *Management Objectives and Actions for X…* tables located in the preceding sections of the *Goals and Objectives* chapter, and their estimated costs. Accomplishments and listed years are targets, and are contingent upon sufficient staffing levels and funding. It is expected that most tasks will be done by NYS DEC staff. To conform with program budgeting practices, estimated project costs are based on current costs for materials and wages for seasonal staff labor, excluding fringe benefits and indirect costs. The construction or maintenance projects costs do not include permanent program staff salaries. Therefore costs are significantly lower than they would be for outside contractors.

Each action has been given a priority code of Critical, High or Low, and an estimated cost or income for over the 10 year plan period. Actual cost or income will be determined at the time of the action.

Priority codes:
C=Critical, Necessary to ensure public health and safety; To stabilize structures so as to not lose the money and time invested in them; Mandated by legislation.
H=High, Necessary for public use, and/or to improve habitat or other natural resources. Often this will be for new projects.
L=Low, Important for the enhancement of public use, habitats or other natural resources.

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Access	1.0	Survey Site(s)	As Needed	L	5 Work Days		
	1.1	Receive public comments	On Going	C	5 Work Days		We will always listen or read any comments.
	1.2	Solicit public comments	Every 10 yrs	C	7 Work Days		This is part of the UMP process.
	2.0	Inspect culverts	Annually	C	4 Work Days		
	2.1	Replace culverts on about a 25 year interval.	Replace 1culvert, year 10	C	$3,000 per culvert		None are anticipated to fail during this 10 year period.

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Access	2.2	Public access roads - Grade and Maintain surface.	Every 2 years.	H	6 Work Days		
	2.3	Haul roads - Grade and Maintain surface.	Every 5 years	H	6 Work Days		0.3 miles
	2.4	Mow road right of way.	Annually	H	11 Work Day		
	2.5	Repair "Bog Rd" in sections, mostly with timber sale tradeoffs.	Years 1, 2, 7, 9, and 10.	H	$200,000		Most of this will be in-kind work as part of several different timber sales.
	3.0	Locate and construct parking lots on Dineharts Crossing, Runner/Glen Brook, and Dineharts Roads.	Years 5, 1 and 8.	L	$8,000 per parking lot		This can be done as a trade off in a timber sale. Each would accommodate up to 4 vehicles.
	4.0	Litter removal	At least annually.	H	50 Work Days		Cost does not include inmate labor.
	4.1	Maintain all parking areas.	Years 3 & 10	C	$20,000 and 10 work days		3 current parking areas, 3 planned
	4.3	Maintain informational signs	Annually	C	$4,000		
	4.4	Mow all parking areas	Annually	H	15 Work Days		
	5.0	Construct a gate at the new parking on Dinehart Rd parking on Pigtail Hollow State Forest	Year 5	C	$4,000 and 5 Work Days per Gate		
	5.1	Maintain gates and signs.	Annually	H	$15,000		1 current and 1 planned gates.
	5.2	Enforce NYS DEC Policies	On-Going	C	$150,000		

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Access	6.0	Paint and post boundaries.	Every 5 yrs – Urbana SF 2014 Pigtail HLW SF 2010 & 2015	H	130 Work Days		Urbana State Forest – 20.9 miles Pigtail Hollow State Forests – 8.9 miles
	6.1	Identify and resolve boundary encroachment issues. (No currently known issues.)	As Needed	C	--	--	Unable to predict costs.
	6.2	Survey and blaze boundaries. (No currently known issues)	As Needed	C			Contracted out - $4,000 to $5,000 per mile NYS DEC surveyors – 12 to 15 work days per mile
	6.3	Repair and replace area signs as they are vandalized or fade.	Year 1	H	$10,000		2 current facility ID signs
	6.4	Place new area signs on Bean Station Rd and Hungry Hollow Rd.	Year 1	L	$2,000 and 2 Work days		
	6.5	Seek permission to erect a directional sign on the intersection of Hungry Hollow Road and the Mitchellsville Road (County Route 13)	Year 5	L	$1,000 and 2 Work days		
Vegetation	1.0	Perform State Forest inventories.	Every 10 yrs	C	40 Work Days		
	2.0	Practice Integrated Pest Management	On-Going	C	40 or more Work Days		Unable to predict future pest problems. A new invasion could greatly increase the cost.

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Vegetation	2.1	Reduce deer population, to reduce damage to the low growing vegetation (understory).	Annually	H	--	--	Accomplished by hunting license sales, producing brochures, etc.
	3.0	Create about 47 acres. (Of open/brushy)	By year 10	L	$1,500 per acre		
	3.1	Maintain grassy openings with a 3 year rotation of mowing. Or annual burn.	Every 3 yrs. (Or Annually)	H	$25 per acre and 100 work days		
	3.2	Maintain brushy openings with a 5yr rotation of hydro-axing.	Every 5 yrs.	H	$300 per acre		
	3.3	Timber management on 126 acres/ 7 stands (All-Aged Silviculture)	See schedule, Appendix F	H		$31,500	Based on $250 per acre.
	3.4	Regenerate 325 acres / 12 stands (Even Aged Silviculture)	See schedule, Appendix F	H		$97,500	Based on $300 per acre.
	3.5	Thin 1,090 acres / 40 stands (Even Aged Silviculture)	See schedule, Appendix F	H		$87,200	Based on $80 per acre.
	3.6	Maintain per “Unit Maintenance and Facilities Management” and/or “Fish and Wildlife Habitat” and/or “Public Recreation and Use”	On-Going	H	--	--	
Watershed and Wetlands	1.0	Utilize Best Management Practices (BMP’s) for water quality on timber sales, gas well site construction, recreation facilities, and any other construction.	On-Going	C	--	--	

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Watershed and Wetlands	1.1	Control erosion through proper road and trail maintenance.	On-Going	C	--	--	See Access
	1.2	Comply with the Water Resources Law and Freshwater Wetlands Acts.	On-Going	C	--	--	
Fish and Wildlife Habitat	1.0	Conduct timber management to achieve balance forest structure. (See Vegetation Management)	As needed	H	--	--	See Vegetation Management
	1.1	Develop and maintain up to 10 small ponds and dugouts to act as amphibian activity centers.	One per year	L	$10,000-$20,000 per each		This will often be done as a trade off in a timber sale. There are also opportunities to have this work funded privately. See 2.1 below
	1.2	Manage conifers in natural forests	On-Going	L	--	--	Most of this will be part of a timber sale
	1.3	Maintain and enhance grassland habitats by mowing and/or burning	At least every three years.	H / L	--	--	See Vegetation. There may be opportunities to have this privately funded. See 2.1 below
	1.4	Protect and enhance rare plant and animal communities	Annually	C	15 Work Days		May also include other costs.
	2.0	Assist local groups in utilizing and protecting wildlife resources	Annually	L	--	--	
	2.1	Work with local and governmental groups to enjoy wildlife habitat by building ponds, observation decks, nesting structure etc.	As opportunities arise	L	--	--	

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Public Recreation and Use	1.0	Receive public opinion.	On-Going	C	30 Work Days		We will always listen or read any comments.
	1.1	Monitor use patterns	On-Going	C	20 Work Days		
	1.2	Assess user satisfaction from comments received.	On-Going	H	10 Work Days		
	2.0	Identify resources and/or volunteer groups to form additional partnerships.	On-Going	L	10 Work Days		
	2.1	Assist the Finger Lakes Trail Conference sponsors in maintenance and enhancement of the Bristol Hills Branch Trail and Loop Trail.	On-Going	H	12 Work Days		
	2.2	Provide resources or utilize opportunities as needed to maintain and enhance existing trail(s)	On-Going	C	--	--	Unable to predict costs.
	2.3	Minimize conflicts between hikers, bikers, and other users	On-Going	H	10 Work Days		
	3.0	In house review of proposed projects	On-Going	L	10 Work Days		
	3.1	Add proposed projects to the Keuka Highland UMP by amendment. (This includes a 30 day public comment period.)	On-Going	L	10 Work Days		
	3.2	Negotiate and enter into AANR agreements with sponsoring volunteer groups.	On-Going	L	10 Work Days		

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Public Recreation and Use	4	Maintain and improve access for persons with disabilities by assessing the possibility of designating sections of Bog Rd as MAPPWD, after it repaired.	Year 10	C	--	--	
	4.1	Provide technical support for volunteer groups.	As-Needed	L	?		
	4.2	Construct barriers to discourage motorized use of skid trails and abandoned roads after logging operations.	As Needed	C	?		This will often be done as a trade off in a timber sale.
	5.0	Encourage bird watching, hunting, fishing, trapping, etc. according to State regulations.	On-Going	C	--	--	Unable to predict costs.
	6.0	See Maintenance and Facilities	On-Going	--	--	--	
	7.0	Provide brochures and maps for users.	Update Every 5 yrs	H	10 Work Days		
	7.1	Place kiosks at high use parking areas	By year 10	H	$1,000 to $5,000 per each		Currently 2 kiosks on Urbana State Forest
	7.2	Update maps and brochures to reflect new facilities/trails/acquisitions	Every 5 years	L	10 Work Days		
	8.0	Establish a litter-free environment by promoting carry in/carry out policy.	On-Going	H	--	--	Unable to predict costs.
	8.1	Remove litter from state land.	At least annually.	H	--	--	See Access 5.0

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Unit Main-tenance and Facility Manage-ment	1.0	Inspect for problems. (Ponds and Potholes)	Annually	C	10 Work Days		
	1.1	Maintain dikes, control boxes, etc.	Annually	C	$10,000		As constructed under Fish and Wildlife 1.1
	1.2	Excavate bottom of dug-out on Hungry Hollow Road.	Year 7	L	$5,000 per Each.		
	2.0	Promote Adopt a Natural Resource Program.	On-Going	L	--		
	2.1	Enter into agreements with volunteer groups.	On-Going	L	--		
	3.0	Identify needed maintenance	On-Going	L	20 Work Days		
	3.1	Do the needed maintenance, as money allows.	On-Going	C	$1,000 to $100,000		
	3.2	Enhance law enforcement efforts.	On-Going	C	--	--	
	4.0	See “Access” section	On-Going	C	--		See Access.
Land Acquisition	1.0	Identify land acquisition needs. (Access)	On-Going	L	?		Unable to predict costs.
	1.1	Acquire desired properties from willing sellers as funding permits.	On-Going	L	?		Unable to predict costs.
	2.0	Identify land acquisition needs. (Eliminate in holdings)	On-Going	L	?		Unable to predict costs.
	2.1	Acquire desired properties from willing sellers as funding permits.	On-Going	L	?		Unable to predict costs.
	3.0	Identify land acquisition needs. (Recreation)	On-Going	L	?		Unable to predict costs.
	3.1	Acquire desired properties from willing sellers as funding permits.	On-Going	L	?		Unable to predict costs.

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Land Acquisition	4.0	Identify land acquisition needs. (Ecological)	On-Going	L	?		Unable to predict costs.
	4.1	Acquire desired properties from willing sellers as funding permits.	On-Going	L	?		Unable to predict costs.
	5.0	Identify land acquisition needs. (Other issues)	On-Going	L	?		Unable to predict costs.
	5.1	Acquire desired properties from willing sellers as funding permits.	On-Going	L	?		Unable to predict costs.
Mineral Resources	1.0	Nominated properties are reviewed by Division of Mineral Resources (DMN) and Division of Lands and Forests (L&F) and Division of Fish, Wildlife and Marine(Wildlife) per above process. Mining minerals are reviewed by Office of General Services (OGS) instead of the DMN.	As Needed	C	?	?	Unable to predict costs.
	1.1	A public meeting is held with a 30 day comment period after.	As Needed	C	5-15 Work Days		
	2.0	DMN conducts lease sale through competitive bid process and executes contracts for oil and gas. OGS executes contracts for minerals.	As Needed	C	?	?	In 2003 Lease Bonus payments were made as follows for lands located in this unit: Urbana SF: $163,618.23 Pigtail Hollow SF: $61,502.19 To date, no wells have been drilled on lands covered by or pooled with current leases. Leases expired in 2008.

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Mineral Resources	3.0	Division of Lands and Forests reviews proposed operations and if approved, issues a “Temporary Revocable Permit”	Every Time	C	?	?	Unable to predict costs.
	3.1	Division of Mineral Resources reviews proposed operation and issues “Drilling Permit” or “Mining Permit”.	Every Time	C	?	?	Drilling permits generate between $290 - > $3800 per well permitted, dependent upon depth well is permitted
	3.2	DMN inspects & regulates operations, production and administers royalty payments to State.	Every Time	C	?	?	Unable to predict costs or income.
	4.0	Division of Mineral Resources enforces Rules and Regulations pertaining to plugging procedures.	Every Time	C	?	?	Unable to predict costs.
	4.1	DMN and L&F monitors and enforces surface reclamation	Every Time	C	?	?	Unable to predict costs.
	5.0	DMN monitors lease, production and royalty payments for oil and gas. OGS does same for minerals.	Every Time	C	?	?	Royalty payments in past leases have been based upon 1/8th or 12.5% royalty interest to the State. One bcfg (1 billion cubic feet of gas) produced from state minerals at a sales price of $5/mcfg (mcfg is 1 thousand cubic feet of gas), would generate more than $600,000.00

Mgmt. Objectives	Mgmt. Action No.	Management Action	Frequency of Action	Priority Code	Est.10 yr Cost	Est. 10 yr Income	Comments
Mineral Resources	6.0	Granted and directed by terms of lease agreement administered by Division of Minerals. (Pipeline access and construction)	Every Time	C	?	?	Unable to predict costs.
	6.1	Division of Lands and Forests and/or Division of Fish, Wildlife and Marine reviews proposed operations and if approved, issues a "Temporary Revocable Permit" (TRP)	Every Time	C	?	?	Unable to predict costs.
	6.2	Division of Lands and Forests and/or Division of Fish, Wildlife and Marine enforce TRP provisions.	Every Time	C	?	?	Unable to predict costs.
Arch-aeological and Historic Resources	1.0	Avoid any activity which may disturb any historical and/or archaeological resources.	On-Going	C	?	?	
	1.1	Comply with state historic preservation act.	On-Going	C	?	?	
	1.2	Consultation with the Seneca Nation of Indians Historical Preservation Office.	On-Going	C	?	?	

