NEW YORK STATE OF OPPORTUNITY. | Department of Environmental Conservation

# East of Hudson

# UNIT MANAGEMENT PLAN

## DRAFT

**Towns of Amenia, Beekman, Carmel, Cortlandt, Dover, Kent, LaGrange, Milan, Pawling, Philipstown, Pine Plains, Pleasant Valley, Putnam Valley, Stanford, Union Vale**

Counties of Dutchess, Putnam, and Westchester

November 2022

**DIVISION OF LANDS AND FORESTS**
Bureau of Forest Resource Management, Region 3

21 South Putt Corners Rd. New Paltz, NY 12561

# East Of Hudson

# Unit Management Plan

**A planning unit consisting of 6,684 acres in 14 State Forests, in Dutchess, Putnam and Westchester County**

**November 2022**

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## DEC’s Mission

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

## Vision Statement

State Forests on the East of Hudson (EOH) will be managed in a sustainable manner by promoting ecosystem health, enhancing landscape biodiversity, protecting soil productivity and water quality. In addition, the State Forests on this unit will continue to provide the many recreational, social and economic benefits valued so highly by the people of New York State. DEC will continue the legacy, which was started in 1929, of leaving these lands to the next generation in better condition than they are today.

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

TABLE OF CONTENTS

## Table of Contents


EAST OF HUDSON ..... 1
*Counties of Dutchess, Putnam, and Westchester* ..... *1*

**DEC'S MISSION ..... 2**

**VISION STATEMENT ..... 2**

**TABLE OF CONTENTS ..... 3**

**PREFACE ..... 6**

STATE FOREST OVERVIEW ..... 6
*Legal Considerations* ..... *6*
*CP-42 Contact Cooperation, and Consultation with Indian Nations* ..... *6*
MANAGEMENT PLANNING OVERVIEW ..... 7
*Public Participation* ..... *7*
*Strategic Plan for State Forest Management* ..... *7*
DEC'S MANAGEMENT APPROACH AND GOALS ..... 7
*Forest Certification of State Forests* ..... *7*
*Ecosystem Management Approach* ..... *8*
*Ecosystem Management Strategies* ..... *9*
*State Forest Management Goals* ..... *9*

**LOCATION MAP ..... 11**

**INFORMATION ON THE EAST OF HUDSON UNIT ..... 12**

STATE LANDS IN THE UNIT ..... 12
*Facilities Not Included in this UMP* ..... *13*
HIGH CONSERVATION VALUE FORESTS ..... 14
SOILS ..... 15
WATER RESOURCES ..... 16
*Major Streams, Rivers, and Water Bodies* ..... *17*
*Other Major Streams, Rivers and Water Bodies* ..... *19*
BIODIVERSITY ..... 19
*Common Species* ..... *20*
*Habitat* ..... *20*
*Vegetative Types and Stages* ..... *20*
*Representative Sample Areas* ..... *21*
*At-Risk Species* ..... *22*
VISUAL RESOURCES ..... - 23 -
HISTORIC AND CULTURAL RESOURCES ..... - 24 -
*History of the Unit* ..... *- 24 -*
*Inventory of Resources* ..... *- 26 -*
*Historic and Archaeological Site Protection* ..... *- 27 -*
*Archaeological Research* ..... *- 27 -*
REAL PROPERTY ..... - 27 -
*Boundary Lines* ..... *- 28 -*
*Use and Demand Related to Exceptions and Deeded Restrictions* ..... *- 28 -*
*Encroachments* ..... *- 28 -*
*Land Acquisition* ..... *- 29 -*
INFRASTRUCTURE ..... - 29 -
*Roads and Trails* ..... *- 29 -*
*Signs / Kiosks* ..... *- 32 -*
*Boating and Fishing Facilities* ..... *- 33 -*
*Designated Campsites and Lean-tos* ..... *- 33 -*
*Communications Facilities* ..... *- 33 -*
*Utility Transmission and Collection Facilities* ..... *- 34 -*
*Operations Facilities* ..... *- 34 -*
*Fire Towers* ..... *- 34 -*
OVERALL ASSESSMENT OF THE LEVEL OF RECREATIONAL DEVELOPMENT ..... - 34 -
ACCESSIBILITY ..... - 35 -

*Application of the Americans with Disabilities Act (ADA)* ..... *- 35 -*
NON-RECREATIONAL USES ..... - 36 -
*Off-Highway and All-Terrain Vehicle Use* ..... *- 36 -*
*Military Field Exercises* ..... *- 36 -*
FORMAL AND INFORMAL PARTNERSHIPS AND AGREEMENTS ..... - 36 -
*Other Agreements* ..... *- 37 -*
RECREATION ..... - 37 -
*Exceptional Recreational Opportunities* ..... *- 37 -*
*Wildlife-related Recreation* ..... *- 37 -*
*Camping* ..... *- 38 -*
*Water-based Recreation* ..... *- 39 -*
*Trail-based Recreation* ..... *- 39 -*
*Other Recreational Activities* ..... *- 41 -*
*Overall Assessment of the Level of Recreational Development* ..... *- 41 -*
MINERAL RESOURCES ..... - 42 -
*Oil, Gas and Solution Exploration and Development* ..... *- 42 -*
*Pipelines* ..... *- 42 -*
*Mining* ..... *- 42 -*
SUPPORTING LOCAL COMMUNITIES ..... - 43 -
*Tourism* ..... *- 43 -*
*Taxes Paid* ..... *- 43 -*
FOREST PRODUCTS ..... - 43 -
*Timber* ..... *- 43 -*
*Non-Timber Forest Products* ..... *- 44 -*
FOREST HEALTH ..... - 45 -
*Invasive Species* ..... *- 45 -*
*Managing Deer Impacts* ..... *- 46 -*
LAWS ..... - 47 -
*State Laws* ..... *- 47 -*
*Federal Law* ..... *48*

**SUMMARY OF ECOREGION ASSESSMENTS ..... 49**
ECOREGION SUMMARY ..... 49
ECOREGION ASSESSMENT ..... 49
LOCAL LANDSCAPE CONDITIONS ..... 50

**MANAGEMENT OBJECTIVES AND ACTIONS ..... 52**
ECOSYSTEM MANAGEMENT OBJECTIVES AND ACTIONS ..... 52
RESOURCE PROTECTION ..... 53
INFRASTRUCTURE AND REAL PROPERTY ..... 57
PUBLIC/PERMITTED USE ..... 57
FOREST MANAGEMENT AND HEALTH ..... 59

**TEN-YEAR LIST OF MANAGEMENT ACTIONS ..... 62**
UNIT-WIDE ACTIONS ..... 62
STATE FOREST SPECIFIC MANAGEMENT & RECREATION PROPOSALS ..... 64
*Westchester County: Croton Gorge Unique Area* ..... *64*
*Westchester County: Salt Hill State Forest* ..... *68*
*Westchester County: Montrose Point State Forest* ..... *70*
*Putnam County: California Hill State Forest* ..... *72*
***Putnam County: Nimham Mountain Multiple Use Area*** ..... *74*
*Putnam County: White Pond Multiple Use Area* ..... *76*
*Putnam County: Big Buck Mountain Multiple Use Area* ..... *78*
*Dutchess County: Depot Hill Multiple Use Area* ..... *80*
*Dutchess County: West Mountain State Forest* ..... *82*
*Dutchess County: Taconic Hereford State Forest* ..... *86*
*Dutchess County: Wassaic Multiple Use Area* ..... *88*
*Dutchess County: Stissing Mountain Multiple Use Area* ..... *90*
*Dutchess County: Lafayetteville Multiple Use Area* ..... *92*
***Dutchess County: Roeliff-Jansenkill Multiple Use Area*** ..... *94*
FOREST TYPE CODES ..... 96

# TABLE OF CONTENTS

MANAGEMENT DIRECTION ..... 96
TREATMENT TYPE ..... 96
SIZE CLASS ..... 96
LAND MANAGEMENT ACTION SCHEDULES ..... 97

**GLOSSARY OF ACRONYMS ..... 122**

**GLOSSARY OF TERMS ..... 124**

**APPENDICES & FIGURES ..... 134**

APPENDIX A - RESPONSIVENESS SUMMARY TO PUBLIC COMMENTS ..... 134
APPENDIX B - STATE ENVIRONMENTAL QUALITY REVIEW (SEQR) ..... 135
FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY ..... 137
FIGURE 2 – FOREST STAND TYPES ..... 150
APPENDIX D BREEDING BIRD ATLAS ..... 163
APPENDIX E – EXCEPTIONS AND DEEDED RESTRICTIONS ..... 1
APPENDIX F: NIMHAM MOUNTAIN MUA ARSENIC ABATEMENT PROJECT ..... 1

**ES EXECUTIVE SUMMARY ..... 4**

**1.0 INTRODUCTION ..... 6**
1.1 GENERAL ..... 6
1.2 REVISIONS ..... 6
1.3 NOTIFICATIONS ..... 7

**2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS ..... 3**
2.1 SITE LOCATION AND DESCRIPTION ..... 3
2.2 PHYSICAL SETTING ..... 3
*2.2.1 Land Use ..... 3*
*2.2.2 Geology ..... 3*
*2.2.3 Hydrogeology ..... 4*
2.3 INVESTIGATION AND REMEDIAL HISTORY ..... 4
2.4 REMAINING CONTAMINATION ..... 4
*2.4.1 Soil ..... 4*
*2.4.2 Sediment ..... 5*
*2.4.2 Groundwater ..... 5*
*2.4.4 Surface Water ..... 5*

**3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN ..... 6**
3.1 GENERAL ..... 6
3.2 INSTITUTIONAL CONTROLS ..... 6
3.3 ENGINEERING CONTROLS ..... 7
*3.3.1 Cover (or Cap) ..... 7*

**4.0 MONITORING PLAN ..... 7**
4.1 GENERAL ..... 7
4.2 SITE – WIDE INSPECTION ..... 8

**5.0 OPERATION AND MAINTENANCE PLAN ..... 9**
5.1 GENERAL ..... 9

**6.0. REPORTING REQUIREMENTS ..... 10**
6.1 SITE MANAGEMENT REPORTS ..... 10
6.2 PERIODIC REVIEW REPORT ..... 11
6.3 CORRECTIVE MEASURES WORK PLAN ..... 11

## Preface

### State Forest Overview

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

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

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

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

### Legal Considerations

Article 9, Titles 5 and 7, of the Environmental Conservation Law (ECL) authorize DEC to manage lands acquired outside the Adirondack and Catskill Parks. This management includes **watershed protection**, production of **timber** and other forest products, **recreation**, and **kindred purposes**.

For additional information on DEC's legal rights and responsibilities, please review the statewide Strategic Plan for State Forest Management (SPSFM) at http://www.dec.ny.gov/lands/64567.html. Refer specifically to pages 33 and 317.

### CP-42 Contact Cooperation, and Consultation with Indian Nations

The Commissioner's Policy (CP-42) (https://www.dec.ny.gov/public/36929.html) provides guidance to DEC staff concerning cooperation and consultation with Indian Nations on issues relating to protection of environmental and cultural resources within New York State. Specifically, this policy (i) formally recognizes that relations between the Department and Indian Nations will be conducted on a government-to-government basis; (ii) identifies the protocols to be followed by Department staff in working with Indian Nations; and (iii) endorses the development of cooperative agreements between the Department and Indian Nations to address environmental and cultural resource issues of mutual concern.

Nine Indian Nations reside within or have common geographic borders with New York State: the Mohawk, Oneida, Onondaga, Cayuga, Seneca, Tonawanda Seneca, Tuscarora, Unkechaug, and Shinnecock. Communication between DEC and the Indian Nations should be direct and involve two-way dialogue and feedback. Face-to-face meetings are generally desirable; however, phone calls, correspondence, and other methods of communication are also

encouraged. Therefore, DEC staff should be reaching out to the respective Nations as early in the UMP planning process as possible. The Department wishes to ensure that its actions, with respect to the environment and cultural resources, are sensitive to the concerns of Indian Nations, and that the perspective of the recognized Indian Nations is sought and considered when the Department undertakes an action having implications for indigenous peoples, their territories, and their culture. The Department and Indian Nations share key roles in protecting and preserving natural and cultural resources important to all citizens, and early consultation and cooperation between the Department and Indian Nations will foster more comprehensive protection and preservation of those resources.

## Management Planning Overview

The East of Hudson UMP is based on a long-range vision for the management of for the management of Taconic Hereford Multiple Use Area (MUA), Stissing Mountain MUA, Depot Hill MUA, Lafayetteville MUA, Wassaic MUA, Roelliff Jansen Kill MUA, West Mountain State Forest, Nimham Mountain MUA, Big Buck Mountain MUA, California Hill State Forest, White Pond MUA, Croton Gorge Unique Area, Salt Hill State Forest and Montrose Point State Forest, balancing long-term ecosystem health with current and future demands. This Plan addresses management activities on this unit for the next ten years, though some management recommendations will extend beyond the ten-year period. Factors such as budget constraints, wood product markets, and forest health problems may necessitate deviations from the scheduled management activities.

### Public Participation

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

### Strategic Plan for State Forest Management

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

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

## DEC's Management Approach and Goals

## Forest 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

## DEC's Management Approach and Goals

Federation - SmartWood Program. This certification included 720,000 acres of State Forests in DEC Regions 3 through 9 managed for water quality protection, recreation, wildlife habitat, timber and mineral resources (multiple use). To become certified, the Department had to meet more than 75 rigorous criteria established by FSC. Meeting these criteria established a benchmark for forests managed for long-term ecological, social and economic health. The original certification and contract were 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 Bureau's State Forest management system to the two most internationally accepted standards - FSC and the Sustainable Forestry Initiative® (SFI®) program. However, contract delays and funding shortfalls slowed the Departments ability to award a new agreement until early 2007.

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

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

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


**The mark of responsible forestry**

**FSC® C002027**


### Ecosystem Management Approach

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

Ecosystem management is a process that considers the total environment - including all non-living and living components, from soil micro-organisms to large mammals, their complex

interrelationships and habitat requirements and all social, cultural, and economic factors. For more information on ecosystem management, see SPSFM page 39 at http://www.dec.ny.gov/lands/64567.html.

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

### *Multiple-use Management*

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

### *Landscape Ecology*

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

## Ecosystem Management Strategies

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

### *Passive Management*

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

### *Silviculture (Active Management)*

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

## State Forest Management Goals

### *Goal 1 – Provide Healthy and Biologically Diverse Ecosystems*

Ecosystem health is measured in numerous ways. One is by the degree to which natural processes can take place. Another is by the amount of naturally occurring species that

are present, and the absence of non-native species. No single measure can reveal the overall health of an ecosystem, but each is an important part of the larger picture. The Department will manage State Forests so that they demonstrate a high degree of health as measured by multiple criteria, including the biodiversity that they support.

### *Goal 2 – Maintain Man-made State Forest Assets*

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

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

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

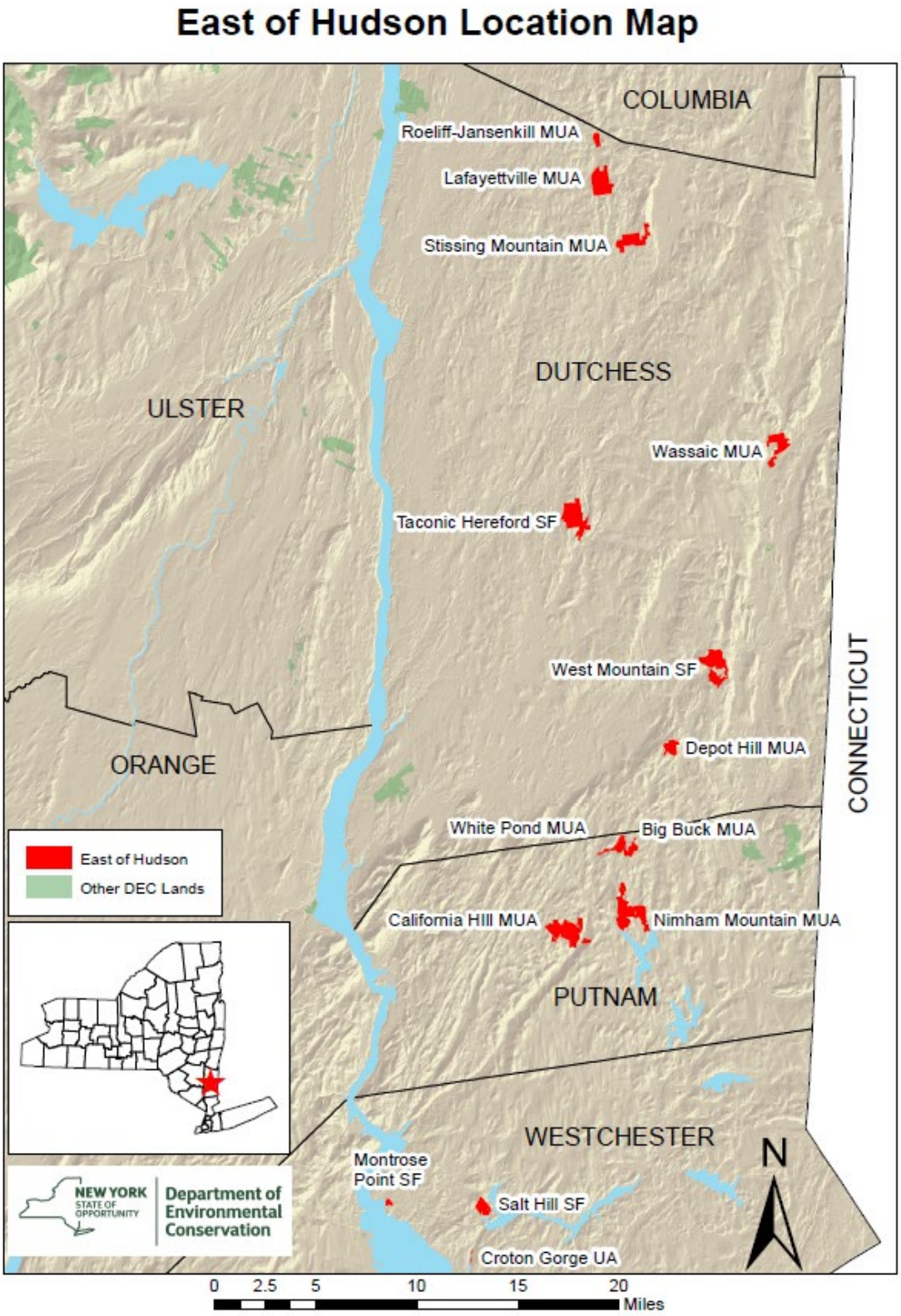
### *Goal 4 – Provide Economic Benefits to the People of the State*

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

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

Staff must have clear and sound guidance to direct their decisions and actions. Likewise, the public must have clear information regarding what they are and are not allowed to do on State Forests. Both of these are provided by well-written laws, regulations and policies. The Department will work to improve existing legal guidance, which has proved to be inadequate, and create new guidance that is needed but does not yet exist.

## Location Map



## Information on the East of Hudson Unit

### State Lands in the Unit

Table I.A. contains the names of the state land facilities that make up this unit. A web page has been developed for each of the State Forests. Each web page features an updated map of the State Forest with recreational information and natural features.

*Table I.A. – State Lands in the Unit*

| Facility Name and Webpage | GIS Acreage |
|---|---|
| **Multiple Use Areas and State Forests:** | |
| Taconic Hereford MUA – http://www.dec.ny.gov/lands/96658.html | 917 |
| Stissing Mountain MUA – http://www.dec.ny.gov/lands/96653.html | 590 |
| Depot Hill MUA – http://www.dec.ny.gov/lands/34751.html | 256 |
| Lafayetteville MUA – http://www.dec.ny.gov/lands/96643.html | 718 |
| Wassaic MUA – http://www.dec.ny.gov/lands/34968.html | 513 |
| Roeliff Jansen Kill MUA – Public Fishing Rights Maps: Roeliff Jansen Kill (ny.gov) | 119 |
| West Mountain State Forest – http://www.dec.ny.gov/lands/34967.html | 784 |
| Nimham Mountain MUA – http://www.dec.ny.gov/lands/34773.html | 1,021 |
| Big Buck Mountain MUA – http://www.dec.ny.gov/lands/96628.html | 181 |
| California Hill State Forest - http://www.dec.ny.gov/lands/96633.html | 983 |
| White Pond MUA – http://www.dec.ny.gov/lands/34735.html | 263 |
| Croton Gorge Unique Area – http://www.dec.ny.gov/lands/96638.html | 19 |
| Montrose Point State Forest - http://www.dec.ny.gov/lands/34976.html | 51 |
| Salt Hill State Forest – (web page to be completed) | 269 |

## Facilities Not Included in this UMP

Listed below are other DEC lands within the planning unit boundaries, but managed by other DEC Divisions (Wildlife Management Areas, Fishing Access Sites, etc.) Information on these properties is provided to show the scope of DEC managed lands and facilities in the planning unit.

| Facility Name, Division, and Webpage | Acreage |
|---|---|
| | |
| Stony Kill Environmental Education Center, Operations<br>http://www.dec.ny.gov/education/1833.html | 750 |
| Baxtertown Woods WMA, Fish & Wildlife<br>http://www.dec.state.ny.gov/education/74349.html | 250 |
| Tivoli Bays WMA, Wildlife<br>http://www.dec.ny.gov/animals/36997.html | 1722 |
| Cranberry Mountain WMA, Fish & Wildlife<br>http://www.dec.ny.gov/outdoor/76952.html | 467 |
| Great Swamp WMA, Fish & Wildlife<br>http://www.dec.ny.gov/outdoor/68929.html | 444 |
| Bog Brook Unique Area, Fish & Wildlife<br>http://www.dec.ny.gov/outdoor/76947.html | 132 |
| Shekomeko Creek, Fish & Wildlife<br>http://www.dec.ny.gov/docs/fish_marine_pdf/pfrshekomeko.pdf | |
| Sprout Creek, Fish & Wildlife<br>http://www.dec.ny.gov/docs/fish_marine_pdf/pfrsproutck.pdf | |
| Swamp River, Fish & Wildlife<br>http://www.dec.ny.gov/docs/fish_marine_pdf/pfrswamprvr.pdf | |
| Swamp River Waterway Access<br>http://www.dec.ny.gov/docs/fish_marine_pdf/pfrswamprvr.pdf | |
| Wappingers Creek, Fish & Wildlife<br>http://www.dec.ny.gov/docs/fish_marine_pdf/pfrwapingers.pdf | |
| Wassaic Creek/ Ten mile River, Fish & Wildlife<br>http://www.dec.ny.gov/docs/fish_marine_pdf/pfrtenmilewassaic.pdf | |
| Crum Elbow Creek, Fish & Wildlife | |
| Crum Elbow Creek Waterway Access, Fish & Wildlife | |
| Sylvan Lake Waterway Access<br>http://www.dec.ny.gov/outdoor/60854.html | |

## High Conservation Value Forests

High Conservation Value Forests (HCVF) are those portions of State Forests that have known high conservation values, which the Department feels should take precedent over all other land use and management decisions. HCVFs may not be identified on every Unit and State Forests that have an HCVF designated will not necessarily have multiple classifications. Areas that are identified as having exceptional values may be managed for timber, wildlife and/or recreation, however management activities must maintain or enhance the high conservation values present. Currently, HCVFs are assigned to one or more of five land classifications, four of which may be found on State Forests:

1. Rare Community - Forest areas that are in or contain rare, threatened or endangered ecosystems.
2. Special Treatment - Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, and refugia).
3. Cultural Heritage – Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health) and are critical to their traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).
4. Watershed - Forest areas that provide safe drinking water to local municipalities.
5. Forest Preserve* - Forest areas containing globally, regionally, or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.

**Forest Preserve lands inside both the Adirondack and Catskills Park Blue Line. Although Forest Preserve is not considered State Forest, they offer a significant high conservation value for lands managed by the Department.*

Portions of the East of Hudson unit have been identified as having high conservation value. A list of the designated HCVFs located within the unit can be found in the appropriate sections below. For more information on HCVFs please go to http://www.dec.ny.gov/lands/42947.html.

| Facility Name | HCVF |
|---|---|
| Taconic Hereford MUA | Watershed, Special Treatment |
| Nimham Mountain MUA | Watershed, Cultural Heritage, Special Treatment |
| Big Buck Mountain MUA | Watershed |
| California Hill State Forest | Watershed |
| White Pond MUA | Watershed |
| West Mountain State Forest | Special Treatment |
| Croton Gorge Unique Area | Watershed, Special Treatment |

## Soils

Soils provide the foundation, both figuratively and literally, of forested ecosystems. They support an immense number of microorganisms, fungi, mosses, insects, herpetofauna and small mammals which form the base of the food chain. They filter and store water and also provide and recycle nutrients essential for all plant life. For information on DEC's policies for the protection of forest soils, as well as water resources please see SPSFM page 108 at http://www.dec.ny.gov/lands/64567.html.

*Table I.B. - Soils*

| Facility Name | Predominant Soil Type(s) | Acres |
|---|---|---|
| Taconic Hereford MUA | Nassau-Cardigan complex<br>Nassau-Rock outcrop complex<br>Sun silt loam | 586 acres /64%<br>214 acres / 23%<br>69 acres / 8 % |
| Stissing Mountain MUA | Hollis-Chatfield-Rock outcrop complex<br>Chatfield-Hollis complex<br>Dutchess-Cardigan complex<br>Nassau-Rock outcrop complex<br>Sun silt loam | 171 acres / 29 %<br>135 acres / 23 %<br>101 acres / 18 %<br>79 acres / 13 %<br>48 acres / 8 % |
| Depot Hill MUA | Hollis-Chatfield-Rock outcrop complex<br>Chatfield-Hollis complex<br>Charlton-Chatfield complex | 150 acres / 56 %<br>89 acres / 33 %<br>19 acres / 7 % |
| Lafayetteville MUA | Nassau-Cardigan complex<br>Nassau-Rock outcrop complex<br>Dutchess silt loam<br>Dutchess-Cardigan complex<br>Palms muck | 148 acres / 21 %<br>121 acres / 17 %<br>108 acres / 15 %<br>79 acres / 11%<br>77 acres / 11% |
| Wassaic MUA | Hollis-Chatfield-Rock outcrop complex<br>Chatfield-Hollis complex<br>Copake gravelly silt loam | 243 acres / 48 %<br>84 acres / 17 %<br>62 acres / 12 % |
| Roeliff Jansen Kill MUA | Dutchess-Cardigan complex<br>Massena silt loam<br>Bernardston silt loam | 66 acres / 51 %<br>25 acres / 20 %<br>12 acres / 10% |
| West Mountain State Forest | Hollis-Chatfield-Rock outcrop complex<br>Chatfield-Hollis complex | 431 acres / 52 %<br>344 acres / 42 % |
| Nimham Mountain MUA | Chatfield-Hollis-Rock outcrop complex<br>Chatfield-Charlton complex<br>Hollis-Rock outcrop complex<br>Paxton fine sandy loam<br>Charlton loam | 316 acres / 30 %<br>308 acres / 29 %<br>119 acres / 11 %<br>119 acres / 11 %<br>74 acres / 7 % |
| Big Buck Mountain MUA | Chatfield-Charlton complex<br>Charlton loam<br>Chatfield-Hollis-Rock outcrop complex<br>Hollis-Rock outcrop complex | 75 acres / 41 %<br>20 acres / 11 %<br>20 acres / 11 %<br>17 acres / 9 % |

| | | |
|---|---|---|
| California Hill State Forest | Charlton-Chatfield complex<br>Chatfield-Charlton complex<br>Chatfield-Hollis-Rock outcrop complex<br>Charlton loam | 267 acres / 27 %<br>235 acres / 24 %<br>194 acres / 20 %<br>69 acres / 7 % |
| White Pond MUA | Charlton loam<br>Chatfield-Charlton complex | 41 acres / 36 %<br>37 acres / 33 % |
| Croton Gorge Unique Area | Charlton loam<br>Paxton fine sandy loam<br>Fluvaquents-Udifluvents complex | 16 acres / 79 %<br>2 acres / 10%<br>1 acres / 10 % |
| Montrose Point State Forest | Chatfield-Charlton complex | 47 acres / 91 % |
| Salt Hill State Forest | Chatfield-Hollis<br>Chatfield-Charlton complex | 138 acres / 51 %<br>68 acres / 25 % |

## Water Resources

DEC's GIS data contains an inventory of wetlands, vernal pools, spring seeps, intermittent streams, perennial streams, rivers and water bodies on the unit. This data is used to establish special management zones and plan appropriate stream crossings for the protection of water resources. Table I.C. contains a summary of water resources data on the unit.

*Table I.C. – Water Resources (see Figure 2 for maps)*

| ***Watersheds*** | ***Name of Watershed, HUC #, Acreage, % of Watershed*** |
|---|---|
| Hydrologic unit(s)<br><br>Taconic Hereford MUA | Great Spring Creek-Wappinger Creek (020200080206) –<br>536 acres / 2% |
| | Sprout Creek (020200080306) - 380 acres / 1% |
| Stissing Mountain MUA | Cold Spring Creek-Wappinger Creek (020200080204) - 590 acres / >1% |
| Depot Hill MUA | Whaley Lake Stream (020200080302) - 267 acres/ 2% |
| Lafayetteville MUA | Cold Spring Creek-Wappinger Creek (020200080204) – 66 acres/ 4% |
| | Fall Kill-Roeliff Jansen Kill (020200061006) - 646 acres/ 3% |
| | Little Wappinger Creek (020200080205) - 3.5 acres/ >1% |
| Roeliff Jansen Kill MUA | Fall Kill-Roeliff Jansen Kill (020200061006) - ac. 128 / >1% |
| Wassaic MUA | Tenmile River (011000050604) - 425 acres/ >1% |

| | |
|---|---|
| | Wassaic Creek (011000050506) - 76 acres / >1% |
| West Mountain State Forest | Swamp River (011000050506) - 110 acres/ 1% |
| | Whaley Lake Stream (020200080302) - 712 acres / 2% |
| Big Buck Mountain MUA | West Branch Croton River (020301010302) – 146 acres/ >1% |
| Nimham Mountain MUA | West Branch Croton River (020301010302) – 1047 acres/ 3% |
| White Pond MUA | West Branch Croton River (020301010302) – 263 acres/ >1% |
| California Hill State Forest | Peekskill Hollow Creek (020301010102) – 983 acres / 3% |
| Croton Gorge Unique Area | Bailey Brook-Croton River (020301010307) – 19 acres / >1% |
| Montrose Point State Forest | Furnace Brook-Hudson River (020301010401) – 51 acres / >1% |
| Salt Hill State Forest | Bailey Brook-Croton River (020301010307) – 269 acres / >1% |

*For information regarding stream classifications please refer to http://www.dec.ny.gov/permits/6042.html

## Major Streams, Rivers, and Water Bodies

| ***Wetlands*** | |
|---|---|
| NYS Regulated Freshwater Wetlands | 226 ac. |
| National Wetlands (NYS Regulated Freshwater Wetlands Excluded) | 582 ac. |

| ***Streams/Rivers**** | | | | | |
|---|---|---|---|---|---|
| Perennial streams/rivers | Feet of Streams & Rivers of Each Class | | | | **Total In Miles** |
| | AA & A | B | C | D | |
| Taconic Hereford MUA | | 4,258 | 5,751 | | 1.9 |
| Stissing Mountain MUA | | 1,658 | 3,629 | | 1 |
| Depot Hill MUA | | | 3,028 | | .6 |
| Lafayetteville MUA | | | 10,099 | | 1.9 |
| Roeliff Jansen Kill MUA | | | 3,460 | | .7 |

## Water Resources

| | | | | | |
|---|---|---|---|---|---|
| Wassaic MUA | | | 8,752 | | 1.7 |
| West Mountain State Forest | | | 12,286 | | 2.3 |
| Big Buck Mountain MUA | | | 414 | | .1 |
| Nimham Mountain MUA | | 8,724 | 2,943 | | 2.2 |
| White Pond MUA | 9,682 | | | | 1.8 |
| California Hill MUA | | | 4,235 | | .8 |
| Croton Gorge Unique Area | | 722 | | | .1 |
| Montrose Point State Forest | | | 1,252 | | .2 |
| Salt Hill State Forest | | | 1045 | | .2 |
| **Total in Miles** | 1.8 | 2.9 | 11 | | **15.8** |

*For information regarding stream classifications please refer to http://www.dec.ny.gov/permits/6042.html

| **Trout Streams** | Trout Spawning (TS) in Miles | | | | | Trout Area (T) in Miles | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AA | A | B | C | D | AA | A | B | C | D |
| West Mountain State Forest | | | | 2 | | | | | | |
| Wassaic MUA | | | | .2 | | | | | .5 | |
| Stissing Mountain MUA | | | | | | | | | .7 | |
| Lafayetteville MUA | | | | .03 | | | | | | |
| Roeliff Jansen Kill MUA | | | | .3 | | | | | | |
| Nimham Mountain MUA | | | .5 | | | | | | | |
| California Hill State Forest | | | | .6 | | | | | | |
| **Total in Miles 4.8** | | | .5 | 3.13 | | | | | 1.2 | |

| ***Waterbodies*** | | |
|---|---|---|
| Waterbodies (open-water ponds and lakes) | Water body name | Acres |
| Stissing Mountain MUA | Beaver Pond | 10 |
| Lafayetteville MUA | Wilbur Pond | 5 |
| West Mountain State Forest | Blackberry Pond | 26 |

| | | |
|---|---|---|
| Big Buck Mountain Mountain MUA | South Lake | .2 |
| Nimham Mountain MUA | Frog Pond | .3 |
| | Rinaldi Pond | 4.4 |
| White Pond MUA | White Pond | 129 |
| California Hill State Forest | Waywayanda Lake/Pudding Street Pond | 94 |
| Montrose Point State Forest | Unnamed | 2.5 |
| Salt Hill State Forest | Blue Lake<br>Unnamed Ponds (2) | 7.3<br>2.5 |
| Total Acreage of Water Bodies | | 282 |

### Other Major Streams, Rivers and Water Bodies

| State Land | Water |
|---|---|
| California Hill State Forest | Waywayanda Lake |
| Croton Gorge Unique Area | Croton River |
| Montrose Point State Forest | Hudson River |
| Lafayetteville MUA | Wilbur Pond |
| Roeliff Jansen Kill MUA | Roeliff Jansen Kill |
| Wassaic MUA | Ten Mile River |
| West Mtn State Forest | Blueberry Pond |
| White Pond MUA | White Pond |
| Salt Hill State Forest | Blue Lake |

## Biodiversity

Information regarding biodiversity has been gathered to support the following goals:

- “Keep Common Species Common” by maintaining landscape-level habitat diversity and a wide variety of naturally occurring forest-based habitat as well as managing plantations according to DEC natural resources policy.
- Protect, and in some cases, manage known occurrences and areas with potential to harbor endangered plants, wildlife, and natural communities.
- Consider other “at-risk species” whose population levels may presently be adequate but are at risk of becoming imperiled due to new incidences of disease or other stressors.

# Information on the East of Hudson Unit

## Biodiversity

### Common Species

The following information sources indicate which common species (among other species) are present over time:

1. NYS Breeding Bird Atlas 5856A, 5856B, 5856D, 5857A, 5858C, 5956A, 5958B, 5959D, 5961B, 5962D, 5964B, 5965D, 6058A, 6059A, 6059C, 6060B, 6060C, 6060D, 6061D, 6064A, 6064C, 6158A, 6160A, 6162A, 6162B
2. See Appendix D for a list of species
3. Breeding Bird Atlas blocks can be searched at http://www.dec.ny.gov/cfmx/extapps/bba/
4. Herp Atlas AMENIA; ANCRAM; BREWSTER; DOVER PLAINS, NY-CONN; HAVERSTRAW; LAKE CARMEL; MOHEGAN LAKE; OSCAWANA LAKE; OSSINING; PAWLING, NY-CONN; PEEKSKILL; PINE PLAINS; PLEASANT VALLEY; POUGHQUAG; SALT POINT; VERBANK Block Numbers
5. See Appendix E for a list of all species.
6. Herp Atlas information on amphibians, toads, frogs, turtles, lizards and snakes can be found at http://www.dec.ny.gov/animals/7140.html
7. Game Species Harvest Levels Wildlife Management Unit 3F, 3G, 3N, 3S and portions of 4Y and 4Z
   Summaries of deer and bear harvests for this area can be found on the DEC's website at https://www.dec.ny.gov/outdoor/42232.html. More information on hunting, trapping, and game management can be found on the DEC's website at: https://www.dec.ny.gov/outdoor/hunting.html

### Habitat

The following information provides several representations of habitat types on the unit.

### Vegetative Types and Stages

Summaries of each parcel, and information on each stand, is available in Appendix and Figures section at the end of this document.

#### *Vegetative Types and Stages*

*Table I.D. - Vegetative Types and Stages within the Unit (see Figure 4 for maps)*

| Vegetative Type | Acres by Size Class | | | | % of Total |
|---|---|---|---|---|---|
| | 0 -5 in | 6 - 11 in | 12+ in | Other | |
| Natural Forest Hardwood | 69 | 2680 | 2977 | | 85% |
| Natural Forest Conifer | | 156 | 49 | | 3% |
| Plantation Hardwoods | | 8.5 | | | .1% |
| Plantation Softwoods | | 98 | 28 | | 2% |
| Wetland | | | | 104 | 1.5% |

*Table I.D. - Vegetative Types and Stages within the Unit (see Figure 4 for maps)*

| Vegetative Type | Acres by Size Class | | | | % of Total |
|---|---|---|---|---|---|
| | 0 -5 in | 6 - 11 in | 12+ in | Other | |
| Ponds | | | | 272 | 4% |
| Open/Brush | | | | 297 | 4.4% |
| Total (Acres) | 69 | 2894 | 3054 | 686 | 100% |

## Representative Sample Areas

Representative Sample Areas (RSA) are stands which represent *common* ecological communities (i.e., forest types) of high or exceptional quality in their natural state. RSAs are established to serve one or more of the following purposes:

1) To establish and/or maintain an ecological reference condition; or

2) To create or maintain an under-represented ecological condition (i.e., includes samples of successional phases, forest types, ecosystems, and/or ecological communities); or

3) To serve as a set of protected areas or refugia for species, communities and community types not captured in other protection standards such as an endangered species or a High Conservation Value Forest.

RSAs can simply be viewed as an effort to keep high quality examples of common ecosystems or assemblages from becoming rare in the landscape. An RSA designation does not prevent future management and in certain cases might require silvicultural treatment to achieve site conditions that will perpetuate the representative community. In addition, treatment of an RSA to mitigate unfavorable conditions that threaten the continuation of the target community will be allowed (ex. fire, natural pests or pathogens). Although allowed, silvicultural treatment or infrastructure development should not impact the RSA in a way that will degrade or eliminate the viability of the specific assemblage or community. For more information on RSAs please go to http://www.dec.ny.gov/lands/42947.html.

There are no designated RSAs on the East of Hudson Unit.

### *Resource Protection Areas*

While practicing active forest management, it is important to identify areas on the landscape that are either reserved from management activity or where activity is conducted in such a manner as to provide direct protection and enhancement of habitat and ecosystem functions. For more information on these protective measures, see SPSFM page 85 at http://www.dec.ny.gov/lands/64567.html.

Special Management Zones (SMZs) provide continuous over-story shading of riparian areas and adjacent waters, by retaining sufficient tree cover to maintain acceptable aquatic habitat and protect riparian areas from soil compaction and other impacts. DEC's buffer guidelines also maintain corridors for movement and migration of all wildlife species, both terrestrial and aquatic. Buffers are required within SMZs extending from wetland boundaries, high-water marks

on perennial and intermittent streams, vernal pool depressions, spring seeps, ponds and lakes, recreational trails, campsites, and other land features requiring special consideration. See Figure 2 for a map of the SMZs as applied on the unit. For more information regarding Special Management Zones please see www.dec.ny.gov/sfsmzbuffers.pdf

The identification of large, unfragmented forested areas, also called matrix forest blocks, is an important component of biodiversity conservation and forest ecosystem protection. In addition, securing connections between major forested landscapes and their imbedded matrix forest blocks is important for the maintenance of viable populations of species, especially wide-ranging and highly mobile species, and ecological processes such as dispersal and pollination over the long term.

Maintaining or enhancing matrix forest blocks and connectivity corridors must be balanced against the entire array of goals, objectives and demands that are placed on a particular State Forest. Where matrix forest block maintenance and enhancement is chosen as a priority for a given property, management actions and decisions should emphasize closed canopy and interior forest conditions. The following areas have been identified to meet demands at the landscape level:

- Matrix Forest Block Tier 2: Mid-Dutchess Hudson Highland- West Mountain State Forest 822 acres
- Forest Landscape Connectivity Corridor/ Linkages: Depot Hill, Big Buck Mountain, and White Pond, 381 acres
- Important Bird Areas– STPR – Stissing Ridge: Roeliff Jansen Kill, Lafayatteville, Stissing Mountain
  FSHH – Fahnestock Hudson Highlands: immediately adjacent to California Hill and Castle Rock; LIWL – Little Whaley Lake – near Depot Hill; LOHR - Lower Hudson River: Montrose Point, and nearby is Salt Hill.

More information regarding Matrix Forest blocks, connectivity corridors and associated management considerations can be found in the SPSFM page 85 at http://www.dec.ny.gov/lands/64567.html.

### At-Risk Species

The presence of at-risk species and communities on the East of Hudson Unit and in the surrounding landscape has been investigated to inform appropriate management actions and protections. This investigation was conducted in development of this UMP and the associated inventory of State Forest resources. A more focused assessment will be conducted before undertaking specific management activities in sensitive sites. Appropriate protections may include reserving areas from management activity or mitigating impacts of activity. For more information on protection of at-risk species, please see SPSFM page 115 at http://www.dec.ny.gov/lands/64567.html.

Investigation included the following:

- A formal plant survey was conducted on this Unit in the spring of 2005 by the New York Natural Heritage Program.

- Element Occurrence Records for the New York Natural Heritage Program's Biological and Conservation Data System were consulted for information.
- Consultation of NHP species guides.
- Consultation of the NYS Comprehensive Wildlife Conservation Strategy

Appendix C lists the at-risk species confirmed or predicted on the State Forests that comprise this Unit and in the larger landscape, as well as their required habitats.

*Defined as NYNHP rank S1, S2, S2-3, G1, G2 or G2-3 OR identified as an SGCN

**Key to Codes**

BBA - Breeding Bird Atlas
(PRED) - Predicted Species
(CONF) - Confirmed Species
E - Endangered Species (New York)
T - Threatened Species (New York)
PSC - Protected, Special Concern Species (New York)
SGCN - Species of Greatest Conservation Need

## Visual Resources

The aesthetic quality of State Forests is considered in management activity across the Unit. However, some areas have greater potential to preserve or create unique opportunities for public enjoyment. These especially scenic areas are inventoried below. For information on the protection of visual resources, please see SPSFM page 127 at http://www.dec.ny.gov/lands/64567.html.

| Facility Name | Visual Resource |
|---|---|
| Lafayetteville MUA | Large field area |
| Wassaic MUA | Large field/meadow area |
| Roeliff Jansen Kill MUA | Roeliff Jansen Kill |
| Nimham Multiple Use Area | Viewshed from top of Nimham Fire Tower |
| Montrose Point State Forest | Vista point, brick beach |
| Croton Gorge Unique Area | Croton River |

## Historic and Cultural Resources

### History of the Unit

**A. State Forest History**

The forest lands outside the Adirondack and Catskill regions owe their present character, in large part, to the impact of pioneer settlement. Following the close of the Revolutionary War, increased pressure for land encouraged westward expansion. Up to 91% of woodlands were cleared for cultivation and pasture. Early farming efforts met with limited success. As the less fertile soils proved unproductive, farms were abandoned, and settlement was attempted elsewhere. The stage of succession was set, and new forests of young saplings reoccupied the ground once cleared. The State Reforestation Law of 1929 and the Hewitt Amendment of 1931 set forth the legislation which authorized the Conservation Department to acquire land by gift or purchase for reforestation areas. These State Forests, consisting of not less than 500 acres of contiguous land, were to be forever devoted to "reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber, and for recreation and kindred purposes." This broad program is presently authorized under Article 9, Title 5 of the Environmental Conservation Law. In 1930, forest districts were established, 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, very 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. Today there are nearly 780,000 acres of State Forest land throughout the State. The use of these lands for a wide variety of purposes such as timber production, hiking, skiing, fishing, trapping, and hunting is of tremendous importance economically and to the health and wellbeing of the people of the State.

**B. Local History**

Prior the arrival of Europeans, Dutchess, Putnam and Westchester counties were within the ancestral territory of the Lenape and Mohican Indian Nations.

**Dutchess County** is located in southeastern New York State, between the Hudson River on its west and the New York-Connecticut border on its east, about halfway between Albany and New York City. It contains two larger cities, Beacon and Poughkeepsie. According to the U.S. Census Bureau, the county has a total area of 825 square miles (2,136.7 $km^2$), of which 802 square miles (2,077.2 $km^2$) is land and 24 square miles (62.2 $km^2$) (2.88%) is water.

The terrain of the county is mostly hilly, especially in the **Hudson Highlands** in the southwestern corner and the Taconic Mountains to the northeast. Some areas nearer the river are flatter. The highest point in the county is the summit of Brace Mountain, located in the Taconic Hills, at 2,311 feet (704 m) above

sea level. The lowest point is sea level, along the Hudson River. Almost a half mile long border exists with Berkshire County, Massachusetts in the extreme northern end of the county.

Prior to the 1960s, Dutchess County was primarily agricultural. Since then, the southwestern part (from Poughkeepsie south and from the Taconic State Parkway westward) of the county has developed into a largely residential area, suburban in character, with many of its residents commuting to jobs in New York City. The northern and eastern regions of the county are still very much rural with large farmlands but at the same time developed residences used during the summer and/or on weekends by people living in the New York City urban area.

**Putnam County** is situated in the southeastern part of New York State, between the Hudson River on its west and the New York-Connecticut border on its east. Putnam is southeast of Newburgh, and it is north of White Plains. According to the U.S. Census Bureau, the county has a total area of 246 square miles (640 $km^2$), of which 231 square miles (600 $km^2$) is land and 15 square miles (39 $km^2$) (6.08%) is water. The terrain of the county is generally hilly. The region of the county nearest the Hudson River is part of the Hudson Highlands. The highest point in Putnam County is Scofield Ridge, with four summits at approximately 1,540 feet (469 m) above sea level. The lowest point is sea level along the Hudson River. The Hudson River, named for Henry Hudson, has served as a transportation route for goods from New York City, north to the Hudson Valley, throughout history.