PUBLIC INVOLVEMENT

Initial Mailing

The Keuka Highlands Unit Management Plan citizen participation activities commenced with an initial mailing on September 6, 2007, outlining management plan objectives. An attached mailer requested address corrections and gave a due date for the preliminary round of public comments.

The initial mailing's targeted audience consisted of previously identified:

- adjacent property owners;
- local town & county officials;
- local media;
- recreational groups;
- interested industry groups;
- first nations;
- wildlife groups, and;
- other general environmental groups;

Based responses to the mailing, and other public comments received, the mailing list was amended to add other interested parties and/or correct outdated names and addresses.

Public comments received from the initial mailing are listed in Appendix B, with a summary in the Summary of Identified Issues section starting on page 23. Topics include: access, vegetation management, water resources, wildlife and fish management, public recreation and use, oil and gas leasing, cooperative agreements, open space conservation, aesthetics and cultural resources and historic preservation.

Second Mailing

Upon completion of the draft Keuka Highlands Unit Management Plan, a second fact sheet will be sent to those on the updated mail list, including the media, summarizing objectives of the draft plan, listing local document repositories and announcing a public meeting. Repositories will include local libraries, the Bath and Avon NYS DEC offices, and NYS DEC's web page. A notice will also be posted in the Environmental Notices Bulletin (ENB) at least two weeks prior to the meeting.

Public Meeting

One public meeting will be held near the Keuka Highlands Unit Management area to present the draft plan and receive comments on it. Following the end of a 30-day public comment period, any modifications based on public comment will be made and a responsiveness summary will be in Appendix B of the final plan.

Final Notice

Commentators and those on the updated mail list will receive a notice of availability of the final plan. Document repositories will again be identified and any significant modifications based on public comment will be noted.

APPENDICES

Appendix A: Animals on Keuka Highlands Unit Management Plan Area

These are not intended to be all-inclusive lists, some animals will be missed, and some may no longer be found on these areas.

Table 1A - Birds

This list is summarized from the quads of the 2000-2005 Atlas of Breeding Birds in New York State:

Common Name	**Scientific Name**
Acadian Flycatcher	Empidonax virescens
Alder Flycatcher	Empidonax alnorum
American Goldfinch	Carduelis tristis
American Robin	Turdus migratorius
American Crow	Corvus brachyrhynchos
American Kestrel	Falco sparverius
American Woodcock	Scolopax minor
American Redstart	Setophaga ruticilla
Baltimore Oriole	Icterus galbula
Barn Swallow	Hirundo rustica
Barred Owl	Strix varia
Belted Kingfisher	Ceryle alcyon
Black-billed Cuckoo	Coccyzus erythropthalmus
Black-capped Chickadee	Poecile atricapillus
Black-throated Blue Warbler	Dendroica caerulescens
Blackburnian Warbler	Dendroica fusca
Blue Jay	Cyanocitta cristata
Blue-gray Gnatcatcher	Polioptila caerulea
Blue-headed Vireo	Vireo solitarius
Blue-winged Warbler	Vermivora pinus
Bobolink	Dolichonyx oryzivorus
Brown-headed Cowbird	Molothrus ater
Canada Goose	Branta Canadensis
Cedar Waxwing	Bombycilla cedrorum
Chestnut-sided Warbler	Dendroica pensylvanica
Chipping Sparrow	Spizella passerina
Common Grackle	Quiscalus quiscula
Common Raven	Corvus corax
Common Yellowthroat	Geothlypis trichas
Cooper’s Hawk	Accipiter cooperii

Common Name	Scientific Name
Dark-eyed Junco	Junco hyemalis
Downy Woodpecker	Picoides pubescens
Eastern Towhee	Pipilo erythrophthalmus
Eastern Kingbird	Tyrannus tyrannus
Eastern Screech-Owl	Megascops asio
Eastern Meadowlark	Sturnella magna
Eastern Wood-Pewee	Contopus virens
Eastern Bluebird	Sialia sialis
Eastern Phoebe	Sayornis phoebe
European Starling	Sturnus vulgaris
Field Sparrow	Spizella pusilla
Gray Catbird	Dumetella carolinensis
Great Crested Flycatcher	Myiarchus crinitus
Great Blue Heron	Ardea herodias
Great Horned Owl	Bubo virginianus
Hairy Woodpecker	Picoides villosus
Hermit Thrush	Catharus guttatus
Hooded Warbler	Wilsonia citrina
House Sparrow	Passer domesticus
House Finch	Carpodacus mexicanus
House Wren	Troglodytes aedon
Indigo Bunting	Passerina cyanea
Killdeer	Charadrius vociferous
Least Flycatcher	Empidonax minimus
Louisiana Waterthrush	Seiurus motacilla
Magnolia Warbler	Dendroica magnolia
Mallard	Anas platyrhynchos
Mourning Dove	Zenaida macroura
Northern Flicker	Colaptes auratus
Northern Cardinal	Cardinalis cardinalis
Ovenbird	Seiurus aurocapilla
Pileated Woodpecker	Dryocopus pileatus
Pine Warbler	Dendroica pinus
Purple Finch	Carpodacus purpureus
Red-bellied Woodpecker	Melanerpes carolinus
Red-breasted Nuthatch	Sitta canadensis
Red-eyed Vireo	Vireo olivaceus
Red-tailed Hawk	Buteo jamaicensis
Red-winged Blackbird	Agelaius phoeniceus
Rock Pigeon	Columba livia
Rose-breasted Grosbeak	Pheucticus ludovicianus

Common Name	Scientific Name
Ruby-throated Hummingbird	Archilochus colubris
Savannah Sparrow	Passerculus sandwichensis
Scarlet Tanager	Piranga olivacea
Song Sparrow	Melospiza melodia
Swamp Sparrow	Melospiza georgiana
Tree Swallow	Tachycineta bicolor
Tufted Titmouse	Baeolophus bicolor
Turkey Vulture	Cathartes aura
Veery	Catharus fuscescens
Warbling Vireo	Vireo gilvus
White-breasted Nuthatch	Sitta carolinensis
Wild Turkey	Meleagris gallopavo
Willow Flycatcher	Empidonax traillii
Wood Duck	Aix sponsa
Wood Thrush	Hylocichla mustelina
Yellow Warbler	Dendroica petechia
Yellow-billed Cuckoo	Coccyzus americanus
Yellow-rumped Warbler	Dendroica coronata

Table 2A - Reptiles and Amphibians

This list is summarized from on the NYS Amphibian and Reptile Atlas, 1990-1999.

Common Name	Species
Allegheny Dusky Salamander	Desmognathus ochrophaeus
Bullfrog	Rana catesbeiana
Eastern American Toad	Bufo a. americanus
Eastern Garter Snake	Thamnophis s. sirtalis
Gray Treefrog	Hyla versicolor
Green Frog	Rana clamitans melanota
Northern Dusky Salamander	Desmognathus fuscus
Northern Redback Salamander	Plethodon cinereus
Northern Redbelly Snake	Storeria o. occiptomaculata
Northern Slimy Salamander	Plethodon glutinosus
Northern Spring Peeper	Pseudacris c. crucifer
Northern Spring Salamander	Gyrinophilus p. porphyriticus
Northern Two-lined Salamander	Eurycea bislineata
Pickerel Frog	Rana palustris
Red-spotted Newt	Notophthalmus v. viridescens
Smooth Green Snake	Liochlorophis vernalis
Spotted Salamander	Ambystoma maculatum
Wood Frog	Rana sylvatica

Table 3A – Fish Species

There have been no recent surveys in any of the stream sections within the Unit Management Plan area. The following is a list of species that are probable within this Unit's area. It should be noted that this list is not all inclusive and may omit species that are present and rare.

By common name and scientific name:

Common Name	**Species**
Central Stoneroller	Campostoma anomalum
Cutlips minnow	Exoglossum maxillingua
Common Shiner	Notropis cornutus
Bluntnose minnow	Pimephales notatus
Longnose Dace	Rhinichthys cataractae
Blacknose Dace	Rhinichthys atratulus
Creek Chub	Semotilus atromaculatus
White Sucker	Catostomus commersoni
Northern Hogsucker	Hypentelium nigricans
Tessellated darter	Etheostoma olmstedi

Appendix B: Public Comment

Initial Mailing Responses

The following Keuka Highlands Unit Management Plan public comments were received as a result of an initial September 6, 2007 mailing to a previously identified audience including adjacent property owners, local government officials, recreational groups, forest industry groups, wildlife groups and other general environmental groups and the local media.

Daniel & Kathy Haire, Hamilton, NY

There is a nice stream on the backside of my property. I would like to get the flow of water in that stream increased. Years ago it had water all year.

John Fox, Rochester, NY

I'm not sure if you were aware of the proposed land exchange between me and NYS which started approximately in 1998.

Enclosed is a map drawn up by Stan Martin (retired). This proposal was given the go-ahead by Jim Peek (retired). However, it was met with opposition from the "FLT' organization as "their trail" runs thru NYS which would be included in the exchange.

Please keep me informed.

Steve Catherman, Steuben County DPW, Bath, NY

Continued public access for hiking on the FLT is my primary concern. Thanks for the opportunity to comment.

Thomas W. Morrell, Hammondsport, NY

Recommend maintaining proper H2O runoff ditches on abandoned roadways. Runoff waters run from state land onto private properties causing extreme flooding and other costly money i.e. driveway, etc. This matter cost yours truly $2000.00 this past 2 years. Build *(unreadable)* to keep ATVs from tearing up above mentioned berms. Thank you.

Bill Kramer, Wolcott, NY

Thank you very much for contacting me and allowing me to provide input on future improvements and management of the Urbana State Forest lands.

I own property and a hunting cabin adjoining the Urbana State Forest and I have hunted this land for over 30 years. There are absolutely less deer on this state land during bow and gun season than there used to be, and this can very easily be attributed to increased localized hunting pressure on state land. Look at the number of hunting cabins that have recently been built around it.

My point is this. I am all for as many people as possible using our state lands and getting enjoyment from it, but I have heard that there may be a plan to provide a handicap parking are in the middle of the Urbana State Forest land. If this is true, I would like to see that only handicapped people be allowed to access it during hunting season. Easy access for everyone to the middle of this relatively small area will severely increase pressure and insure that the few remaining deer move out to more secluded locations.

Alan L. Converse, West Bloomfield, NY

I am very interested in the development of the Keuka Highlands Unit, and have some thought on its future.

When I acquired my land in 1984, the road that comes up to my property was referred to as "State Land Right-Of-Way Road". The road continues to the top of the hill where it meets state land. For a few years hunters would drive up to the top and hunt on the Urbana section. I maintained the ditch on the side of this roadway by cleaning the leaves and debris out each spring and fall. Now I am 68 years young and can no longer keep doing this. As a result of the rain runoff and accumulation of debris, the road above my cabin has deteriorated to the point cars have trouble getting to the state land. Fewer and fewer hunters are hunting this section.

My suggestion is to look at the road and the possibility of making a parking lot on the state land at the top of this hill. There are five camps along this road. The road, which you describe as a town road on your map, is, according to the Town of Urbana, a private right-of-way for those who have cabins along the road. This is not right either, because there are electric and telephone lines that travel along this road to the top at state land.

This "town road' on your map is now labeled with a sign "Alan's Mountain Road". My cabin, and at least one of the others, was burglarized twice and I then installed security equipment. The State Police requested I mark this road so it could easily be identified and found in the event of another burglary or in the event of an emergency.

In my opinion a parking area could be built on the state land, the road to it could be maintained (but not by me), and this would open the whole Urbana Forest for more public use.

David deCalesta, Board Member, Keuka Lake Association, Hammondsport NY

The Keuka Lake Association received an invitation from you, dated September 6, 2007, to comment on the revision of the Keuka Highlands Unit Management Plan. Joel Fiske kindly sent me a copy of the existing Keuka Highlands Unit Management plan.

I have read over the current UMP for Keuka Highlands. On October 19, 2007 I walked over the Urbana State Forest portion, and drove through the Pigtail Hollow portion. While walking on the Urbana State Forest I was able to talk with 6 bowhunters (local residents) and obtain some of their thoughts about management of Keuka Highlands. I was also part of the FSC/SFI certification team that evaluated the NY DEC Division of Lands and Forests this last June: this experience gave me additional perspective. My comments are in two groupings: 1) relevant to the perspective of the Keuka Lake Association and impact of management of Keuka Highlands has on water quality in Keuka Lake; and, 2) relevant to revision of the UMP as will be required to conform to FSC certification requirements.

Keuka Lake Association perspective: Keuka Highlands are drained by a few streams that ultimately feed into Keuka Lake – they are part of the Keuka Lake Watershed. The stream draining the huckleberry bog part of Urbana State Forest runs directly into Keuka Lake, and Glen Brook, Michellsville Creek, and Hungry Hollow creeks ultimately feed into Cold Brook which drains into the southern end of Keuka Lake. Management practices, including riparian BMPs, on the Keuka Highlands provide excellent protection for the quality of water reaching Keuka Lake via these streams. Riparian areas appear well buffered when they are adjacent to timber harvest areas. Road systems through Keuka Highlands are ditched and maintained to prevent movement of soil into streams. More importantly, the Keuka Highlands area will remain as an unfragmented block of contiguous forest cover (will not be developed and converted to other, non-forest uses which could contribute to watershed degradation), preserving at least one significant block of effective filtration of water reaching Keuka Lake. From the Keuka Lake Association, current and anticipated forest management, as will unfold with the new UMP, has and will continue to benefit water quality in Keuka Lake. Our thanks.

Conformation of UMP to Certification Standard. It is my understanding that the Division

of Lands and Forests will pursue joint FSC and SFI certification, meaning that the Keuka Highland UMP will have to conform to standards of the Forest Stewardship Council and the Sustainable Forestry Initiative established for management plans. Based on those standards, observations I made during my tour of the Keuka Highlands area, and information from the hunters I encountered, I have a number of observations to make regarding the UMP revision. They follow no order, and are not prioritized, just thoughts as they occurred to me.

Documentation will have to be made of non-traditional forest products and uses, such as mushroom gathering, ginseng gathering, etc. There may be none, but an effort will need to be made to determine and document this.

There will need to be a more comprehensive evaluation of cultural/historical/native American artifacts, etc. requiring, among other things, consultation with state, local historical societies, native American organizations, etc.