### *Reservoirs*

Putnam County is known for its many reservoirs, part of the New York City watershed. Some of the larger include Bog Brook in Southeast; Croton Falls in Carmel and Southeast; Diverting in Southeast; East Branch in Brewster; Middle Branch in Southeast; West Branch in Kent and Carmel, and Boyds Corner in Kent.

**Westchester County** is located at the southeastern tip of New York State. According to the U.S. Census Bureau, the county has a total area of 500 square miles (1,300 $km^2$), of which 433 square miles (1,100 $km^2$) is land and 67 square miles (170 $km^2$) (13.45%), water. The County shares its northern boundary with Putnam County and its southern boundary with New York City. It is bordered on the west side by the Hudson River and on the east side by Long Island Sound and Fairfield County, Connecticut.

The county's interior generally is more hilly north of Interstate 287, which bisects the County. The highest elevation in the county is a U.S. Coast and Geodetic Survey benchmark known as "Bailey" at 980 feet (300 m) above sea level in Mountain Lakes Park near the Connecticut state line. The lowest elevation is sea level, along both the Hudson and Long Island Sound.

Westchester County is divided into six primary drainage basins or watersheds, which are the Lower Long Island Sound, Upper Long Island Sound, Bronx River, Upper Hudson River, Lower Hudson River and Croton River basins. Within these primary drainage basins are approximately 60 smaller basins, or subwatersheds. The principal streams draining the southern part of the County include Beaver Swamp Brook, Blind Brook, Bronx River, Hutchinson River, Mamaroneck River, Saw Mill River, Sheldrake River, Stephenson Brook and Tibbetts Brook. The primary streams draining the central part of the County include Byram River, Kisco River, Mianus River, Mill River, Pocantico River and Silvermine River. The principal streams draining the northern part of the County include Dickey Brook, Furnace Brook, Hallocks Mill Brook, Hunter Brook, Muscoot River, Peekskill Hollow Brook, and Titicus River. The County contains several major reservoirs for public drinking water supply: The Croton system and the Kensico Reservoir are important components of the New York City water supply system. The system is

a series of interconnected reservoirs and lakes in northern Westchester and southern Putnam Counties that provides 10% of New York City's water under normal conditions and up to 30% of the in-City consumption in times of drought. The components of the system include the New Croton Reservoir in Cortlandt, Yorktown, Somers and Bedford; the Cross River Reservoir contained largely in Bedford; Titicus Reservoir in North Salem; Amawalk Reservoir in Somers; and the Muscoot Reservoir in Somers, Lewisboro and Bedford. The Kensico Reservoir is located in Mount Pleasant, Harrison and North Castle; and Byram Lake Reservoir in North Castle and Bedford. A number of other smaller reservoirs exist throughout the County.

### Inventory of Resources

The term cultural resources encompass a number of categories of human created resources including structures, archaeological sites and related resources. The Department is required by the New York State Historic Preservation Act (SHPA) (PRHPL Article 14) and SEQRA (ECL Article 8) as well as Article 9 of Environmental Conservation Law, 6NYCRR Section 190.8 (g) and Section 233 of Education Law to include such resources in the range of environmental values that are managed on public lands. For more information on protection of historic and cultural resources, please see SPSFM page 139 at http://www.dec.ny.gov/lands/64567.html.

As a part of the inventory effort associated with the development of this plan the Department arranged for the archaeological site inventories maintained by the New York State Museum and the Office of Parks, Recreation and Historic Preservation to be searched in order to identify known archaeological resources that might be located within or near the Unit. The two inventories overlap to an extent but do not entirely duplicate one another. The purpose of this effort was to identify any known sites that might be affected by actions proposed within the Unit and to assist in understanding and characterizing past human use and occupation of the Unit.

Fire Tower: Nimham Mountain MUA

There are numerous cultural resources of local importance found on Nimham Mountain MUA, including the fire tower and human made stone structures. Historical resources include human made water filled mine pits and evidence of other mining activity related to the local area's arsenopyrite mines. DEC's Division of Environmental Remediation is currently performing a preliminary site assessment on this naturally occurring source of arsenic. Initial assessments show levels of arsenic in soil and mine tailing piles above residential soil cleanup objectives.

DEC staff will perform a more detailed assessment of the site to evaluate the possible environmental impact from historic mine operations on Nimham Mountain MUA in Putnam County.

The Nimham Mountain Fire Tower is an 82'6" steel International Derrick and Equipment Company Model 1937 LS-40 tower with a 7' x 7' metal cab. Constructed in 1940 by the Civilian Conservation Corps (CCC) and closed in 1989. The tower is on the National Historic Lookout Register. The Mount Nimham Fire Tower Restoration Project was organized in 2000. The Tower has been restored and reopened to the public. The Kent Conservation Advisory Committee has been instrumental in this effort.

Fire Tower Mount Beacon

The Mountain Beacon Fire Tower is a 60' 1931 Aeromotor LS-40 steel tower with a 7' x 7' metal cab. This tower replaced a wooden structure on the site. This tower is owned by NYSDEC on land owned

by the Office of Parks, Recreation and Historic Preservation. The tower was closed in 1987 but reopened to the public in June 2013 due to the efforts of the Mountain Beacon Historic Fire Tower Restoration Committee, which was formed after a meeting of interested organizations including NYSDEC, NYS Hudson Valley Greenway, City of Beacon, Scenic Hudson Land Trust and the Mountain Beacon Incline Railway Restoration Society. The structure is listed on the State and National Register of Historic Places.

Fire Tower: Clove

The Clove Fire Tower is a 60' Aeromotor LS40 steel tower with a 7' X 7' metal cab. The tower was erected in 1933 by the Conservation Department and is located on private lands in the Town of Union Vale, 7 miles south of the village of Millbrook. This tower ceased operations in 1988 and was officially closed in early 1989. Though the tower and observers cabin still remain, they are closed to the public.

The following generic cultural resources and archaeological site protection text will be valid only after a Structural Archaeological Assessment Form has been completed for planned site developments scheduled within the first two years of the plan or if you do not have any such developments within the first two years of the plan. Site developments include things such as roads, parking areas and the like.

### Historic and Archaeological Site Protection

The historic and archaeological sites located within the 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, 6NYCRR Section 190.8 (g) and Section 233 of Education Law. No actions that would impact known resources are proposed in this Unit Management Plan. Should any such actions be proposed in the future they will be reviewed in accordance with the requirements of 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. In some cases, additional protection may be afforded these resources by the federal Archaeological Resources Protection Act (ARPA).

### Archaeological Research

The archaeological sites located on this land Unit, as well as additional unrecorded sites that may exist on the property, may be made available for appropriate research. Any future archaeological research conducted on the property will only be conducted 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 more fully developed research questions.

## Real Property

DEC's Bureau of Real Property GIS system contains maps and some deeds for State Forest properties. Original deeds were also consulted to complete the information below.

Real Property

## Boundary Lines

*Table I.G. – Status of Boundary Lines*

| Facility Name | Length of Boundary (mi.) | Length Needing Maintenance | Length Needing Survey(mi.) |
|---|---|---|---|
| Taconic Herford MUA | 8.6 | 0 | 0 |
| Stissing Mountian MUA | 7.1 | 7.1 | 0.3 |
| Depot Hill MUA | 3.3 | 3.3 | 0 |
| Lafayetteville MUA | 5.3 | 5.3 | 0 |
| Wassaic MUA | 6.9 | 6.9 | 0 |
| Roeliff Jansen Kill MUA | 1.9 | 1.9 | 0 |
| West Mountain State Forest | 9.9 | 9.9 | 9.5 |
| Nimham Mountian MUA | 10.5 | 10.5 | 0 |
| Big Buck Mountain MUA | 3.7 | 3.7 | 0 |
| California Hill State Forest | 8.1 | 8.1 | 6.2 |
| White Pond MUA | 3.8 | 3.8 | 0 |
| Croton Gorge Unique Area | 1.5 | 1.5 | 0 |
| Montrose Point State Forest | 1.7 | 1.7 | 0 |
| Salt Hill State Forest | 4.1 | 4.1 | 0 |
| Totals | 76.4 | 67.8 | 16.4 |

For more information on boundary line maintenance, please see SPSFM page 153 at http://www.dec.ny.gov/lands/64567.html.

## Use and Demand Related to Exceptions and Deeded Restrictions

A list of exceptions and deeded restrictions can be found in Appendix D.

The State Forests in this Unit are often interspersed with private properties that are bordered or completely surrounded by state property. Vehicular access to these properties is often available either through frontage on a public road or DEC maintained road open to motor vehicles, or through a deeded right-of-way held by the private landowner across state property. The Department works with landowners and local highway superintendents to try and maintain and improve these legal access routes whenever possible.

## Encroachments

State lands often have property encroachment issues. Delineating property boundaries by repainting, blazing, and surveying property lines are a proactive management approach. State lands within this Unit have encroachment issues ranging from the common ATV trails accessing state lands to physical structures over property lines. When encroachments do occur on state lands they often become litigious in nature, for this reason specific property owners and state lands are not specifically

mentioned in this section. Well-marked boundary lines that are readily identifiable to the public reduce unintentional trespass. However, encroachments onto State Forest lands do sometimes occur.

- An encroachment onto the Big Buck Mountain Multiple Use Area in the Town of Kent was identified by DEC Law Enforcement. The Town of Kent is working with the Department to remediate the impacted area.

### Land Acquisition

Acquisition of property from willing sellers on the landscape surrounding the Unit may be considered in the following priority areas:

- In-holdings and adjoining properties that would reduce management costs and benefit resource protection and public access goals
- the mineral estate wherever it is split from a State Forest tract
- properties within identified matrix forest blocks and connectivity corridors
- forested lands in underserved areas of the state
- forested lands in areas that are in need of watershed protection
- for other reasons, as identified in the current NYS Open Space Plan

For more information on land acquisition, please see SPSFM page 147 at http://www.dec.ny.gov/lands/64567.html.

## Infrastructure

State Forests are managed with a minimal number of improvements to accommodate rustic, forest based recreational opportunities while providing for resource protection; public health and safety; and access for individuals of all ability levels. For more information on infrastructure policies, please see SPSFM page 157 at http://www.dec.ny.gov/lands/64567.html.

### Roads and Trails

DEC's GIS data contains an inventory of public forest access roads, haul roads and multiple-use-trails on the Unit, including a representation of the allowable uses along each road or trail segment. Table I.J. contains a summary of roads, trails and related infrastructure on the Unit.

ADDITIONAL INFORMATION

**DECinfo Locator** – An interactive online mapper can be used to view recreational trails and assets on this Unit to help people plan outdoor activities. Located at DEC's Mapping Gateway: http://www.dec.ny.gov/pubs/212.html

**Google Earth Virtual Globe Data** - Some of DEC's map data, including boat launches, lands coverage, roads and trails on this Unit can be viewed in Google Maps or Google Earth. (Also located at DEC's Mapping Gateway)

Most Forest Access Roads do not receive regularly scheduled maintenance and may not be passable with a motor vehicle. Haul roads do not receive maintenance.

# Information on the East of Hudson Unit

## Infrastructure

*Table I.J. – Existing Access and Parking (see Figure 3 for maps)*

| State Forest | Category | Total Amount (mi.) | Needing Improvement (mi.) |
|---|---|---|---|
| Big Buck Mountain MUA | Public Forest Access Roads | 0 | 0 |
| | Haul Roads | 0 | 0 |
| California Hill State Forest | Public Forest Access Roads | 0 | 0 |
| | Haul Roads | 0 | 0 |
| Croton Gorge Unique Area | Public Forest Access Roads | 0 | 0 |
| | Haul Roads | 0 | 0 |
| Depot Hill MUA | Public Forest Access Roads | 0 | 0 |
| | Haul Roads | 0 | 0 |
| Lafayetteville MUA | Public Forest Access Roads | 0 | 0 |
| | Haul Roads | 0 | 0 |
| Montrose Point State Forest | Public Forest Access Roads | 0 | 0 |
| | Haul Roads | 0 | 0 |
| Nimham Mountain MUA | Public Forest Access Roads | .2 | .2 |
| | Haul Roads | 1.4 | 1.4 |
| Roeliff Jansen Kill MUA | Public Forest Access Roads | 0 | 0 |
| | Haul Roads | 0 | 0 |
| Salt Hill State Forest | Public Forest Access Roads | 2.5 | 2.5 |
| | Haul Roads | 0 | 0 |
| Stissing Mountain MUA | Public Forest Access Roads | .5 | 0 |
| | Haul Roads | .5 | 0 |
| Taconic Hereford MUA | Public Forest Access Roads | 1.5 | 1.5 |
| | Haul Roads | 2.75 | |
| Wassaic MUA | Public Forest Access Roads | 0.37 | 0.37 |
| | Haul Roads | 2.25 | 0 |
| West Mountain State Forest | Public Forest Access Roads | 0 | 0 |
| | Haul Roads | 0 | 0 |
| White Pond MUA | Public Forest Access Roads | 0 | 0 |
| | Haul Roads | 0 | 0 |
| Total Amount Needing Improvement | | 11.97 | 5.97 |

| State Forest | Infrastructure | Total Amount | Needing Improvement |
|---|---|---|---|
| Big Buck Mountain MUA | Parking Lots | 2 | |
| | Gates / Barriers | 1 | |
| California Hill State Forest | Culverts | 3 | |
| | Parking / Trailheads | 2 | |
| | Gates / Barriers | 2 | |
| | Dams | 1 | |
| Croton Gorge Unique Area | Parking / Trailheads | 0 | |
| Depot Hill MUA | Parking Lots | 2 | |
| | Gates / Barriers | 1 | |
| Lafayetteville MUA | Parking Lots | 4 | 1 |
| | Gates / Barriers | 2 | |
| Montrose Point State Forest | Bridges | 11 | |
| | Parking / Trailheads | 1 | |
| Nimham Mountain MUA | Culverts | 3 | |
| | Parking Lots | 4 | 1 |
| | Gates / Barriers | 4 | |
| Salt Hill State Forest | Culverts | 2 | 2 |
| | Parking Lots | 1 | 1 |
| | Gates/Barriers | 2 | |
| Stissing Mountain MUA | Culverts | 2 | 1 |
| | Bridges | 2 | 1 |
| | Parking Lots | 3 | |
| | Gates / Barriers | 2 | |
| Taconic Hereford MUA | Culverts | 9 | |
| | Parking Lots | 3 | |
| | Gates / Barriers | 3 | |
| Wassaic MUA | Culverts | 4 | |
| | Parking Lots | 2 | |
| | Gates / Barriers | 2 | |
| West Mountain State Forest | Parking / Trailheads | 1 | |
| | Gates / Barriers | 1 | 1 |
| | Dams | 1 | 1 |
| White Pond MUA | Parking Lots | 1 | |
| | Gates / Barriers | 1 | |
| | Dams | 1 | |

### *Use and Demand on Roads, Haul Roads and Parking Areas*

Administrative use by the Department utilizes all roads (of any type), and all parking areas. Some roads and haul roads have degraded to the point where they are no longer safe to use. These are often gated to preserve public safety. The Governor's Public Access Initiative has funded several projects in the region. Access improvements have been made to the southern parking lot at West

## Infrastructure

Mountain State Forest, and there are approved plans to improve the northern access with a 5-car parking area off of Blueberry Drive pending a land acquisition.

### Signs / Kiosks

There is a need for several kiosks in this unit to raise public awareness of the recreational opportunities available on state forests, as well as the history and management of these public lands. This plan proposes the following new kiosks in this unit on Stissing Mountain MUA, Depot Hill MUA, Nimham Mountain MUA, California Hill MUA.

| State Land Name | Facility Identification Signs | Kiosks | Small Information Board | Kiosks needed |
|---|---|---|---|---|
| Roeliff Jansen Kill MUA | 0 | 0 | 0 | 0 |
| Lafayetteville MUA | 2 | 1 | 2 | 1 ADA Accessible |
| Stissing Mountain MUA | 2 | 0 | 1 | 2 (1 ADA accessible) |
| Wassaic MUA | 2 | 1 | 0 | 0 |
| West Mountain State Forest | 1 | 2 | 0 | 0 |
| Taconic Hereford MUA | 2 | 2 | 0 | 1 |
| Depot Hill MUA | 1 | 0 | 1 | 1 |
| Nimham Mountain MUA | 3 | 2 | 0 | 1 |
| California Hill MUA | 2 | 0 | 0 | 3 |
| Big Buck Mountain MUA | 1 | 0 | 0 | 1 |
| White Pond MUA | 1 | 0 | 0 | 0 |
| Montrose Point State Forest | 1 | 2 | 0 | 0 |
| Croton Gorge Unique Area | 0 | 0 | 0 | 0 |
| Salt Hill State Forest | 1 needed | 0 | 0 | 1 |

**Definitions:**

**Facility Identification Signs**: These wooden signs are installed at public access points to State Lands.
Often 3 (three) feet or wider, these signs have the State Land name, and other information.

**Kiosk:** A wooden structure installed at parking lots or trailheads that contain information about the facility. This may include maps, warnings, regulations, prohibited actions, important phone numbers, information about Volunteer Stewardship Agreements, and other information specific to the area. They are usually 4-6 feet wide and have a clear acrylic cover over the posted information.

**Small Information Board**: A small wooden structure installed at parking lots or trailheads that contain information about the facility. These boards usually only have notices about rules and regulations,

warnings and prohibited actions. They are less than 5 (five) square feet in size. All current boards are in poor shape and will be removed from use.

Vandalism is always a concern on State Lands, and that has been taken into consideration when installing kiosks and information boards.

## Boating and Fishing Facilities

| State Land Name | Fishing Facilities |
|---|---|
| Roeliff Jansen Kill MUA | Roeliff Jansen Kill – trout stream, shore fishing |
| Lafayetteville MUA | Wilbur Pond, shore fishing, non-motorized boats |
| Wassaic MUA | Ten Mile River, shore fishing, wading |
| West Mountain State Forest | Blackberry Pond, shore fishing, non-motorized boats |
| Nimham Mountain MUA | Rinaldi Pond, shore fishing, non-motorized boats |
| White Pond MUA | Accessible fishing pier, boat launch ramp, no gas motors |
| California Hill State Forest | Waywayanda Lake, boat launch area, non-motorized boats |
| Croton Gorge Unique Area | Croton River, shore fishing only |
| Montrose Point State Forest | Hudson River, shore fishing only |

Boating and fishing facilities as well as their use and demand are discussed under Recreation. Public Fishing Access Areas are managed by the Division of Fish and Wildlife and are listed near the beginning of the plan but are not mentioned here.

Boating and fishing facilities as well as their use and demand are discussed under Recreation.

## Designated Campsites and Lean-tos

| State Land Name | Designated Campsites |
|---|---|
| Taconic Hereford MUA | 2 designated campsites in proximity to Tyrell Road |
| Layfayetteville MUA | 1 designated campsite on Wilbur Flats Rd |

Camping facilities, as well as their use and demand are discussed under Recreation.

## Communications Facilities

| State Land Name | Communication Facilities |
|---|---|
| California Hill State Forest | Cellular tower on 99-year lease. |
| Nimham Mountain MUA | Communications towers located at top on Nimham Mountain Road |

The communications tower located on Nimham Mountain is used by Putnam County EMS, local fire departments and a local shortwave radio group. Putnam County maintains the towers and associated buildings/facilities along with the access road and gate. Maintenance on the road needs prior approval of the Department.

## Overall Assessment of the Level of Recreational Development

### Utility Transmission and Collection Facilities

| State Land Name | Utility Transmission and Collection Facilities |
|---|---|
| Stissing Mountain MUA | Power line ROW (southern section) |
| California Hill State Forest | Power line runs through southwest section – power company fee owner |
| West Mountain State Forest | Cable transmission line – annual fee paid to Department |
| Taconic Hereford MUA | Power line ROW (southern section) |

### Operations Facilities

| State Land Name | OPP Facility |
|---|---|
| Nimham Mountain MUA | Former Ranger station and storage facility off Gipsy Trail Road as well as a trailer that is used by the Division of Air for Air Quality monitoring. |

### Division of Air Facilities

| State Land Name | Division of Air Facility |
|---|---|
| Nimham Mountain MUA | Air quality monitoring trailer off Gipsy Trail Road |

### Dams

| State Land Name | Facility |
|---|---|
| California Hill State Forest | Marcell Roth Dam, Hazard Classification C, High Hazard |
| West Mountain State Forest | Sam Klaar Dam, Hazard Classification B, Medium Hazard |
| White Pond MUA | White Pond Dam, Hazard Classification B, Medium Hazard |
| Nimham Mountain MUA | Lower Pond, Hazard Classification A, Low Hazard |

### Fire Towers

| State Land Name | Facility |
|---|---|
| Nimham Mountain MUA | Nimham Fire Tower |
| OPRHP, Mount Beacon | Beacon Fire Tower |
| Private Lands, Town of Union Vale | Clove Fire Tower |

## Overall Assessment of the Level of Recreational Development

It is important that recreational use is not allowed to incrementally increase to an unsustainable level. DEC must consider the impact on the unit from increased use on other management goals or other recreational uses. DEC must consider the full range of impacts, including long- term maintenance and the balancing of multiple uses. In general, there has been a peaceful coexistence of most recreational and trail user groups. Some non-motorized trail users, such as hikers, mountain bikers, and skiers, have expressed a preference for trails which are relatively remote and not open to motorized users

such as cars, ATVs, or snowmobiles, due to safety concerns as well as reduced noise. Trail placement and maintenance in this unit requires careful planning to avoid wet soils, intermittent streams, and vernal pools, which are frequently encountered across the landscape. Once established, trails require regular maintenance and may require periodic closing during wet weather to prevent rutting. This is especially true of roads and trails open to motor vehicles. This unit includes state forests that have few developed recreational facilities or infrastructure, such as designated trails, campsites, parking areas, or water access points. A significant number of new recreational opportunities could be expanded in this Unit, while both maintaining user satisfaction and preserving the wild character of these forests.

## Accessibility

DEC has an essential role in providing access to recreational activities that are often rustic and challenging by nature, and ensuring that facilities are not only safe, attractive, and sustainable, but also compatible with resources. For more information on accessibility policies, please see SPSFM page 173 at http://www.dec.ny.gov/lands/64567.html.

### Application of the Americans with Disabilities Act (ADA)

The Americans with Disabilities Act of 1990 (ADA), along with the Architectural Barriers Act of 1968 (ABA) and the Rehabilitation Act of 1973, Title V, Section 504, has 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.

Consistent with ADA requirements, DEC incorporates accessibility for people with disabilities into siting, planning, construction, and alteration of recreational facilities and assets supporting them. In addition, Title II of the ADA requires, in part, that services, programs, and activities of DEC, when viewed in their entirety, are readily accessible to and usable by people with disabilities. DEC is not required to take any action which would result in a fundamental alteration to the nature of the service, program, or activity, or would present an undue financial or administrative burden. When accommodating access to a program, DEC is not necessarily required to make each existing facility and asset accessible, as long as the program is accessible by other means or at a different facility.

This plan incorporates an inventory of all the recreational facilities and assets on the unit or area, and an assessment of the programs, services, and facilities provided to determine the level of accessibility. In conducting this assessment, DEC employs guidelines which ensure that programs are accessible, including buildings, facilities, and vehicles, in terms of architecture and design, and the transportation of and communication with individuals with disabilities.

In accordance with the US Department of Justice's ADA Title II regulations, all new DEC facilities, or parts of facilities, that are constructed for public use are to be accessible to people with disabilities. Full compliance is not required where DEC can demonstrate that it is structurally impracticable to meet the requirements [28 CRF § 35.151 (a)]. Compliance is still required for parts of the facility that can be made accessible to the extent that it is not structurally impracticable, and for people with various types of disabilities. In addition, all alterations to facilities, or part of facilities, that affect or could affect the usability of the facility will be made in a manner that the altered portion of the facility is readily accessible to and usable by individuals with disabilities [28 CRF § 35.151 (b:1-4)].

DEC uses the Department of Justice's 2010 Standards for Accessible Design in designing, constructing, and altering buildings and sites. For outdoor recreational facilities not covered under the

current ADA standards, DEC uses the standards provided under the ABA to lend credibility to the assessment results and to offer protection to the natural resource (ABA Standards for Outdoor Developed Areas; Sections F201.4, F216.3, F244 to F248, and 1011 to 1019).

Any new facilities, assets, and accessibility improvements to existing facilities, or assets proposed in this plan, are identified in the section containing proposed management actions. A record of accessibility determination is kept with the work planning record.

For further information, please contact the DEC Statewide ADA Accessibility Coordinator at accessibility@dec.ny.gov.

## Non-recreational Uses

### Off-Highway and All-Terrain Vehicle Use

For a comprehensive discussion of DEC's policy regarding ATV use on State Forests, please refer to page 213 of the SPSFM at www.dec.ny.gov/lands/64567.html.

CP-3 opportunities for qualifying individuals are proposed for Stissing Mountain MUA.

### Military Field Exercises

| | |
|---|---|
| California Hill State Forest | U.S. Army orienteering exercises several times a year. |

## Formal and Informal Partnerships and Agreements

Conservation and stewardship partnerships are increasingly important, especially for public land management agencies. Considering the fact that resources will always be limited, collaboration across political, social, organizational and professional boundaries is necessary for long-term success and sustainability. Encouraging the development of cooperative and collaborative relationships is and can be done through volunteer agreements with the department. For more information on these and other partnerships, please see SPSFM page 181 at http://www.dec.ny.gov/lands/64567.html.

| State Land Name | Group Name-Type-Area of Responsibility |
|---|---|
| Taconic Hereford MUA | Fats in the Cats – mountain bike group – trail maintenance |
| Wassaic MUA | Federation of Dutchess County Fish and Game Clubs, Inc |
| West Mountain State Forest | Federation of Dutchess County Fish and Game Clubs, Inc |
| Nimham Mountain MUA | Putnam Riders – mountain bike group – trail maintenance<br>Kent Conservation Advisory Committee – local gov't-fire tower maintenance<br>Putnam Horse Council – horseback riding group – trail maintenance |
| California Hill State Forest | NYNJTC- trail construction and maintenance |

## Other Agreements

| State Land Name | Group Name-Type-Area of Responsibility |
|---|---|
| Croton Gorge Unique Area | Croton Gorge Unique Area Protection and Interpretation-VSA-Trail Stewards |
| Montrose Point State Forest | Montrose Point Park Cooperative Agreement-The County of Westchester |
| Depot Hill MUA | NY/NJ Trail Conference – Appalachian Trail maintenance |
| Nimham Mountain MUA | Putnam County – Emergency Communications Tower |

## Recreation

Recreation is a major component of planning for the sustainable use of State Forests on this unit. DEC accommodates diverse pursuits such as snowmobiling, horseback riding, hunting, trapping, fishing, picnicking, cross-country skiing, snowshoeing, bird watching, geocaching, mountain biking, and hiking. Outdoor recreation opportunities are an important factor in quality of life. We often learn to appreciate and understand nature by participating in these activities. However, repeated use of the land for recreational purposes can have significant impacts. For further discussion of recreational issues and policies, please see SPSFM page 187 at http://www.dec.ny.gov/lands/64567.html. The following section includes an inventory of recreational opportunities available on this unit as well as a description of use and demand for each activity. Recreational maps and geographic data are available at DEC's Mapping Gateway http://www.dec.ny.gov/pubs/212.html in Google format or in the State Lands Interactive Mapper.

## Exceptional Recreational Opportunities

- Exceptional vista point of the Hudson River at Montrose Point State Forest. Eagles have been sighted there. An interesting "brick beach" due to former brick factory on the property, and a brick arch bridge on the trail to the beach.
- Fire tower at Nimham Mountain MUA has a great view of the surrounding area.

## Wildlife-related Recreation

### *Hunting*

Hunting is a major recreational use within the area including hunting for deer, turkey, waterfowl, and small game species. Summaries of deer and bear harvests for this area can be found on the DEC's website at http://www.dec.ny.gov/outdoor/42232.html .

Hunting is allowed on most State Forest properties in the planning unit. Hunters must follow existing statewide regulations including restrictions on the discharge of firearms within 500' of a residence and hunters should be aware of special restrictions that apply to Westchester County.

In recent years, the NYS White Tailed Deer population has been impacted by Epizootic Hemorrhagic Disease (EHD). Outbreaks have been detected in counties contained within the East of Hudson planning area. The disease is not spread directly from deer to deer and humans can not be infected by contact with deer or bites from midges that cause the disease. More information is available on EHD on the Departments website at: Epizootic Hemorrhagic Disease - NYS Dept. of Environmental Conservation.

## Recreation

Demand for hunting opportunities in the planning unit is generally unknown. Specific data on hunter use of the Unit are not available.

Pheasants are routinely stocked at Lafayetteville and Wassaic Multiple Use Areas during the season to facilitate and encourage hunters. The Dutchess County Federation of Fish & Game Clubs also sponsors a youth pheasant hunt in the fall at Lafayetteville MUA.

### *Fishing*

Fishing is allowed on all waters within the planning unit. The Unit provides anglers with a wide variety of fishing opportunities from warm-water fish species in the lakes and ponds to fishing for trout in the streams. Managing the recreational fisheries within this Unit could include stocking on an annual basis with naturalized fish species that are commonly found in southeastern New York State. Many species of fish commonly stocked are not necessarily native to the area but are native to New York State. Decisions concerning stocking levels will be made by the NYS DEC Regional Inland Fisheries Manager. Fisheries Management will include periodic checks on the status of the fisheries populations and may include changes in fishing regulations. There are several public fishing rights (PFRs) along streams within this Unit. Additional information about PFR's in this region can be found on the DEC website at https://www.dec.ny.gov/outdoor/9924.htmland and on the Trout Stream Mapper User Guide at: https://www.dec.ny.gov/outdoor/122444.html.

### *Trapping*

Trapping is allowed on state forest properties in the planning unit.

Demand for trapping opportunities on the planning unit is generally unknown. As with hunting, gauging demand for trapping opportunities on a specific state land unit from county-based license data is difficult. It is notable that although the Unit provides opportunities for wide-ranging predator species such as fisher, bobcat, and coyote, there are few trapping opportunities for aquatic furbearers.

### Camping

Camping is allowed anywhere on State Forests except that, as directed under 6 NYCRR section 190.3 (b), camping is prohibited within 150 feet of any road, trail, spring, pond or other body of water except at camping areas designated by the Department. In addition, 6 NYCRR section 190.4(a), prohibits camping in one location for four nights or more except under permit and 6 43 NYCRR section 190.4(e), prohibits a group of 10 or more individuals from camping on State lands at any time except under permit. There are currently 2 of primitive campsites located on this Unit: 1 on Taconic Hereford MUA and 1 on Lafayettville MUA. These campsites receive occasional use by weekend campers and hunters.

### Snowmobiling

Snowmobiles are allowed anywhere on State Forest roads or trails when covered by snow unless specifically posted against that use. Most snowmobiling occurs on the main Public Forest Access Roads, Haul Roads, and various seasonal public roads that allow for many miles of uninterrupted travel. Snowmobiling is generally very popular, but recent winters have often been relatively warm with frequent thawing, which has caused shortened and unpredictable snowmobiling seasons.

Taconic Hereford MUA has a marked 5.25-mile-long snowmobile trail. No other state forest properties within the planning unit have a marked snowmobile trail. Taconic Hereford MUA does receive some snowmobile use in heavy snow cover years. The demand for additional snowmobiling opportunities on this Unit is unknown.

### Water-based Recreation

| *Water Recreation* | | |
|---|---|---|
| **State Land** | **Water Body** | **Activities Allowed** |
| White Pond MUA – boat launch/dock available | White Pond | Canoe, kayak, non-motorized boats (electric motors permitted) |
| Lafayetteville MUA | Wilbur Pond | Canoe, kayak |
| California Hill State Forest – boat launch site available | Waywayanda Lake | Canoe, kayak |

White Pond MUA receives regular boating use with much less use at the other areas where boating is allowed. Facilities are deemed to be adequate for current use.

### Trail-based Recreation

Where appropriate, development of long-distance trails that cross UMP areas and DEC regions will be encouraged. However, long-distance trails will not be located where anticipated levels of use on new or existing trails or increased access to adjacent areas will have unacceptable impacts on natural resources or the recreational experiences of visitors. Because most long-distance trails cross both public and private lands, coordination with private landowners, the managers of other involved public lands, other DEC regions and trail organizations in the development and management of long-distance trails is essential. Proposals for established long distance trails such as the Hudson River Valley Greenway Trail, or any newly proposed statewide trail systems need to be coordinated with Central Office Lands and Forests staff and DEC regions whose lands are being considered for long distance trail connections.

Multi Use trails, including some informal un-marked and un-maintained trails, can be found on most state forest lands within the planning unit. Formal trails such as a section of the Appalachian Trail located on Depot Hill MUA and many of the mountain bike trails located in the planning unit are managed and maintained through formal agreements with volunteer organizations. In 2018 DEC identified an extensive network of unauthorized trails in the California Hill State Forest in Putnam County. These trails remain closed to mountain biking while DEC is assessing their potential impacts to natural resources, location relative to critical habitats, impacts on other uses of the property, and the need for restoration.

DEC utilizes a public planning process before new trails and other facilities are constructed on State lands. This process ensures impacts to natural resources are minimized and that the Department balances the recreational opportunities for all users to avoid user conflicts.

Trails are frequently delineated on maps found on kiosks located in parking areas. The kiosks usually have state forest rules and regulations, a trail map or map of the area, important phone numbers, and other signage about what may or may not be allowed on State Land. A well-defined and signed trail system reduces the risk of users getting lost and accidently ending up on neighboring lands that may

not allow public use. As trail systems are better defined, publicly available maps found on the State Land Interactive Mapper, the DEC web site and state forest web page will be updated.

*Table I.L. – Multiple Use Trails signed for a specific recreational use. (see Figure 3 for maps)*

| Use | Length (mi.) |
|---|---|
| Cross Country Skiing | 1.65 |
| Snowmobile | 5.25 |
| | 6.9 miles |

*Trails*

| State Land | Length (mi.) |
|---|---|
| California Hill MUA | 7.0 |
| Depot Hill MUA | .6 |
| Montrose Point State Forest | 1.25 |
| Nimham Mountain MUA | 10.5 |
| Stissing Mountain MUA | 2.8 |
| Taconic Hereford MUA | 22.7 |
| West Mountain State Forest | 4.5 |
| White Pond MUA | 1.5 |
| Salt Hill State Forest | 2.7 |
| Total existing trail length | 53.6 miles |

* Length available for each use includes use on PFARs; does not include municipal roads

### Cross Country Skiing

There are 1.65 miles of marked cross country ski trails at Stissing Mountain MUA. These trails are not groomed.
Although there are no other marked cross-country ski trails, that does not mean that skiers are not welcome at other areas. It is suggested that users check out the areas where they wish to ski ahead of time to determine if trail conditions are conducive to cross-country ski use.

Demand for additional cross-country ski use is generally unknown in the Unit.

### *Equestrian*

Equestrian use can happen anywhere on state forest lands in the planning unit. Trails that are particularly conducive to riding can be found at Taconic Hereford MUA and Nimham Mountain MUA.

Demand for additional equestrian use is generally unknown on the Unit.

#### *Mountain Biking*

Mountain biking occurs on several pieces of State Land within the planning unit. Trails that are conducive to this activity are most plentiful at Taconic Hereford MUA, and Nimham Mountain MUA.

The demand for biking trails is high within this Unit. The Department has volunteer stewardship agreements in place with I Fats in the Cats at Taconic Hereford MUA, Putnam Riders at Nimham Mountain MUA. In 2021 the Department signed a Volunteer Stewardship Agreement with the New York- New Jersey Trail Conference for trail construction and maintenance at California Hill State Forest.

The Department will continue to work closely with all VSA holders to better define the trail systems at Taconic Hereford MUA, California Hill State Forest, and Nimham Mountain MUA.

### Other Recreational Activities

#### *Orienteering*

Geocaching is an increasingly popular activity in the area. The demand for additional geocaching opportunities is unknown.

#### *Dog Training / Field Trials*

Much of the State Land in the planning unit is forested and does not lend itself to dog training or trials.

The fields at Lafayetteville MUA have been used for training and trials in the past, and that use will most likely continue if the local dog groups wish to use the property.

#### *Target Shooting*

Pursuant to 6NYCRR Part 190.8 (ab) & Part 74.2 (d) target shooting is prohibited in Putnam, Westchester, and Dutchess County state forest lands within the East of Hudson Unit.

### Overall Assessment of the Level of Recreational Development

It is important that recreational use is not allowed to incrementally increase to an unsustainable level. DEC must consider the impact on the Unit from increased use on other management goals or other recreational uses. DEC must consider the full range of impacts, including long-term maintenance and the balancing of multiple uses.

Recreational use within the Unit is currently at a level where other uses may be impacted. On several properties within the Unit overuse is having an adverse impact. Tourism has played a role in the increase of use, as well as an increase from local users as well.

Illegal use of ATV's, 4WD vehicles, dirt bikes and other motorized vehicles traveling on State Land leads to a degradation of trails and roads. Illegal and overuse of campsites have led to site degradation. Illegal dumping is pervasive. It is a continual challenge to keep our properties garbage free and the actions specified in this plan attempt to better address the impacts related to overuse, dumping and illegal motor vehicle use.

## Mineral Resources

### Oil, Gas and Solution Exploration and Development

Oil and gas production from State Forest lands, where the mineral rights are owned by the state, are only undertaken under the terms and conditions of an oil and gas lease. As surface managers, the Division of Lands and Forests will evaluate any concerns as they pertain to new natural gas leases on State Forest lands. Consistent with past practice, prior to any new leases, DEC will hold public meetings to discuss all possible leasing options and environmental impacts. A comprehensive tract assessment will be completed as part of this process. For more information on natural gas and other mineral resource policies, please see SPSFM page 225 at http://www.dec.ny.gov/lands/64567.html.

### Pipelines

The Department, pursuant to ECL § 9-0507, may lease State lands for the construction and placement of oil and gas pipelines only if a portion of the mineral resources to be transported was extracted from State lands. Pipeline and road development must be in compliance with State Forest tract assessments, the Strategic Plan for State Forest Management, and the Generic Environmental Impact Statement and Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program.

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

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

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

### Mining

Gravel/shale pits and other surface mines

| • State Land Name | Gravel/Shale Banks |
|---|---|
| Stissing Mountain MUA | Gravel bank |
| Wassaic MUA | Gravel bank |

DEC uses gravel and material resources for the construction and maintenance of parking lots, truck trails and other infrastructure. By utilizing already existing resources close to projects, the amount of time spent transporting material is greatly reduced and saves money on the project.

Gravel banks on these DEC lands have previously been mined for use locally. Their use in the recent past has been road maintenance on State lands and that will continue as needed.

## Supporting Local Communities

### Tourism

State Forests can be an economic asset to the local communities that surround them. It is estimated that more than three out of every four Americans participate in active outdoor recreation of some sort each year. When they do, they spend money, generate jobs, and support local communities. For more information, please see SPSFM page 245 at http://www.dec.ny.gov/lands/64567.html.

### Taxes Paid

The New York State Real Property Tax Law provides that all reforestation areas are subject to taxation for school and town purposes. Some reforestation areas are also subject to taxation for county purposes. Most unique areas and multiple use areas are exempt from taxation. All of these lands are assessed as if privately owned.

Detailed tax information can be obtained by contacting the Putnam, Dutchess and Westchester County Real Property Departments. The following taxes are projected for State lands in this Unit for the 2020 tax year:

| Town | County Tax | Municipal Tax | School Tax | Special District Tax | Total Tax by town |
|---|---|---|---|---|---|
| Amenia | 0 | 0 | $109,674 | 0 | $109,674 |
| Beekman | 0 | $5,694 | $383,557 | 0 | $391,536 |
| Dover | 0 | $2,096 | $17,440 | 0 | $20,397 |
| Kent | $91,456 | $213,682 | $436,669 | $28,655 | $770,677 |
| Philipstown | $6,069 | $5,911 | $41,152 | $1,957 | $55,089 |
| Putnam Valley | $2,517 | $4,036 | $21,906 | $650 | $29,109 |
| Total | $100,042 | $231,419 | $1,010398 | $31,262 | - |

## Forest Products

### Timber

Timber management provides a renewable supply of sustainably harvested forest products and can also enhance biodiversity. The products harvested may include furniture-quality hardwoods, softwoods for log cabins, fiber for paper making, firewood, animal bedding, wood pellets, biofuel, and chips for electricity production. For more information, please see SPSFM page 251 at http://www.dec.ny.gov/lands/64567.html.

## Forest Products

Information on upcoming timber expected to be produced from timber management activities on the Unit is contained in the land management action schedules in the Appendices at the end of this document.

The authority to sell forest products from 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.

Forest stands being considered for timber harvesting are selected based on the following criteria:

- Adequate access,
- Wildlife considerations,
- Present and future forest health concerns (including invasive plants and pests),
- Current distribution of vegetative stages within the unit management land area and surrounding landscape, including the ecoregional habitat gaps as per the Strategic Plan for State Forest Management,
- Ability to regenerate stands (if a regeneration harvest),
- Existing timber and vegetation management needs from other unit management plans,
- Market conditions,
- Potential growth response of stands to treatment, and
- Presence of rare, threatened, and endangered species and unique natural communities.

By law, any trees to be removed in a harvest must be designated and paid for prior to removal. Designation (marking) of trees is made by 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 selected for harvest based on the criteria outlined above, and the desired future conditions identified by this Unit Management Plan.

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. Revenue sales contracts must be approved by DEC's Central Office staff, and revenue sale contracts valued at $25,000 or more must be approved by the Office of the State Comptroller. 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.

### Non-Timber Forest Products

Within each UMP, stands that could be considered for maple tapping must be discussed and identified as per FP Action 7 of the SPSFM.

There is a 10-acre maple tapping lease in certain stands at West Mountain State Forest.

There are two stands at Stissing Mountain MUA have been delineated as a potential sugar bush but have not been leased. These stands have been identified in the stand tables associated with each state land area within the Unit and are the only stands that have been identified as potential sugar bushes at this time.

## Forest Health

Forest health is pursued with the goal of maintaining biodiversity. Any agent that decreases biodiversity can have a deleterious effect on the forest as a whole and its ability to withstand stress. Forest health in general should favor the retention of native species and natural communities or species that can thrive in site conditions without interrupting biodiversity. For more information on forest health, please see SPSFM page 277 at http://www.dec.ny.gov/lands/64567.html.

### Invasive Species

As global trade and travel have increased, so have the introduction of non-native species. While many of these non-native species do not have adverse effects on the areas in which they are introduced, some become invasive in their new ranges, disrupting ecosystem function, reducing biodiversity and degrading natural areas. Invasive species have been identified as one of the greatest threats to biodiversity, second only to habitat loss. Invasive species can damage native habitats by altering hydrology, fire frequency, soil fertility and other ecosystem processes.

A list developed by the DEC Invasive Species Task Force is available for review on the DEC website at http://www.dec.ny.gov/animals/65408.html

The primary purpose of this list is to inform New York State agencies so they can incorporate invasive species management into their funding, regulatory and other activities pursuant to ECL 9-1705 (b) and especially ECL 9-1709 (2). This list does not include *all* plant species that are invasive or potentially-invasive in New York State.

*Table I.N. – Invasive Species, Pests and Pathogens*

| Plants | Status |
|---|---|
| Japanese barberry | Confirmed in all Counties in this Unit |
| Multi-flora rose | Confirmed in all Counties in this Unit |
| Tree of Heaven | Confirmed in all Counties in this Unit |
| Japanese knotweed | Confirmed in all Counties in this Unit |
| Mile-a-minute weed | Confirmed in all Counties in this Unit |
| Black and Pale swallow-wort | Confirmed in all Counties in this Unit |
| Japanese stilt grass | Confirmed in all Counties in this Unit |
| Oriental bittersweet | Confirmed in all Counties in this Unit |
| **Insects** | **Status** |
| Hemlock Woolly Adelgid | Confirmed in all Counties in this Unit |
| Hemlock elongate scale | Confirmed in all Counties in this Unit |
| Emerald ash borer | Confirmed in all Counties in this Unit |
| Spongy Moth | Confirmed in all Counties in this Unit |
| Spotted Lantern Fly | Suspected in all Counties in this Unit |
| **Diseases** | **Status** |
| Chestnut blight | Confirmed in all Counties in this Unit |
| Beech bark disease | Confirmed in all Counties in this Unit |

## Forest Health

| *Table I.N. – Invasive Species, Pests and Pathogens* | |
|---|---|
| Dutch Elm disease | Confirmed in all Counties in this Unit |
| Beech Leaf Disease | Confirmed in all Counties in this Unit |
| **Animals** | **Status** |
| Mute Swans | Suspected in Counties within this Unit |

DEC will take action to eradicate invasive species where and when it is feasible to do so. Certain invasive pests and diseases are impossible to eradicate while others can be contained if they are managed early in the establishment process.

All accepted forms of Integrated Pest Management may be used to mitigate the ecological and economic impacts associated with these pests when possible. DEC will continue to work cooperatively with Federal, State and local governments as well as other interested organizations in managing invasive threats.

### Managing Deer Impacts

There is limited ability to manage deer impacts using silvicultural systems. The most effective method of keeping deer impacts in line with management objectives is to monitor impacts while working with the Division of Fish and Wildlife to observe and manage the herd. On properties where deer are suspected of impacting values and objectives associated with biodiversity and timber management, such impacts must be inventoried and assessed. For more information on managing deer impacts, please see SPSFM page 291 at http://www.dec.ny.gov/lands/64567.html.

Preliminary assessments conducted during our forest inventory process on State Lands within the planning unit indicate that deer density levels are not having as adverse impact on the ability of the forest to regenerate as was anticipated. This is primarily since most DEC lands within the Unit are open to public hunting and there has been an abundance of antlerless deer management permits available for the Wildlife Management Units (WMU) in the planning unit.

There are localized areas on state forests in this Unit where deer browse is very high and may be impeding the regeneration of some preferred browse species, such as sugar maple, yellow birch, and red maple. There is a need in this Unit to better map areas that are suffering from poor regeneration due to deer browse, and document the intensity of deer browse by use of fenced deer enclosures or deer density surveys

DEC has and will continue to monitor deer impacts within the East of Hudson Unit and take more aggressive action if necessary. Actions available are specified in the Strategic Plan for State Forest Management (SPSFM). These actions include efforts to increase hunter access, work within the deer management permit decision process to adjust antlerless harvest within the WMUs and instituting a property specific deer reduction program using deer hunting as the primary tool of implementation.