A more comprehensive evaluation of landscape surrounding Keuka Highlands regarding timber types, successional stages, unique habitats, unique species will have to be made to place management of resources in a regional perspective. The work of the Cortland Office in revising their UMPs, and the work of John Clancy and staff in particular, are excellent examples to follow. It may turn out that the dearth of local landscape early succession stands can be improved by harvest within the Keuka Highlands. Also, I am sure there is no old-growth within miles (nearest area Zoar Valley?). As such, to contribute to representativeness of all age classes in the local/regional landscape, you may want to consider reserving some areas as representative of historical species distribution (trees) and include letting some areas go to old-growth. If species composition is ok or can be achieved (not sure what old growth was here – combination of northern hardwood (beech-maple-hemlock) and transition oak?

Principle 7 requires a very comprehensive management plan. The NE standard for management plans will need to be conformed with.

Principle 9, High Conservation Value Forest attributes requires a comprehensive evaluation for presence of such attributes, and if present, a plan for protection of such. The Natural Heritage Data base needs to be searched, but the recent work of the Nature Conservancy, in cooperation with the DEC to update this survey on all forests should be extremely helpful. The blueberry bog, if it contains significant amounts of sphagnum moss, under a dense shrub layer, may host yellow-bellied flycatchers – both the bird and the bog might be considered HCVF attributes. Any threatened or endangered species present on Keuka Highlands surely constitute such. The South East Lake Ontario watershed (DEC) program has identified a number of wildlife species of greatest conservation need, should probably run over that list and see if Keuka Highlands contains any of them.

Principle 8, Monitoring, requires comprehensive and thorough monitoring of management activities as well as of resources. Current level of such on Keuka Highlands will need to be upgraded significantly to meet the standard.

Principle 10 deals with plantations. There are a number of conifer plantations on Keuka Highlands (not a bad thing) but their management must be addressed relative to requirements set forth in Principle 10.

Principle 5 requires a comprehensive, systematic and quantitative way for assessing AAC via growth and yield models. Not sure what you are using, but this is another issue to address. My assessment of the walk-through is that the forest is being managed well for sustained yield of timber – the regeneration cuts (now sapling stands) are well stocked with a diversity of tree species. The previously commercially thinned stands look good and may be ready for another thinning (but not regeneration cut). The forest looks to be exceptionally well managed and protected.

Not sure how well the boundary lines are marked/maintained (Principle 1, I think). Few signs identifying area as state forests. Few parking areas. The hunters I talked to mentioned low

hunting pressure (they had no complaints to forward regarding forest management). Maybe because hunting public (besides locals) is not courted to increase its use of the Keuka Highlands.

If I can be of further help/assistance let me know.

Public Meeting Responses

Written and verbal comments on the draft plan were received during the May 6, 2009 public meeting held at the Bath DEC Office. Written comments were accepted until June 5, 2009. A summary of the comments and NYS DEC responses follows:

Comments and Questions from the meeting:

1) What is going to happen to Bog Rd? Will it be fixed all the way across the top? (This is Bog Rd that was considered to be Old Wixon Rd.---it provided the only access to 40-50 acres of property.)

Reply – Bog Rd ran between Colegrove Hill Rd and Depew Rd, Wixon Rd ran between Stone School House Rd and Reservior Hill Rd. portions of Wixon Rd is still maintained by the town. NYS DEC has no current plans to fix up that road. However, the western part of Bog Rd will be fixed up to haul road standards with in-kind services as part of the timber sales adjoining it. Otherwise there is not adequate access to the timber sale areas to even have the sale.

2) What do the yellow signs connote?

Reply – Yellow paint and yellow signs with the DEC symbol on them are used to mark the boundary lines of all State Forests. However, the internal boundary line between Urbana and Pigtail Hollow State Forests is not painted and signed.

3) If we have a question about the Finger Lakes Trail, are they the primary contact? Do they also maintain it?

Reply – The Finger Lakes Trail Conference maintains the Finger Lakes Trail as well as the Bristol Hills Branch trail which crosses over the Keuka Highlands Unit. They do so on State Forest Land under Adopt-a-Natural-Resource Agreement #8-05-2. They would be the primary contact about trail conditions both on state owned and private property.

4) Are there plans for parking for Pigtail Hollow? The roadway goes up. They did some logging, and it is now leveled off for hunters. Two vehicles have been stuck there. Hunters could use that area for parking.

Reply – This is referring to a log landing located on old Runner Rd that wasn't originally intended to be a parking area, and is not currently listed as a parking area. It is functioning as an informal parking area, and with some gravel and fabric would make a good parking area. As a result of this question the area in question has been added to the list of areas needing work. Runner Rd is a town road that has had no maintenance in years.

5) If there is vegetative damage done by deer, have you looked to reduce the deer herd? Will DEC add more permits for that area?

Reply - DEC has used Citizen Task Forces to assist in making deer management decisions in New York State for more than a decade. Task force recommendations are used to guide deer management actions in each WMU. Adult female harvest quotas, for example, are based on the relationship between the actual population trend and the population goal in each WMU. The

number of Deer Management Permits (DMPs) available to hunters is, in turn, based on the adult female harvest quota each year.

In July of 1998, the New York State Legislature passed a law entitled Deer Management Assistance Program (DMAP). DMAP allows the Department to issue additional antlerless tags to landowners who need improved harvests of deer to meet management goals on their property. This program is a possibility for use on State Forest lands, and is being tested in other regions of the state. Logistics of how to fairly pass out the additional tags, as well as other questions would need to be answered before this could be implemented on Pigtail Hollow and Urbana State Forests. There are no current plans to apply for DMAP, but it is a possibility for the future.

The impact of deer is taken into consideration when planning timber harvests, for example by cutting larger areas so more growth will start than the deer can eat, or by leaving tops to protect new growth from hungry deer.

6) What kinds of plants are missing from the forests (because of the deer)?

Reply - A USDA Forest Service publication on this very issue can be found at: www.fs.fed.us/ne/newtown_square/publications/FSreview/FSreview1_04.pdf
Some of the missing, or now very rare, plants include; trillium, lilies, orchids, hobblebush, oak seedlings, maple seedlings, Canadian mayflower, and many more. The loss of low-growing habitat also means a loss of others species, such as birds, that are dependent on that habitat.

7) What is the total number of acres of open areas? Will the total number of open/brush increase?

Reply – There is approximately 100 acres of open/brushy land currently on the Keuka Highlands Unit, Vegetation action #3.0 is Create about 47 more acres. That would bring the total to about 4% of the Unit.

8) Will that be accomplished through timber harvesting or burning?

Reply – Some small portion of the clearing may be done as a trade off on a timber sale, but the majority will likely be accomplished by contract using moneys from Capital Construction, EPF funds or partnerships with other groups.

9) Forty-five acres seems like a small amount. Would you prefer more for grassland and brush?

Reply – It is extremely expensive and difficult to create grass or brush out of fully forested land, so it is a small amount, but will still be difficult to achieve. In addition, the surrounding, privately owned landscape includes a reasonable amount of crop and other open habitats.

10) If the state improves the road and makes a nice parking area, who is responsible to maintain it? What about the garbage?

Reply – Generally if the state creates a road then the state is responsible for maintenance, if the town creates a road, then the town is responsible. Garbage is collected regularly, right now we do not have money for dump fees, but that is expected to be a temporary problem. Volunteers are always welcome under the Adopt-a-Natural-Resource Program and garbage pick-up and removal is one of many activities volunteers can do.

11) After the clear-cut of red pine and Norwegian spruce, we wanted the logging trail with gates, but nothing happened.

Reply - This is referring to a log landing located on old Runner Rd that wasn't originally intended to be a parking area, and is not currently listed as a parking area. At the time of the timber sale there was not enough money in the sale to fund a gate, and it has not been a high

priority to fund a gate from other sources. It is currently functioning as an informal parking area, and public comments in the time after the sale conclusion indicated interest in leaving it open for use as a parking are.

12) How are the spruce [tree seedlings] growing?

Reply – Survival of the seedlings was adequate, although they didn't all make it. At this point they should have good root systems and will be growing at an increased rate.

13) Can the gates be open for hunting season?

Reply – Currently there is only one gate, on the western end of Bog Rd, and there are no plans to open it for any hunting seasons. Everyone is welcome to go past the gate, just not drive past the gate. If any additional gates are added, a decision to open or not will be made at that time based on the reason for the gate.

14) Cabot Oil's lease has expired. Has the state been approached by any others to lease that land?

Reply – As of the writing of this plan, no.

15) Can you put food plots in?

Reply – We want less deer, not more, so no. However, creating more acres of seedling-sapling and grass/brush will benefit the deer populations.

16) Will there be any controlled burning?

Reply – There is a possibility of doing controlled burns, but none in the immediate future. Not all grass responds well or needs fire, and the species of grass that will be planted has not been decided. Some burning can be used to encourage oak seedling sprouting, but again no immediate plans for that. Before any burning can occur more paperwork is required, a burn plan must be written, and SEQR completed.

17) Will the Depew ruins (old homesteads) on the trail be left alone? And the big trees on the trail?

Reply - Action #1 from Archaeological and Historical Sites is "Avoid any activity which may disturb any historical and/or archaeological resources." It depends on which trees you are talking about, but care will be taken near any of the trails. The stand east of Huckleberry bog is slated for a thinning in the 9th year, but setbacks from wetlands mean that no activity is likely right next to the bog. However, these are working forests, with "watershed protection, the production of timber…" as the top priorities of the enabling legislation so don't be surprised if logging occurs next to or over active trail corridors both here and on other state forests.

Comments and Questions received in writing after the public meeting:

Ralph Missell, Urbana, NY

In regards to your letter dated April 2009, i would like to say that any spending adopted to the Keuka Highlands Draft "plan" should be offset by any and all revenue generated by the exploration and use of any and all resources such as natural gas, oil, and wind, etc. Any plan costing tax money should be completely avoided. All revenue should return to the people of the state of NewYork.

As your letter does not outline any "plan", attending an information meeting may be wasted time. If you are only looking for input, then i comment that all plans should be fiscally sound and be voted on by everyone. Any plan that can lower taxes and improve revenue should

only be taken for consideration. Any and all tax increase must be avoided.

In order for me to support any plan, and as a landowner in the area of said "plan" , i shall trust that all revenues would also be shared with landowners of the adjacent properties. Either from lower property tax rates to the state, or in a share of cash payments from private money generated of state owned resources. In some cases, property tax relief, lease and royalties may all be in order.

Please publicize, copy, post or pass this e-mail to any one that may be interested.

Andrew Zepp, Finger Lakes Land Trust

To whom it may concern

I am writing to comment on the proposed Keuka Highlands draft unit management plan summary on behalf of the Finger Lakes Land Trust. The summary did not reference the protection of additional lands through acquisition or the use of conservation easements. The Land Trust strongly urges the NYSDEC to pursue the protection of inholdings within the State Forest as the future use of these privately owned lands could significantly affect natural resource and recreational values on adjacent state lands.

Irene Szabo, Mt Morris NY

Comments on the draft plan from Irene Szabo, who is the volunteer tending all of the Finger Lakes Trail in both Pigtail and Urbana SFs, most of it since 1987:

pg 19 - delete mention of North Country Trail, since only the Bristol Hills Branch of the FLT is involved in these state forests, and the main FLT/NCT is south of the topic area.

Glad permitted uses are listed, and my only desire would be for a firmer stance against bicycles on a designated foot trail, using language from the Region 7 Draft Recreation Plan, a fine model. (see page 42 of the Nov. 2001 Draft, under permitted uses and restrictions for long-distance linear foot trails)

pg 27 - can you add that Draft Rec plan to the list of DEC policies? or because it's never been passed (but is obviously being referenced in region 7 UMP drafts) are you prevented from citing it?

pg 29 - mixed reaction to plans to improve bog road. While I'm thrilled that you discuss gating it, we all know stopping ATV's is difficult, and they already use it to such a degree that it's really changing there.

Can you truly invest both gates and enforcement there? if you could prevent their incursion, i'd be thrilled. I should actually reroute our trail off its old road portion just to avoid travelling "their" route, but an old broad has only so much time and energy....

pg 43 - MAPPWD not to overlap Bristol Hills Branch: good. but that would be hard since, for now, part of our route is on logical bog road. It would be horrible if a disabled ATV user were permitted to use the trail anywhere other than Bog Rd; witness the damage inflicted by the very occasional ATV or motorcycle that uses the nature trail south of Bog Rd, about once every third year. Smashed-over saplings are forever.

pp 43/44 - the comment that the area is too small to support a horse trail: applause. Not every agency has the wisdom to realize that neighbors' desire to ride all over the nearest public land doesn't equate to an intelligent horse trail system. It is quite true that a horse ride of only four miles isn't worth it except for somebody who lives RIGHT THERE, so benefits only a neighbor or two, not the general public. Horse riders in search of a good all-day trail ride need many miles of trail to make trailering their horses to that location worthwhile, AND they need a big parking area.

p 50- paragraph about money from gas leases on state forests: of course, the money SHOULD go to the DEC, not the general fund, as the region 8 advisory committee

recommended in the previous Open Space Policy.

p 67 - missing the raven, which has been a common sound for a half-dozen years now.

and in general, if I may, I'd like to set the John Fox topic in perspective, since some of his snotty comments are included in the text.

I gave serious consideration to a major re-route, should the land swap have taken place, only as long as I mistakenly thought that the DEC and Jim Peek really wanted the swap to take place. This re-route would have removed the "blue return" of the Huckleberry Bog loop off future private property and onto state property, but would have been a major project, some of it through lovely territory, and some through bushy crap. However, once I was assured that the DEC didn't place a high priority on the swap, I declined to offer that much work on my part just to keep all that loop on public land.

why? the current blue return would have become partly Fox property if the swap had taken place, and because I have known John since 1987, I know that his moods can change, and that one cranky encounter with a stupid thoughtless hiker could cause him to rescind permission or at least make our lives miserable. So I asked him for a permanent easement if we were to keep the current trail route where it would be on his future property, just to Fox-proof the permission. He declined. That's all he would have had to do, make permanent our route through there, and this swap could have taken place, but I'm not about to endanger our route to help him.