## Laws

### State Laws

- Environmental Conservation Law
- 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)*

Title 6

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

#### *NYS DEC Policies and Guidelines*

- Strategic Plan for State Forest Management
- Young Forest Initiative Strategic Plan
- State Wildlife Action Plan
- Public Use of State Lands Managed by the Bureau of Wildlife
- Temporary Revocable Permits
- Motor Vehicle Use
- Timber Management
- Unit Management Planning
- Pesticides
- Prescribed Burns
- Inventory
- Acquisition
- Road Construction
- Motorized Access Permit for People with Disabilities Policy (MAPPWD) / Commissioners Police #3 (CP-3)
- Best Management Practices (Water quality)

HABITAT RELATED DEMANDS

- General Freshwater Wetlands Permit for Wildlife Management Area Management Activities
- Bureau of Fisheries Fish Stocking Policies
- Archaeological Site Protection
- Archaeological Research
- Volunteer Stewardship Agreements
- Memorandum of Understanding with BLM for FYO 2004/2005 (leasing of gas wells)
- Draft ATV Policy for Public ATV Access to Recreation Programs
- Plantation Management on State Forests
- State Forest Rutting Guidelines
- Retention on State Forests
- Clearcutting on State Forests
- Rules for Establishment of Special Management Zones on State Forests and Wildlife Management Areas
- Rutting Guidelines for Timber Harvesting on Wildlife Management Areas
- Retention Guidance on Wildlife Management Areas
- Plantation Management Guidance on Wildlife Management Areas
- 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.

## Summary of Ecoregion Assessments

To practice ecosystem management, foresters must assess the natural landscape in and around the management unit. State Forest managers utilized The Nature Conservancy Ecoregion Assessments to evaluate the landscape in and around this management unit. The East of Hudson UMP falls within the Lower New England-Northern Piedmont Ecoregion.

### Ecoregion Summary

The Lower New England – Northern Piedmont (LNE - NP) Ecoregion includes portions of 12 states and the District of Columbia (Barbour et al. 2000). The Lower New England ecoregion extends from southern Maine and New Hampshire with their formerly glaciated, low mountain and lake studded landscape through the limestone valleys of western Massachusetts and Connecticut, Vermont and eastern New York. Rhode Island, eastern Massachusetts and Connecticut are distinctive in that the communities are more fire adapted including pitch pine and oak dominated forests on glacially deposited sandy till that forms a broad plain with many ponds. In New York, the LNE - NP Ecoregion consists primarily of the Hudson Valley region, from below Lake George, south to New York City. Large portions of the Appalachian Mountains lie within the ecoregion including the Palisades in New York and New Jersey, the Taconics and the Berkshires in Massachusetts, New York, Vermont, and Connecticut, and the widely strewn Monadnocks of southern New Hampshire. Large rivers originating in the Appalachians cut across the Atlantic slope lowlands generally from north or west to east emptying into the Atlantic Ocean. The Potomac, Susquehanna, Delaware, Hudson, Housatonic, Connecticut, Merrimack, and Saco Rivers provide a diversity of high - and low - energy aquatic habitats. The natural character of the ecoregion in New York is perhaps best seen currently within existing protected lands, primarily state - held, found in Palisades Park in New York and New Jersey. The LNE - NP ecoregion remains one of the most highly populated in the country with many cities including Nashua and Manchester, NH, Springfield and Worcester, MA, Hartford, CT, Albany, NY and New York City, Baltimore, MD, York and Lancaster, PA, and Washington, D.C. Added to these metropolis areas are the suburbs for the cities of Boston, Providence, RI, New Haven, CT, New York, and Philadelphia. The great forest expanses are now being increasingly fragmented by first and second home development. While the mountainous areas of the ecoregion are lightly settled, the valleys have long been developed for agriculture, and both are rapidly succumbing to development pressures.

### Ecoregion Assessment

***Table II.A. Land Use and Land Cover for the Landscape Surrounding*** *East of Hudson*

| Land Use and Land Cover | Approximate Acreage | Percent of Landscape |
|---|---|---|
| Deciduous Forest | 1,321,869 | 34.8 |
| Crop Land and Pasture | 798,367 | 21 |

*Table II.A. Land Use and Land Cover for the Landscape Surrounding East of Hudson*

| Land Use and Land Cover | Approximate Acreage | Percent of Landscape |
|---|---|---|
| Developed (High, Medium, Low Intensity and Open Space) | 655,307 | 17.4 |
| Forested Wetland | 350,613 | 9.2 |
| Mixed Forest | 235,895 | 6.2 |
| Conifer Forest | 186,920 | 4.9 |
| Open Water | 130,085 | 3.4 |
| Shrub and Brush Range Land (includes seedling and sapling type) | 84,171 | 2.2 |
| Emergent Herbaceous Wetlands | 17,215 | .5 |
| Grassland / Herbaceous | 9,017 | .2 |
| Barren Land | 6,200 | .2 |
| **Total** | **3,795,659** | **100** |

## Local Landscape Conditions

A GAP analysis was performed with the Nature Conservancy Ecoregional Assessment to determine which, if any, of the above listed covers are needed to provide/maintain biodiversity of habitat on the landscape. DEC utilizes this information to make land management decisions within management units to decide how these lands are to be managed. Within the Lower New England East Ecoregion, some landcovers were identified as being below average in their presence within the ecoregion.

Deciduous Forest: The GAP analysis lists this cover type as “needed”. 100% of the land within this Unit has been inventoried and reflects 82% in deciduous forest. This is well above the ecoregional estimate of 34.8%. For this reason, there will be no management actions intended to increase the percentage of deciduous forest. Coniferous Forest: Based on the landscape analysis, evergreen forest is lacking in the Lower New England. Stressors such as climate change, the hemlock woolly adelgid (an introduced invasive insect that kills hemlock) and the gradual loss of maturing evergreen forests on State Forests will gradually reduce the evergreen land cover in the remaining ecoregions. Evergreen cover is important to wildlife and attempts should be made to conserve, enhance, and sustain it when possible. Approximately 5% of the State Lands in this Unit are currently conifers and every effort should be made to encourage plantings and regeneration of various conifer species.

Mixed Forest: Mixed Forest, a mixture of hardwoods and evergreens, is also lacking in this region. Inventory indicates approximately 2.5% of the cover types on State Lands in this Unit are mixed. Management actions should be taken to encourage this type.

Wetlands: Different types of wetlands are also needed, particularly in those regions with greater development such as the North Atlantic Coast and Lower New England/Lower Piedmont ecoregions. Depending on the perspective one takes and based on the extensive loss of wetland habitat in the past, more wetlands would be desirable in every part of the state, but the ability to create or restore them on a large enough scale is very limited. Management actions will be to conserve and protect currently existing wetlands. Approximately 5% State Lands here are wetlands of some type.

Fields/Shrub/Early successional: This type is reflected in the numbers for Shrub and Brush. Current inventory shows approximately 4% in this cover type. Although the GAP analysis shows 2.2%, because of current habitat trends and work with groups looking to improve conditions for early successional species such as turkey, grouse, deer, New England cottontail and various bird species, this cover type will be actively managed for and improved upon. This can include well planned even aged forest management techniques, such as creating wide openings and wildlife clearings.

## Management Objectives and Actions

### Ecosystem Management Objectives and Actions

*Table III.A. – Ecosystem Management Objectives and Actions*

| Objective | Actions |
|---|---|
| **Active Forest Management** | |
| **AFM 1-** Apply sound silvicultural practices | Apply sound silvicultural practices that are guided by prescriptions created for each stand. Sales are closely monitored during harvest to ensure compliance with Best Management Practices (BMPs). Maintain forest health, vigor and sustainable harvesting. |
| **AFM II-** Use harvesting plans to enhance diversity of species, habitats and structure | Use harvesting plans to enhance diversity of species, habitats and structure. This will be accomplished by increasing the percentage of older forests, and also increasing the percentage of early successional forest (improvements to habitat that benefits New England cottontail, grouse, pheasant, turkey as examples). |
| **AFM III-** Fill ecoregional gaps to maintain and enhance landscape level diversity | Shrub lands and fields will be maintained by mowing or brush cutting to postpone succession to forest. |
| **AFM IV-** Enhance matrix forest blocks and connectivity corridors where applicable | Selected acquisitions can improve connectivity as well as managing State Forests with an eye toward contiguous forest. Special Management Zones will protect streams, wetlands, and vernal pools. |
| **AFM V**- Practice Forest and tree retention on stands managed for timber | Each stand to be harvested will have retention trees left based on State tree retention guidelines. |
| **HCVF-** Identify and maintain all HCVFs | All HCVFs will be identified and will be managed using guidelines to protect, maintain and enhance their values present within this Unit. |

## Resource Protection

*Table 111.B- Resource Protection Objectives and Actions*

| Objective | Actions |
|---|---|
| **Soil and Water Protection** | |
| **SW I**- Prevent erosion, compaction and nutrient depletion | Special management zones will be maintained around sensitive natural features. Harvesting will be limited to dry or frozen ground conditions. Best Management Practices will be used to protect water quality. |
| **SW II**- Identify and map SMZ's and adapt management for highly erodible soils | Special management zones have been created around state and classified wetlands, classified and unclassified streams, rivers, seep/spring areas. Stand with many vernal pools or seasonally wet conditions will receive minimal or no timber management. |
| **At- Risk Species and Natural Communities** | |
| **ARS I-** Protect ARS&C ranked S1, S2, S2-3, G1, G2 or G2-3 where present | Known locations of rare or threatened species are protected by special management zones. Areas proposed for timber harvesting are searched for RTE (rare, threatened, endangered) before marking begins. An evaluation is also done to help reduce impacts to possible species. |
| **ARS II-** Conduct habitat restoration and promote recovery of declining species | Habitat needs of declining species will be considered in all management actions in this Unit. |
| **ARS III-** Consider protection and management of Species of Greatest Conservation Need | Many SGCN occupy wetlands and corridors located along streams and rivers, which are already protected by SMZs. Natural Heritage data is also searched to determine if affected areas have SGCN. |
| **Visual Resources and Aesthetics** | |
| **VR I-** Maintain or improve overall quality of visual resources | Corridors along major streams and rivers have been removed from active timber management. Aesthetics are considered in all silvicultural prescriptions. |
| **VR- II** Use natural materials where feasible | Wood and stone will be used for building projects whenever possible. |

HABITAT RELATED DEMANDS

| | |
|---|---|
| **VR III-** Lay out any new roads/ trails to highlight vistas and unique natural features | Lay out any new roads/trails to highlights vistas and unique natural features. When it is deemed necessary to move a trail to a more sustainable location, it will be done. |
| **VR IV-** Develop kiosks to provide education and reduce sign pollution | Kiosks are proposed for recreational areas including Stissing Mountain MUA, Depot Hill MUA, Nimham Mountain MUA and California Hill SF |
| **Historic and Cultural Resources** | |
| **HC I-** Preserve and protect historic and cultural resources wherever they occur | Features such as building foundations, wells, stone walls, and CCC waterholes are identified before any nearby timber harvesting occurs, and uncut buffers are used to minimize disturbance. |
| **HC II**- Inventory resources in GIS and with OPRHP | Historic features will be identified and added to the State Lands Asset GIS layer. |
| **Forest Health** | |
| **FH I-** Use timber sales to improve forest health and diversity of species | Improvement thinnings are used to reduce tree overcrowding, remove crooked and diseased trees, create canopy gaps which allow the development of tree regeneration, and sustain early successional species which would otherwise decline in numbers. |
| **FH II-** Protect the Unit and surrounding lands from introduced diseases and invasive plant and animal species | Forests are monitored for invasive plant species such as pale swallow-wort and Japanese knotweed, and selected areas are treated by limited herbicide application. |
| ***Public/ Permitted Use Objectives and Actions*** | |
| **Objective** | **Actions** |
| **Accessibility** | |
| **Accessibility I-** Use minimum tool approach to provide universal access to programs | New facilities proposed in this plan will be built based on accessibility standards |
| **Formal and Informal Partnerships and Agreements** | |
| **PA I-** Collaborate with local organizations and governments to reach mutual goals. | The Department will work with local governments and recreational organizations to promote access and responsible use of state managed properties. Volunteer Stewardship Agreements will be used where appropriate and practical. |

| | |
|---|---|
| **PA II-** Consider full range of impacts associated with VSAs and recurring TRPs. | They will be evaluated to ensure that they provide a net benefit to the experience of all users of state properties in this Unit. New agreements will be evaluated based on other uses and potential impacts. |
| **Recreation** | |
| **REC I-** Accommodate public use while preventing illegal activity, reducing impacts and enhancing public safety. | Forest Ranger staff will continue to patrol properties and enforce all applicable laws and regulations. The public will be informed of leave no trace practices and principles. Forest roads and trails need to be monitored, maintained, and sometimes closed to preserve the integrity of public access roads and trails to the state forests in the planning unit. |
| **REC II-** Provide public recreation information. | Recreational opportunities will be publicized on currently existing and new informational kiosks, as well as on the public web pages developed for each of the properties within the planning unit. |
| **REC III-** Existing recreational amenities have been inventoried for this planning unit. | Additional proposed new trails, parking areas and other infrastructure are detailed elsewhere in the plan. |
| **REC IV-** Enhance fish and game species habitat. | Techniques to improve game management will be considered whenever possible. For example, harvests may promote early successional habitat for grouse or rabbits, or protect areas known to serve as winter deer yards. |
| **Mineral Resources** | |
| **MR I-** Provide for mineral exploration and development while protecting natural resources and recreation | There are currently no proposals for mineral exploration or development on this Unit. |
| **Supporting Local Communities** | |
| **LC I-** Provide revenue to New York State and economic stimulus for local communities | Timber harvesting will continue on state forests in this Unit, to provide both jobs and forest products for the local community. Small timber and firewood sales will continue to be marked and sold. |
| **LC II-** Improve local economies through forest-based tourism | Recreational opportunities will be maintained or increased throughout this Unit through volunteer stewardship agreements or through DEC Operations |

| | |
|---|---|
| | staff. Kiosks and web pages created for state forests in the Unit will improve public knowledge of available trails and facilities. |
| **LC III-** Protect rural character and provide ecosystem services to local communities. | Properties will be managed to maintain their rural and minimally developed characteristics. Timber harvests and other management activities will be rotated to allow diverse wildlife to thrive throughout the planning Unit. |

## Infrastructure and Real Property

*Table III.C. –Infrastructure and Real Property Objectives and Actions*

| Objective | Actions |
|---|---|
| **Boundary Line Maintenance** | |
| **BL I** – Maintain boundary lines | Maintain boundary lines on a regular schedule. |
| **BL II** – Address encroachments and other real property problems | Address encroachments and other real property problems. Requests have been made to check encroachments, to re-establish missing monuments, and to survey recently acquired or un-surveyed parcels. Property boundaries will also be monitored for violations. |
| **Infrastructure** | |
| **INF I** – Provide and maintain public forest access roads, access trails, haul roads, parking areas, and associated appurtenances | Provide and maintain public forest access roads, access trails, haul roads, parking areas, and associated appurtenances. These will be maintained on an as needed basis. |
| **INF II** – Upgrade, replace or relocate infra-structure out of riparian areas where feasible | Infrastructure will not be located near riparian areas, except for non- motorized recreational trails and river access points. |
| **INF III** – Resolve issues of uncertain legal status or jurisdiction | The status of former public roads and maintenance responsibilities will be discussed as part of the planning process. |
| **INF IV** – Prevent over-development | Planning and development will focus on maintaining the rural and wild character of properties in this Unit |

## Public/Permitted Use

*Table III.D –Public / Permitted Use Objectives and Actions*

| Objective | Actions |
|---|---|
| **Accessibility** | |
| **UA I** – Use minimum tool approach to provide universal access to programs | New facilities proposed in this plan will be built to current accessibility standards |
| **Formal and Informal Partnerships and Agreements** | |

## PUBLIC/PERMITTED USE

| *Table III.D –Public / Permitted Use Objectives and Actions* | |
|---|---|
| **Objective** | **Actions** |
| **PRT I** – Collaborate with local organizations and governments to reach mutual goals | The Department will work with local governments and recreational organizations to promote access and responsible use of state managed properties. |
| **PRT II** – Consider full range of impacts associated with VSAs and recurring TRPs | VSA's and TRP's will continue to be evaluated to ensure that they provide a net benefit to the experience of all users of state properties in this Unit. |
| **Recreation** | |
| **REC I** – Accommodate public use while preventing illegal activity, reducing impacts and enhancing public safety | Forest Ranger staff will continue to patrol properties in this Unit and enforce all applicable laws and regulations. The public will be informed of low intensity use standards such as 'leave no trace" camping. |
| **REC II** – Provide public recreation information | Recreational opportunities in this Unit will be publicized by creation of new informational kiosks in the Unit, as well as development of public web pages for each state forest in the unit. |
| **REC III** – Inventory recreational amenities and schedule recreation management actions | Existing facilities and trails are inventoried in this plan, as well as the creation of proposed new trails, parking areas, and other infrastructure. |
| **REC IV** – Enhance fish & game species habitat | Techniques to improve game management will be considered whenever possible. For example, harvests might promote early successional habitat for grouse or rabbits, or protect areas known to serve as winter deer yards. |
| **Off-Highway and All-Terrain Vehicle Use** | |
| **ATV I** – Enhance recreational access by people with disabilities under the MAPPWD program | A proposal to expand motorized access to people with qualifying disabilities on Stissing Mountain MUA is contained in this plan. |
| **ATV II** – Consider requests for ATV connector routes across the Unit | ATV connector routes will be considered on a case-by-case basis. |
| **Mineral Resources** | |
| **MR I** – Provide for mineral exploration and development while protecting natural resources and recreation | There are currently no proposals for mineral exploration and development in this Unit. |
| **Supporting Local Communities** | |

| *Table III.D –Public / Permitted Use Objectives and Actions* | |
|---|---|
| **Objective** | **Actions** |
| **LC I** – Provide revenue to New York State and economic stimulus for local communities | Timber harvesting will continue on state forests in this Unit, to provide both jobs and forest products for the local community |
| **LC II** – Improve local economies through forest-based tourism | Recreational opportunities will be maintained or increased throughout this Unit through volunteer stewardship agreements or through DEC Operations staff. Kiosks and web pages created for state forests in the Unit will improve public knowledge of available trails and facilities. |
| **LC III** – Protect rural character and provide ecosystem services to local communities. | Properties will be managed to maintain their rural and minimally developed characteristics. |

## Forest Management and Health

| *Table III.E. –Forest Management and Health Objectives and Actions* | |
|---|---|
| **Objective** | **Actions** |
| **Forest Products** | |
| **FP I** – Sustainably manage for forest products | Timber management is practiced in carefully selected stands in this Unit, to improve forest vigor and health, promote a diversity of tree species and age classes, and provide forest products needed by the community. |
| **FP II** – Educate the public about the benefits of silviculture | Informational signs are posted near the landing on all timber sales offered through a bid process, which include sale objectives and contact information for the forester supervising the sale |
| **Plantation Management** | |
| **PM I** – Convert plantation stands to natural forest conditions where appropriate | Species that are non-native (Scotch pine, Japanese and European Larch) or do not naturally regenerate well in this area (red pine) will slowly be replaced by white pine and native hardwood forests. |
| **PM II** – Artificially regenerate plantations where appropriate | Plantations are gradually being converted to forests with a variety of species and age classes. White pine and red spruce seedlings are sometimes planted underneath existing red pine plantations where natural regeneration is absent. |
| **Forest Health** | |

## FOREST MANAGEMENT AND HEALTH

*Table III.E. –Forest Management and Health Objectives and Actions*

| Objective | Actions |
|---|---|
| **FH I** – Use timber sales to improve forest health and the diversity of species | Improvement thinnings are used to reduce tree overcrowding, remove crooked and diseased trees, and create canopy gaps which allow the development of tree regeneration, and sustain early successional species which would otherwise decline in numbers. |
| **FH II** – Protect the Unit and surrounding lands from introduced diseases and invasive plant and animal species | Forests are monitored for invasive plant species such as pale swallow wort and Japanese knotweed, and selected areas are treated by limited herbicide application. |
| **Managing Deer Impacts** | |
| **DM I** – Monitor impacts of deer browsing on forest health and regeneration | Deer browse is monitored by tree regeneration surveys conducted during forest inventory mapping, and pre-timber harvest regeneration surveys. |
| **DM II** – Address issues of over-browsing | Over-browsing of tree regeneration by deer will be addressed locally by promoting a higher deer harvest in areas with a demonstrated pattern of excessive browse. The Deer Management Assistance Program (DMAP) may be used to issue more deer harvesting permits in areas with high deer populations. |
| **Fire Management** | |
| **FM I** – Support Forest Rangers in controlling the ignition and spread of wildfires | Timber sales require the lopping of tree branches and slash to minimize the threat of wildfire. Timber harvesting may be suspended during periods of extreme drought. |
| **FM II** – Maintain naturally occurring fire-dependent communities | There are no known fire dependent communities in the planning unit. There are some oak communities within the Unit that could benefit from prescribed burning |
| **Carbon Sequestration** | |

*Table III.E. –Forest Management and Health Objectives and Actions*

| Objective | Actions |
|---|---|
| **CS I** – Keep forests as forests, where appropriate | Forests in this Unit will be maintained in tree cover for the long term. Periodic timber management will promote a diversity of tree species, sizes and age classes across the larger landscape.<br><br>Carbon will be sequestered in wood, which is harvested for production of saw timber, and in late successional forests. |
| **CS II** – Enhance carbon storage in existing stands | The proportion of later successional forests will gradually increase, creating long term carbon storage in these stands. |
| **CS III** – Keep forests vigorous and improve forest growth rates | Periodic thinning will reduce overstocking and remove diseased and defective trees. An example of this would be an improvement thinning in a white pine plantation, which would focus on removing crooked trees damaged by the white pine weevil and trees weakened by infection |
| **CS IV** – Sequester carbon in forest products | Carbon will be sequestered in wood which is harvested for production of sawtimber and utility poles. |

## Ten-Year List of Management Actions

List all work to be completed. This should include construction projects, forest inventory, boundary line surveys and maintenance, timber stand improvement, wildlife projects, site preparation, reforestation, and timber harvesting schedules. Management actions should be placed into one of the following 4 categories; 1) actions to be completed within the first 5 years of the plan, 2) Actions to be completed within the second 5 years of the plan, 3) Areas that will not be managed within the 10-year period the plan covers and 4) Natural areas which will not receive scheduled management. Annual maintenance should be separated from rehabilitation projects and new initiatives should be set out separately. See Figure 4 for Forest Stand ID # maps.

### Unit-wide Actions

**Action 1**

Develop and subsequently adopt this UMP with future amendments as needed and periodic updates at least every ten years.

**Action 2**

Complete Forest Inventory in the first 5 years following the adoption of the UMP.

**Action 3**

Boundary lines will be inspected/remarked/re-blazed within the first 5 years following the adoption of the UMP.

**Action 4**

Maintain all authorized and designated recreational trails to meet Department standards.

**Action 5**

Maintain infrastructure such as signs, gates, kiosks, and parking areas to meet Department standards.

**Action 6**

Maintain and upgrade existing roads and trails wherever possible in conjunction with timber management.

**Action 7**

Conduct periodic timber management. Implement the Timber Stand Improvement and Harvesting Schedule (See Land Management Action Schedules and Summary Table for additional information).

**Action 8**

Conduct limited commercial maple tapping contracts. Tapping of large roadside maple trees will be allowed when spring road access is available.

**Action 9**

Maintain early successional stands by periodic mowing or brush cutting. Additionally, stands scheduled for management will be considered for creating early successional wildlife habitat for species such as Ruffed grouse, American woodcock, and New England cottontail.

**Action 10**

Continue to gather information on Species of Greatest Conservation need and work with DEC Wildlife Biologists on habitat improvement for New England cottontail and other species that can benefit from forest management activities.

**Action 11**

Monitor invasive species and practice control with limited herbicide application.

**Action 12**

Purchase properties for addition to State Forests in this Unit, especially those that improve access to state managed properties, provide enhanced recreational opportunities, contain habitat for rare, threatened, or endangered species, or that enhance existing Matrix Forest Blocks or Forest Landscape Connectivity Corridors.

**Action 13**

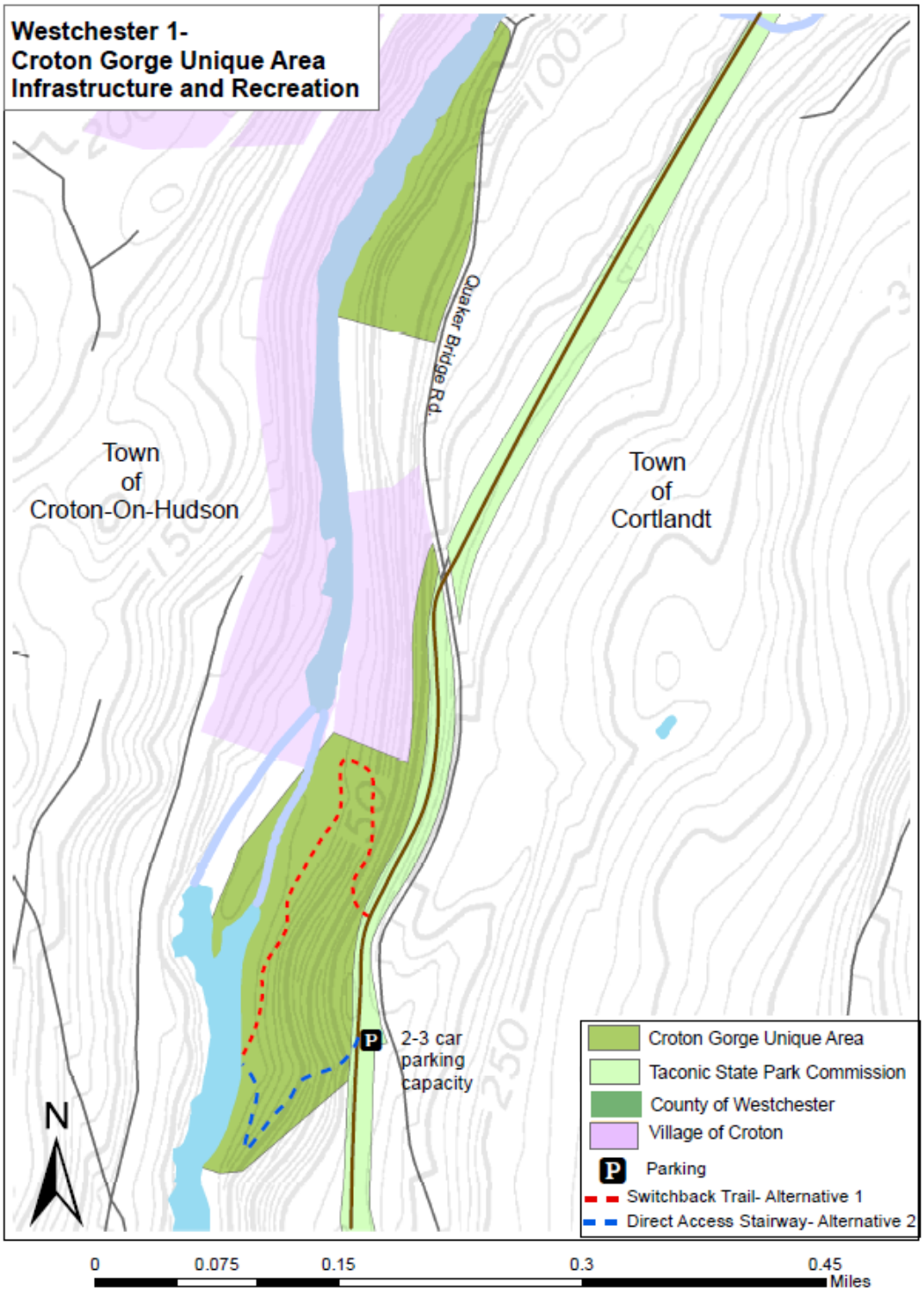
Transfer the Mount Beacon Fire Tower to the Office of Parks, Recreation and Historic Preservation.

**Action 14**

Maintain and update the web pages for each State Forest in this Unit.

## State Forest Specific Management & Recreation Proposals

### Westchester County: Croton Gorge Unique Area



In 1978, DEC acquired 19.2 acres in two separate parcels east of the Croton River in the Town of Cortlandt, from two willing private sellers. The NYS Office of Parks and Recreation and Historic Preservation (OPRHP) owns and manages the Old Croton Aqueduct State Historic Park which is adjacent to the DEC owned Croton Gorge Unique Area. Other municipal landowners up and downstream include NYC DEP, Westchester County, and the Village of Croton-on-Hudson.

The Croton Gorge Unique Area is comprised of two parcels of land; a 13.69-acre and a detached 5.473-acre parcel which are both adjacent to the Croton River and located on Quaker Bridge Rd. in the Town of Cortlandt. Historically, hikers have accessed the Croton River by crossing OPRHP owned land onto NYSDEC owned land and then they have traveled down an old roadbed that is near the State land boundary. There is a 3-car parking area on Quaker Bridge Road that is managed and owned by OPRHP. Since 2016, the 13.69-acre parcel has become an increasingly popular destination for people looking for water access in the County of Westchester during the summer months. Peak use of the property is generally during the warmer months when users flock to the property to cool off in the Croton River. Public safety has been compromised with numerous incidents of drowning or near drowning since 2005. In 2016 the Department promulgated special regulations for the Croton Gorge Unique Area in response to significant increases in visitation and to address public safety concerns. The regulations are as follows:

- Consumption of alcohol shall be prohibited.
- The use of any type of fire shall be prohibited, including the use of charcoal or gas grills
- Camping shall be prohibited.
- The use of portable radio devices is prohibited.
- Public use of the property will be allowed from sunrise to sunset only.

In 2012, a task force comprised of many stakeholders was formed to collectively address the high use issues that began to occur at the site. The Task Force continues to meet on a regular basis and is composed of DEC staff, municipal leaders, neighbors, law enforcement and public safety officials. Task force members work to address issues on the property that include:

- Limited parking capacity- currently the 13.56-acre area is serviced by a 3-car parking lot on OPRHP owned property.
- Lack of a safe, sustainably designed trail to access the river.
- Excessive trash.
- Water contamination caused by improper disposal of human waste.
- Unsustainably aligned user-created trails.
- Extremely steep slopes occur across the entirety of the parcel which make the natural resources in this area highly susceptible to erosion which can impact water quality.

Since 2020, visitors to the property have been greeted by New York New Jersey Trail Conference seasonal stewards from Memorial Day through Labor Day. These stewards provide information to visitors on the special regulations for the area as well as well as information on how to responsibly recreate in the Unique Area.

In 2022, the Department staff assessed the condition of the old roadbed which runs along a steep embankment. Historically, the old roadbed was used by hikers to reach the Croton River. and during a routine inspection, DEC staff observed significant increases in the level of erosion along the old roadbed. Subsequently, DEC Real Property staff conducted a property line inspection as it appeared that the centerline of the roadbed had significantly eroded due to a combination of weather-related events and high use. A boundary line survey revealed that the

old roadbed had eroded onto adjacent private land which meant that hikers that were using the old roadbed to access the river were inadvertently trespassing onto adjacent private land.

In June of 2022, Department staff assessed the 13.69-acre property to locate alternative access options given that the old roadbed could no longer be used by the public without trespass onto private land. A determination was made that there was no feasible short-term trail location that could be developed to provide safe and reasonable access from the parking area on Quaker Bridge Road to the Croton River for the 2022 summer season. The property is currently closed to public use until a safe and sustainable location for a trail on OPRHP and DEC land can be identified.

**Croton Gorge UA Management and Recreational Proposals:**

- Work with OPRHP to address sanitation and garbage issues at the 3-car parking area.
- Pursue a cooperative agreement with OPRHP as any new trail proposal for the Unique Area on the 13.69-acre parcel will have to cross OPRHP land.
- Identify a preferred Alternative Trail Proposal that will provide the public with safe and sustainable access to the Croton River.
- Address and resolve an encroachment on the 5.473-acre parcel of the Unique Area.

**Alternative Analysis for Croton Gorge Trail Proposals**

### Alternative 1- Switchback Trail

Alternative 1 proposes an approximately 0.32-mile trail which would originate on OPRHP land and would be designed as a switch back trail so that appropriate and sustainable layout could be achieved. The trail would descend at 10%-15% grades with one long switch back to the south. Approximately 25 steps would be installed along the route. This trail would be 1,700 linear feet. The switch back trail will be longer in length than the Alternative 2 option but the slopes along this proposed route would be gentler and not as steep as Alternative 2.

Benefits of Switchback Trail Proposal

One benefit of the switchback trail proposal is that it would be in the center of the property away from the boundary line. The proposed location would significantly reduce and likely eliminate the private land trespass issues that have occurred on private land adjacent to the 13.690-acre parcel. The proposed layout of Alternative 1 would also provide the public with a sustainably designed hiking trail that would safely allow them to travel from Quaker Bridge Rd to the Croton River. In addition, the switchback trail proposal will cost less money and take less time to construct than the Alternative 2 Direct Access Stairway option.

Drawback of the Switchback Trail Proposal

The switchback trail proposal will be designed to follow a gradual slope so it will be longer in length than alternative 2.

**Approximate Time and Cost:** 4 weeks at approximately $100,000

### Alternative 2- Direct Access Stairway

The Alternative 2 direct access stairway would be near the old roadbed near the State land boundary and would involve installation of a stone stairway that will provide direct access from OPRHP property, across DEC land and to the Croton River. The trail would follow the existing trail corridor, would be constructed with a 48” minimum trail width, would require over 250 imported stone steps and would be 630’ feet long.

Benefit of the Direct Access Stairway

Alternative 2 would provide the shortest distance from OPRHP property to the Croton River and will be a hardened, durable stone surface that would require minimal maintenance.

Drawbacks of the Direct Access Stairway

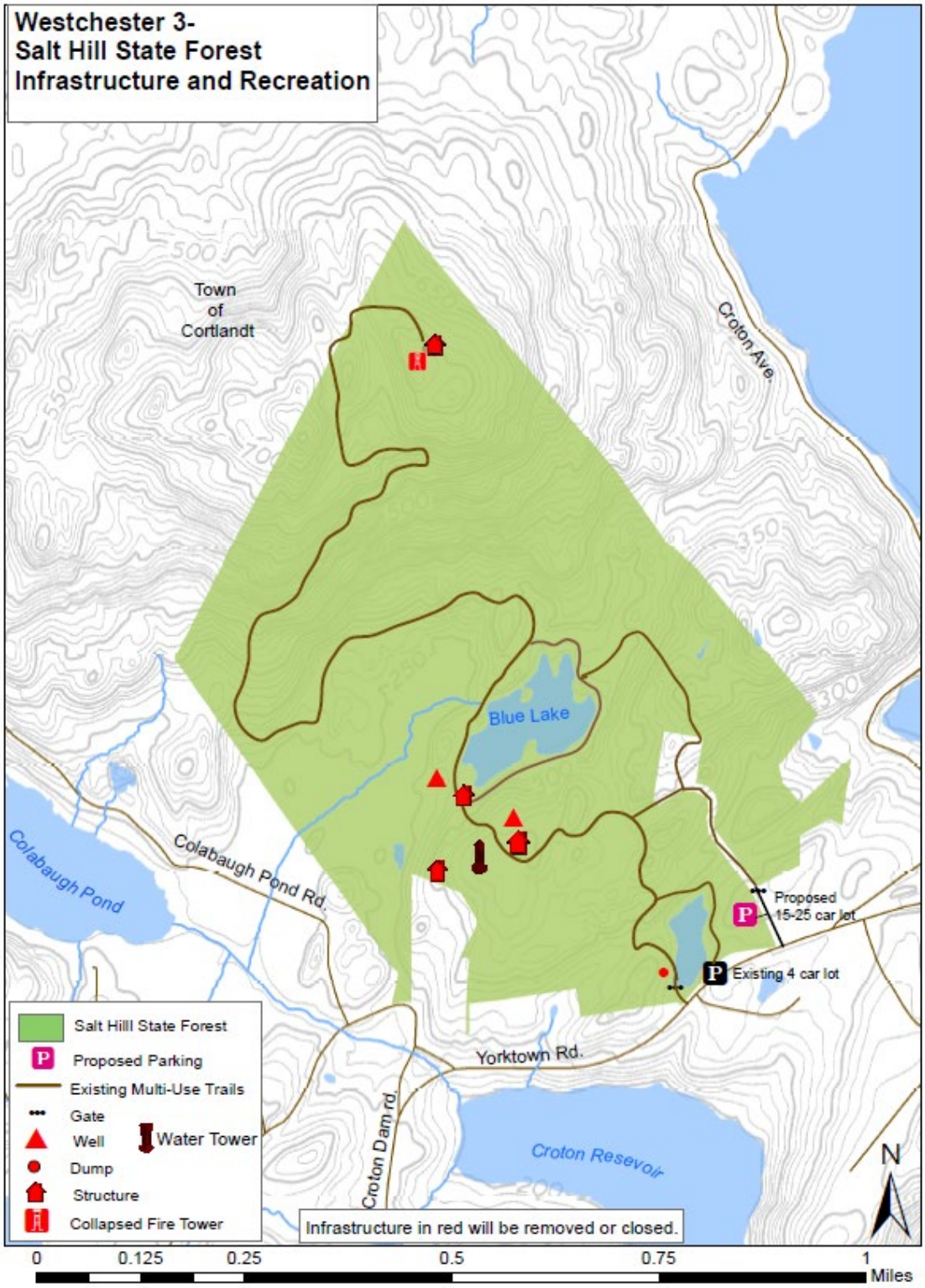
Construction of Alternative 2 is a more costly option. Alternative 2 would involve stone staircase construction which would cost considerably more in time, labor, and materials. The direct access stairway would be a very steep approach to the Croton River and due to its proximity to the State land boundary Alternative 2 may not fully address the private land trespass issues. The direct access stairway will also take more time to construct and will cost more money than Alternative 1.

**Approximate Time and Cost:** 12 weeks for construction at approximately $470,000

### No Action Alternative

At this time, there is no safe and direct access from Quaker Bridge Rd. to the Croton River and as a result, the property is closed until public safety concerns can be addressed through construction of a new trail to safely access the Croton River. The no action alternative should be eliminated from consideration as two feasible conceptual trail options have been identified that could provide safe and sustainable public access to the Croton River.

**Westchester County: Salt Hill State Forest**



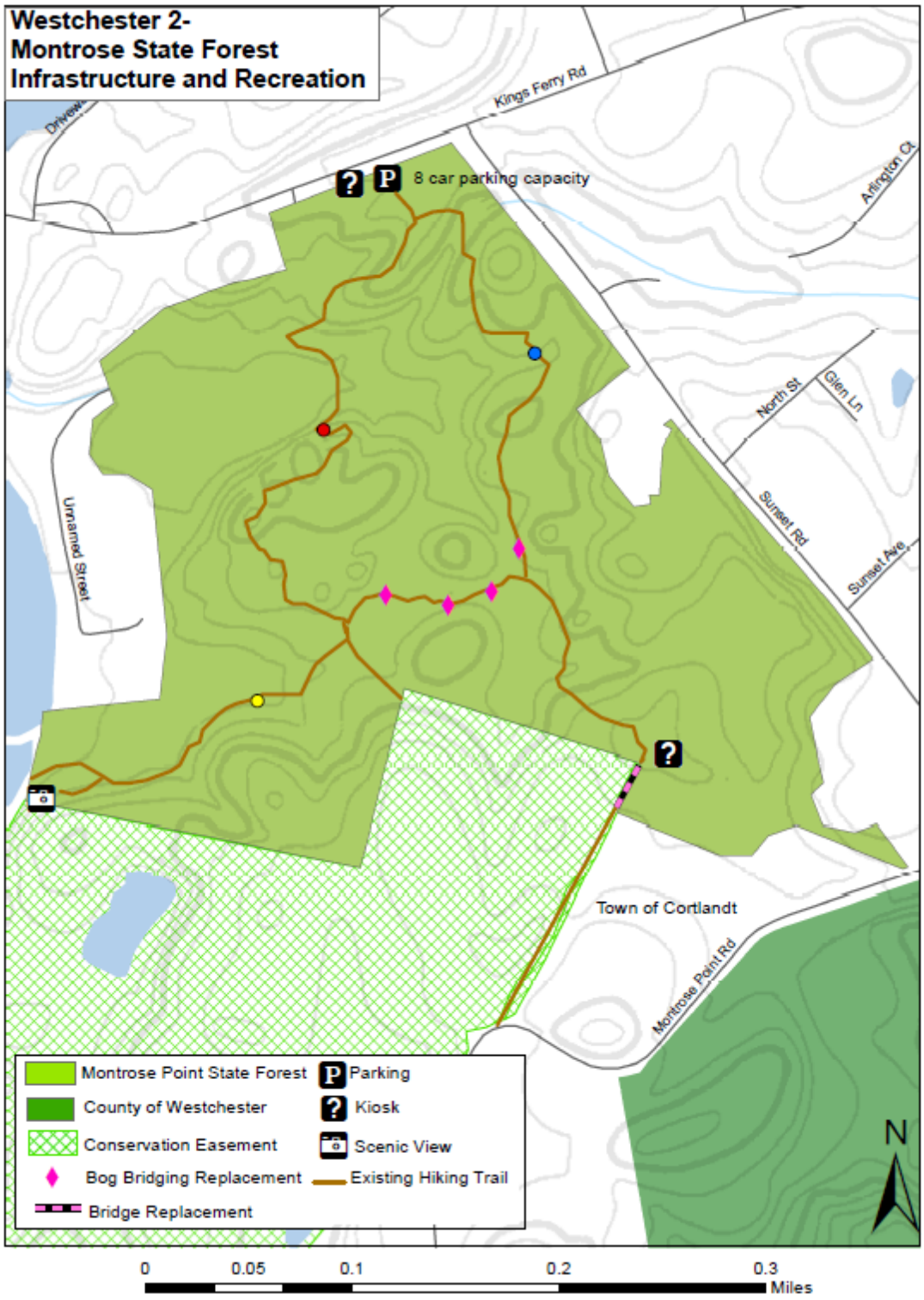
The 269-acre Salt Hill parcel was purchased in 2002 with the goal that the Department would remove dilapidated infrastructure located on the parcel and then transfer the property to the New York City Department of Protection (NYCDEP) due to its proximity to the Croton Reservoir. In the Fall of 2021, due to changing acquisition priorities and demand for certain recreational opportunities, a decision was made between the NYCDEP and NYSDEC that DEC would retain ownership of this parcel. DEC ownership will allow for expanded recreational opportunities that are not permissible on NYCDEP land such as mountain biking. The Salt Hill parcel will offer enhanced public recreational opportunities in Westchester County. Westchester County hunting regulations apply to Salt Hill State Forest which include,1) no rifles afield and 2) vertical bow-only big game hunting (use of firearms or crossbows is prohibited).

There is dilapidated infrastructure on this parcel that needs to be addressed to enhance public safety. The old road network that leads to the summit has several sections that will need to be hardened to facilitate removal of a collapsed fire tower that is located on the summit. The summit also contains the remnants of a collapsed church and removal of the building remains will not be possible until the existing road network is improved. Due to anticipated public recreation pressure on this parcel, special regulations that were developed for the Croton Gorge Unique Area are proposed for the Salt Hill State Forest to protect natural resources and to provide a safe and enjoyable recreational experience for the public. The proposed special regulations for the Salt Hill State Forest will closely mirror the special regulations for Croton Gorge Unique Area and the public will be given an opportunity to comment on the proposed regulations once they have been prepared.

**Salt Hill State Forest Management and Recreational Proposals:**

- Construct a 15-25 interior car parking lot off the access road to the west of Yorktown Rd.
- Close and brush in unauthorized trails that enter the Salt Hill State Forest property from adjacent private land.
- Improve approximately 2.78 miles of existing roads to Department standards and specifications and mark as multiple-use trails open to hiking, mountain biking, and cross-country skiing.
- Cap and close 2 wells.
- Secure and close door to spring house.
- Remove the remains of the structure that is located on the western perimeter of the property.
- Remove the building foundation remains located in proximity to the water tower.
- Assess the structure located near the 6-acre pond for its historic value and securely and permanently close access to its interior.
- Securely and permanently close the door that accesses the interior of the water tower
- Remove debris and materials on the summit of the property which includes the remnants of a collapsed fire tower and remains of an old church
- Remove remains of an old dump off-of Yorktown Road and place a barrier at the entrance at that location to prevent further dumping.
- Install a sign standard and facility id sign at the 5-car parking area on Yorktown Rd.
- Identify willing volunteers and stewards for the property.
- Acquire the 2 acre in-holding to consolidate the property. Acquisition of this parcel is a priority because of a ¼ mile right of way over the larger state parcel to the inholding which if developed, would significantly complicate management of the property.

**Westchester County: Montrose Point State Forest**

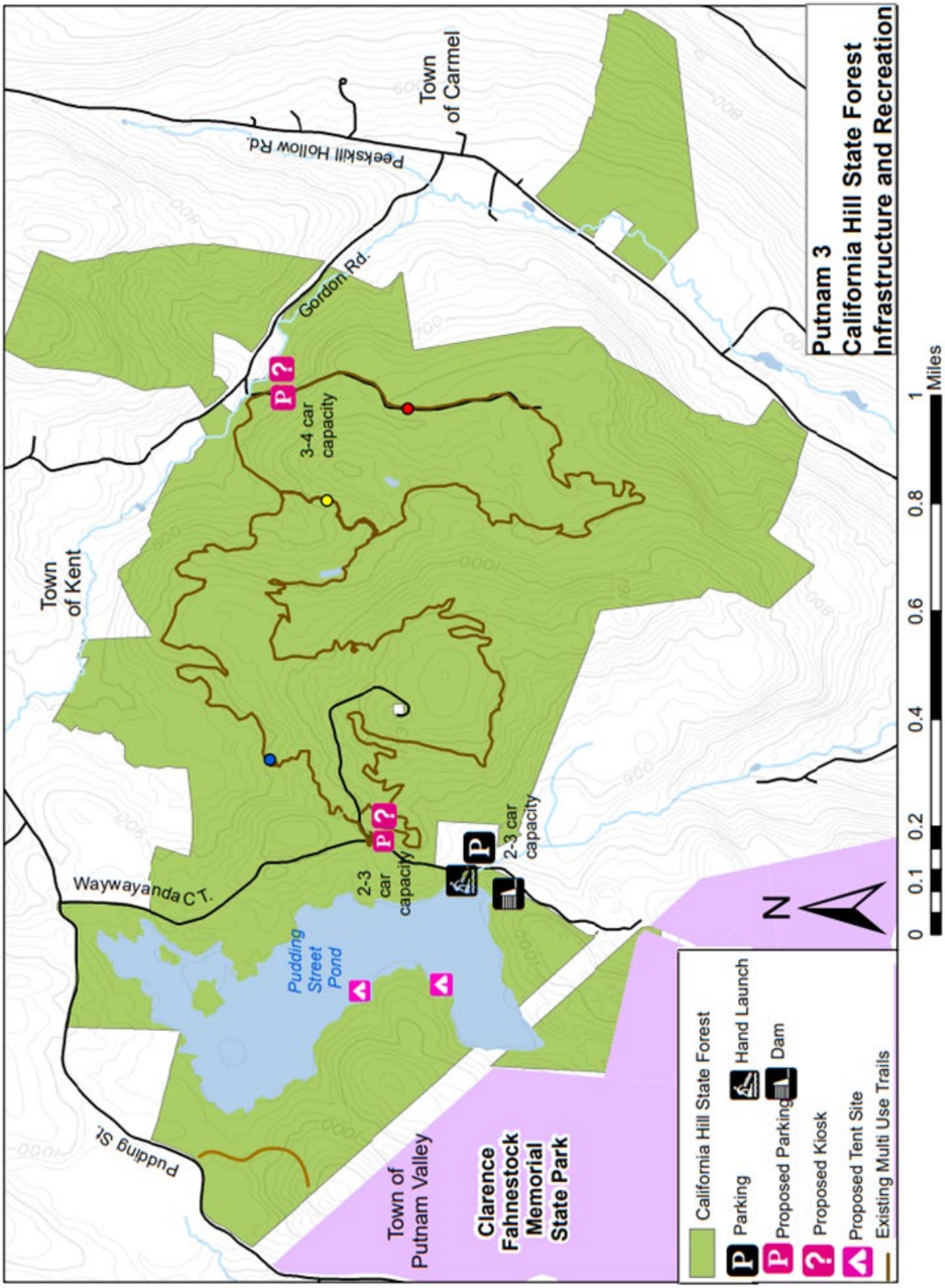


**Montrose Point State Forest Management and Recreational Proposals:**

- Construct and install bog bridging over 3 trail segments that are 10', 15' and 35' on the red trail.
- Construct and install 20' of bog bridging at one location on the blue trail near its intersection with the red trail.
- Remove the remnants of a collapsed cottage on the red trail over-looking the pond on the north of the property.
- Replace the 105' long, 6' wide foot bridge on the 13' right-of-way easement for the trail through the Catholic Kopling Society. In the inter-rim, the existing foot bridge structure will be closed to public use.
- Delineate the trail across private land with signage along either side of the right-of-way easement over the Catholic Kopling Society.
- Install a new facility id sign at the Montrose Parking lot on Kings Ferry Rd.
- Monitor the conservation easement over the Catholic Kopling Society on a routine basis.
- Identify potential partnerships to assist in maintenance of the trail system.

STATE FOREST SPECIFIC MANAGEMENT & RECREATION PROPOSALS

**Putnam County: California Hill State Forest**



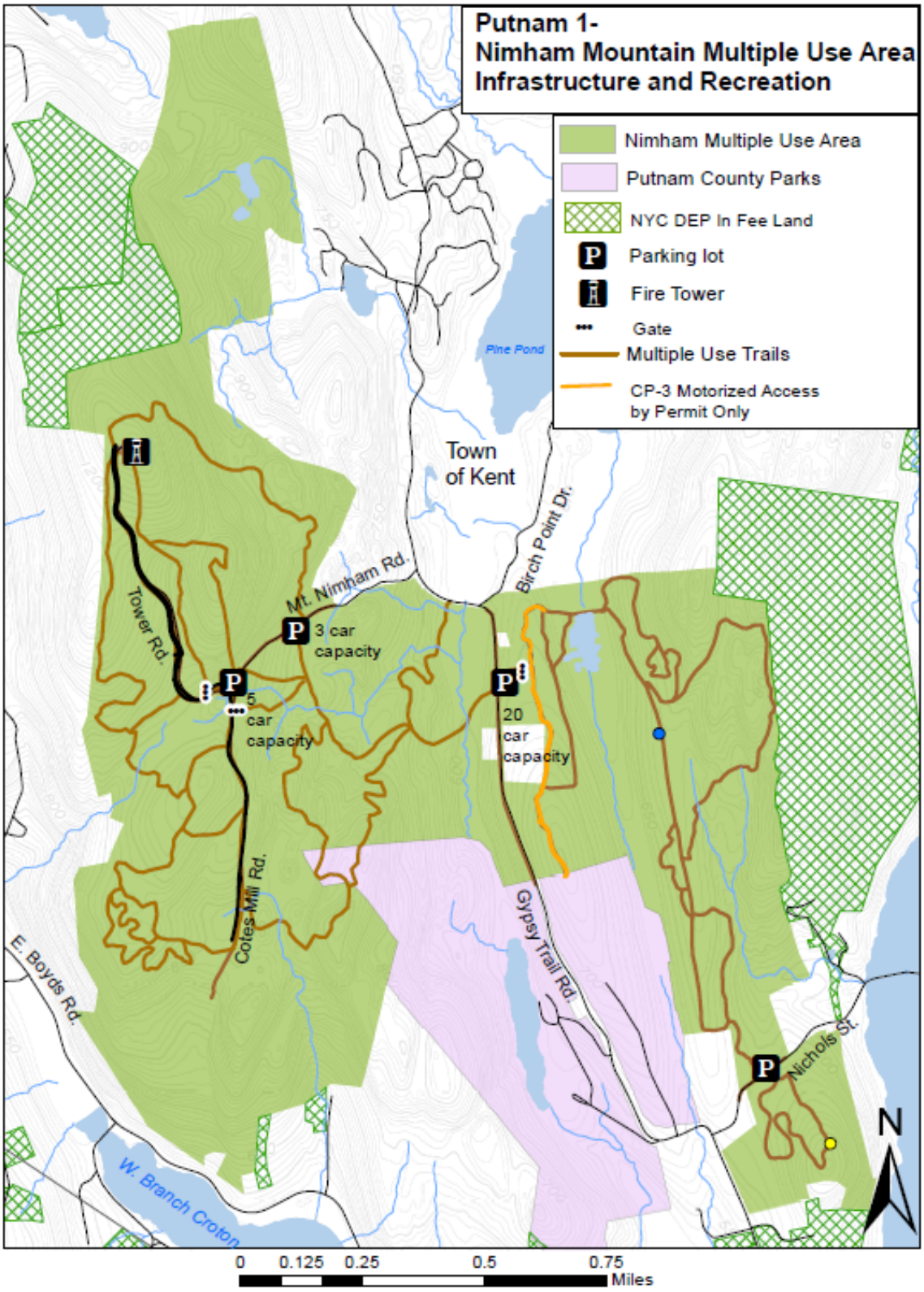
In 2017, an approximately 10 miles of an unauthorized mountain bike network were detected on the California Hill State Forest. The property was subsequently posted as closed to mountain biking until the unauthorized network could be brought into compliance with Department trail specifications and standards. The sinuous and tightly looped system that was detected on the property established a trail network that appealed almost exclusively to mountain bikers while decreasing the suitability of the area for other recreational opportunities such as hunting.

California Hill State Forest is managed to accommodate multiple uses and no part of portion of the trail network can be designed to accommodate an exclusive use by a single user group. The Department assessed the unauthorized network and identified which trails could be brushed in to reduce the density of the trail network to disperse use across the property and make it more attractive to hikers and hunters. The unauthorized mountain biking network was evaluated, and suitable sections incorporated into a proposed nested large loop system that is approximately 7 miles long and will accommodate multiple user groups. Over the course of 2020 and 2021, remediation and marking of the trail network has been made possible through Volunteer Stewardship Agreement with the New York New Jersey Trail Conference.

**California Hill State Forest Management and Recreation Proposals**

- Install 3 kiosks on the parcel. Kiosks will be located at: the boat launch on: Waywayanda Lake; Pudding Rd. parking area; the Gordon Rd. trailhead
- Improve existing parking lot on Gordon Rd. to safely accommodate 3-4 cars.
- Establish a 2-3 car parking lot on Waywayanda Ct.
- Establish two campsites on the western side of the Pudding Street Pond. These campsites will be accessible by water from the Waywayanda boat launch.
- Monitor and maintain the Marcell Roth Dam to Class B dam standards and specifications.
- Mark and maintain the proposed approximately 7-mile trail network to Department standards and specifications for multi-use trails.
- Monitor the property for unauthorized trail construction on a routine basis.
- Continue to monitor and maintain the Class C, Marcel Roth Dam and its associated structures. Routine maintenance to include vegetation management to keep the berm brush free.
- Enforce the regulations that prohibit target shooting on the property.
- Work with wildlife staff to improve New England cottontail (NEC) habitat at southern end of property past the power line. The power line connects California Hill State Forest to Clarence Fahnestock State Park. This habitat connection could be very important for NEC. The power line currently has excellent habitat potential.
- Explore potential connection opportunities between Clarence Fahnestock State Park to expand the existing recreational opportunities for the public.

**Putnam County: Nimham Mountain Multiple Use Area**



There are no new recreational infrastructure proposals contained in this plan for the Nimham Mountain Multiple Use Area as Arsenic contamination is known to be present throughout the property. Mitigation measures were undertaken in 2019 to remediate 4 open pits and to cover exposed soils on trails in proximity to those pits. Signage has been provided at access points advising the public of the risks to public health associated with Arsenic contamination and based on that information, the public can choose to recreate at the property at their discretion.

Any new recreational proposals would require site specific investigations and analysis of these alternatives and likely undertake extensive mitigation before the Department could consider inviting any new recreational uses on the property.

Please visit the following weblink to access information on reducing exposures to arsenic in soils and to learn the current status of cleanup efforts on the adjacent EPA Arsenic Mine Site.
Cleanup of Arsenic Mine Site, Town of Kent, Putnam County, New York | US EPA

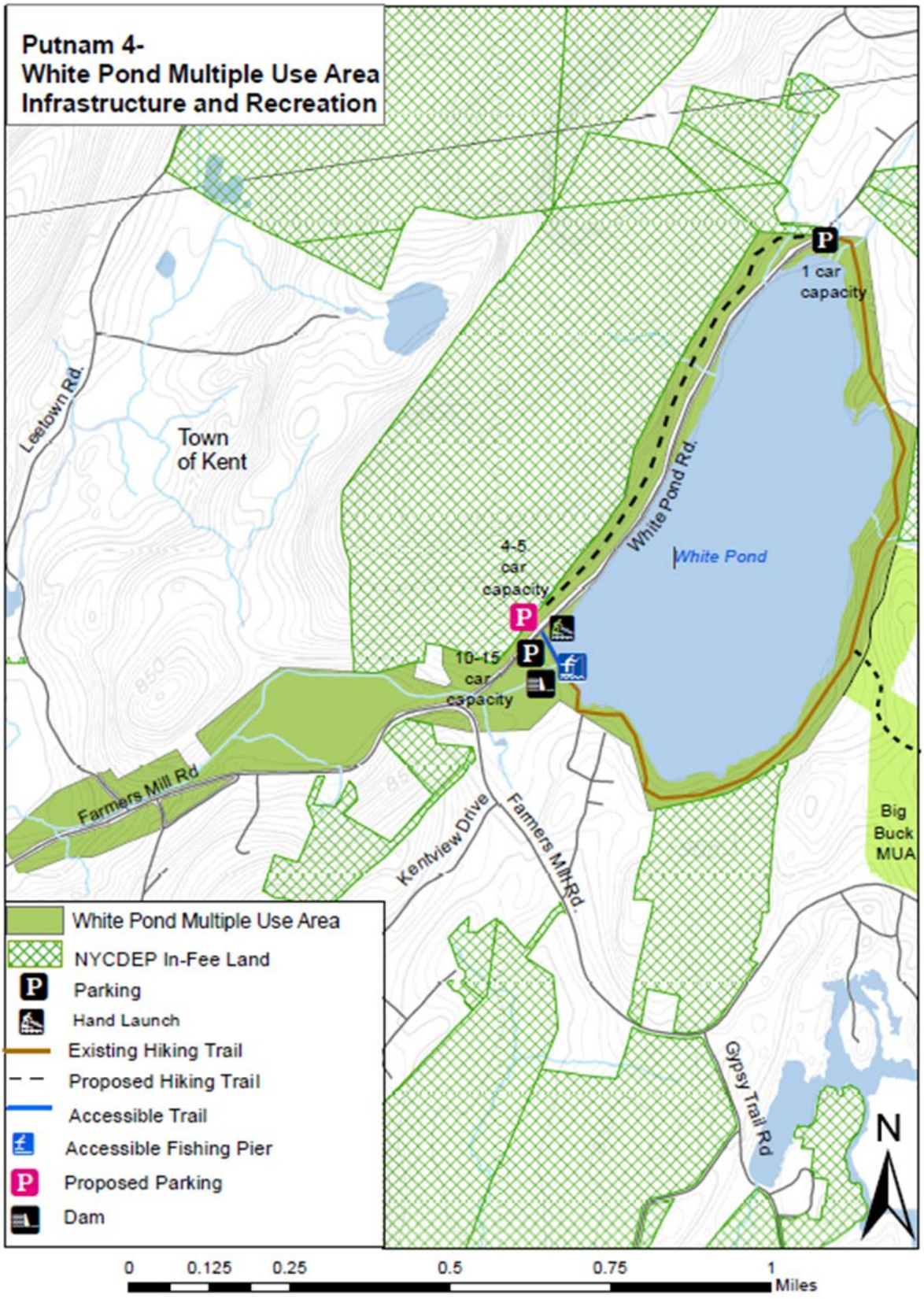
Additional information on mitigation measures, and exposure-limiting tactics is available at:

Nimham Arsenic Mine Site (ny.gov)

**Nimham Mountain Multiple Use Area Management Proposals**

- Update fire tower gate to DEC standards.
- Camping will be prohibited on the property to protect public safety and reduce potential soil disturbance. Users are advised to remain on gravel capped trails between Nimham Mountain court and Gipsy Trail Road due to the potential for contact with arsenic contamination.
- The air monitoring station that is situated on the Nimham property will continue to operate and collect important atmospheric data.
- Strip mow 1/3 of field every year.
- Improve and enhance New England cottontail habitat by working with wildlife staff to implement best management practices for the species.
- Remove/fill and seal gasoline pump and tank.
- Surplus and remove the former Rangers house. The former Rangers house has deteriorated to the point where rehabilitation is now cost-prohibitive, and it now poses a risk to public safety.
- Continue to routinely assess and monitor the naturally occurring Arsenic on the property for unacceptable risks to public health and safety. Continued sampling will inform management actions to address any immediate human health exposure risks and appropriate responses will be implemented. DEC staff will follow the protocols outlined in the Site Management Plan for the property that was developed by the Department of Environmental Remediation and contained in the appendix of this plan.

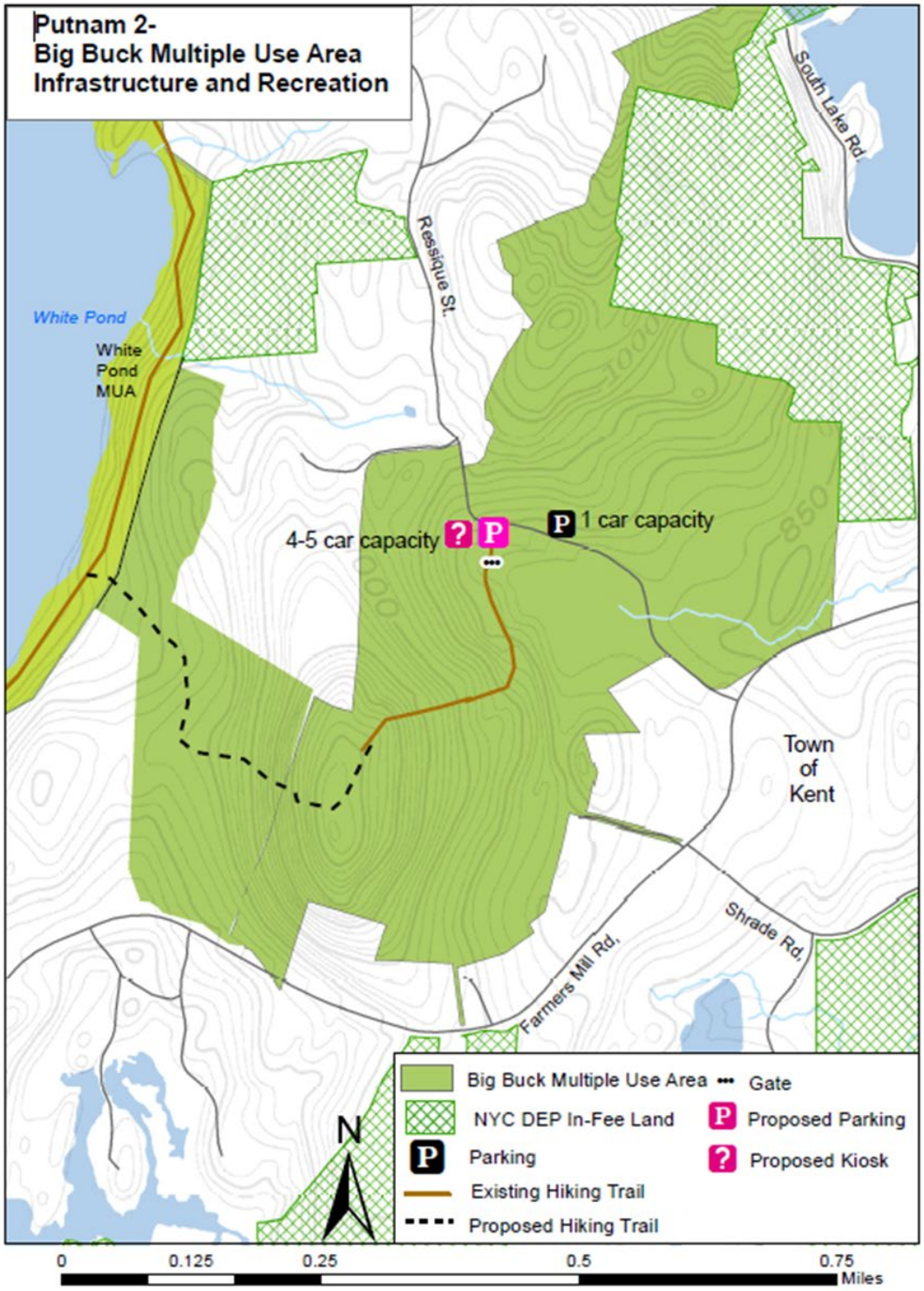
**Putnam County: White Pond Multiple Use Area**



**White Pond Multiple Use Area Recreation and Management Proposals**

- Maintain 2 existing parking areas to Department standards and specifications:
  - 10-15 car parking area and hand launch on the southern portion of White Pond
  - 1 car parking area on the northern portion of White Pond
- Construct a 4-5 car parking area on White Pond Road across the road from the existing 10-15 car parking area.
- Maintain the existing accessible trail to the accessible fishing pier to ADA specifications and standards.
- Improve public safety by constructing a .75-mile trail on the western side of White Pond Rd. to eliminate a road walk and provide the public with a looped hiking trail network around White Pond.
- Identify potential partnerships to monitor and maintain the trail network and develop a Volunteer Stewardship Agreement with interested parties.
- Work with Kent Fire District #1 to install a dry hydrant.
- Maintain the White Pond dam to Class B standards and specifications.

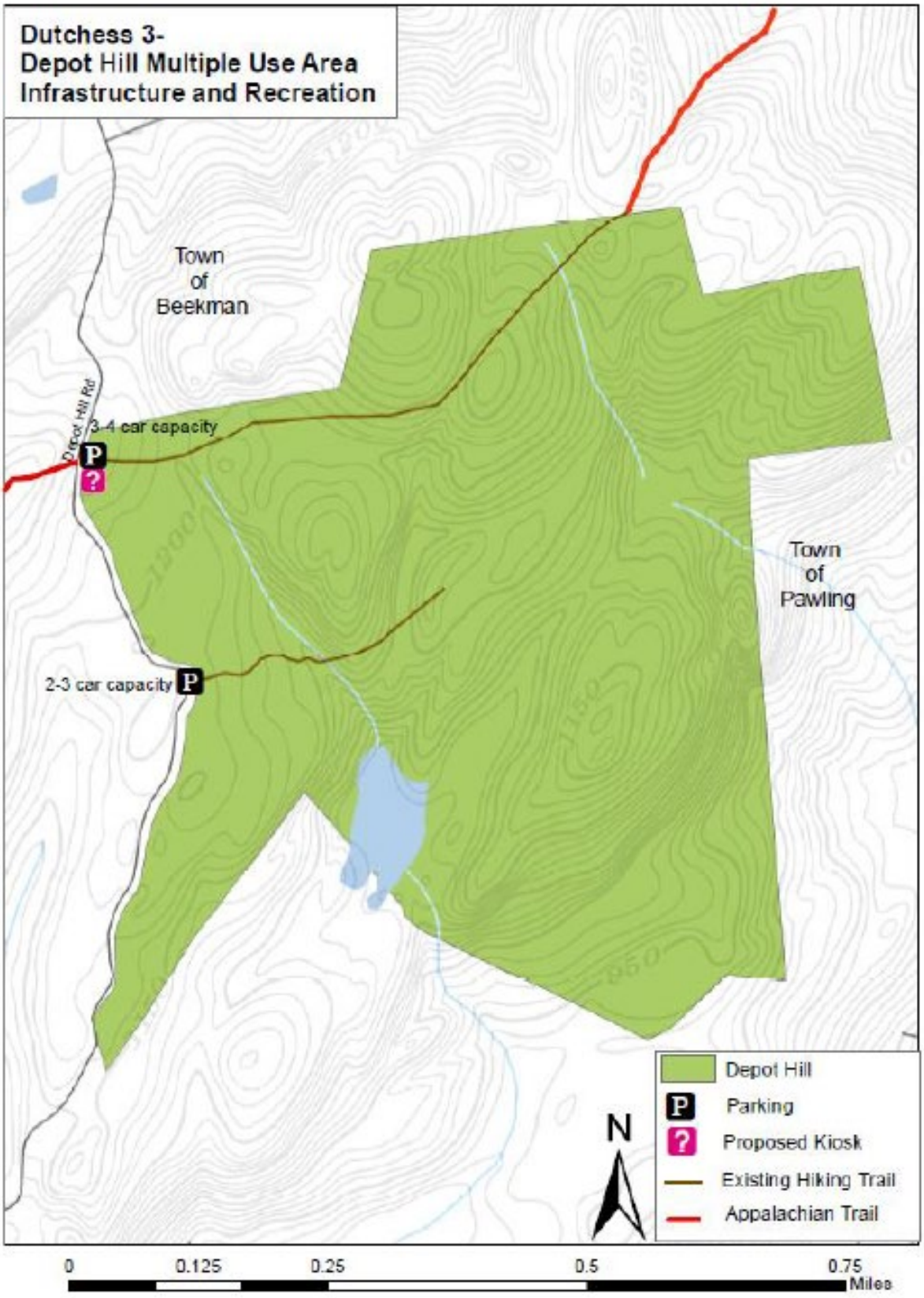
**Putnam County: Big Buck Mountain Multiple Use Area**



**Big Buck Mountain Multiple Use Area Management and Recreation Proposals**

- Improve the existing 2-3 car parking lot with a gate on Ressique Rd to accommodate 3-4 cars. Install an informational kiosk
- Mark and maintain the existing .35-mile trail that leads from the parking area to the summit.
- Construct and maintain a .45-mile trail from the summit of Big Buck Mountain to the White Pond trail.
- Work with the Town of Kent to address the 1.5-acre encroachment onto the Multiple Use Area.

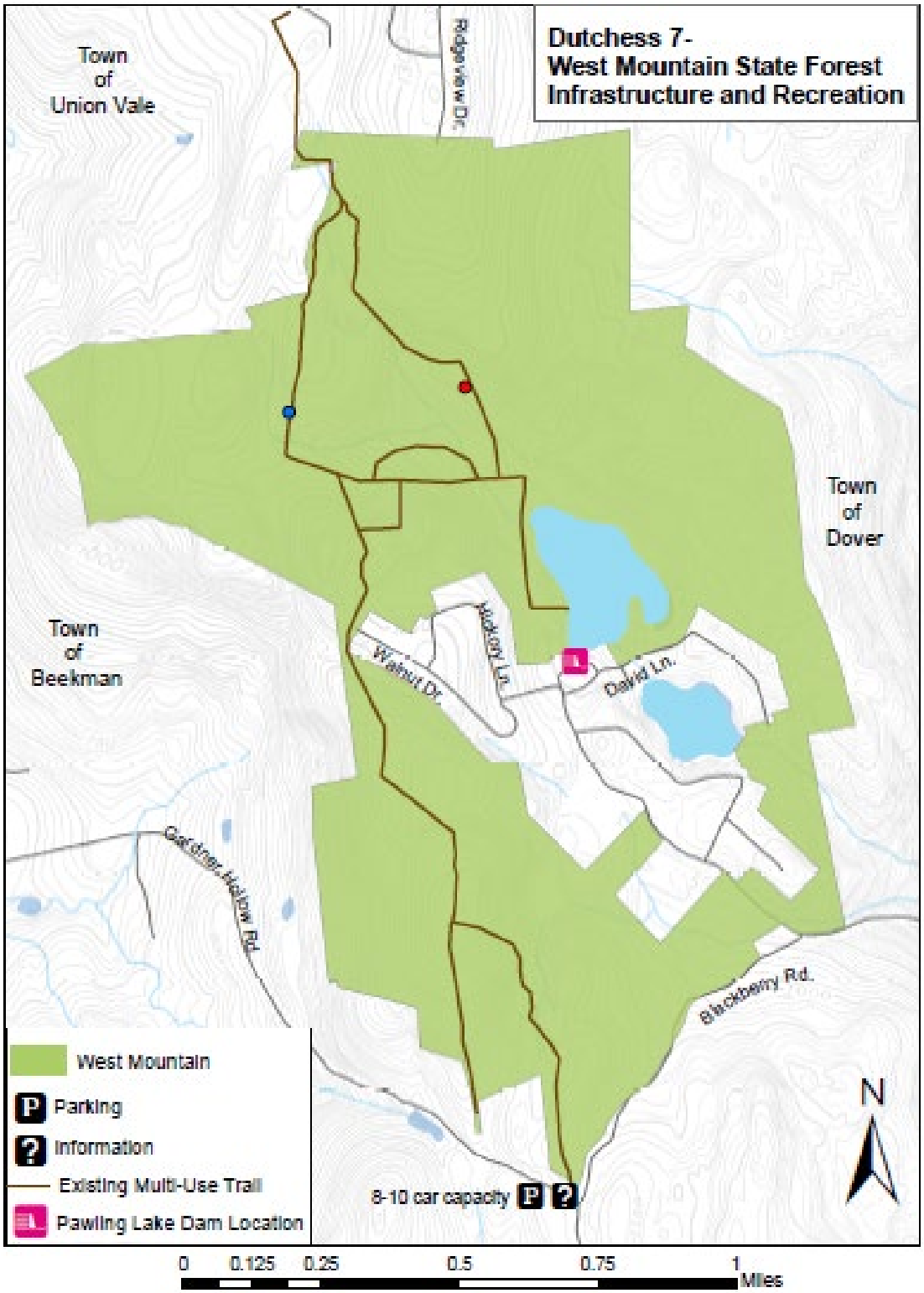
**Dutchess County: Depot Hill Multiple Use Area**



**Depot Hill Multiple Use Area Recreation and Management Proposals**

- Construct and install an informational kiosk for the 3-4 car lot.
- Continue to partner with the New York New Jersey Trail Conference through a Volunteer Stewardship Agreement to maintain the Appalachian Trail.
- Explore opportunities to acquire additional acreage from willing sellers in proximity to Depot Hill Multiple Use Area to expand public recreational opportunities in this area of Dutchess County.

**Dutchess County: West Mountain State Forest**



The Department conducts annual inventories and safety assessments of dams that are located on DEC owned land. In August of 2021, dam safety staff evaluated the Pawling Lakes Estates Dam and made the determination that the Dam and Dike would be reclassified from a low hazard Class A dam (low hazard) to a Class B dam (medium hazard). The condition of the dam was in disrepair and the drop inlet was not functioning. At full pool level, the discharge of the water was over-reliant on the auxiliary spillway. Erosion within the spillway was threatening the integrity of the dam. The Department installed two siphons to reduce the pool level of Pawling Lake to protect public safety. The siphons greatly minimize the burden on the spillway and protect it from further erosion during times of high flow. The costs associated with dam maintenance and repair come at great expense to the Department. An alternative analysis for the management direction for Pawling Lake is provided below. The future management direction for the area will be informed by public comments.

**West Mountain State Forest Recreation and Management Proposals**

- Maintain the 8-10 car parking lot on Gardner Hollow Rd. to Department standards and specifications.
- Monitor and maintain the approximately 4-mile multi-use trail system for unauthorized use.
- Explore opportunities to acquire adjacent lands from willing sellers to improve access to the property.
- Mark the boundary line to reflect the 2022 Boundary Line Agreement for the deed overlap between the Department and Wingdale Materials, LLC in the Town of Dover which resulted in an acreage reduction on West Mountain State Forest by 19 acres.

**Alternative Analysis for the Pawling Lakes Dam**

### Alternative 1- Rehabilitation of Existing Dam

Alternative 1 proposes rehabilitation of the existing dam to conform with current, dam safety requirements to meet standards which would allow for the pool height of Pawling Lake to be restored to a more historic level as determined through the engineering planning and rehabilitation process. Selection of Alternative 1 will be contingent on the State of New York obtaining assistance and agreements with interested parties seeking to maintain the more historic water level of Pawling Lake. Pending interest in such agreements, a conceptual rehabilitation design would be developed by the NYSDEC Division of Operations, Bureau of Design and Construction.

### Cost

The approximate cost of rehabilitating the dam is approximately $1,400,000 which includes costs for construction, engineering, and maintenance. Maintenance costs will include bi-annual mowing, occasional operation of the sluice gate when the pool level needs adjustment, and spot repairs to masonry and concrete as needed.

At this time, there is very limited public benefit associated with Pawling Lake as the only direct public access to Pawling Lake is through access by roads privately owned and posted by the Pawling Lakes Community.

### Benefits and Drawbacks

Benefits of Rehabilitating the Existing Dam include the following:

- With the implementation of this rehabilitation design concept, the dam will retain its current aesthetics and historic character. The rehabilitated dam will not look appreciably different than the current structure.
- The rehabilitation will allow for a full impoundment behind the dam. All recreational opportunities that were previously available to the draining of the pond will be restored.
- Public safety will be improved over the pre-drained condition. The rehabilitated dam will satisfy all modern-day dam safety standards.

Drawbacks of Rehabilitating the Existing Dam include the following:

- While the structure will be essentially new, annual maintenance will be required. This maintenance is necessary to ensure that the dam remains in satisfactory condition.
- As with all engineered infrastructure, this design concept has a design life, which can be estimated at approximately 50 years. Beyond this time frame, the structure will likely require further rehabilitation efforts. As with annual maintenance costs, as the dam owner NYS DEC will be required to plan and budget for future rehabilitation costs.
- The rehabilitation of the dam will increase the length of time that the presence of the dam continues to impact aquatic resources and overall water quality by increasing temperature, reducing dissolved oxygen, cutting off sediment transport and hindering aquatic organism passage.
- Over time, the impoundment will continue to accumulate with sediment and detritus causing the impoundment to become shallower exacerbating temperature and water quality impacts, increasing floating aquatic vegetation and therefore, decreasing the perceived recreational value.

### Alternative 2- Breach the dam and allow upstream area and vegetation to naturally redevelop

This alternative would involve the design and implementation of a breach plan for the Pawling Lakes dam. The exposed pond bottom would be left to naturally re-vegetate. Experience with dam breaches has shown that a robust native seed bank is typically present in the soils, and re-vegetation of a healthy stand of grasses and shrubs within a year of removal is common. The stream channel above the dam would be left to naturally develop.

### Cost

The approximate cost of breaching the dam is $150,000 if regional resources are used to finance the project. This estimate assumes that the design of the breach and its oversight would be performed by the NYSDEC's Division of Operations. Maintenance costs for the dam would be eliminated.

### Benefits and Drawbacks

Benefits of Breaching the Dam include the following:

- Elimination of Future Repair and Maintenance Costs. All future dam reconstruction and long-term maintenance costs would be eliminated.
- Elimination of Downstream Hazards. The risk of dam failure would be eliminated, and with it, the risk of associated flood damages due to a dam failure.

- Wildlife Habitat. The exposed pond area and developing riparian zone may provide increased habitat value for some terrestrial and aquatic organisms. The improvement for some species comes at the expense of others that are better suited to the impounded condition, so this is both a benefit and a drawback depending on the species under consideration.
- Low cost to the NYSDEC. Relative to repair or replacement options, dam breach is the lowest cost alternative.
- Current public recreation value is limited to hiking from exterior access points. The cost of rehabilitation and maintenance to the Department is considerable. Maintaining a public infrastructure asset that is directly accessible to a private community and not to the public is an inefficient use of State resources.
- Removal of this dam would provide downstream water quality by lowering water temperature and increasing dissolved oxygen resulting in improved conditions overall for fish, mussels, aquatic insects, and other aquatic organisms.

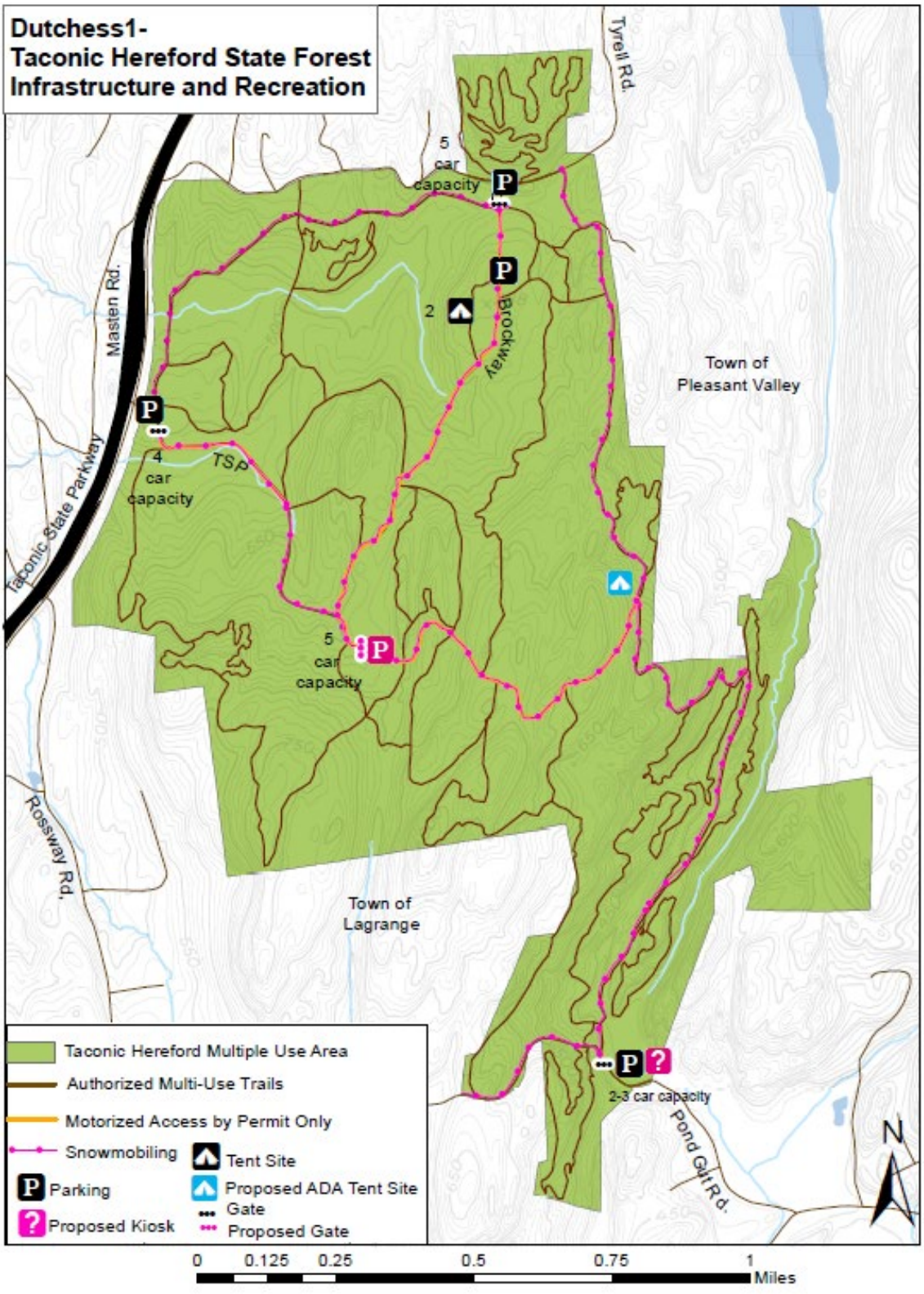
Drawbacks to breaching the Dam include the following:

- Loss of pond aesthetic. The aesthetic value of ponded water would be lost.
- Wildlife Habitat- breaching the existing impoundment will change habitat types resulting in a shift in composition and abundance of aquatic species including fish, turtles, birds, waterfowl, amphibians etc. This will benefit some species over others.
- Recreation Value. Potential recreational activities at this location will change and this will eliminate potential uses favored by some people but will open other opportunities favored by others. For example, fishing opportunities may be reduced while big game hunting opportunities are expanded.
- Elimination of this dam would alter sediment transport resulting in an increase of input to the downstream impoundment

**Alternative 3. No-Action Alternative** Under the existing conditions, the Pawling Lakes Dam is not suitable to safely impound a full pool under the class B hazard rating. This determination was made by NYSDEC Dam Safety Unit based upon recommendations from Schnabel Engineering of New York. Subsequently, the water levels in the pond were lowered using siphons. If no action is taken by the State, the dam will continue to deteriorate without the use of a system that keeps the pool level at a height that does not pose a risk to public safety. Since this alternative has potential implications for public safety, the no-action alternative is eliminated from further consideration.

STATE FOREST SPECIFIC MANAGEMENT & RECREATION PROPOSALS

**Dutchess County: Taconic Hereford State Forest**



Taconic Hereford State Forest has two roads that serve as CP-3 access for CP-3 permit holders. Permit holders can use permitted vehicles to travel beyond the reach of public roads to areas where others must hike or bike. The 0.88-mile Brockway Road and the 1.24-mile TSP Road are currently both open for use with 4-wheel drive vehicles by CP-3 permit holders.

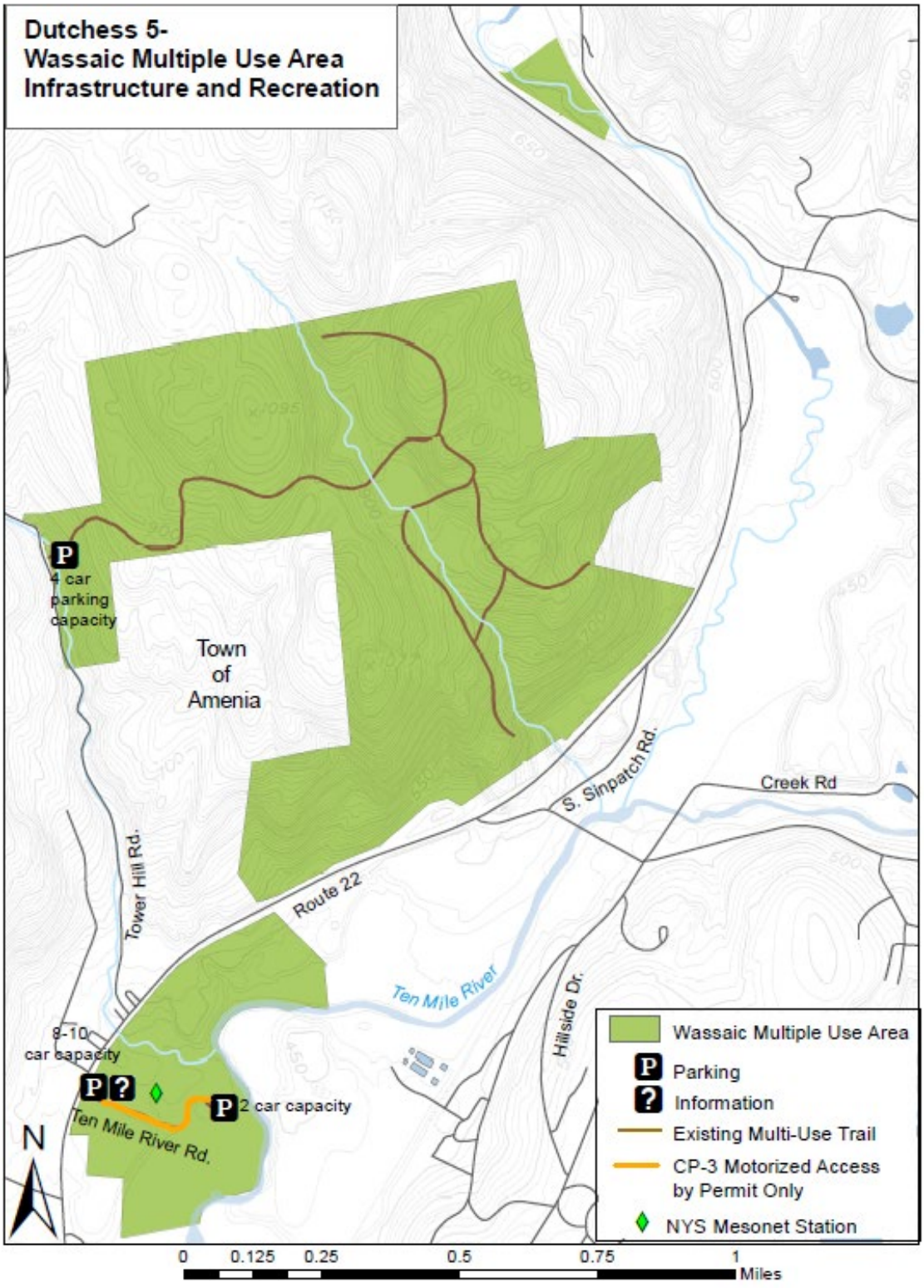
Historically, the external gates located by the parking areas on Tyrell Road and the gates near the Taconic State Parkway have remained open year-round and this has led to unrestricted access to interior portions of the property which has resulted in excessive trash and damage to the road system. The high use issues on this property generally occur during the spring and summer months. The Department is proposing seasonal closure of these gates to address the issues related to unrestricted motorized access. Interior portions of the property will remain open and accessible to recreationists by foot and by bicycle during proposed gate closure periods.CP-3 permit holders access will not be impacted by the proposed gate closure periods.

The multi-use trail network that appears on the Recreation and Infrastructure map for the Taconic Hereford property represents the trail network that has been authorized by DEC through a volunteer stewardship agreement between the Department and the Fats in the Cats Mountain biking club. Any trails that are not included on the map have been constructed without prior authorization from the Department. As part of the unit management planning process, the Department is required to engage in a public planning process which includes a public comment period prior to the construction of new trails and other facilities. The goal is to achieve balanced recreational opportunities for all user groups that minimize impacts to natural resources. The Department will work with willing partners to bring the trail network into compliance with Department standards and specifications for multi-use trail networks.

**Taconic Hereford State Forest Recreation and Management Proposals**

- Maintain 3 existing parking lots to Department standards and specifications:
    - 2-3 car capacity lot on Pond Gut Rd.
    - 5 car parking on TSP Rd.
    - 5-6 car capacity lot on Taconic State Parkway
    - 5-6 car capacity lot on Tyrell Rd
- Gates will have combination locks and remain accessible to permit holders with qualifying disabilities and mobility impairments. Gates would be opened for full public access during the hunting season beginning September 1st and remain open through the conclusion of deer season. The gates would be re-opened for the Youth and Regular Spring Turkey season.
- Collaborate with local interest, volunteer, and community groups to assist with the maintenance of the multi-use trails that are covered under the existing Volunteer Stewardship Agreement with Fats in the Cats. The Department will work with interested volunteers to address portions of the existing trail network on the Taconic Hereford property that were developed without authorization from the Department.

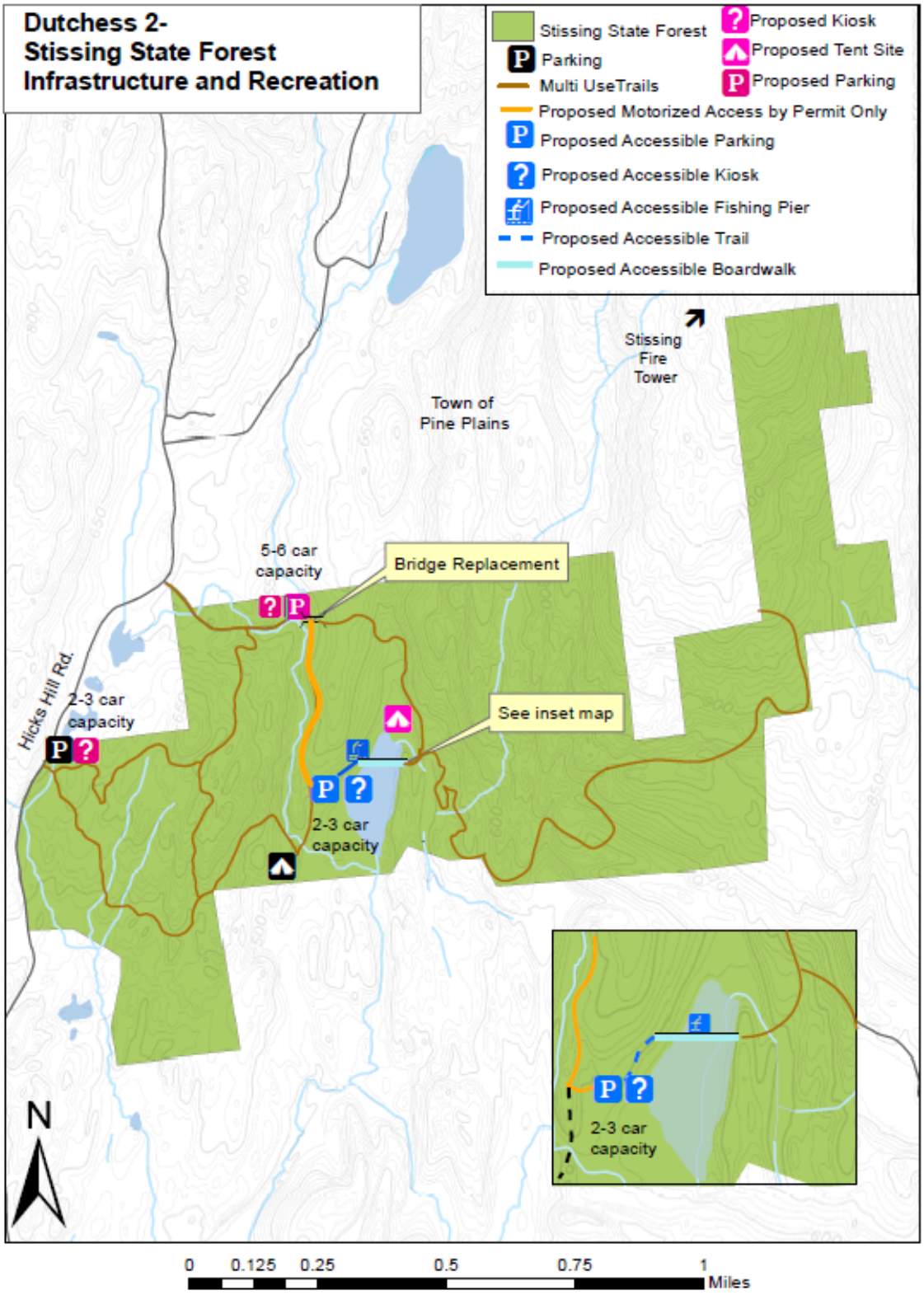
**Dutchess County: Wassaic Multiple Use Area**



**Wassaic Multiple Use Area Management and Recreation Proposals**

- Maintain 2 existing parking areas to Department standards and specifications:
  - 4 car parking area on Tower Hill Rd.
  - 8-10 car parking area on Route 22
- Monitor conditions of the interior 2 car informal parking lot at the end of Ten Mile River Rd. and make repairs as needed.
- Maintain the Motorized CP-3 access Route on Ten Mile River Rd. to provide fishing and hunting access to people with qualifying disabilities.
- Finalize the con-current use and occupancy agreement for the 1-acre parcel that the Mesonet Weather Monitoring station is located on.
- Maintain 55 acres of field along Route 22 and identify potential partnerships to maintain the open fields.
- Continue the pheasant release program and fish stocking program.