So his assertion that it's our fault the land-swap fell through is heavily suspect, since he wouldn't make that one concession. This is a trail he uses constantly, so what's the beef?

Just trying to keep the record straight, since too many of the original DEC people involved have retired....

Thank you for the opportunity to comment on this plan....again. Keuka Highlands was my first UMP to read, back in the early 90's, and it was in there that the suggestion was made that the FLT volunteers make a trail over to Huckleberry Bog. I hadn't even known it was there, so that sneaky suggestion that gave me miles of new trail to build then tend worked like a charm, because it has become my favorite trail to maintain.

Steve and Marilyn Benedict, Ontario, New York

Please accept my comments below. I hope they are not too late to be considered.

Some thoughts about the Keuka Highlands Unit Management Plan. Please continue your thoughtful efforts in regard to this issue. It is a wonderful resource and I enjoy it much. I have owned adjacent property for over 25 years, and use the Keuka Highlands for deer hunting and hiking as well. After attending your public meeting, I was pleased to learn how much effort went into this project. And I agree with most of your observations about the Keuka Highlands. Although I am only familiar with the Urbana State Forest part. What did disappoint me at the public meeting however, was the low attendance. Seems there were more DEC staff present than those folks representing the public.

If I could make some observations and suggestions please. I agree with the thoughts submitted by Bill Kramer. It has also been my observations that there are fewer deer compared to 25 years ago. However I have also observed that there are fewer hunters as well. I am sure there is a relationship here. But are there less hunters now because there are fewer deer? Or is it the opposite? It is my sense that there are less deer seen today, because if the decrease in hunting pressure. I would also like to suggest that if at all possible, expand the acreage of the unit, by acquiring adjacent property if ever it becomes available. In particular those parcels that are completely surrounded by the current unit property would be a wonderful addition. Also there is a need for additional parking spaces, particularly where the FLT intersects those town roads that go through the unit. And of course additional parking in other parts of the unit for those folks that use the unit, but are not hiking the FLT in particular.

Appendix C: Taxes

School and Town general taxes, the following is an estimate of the real property taxes that were paid by New York State based on the Assessment Roll on Urbana and Pigtail Hollow State Forests from New York State Office of Real Property Services Taxable State Land Unit 2005 Assessment Roll Report. Portions were acquired using monies from the Bond Act of 1960 and are not subject to real property taxes.

Table 1C – Projected Taxes

				Projected Taxes to be Paid ($)				
Municipality	Number of Parcels*	Acreage	Law Section	County**	Town/ Village	School	Special District	Total
Pulteney	2	73.81	RPTL 534	0	166	653	45	864
Pulteney	0*	1>	RPTL 545*	0	1	3	0	4
Urbana	17	1,429.41	RPTL 534	0	6,359	11,600	949	18,908
Urbana	0	1>	RPTL 545	0	47	86	7	140
Wheeler	10	1,269.65	RPTL 534	0	4,886	11,139	1,622	17,647
Total	29	2,773		0	11,459	23,481	2,623	37,563

*Real Property Tax Law (RPTL) 545 establishes a transitional assessment, which refers to the parcels taxed under RPTL 534 so there are no separate parcels to record in the Number of Parcels Column. For additional information refer to http://www.state.ny.us/, click on 'state laws' in the bottom right corner of the webpage, scroll down and click on Real Property Tax and navigate to Article 5, Title 2 for more information on RPTL 545

**State Forest lands acquired for reforestation purposes pursuant to section 9-0501 of the environmental conservation law are subject to taxation for all purposes except county tax.

This unit does not contain any Wildlife Management Areas, but if it did they are not subject to real property taxes except where special arrangements have been made at the time of acquisition.

Appendix D: Facilities

	Urbana State Forest	**Pigtail Hollow State Forest**	**Total**
Public Forest Access Road	0 miles	0 miles	0 miles
Haul Road	0 miles	0.3 miles	0.3 miles
None - Maintained Roads	3.5 miles	0.3 miles	3.8 miles
Gate	1 gate	0 gate	1 gate
Unpaved Parking Lots	2 lots	1 lots	3 lots
Facility ID Signs	1 sign	1 sign	2 signs
Kiosks	2 kiosks	0 kiosk	2 kiosks
Hiking Trails	2.6 miles- Bristol Hills Branch	2.0 miles- Bristol Hills Branch	4.6 miles- FLT – Bristol Hills Branch
Gas Wells	1 (plugged and abandoned)	0	1 well- plugged and abandoned
Wildlife Observation Platform	1 platform	0	1 Wildlife Observation Platform
MAPPWD Routes	0	0	0 miles
Boundary line	20.9 miles 2.9 miles of internal road frontage	8.9 miles 1.2 miles of internal road frontage	29.8 total, 0.3 shared 4.1 miles of internal road frontage

Appendix E: Water Resources

WIN - Watershed Index Number: Numbering system used by NYSDEC to identify individual streams/ponds/lakes.

Water Classifications

Class C - Fishing and any other usages except for bathing or as a source of water supply for drinking, culinary, or food processing purposes.
Class C(T) - Same as Class C plus it is designated as trout waters
Class C(TS) - Same as Class C plus waters are suitable for trout spawning

Table 1E - Streams

NAME	WIN	MILES (approx)	CLASS	FISHERIES RESOURCE
Pigtail Hollow State Forest				
Mitchellville Creek	ONT-66-12-P369-115-P388-36-6	0.2	C	Sucker, minnows
Unnamed trib	ONT-66-12-p369-115-p388-36-6-6	0.08	C	Sucker, minnows
Unnamed trib to Fivemile Creek	PA3-58-28-5	1.4	C	Sucker, minnows
Unnamed trib to Fivemile Creek	PA3-58-28-10a	0.2	C	Sucker, minnows
Unnamed trib to Fivemile Creek	PA3-58-28-12-11	0.5	C	Sucker, minnows
Unnamed trib to Fivemile Creek	PA3-58-28-12-1	0.3	C	Sucker, minnows
Unnamed trib to Fivemile Creek	PA3-58-28-12-3a	0.2	C	Sucker, minnows
Urbana State Forest				
Glen Brook	ONT-66-12-P369-115-P388-37	0.8	C	Sucker, minnows
Unnamed trib	ONT-66-12-P369-115-P388-37-2	0.6	C	Sucker, minnows
Unnamed trib	ONT-66-12-P369-115-P388-37-1	0.2	C	Sucker, minnows
Unnamed trib	ONT-66-12-P369-115-P388-37-1a	0.2	C	Sucker, minnows
Unnamed trib	ONT-66-12-P369-115-P388-38-1-1	0.6	C	Sucker, minnows
Unnamed trib	ONT-66-12-P369-115-P388-38-1	0.9	C	Sucker, minnows

Appendix F: Timber Management

See also maps on Appendix K, page 104.

The following table lists the anticipated bid year for the start of the treatment of these stands. Many factors can influence the actual start date for these events, including, but not limited too; staff time and other resources, invasive bug or plant issues, weather, local/regional/worldwide markets, and deer or other animal populations. Most of these will be sold in sales of more than one stand, and most will take more than one year to plan, sell, and cut.

Key	
Abbreviation	Definition
AA	All-aged cut - To continue, or encourage, a forest stand to contain trees of two or more age classes. Both regenerating and thinning at the same time.
RE	Regeneration -To reestablish a forest stand with tree seedlings. Cut styles that do this include; clearcut or overstory removal cut (one cut removes all the overstory trees); or a Shelterwood or Seed tree Cut (one or more cuts to get sunlight on the ground before the final cut). This indicates the first entry; later cuts will be timed based on the growth response of the vegetation.
TH	Thinning - An intermediate cut to encourage faster growth.
S-S	Seedling/sapling size - A stand with an average D.B.H. of 0 to 5 inches.
PT	Poletimber size - A stand with an average D.B.H. of 6 to 11 inches.
ST	Sawtimber size - A stand with an average D.B.H. of 12 inches or larger.

Table 1F – Pigtail Hollow State Forest Timber Management

(Steuben Reforestation Area #11)

Com-part-ment	Stand No.	Acres	Stand type	Stand Size	Year of Management Action									
					1	2	3	4	5	6	7	8	9	10
A	1	18	Plantation	PT										
A	2	27	Plantation	PT										
A	3	39	Plantation	PT										
A	4	23	Hardwood	PT										
A	5	37	Plantation	PT		TH								
A	6	13	Hardwood	PT										
A	7	7	Hardwood	PT								AA		
A	8	41	Plantation	PT								TH		
A	9	16	Hardwood	PT										
A	950	14	Hardwood	S-S										
B	1	10	Hardwood	PT										
B	2	20	Hardwood	PT							TH			
B	3	3	Plantation	PT										
B	4	18	Hardwood	ST										
B	5	29	Plantation	PT		RE								

Com-part-ment	Stand No.	Acres	Stand type	Stand Size	Year of Management Action									
					1	2	3	4	5	6	7	8	9	10
B	6	127	Hardwood	PT							TH			
B	7	44	Hardwood	PT										
B	8	24	Hardwood	PT										
B	9	25	Hardwood	PT										
B	10	4	Plantation	PT										
B	11	16	Hardwood	PT										
B	12	35	Hardwood	PT							TH			
B	13	42	Hardwood	S-S										
B	940	95	Plantation	S-S										
C	1	14	Plantation	PT			TH							
C	2	55	Plantation	PT			TH							
C	3	5	Hardwood	S-S										
C	4	9	Hardwood	ST									AA	
C	5	16	Plantation	PT					TH					
C	6	42	Hardwood	PT									TH	
C	7	3	Plantation	PT					TH					
C	8	51	Conifer	PT										
C	9	7	Plantation	PT										
C	10	22	Hardwood	PT									AA	
C	11	10	Hardwood	PT									TH	
C	930	3	Wetland		Wetland or Pond									
C	950	7	Open		Open - Brush - hydro-axed about every 5 years, as money allows.									
C	951	7	Open		Open - Brush - hydro-axed about every 5 years, as money allows.									
C	952	2	Open		Open - Brush - hydro-axed about every 5 years, as money allows.									
C	953	7	Hardwood	S-S										
Z	711	11	Road		Other (Roads, Cemeteries, etc.) Other									

Table 2F – Urbana State Forest Timber Management

(Steuben Reforestation Area #6)

Com-part-ment	Stand No.	Acres	Stand Type	Stand Size	Year of Management Action									
					1	2	3	4	5	6	7	8	9	10
A	1	20	Hardwood	PT										
A	2	72	Hardwood	ST										TH
A	3	12	Plantation	PT	RE									
A	4	37	Plantation	PT	RE									
A	5	4	Hardwood	S-S										
A	6	8	Conifer	PT							AA			
A	7	12	Hardwood	PT										

Com-part-ment	Stand No.	Acres	Stand Type	Stand Size	Year of Management Action									
					1	2	3	4	5	6	7	8	9	10
A	8	46	Hardwood	PT										TH
A	9	100	Hardwood	PT										
A	10	5	Conifer	ST										
A	11	3	Hardwood	S-S										
A	12	4	Hardwood	ST										
A	13	5	Plantation	PT										
A	14	3	Hardwood	ST										
A	15	14	Conifer	PT	Inadequate access to treat, if access improves treatment may be scheduled.									
A	16	4	Hardwood	PT	Inadequate access to treat, if access improves treatment may be scheduled.									
A	17	43	Hardwood	PT										
A	18	3	Plantation	ST										
A	19	10	Hardwood	PT										
A	20	38	Hardwood	PT										TH
A	740	2	Other		Other (Roads, Cemeteries, etc.)									
B	1	12	Hardwood	S-S										
B	2	28	Plantation	PT	RE									
B	3	17	Plantation	PT	RE									
B	4	10	Hardwood	S-S										
B	5	21	Plantation	PT	RE									
B	6	13	Hardwood	PT										
B	7	29	Hardwood	PT										
B	8	31	Hardwood	PT							TH			
B	9	19	Hardwood	PT										
B	10	33	Hardwood	PT										TH
B	11	19	Hardwood	ST										TH
B	12	2	Hardwood	S-S										
B	910	0.5	Wetland		Wetland or Pond									
B	911	1	Wetland		Wetland or Pond									
B	930	5	Wetland		Wetland or Pond									
B	931	5	Wetland		Wetland or Pond									
B	932	4	Wetland		Wetland or Pond									
C	1	14	Plantation	PT					TH					
C	2	5	Plantation	PT					TH					
C	3	12	Hardwood	ST					TH					
C	4	20	Hardwood	ST					TH					
C	5	29	Hardwood	PT	Inadequate access to treat, if access improves treatment may be scheduled.									
C	6	27	Conifer	PT	Inadequate access to treat, if access improves treatment may be scheduled.									
C	7	4	Plantation	PT					TH					
C	8	4	Plantation	PT					RE					
C	9	3	Plantation	PT					TH					

Com-part-ment	Stand No.	Acres	Stand Type	Stand Size	Year of Management Action									
					1	2	3	4	5	6	7	8	9	10
C	10	1	Plantation	PT										
C	11	4	Plantation	PT										
C	12	40	Hardwood	ST										
C	13	20	Hardwood	PT										
C	14	3	Plantation	PT										
C	15	21	Hardwood	PT					TH					
C	16	30	Conifer	PT										AA
C	17	2	Plantation	PT										
C	18	3	Hardwood	S-S										
C	19	22	Conifer	PT										
C	20	12	Hardwood	PT						RE				
C	21	8	Hardwood	PT						RE				
C	22	38	Hardwood	PT										
C	23	6	Plantation	PT										
C	24	4	Plantation	PT										
C	25	10	Plantation	PT										
C	26	6	Plantation	PT										
C	27	11	Plantation	PT						RE				
C	28	21	Conifer	PT										AA
C	29	11	Hardwood	PT										
C	910	0.5	Wetland		Wetland or Pond									
C	930	3	Wetland		Wetland or Pond									
C	950	5	Open		Open - Brush - hydro-axed about every 5 years, as money allows.									
C	951	26	Open		Open - Brush - hydro-axed about every 5 years, as money allows.									
C	952	8	Open		Open - Brush - hydro-axed about every 5 years, as money allows.									
D	1	10	Plantation	PT										
D	2	13	Hardwood	PT										
D	3	25	Plantation	PT										
D	4	42	Plantation	PT										
D	5	45	Hardwood	ST										
D	6	54	Hardwood	PT									TH	
D	910	7	Wetland		Wetland or Pond									
D	920	10	Wetland		Wetland or Pond									
E	1	9	Plantation	S-S										
E	2	70	Hardwood	ST									TH	
E	3	4	Hardwood	S-S										
E	4	10	Hardwood	PT									TH	
E	5	4	Plantation	ST										
E	6	10	Plantation	PT										TH
E	7	2	Hardwood	S-S										
E	8	7	Plantation	PT										TH