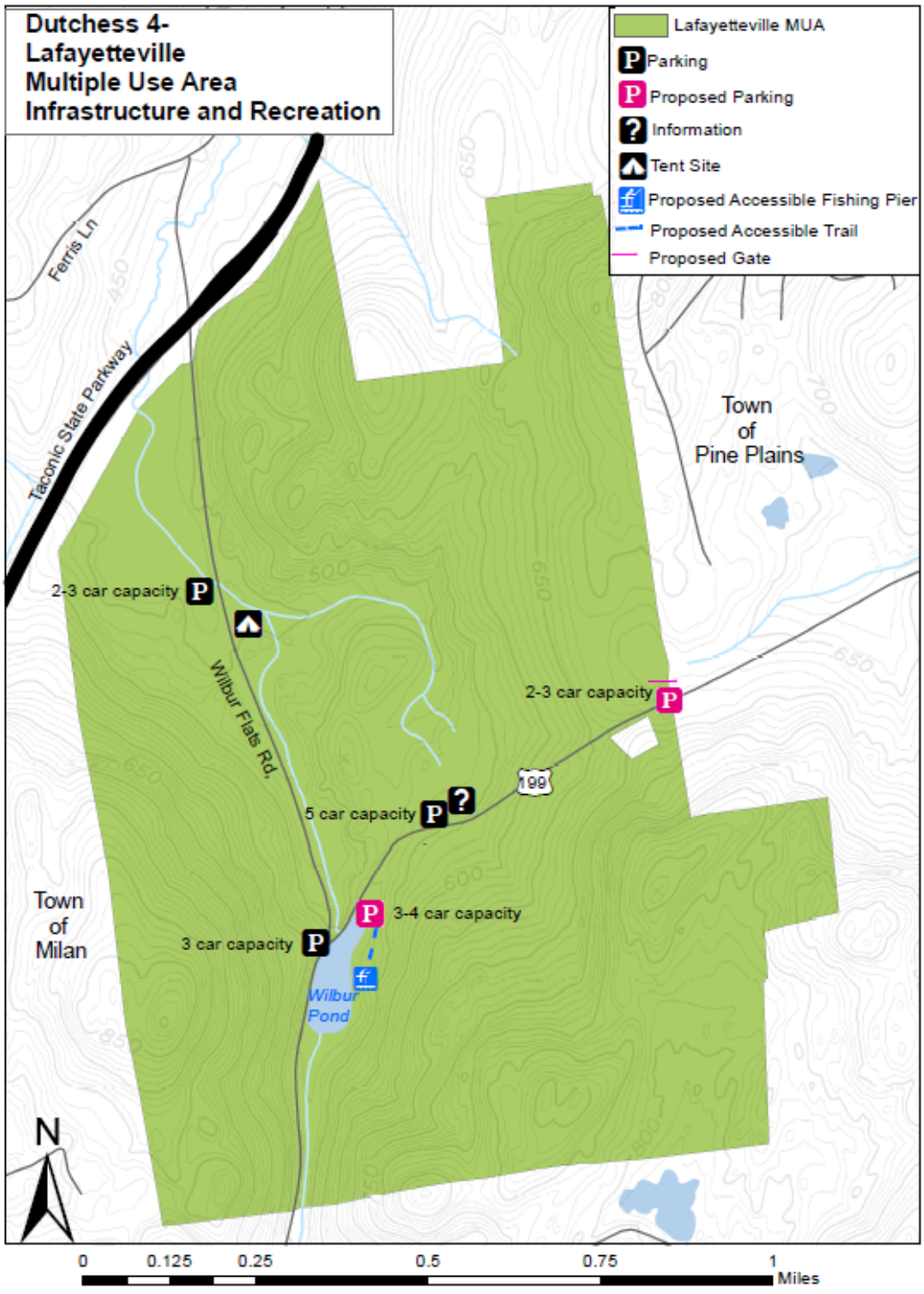
**Dutchess County: Stissing Mountain Multiple Use Area**



**Stissing Mountain Multiple Use Area Recreation and Management Proposals**

- Maintain the 2-3 car parking are on Hicks Hill Rd. to Department standards and specifications. Install an informational kiosk.
- Improve and expand the existing interior parking lot to accommodate 5-6 cars. Install an informational kiosk.
- Replace the existing bridge adjacent to the 5-6 interior parking lot to safely accommodate motor vehicle use for CP-3 permit holders.
- Mark a primitive tent site on the northern edge of the Beaver Pond.
- Maintain the existing designated campsite on the southern edge of Beaver Pond.
- Improve the existing roadbed on the eastern side of the motor vehicle bridge for approximately 0.43-miles to develop CP-3 access for people with qualifying disabilities.
- Construct an accessible 2-3 car parking area at the terminus of the CP-3 access road.
- Construct an approximately 460’ foot accessible trail from the accessible parking lot to the Beaver Pond.
- Construct an accessible fishing platform to provide accessible fishing opportunities on the Beaver Pond.
- Construct and install an approximately 577’ foot boardwalk that will provide access across the beaver pond to the trail network on the eastern side of the property. This feature will provide shorter distance, nested loop trail opportunities for the public along a scenic route with many water features.
- Maintain and monitor the existing trail system to Department standards and specifications.

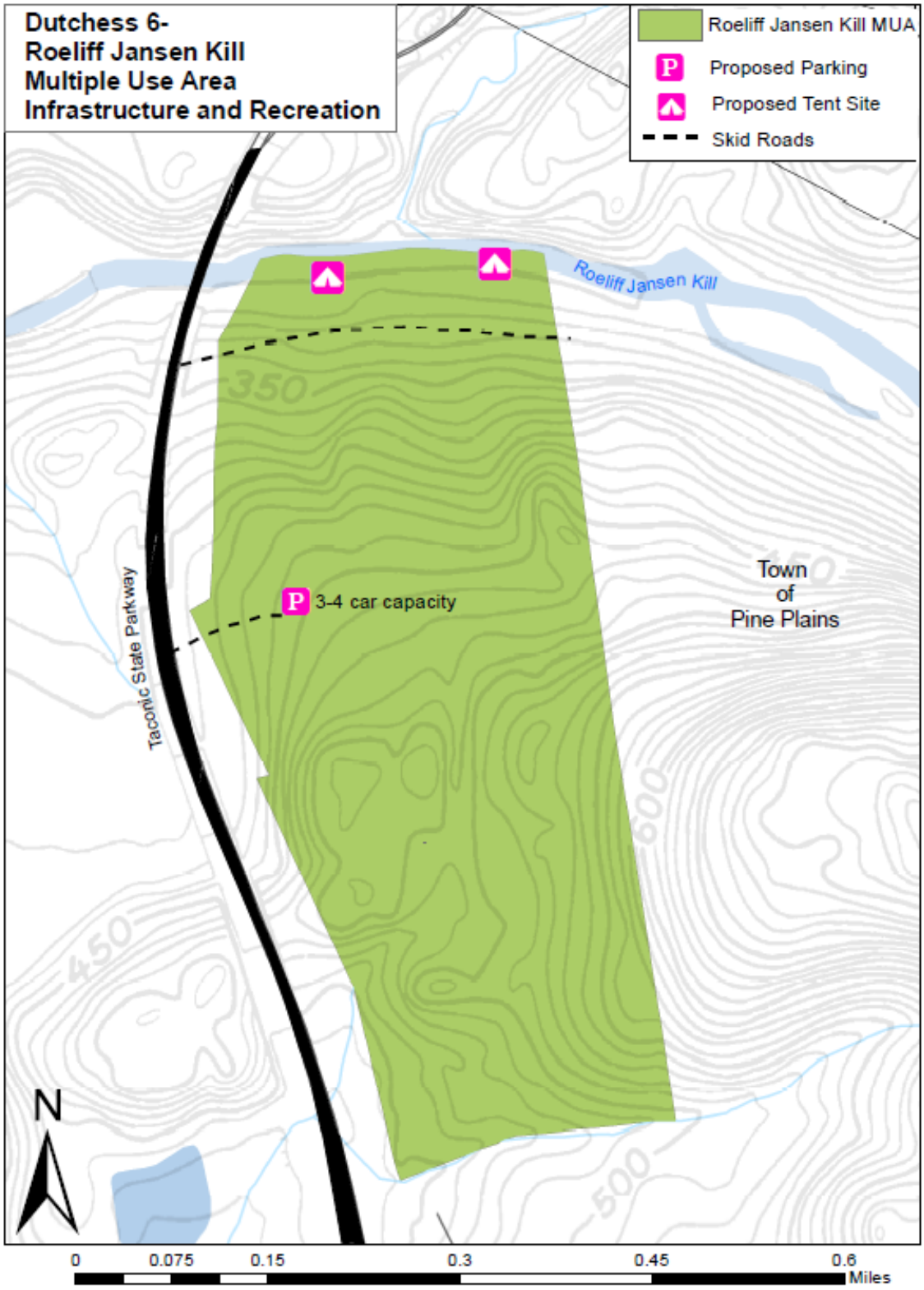
**Dutchess County: Lafayetteville Multiple Use Area**



**Lafayetteville Multiple Use Area Recreation and Management Proposals**

- Maintain the 3 existing parking areas to Department standards and specifications:
  - 2-3 car lot located at the intersection of Wilbur Flats Rd and Rt 199
  - 5 car lot off of Rt 199
  - 2-3 car lot on Wilbur Flats Rd.
- Improve the existing pull-off on Wilbur Pond to a 3-4 car parking lot that will include one accessible parking space for people with mobility impairments. Install an accessible kiosk.
- Construct a 2-3 car parking area off Rt 199 to and install a gate to facilitate ease of access to the property for annual hunting events.
- Construct a 150’ foot accessible trail and install an accessible fishing platform at the terminus of the accessible trail to expand accessible fishing opportunities for the public.
- Fire may be used as a tool to regenerate and maintain fields. Fields will be mowed and maintained according to the mowing schedule. Current rotation is strip mowing 1/3 of total area every year. Continue work with wildlife staff on improving early successional habitat, specifically Compartment 2, Stand 18 and other lightly stocked stands on the southern section of the property, south of Route 199.
- Continue pheasant release program.

**Dutchess County: Roeliff Jansen Kill Multiple Use Area**



**Roeliff Jansen Kill Multiple Use Area Recreation and Management Proposals**

- Work with willing private adjoining landowners to provide more appropriate access to the property.
- Work with wildlife staff to improve habitat for early successional species, specifically the New England cottontail.
- Designate 2 primitive campsites along appropriate sites along the Roeliff Jansen Kill.
- Construct a 3-4 car parking area off the Taconic State Parkway. Project would require a permit from the New York State Department of Transportation to place a driveway on the Taconic State Parkway.

FOREST TYPE CODES

## Forest Type Codes

### Natural Forest Types

10 Northern Hardwood
11 Northern Hardwood-Hemlock
13 Northern Hardwood-Spruce-Fir
12 Northern Hardwood-White Pine
14 Pioneer Hardwood
15 Swamp Hardwood
16 Oak
17 Black Locust
18 Oak-Hickory
19 Oak-Hemlock
20 Hemlock
21 White Pine
22 White Pine-Hemlock
23 Spruce-Fir
24 Spruce-Fir-Hemlock-White Pine
25 Cedar
26 Red Pine
27 Pitch Pine
28 Jack Pine
29 Tamarack
30 Oak-Pine
31 Transition Hardwoods (NH-Oak)
32 Other Natural Stands
33 Northern Hardwood-Norway Spruce
97 Seedling-Sapling- Natural
99 Non-Forest
-99 Null

### Plantation Types

40 Plantation: Red Pine
41 Plantation: White Pine
42 Plantation: Scotch Pine
43 Plantation: Austrian Pine
44 Plantation: Jack Pine
45 Plantation: Norway Spruce
46 Plantation: White Spruce
47 Plantation: Japanese Larch
48 Plantation: European Larch
49 Plantation: White Cedar
50 Plantation: Douglas Fir
51 Plantation: Balsam Fir
52 Plantation: Black Locust
53 Plantation: Pitch Pine
54 Plantation: Misc. Species (Pure)
60 Plantation: Red Pine-White Pine
61 Plantation: Red Pine-Spruce
62 Plantation: Red Pine-Larch
63 Plantation: White Pine-Spruce
64 Plantation: White Pine-Larch
65 Plantation: Scotch Pine-Spruce
66 Plantation: Scotch Pine-Larch
67 Plantation: Larch-Spruce
68 Plantation: Bucket Mixes
70 Plantation: Pine-Natural Species
72 Plantation: Misc. Hardwood
98 Plantation: Seedling-Sapling

## Management Direction

Wildlife (WL)
Experimental (EXP)
Recreation (REC)
Protection (PRO)
Non-Management (NM)
Sugar Bush/Maple Tapping (SB)
Timber Management:
- Even Age (T-EA)
- Un-Even Age (T-UE)
- Non-Silvicultural (T-NS)

## Treatment Type

Harvest (HV)
Release (RL)
Salvage (SL)
Sanitation (SN)
Thinning (TH)
Regeneration (RG)
Habitat Management (HM)
Sale Stand (SS)

## Size Class

Seedling/Sapling <5” DBH (S-S)
Pole Timber 6”-11” DBH (PT)
Small Saw Timber 12”-17” DBH (SST)
Medium Saw Timber 18”-23” DBH (MST)
Large Saw Timber > 24” DBH (LST)

## Land Management Action Schedules

### Land Management Action Schedule for the First Five Years

Stands may or may not receive treatments based upon market prices for timber, merchantability of the sale, availability of staff to administer the sale or other unanticipated events related to weather, insects, disease or wildfire. Management strategy may change due to site or other considerations.

Big Buck Mountain stand table – Putnam 2

| Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/Acre | M.S.D. | Cull % | Mgmt | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 32 | 7.1 | BB (40%) | RO (32%) | CO (8%) | 120 | 155 | 11.9 | 8 | WL | HV 80%+ |
| **2** | 16 | 29 | RO (25%) | RM (18%) | PH (17%) | 95 | 129 | 11.1 | 13 | WL | |
| **3** | 10 | 24.8 | HM (35%) | RM (27%) | PO (15%) | 97 | 141 | 10.8 | 12 | WL | |
| **4** | 99 | 16.8 | RM (59%) | WA (9%) | SHR (9%) | 60 | 79 | 9.1 | 7 | WL | |
| **5** | 16 | 47.4 | RO (22%) | PH (15%) | CO (13%) | 85 | 96 | 12.4 | 17 | T-EA | RG |
| **6** | 32 | 18.4 | BB (30%) | RO (17%) | RM (14%) | 103 | 129 | 11.4 | 14 | T-UE | RG |
| **7** | 32 | 9.3 | RO (23%) | PH (18%) | HM (10%) | 99 | 119 | 12 | 11 | T-EA | RG |

California Hill stand table – Putnam 3

| Comp. /Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/Acre | M.S.D. | Cull % | Mgmt | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **910** | 99 | 86.7 | | | | | | | | | POND PRO/REC |
| **1/1** | 32 | 31 | RM (24%) | HM (19%) | WO (11%) | 83 | 85 | 11.8 | 0 | T-UE | |
| **½** | 32 | 16 | BB (26%0 | PH (15%) | YP (11%) | 66 | 79 | 11.5 | 0 | T-UE | |
| **1/3** | 32 | 10 | CO (38%) | RO (24%) | PH (9%) | 85 | 105 | 11.1 | 0 | T-EA | RG |
| **2/1** | 32 | 12 | RM (24%) | HM (17%) | PH (14%) | 84 | 98 | 10.9 | 0 | T-UE | |
| **2/2** | 16 | 46 | BB (25%) | RO (24%) | CO (11%) | 87 | 103 | 11.5 | 0 | T-UE | |
| **2/3** | 16 | 28 | RO (51%) | BB (10%) | CO (10%) | 114 | 97 | 14.1 | 0 | T-EA | RG |
| **2/4** | 32 | 39 | RO (22%) | RM (21%) | CO (14%) | 115 | 97 | 12.9 | 0 | T-EA | RG |
| **2/5** | 32 | 15 | RM (24%) | BB (21%) | HM (18%) | 76 | 103 | 11.5 | 0 | T-UE | |
| **2/6** | 16 | 38 | RO (29%) | BB (19%) | CO (16%) | 82 | 92 | 11.7 | 0 | T-EA | RG |
| **2/7** | 10 | 42 | YB (20%) | RO (17%) | RM (16%) | 93 | 89 | 13.1 | 0 | T-UE | |
| **2/8** | 16 | 69 | RO (34%) | HM (24%) | CO (10%) | 92 | 90 | 12.4 | 0 | T-EA | RG |
| **2/9** | 18 | 41 | BB (28%) | HM (13%) | PH (13%) | 106 | 99 | 12.6 | 0 | T-UE | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2/10** | 32 | 21 | BB (47%) | RO (17%) | HM (12%) | 113 | 111 | 12.6 | 0 | T-UE | |
| **2/11** | 32 | 16 | YP (23%) | RM (19%) | BB (16%) | 95 | 106 | 12 | 0 | T-UE | |
| **2/12** | 32 | 26 | HM(25 %) | RO (22%) | BB (16%) | 80 | 86 | 12.6 | 0 | T-UE | |
| **2/13** | 32 | 11 | RM (19%) | HM (14%) | YB (12%) | 95 | 96 | 12.2 | 0 | T-UE | |
| **2/14** | 32 | 17 | HM (38%) | RM (21%) | WA (13%) | 106 | 85 | 13.9 | 0 | T-UE | |
| **2/15** | 32 | 26 | BB (20%) | RO (18%) | CO (14%) | 96 | 90 | 12 | 0 | T-UE | |
| **2/16** | 32 | 23 | RO (32%) | HM (14%) | BKO (10%) | 107 | 103 | 12.2 | 0 | T-EA | RG |
| **2/17** | 32 | 47 | BB (28%) | RM (18%) | BE (10%) | 103 | 96 | 12.9 | 0 | T-UE | TH |
| **2/18** | 32 | 21 | HM (29%) | BB (29%) | RO (19%) | 104 | 99 | 12.3 | 0 | T-UE | TH |
| **2/19** | 32 | 15 | HM (40%) | RO (10%) | BB (10%) | 112 | 77 | 15 | 0 | T-UE | TH |
| **2/20** | 32 | 13 | RO (35%) | HM (18%) | YP (13%) | 110 | 66 | 16.3 | 0 | T-EA | RG |
| **2/21** | 32 | 7 | HM (55%) | RM (12%) | BB (10%) | 105 | 109 | 12.5 | 0 | T-UE | TH |
| **3/1** | 18 | 34 | HM (26%) | RO (21%) | BB (13%) | 98 | 92 | 12.9 | 0 | T-UE | |
| **3/2** | 31 | 32 | RM (47%) | BB (16%) | RO (11%) | 103 | 116 | 11.8 | 0 | T-UE | |
| **3/3** | 10 | 60 | HM (29%) | BB (20%) | YP (11%) | 109 | 101 | 13.3 | 0 | T-UE | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ¾ | 32 | 16 | HM (30%) | YP (18%) | BB (17%) | 100 | 81 | 14.3 | 0 | T-UE | |
| **3/5** | 32 | 29 | RO (27%) | HM (20%) | RM (12%) | 112 | 107 | 12.6 | 0 | T-EA | RG |
| **3/6** | 32 | 8 | BB (23%) | HM (19%) | BL (13%) | 80 | 83 | 12.4 | 0 | T-UE | |
| **3/7** | 32 | 9 | HM (43%) | WA (22%) | WO (11%) | 123 | 106 | 14 | 0 | T-UE | |
| **4/1** | 32 | 21 | RM (81%) | WA (18%) | | 37 | 97 | 10 | 0 | T-UE | |
| **4/2** | 32 | 33 | HM (28%) | BB (14% | WA (10%) | 116 | 97 | 14.2 | 0 | T-UE | |

Croton Gorge stand table – Westchester 1

| Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/Acre | M.S.D. | Cull % | Mgmt |
|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 11 | 21 | BE (21%) | SUM (19%) | HEM (17%) | 78 | 115 | 11.2 | 30 | Rec |

Depot Hill stand table – Dutchess 3

| Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/Acre | M.S.D. | Cull % | Mgmt | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 16 | 154.8 | RO (40%) | CO (19%) | BB (11%) | 107 | 126 | 11.9 | 10 | T-EA | RG |
| **2** | 32 | 8.4 | RO (34%) | RM (18%) | CO (14%) | 109 | 106 | 13.2 | 15 | T-EA | RG |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3** | 16 | 8.9 | PO (26%) | RO (24%) | CO (17%) | 94 | 93 | 13.1 | 10 | T-EA | RG |
| **4** | 16 | 30.7 | CO (33%) | RO (31%) | BKO (10%) | 88 | 128 | 11 | 12 | T-EA | RG |
| **5** | 32 | 8.4 | RO (57%) | BB (19%) | YB (7%) | 97 | 92 | 13.4 | 10 | T-EA | RG |
| **6** | 99 | 3.5 | | | | | | | | POND | PRO |
| **7** | 16 | 26.9 | RO (35%) | BKO (19%) | BB (10%) | 106 | 100 | 13.4 | 8 | T-EA | |
| **8** | 99 | 5.2 | | | | | | | | POND | PRO |
| **9** | 32 | 8.9 | RO (28%) | BB (25%) | RM (17%) | 106 | 96 | 13.4 | 9 | T-EA | RG |
| **10** | 32 | 6.1 | RO (36%) | YP (17%) | BB (12%) | 97 | 85 | 14.3 | 5 | T-EA | RG |
| **11** | 32 | 5.6 | RO (51%) | BB (17%) | CO (10%) | 118 | 102 | 13.8 | 10 | T-EA | RG |

Lafayetteville – Dutchess 4

| Compartment/Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees /Acre | M.S.D. | Cull % | Mgmt | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/1** | 32 | 11 | HM (50%) | WA (20%) | WO (5%) | 112 | 176 | 10.4 | 0 | T-UE | |
| **½** | 48 | 2 | EL (63%) | RO (11%) | HM (11%) | 88 | 115 | 11.1 | 0 | T-EA | |
| **1/3** | 32 | 6 | HM (47%) | WA (34%) | RM (13%) | 113 | 193 | 10.4 | 0 | T-UE | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ¼ | 32 | 10 | HM (34%) | PH (15%) | RO (14%) | 119 | 148 | 11.7 | 0 | T-UE | |
| **1/5** | 32 | 8 | HM (27%) | RO (22%) | PH (12%) | 103 | 116 | 10.9 | 0 | T-UE | |
| **1/6** | 32 | 6 | PH (19%) | HM (17%) | RO (17%) | 94 | 103 | 11.2 | 0 | T-UE | |
| **1/7** | 20 | 2 | HEM (65%) | CO (23%0 | RO (12%) | 130 | 168 | 11.2 | 0 | T-EA | |
| **1/8** | 32 | 2.4 | HM (79%) | SH (16%) | RM (5%) | 95 | 103 | 12.7 | 15 | T-EA | |
| **1/9** | 32 | 2.2 | HM (89%) | WA (5%) | RO (5%) | 95 | 109 | 12.3 | 25 | T-UE | |
| **1/10** | 48 | 4.7 | EL (72%) | BC (6%) | HM (6%) | 80 | 133 | 10.3 | 23 | T-EA | |
| **1/11** | 40 | 11 | RP (36%) | BC (36%) | OTH (24%) | 6 | 11 | 9.1 | NA | WL | HM |
| **1/12** | 45 | 2 | NS (100%) | | | 120 | 205 | 10.4 | 10 | T-EA | |
| **1/13** | 41 | 2 | WP (85%) | NS (13%) | WA (3&) | 200 | 349 | 10.1 | 45 | T-EA | |
| **1/14** | 16 | 21.5 | RO (49%) | CO (24%) | HM (8%) | 93 | 94 | 12.7 | 22 | T-EA | RG |
| **1/15** | 32 | 7.5 | CO (44%) | PH (27%) | RO (24%) | 118 | 154 | 10.9 | 42 | T-EA | RG |
| **1/16** | 32 | 4.7 | RO (50%) | RC (12%) | BC (12%) | 65 | 58 | 11.2 | 35 | T-EA | RG |
| **1/17** | 32 | 2.1 | HM (60%) | WA (12%) | RM (12%) | 125 | 185 | 10.4 | 40 | T-UE | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/18** | 32 | 6.8 | PH (33%) | RO (16%) | SH (12%) | 107 | 174 | 9.4 | 22 | WL | RG |
| **1/19** | 16 | 24.3 | HM (35%) | RO (31%) | RM (15%) | 123 | 140 | 11.7 | 25 | T-UE | |
| **1/20** | 32 | 7.5 | WA (63%) | RO (11%) | BL (11%) | 38 | 61 | 9.2 | 28 | T-UE | |
| **1/21** | 32 | 51.9 | HM (36%) | WA (20%) | RO (9%) | 66 | 103 | 10.2 | 40 | T-UE | |
| **1/22** | 32 | 4.6 | RM (52%) | WA (15%) | SH (11%) | 90 | 167 | 9.6 | 27 | T-UE | TH |
| **1/23** | 99 | 94 | Fields | | | | | | | WL | Mow |
| **1/24** | 32 | 39.2 | RO (21%) | RM (20%) | BB (19%) | 99 | 155 | 10.2 | 35 | T-EA | RG |
| **1/25** | 16 | 51.8 | CO (32%) | RO (24%) | SO (21%) | 97 | 140 | 10.9 | 20 | T-EA | RG |
| **1/26** | 16 | 23 | CO (41%) | SO (25%) | RO (12%) | 92 | 125 | 11.0 | 18 | T-EA | RG |
| **1/27** | 32 | 6.9 | RO (37%) | HM (25%) | CO (22%) | 118 | 163 | 10.6 | 14 | T-EA | RG |
| **1/28** | 32 | 4.3 | RO (33%) | CO (25%) | HM (19%) | 90 | 99 | 11.8 | 6 | T-EA | RG |
| **1/29** | 97 | 6.9 | | | | | | | | T-EA | |
| **1/30** | 15 | 38.9 | RM (43%) | WA (24%) | HM (13%) | 52 | 109 | 8.6 | 21 | Pro - wetland | |
| **1/31** | 45 | 2.7 | NS (100%) | | | 140 | 215 | 10.9 | 17 | T-EA | RG |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2/1** | 31 | 15 | HM (34%) | WA (16%) | RM (11%) | 89 | 112 | 11.1 | 0 | T-UE | |
| **2/2** | 32 | 6 | RO(33%) | CO (26%) | PH (14%) | 105 | 173 | 10.4 | 0 | T-EA | |
| **2/3** | 30 | 10 | CO (39%) | HEM (24%) | WP (20%) | 136 | 193 | 10.9 | 0 | T-EA | RG |
| **2/4** | 16 | 27 | CO (42%) | RO (35%) | WP (6%) | 111 | 153 | 10.8 | 0 | T-EA | |
| **2/5** | 12 | 21 | BB (20%) | RM (15%) | RO (12%) | 96 | 144 | 10 | 0 | T-UE | RL |
| **2/6** | 12 | 36 | RO (19%) | BKO (16%) | HM (15%) | 89 | 128 | 10.6 | 33 | T-EA | RG |
| **2/7** | 60 | 17.1 | WP (45%) | RP (31%) | WA (9%) | 77 | 113 | 10.9 | 30 | T-EA | RG |
| **2/8** | 45 | 2 | NS (73%) | WP (21%) | HM (6%) | 165 | 191 | 9.7 | 30 | T-EA | |
| **2/9** | 16 | 19.4 | RO (29%) | CO (27%) | PH (22%) | 78 | 107 | 10.1 | 35 | T-EA | RG |
| **2/10** | 21 | 9.2 | WP (44%) | RO (18%) | HEM (14%) | 128 | 157 | 11.8 | 28 | T-EA | |
| **2/11** | 32 | 13.9 | RO (28%) | CO (15%) | PH (12%) | 113 | 98 | 13.6 | 20 | T-EA | RG |
| **2/12** | 32 | 10.6 | RO (35%) | IWD (19%) | HM (15%) | 91 | 100 | 11.2 | 26 | T-EA | RG |
| **2/13** | 20 | 2.6 | HEM (55%) | RO (21%) | CO (8%) | 133 | 214 | 10 | 15 | T-EA | |
| **2/14** | 32 | 11.4 | HM (88%) | BB (3%) | ELM (3%) | 113 | 158 | 10.8 | 30 | Incls pond | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2/15** | 32 | 6.4 | WA (54%) | HM (41%) | ELM (3%) | 127 | 186 | 9.2 | 23 | T-UE | |
| **2/16** | 48 | 8.5 | EL (71%) | WA (32%) | ELM (2%) | 82 | 140 | 9.7 | 35 | T-EA | |
| **2/17** | 45 | 2.6 | NS (82%) | WP (16%) | WA (2%) | 170 | 345 | 9.2 | 20 | T-EA | |
| **2/18** | 32 | 21.1 | WA (100%) | | | 40 | 350 | 4.6 | 0 | WL | RG |

Montrose stand table – Westchester 2

| Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/Acre | M.S.D. | Cull % | Mgmt |
|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 32 | 51 | OTH(1) | BC (11%) | PH (10%) | 100 | 174 | 9.5 | 39 | Rec |

Nimham Mountain stand table – Putnam 1

| Comp/ Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/Acre | M.S.D. | Cull % | Mgmt | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/1** | 31 | 28.2 | HM (34%) | BB (25%) | RO (20%) | 133 | 106 | 14.6 | 5 | T-UE | HV |
| **1/2** | 32 | 16.7 | BB (20%) | RO (17%) | CO (12%) | 108 | 124 | 12.3 | 10 | T-UE | RL |
| **1/3** | 31 | 26.1 | BB (25%) | HM (23%) | RO (21%) | 123 | 95 | 15.3 | 12 | T-UE | HV |
| **1/4** | 31 | 33.4 | RO (26%) | HM (24%) | BB (18%) | 133 | 103 | 15.2 | 6 | T-EA | RG |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/5** | 16 | 34.4 | RO (45%) | RM (12%) | CO (11%) | 123 | 157 | 11.1 | 9 | T-EA | RG |
| **1/6** | 16 | 37.5 | RO (41%) | BB (15%) | HM (14%) | 125 | 117 | 13.7 | 6 | T-EA | RG |
| **1/7** | 16 | 10.8 | RO (40%) | SO (21%) | RM (18%) | 89 | 128 | 10.5 | 5 | T-EA | RG |
| **1/8** | 32 | 5.9 | RO (35%) | HM (19%) | BB (17%) | 138 | 128 | 13.6 | 10 | T-EA | RG |
| **1/9** | 16 | 20 | RO (36%) | BB (18%) | CO (13%) | 129 | 138 | 12.7 | 10 | T-EA | RG |
| **1/10** | 16 | 19.6 | RO (31%) | HM (21%) | BB (14%) | 89 | 117 | 11.1 | 7 | T-EA | RG |
| **1/11** | 16 | 9.6 | CO (30%) | RO (25%) | HM (19%) | 124 | 167 | 11 | 5 | T-EA | RG |
| **1/12** | 99 | 23.4 | RO (31%) | HM (23%) | BB (13%) | 121 | 108 | 13.7 | 5 | T-EA | RG |
| **1/13** | 32 | 12.6 | HM (48%) | WO (13%) | BB (8%) | 84 | 88 | 13 | 8 | T-UE | RL |
| **1/14** | 32 | 9.6 | HM (62%) | RO (13%) | BB (10%) | 100 | 108 | 12.4 | 8 | T-UE | RL |
| **2/1** | 16 | 85.5 | BB (27%) | HM (24%) | RO (13%) | 112 | 128 | 11.9 | 10 | T-UE | RL |
| **2/2** | 32 | 5.9 | BB (30%) | RO (20%) | RM (10%) | 100 | 105 | 12.9 | 5 | T-EA | RG |
| **2/3** | 32 | 9.6 | HM (48%) | RO (18%) | RM (10%) | 100 | 141 | 11.1 | 5 | T-UE | RL |
| **2/4** | 32 | 8.9 | HM (89%) | BB (11%) | | 90 | 80 | 11.7 | 9 | T-UE | |
| **2/5** | 32 | 2.6 | EL (81%) | HM (14%) | RM (5%) | 105 | 178 | 8.5 | 10 | T-EA | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2/6** | 32 | 5 | BB (61%) | RM (28%) | BKO (11%) | 180 | 253 | 11.4 | 5 | T-UE | RL |
| **2/7** | 32 | 11.2 | RO (50%) | BB (15%) | RC (11%) | 87 | 94 | 12.2 | 8 | T-EA | RG |
| **2/8** | 32 | 33.5 | RO (31%) | HM (15%) | BB (15%) | 106 | 113 | 11.5 | 12 | T-EA | RG |
| **2/9** | 32 | 41.6 | BB (21%) | HM (15%) | RM (14%) | 130 | 155 | 11.8 | 5 | T-UE | TH |
| **2/10** | 32 | 44.1 | HM (54%) | WA (15%) | YP (12%) | 146 | 133 | 13.8 | 8 | T-UE | TH |
| **2/11** | 32 | 8.7 | BB (32%) | BKO (24%) | HM (11%) | 95 | 151 | 10.5 | 7 | T-UE | RL |
| **2/12** | 16 | 46.6 | RO (42%) | CO (21%) | BB (12%) | 121 | 121 | 12.8 | 9 | T-EA | RG |
| **2/13** | 32 | 14.9 | BB (25%) | HM (17%) | RO (17%) | 100 | 109 | 12.2 | 8 | T-UE | RL |
| **2/14** | 32 | 25.7 | RO (22%) | HM (16%) | CO (13%) | 124 | 106 | 13.5 | 4 | T-EA | RG |
| **2/15** | 32 | 21 | BB (38%) | HM (25%) | PH (10%) | 159 | 183 | 12.3 | 4 | T-UE | HV |
| **2/17** | 32 | 4.1 | YP (43%) | RM (19%) | HM (14%) | 185 | 150 | 14.4 | 8 | T-UE | HV |
| **2/18** | 32 | 7.8 | RM (79%) | BKO (8%) | HM (8%) | 120 | 190 | 10.8 | 5 | T-UE | TH |
| **2/19** | 32 | 20 | HM (53%) | BB (14%) | WA (9%) | 111 | 121 | 12.8 | 9 | T-UE | TH |
| **2/20** | 32 | 29.8 | RO (37%) | BB (18%) | CO (12%) | 118 | 112 | 13.3 | 3 | T-EA | RG |
| **2/21** | 32 | 37.3 | HM (33%) | BB (28%) | RO (10%) | 140 | 136 | 13.2 | 8 | T-UE | HV |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/1.1** | 32 | 12 | RM (43%) | HM (28%) | YP (21%) | 47 | 25 | 8.6 | 5 | T-UE | Portions mowed |
| **3/1.2** | 97 | 2.5 | | | | | | | | WL | Mow |
| **3/1.3** | 32 | 2.5 | EL (56%) | SHR (11%) | WA (11%) | 45 | 39 | 13.7 | 10 | WL | HM |
| **3/1.4** | 32 | 6.5 | HM (41%) | BC (24%) | WA (14%) | 73 | 77 | 12 | 8 | WL | HM |
| **3/2** | 10 | 67.2 | RM (55%) | HM (9%) | YP (8%) | 108 | 119 | 12.4 | 5 | WL | HM |
| **3/3.1** | 48 | 17.9 | EL (78%) | WA (10%) | BKO (3%) | 122 | 167 | 11.5 | 9 | T-EA | |
| **3/3.2** | 97 | 9.9 | | | | | | | | WL | Mow |
| **3/3.3** | 48 | 5 | EL (39%) | NS (36%) | RM (20%) | 147 | 251 | 10 | 8 | T-EA | |
| **3/3.4** | 48 | 3 | EL (56%) | HM (38%) | WA (6%) | 160 | 260 | 10.3 | 5 | T-EA | |
| **3/3.5** | 48 | 2 | EL (40%) | YP (29%) | BB (16%) | 150 | 226 | 11 | 10 | T-EA | |
| **3/4** | 32 | 11.8 | RO (42%) | BE (13%) | RM (13%) | 118 | 138 | 12.1 | 8 | T-EA | RG |
| **3/5** | 32 | 48.9 | RO (23%) | BB (22%) | RM (10%) | 104 | 115 | 12.5 | 9 | T-EA | RG |
| **3/6** | 32 | 16.1 | CO (42%) | RO (21%) | HEM (13%) | 124 | 189 | 10.3 | 7 | T-EA | RG |
| **3/9** | 32 | 14.1 | RM (27%) | WA (15%) | HM (12%) | 123 | 143 | 12.2 | 5 | T-UE | TH |
| **3/10** | 32 | 6.5 | HM (35%) | WA (29%) | RM (24%) | 85 | 73 | 13.3 | 5 | T-EA | Portions mowed |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/11** | 99 | 9.1 | WA (100%) | | | 60 | 96 | 8.7 | 15 | WL | Mow |
| **3/12.1** | 48 | 2 | EL (89%) | PH (11%) | | 90 | 61 | 16.4 | 8 | T-EA | |
| **3/12.2** | 45 | 10 | NS (74%) | BB (9%) | WA (3%) | 170 | 308 | 9.4 | 5 | T-EA | |
| **3/12.3** | 45 | 7.3 | NS (100%) | | | 173 | 252 | 11.2 | 10 | T-EA | |
| **3/13** | 99 | 5.7 | EL (67%) | WA (13%) | BC (8%) | 48 | 66 | 11.5 | 8 | T-EA | RG |
| **3/14** | 32 | 12 | YB (56%) | RM (24%) | YP (8%) | 83 | 134 | 10.2 | 5 | T-UE | |
| **3/15** | 32 | 10.2 | HM (50%) | BC (19%) | WA (13%) | 53 | 59 | 12.5 | 5 | WL | HM |
| **3/16** | 32 | 11.5 | BB (36%) | RM (29%) | BKO (13%) | 103 | 200 | 9.6 | 9 | T-UE | RL |
| **3/17** | 32 | 14.1 | BB (36%) | PH (21%) | RO (17%) | 84 | 102 | 11.7 | 10 | T-UE | RL |

Roeliff Jansen Kill - Dutchess 6

| Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/Acre | M.S.D. | Cull % | Mgmt | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 32 | 22.7 | WA 26% | HM 21% | RO 18% | 152 | 189 | 11.1 | 9 | T-UE | RL |
| **2** | 32 | 4.6 | WA 43% | GB 18% | RO 15% | 133 | 129 | 9.2 | 18 | T-UE | TH |
| **3** | 20 | 7.8 | HEM 56% | HM 26% | WO 9% | 170 | 220 | 11.2 | 10 | T-UE | TH |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **4** | 32 | 7.5 | SH 30% | HEM 25% | RO 21% | 187 | 218 | 10.7 | 7 | T-UE | TH |
| **5** | 32 | 2 | RO 50% | WA 20% | HM 10% | 150 | 234 | 10.3 | 10 | T-UE | TH |
| **6** | 32 | 5.9 | GB 21% | HEM 14% | SH 12% | 145 | 203 | 10.2 | 10 | T-UE | TH |
| **7** | 11 | 14 | HEM 35% | HM 16% | RO 15% | 162 | 204 | 12.1 | 15 | T-UE | TH |
| **8** | 21 | 3.2 | WP 57% | RO 14% | HEM 10% | 105 | 63 | 8.5 | 8 | T-UE | TH |
| **9** | 32 | 31.4 | RO 42% | HM 25% | SH 13% | 172 | 223 | 10.1 | 11 | T-UE | TH |
| **10** | 25 | 16.4 | RC 19% | RO 15% | RP 14% | 170 | 252 | 9.3 | 14 | T-UE | TH |
| **11** | 25 | 6.4 | RC 26% | WA 17% | BC 12% | 143 | 182 | 9.0 | 16 | T-UE | TH |
| **12** | 32 | 2 | WO 46% | SH 17% | ASP 17% | 205 | 267 | 9.4 | 13 | T-UE | TH |
| **13** | 54 | 3.3 | RS 85% | HM 7% | ELM 5% | 247 | 413 | 9.6 | 12 | T-UE | TH |
| **14** | 21 | 2 | WP 80% | RO 7% | HM 5% | 205 | 395 | 9.3 | 15 | T-UE | TH |

Stissing Stand Table – Dutchess 2

| Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/ Acre | M.S.D. | Cull % | Mgmt | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 10 | 16 | HM (31%) | RM (18%) | RO (12%) | 104 | 136 | 11.0 | 0 | T-UE | RL |
| **2** | 10 | 37 | HM (25%) | RO (14%) | BKO (10%) | 96 | 137 | 10.6 | 0 | T-UE | RL |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3** | 16 | 20.8 | RO (44%) | HM (13%) | WO (12%) | 109 | 104 | 13.2 | 20 | T-EA | RG |
| **4** | 32 | 11.8 | HM (36%) | RO (33%) | PO (6%) | 122 | 121 | 13.2 | 19 | T-UE | RL |
| **5** | 32 | 2 | RO (22%) | WA (22%) | WO (22%) | 90 | 124 | 11.5 | 50 | T-EA | RG |
| **6** | 32 | 2 | WO (27%) | ASP (27%) | HM (27%) | 110 | 115 | 11.3 | 50 | T-UE | RL |
| **7** | 32 | 12.3 | PO (16%) | HM (16%) | RM (9%) | 79 | 75 | 12.0 | 17 | T-EA | |
| **8** | 10 | 15 | HM (25%) | RM (23%) | WA (11%) | 83 | 118 | 11.0 | 0 | T-UE | RL |
| **9** | 32 | 5 | WA (26%) | RM (18%) | PO (18%) | 85 | 130 | 10.1 | 0 | T-EA | RG |
| **10** | 32 | 3.8 | RM (29%) | EL (27%) | PO (16%) | 102 | 130 | 10.4 | 30 | T-EA | RG |
| **11** | 32 | 3 | PO (32%) | HM (18%) | WO (14%) | 93 | 152 | 9.8 | 0 | T-EA | |
| **12** | 32 | 11 | SO (19%) | RO (14%) | ASP (11%) | 100 | 146 | 10.3 | 0 | T-EA | |
| **13** | 16 | 17.8 | RO (36%) | WO (11%) | PH (10%) | 103 | 112 | 12.1 | 26 | T-EA | RG |
| **14** | 32 | 17.4 | BB (29%) | RO (19%) | HM (16%) | 99 | 120 | 12.1 | 24 | T-EA | |
| **15** | 41 | 2 | WP (100%) | | | 110 | 196 | 10.1 | 35 | T-EA | TH |
| **16** | 48 | 4 | EL (70%) | BB (6%) | RM (6%) | 163 | 207 | 11.3 | 0 | WL | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **17** | 32 | 2 | ASP (40%) | PO (30%) | HM (20%) | 100 | 195 | 9.2 | 30 | WL | |
| **19** | 32 | 5 | HM (92%) | BC (8%) | | 120 | 144 | 11.3 | 0 | T-UE | |
| **20** | 41 | 6 | WP (88%) | RO (5%) | HM (4%) | 173 | 291 | 10.2 | 0 | T-EA | TH |
| **21** | 54 | 7.3 | TAM (58%) | RM (16%) | HM (4%) | 63 | 87 | 10.3 | 0 | WL | HV |
| **22** | 41 | 5 | WP (89%) | RO (4%) | BB (3%) | 183 | 325 | 9.8 | 0 | WL | HV |
| **23** | 29 | 3.6 | TAM (20%) | SO (20%) | WA (17%) | 117 | 162 | 10.6 | 0 | WL | HV |
| **24** | 32 | 8 | HM (63%) | WO (8%) | BKO (6%) | 103 | 119 | 12.0 | 0 | SB | RL |
| **25** | 32 | 2.3 | HM (50%) | RM (17%) | YP (8%) | 60 | 43 | 15.3 | 38 | T-UE | RL |
| **26** | 32 | 7.3 | HM (69%) | RM (19%) | WP (6%) | 53 | 85 | 10.7 | 27 | T-UE | |
| **27** | 32 | 17.1 | | | | | | | | POND | PRO |
| **28** | 11 | 20 | HM (19%) | BB (13%) | RO (12%) | 115 | 155 | 11.1 | 0 | SB | Pro and RL |
| **29** | 12 | 5 | WP (26%) | HM (25%) | RO (12%) | 92 | 119 | 11.7 | 0 | T-EA | |
| **30** | 21 | 4.6 | WP (89%) | RO (4%) | BB (3%) | 183 | 325 | 9.8 | 0 | T-EA | RG |
| **31** | 32 | 12 | CO (52%) | RO (11%) | WP (11%) | 54 | 84 | 10.4 | 0 | T-EA | RG |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **32** | 32 | 15.70 | RO (43%) | CO (29%) | BB (14%) | 70 | 100 | 11.3 | 7 | T-EA | RG |
| **33** | 12 | 40 | RO (37%) | WP (27%) | PH (10%) | 119 | 184 | 10.3 | 0 | T-EA | RG |
| **34** | 12 | 66 | RO (40%) | CO (22%) | WP (12%) | 128 | 175 | 11.0 | 0 | T-EA | RG |
| **35** | 12 | 34 | RO (33%) | WP (27%) | C0 (12%) | 114 | 136 | 11.5 | 0 | T-EA | RG |
| **36** | 16 | 154 | RO (54%) | CO (12%) | PH (11%) | 106 | 115 | 12.3 | 0 | T-EA | RG |