Com-part-ment	Stand No.	Acres	Stand Type	Stand Size	Year of Management Action									
					1	2	3	4	5	6	7	8	9	10
E	9	5	Hardwood	PT										
E	10	9	Plantation	PT										
E	11	7	Plantation	PT										
E	12	12	Hardwood	S-S										
E	13	23	Plantation	PT										
E	14	7	Plantation	PT		TH								
F	1	9	Hardwood	PT										
F	2	10	Hardwood	PT										
F	3	3	Plantation	PT										
F	4	11	Plantation	PT		TH								
F	7	49	Hardwood	PT										
F	8	56	Conifer	PT	Inadequate access to treat, if access improves treatment may be scheduled.									
F	9	9	Hardwood	PT	Inadequate access to treat, if access improves treatment may be scheduled.									
F	10	17	Plantation	PT										
F	11	22	Hardwood	PT	Inadequate access to treat, if access improves treatment may be scheduled.									
F	12	22	Hardwood	PT										
F	13	2	Hardwood	PT										
F	14	24	Hardwood	PT										
F	15	21	Conifer	PT	Inadequate access to treat, if access improves treatment may be scheduled.									
F	16	19	Hardwood	PT	Inadequate access to treat, if access improves treatment may be scheduled.									
F	17	14	Plantation	PT										
F	18	15	Hardwood	PT										
F	19	4	Hardwood	S-S										
F	20	9	Hardwood	PT										
F	910	1	Wetland		Wetland or Pond									
F	930	20	Wetland		Wetland or Pond									
G	1	5	Plantation	ST						RE				
G	2	25	Hardwood	PT										
G	3	17	Plantation	PT										
G	4	9	Plantation	PT										
G	5	85	Hardwood	PT										
G	6	17	Plantation	PT										TH
G	7	4	Plantation	PT										TH
G	8	11	Plantation	PT										TH
G	9	4	Plantation	S-S										
G	10	9	Plantation	PT										
G	11	18	Hardwood	PT										
G	12	3	Plantation	PT										TH
G	13	7	Hardwood	S-S										

Com-part-ment	Stand No.	Acres	Stand Type	Stand Size	Year of Management Action									
					1	2	3	4	5	6	7	8	9	10
G	14	8	Plantation	PT										TH
G	16	19	Plantation	PT										
G	17	12	Hardwood	PT										
G	18	27	Hardwood	PT										
G	730	1	Other		Other (Roads, Cemeteries, etc.)									
G	950	38	Open		Open - Brush - hydro-axed about every 5 years, as money allows.									
H	1	141	Hardwood	PT					RE					RE
H	2	30	Hardwood	ST			TH							
H	3	25	Hardwood	S-S										
H	4	12	Hardwood	PT										
H	5	29	Hardwood	PT					AA					
H	6	34	Hardwood	PT										
H	7	9	Hardwood	S-S										
H	8	35	Hardwood	PT				TH						
H	9	32	Hardwood	PT										
H	10	69	Hardwood	PT			TH							
H	11	6	Hardwood	S-S										
H	12	26	Plantation	PT				TH						
H	13	3	Hardwood	PT										
H	14	15	Hardwood	PT										
H	15	8	Plantation	PT										
H	16	15	Hardwood	PT										
H	910	3	Wetland		Wetland or Pond									
H	940	2	Open		Open - Brush - hydro-axed about every 5 years, as money allows.									
H	950	2	Open		Open - Brush - hydro-axed about every 5 years, as money allows.									
H	951	3	Open		Open - Brush - hydro-axed about every 5 years, as money allows.									
Z	711	22	Other		Other (Roads, Cemeteries, etc.)									

Appendix G: Wildlife Harvest

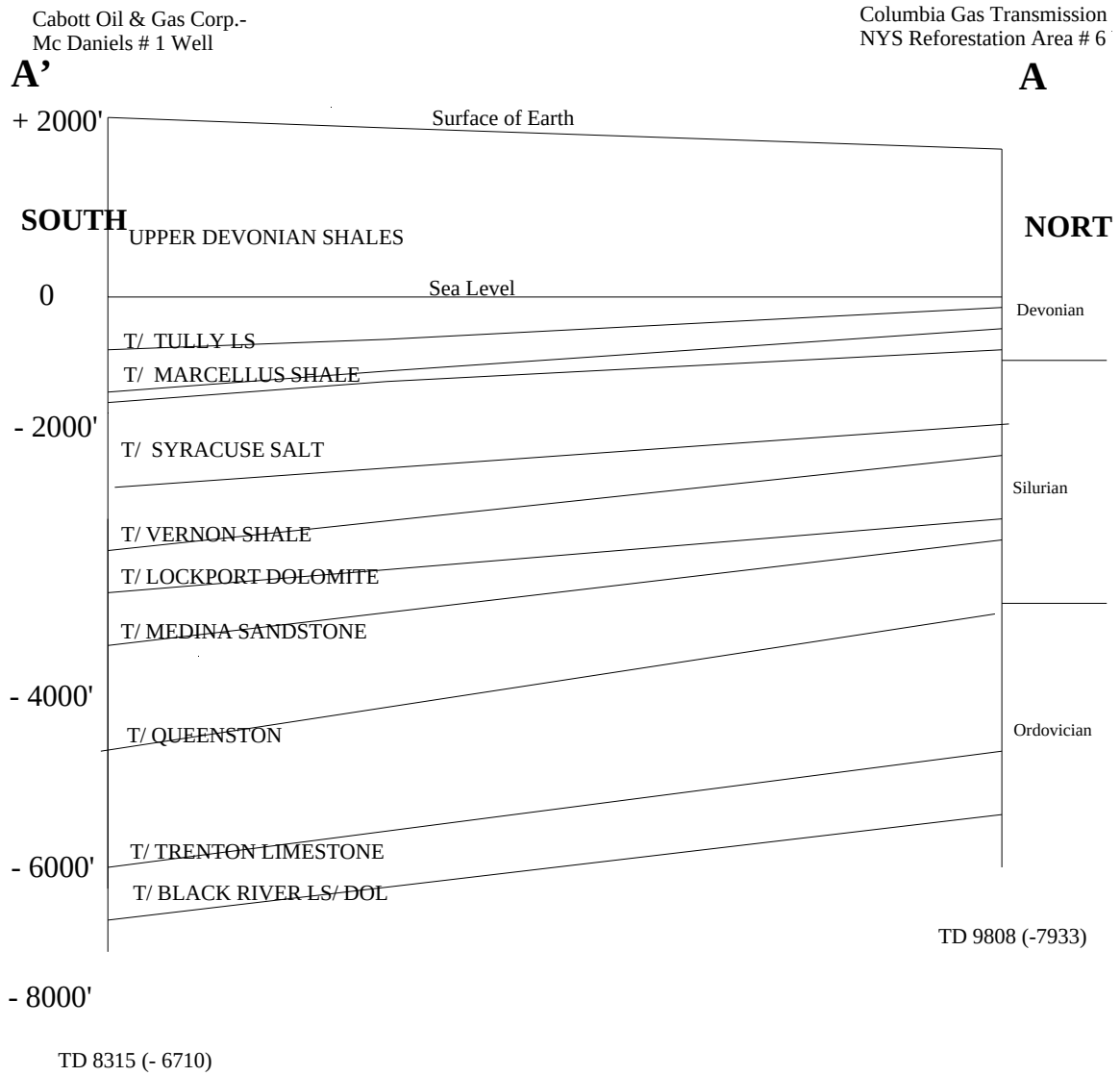
Table 1G – Calculated Legal Deer Take in Wildlife Management Unit (WMU) 8P

		2003	2004	2005	2006	2007	2008
Male	Adult	1,707	1,218	1,052	1,211	1,354	1,217
	Fawn	553	347	163	217	276	358
Female	Adult	1,794	1,160	597	663	964	1,246
	Fawn	479	287	141	169	224	298
Total		4,533	3,012	1,953	2,260	2,818	3,119

Table 2G – Furbearer Harvest of Pelt Sealed Species

Reported Beaver Harvest								
Year	‘00-‘01	‘01-‘02	‘02-‘03	‘03-‘04	‘04-‘05	‘05-‘06	‘06-‘07	’07-‘08
Number	3	24	14	5	8	0	37	91

Appendix H: Bedrock Cross Section



GEOLOGIC CROSS SECTION A - A'

See Geology / Oil and Gas map on page107 for the location of A, and A'.

Appendix I: SEQR

12-12-79 (3/99)-9c SEQR

State Environmental Quality Review
NEGATIVE DECLARATION
Notice of Determination of Non-Significance

Identifying # 2011-SLM-8-302

Date June 22, 2010

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 Keuka Highlands Unit Management Plan

SEQR Status: **Type 1** X
Unlisted

Conditioned Negative Declaration: ___ **Yes**
X **No**

Description of Action: The Keuka Highlands Unit Management Plan sets forth the proposed goals, objectives, management actions and associated costs for the management of approximately 3,688 acres on two parcels of state land in Steuben County. It includes Urbana State Forest and Pigtail Hollow State Forests. The plan details management activities for a 10-year period, from 2010-2020. A review and update will take place at the end of the tenth year. Public participation has been sought via mailings and a public meeting. Full consideration for public input has been sought prior to completion of the final plan.

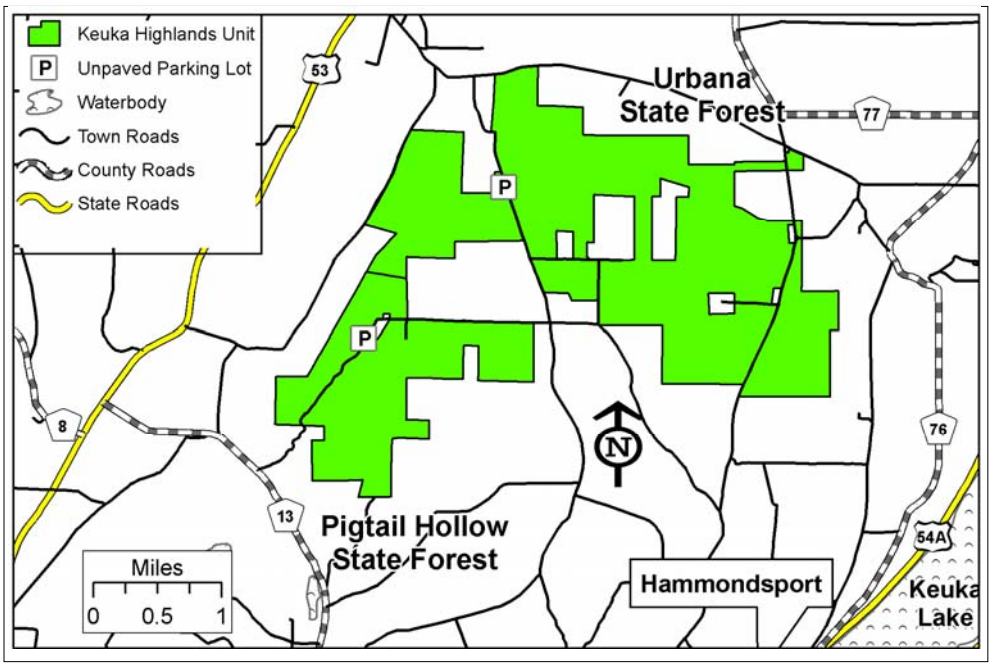
Management activities planned for this unit include: general maintenance and improvement of the facilities, public access to state land; managing the vegetation and wildlife, including the creation of 47 acres of open grass/brush, 126 acres of all-aged forests, regeneraton of 325 acres, thinning 1,090 acres and maintaining 100 acres of grass/brush. Other activities include conversion of 47 acres of forest to grass and or brush, the construction of three new parking lots; repair of two of the existing ones and upgrade one log landing to a parking lot, as well as construction of one gate, the repair of existing area signs and placement of two new ones and (with permission) placement of a directional sign on County Road 13 as well as oil and gas leasing and development activities.

Maintenance that has not been done for many years will commence on the following four town roads: Urbana State Forest, portions of Wixon Hill Road and Bog Road and on Pigtail Hollow State Forest, portions of Van Hussen Road, and Runner Road. The lack of maintenance means large portions of Urbana State Forest are not accessible, except by foot. In order to provide better access to Urbana State Forest, portions of Bog Road will be repaired to haul road standards, as part of several timber sales. It will then be gated, after repairs are completed, to minimize damage to the new repairs.

In addition, small water hole amphibian activity centers will be created and maintained. The Briston Hills Branch of the Finger Lakes Trail, a hiking trail, will continue to remain in place across the Unit. It will be maintained under the Adopt-a-Natural-Resource program by the Finger Lakes Trail Conference.

Best management practices for the control of erosion, and integrated pest management for the control of insects will be followed. Acquisition of adjoining land from willing sellers will be sought, when possible. All silvicultural, oil, gas or other mineral activity will be monitored, and best management practices followed. If any endangered and/or threatened species are located they will be protected as well as historical and archaeological resources.

Location: (Include street address and the name of the municipality/county. A location map of appropriate scale is also recommended.) Keuka Highlands Unit: Urbana State Forest, Towns of Pulteney, Wheeler and Urban in Steuben County; Pigtail Hollow State Forest, Town of Wheeler in Steuben County



Reasons Supporting This Determination:
(See 617.7(a)-(c) for requirements of this determination; see 617.7(d) for Conditioned Negative Declaration) Activities planned for the unit will be covered by the following Programmatic/Generic Environmental Impact Statements:

> State Forest Commercial Products Sales Program, Habitat Management Activities, Wildlife Habitat Management on State Forest Land, Red Pine Plantation Clearcut Program, New York State Open Space Plan, the State Forest Recreation Management Program and the Generic Environmental Impact Statement On the Oil, Gas and Solution Mining Regulatory Program (Final,1992)

Activities which would require a site specific environmental review under the State Environmental Quality Review Act (SEQRA) include: prescribed fire of 10 acres or more, site preparation with herbicide, and clearcuts larger than 40 acres. In addition, if after the public review process, activities are added to the plan to provide better management of the unit and are not covered by this Negative Declaration or cited Programmatic/Generic Environmental Impact Statements, DEC will undertake a site specific environmental review for such activities. Activities relating to oil and gas exploration would also require a site specific environmental review and permit if activities are not covered by the Generic Environmental Impact Statement On the Oil, Gas and Solution Mining Regulatory Program (Final,1992)

Activities in the plan will be performed in accordance with the standards and policies and procedures set forth in the following DEC documents:

> Continuous Forest Inventory Handbook, State Forest Multiple Use Management Plan, Unpaved Forest Road Handbook, Special Management Zones on State Forests, and the Timber Management Handbook.

In addition, activities in the plan will be guided by the Environmental Conservation Law, best management practices, the expertise of foresters and biologists, and the views expressed by the participating public.

Construction of new facilities shall include the construction of parking lots and the repair and gating of Bog Road. These projects with be placed so as to minimize short and long term impacts by constructing the lots on level ground with reasonable slope. These projects will entail: clearing of brush and some trees, grading and applying gravel as well as the installation of culverts and ditches used to control drainage and erosion as necessary. This will improve public access and safety.

Aesthetic impacts from timber harvesting, construction and oil and gas development (if these lands are leased in the future), will be partially mitigated by limiting disturbances in sensitive areas and with visual buffers as appropriate. There will be a favorable impact on energy resources, since timber management will produce fuelwood and gas well drilling may provide natural gas. The noise impact of construction and logging will occur so briefly as to be inconsequential.

Small water hole amphibian activity centers are constructed by scooping out soil in a suitable location, such as near a spring or on soil that will hold water. They are at least 6 foot deep, and vary in size and shape from 10 feet up to 40 feet. They are left to fill naturally with water and animals such as salamanders and frogs. Construction will take place during periods of dry weather. Best management practices will be followed to minimize any potential erosion or sedimentation problems to surrounding water bodies.

Archaeological and historical impacts will be minimized by disturbing the ground as little as possible. Any construction, forestry or mineral activities will incorporate the use of best management practices, including but not limited to such considerations as:
locating improvements to minimize necessary cut and fill; locating improvements away from streams, wetlands, and unstable slopes; use of proper drainage devices such as water bars and broad-based dips; locating trails to minimize grade; laying out trails on existing old roads or cleared or partially cleared areas; using stream crossings with low, stable banks, firm stream bottom and gentle approach slopes; constructing stream crossings at right angles to the stream; limiting stream crossing construction to periods of low or normal flow; avoiding areas where habitats of threatened and endangered species are known to exist; and using natural materials to blend the structure into the natural surroundings. Parking lots or other structures will be located on flat, stable, well-drained sites in areas that require a minimum amount of tree cutting. Construction will be limited to periods of low or normal rainfall. The size of the parking lots will be the minimum necessary for the intended use.

When possible, gas pipelines and well pads will be constructed along existing roads or other corridors. All well pads, pipelines, and well pad access roads will require site approval by a DEC land manager, and other permits such as a Temporary Revocable Permit (TRP) and a Permit to Drill, Deepen, Plug Back or Convert a Well Subject to the Oil, Gas and Solution Mining Law (form 85-12-5) (Drilling Permit). The proposed management actions will not result in significant impacts on the environment.

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: Gretchen Cicora

Address: NYS DEC Office
7291 Coon Rd.
Bath, NY 14810

Telephone Number: (607) 776-2165 ext. 29

For Type 1 Actions and Conditioned Negative Declarations, a Copy of this Notice is sent to:
Appropriate Regional Office of the Department of Environmental Conservation
Chief Executive Officer, Town/City/Village of
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin - NYS DEC - 625 Broadway - Albany, NY 12233-1750 (Type One Actions Only)

Appendix J: GLOSSARY

Access Trails - May be permanent, unpaved and do not provide all-weather access within 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.

All-Aged - A forest containing trees of two or more age classes.

Allegheny Hardwoods - Composed of primarily of black cherry, white ash, and tulip poplar. May contain lesser amounts of sugar maple, beech, red maple, red oak and basswood.

Allowable cut - The amount of wood fiber that may be harvested annually or periodically for a specified area over a stated period in accordance with the objectives of management.

Alluvium - Clay, silt, sand, gravel or similar material deposited by running water.

Anticlinal - Rock layers that are folded so that the layers are inclined away from each other (like the legs of a capital A).

Basal Area - The cross sectional area of a tree at breast height, measured in square feet. (Forestry Handbook, 2nd Edition, 1984, p.287) For a stand: the total basal area per unit of area, usually expressed as square feet per acre. ("Silvicultural Systems For The Major Forest Types of The United States", USDA Ag. Hndbk. #445, 1973, p.103)

Bedrock - Hard lithified or consolidated rock units that underlie the unconsolidated or partially-consolidated surface (geology) sediments and soils deposited during recent sedimentation and glacial sedimentation.

Best Management Practices (BMP's) - Practices and techniques that control erosion of soil or other contaminants from the site.

Board Foot - A piece of lumber 1 inch thick, 12 inches wide and 1 foot long, or its equivalent.

Buffer Strips - A strip of vegetation used to protect sensitive areas from soil erosion and siltation.

Canadian Shield - the stable portion or nucleus of the North American continent, primarily igneous and metamorphic rocks, located primarily in northeastern Canada, Michigan, Wisconsin and Minnesota.

Clast - A fragment of rock

Classified Water Bodies - A system whereby water bodies are protected under Environmental Conservation Law.

Clearcut - The removal of a forest overstory. This practice is done in preparation of the

reestablishment of a new forest through regeneration. This is one form of even aged management.

Conifer - Needle bearing trees.

Conifer/Conifer Hardwood Forest - A forest stand in which either of the two leading species is a conifer.

Conifer Stand - A forest stand containing 33% or more conifer species.

D.B.H. - (diameter at breast height) - The diameter of a tree at roughly breast height or 4½ feet from the ground.

Defoliated - Complete, or almost complete removal of leaves from a living tree.

Dip - The angle that strata (rock layers) or planar features deviate from horizontal.

Dug-Out - An approximatly 500 square foot by 3 feet deep pot hole constructed of earth and containing water.

Early Successional Forest - Trees and brush that grow after disturbance such as plowing, fire or clearcut. Common species include grass, raspberries/black berries, white pine, aspen, red maple, black cherry, birch etc.

Early Successional Wildlife Species - Animal species which require early vegetative stages such as grass, brush, aspen.

Ecological Diversity - The number of species living in an ecosystem.

Ecological Subzone - A geographic area containing fauna and flora which are adapted to that particular area.

Ecosystem - A complex of living organisms and their environment.

Endangered - Native plants (and animals) in danger of extinction throughout all or a significant portion of their ranges within the state and requiring remedial action to prevent such extinction (NYCRR Title 9 Part 193.3)

Erosion - To wear away by the action: water, wind, or ice.

Even Aged - A forest in which all of the trees are essentially the same age.

Faulting - a fracture or crack that has had movement parallel to the fracture's surface

Fluvial - pertaining to sediments deposited by stream or river actions

Fragipan - An impervious subsurface soil layer (sometimes known as "hardpan") which restricts rooting and internal soil drainage.

Glacier / Glacial - a large mass of ice and snow that is moving on the land's surface

Hardwood Forest - A forest stand in which each of the two predominant species by percent is a hardwood.

Hardwoods - Broadleafed trees.

Haul roads - Are permanent, unpaved roads but are not designed for all-weather travel. They are constructed primarily for the removal of forest products and provide only limited access within the Unit. Public motor vehicle use is not allowed, but pedestrian travel is encouraged. All administrative roads are gated and warning signs are posted. The standards for these roads are those of Class C roads as provided for in the Forest Road Handbook.

Herbaceous Opening - A non-forest vegetative type consisting of grasses and forbs.

Homocline - geologic structure that is dipping or inclined in one direction and at the same angle of inclination

Kame - a short ridge, hill, or mound of stratified glacial deposits

Lacustrine - sediments deposited in association with the processes within a lake

Large Coarse Woody Debris - The accumulation of dead woody material, both standing and fallen, which occurs in a forest stand.

Lean-To - A small, open fronted, log shelter used for overnight camping.

Linements - linear trends of weakness or fractures in the earth's crust

Log Landing - An area to which logs are skidded and then loaded for removal.

MCFGPD - thousand cubic feet of gas per day

Moraine - sediment that is accumulated due to the actions of a glacier

Multiple Use - A management philosophy by which many uses are derived for a specific land area.

Natural Regeneration - The regrowth of a forest stand by natural means.

Natural Forest - A forest established by natural regeneration.

No Entry / No Surface Occupancy Lease - A lease to explore and develop underground mineral resources without any surface disturbance. Above ground facilities and equipment to remove mineral resources must be located off the subject property.

Northern Hardwoods - Largely composed of sugar maple, American beech, yellow birch, and hemlock. These species are generally long-lived and may adapt to all-aged management.

Oak Opening - a globally rare plant community, also known as an oak savannah. The community is composed of native prairie grasses and associated plants usually surrounded by oak/hickory forests. Oak Openings are maintained by periodic burning. Historically, fires were set by Native Americans or caused by lightning strikes. Oak Openings can be variable in size, from just an acre to several thousand acre complexes.

Off - Site - The species are growing (or at least have been planted) where these species would not ordinarily be found, due to unfavorable site conditions.

Old-Growth Forest - The definition of "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.

Overstory - The upper portion of a community of plants, the canopy of the trees in a forest.

Pioneer Hardwood - Early Successional trees that are hardwood, such as black cherry, white birch, red maple and aspen.

Plantation - A forest established by planting.

Pole Sized - A young tree with a D.B.H. of 6 to 11 inches.

Pre-Commercial - To do a stand treatment when the trees are to small to sell for profit, requiring the payment of someone to do the work.

Prescribed Fire - The intentional setting of forest or grass land on fire under carefully controlled conditions to achieve a vegetative or wildlife management goal adhering to a written and approved prescribed fire burn plan.

Protection Management - An area which requires special management considerations. (Special cutting regimen, short rotation, long rotation, or no treatment.)

Public access roads - Are constructed and maintained to accommodate motor vehicle traffic, they are permanent, unpaved roads. They may be designed for all-weather use depending on their location and surfacing. These roads provide primary access within a Unit. The standards for these roads are those of the Class A and Class B access roads as provided for in the Forest Road Handbook.

Rare - Native plants that have from 20 to 35 extant sites or 3,000 to 5,000 individuals statewide.

(NYCRR Title 9 Part 193.3)

Regeneration - To reestablish a forest stand with tree seedlings.

Rotation - The length of time between the establishment and the harvest of a forest stand.

Sawtimber Sized - A tree with a D.B.H. of 12 inches or greater.

Seedling/Sapling Sized - A young tree with a D.B.H. of less than 6 inches.

Selective Harvesting - Removal of the mature timber, usually the oldest or largest trees.

Shade Intolerant - Tree species that require full sunlight to survive past the seedling stage.

Shade Tolerant - Tree species that can survive in the shade cast by older trees.

Sidetrack Well - An inclined well that is drilled from a predetermined depth within an existing well

Site - Site is defined as a group of features (such as slope, aspect, soil type, etc.) which characterize a given area of land.

Silviculture - The establishment, development, care, and reproduction of forest stands.

Softwoods - Needle bearing trees, conifers

Species Diversity - The occurrence of a variety of plants and animals.

Stand - A group of plants with similar characteristics that are treated as a single unit in a management plan.

Stand Analysis - A systematic method of evaluating stands to determine the need for treatment.

Stand Treatment - Work done in a stand which is directed towards the management of the stand.

State Forest - Lands owned by the state of New York and administered by the Department of Environmental Conservation which are managed for the establishment and maintenance of forests for watershed protection, the production of timber, and for recreation and kindred purposes.

Stratigraphic - The layering and sequence of mapable rock units.

Succession - The gradual supplanting of one community of plants and animals by another.

Surficial - Of, or relating to, the surface

Sustained Yield - The maintenance of a continuous flow of a particular product.

Synclinal - Rock layers that are folded so that the layers are inclined towards each other (like the letter V)

Till - Unstratified glacial deposits consisting of clay, sand, gravel, and boulders

Temporary Revocable Permit (TRP) - Authority for the issuance of temporary use permits is provided by §3-0301 of the ECL. Permits may be granted for the temporary use of State Lane by the public within stated guidelines and legal constraints so as to protect the State lands and their resources.

Top Lopping - The cutting of limbs from the tops of felled trees to reduce fire danger and improve visibility. On state forests top lopping of conifers is required by law.

Trail Head - The intersection of a trail with a ro trail head ad.

Understory - The layer of plants that grow in the shade of the forest.

Uneven Aged - A forest containing trees of two or more age classes.

Unique Area - A parcel of land owned by the state acquired do to its special natural beauty, wilderness character, geological, ecological or historical significance for the state nature and historic preserve, and may include lands within a forest preserve county outside the Adirondack and Catskill Parks.

Vegetative Stage - A description of a plant community based on the age of the component plants.

Vegetative Type - A description of a plant community based on species composition.

Vernal Pool - A small body of water that is present in the spring, but dries up by mid-summer.

Vertical Well - a well that is straight into the ground or is 90 degrees from horizontal.

Water Hole - A laid up stone cistern built by C.C.C. volunteers and originally used for water for fire protection purposes.