Taconic Hereford stand table – Dutchess 1

| Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/ Acre | M.S.D. | Cull % | Mgmt | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 32 | 2 | HM (41) | RO (12%) | BKO (12%) | 85 | 107 | 11.7 | 20 | T-UE | |
| **2** | 19 | 23.4 | HM (44%) | RO (16%) | BB (9%) | 116 | 180 | 9.9 | 13 | T-UE and Pro | RL |
| **3** | 31 | 7.5 | HM (40%) | GB (18%) | RO (11%) | 95 | 152 | 10.1 | 13 | T-UE | |
| **4** | 16 | 10 | RO (32%) | CO (29%) | HM (14%) | 90 | 79 | 14.2 | 8 | T-EA | RG |
| **5** | 16 | 20.8 | RO (50%) | HM (16%) | PH (10%) | 106 | 302 | 6.5 | 6 | T-EA | RG |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 32 | 4.9 | HM (85%) | RM (4%) | RO (4%) | 101 | 143 | 10.9 | 12 | T-UE | HV |
| **7** | 18 | 20.5 | RO (35%) | HM (27%) | GB (14%) | 199 | 318 | 9 | 10 | T-EA | RG |
| **8** | 32 | 5.6 | RO (49%) | PH (12%) | RM (9%) | 86 | 107 | 11.1 | 14 | T-EA | RG |
| **9** | 18 | 46.4 | HM (36%) | RO (15%) | GB (12%) | 193 | 305 | 9.3 | 11 | T-UE and Pro | HV |
| **10** | 16 | 9.4 | RO (32%) | HM (16%) | BKO (16%) | 89 | 131 | 10.4 | 10 | T-EA | RG |
| **11** | 16 | 24 | RO (41%) | HM (21%) | BB (16%) | 86 | 83 | 13.4 | 7 | T-EA | RG |
| **12** | 32 | 4.1 | HM (49%) | RO (18%) | GB (15%) | 115 | 207 | 9 | 13 | T-UE | TH |
| **13** | 32 | 2.4 | HM (81%) | GB (8%) | RO (8%) | 130 | 204 | 9.5 | 10 | T-UE | TH |
| **14** | 32 | 7.1 | HM (56%) | RM (17%) | RO (9%) | 80 | 85 | 12.6 | 9 | T-UE | HV |
| **15** | 32 | 4.7 | RO (48%) | HM (18%) | WA (12%) | 66 | 91 | 11.4 | 18 | T-EA | RG |
| **16** | 32 | 5.9 | RO (38%) | HM (19%) | WO (13%) | 88 | 73 | 14 | 9 | T-EA | RG |
| **17** | 16 | 65.2 | RO (29%) | HM (23%) | CO (18%) | 157 | 251 | 9.6 | 14 | T-EA | RG |
| **18** | 18 | 6.1 | RO (31%) | HM (30%) | PH (18%) | 147 | 217 | 9.6 | 12 | T-EA | RG |
| **19** | 32 | 10.4 | HM (74%) | RO (9%) | SH (8%) | 74 | 64 | 14.4 | 5 | T-UE | HV |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 32 | 11 | HM (44%) | RO (33%) | PH (6%) | 154 | 274 | 9.4 | 11 | T-UE | HV |
| **21** | 16 | 2.5 | CO (49%) | RO (38%) | HM (9%) | 200 | 305 | 9.7 | 10 | T-EA | RG |
| **22** | 32 | 2 | HM (41%) | RO (23%) | SWO (14%) | 55 | 87 | 10.5 | 15 | T-UE | |
| **23** | 32 | 13.6 | HM (33%) | BB (24%) | RO (16%) | 161 | 280 | 9.1 | 16 | T-UE | HV |
| **24** | 32 | 3.4 | RO (50%) | HM (18%) | SH (15%) | 136 | 231 | 9.1 | 14 | T-EA | RG |
| **25** | 32 | 3.3 | GB (38%) | RO (36%) | HM (20%) | 236 | 378 | 9.9 | 12 | T-EA | RG |
| **26** | 32 | 11.7 | HM (37%) | RO (36%) | SH (9%) | 151 | 230 | 9.7 | 13 | T-UE | HV |
| **28** | 32 | 31.9 | HM (40%) | BB (21%) | RO (14%) | 152 | 187 | 10.3 | 11 | T-UE | HV |
| **29** | 32 | 8.4 | HM (41%) | CO (21%) | BB (9%) | 70 | 79 | 12.6 | 6 | T-UE | HV |
| **30** | 32 | 2.4 | HM (70%) | RO (10%) | BKO (10%) | 103 | 178 | 10 | 10 | T-UE | RL |
| **31** | 10 | 16.5 | HM (76%) | RM (5%) | RO (5%) | 100 | 133 | 11 | 12 | T-UE | RL |
| **32** | 18 | 17.8 | RO (34%) | HM (24%) | RM (12%) | 95 | 147 | 10.6 | 11 | T-EA | RG |
| **33** | 16 | 32.8 | RO (33%) | HM (30%) | CO (9%) | 149 | 268 | 9.1 | 12 | T-EA | RG |
| **34** | 32 | 4.1 | RO (44%) | HM (22%) | BB (10%) | 68 | 117 | 9.8 | 12 | T-EA | |
| **35** | 32 | 12.9 | HM(26%) | RO (18%) | BB (14%) | 103 | 179 | 9.9 | 12 | T-UE | RL |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **36** | 31 | 173.0 | HM(44%) | RO(42%) | BKO(9%) | 106 | 96 | 10 | 11 | T-EA | 36 |
| **37** | 16 | 18.2 | RO (48%) | HM(18%) | BB (13%) | 105 | 155 | 10.6 | 10 | T-EA | RG |
| **38** | 32 | 5.8 | HM(38%) | RO(24%) | PH (15%) | 156 | 271 | 9 | 14 | T-UE | HV |
| **39.1** | 16 | 31.7 | RO (42%) | CO (23%) | HM (19%) | 58 | 59 | 13 | 10 | T-EA | RG |
| **39.2** | 97 | 4 | | | | | | | | | RG |
| **40** | 32 | 2 | BB (33%) | CO (23%) | HM (20%) | 153 | 263 | 9 | 11 | T-EA | RG |
| **41** | 20 | 2 | HEM (43%) | RO (23%) | CO (21%) | 210 | 352 | 9 | 10 | T-EA | |
| **42** | 32 | 7.3 | RO (44%) | BB (31%) | HM (10%) | 154 | 213 | 9.5 | 9 | T-EA | RG |
| **43** | 16 | 12.2 | RO (32%) | CO (27%) | HM (22%) | 104 | 187 | 9.5 | 14 | T-EA | RG |
| **44** | 16 | 18.9 | RO (42%) | HM (22%) | CO (21%) | 175 | 333 | 9 | 11 | T-EA | RG |
| **45** | 32 | 20.7 | BB (33%) | RO (27%) | HM (20%) | 128 | 128 | 9.1 | 11 | T-UE | TH |
| **46** | 16 | 19.5 | CO (36%) | RO (31%) | HM (13%) | 190 | 816 | 5.3 | 10 | T-EA | RG |
| **47** | 97 | 24.2 | | | | | | | | | RG |
| **48** | 32 | 2 | RO (21%) | HM (14%) | SWO (14%) | 120 | 195 | 9.5 | 11 | T-EA | RG |
| **49** | 19 | 4.4 | HEM (39%) | CO (25%) | RO (25%) | 237 | 391 | 8.9 | 12 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **50** | 32 | 2 | HM (49%) | WO (10%) | RO (9%) | 156 | 246 | 9.8 | 10 | T-UE | TH |
| **51** | 32 | 4.4 | RO (35%) | HM (14%) | BB (14%) | 144 | 181 | 10.9 | 18 | T-EA | RG |
| **52** | 32 | 4.5 | RO (37%) | GB (23%) | CO (21%) | 157 | 246 | 10.3 | 13 | T-EA | RG |
| **53** | 16 | 28.3 | RO (34%) | HM (19%) | CO (18%) | 148 | 180 | 11.5 | 14 | T-EA | RG |
| **54** | 32 | 11.3 | HM (76%) | BB (9%) | RM (5%) | 125 | 166 | 11.1 | 13 | T-UE | TH |
| **55** | 32 | 5.5 | HM (37%) | RM (21%) | BB (8%) | 99 | 128 | 11.6 | 16 | T-UE | |
| **56** | 19 | 25.3 | HEM (54%) | CO (22%) | WP (11%) | 179 | 319 | 9.4 | 20 | | |
| **57** | 11 | 6.7 | HEM (52%) | RO (13%) | CO (10%) | 127 | 234 | 9.8 | 10 | | |
| **58** | 11 | 53.2 | HEM (44%) | WO (15%) | WP (9%) | 151 | 223 | 10.2 | 13 | | |
| **59** | 11 | 43 | HEM (31%) | CO (15%) | HM (14%) | 118 | 157 | 10.6 | 11 | | |
| **61** | 18 | 26.7 | RO (29%) | RM (19%) | HM (19%) | 68 | 114 | 9.5 | 13 | T-EA | |
| **63** | 32 | 13.6 | RM (22%) | RO (21%) | BB (15%) | 148 | 169 | 11.5 | 12 | T-UE | HV |

Wassaic – Dutchess 5

| Comp/ Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/Acre | M.S.D. | Cull % | Mgmt | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/1** | 11 | 235.2 | HM (27%) | RO (26%) | HEM (19%) | 161 | 421 | 5.9 | 6 | T-UE | TH |
| **1/2** | 32 | 8.6 | HM (38%) | GB (18%) | HEM (12%) | 165 | 273 | 10.4 | 13 | T-UE | TH |
| **1/3** | 32 | 25 | HM (30%) | GB (27%) | RO (12%) | 150 | 239 | 10.1 | 13 | T-UE | TH |
| **1/4** | 20 | 4.5 | HEM (57%) | PH (14%) | GB (11%) | 185 | 324 | 10.1 | 10 | T-UE | TH |
| **1/5** | 32 | 7.7 | GB (35%) | HEM (25%) | HM (12%) | 190 | 428 | 6.7 | 10 | T-UE | RL |
| **1/6** | 11 | 11.4 | HM (34%) | HEM (25%) | GB (22%) | 170 | 234 | 11.4 | 9 | T-UE | TH |
| **1/7** | 32 | 28.6 | HM (38%) | GB (20%) | RO (16%) | 125 | 186 | 10.5 | 10 | T-UE | TH |
| **1/8** | 32 | 22.9 | RO (42%) | HEM (22%) | CO (19%) | 180 | 243 | 10.8 | 13 | T-UE | TH |
| **1/9** | 20 | 16.3 | HEM (40%) | GB (29%) | RO (19%) | 193 | 234 | 11.1 | 13 | T-UE | TH |
| **1/10** | 32 | 5.9 | HM (43%) | RO (23%) | BL (13%) | 177 | 243 | 10.2 | 15 | T-UE | TH |
| **1/11** | 32 | 4.9 | HM (48%) | RO (33%) | HEM (9%) | 165 | 249 | 11.9 | 15 | T-UE | TH |
| **1/12** | 32 | 16.6 | | | | | | | | T-UE | RL |
| **1/13** | 32 | 5.4 | GB (63%) | HM (37%) | | 95 | 127 | 9.3 | 15 | T-UE | RL |
| **1/14** | 99 | 4.4 | | | | | | | | Pro | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/15** | 99 | 8.3 | | | | | | | | WL | Mow |
| **2/1** | 99 | 25.6 | | | | | | | | WL | Mow |
| **2/2** | 32 | 14.3 | HM (32%) | WA (14%) | PH (14%) | 115 | 140 | 10.1 | 14 | T-UE | RL |
| **2/3** | 72 | 4.3 | BW (89%) | GB (8%) | | 65 | 102 | 10.4 | 18 | T-EA | RG |
| **2/4** | 32 | 12.6 | WA (50%) | PH (15%) | GB (12%) | 100 | 101 | 9.8 | 16 | T-UE | RL |
| **2/5** | 32 | 5.4 | WA (94%) | GB (6%) | | 90 | 178 | 9.1 | 15 | T-UE | RL |
| **2/6** | 99 | 20.6 | | | | | | | | WL | Mow |

West Mountain stand table – Dutchess 7

| Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/ Acre | M.S.D. | Cull % | Mgmt | Treatment System |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 10 | 73 | HM (51%) | WA (15%) | YB (11%) | 97 | 113 | 10.5 | 22 | SB | SS |
| **2** | 18 | 87 | RM (25%) | RO (15%) | WO (12%) | 75 | 81 | 10.2 | 25 | T-EA | RG |
| **3** | 10 | 150 | RO (19%) | HM (17%) | RM (14% | 109 | 121 | 12.6 | 30 | T-UE | TH |
| **4** | 32 | 12 | BB (28%) | CO (21%) | RO (17%) | 87 | 95 | 12.6 | 40 | T-UE | TH |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 18 | 25 | PH (21%) | HM (16%) | BB (12%) | 94 | 220 | 6.7 | 25 | SB | |
| **6** | 10 | 38 | BC (21%) | RM (20%) | HM (20%) | 101 | 156 | 10.5 | 32 | SB | |
| **7** | 18 | 27 | HM (34%) | PH (19%) | WO (18%) | 107 | 135 | 10.6 | 25 | T-UE | TH |
| **8** | 32 | 20 | RO (21%) | IWD (21%) | HM (20%) | 109 | 130 | 11.0 | 27 | T-UE | TH |
| **9** | 18 | 58 | BB (27%) | RM (26%) | RO (18%) | 106 | 121 | 11.0 | 23 | T-UE | TH |
| **10** | 32 | 27 | HM (40%) | BB (24%) | SH (9%) | 99 | 138 | 10.8 | 16 | T-UE | TH |
| **11** | 10 | 108 | RM (23%) | HM (18%) | PH (17%) | 104 | 142 | 10.2 | 19 | T-UE | TH |
| **12** | 99 | 66 | YB (23%) | RM (21%) | RO (21%) | 71 | 91 | 11.2 | 35 | Pro | |
| **13** | 16 | 79 | BB (21%) | RO (19%) | RM (16%) | 79 | 106 | 11.1 | 24 | T-EA | RG |
| **14** | 32 | 23 | BB (25%) | HM (21%) | RO (19%) | 102 | 171 | 10.4 | 22 | T-UE | TH |

White Pond stand table – Putnam 4

| Stand | Cover type | Acreage | Species (1) | Species (2) | Species (3) | BA | Trees/ Acre | M.S.D. | Cull % | Mgmt/ Treatment |
|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 99 | 135 | | | | | | | | POND Rec/Pro |
| **1.1** | 32 | 27.4 | HM (53%) | PO (8) | BB (8%) | 97 | 106 | 12.5 | 11 | Rec/Pro |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 32 | 3 | HM (57%) | BC (28%) | WA (6%) | 88 | 113 | 10.8 | 9 | Rec/Pro |
| **3** | 32 | 16 | HM (60%) | WA (19%) | BB (4%) | 96 | 109 | 12,5 | 8 | Rec/Pro |
| **4** | 45 | 2 | NS (89%) | BC (6%) | WA (3%) | 175 | 140 | 15.1 | 5 | Rec/Pro |
| **5** | 99 | 14.7 | | | | | | | | Rec/Pro |
| **6** | 32 | 6.7 | HM (62%) | BC (13%) | RM (9%) | 94 | 88 | 13.8 | 18 | Rec/Pro |
| **7** | 10 | 26.5 | HM (35%) | WA (14%) | RM (14%) | 99 | 108 | 12.7 | 10 | Rec/Pro |
| **8.1** | 11 | 31.1 | HEM (33%) | CO (27%) | RO (16%) | 103 | 105 | 14.2 | 5 | Rec/Pro |
| **10** | 45 | 2 | NS (100%) | | | 80 | 65 | 15.9 | 5 | Rec/Pro |
| **12** | 32 | 2 | HM (44%) | PH (33%) | BB (11%) | 90 | 136 | 10.4 | 20 | Rec/Pro |
| **13.1** | 32 | 2.6 | HM (69%) | BC (13%) | BKO (6%) | 80 | 200 | 5.2 | 5 | Rec/Pro |

## Glossary of Acronyms

**ADAAG**: Americans with Disabilities Act Accessibility Guidelines

**AANR**: Adopt a Natural Resource program

**ADA**: Americans with Disabilities Act

**ARPA**: Archaeological Resources Protection Act

**ATV**: All-Terrain Vehicle

**BA/AC**: Basal Area per Acre

**BBA**: Breeding Bird Atlas

**BFRM**: Bureau of Forest Resource Management

**BMP**: Best Management Practices

**DEC**: Department of Environmental Conservation

**DLF**: Division of Lands and Forests

**ECL**: Environmental Conservation Law

**EIS**: Environmental Impact Statement

**FSC**: Forest Stewardship Council

**GEIS**: Generic Environmental Impact Statement

**GIS**: Geographic Information Systems

**GPS**: Global Positioning System

**HCVF**: High Conservation Value Forest

**IPM**: Integrated Pest Management

**MAPPWD**: Motorized Access Program for People with Disabilities

**NYCRR**: New York Codes, Rules and Regulations

**OPRHP**: Office of Parks, Recreation, and Historical Preservation

**PFAR**: Public Forest Access Road

**PFD**: Personal Floatation Device

**PFR**: Public Fishing Rights

**ROW**: Right-of-Way

**RSA**: Representative Sample Area

**SEQR**: State Environmental Quality Review

**SEQRA**: State Environmental Quality Review Act

**SFI**: Sustainable Forestry Initiative

**SGCN**: Species of Greatest Conservation Need

**SHPA**: State Historic Preservation Act

**SMZ**: Special Management Zone

**SPSFM**: Strategic Plan for State Forest Management

**TRP**: Temporary Revocable Permit

**UMP**: Unit Management Plan

**UTV**: Utility Task Vehicle

**VSA**: Volunteer Stewardship Agreement

**WMA**: Wildlife Management Area

**WMU**: Wildlife Management Unit

## Glossary of Terms

**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.

**Aesthetics** - Forest value, rooted in beauty and visual appreciation and providing a distinct visual quality.

**Age Class** - Trees of a similar size originating from a single natural event or regeneration activity. see cohort.

**All-Aged** - A condition of a forest or stand that contains trees of all or almost all age classes.

**Allowable Cut** - The amount of timber considered as available for cutting during a specified planned period of operation.

**Basal Area** - The cross-sectional area, measured in square feet, of a single stem, including the bark, measured at breast height (4.5 ft above the ground).

**Basal Area/Acre** - A measure of forest density, the sum total of the basal areas of all trees on one acre.

**Best Management Practices** - A practice or a combination of practices that are designed for the protection of water bodies and riparian areas and determined to be the most effective and practicable means of controlling point and non-point source water pollutants.

**Biomass** - the weight of organic matter in a tree, stand, or forest, in units such as living or dead weight, wet or dry weight, etc.

**Biological Diversity (Biodiversity)** - The variety of life on earth. The variety of things and the variability found within and among them. Biodiversity also encompasses processes –both ecological and evolutionary that allow organisms to keep adapting and evolving. Includes genetic diversity (unique combinations of genes found within and among organisms), species diversity (numbers of species in an area), ecological diversity (organization of species into natural communities and the interplay of these communities with the physical environment – interactions among organisms and between organisms and their environment is the key here), Landscape diversity (refers to the geography of different ecosystems across large areas and the connections between them.

**Biological legacy** - an organism, living or dead, inherited from a previous ecosystem; biological legacies often include large trees, snags and down logs left after timber harvesting. (E)an organism, living or dead, inherited from a previous ecosystem; biological legacies often include large trees, snags and down logs left after timber harvesting.

**Blowdown** - Tree or trees felled or broken off by wind.

**Buffer Zone / Buffer Strip** - A vegetation strip or management zone of varying size, shape, and character maintained along a stream, lake, road, recreation site, or different vegetative zone to mitigate the impacts of actions on adjacent lands, to enhance aesthetic values, or as a best management practice.

**Cavity Tree / Den Tree** - A tree containing an excavation sufficiently large for nesting, dens or shelter; tree may be alive or dead.

**Clear Cut** - A harvesting and regeneration technique that removes all the trees, regardless of size, on an area in one operation. This practice is done in preparation of the re-establishment of a new forest through reforestation, stump sprouting, or changing habitats, i.e., from forest to brush or grass cover.

**Climax Forest** - An ecological community that represents the culminating stage of a natural forest succession for its locality/environment.

**Coarse Woody Material (CWM)**- Any piece(s) of dead woody material on the ground in forest stands or in streams.

**Cohort** - A population of trees that originate after some type of disturbance. The disturbance makes growing space available.

**Community** - An assemblage of plants and animals interacting with one another, occupying a habitat, and often modifying the habitat; a variable assemblage of plant and animal populations sharing a common environment and occurring repeatedly in the landscape.

**Conversion** - A change from one silvicultural system to another or from one tree species to another.

**Coppice** - Stems originating primarily from vegetative reproduction, e.g., the production of new stems from stumps, roots or branches. see low forest.

**Corridor** - A linear strip of land identified for the present or future location of a designed use within its' boundaries. Examples: recreational trails, transportation, or utility rights-of-way.

- When referring to wildlife, a corridor may be a defined tract of land connecting two or more areas of similar management or habitat type through which a species can travel from one area to another to fulfill any variety of life-sustaining needs.

**Cover type** - The plant species forming a majority of composition across a given area.

**Crown** - the part of a tree or woody plant bearing live branches and foliage.

**Crown Class** - A category of tree based on its crown position relative to those of adjacent trees.

- dominant - receives full light from above and partial to full light from the sides.
- co-dominant -a tree whose crown helps to form the general level of the main canopy and receives full light from above and comparatively little from the sides.
- intermediate -a tree whose crown extends into the lower portion of the main canopy and receives little direct light from above and none from the sides.
- suppressed/ -a tree whose crown is completely overtopped by the crowns of one or more overtopped neighboring trees and receives little or no direct sunlight.

**Crown Closure** - The point at which the vertical projections of crown perimeters within a canopy touch.

**Cull** - Any item of production, e.g., trees, logs, lumber, or seedlings, rejected because it does not meet certain specifications of usability or grade.

**Cultural Resources** - Significant historical or archaeological assets on sites as a result of past human activity which are distinguishable from natural resources.

**Cutting Interval** - The number of years between harvest or regeneration cuts in a stand.

**Deciduous** - Tree and shrub species that lose their foliage in autumn.

**Defoliation** -The partial or complete loss of foliage, usually caused by an insect, disease, or drought.

**Diameter Breast Height (DBH)** -The diameter of the stem of a tree (outside bark) measured at breast height (4.5 ft) from the ground.

**Diameter-Limit Cut** - A timber harvesting treatment in which all trees over a specified diameter may be cut. Diameter-limit cuts often result in high-grading.

**Disturbance** - An event that causes significant change from the normal pattern in an ecosystem. A disturbance can be endogenous, or part of the developmental process that weakens, for example, a tree, making it susceptible to physical or biological forces. Disturbance can also be exogenous, or external to the developmental process, such as intense winds or fires.

**Disturbance Regime** - Describes a repeating pattern of disturbance in a community or across a landscape, such as seasonal flooding, daily tidal flooding, insect outbreaks, periodic fires, windthrow, erosion, and ice scouring/ice storms.

**Ecosystem** - A spatially explicit, relatively homogeneous unit of the earth that includes all interacting organisms and components of the abiotic environment within its boundaries. (Note: an ecosystem can be of any size, e.g., a log, pond, field, forest or the earth's biosphere.)

**Ecosystem Management** -The appropriate integration of ecological, economic, and social factors to maintain and enhance the quality of the environment to best meet our current and future needs. Means keeping natural communities of plants, animals, and their environments healthy and productive so people can benefit from them year to year.

**Edge** - The more or less well-defined boundary between two or more elements of the environment, e.g., a field adjacent to a woodland or the boundary of different silvicultural treatments.

**Endangered Species** - Any species of plant or animal defined through the Endangered Species Act of 1976 as being in danger of extinction throughout all or a significant portion of its range, and published in the Federal Register.

**Even-Aged** - A class of forest or stand composed of trees of about the same age. The maximum age difference is generally 10-20 years.

**Even-Aged System** - A program of forest management directed to the establishment and maintenance of stands of trees having relatively little (10-20 yrs.) variation in ages. The guidelines to be applied in using this system at all stages of tree development are uniquely different from the uneven-aged system.

**Exotic** -Any species that is not native to a particular geographic region or ecosystem.

**Flood Plain** - The level or nearly level land with alluvial soils on either or both sides of a stream or river that is subject to overflow flooding during periods of high-water level.

**Forest** - An assemblage of trees and associate organisms on sites capable of maintaining at least 60% crown closure at maturity.

**Forestry** - The profession embracing the science, art, and practice of creating, managing, using, and conserving forests and associated resources for human benefit and in a sustainable manner to meet desired goals, needs, and values.

**Forest Management** - The application of business methods and technical forestry principles to the operation of a forest property.

**Forest Succession** -The gradual replacement of one community of plants by another. Example: an area of open grass becoming shrub which then becomes shade intolerant trees (pioneer species) and finally climax forest of mostly shade tolerant trees.

**Forested Wetland** - An area characterized by woody vegetation where soil is periodically saturated with or covered by water.

**Fragipan** - A dense and brittle layer of soil. Its hardness results mainly from extreme density or compactness rather than from high clay content. The material may be dense enough to restrict root, nutrient, and water penetration.

**Fragmentation** - A biophysical process of breaking forests into dispersed blocks separated by non-forest, or in some areas, dispersed blocks of mature forest separated by young forest.

**Gaps** - Communities, habitats, successional stages, or organisms which have been identified as lacking in the landscape.

**Geocaching** - A high-tech, hide and seek, outdoor activity for utilizing the Global Positioning System (GPS) where an item is “cached” on the landscape.

**Grassland** -Land on which the vegetation is dominated by grasses, grass like plants, or forbs.

**Green Tree Retention** - The practice of retaining live trees after a release cut. This practice creates higher levels of structural diversity providing varied wildlife habitat and future downed wood. The residual overstory trees also moderate the microclimate of the site and provide continuity of habitat for plant and animal species between uncut forest areas. These residual trees are left through the next rotation.

**Habitat** - The geographically defined area where environmental conditions (e.g., climate, topography, etc.) meet the life needs (e.g., food, shelter, etc.) of an organism, population, or community.

**Harvest /Cut/ Logging** - Altering a forest by removing trees and other plants so as to control the composition and form of forest stands.

**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.

**Header** - See Log Landing.

**High Forest-**A Forest originating mainly from natural reproduction.

**High-Grading** - The removal of the most commercially valuable trees (high-grade trees), often leaving a residual stand composed of trees of poor condition or species composition.

**Improvement Cut** - The removal of less desirable trees of any species in a stand of poles or larger trees, primarily to improve composition and quality.

**Indicator Species** - Species with such specialized ecological needs that they can be used for assessing the quality, condition, or extent of an ecosystem on the basis of their presence and density, or the accumulation and effect of materials in their tissues.

**Intermediate Treatment** - Any silvicultural treatment designed to enhance growth, quality, vigor, and composition of the stand after establishment or regeneration and prior to final harvest.

**Invasive** - Species that, after they have been moved from their native habitat to a new location, or following disturbance in their native habitat, spread on their own, displacing other species, and sometimes causing environmental damage.

**Large Poles** - Trees 9-11 inches in diameter at breast height.

**Large Sawtimber** - Trees 18 inches or greater diameter at breast height.

**Log Landing / Log Deck** - A cleared area in the forest to which logs are skidded and are temporarily stored before being loaded onto trucks for transport.

**Low Forest-**A Forest produced primarily from vegetative regeneration, i.e. coppice.

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

**Mature Stand** - Pertaining to an even-aged stand that has attained most of its potential height growth or has reached merchantability standards -note within uneven-aged stands, individual trees may become mature but the stand itself consists of trees of diverse ages and stages of development.

**Medium Sawtimber** - Trees 15-17 inches in diameter at breast height.

**Mesic** - Of sites or habitats characterized by intermediate moisture conditions, i.e., neither decidedly wet nor dry.

**Multiple Use** - A strategy of land management fulfilling two or more objectives, e.g. forest products removal and recreation.

**Multiple Use Area** - Lands acquired pursuant to Article 15, Section 15.01 (b) of the Parks and Recreation Land Acquisition Bond Act. Multiple Use Areas are acquired to provide additional opportunities for outdoor recreation, including public camping, fishing, hunting, boating, winter sports, and, wherever possible, to also serve multiple purposes involving the conservation and development of natural resources, including the preservation of scenic areas, watershed protection, forestry and reforestation.

**Native** - Species believed to have existed in a particular geographic region or ecosystem of the Northeast prior to European settlement and subsequent large-scale alteration of the landscape. The state reference for native species is Mitchell. 1997 Revised Checklist of New York State Plants.

**Natural Area** - These areas are not managed for the production of wood products. A physical and biological area left in a natural condition, usually without direct human intervention, to attain and sustain a climax condition, the final stage of succession.

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

**Non-Commercial Forest** - Areas of a forest permanently inoperable due to conditions such as inaccessibility, altitude and poor growing conditions. Meyer, Arthur H. and Others. 1961. Forest Management. New York: Ronald Press.

**Neo-Tropical Migratory Birds** - Bird species which migrate between the Northern and Southern hemispheres. These species represent more than 50% (340 of the 600 species) of North American birds.

**Northern Hardwood Forest Type** - A forest type usually made up of sugar and red maple, American beech, yellow birch, and to a lesser extent black cherry and white ash. This type represents about 70 percent of all forests in New York State.

**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** - That portion of the trees in a forest forming the upper or uppermost canopy layer.

**Parcelization** - The subdivision of land into smaller ownership blocks. This intrudes new features and activities into the forest and changes its character but does not necessarily fragment it in biophysical terms. Richards, N.A., Forest Resources of Central NY, NY Forest Owner 9/93

**Pioneer** - A plant capable of invading bare sites (newly exposed soil) and persisting there or colonizing them until supplanted by successional species.

**Plantation** - A stand composed primarily of trees established by planting or artificial seeding - a plantation may have tree or understory components that have resulted from natural regeneration.

**Poletimber** - Trees that are generally 6-11 inches in diameter at breast height.

**Protection Forest** - Forest land excluded from most active management including wood product management, oil and gas exploration and development, and some recreational activities to protect sensitive sites. These sites most often include steep slopes, wet woodlands and riparian zones along stream corridors.

**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 (8/74). As a general guideline, sufficient access is typically achieved when 1 mile of PFAR is developed for each 500 acres of state land, and no position within the unit lies more than 1 half mile from a PFAR or public highway.

**Public Roads** - 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.

**Pulpwood** - Low grade or small diameter logs used to make paper products, wood chips, etc.

**Recreational Trail** - Unpaved recreational corridors that 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.

**Reforestation** - The re-establishment of forest cover by natural or artificial means.

**Regeneration** - Seedlings or saplings of any origin. The Society of American Foresters. 1958. Forest Terminology, 3rd edition. Washington, DC.

**Release** - 1.) A treatment designed to free trees from undesirable, usually overtopping, competing vegetation. 2.) A treatment designed to free young trees not past the sapling stage from undesirable competing vegetation that overtops or closely surrounds them.

**Residual Stand** - A stand composed of trees remaining after any type of intermediate harvest. (H)

**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

**Riparian zone** - Areas of transition between terrestrial and aquatic ecological systems. They are characterized as having soils and vegetation analogous to floodplains, or areas transitional to upland zones. These areas help protect the water by removing or buffering the effects of excessive nutrients, sediments, organic matter, pesticides, or pollutants.

**Rotation** - The period of years between stand establishment and timber harvest as designated by economic or natural decisions.

**Salvage Cutting** - Recovery of the values represented by damaged trees or stands. Smith, David M. 1962, The Practice of Silviculture. New York: John Wiley & Sons.

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

**Sawtimber** - Trees that are generally 12 inches and larger diameter at breast height.

**Second Growth** - The forests re-established following removal of previously unharvested or old -growth stands. Most northeastern forests are either second or third growth.

**Seedling** - A young tree originating from seed that is less than 4 feet tall.

**Seedling/Sapling** - Trees less than 6 inches in diameter at breast height.

**Seed Tree Cut/Method** - The removal of the mature timber in one cutting, except for a small number of trees left singly, or in small groups, as a source of seed for natural regeneration.

**Significant Natural Community** - Communities that are either rare in New York State or are determined by New York Natural Heritage Program staff to be outstanding examples of more common natural communities.

**Selective Cut** - High Grade (Replaces Selective Thinning) -A type of exploitation cutting that removes only certain species (a) above a certain size, (b) of high value; Known silvicultural

requirements and/or sustained yields being wholly or largely ignored or found impossible to fulfill. Society of American Foresters. Ford-Robertson, F. C., editor. 1971. Terminology of Forest Science, Technology, Practice and Products. Cambridge: England

**Shade Tolerance** - The ability of a tree species to germinate and grow at various levels of shade.

- Shade tolerant: having the capacity to compete for survival under shaded conditions.
- Shade intolerant: having the capacity to compete for survival only under direct sunlight conditions; light demanding species.

**Shelterwood Cut/Method** - A regeneration action designed to stimulate reproduction by implementing a series of cuts over several years that will gradually remove the overstory trees. Gradual reduction of stand density protects understory trees and provides a seed source for the stand.

**Shrub (replaces Brush)** - Shrubs and stands of scrubby tree species that do not reach a merchantable size. The Society of American Foresters. 1958. Forest Terminology, 3rd edition. Washington, DC.

**Silviculture** - The application of art, science and practice to influence long term forest development.

**Even aged Silviculture** - A system for maintaining and regenerating forest stands in which trees are approximately the same age (cohort). This system favors shade intolerant species such as aspen, white ash and black cherry.

**Uneven aged Silviculture** - A system for maintaining and regenerating forest stands with at least three distinct age classes (cohorts). this system favors shade intolerant species such as sugar maple, hemlock and beech. Uneven aged silviculture creates a stratified stand structure with trees of different heights represented in all levels of the forest canopy.

**Site** - The area in which a plant or forest stand grows, considered in terms of its environment, particularly as this determines the type and quality of the vegetation the area can support.

**Site Index** - A species-specific measure of actual or potential forest productivity, expressed in terms of the average height of trees included in a specified stand component at a specified age.

**Site Preparation** - Hand or mechanized manipulation of a site, designed to enhance the success of regeneration.

**Site Quality** - The sum of soil and topographic factors of a particular place for growth of a particular species.

**Skid Trail** - A temporary or permanent trail used to skid or forward felled trees from the stumps to the log landing.

**Small Poles** - Trees 6-8 inches in diameter at breast height.

**Small Sawtimber** - Trees 12-14 inches in diameter at breast height.

**Snags** - Standing, dead trees, with or without cavities; function as perches, foraging sites and/or a source of cavities for dens, roosting and/or nesting for wildlife.

**Species Richness** - The number of different species present within an area

**Stand** - A contiguous group of trees sufficiently uniform in species composition, arrangement of age classes, and condition to be a homogeneous and distinguishable unit.

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

**State Forest** - The collective term applied to lands administered by the Division of Lands and Forests which are located outside the forest preserves. State forests include acreage acquired and classified as Reforestation Areas, Multiple Use Areas and Unique Areas.

**State Reforestation Area** - Lands acquired by the Department pursuant to Title 3 Article 9-0501 of the Environmental Conservation Law. Reforestation Areas are adapted for reforestation and for the establishment and maintenance thereon of forests for watershed protection, the production of timber and other forest products, and for recreation and kindred purposes.

**Stocking** - The number of trees per unit area in relation to the desired number for optimum growth and management. Guides and tables have been developed that illustrate the optimum number of trees per acre based on the average diameter.

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

**Sustainable Forest Management** - Management that maintains and enhances the long-term health of forest ecosystems for the benefit of all living things, while providing environmental, economic, social and cultural opportunities for present and future generations.

**Sustained Yield** - The achievement and maintenance in perpetuity of a reasonable regular periodic output of the various renewable resources without impairment of the land's productivity.

**Temporary Revocable Permit (TRP)** - A Department permit which authorizes the use of state land for a specific purpose for a prescribed length of time.

**Thinning** - Intermediate cuttings that are aimed primarily at controlling the growth of stands through adjustments in stand density.

**Threatened Species** - A species likely to become endangered in the foreseeable future, throughout all or a significant portion of its range, unless protected.

**Timber Stand Improvement (TSI)** - Pre-commercial silvicultural treatments, intended to regulate stand density and species composition while improving wood product quality and fostering

**Understory** - The smaller vegetation (shrubs, seedlings, saplings, small trees) within a forest stand, occupying the vertical zone between the overstory and the herbaceous plants of the forest floor.

**Uneven-Aged Group Selection** - A type of uneven-aged forest management used to create openings in the forest canopy. Trees are removed and new age classes are established in small groups.

**Uneven-Aged System** - A planned sequence of treatments designed to maintain and regenerate a stand with three or more age classes.

**Uneven-Aged Stand/Forest** - A stand with trees of three or more distinct age classes, either intimately mixed or in small groups.

**Unique Area** - Lands acquired pursuant to Sections 45-0101, 51-0701, 51-0705, 54-0303, 56-0307 & 49-0203 of the Environmental Conservation Law.

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

**Water Quality Classes** - A system of classification in ECL Article 17 which presents a ranked listing of the state's surface waters by the letters AA, A, B, C or D according to certain quality standards and specifications. AA is the highest quality rank and has the greatest suitability for human usage.

**Wetland** - A transitional area between aquatic and terrestrial ecosystems that is inundated or saturated for periods long enough to produce hydric soils and support hydrophytic vegetation.

**Wetland Classes** - A system of classification set forth in ECL Article 24, section 664.5 which ranks wetland I through IV based upon wetland functions and benefits, I being the highest rank.

**Wildlife Management Areas** - Lands acquired by the Department pursuant to Title 21 Section 11-2103 of the Environmental Conservation Law. Wildlife Management Areas are managed by the Division of Fish and Wildlife for the purpose of establishing and maintaining public hunting, trapping and fishing grounds.

**Windthrow** - Trees that have been broken, uprooted, or felled by strong winds.

# Appendices & Figures

## Appendix A - Responsiveness Summary to Public Comments

## Appendix B - State Environmental Quality Review (SEQR)

**State Environmental Quality Review (SEQR)**

The management proposals and activities contained in this plan will comply with State Environmental Quality Review Act (SEQRA), 6NYCRR Part 617 requirements. SEQRA requires the consideration of environmental factors early in the planning stages of any proposed action(s) that are undertaken, funded, or approved by a local, regional, or state agency. The Strategic Plan for State Forest Management (SPSFM) serves as the Generic Environmental Impact Statement (GEIS), regarding management activity on State Forests. To address potential impacts, the SPSFM establishes SEQR analysis thresholds for each category of management activity. There is one project contained within this plan that exceeds the thresholds established in the SPGEIS and a site specific SEQRA analysis for that project has been completed. Additional information pertaining to the project is provided below.

**STATE ENVIRONMENTAL QUALITY REVIEW ACT**

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

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

1. Forest management activities occurring on acreage occupied by protected species ranked S1, S2, G1, G2 or G3

2. Pesticide applications adjacent to plants ranked S1, S2, G1, G2 or G3

3. Aerial pesticide spraying by airplane or helicopter

4. Any development of facilities with potable water supplies, septic system supported restrooms, camping areas with more than 10 sites or development in excess of other limits established in this plan.

5. Well drilling plans

6. Well pad densities of greater than one well pad in 320 acres or which does not comply with the limitations identified through a tract assessment

7. Carbon injection and storage or waste-water disposal

Certain proposed actions in this Plan do not fall within the thresholds established in the SPSFM. Therefore, these actions were submitted for an additional SEQR process.

<u>Actions not covered by the Strategic Plan/Generic Environmental Impact Statement (SPGEIS):</u>

A site-specific review was completed for construction of a weather monitoring station at Wassaic MUA. The weather station measures wind, temperature, relative humidity, solar radiation, pressure, soil moisture and temperature. To properly measure these variables, care must be taken to ensure the highest data quality. To ensure the highest quality data is measured, the station must be at least 300 feet from the nearest tall obstacles or potential heat

sources. Sensors will be mounted on a 33 ft. tower at the center of a 33 ft. x 33 ft. plot of land. Each site is solar powered with real-time communications. Upon completion, real time data along with graphical products/models will be available to the public via the website NYSMesonet.org.

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 Department of Environmental Conservation, as lead agency, has determined that the proposed action described above will not have a significant effect on the environment and a Draft Environmental Impact Statement will not be prepared.