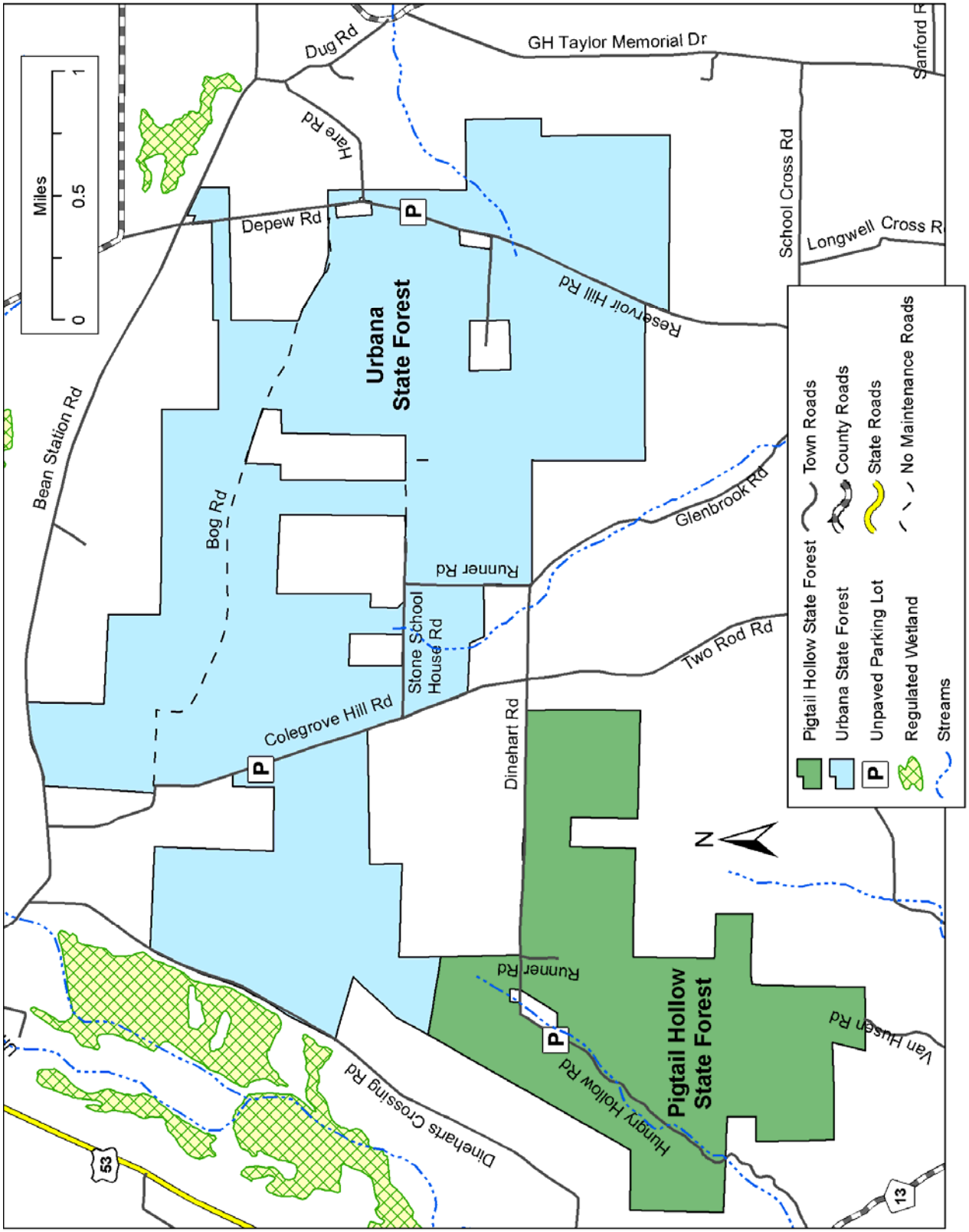
Watershed - The land area from which a stream receives its water.

Wetland - Land or area saturated and sometimes partially or intermittently covered with water.
Class I, II, III or IV - The designation placed upon a mapped wetland by NYS DEC as required by 6NYCRR. The four classes rank wetlands according to their ability to perform wetland functions and provide wetland benefits. Class I is the most critical.

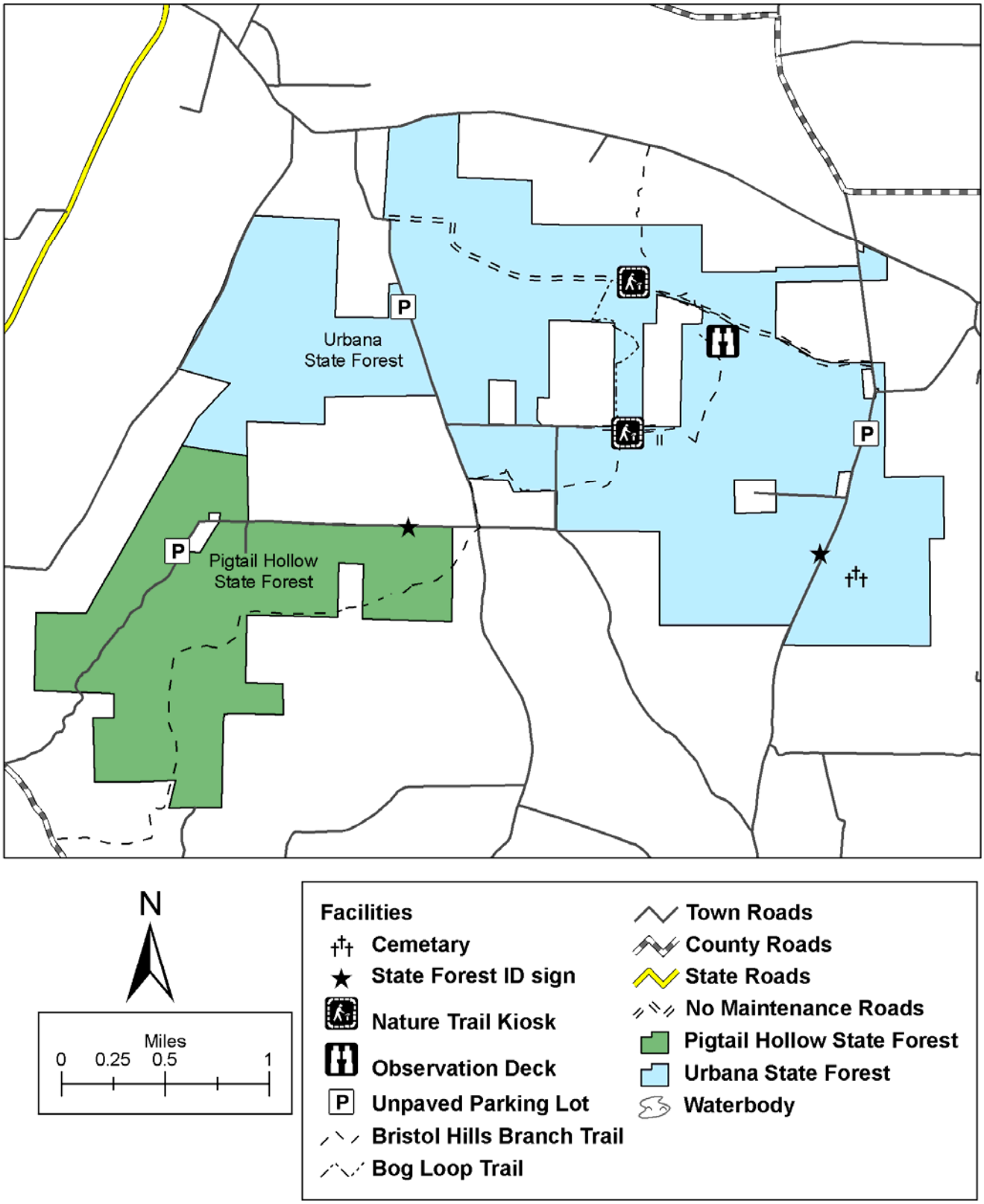
Yield - The production of a commodity such as; forest products, water, or wildlife.

Appendix K: Maps

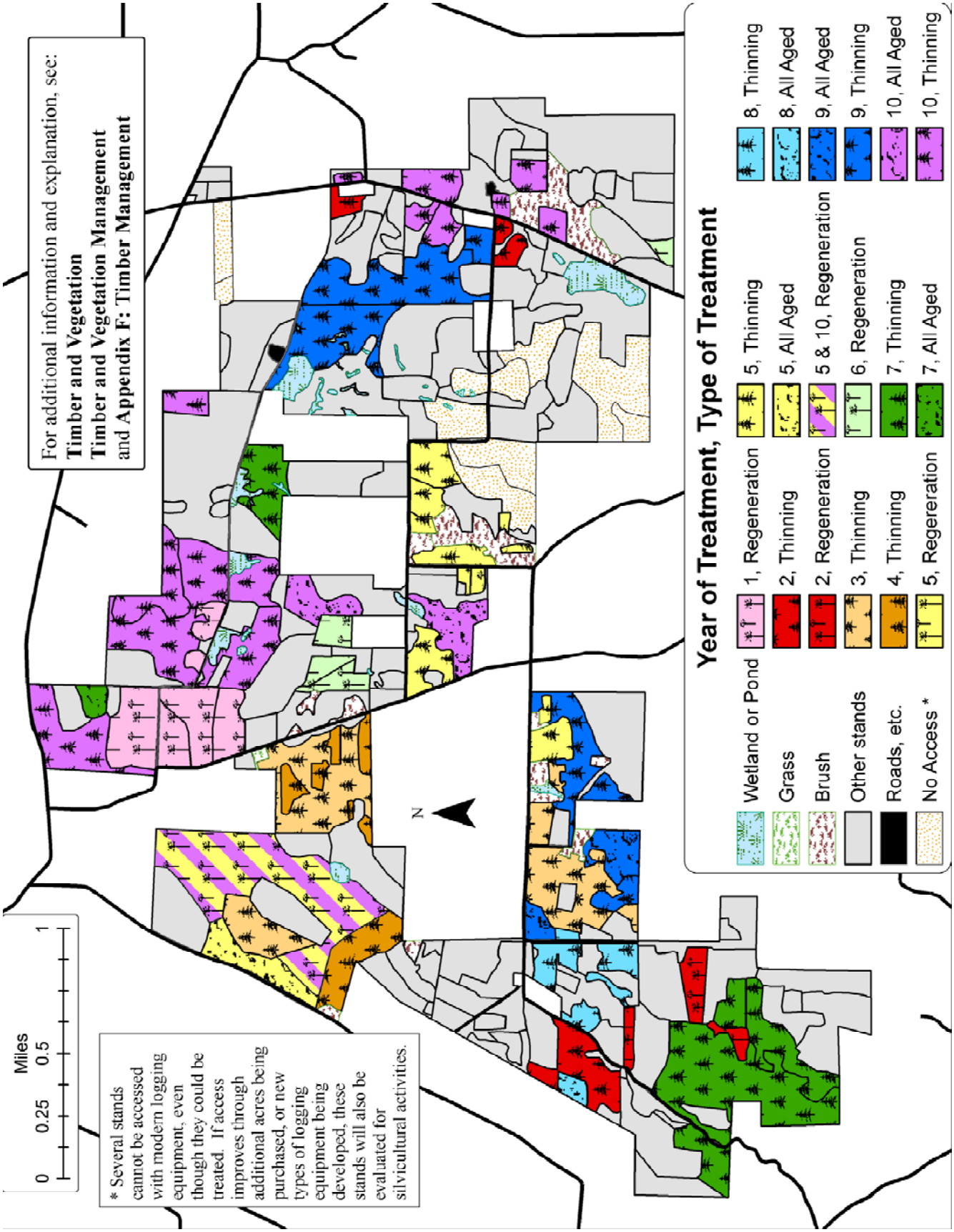
Access / Location and Streams, Ponds and Wetlands