## Figure 1 – Water Resources, Special Management Zones and Topography

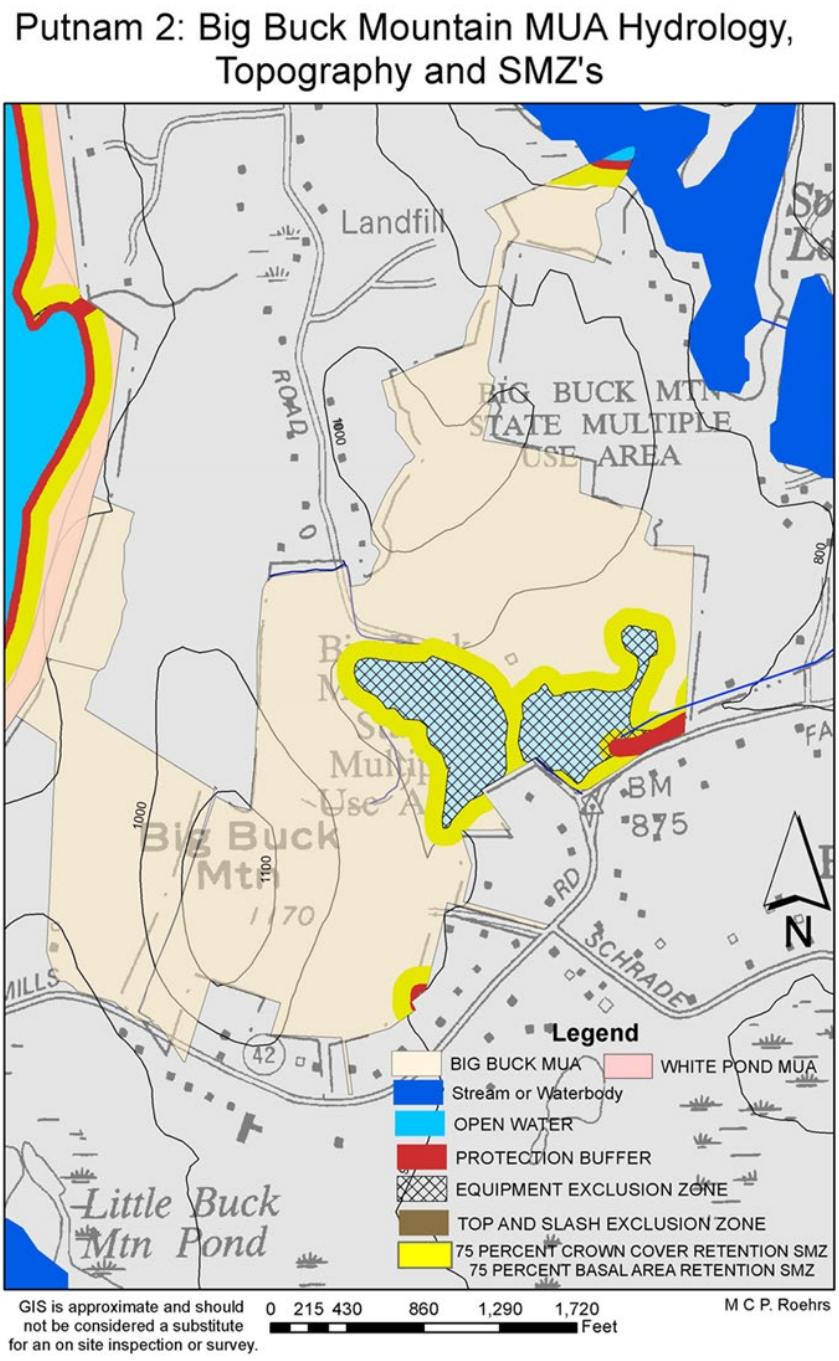


FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY

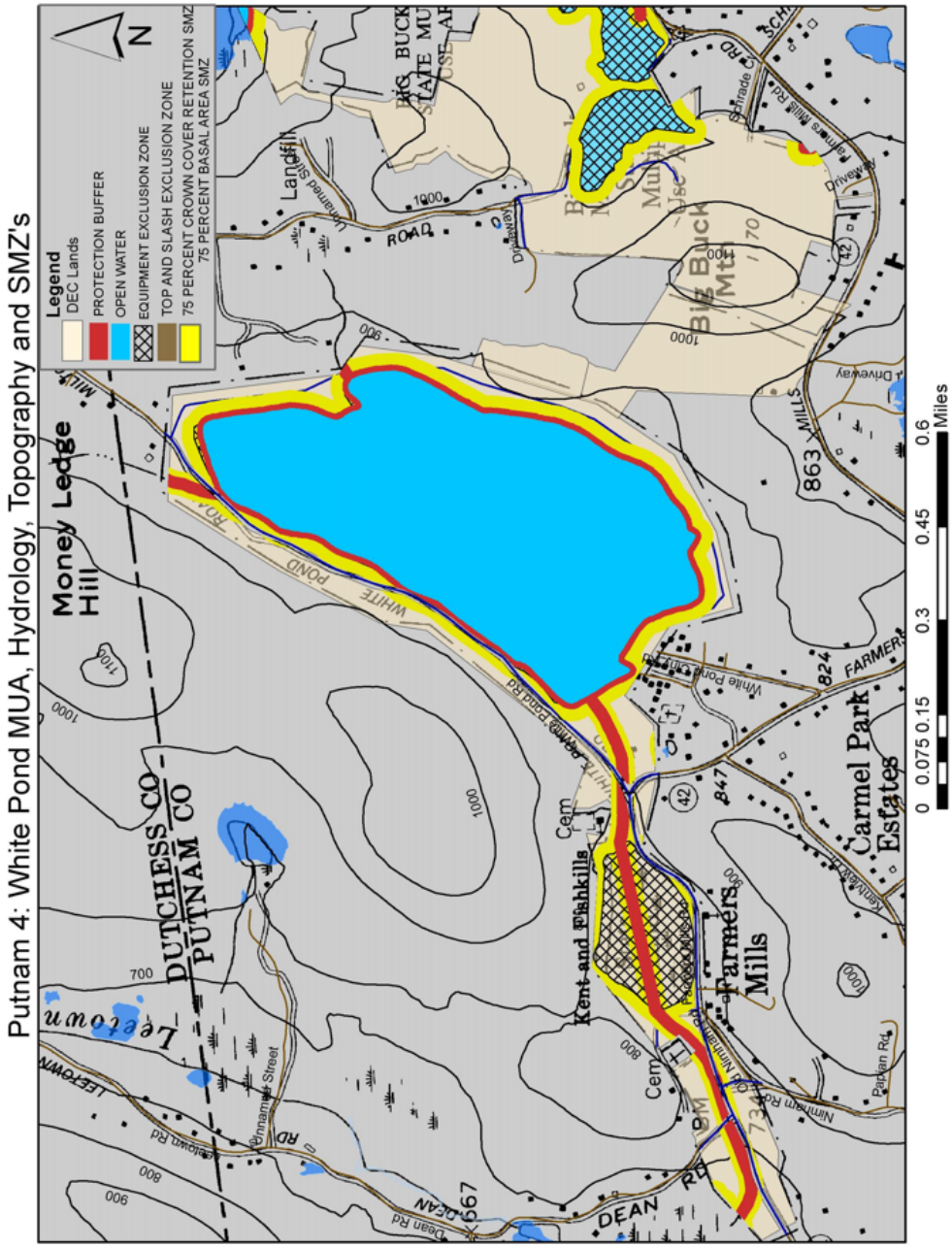
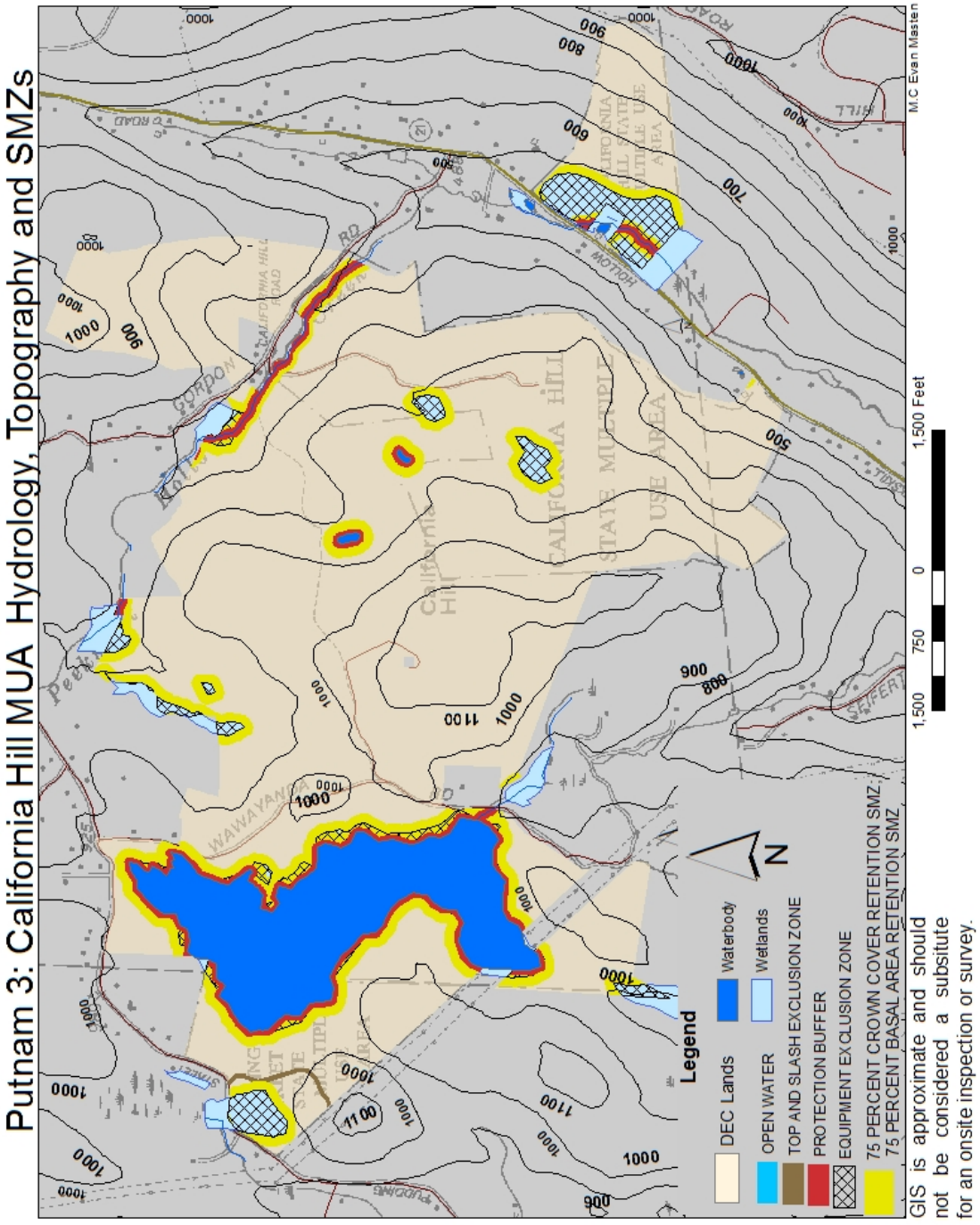
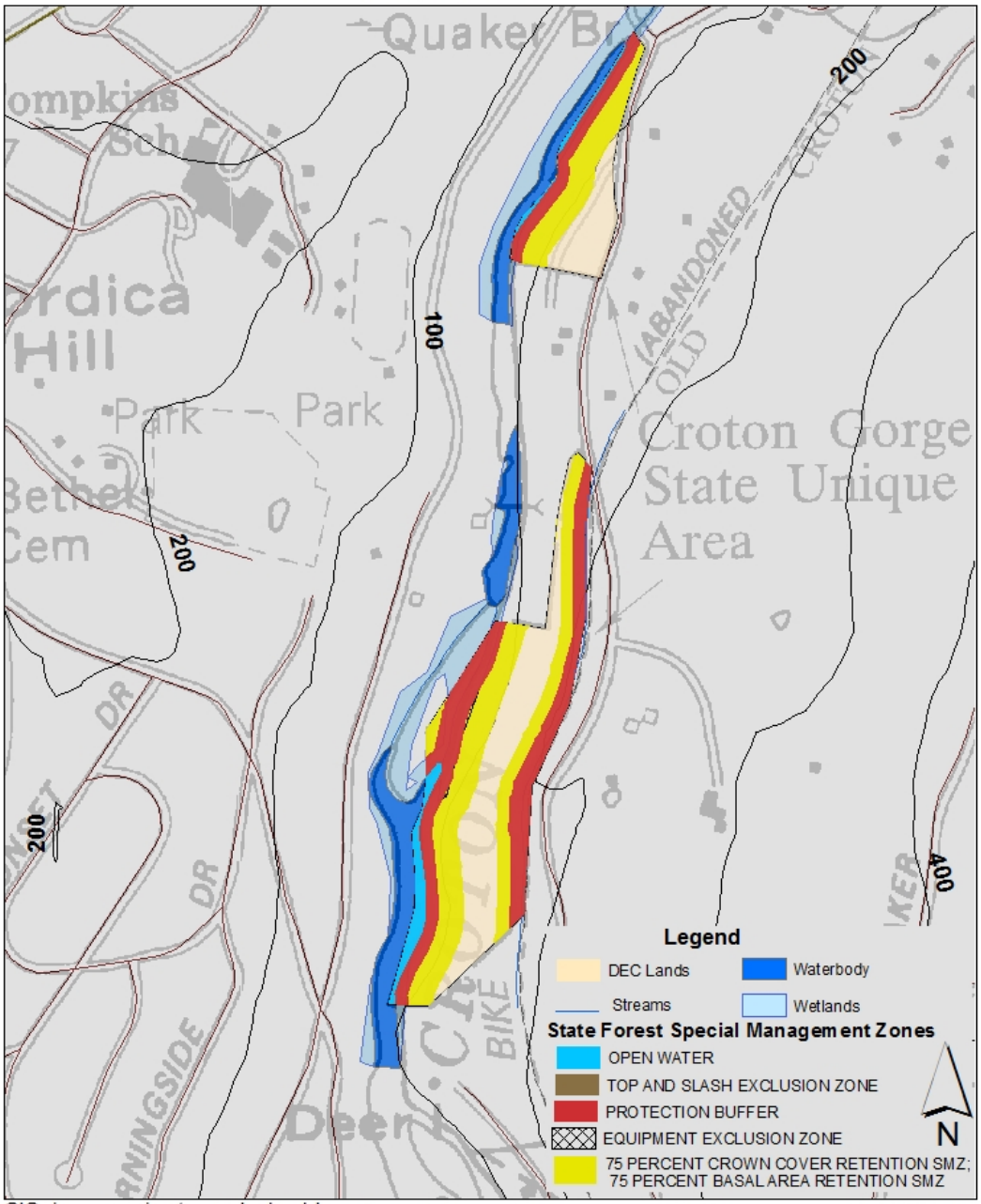


FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY



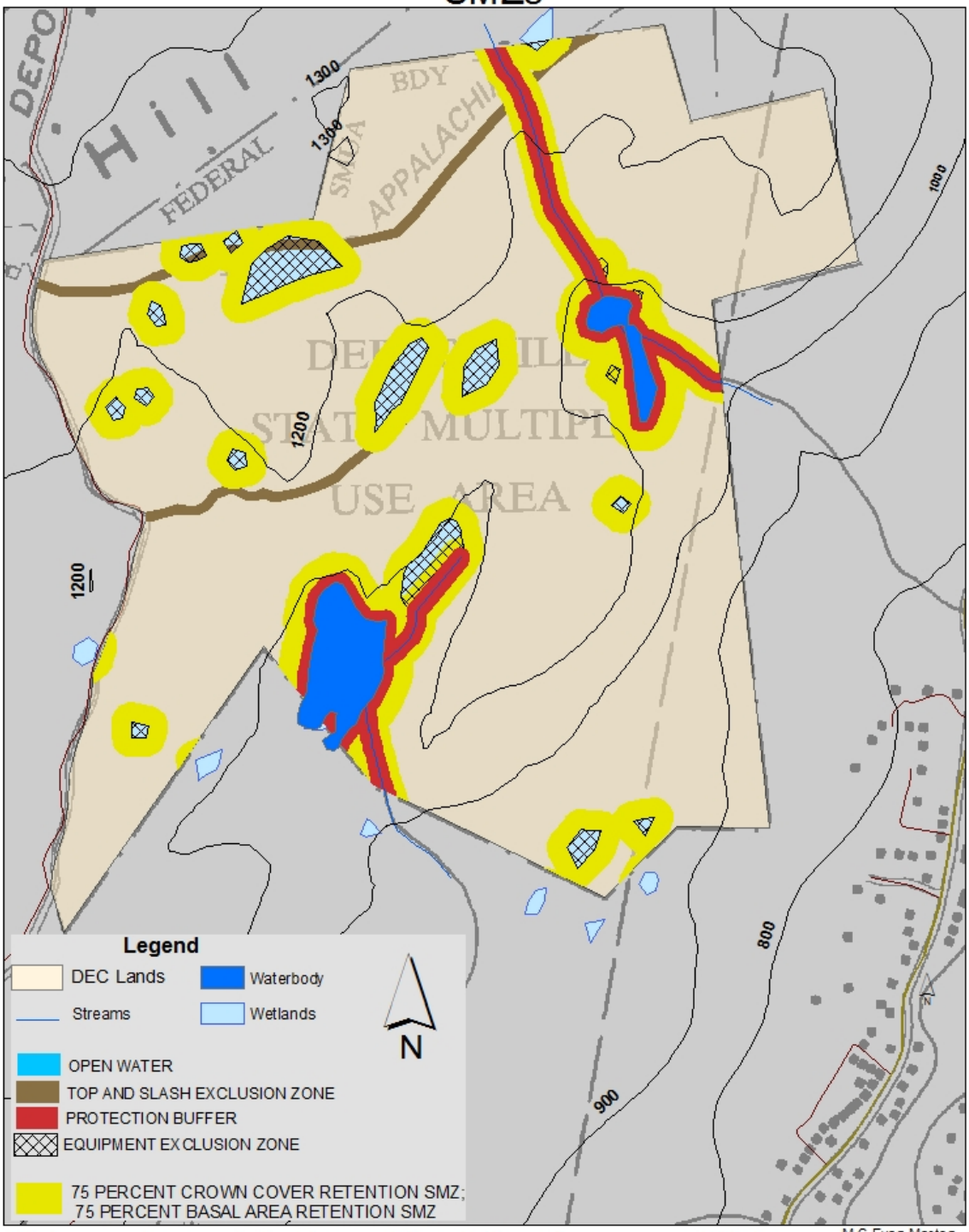
## FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY

Westchester 1: Croton Gorge UA Hydrology, Topography, and SMZs




GIS is approximate and should not be considered a subsitute for an onsite inspection or survey.

FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY



## FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY

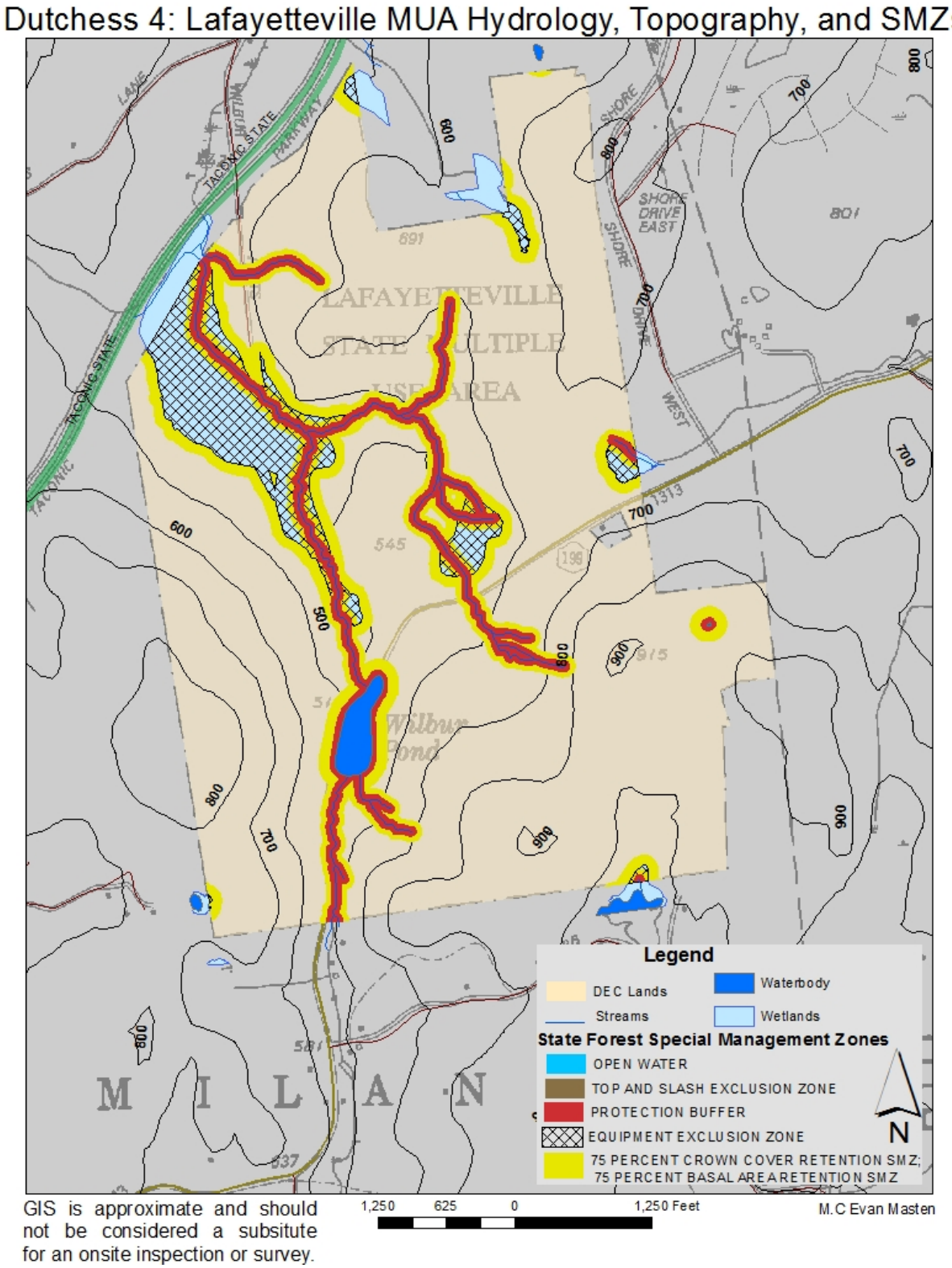


FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY

**Westchester 2: Montrose Point SF Hydrology, Topography and SMZs**

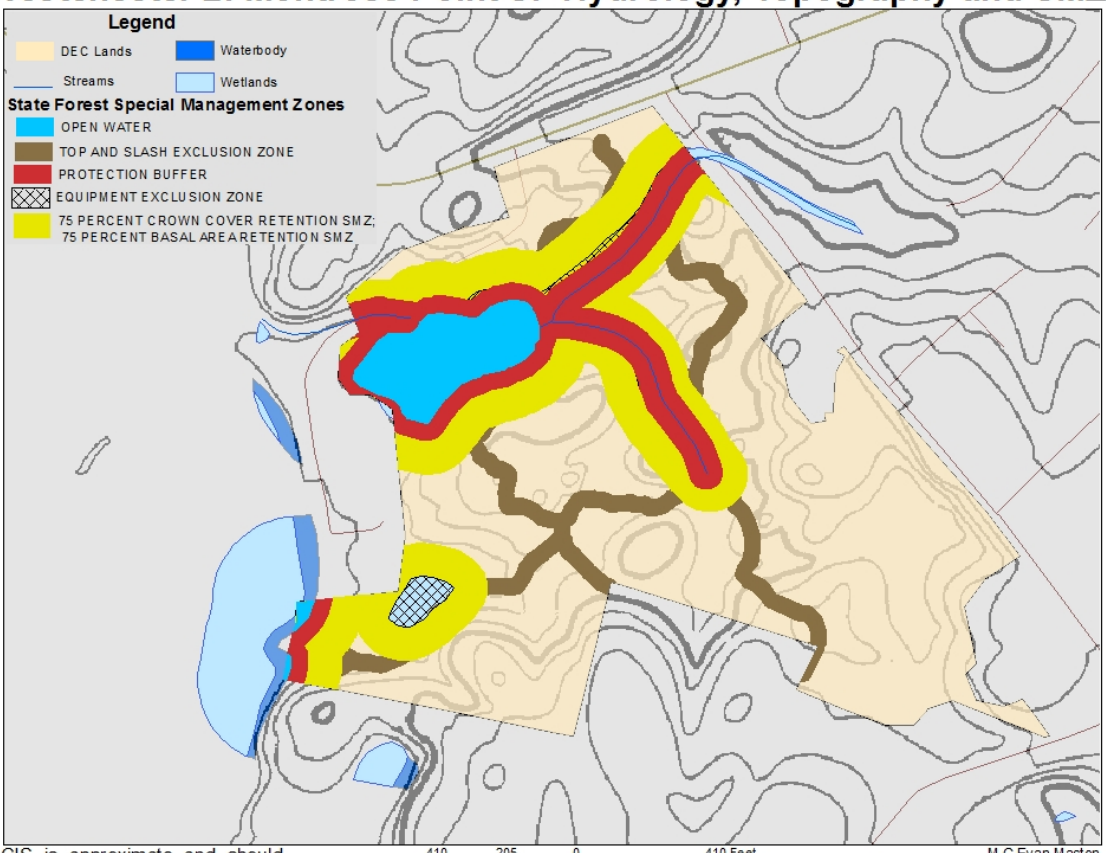



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FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY

## Putnam 1: Nimham Mountain MUA Hydrology, Topography, and SMZs

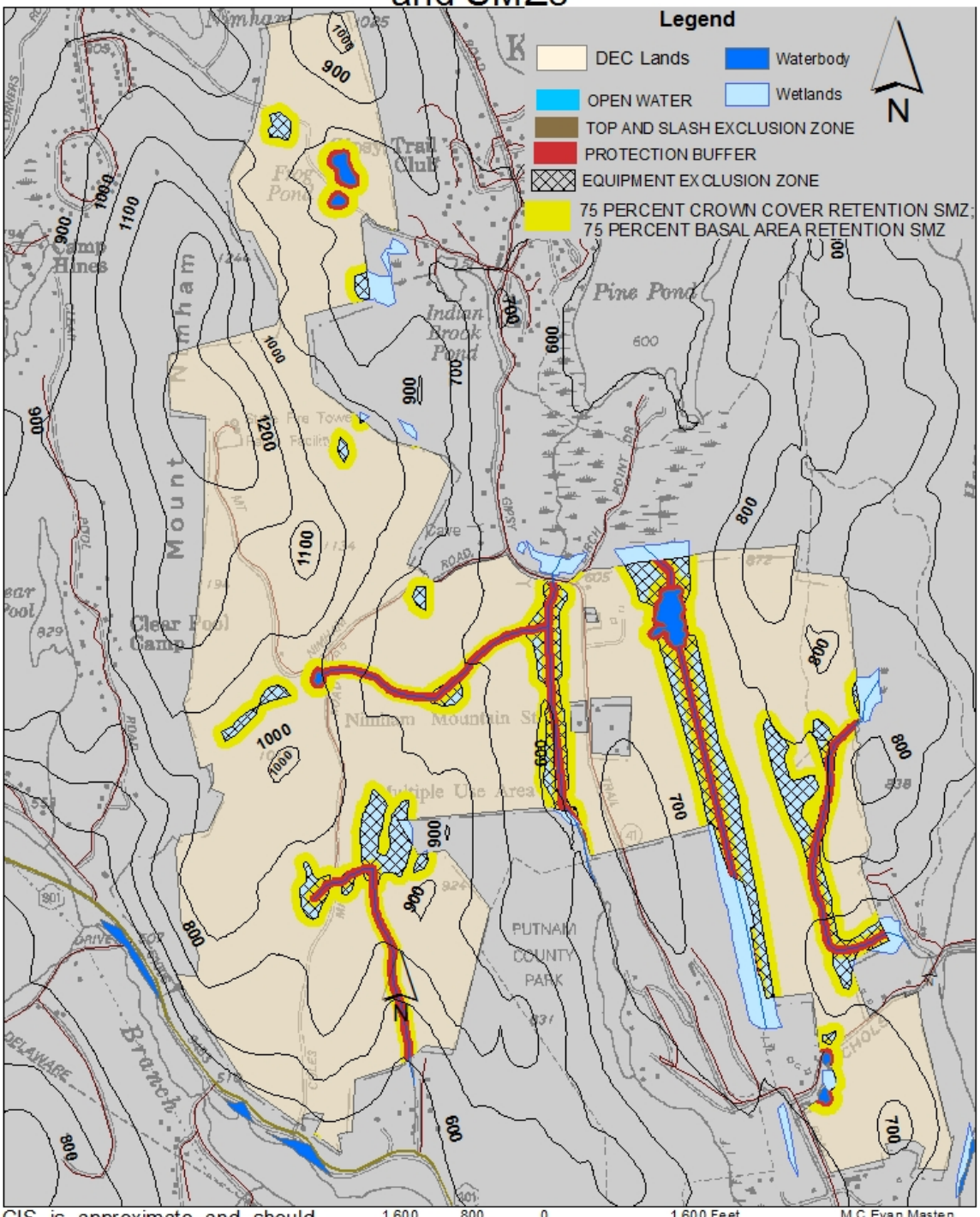


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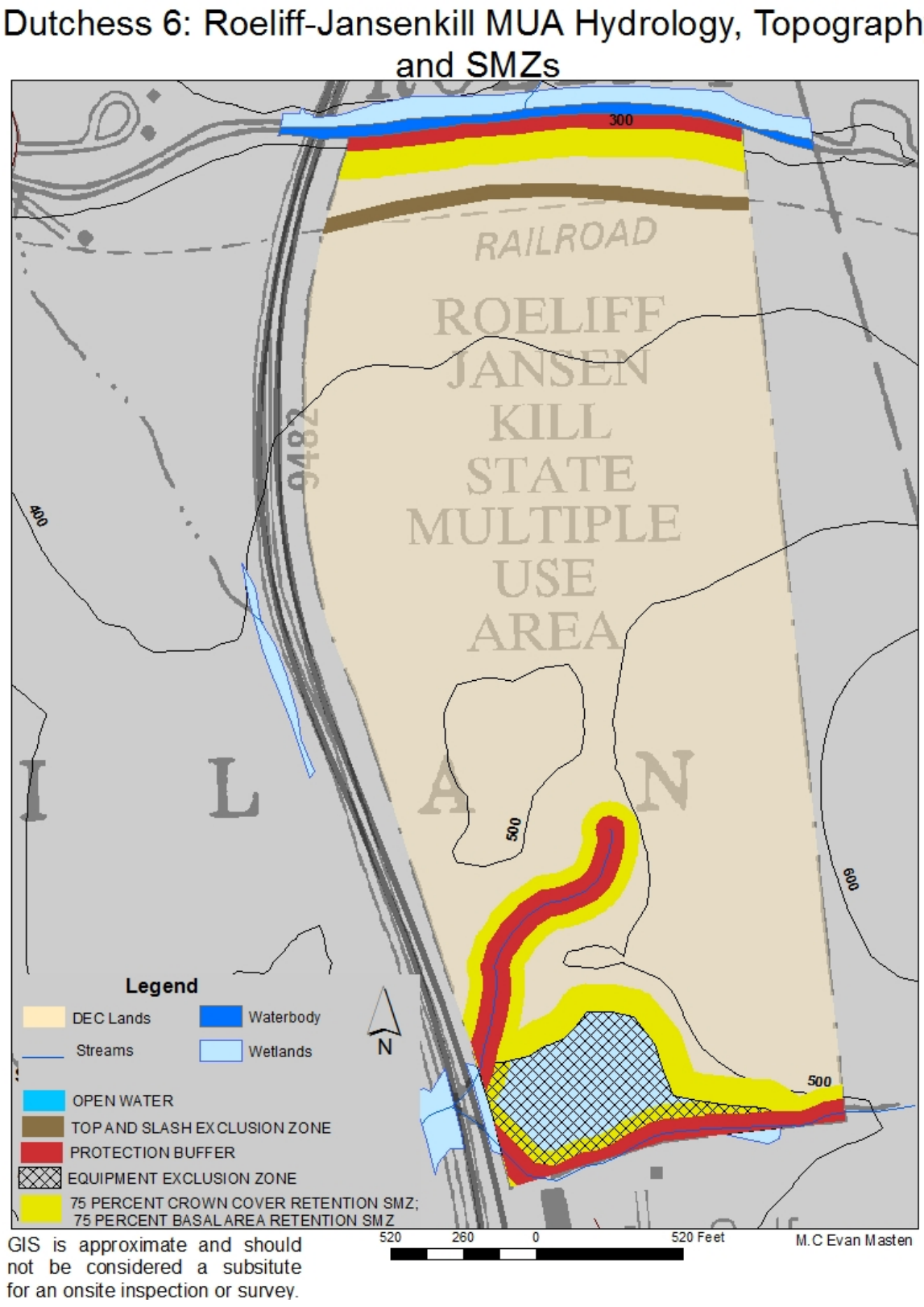
FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY



## FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY

Dutchess 2: Stisssing Mountain MUA Hydrology, Topography, and SMZ

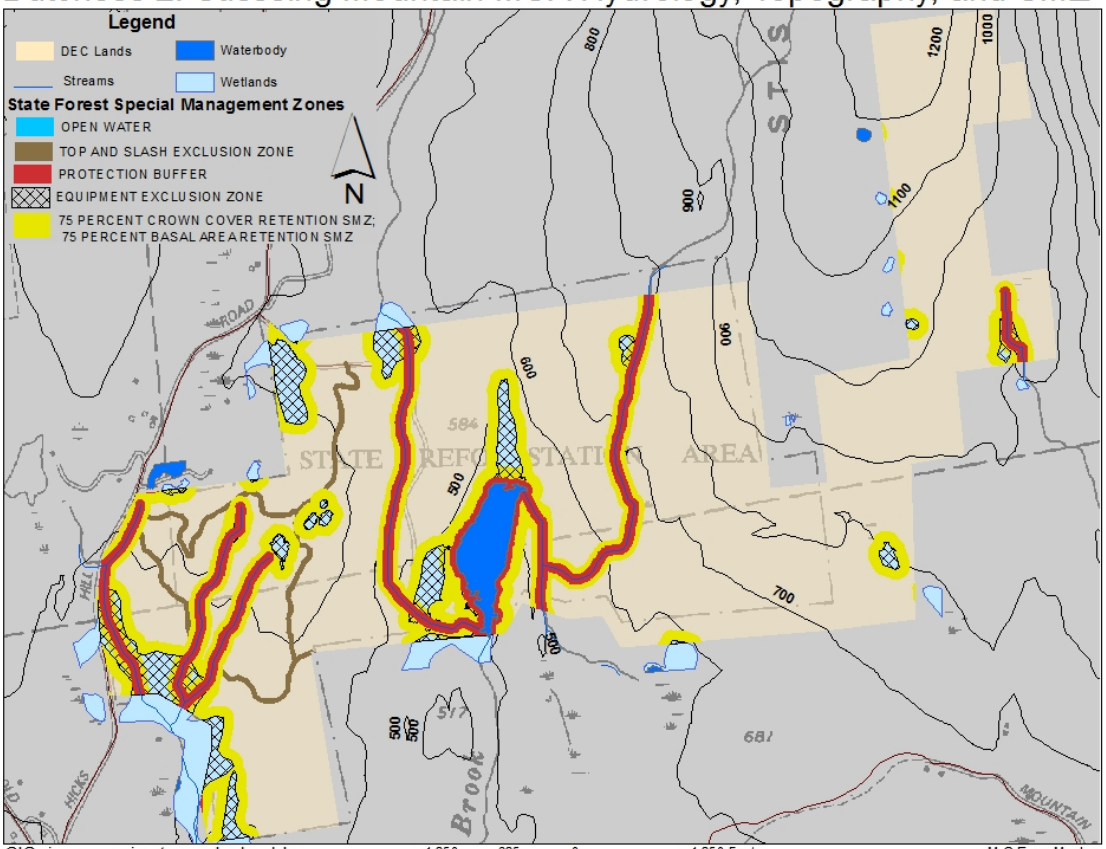



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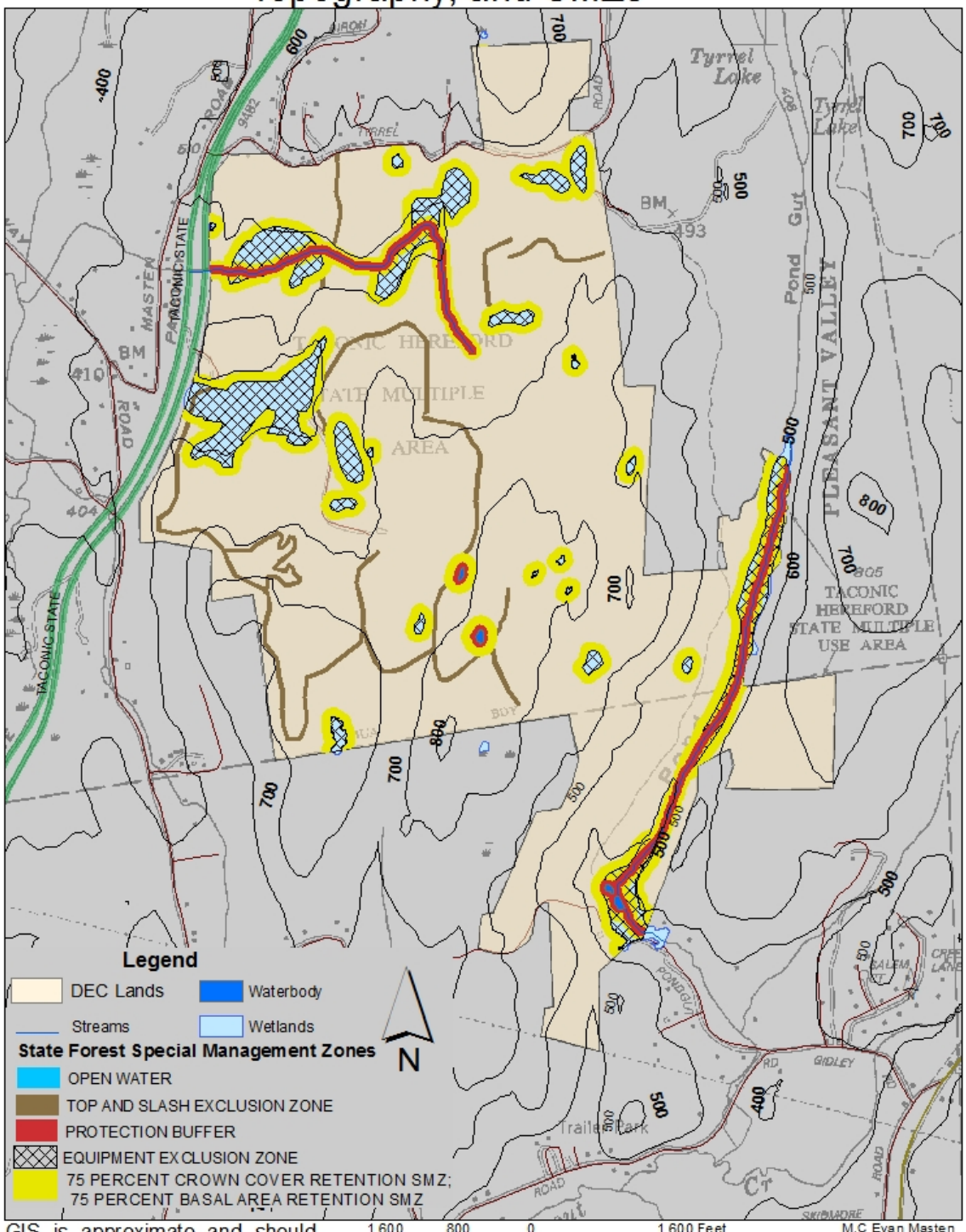
FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY

## Dutchess 1: Taconic-Hereford MUA Hydrology, Topography, and SMZs




GIS is approximate and should not be considered a subsitute for an onsite inspection or survey.

FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY

Dutchess 5: Wassaic Mountain MUA Hydrology, Topography and SMZ's

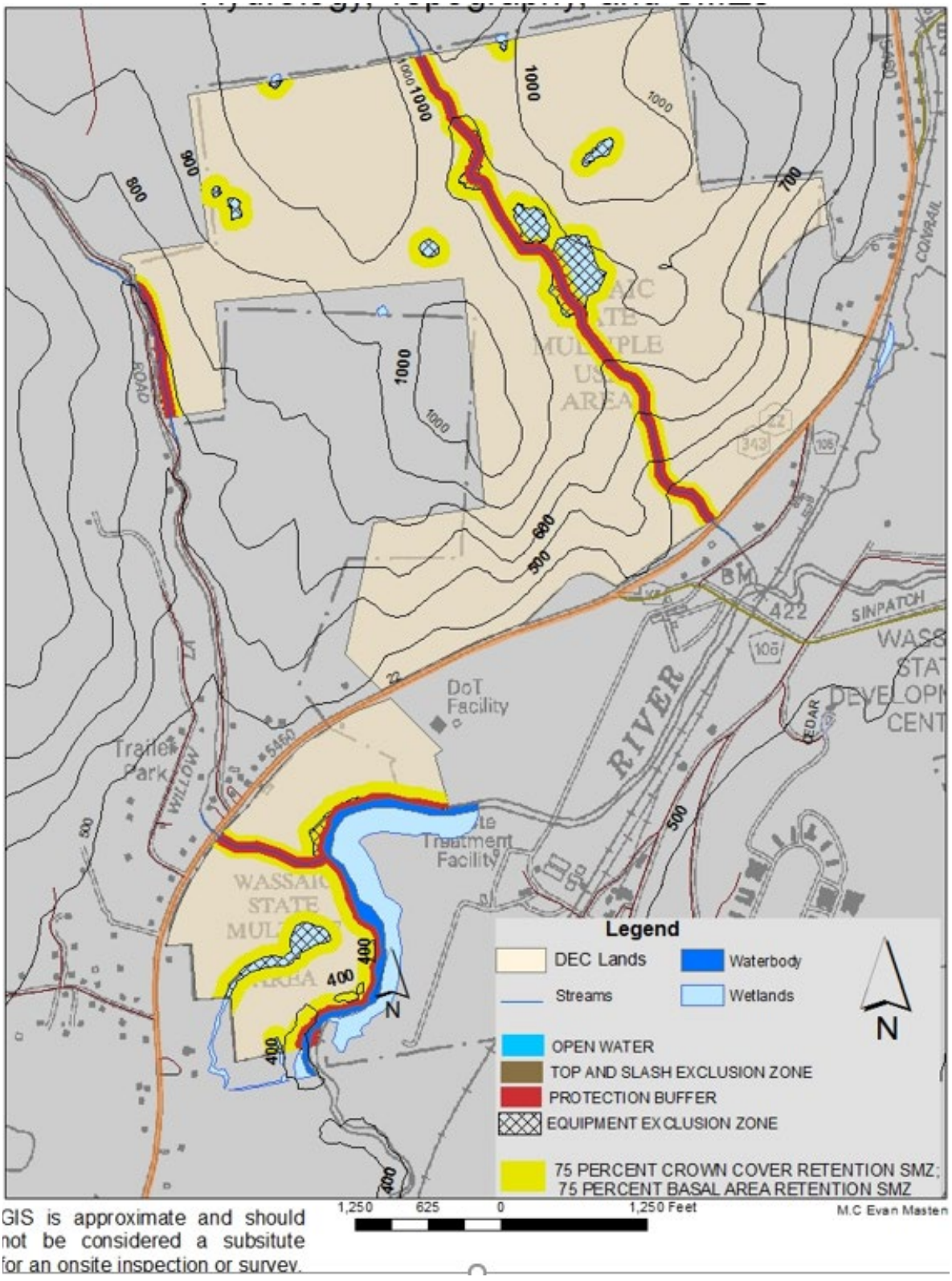


FIGURE 1 – WATER RESOURCES, SPECIAL MANAGEMENT ZONES AND TOPOGRAPHY

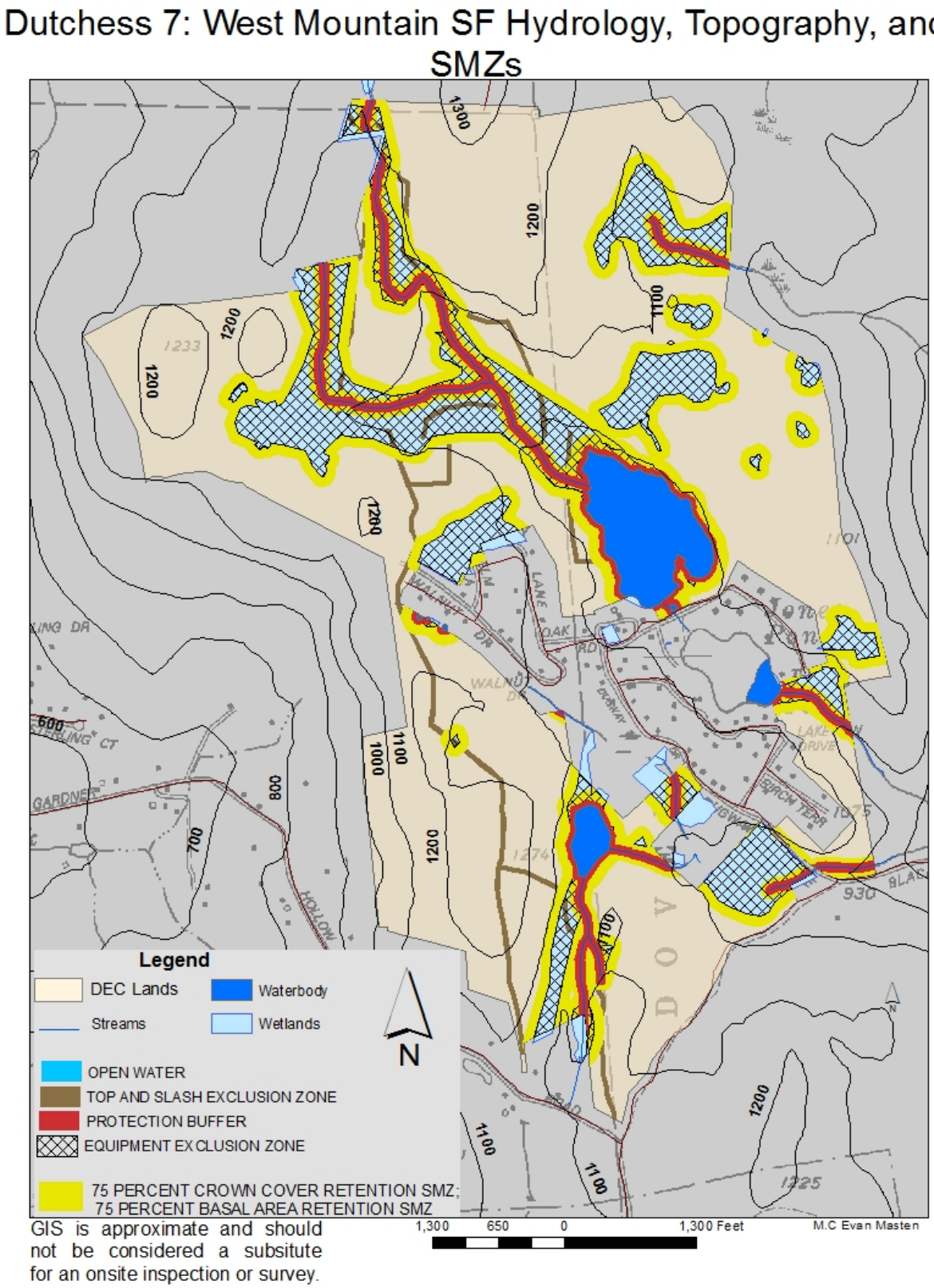
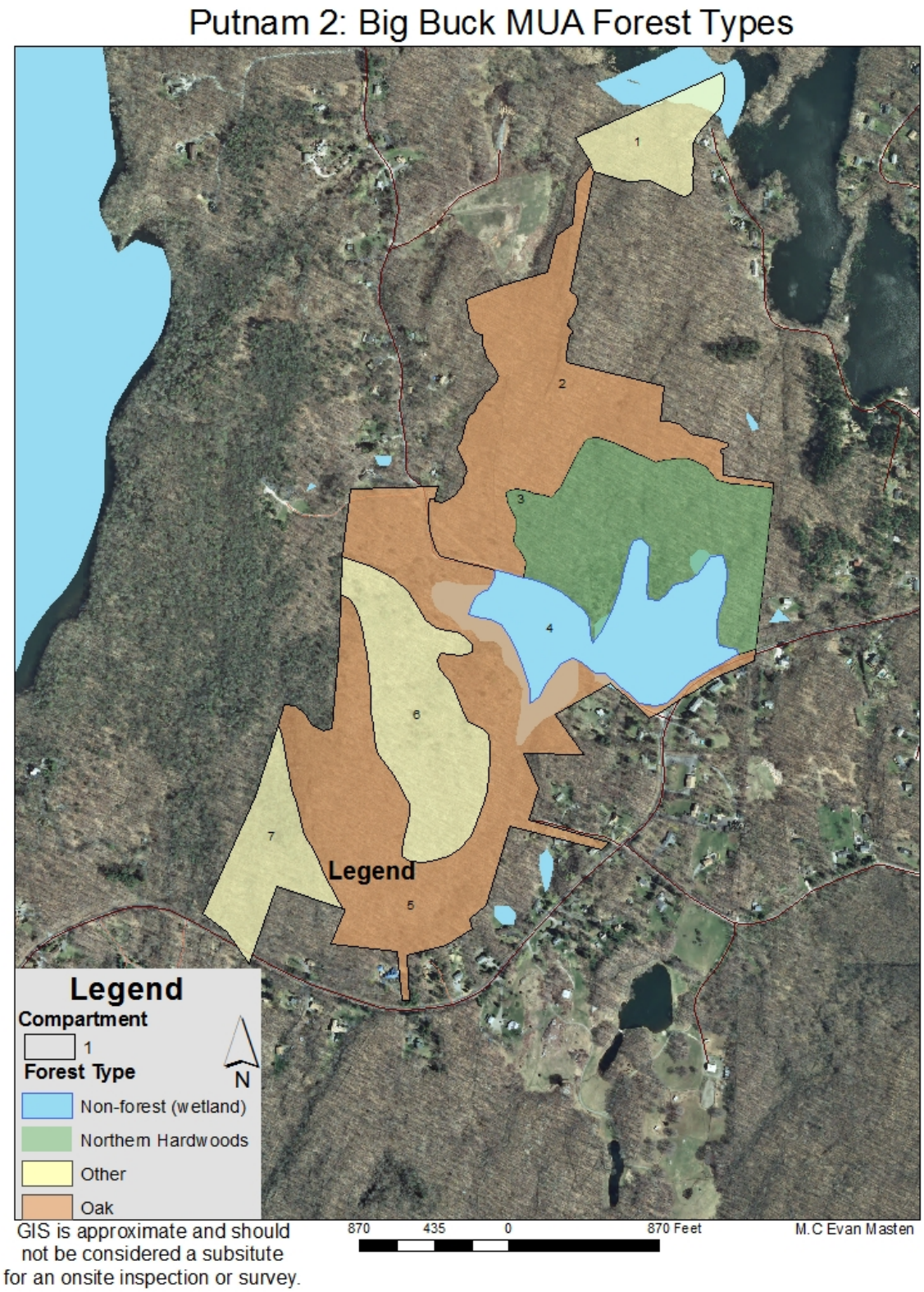