Recreation and Other Facilities

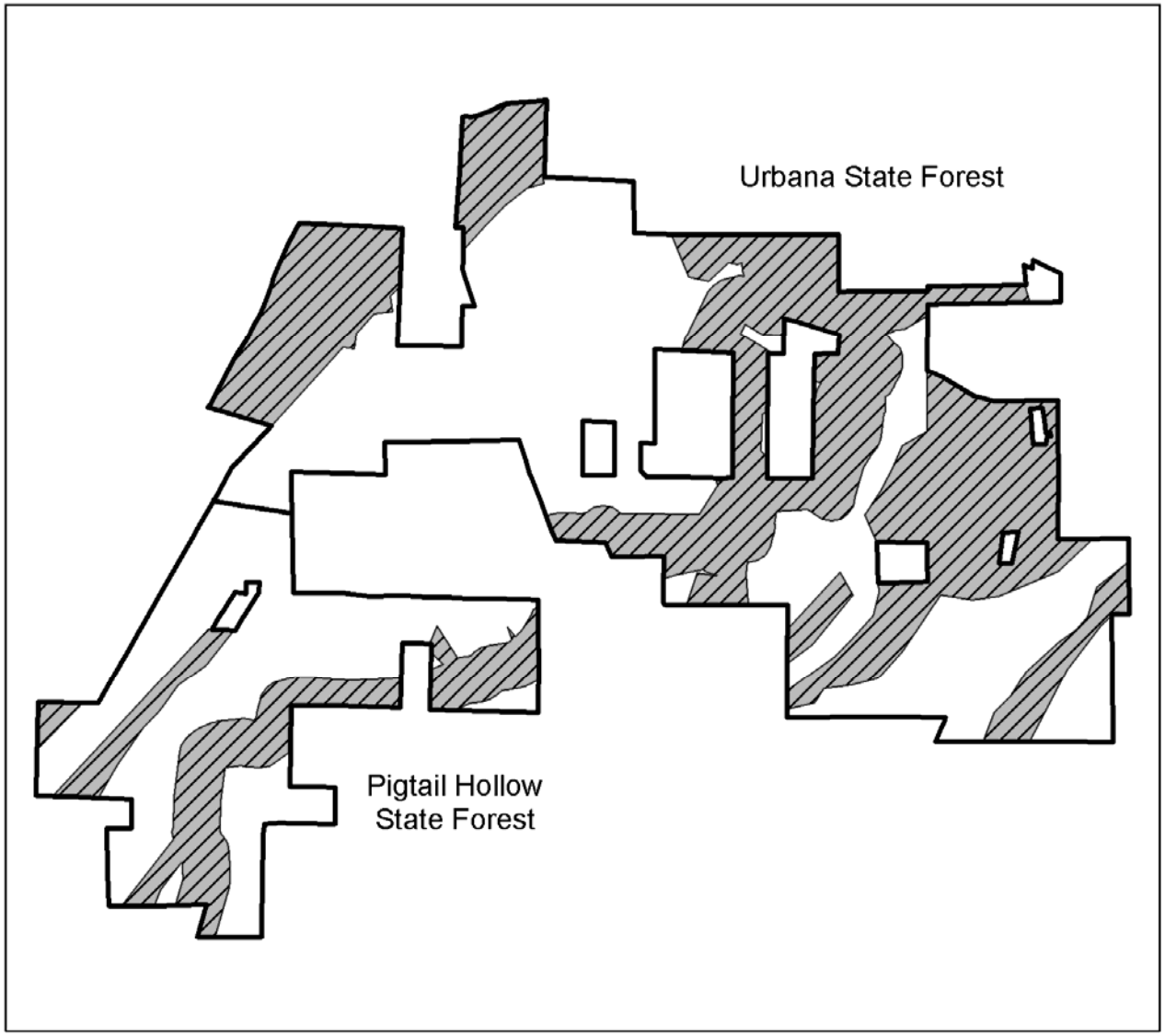


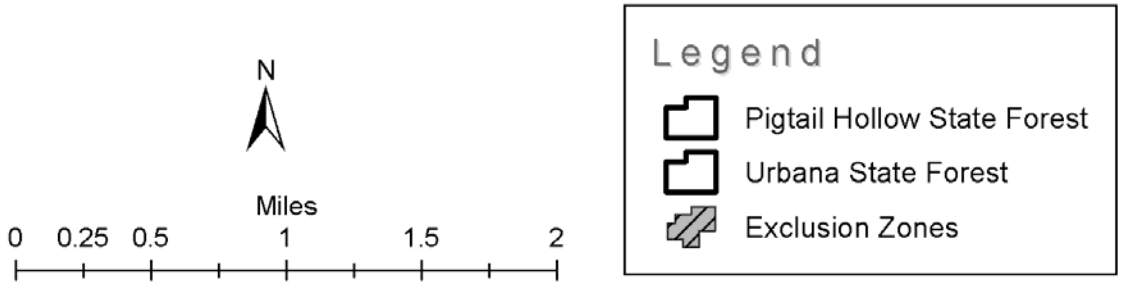
Stand Designations



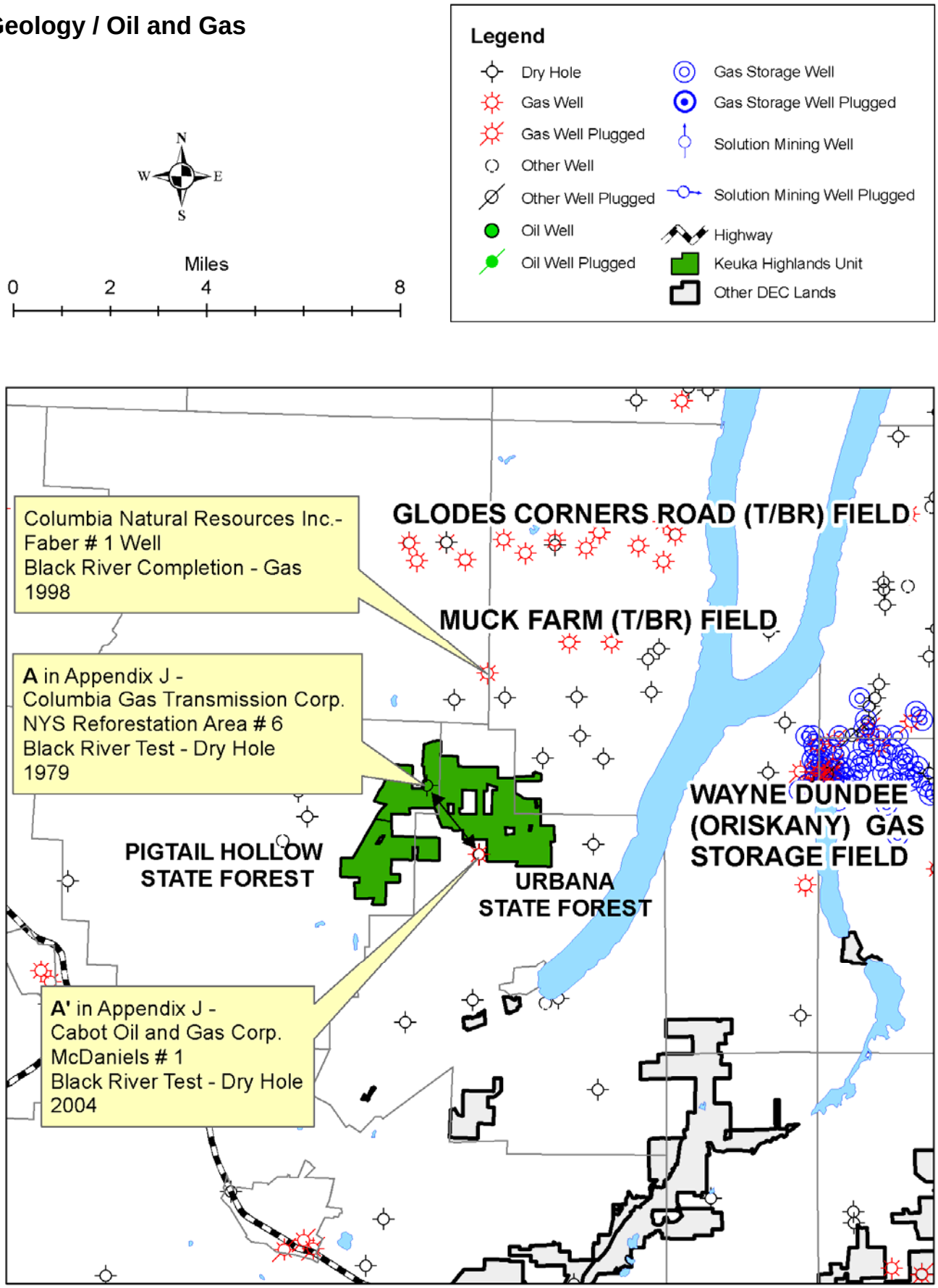
Recommended Exclusions from Surface Occupancy for Oil, Gas, and Mineral Extraction

The following maps show areas that are excluded from having well pads or mines constructed. All other activities are permitted on a case by case basis during the Temporary Revocable Permit (TRP) process. See Mineral Resources sections pages 9 and 53.

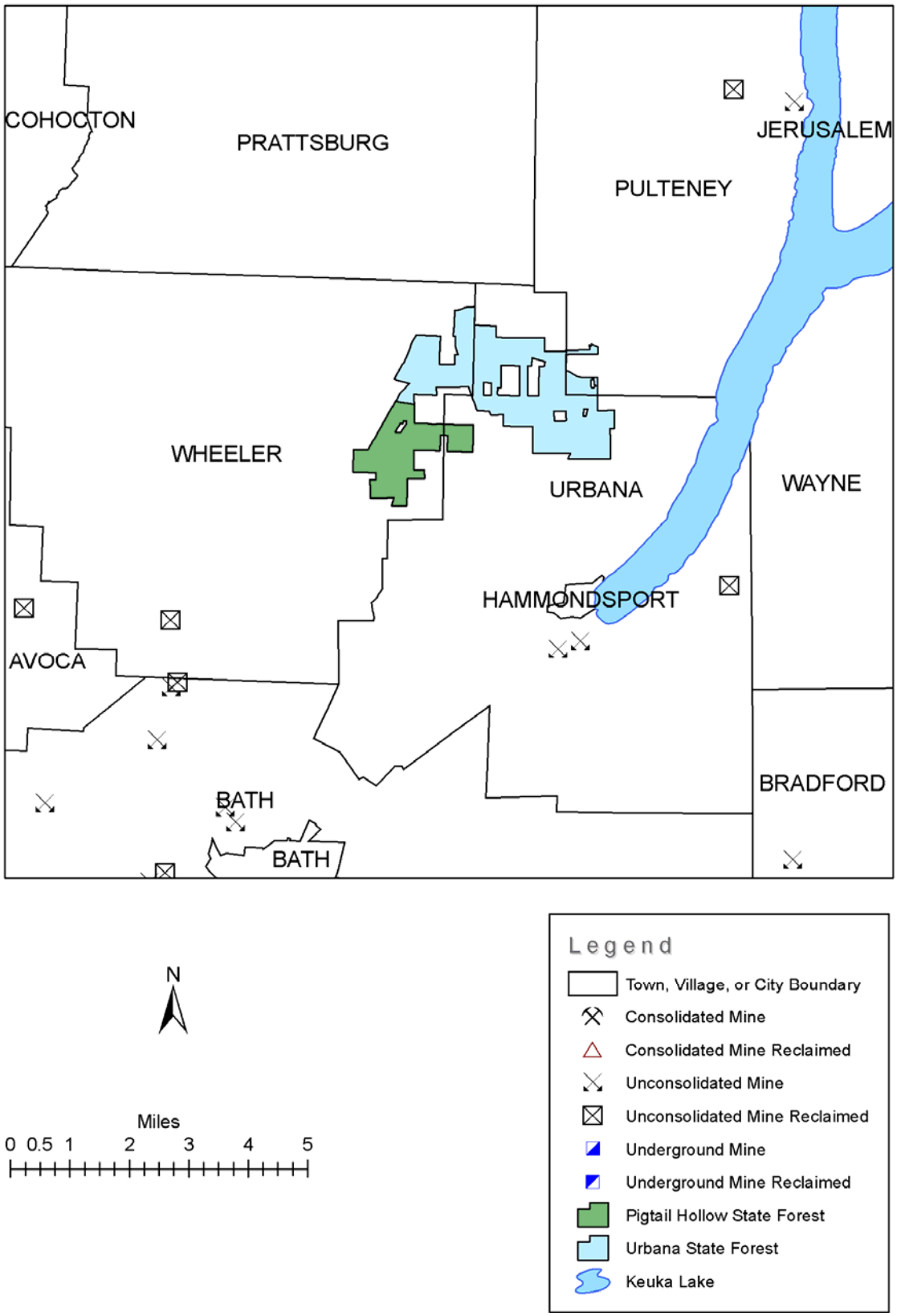




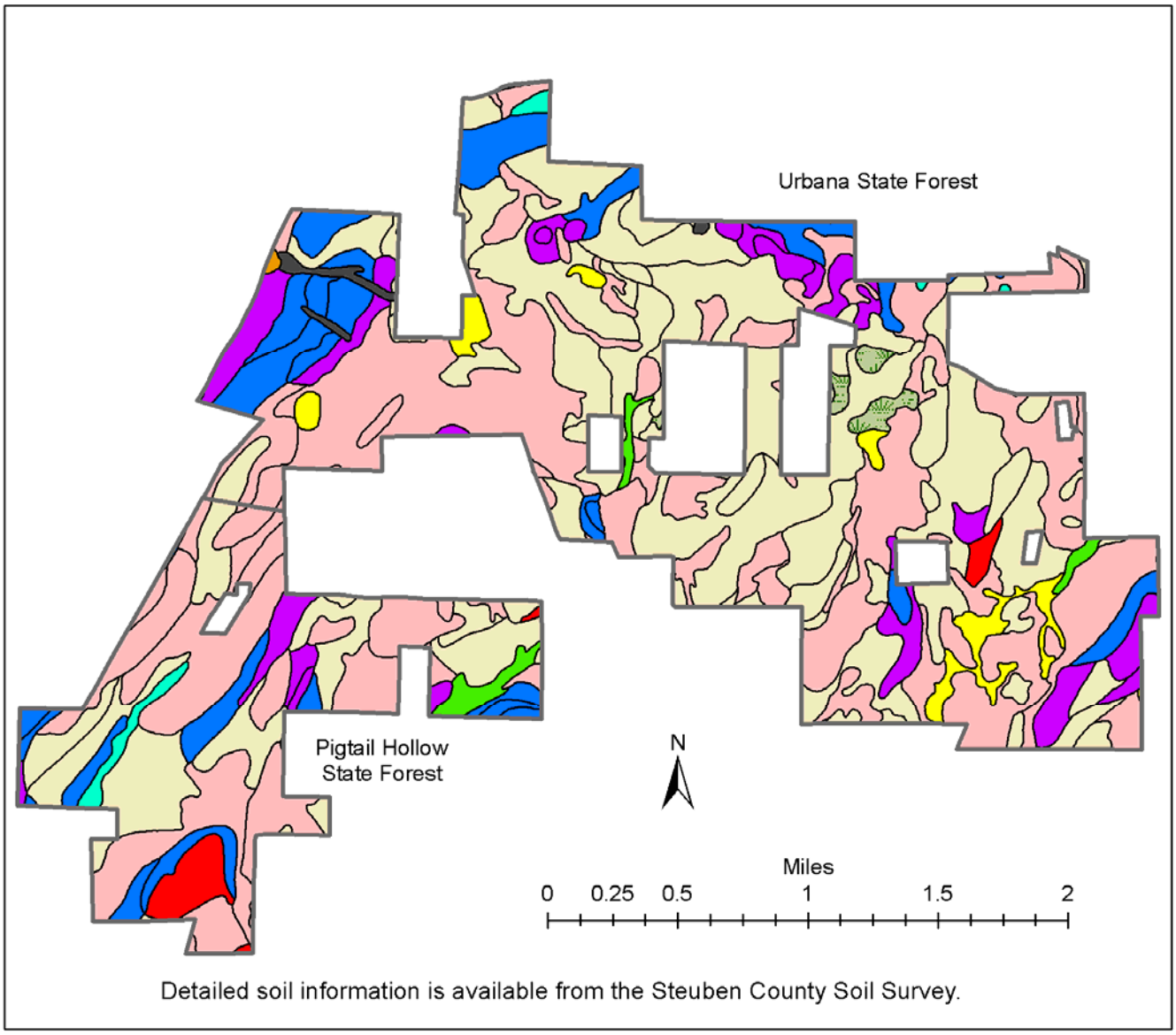
Geology / Oil and Gas



Sand, Gravel and Hard Rock Mine Locations



Soil Maps



Detailed soil information is available from the Steuben County Soil Survey.

Legend

Soil Type

- Alden
- Arnot channery silt loam
- Chenango channery silt loam
- Chippewa channery silt loam
- Fluvaquents and Ochrepts
- Howard - Madrid complex
- Lordstown - Arnot association
- Lordstown channery silt loam
- Mardin and Volusia channery silt loam
- Mardin channery silt loam
- Ochrepts and orthents
- Palms muck
- Volusia channery silt loam

For additional information contact:

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7291 Coon Rd
Bath, NY 14810

607-776-2165