FIGURE 2 – FOREST STAND TYPES

## Figure 2 – Forest Stand Types



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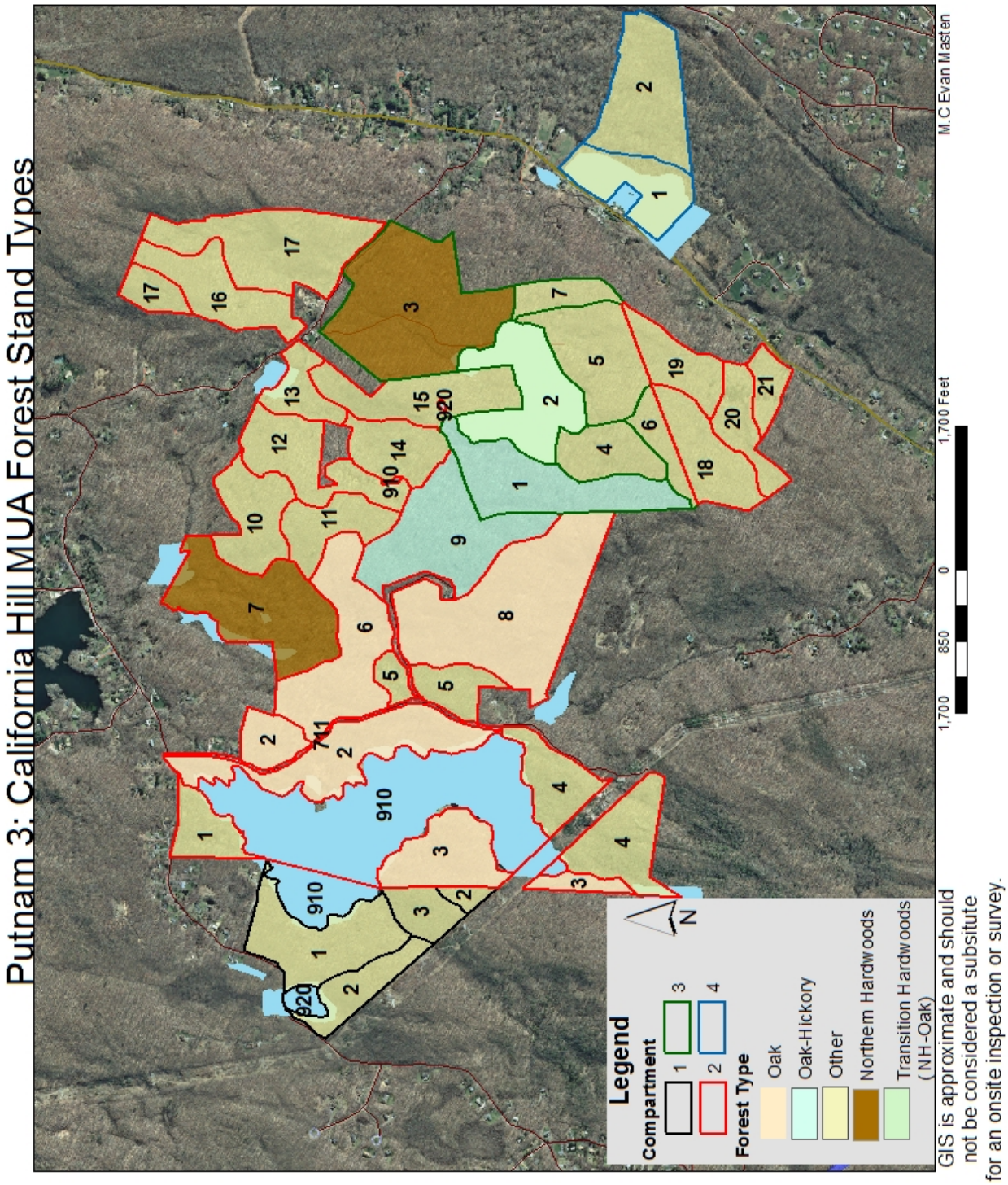
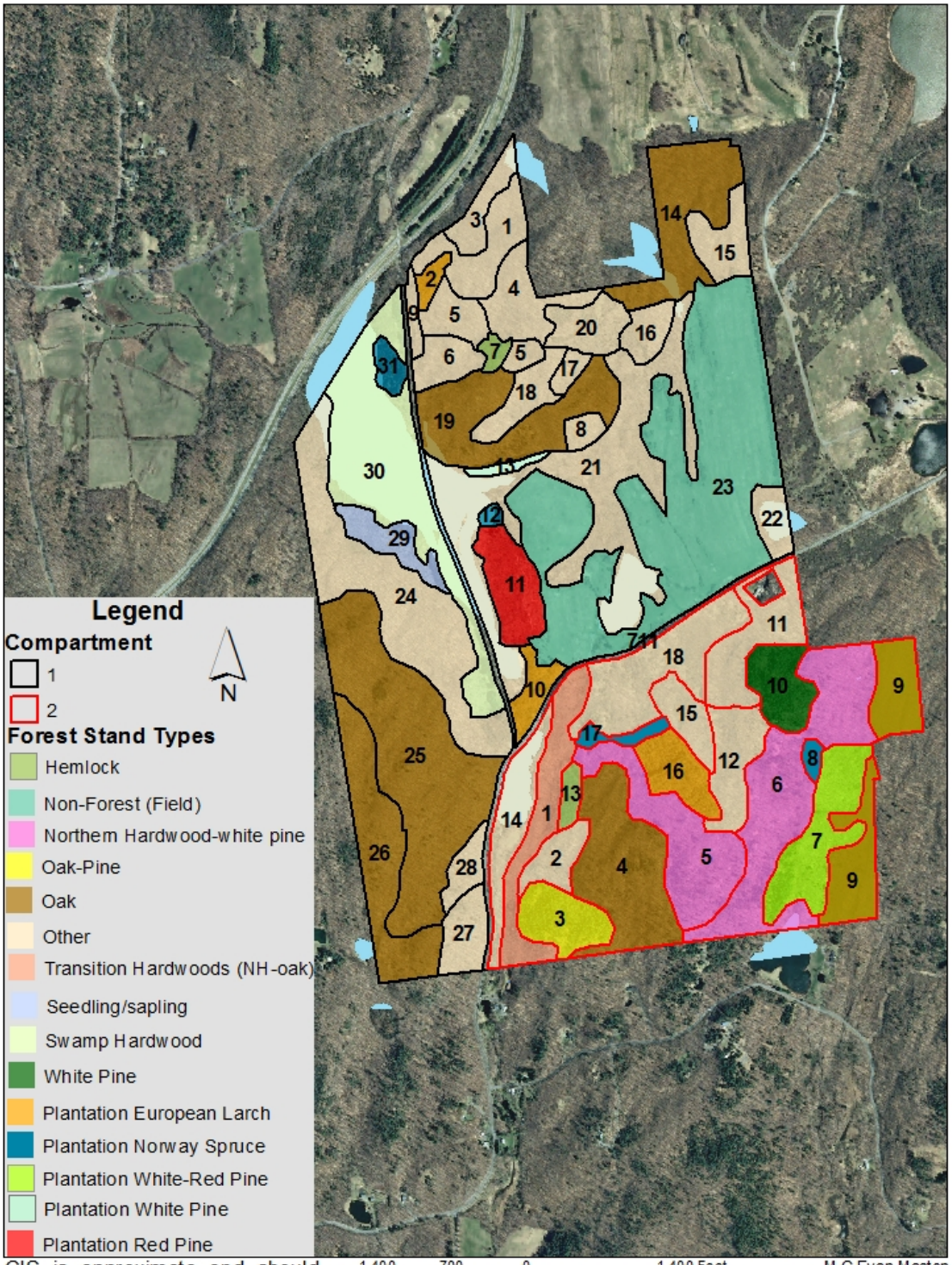


## Dutchess 4: Lafayetteville MUA Forest Stand Types

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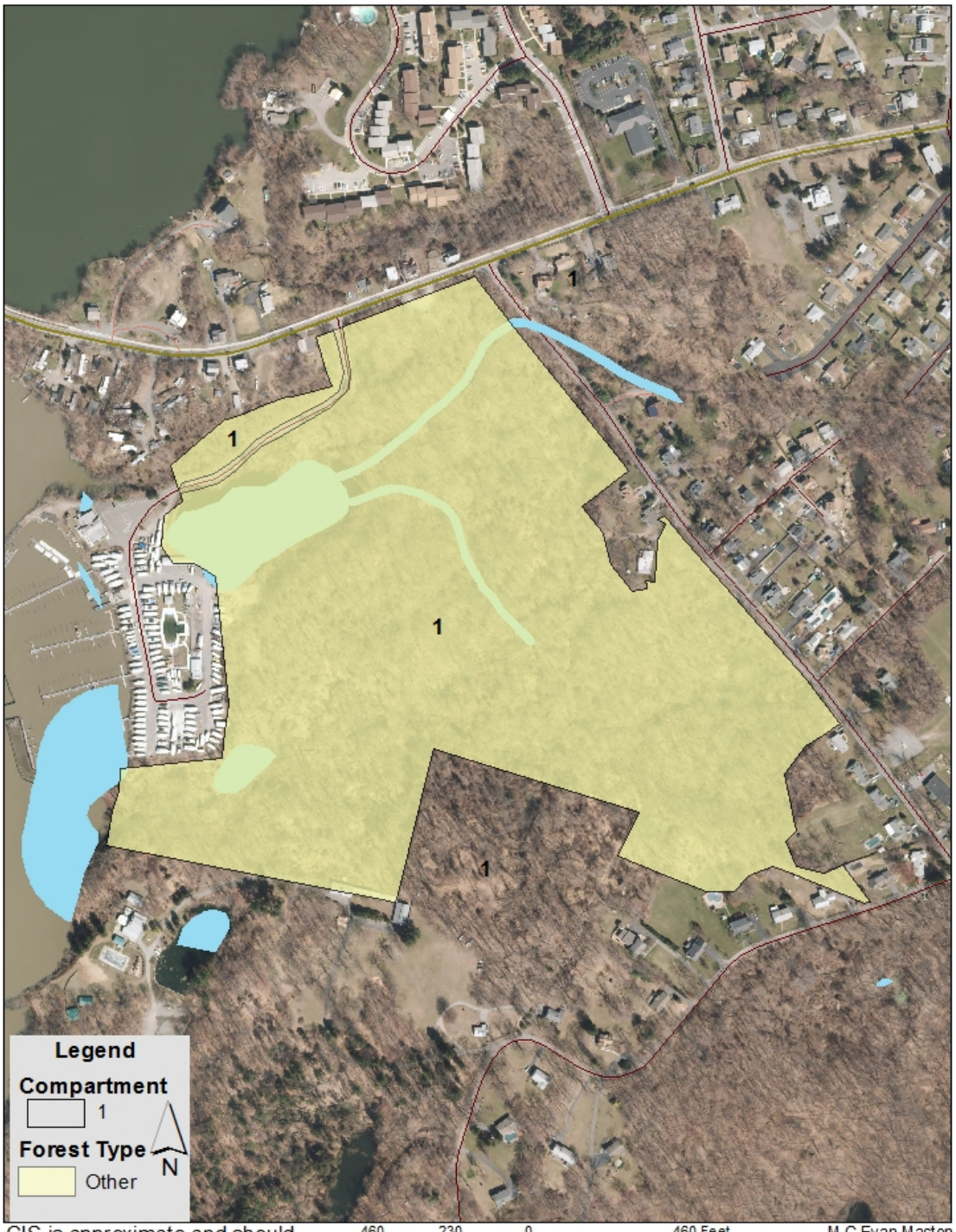
## Westchester 2: Montrose Point SF Forest Stands

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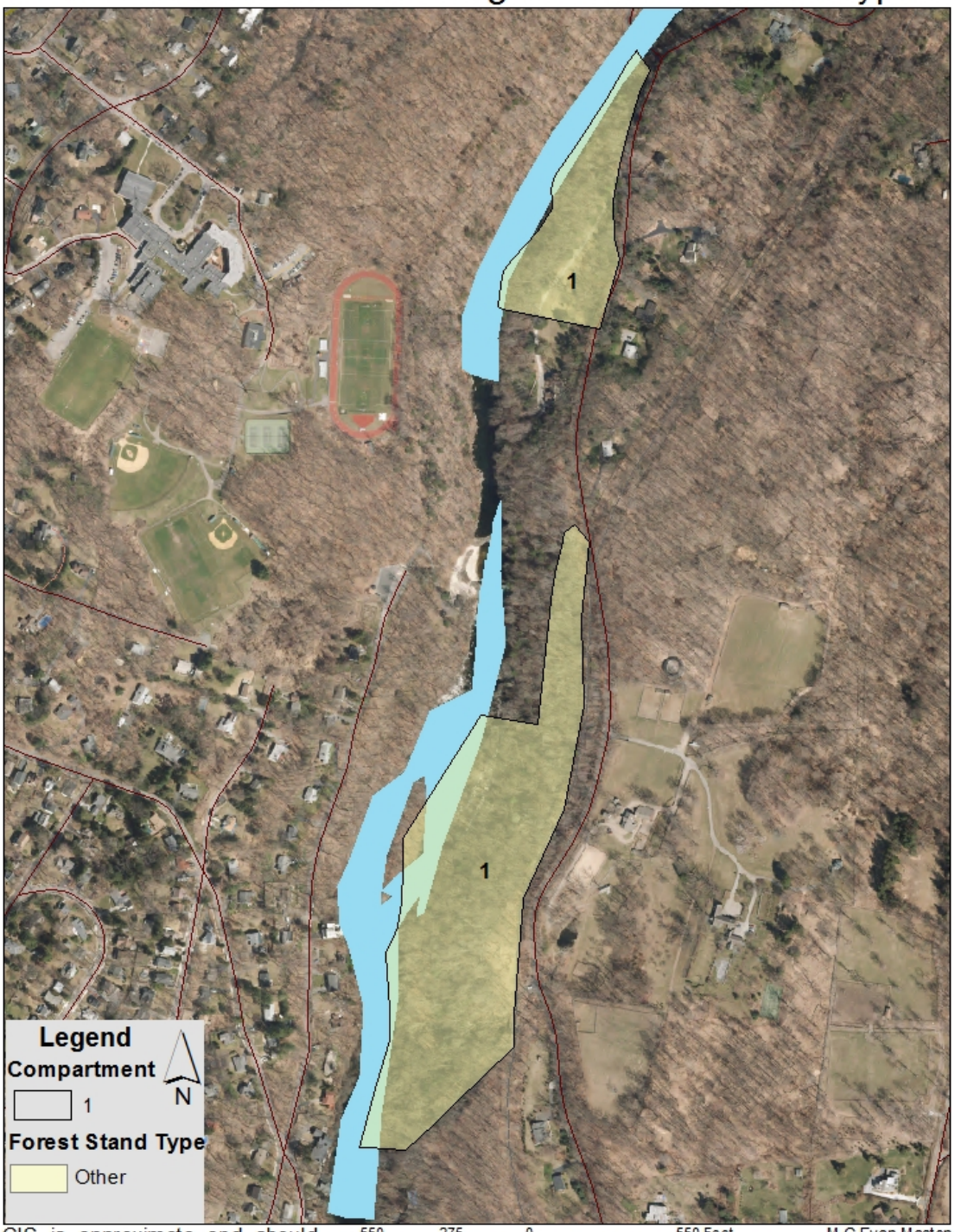
## Westchester 1: Croton Gorge UA Forest Stand Types

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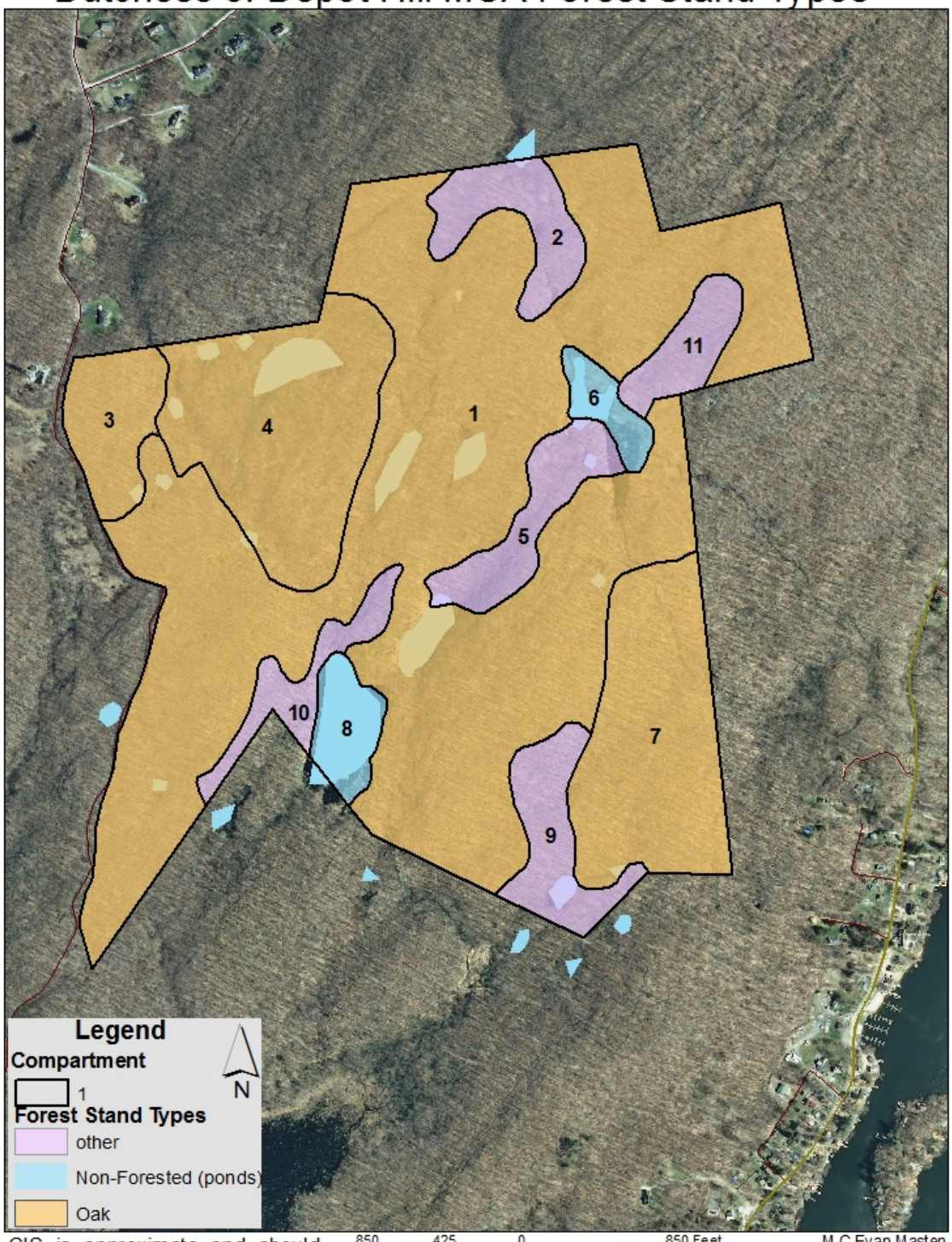
## Dutchess 3: Depot Hill MUA Forest Stand Types

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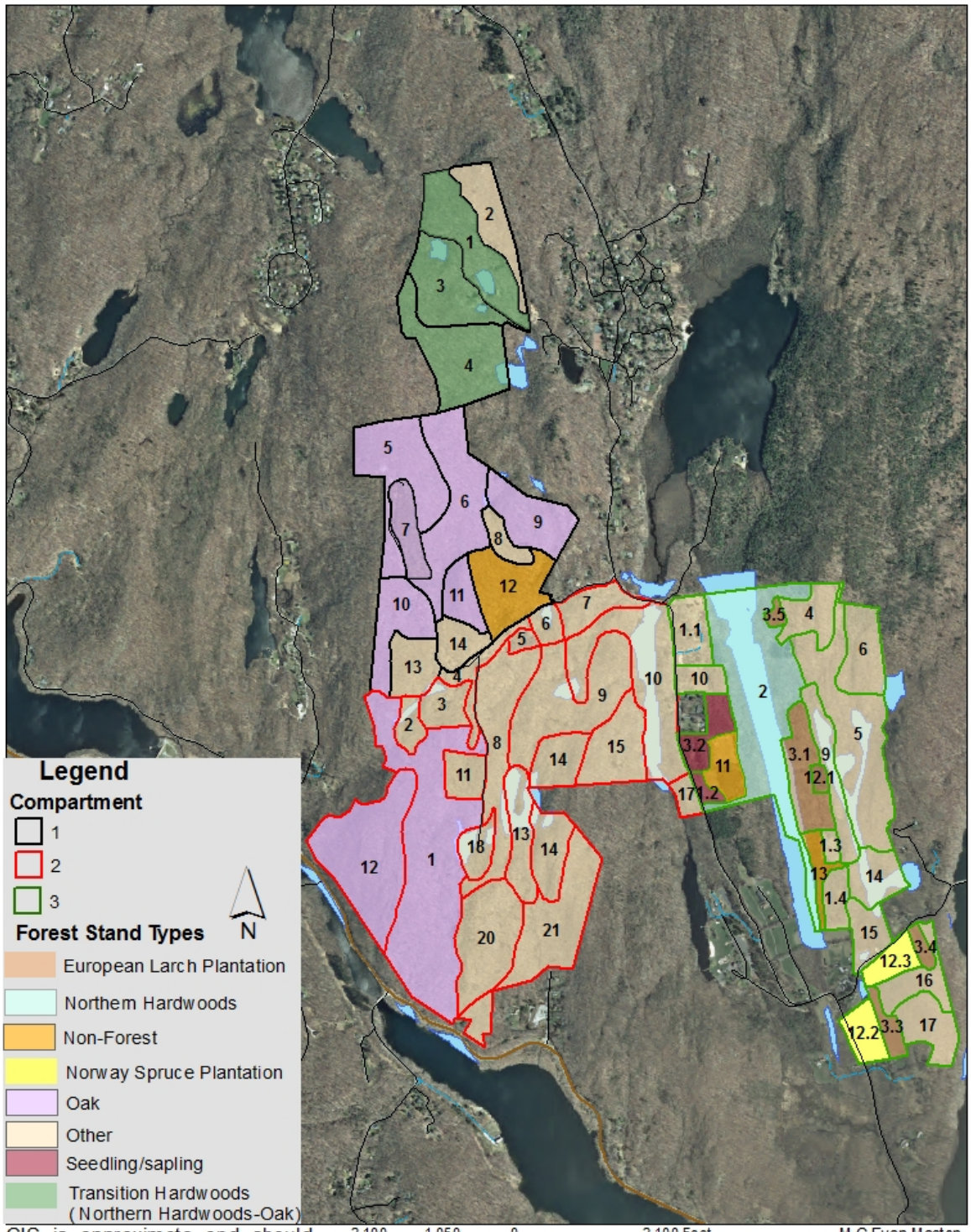
# Putnam 1: Nimham Mountain MUA Forest Stand Types

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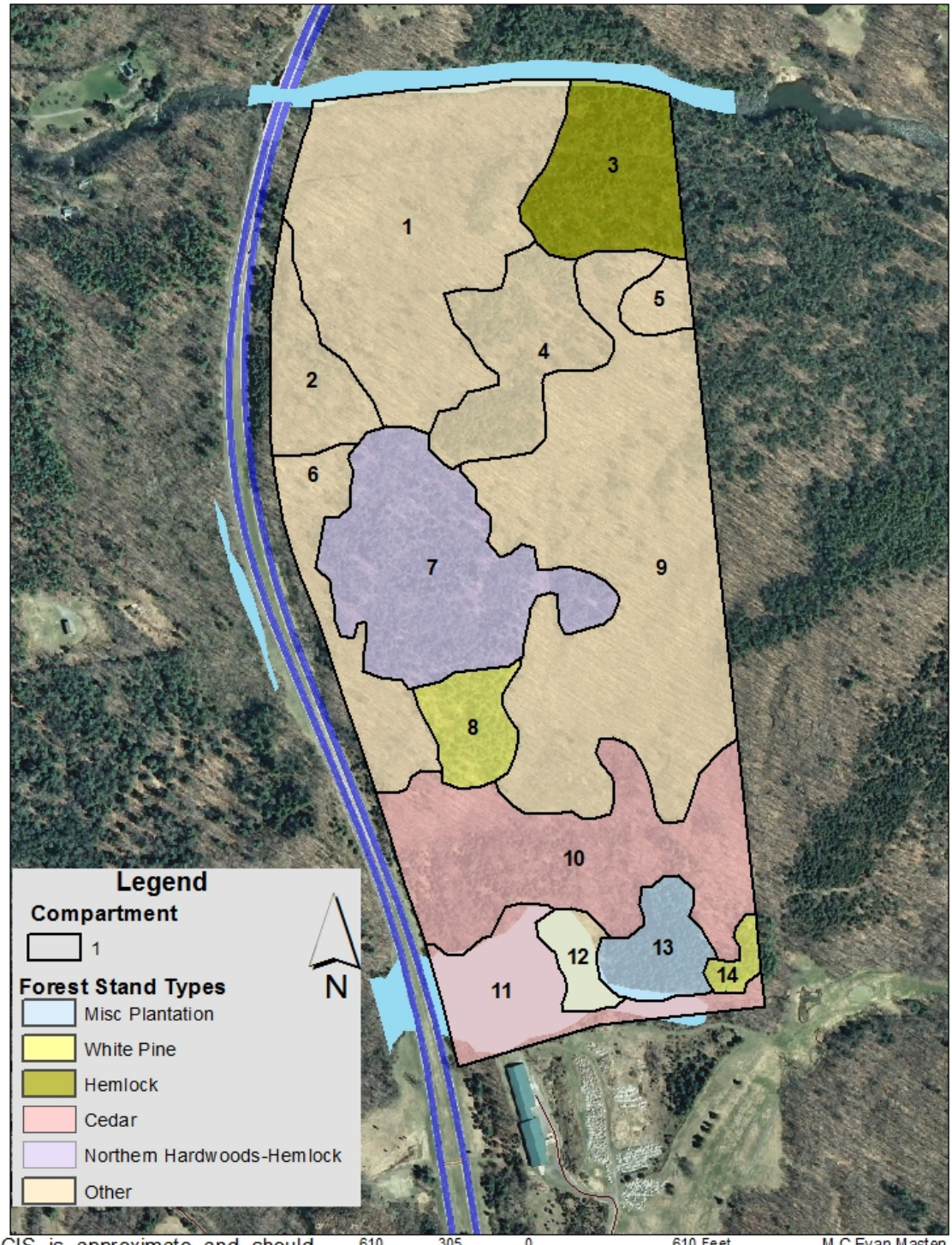
## Dutchess 6: Roeliff-Jansenkill MUA Forest Types

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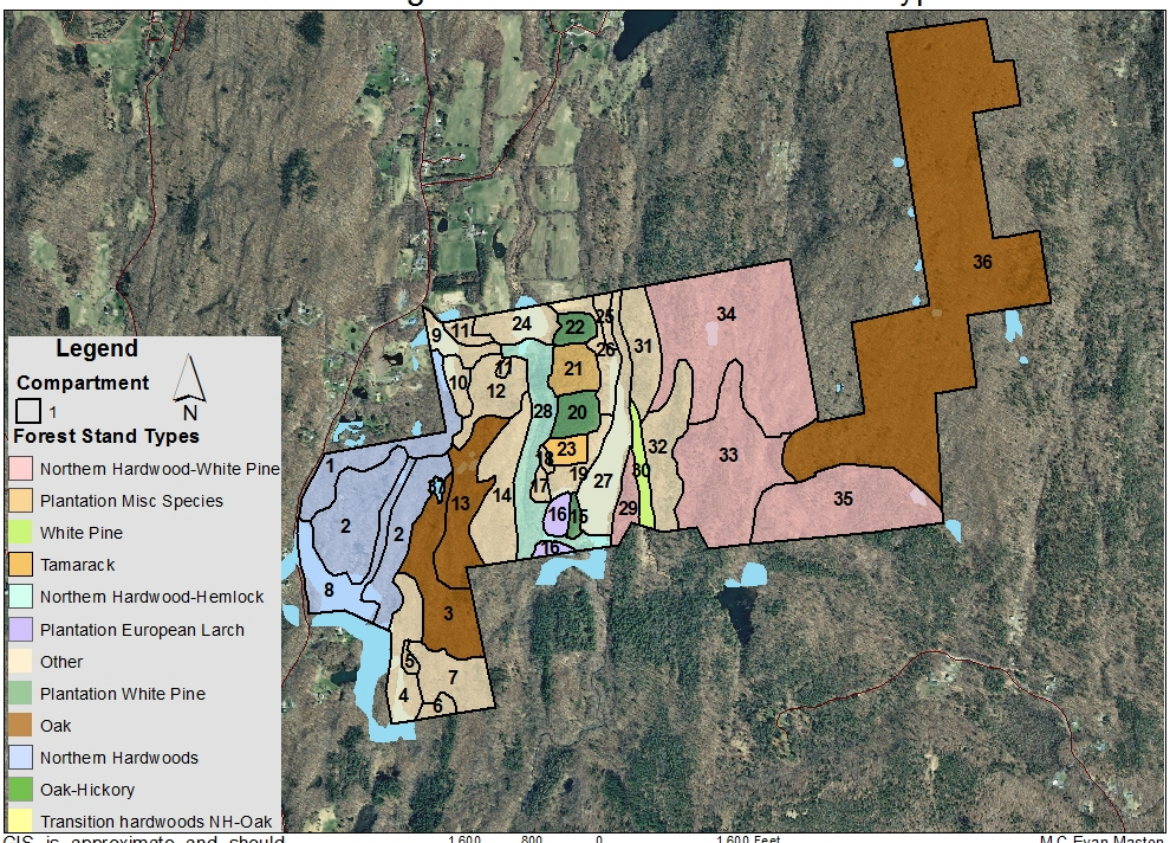
## Dutchess 2: Stissing Mountain MUA Forest Stand Types

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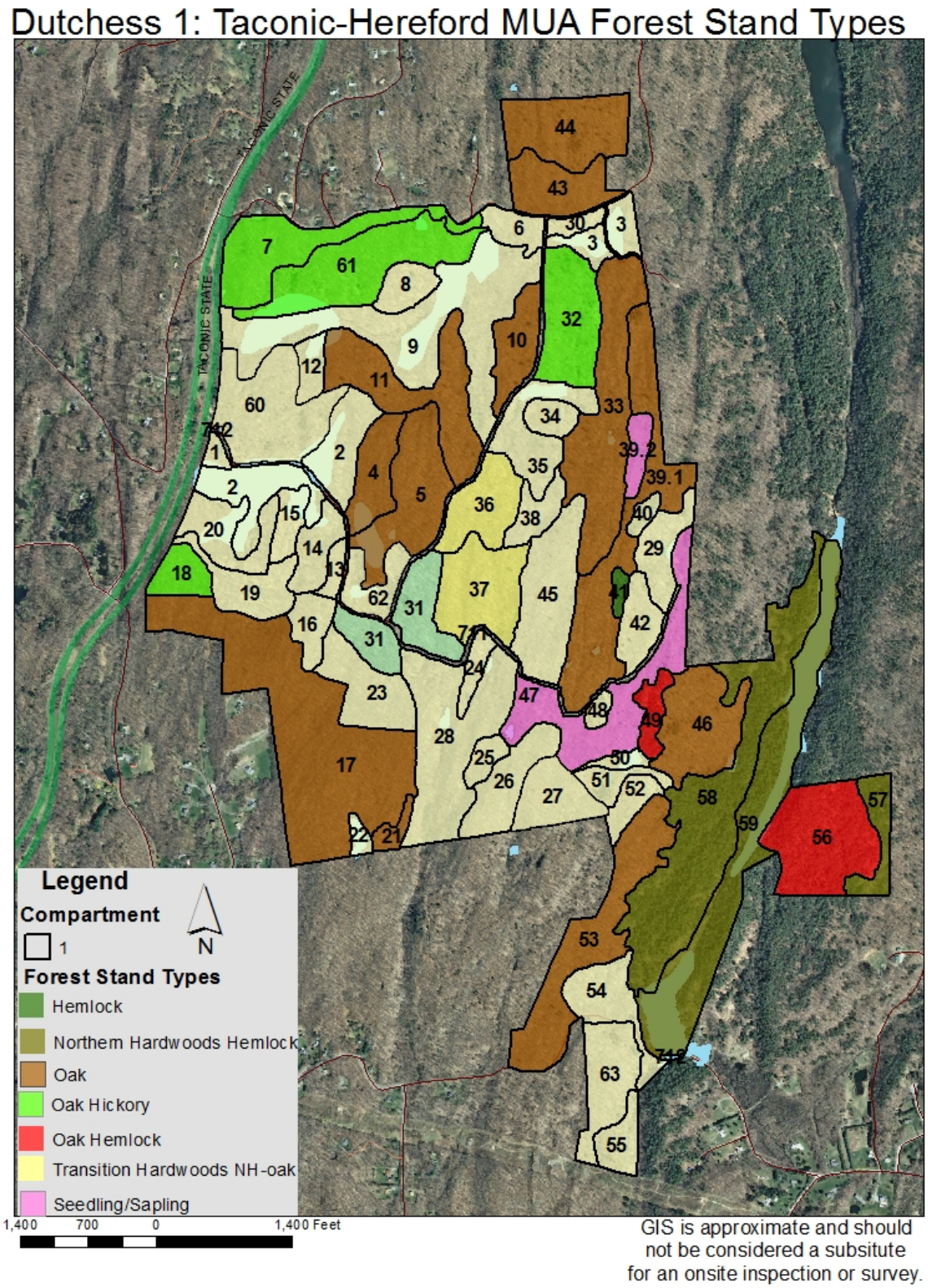
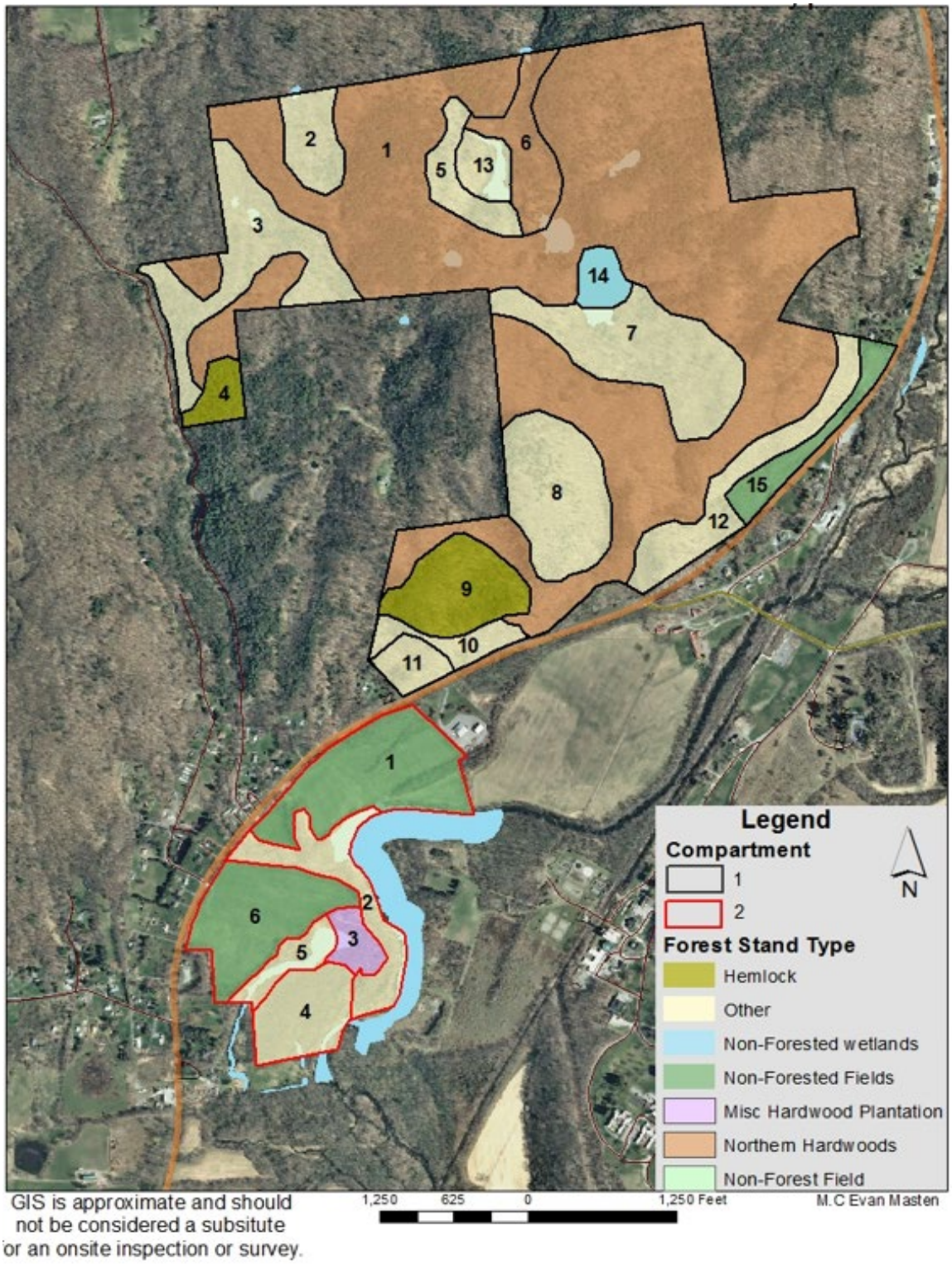
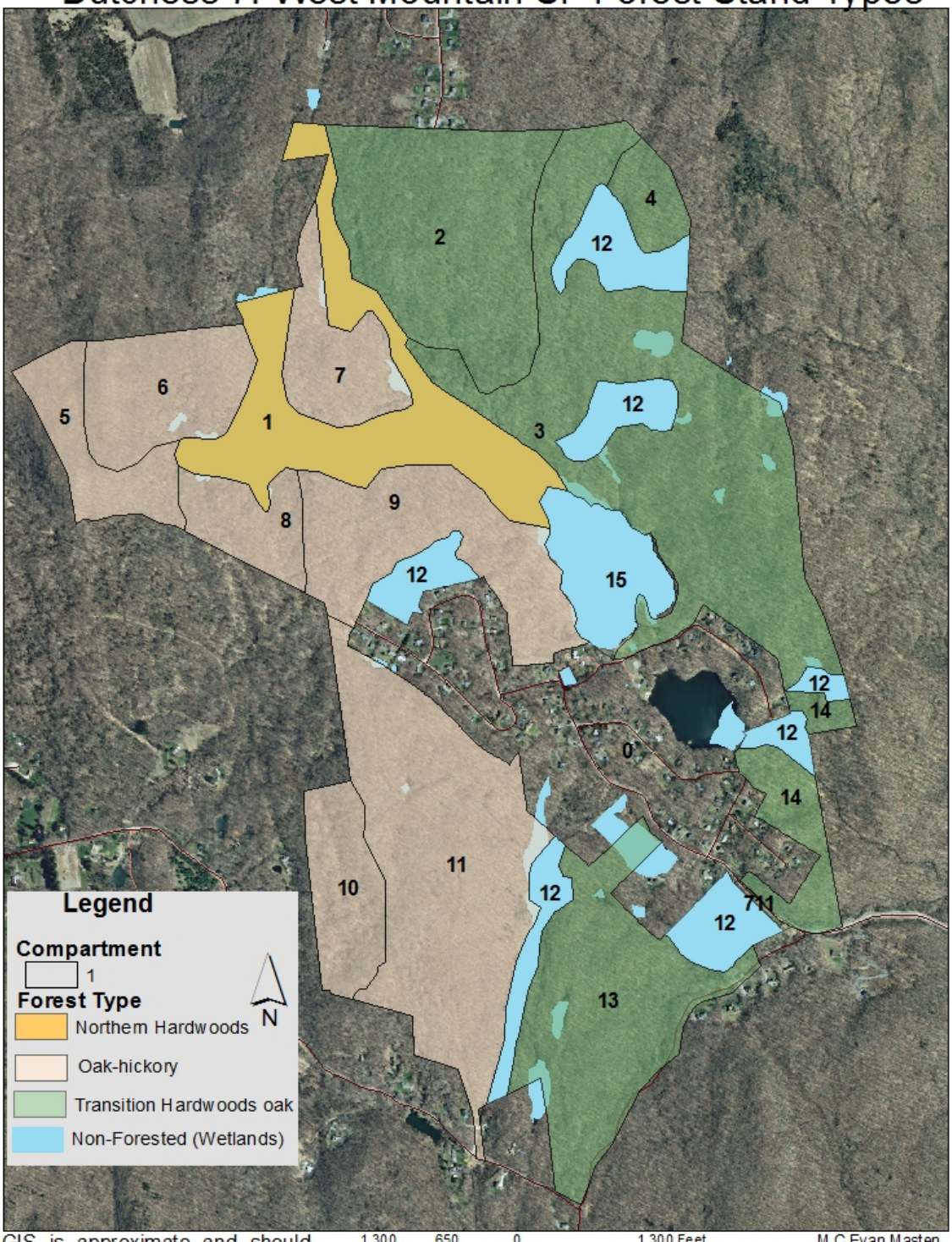

Dutchess 1: Taconic-Hereford MUA Forest Stand Types
TACONIC STATE
Legend
Compartment
1
N
Forest Stand Types
Hemlock
Northern Hardwoods Hemlock
Oak
Oak Hickory
Oak Hemlock
Transition Hardwoods NH-oak
Seedling/Sapling
1,400 700 0 1,400 Feet
GIS is approximate and should not be considered a subsitute for an onsite inspection or survey.

## Dutchess 5: Wassaic MUA Forest Stand Types



# Dutchess 7: West Mountain SF Forest Stand Types

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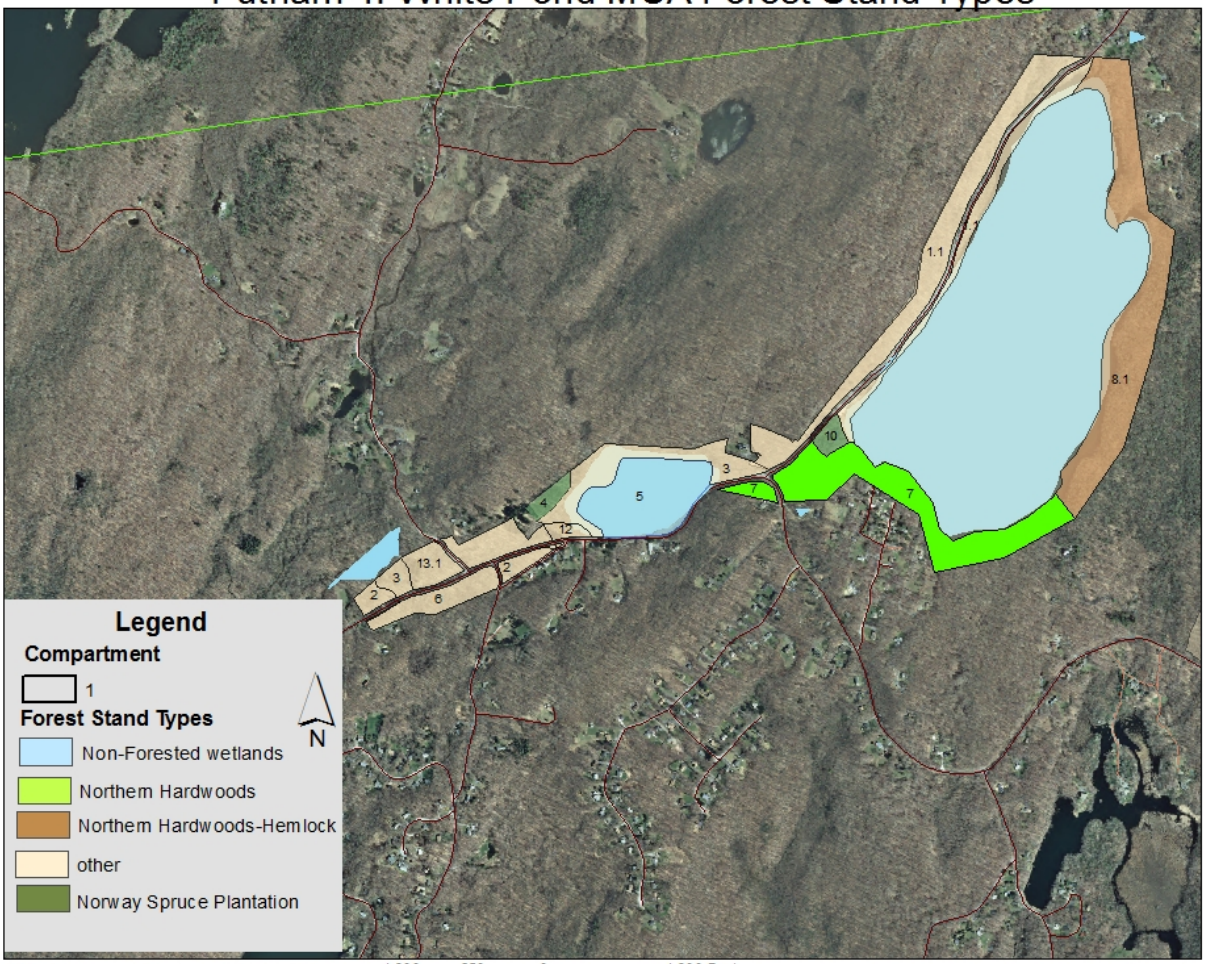
## Putnam 4: White Pond MUA Forest Stand Types




GIS is approximate and should not be considered a subsitute for an onsite inspection or survey.

1,300 650 0 1,300 Feet

M.C Evan Masten

## Appendix D Breeding Bird Atlas

| Common Name | Scientific Name |
|---|---|
| Acadian Flycatcher | *Empidonax virescens* |
| Alder Flycatcher | *Empidonax alnorum* |
| American Bittern | *Botaurus lentiginosus* |
| American Black Duck | *Anas rubripes* |
| American Crow | *Corvus brachyrhynchos* |
| American Goldfinch | *Carduelis tristis* |
| American Kestrel | *Falco sparverius* |
| American Redstart | *Setophaga ruticilla* |
| American Robin | *Turdus migratorius* |
| American Woodcock | *Scolopax minor* |
| Bald Eagle | *Haliaeetus leucocephalus* |
| Baltimore Oriole | *Icterus galbula* |
| Bank Swallow | *Riparia riparia* |
| Barn Swallow | *Hirundo rustica* |
| Barred Owl | *Strix varia* |
| Belted Kingfisher | *Megaceryle alcyon* |
| Black Vulture | *Coragyps atratus* |
| Black-and-white Warbler | *Mniotilta varia* |
| Black-billed Cuckoo | *Coccyzus erythropthalmus* |
| Blackburnian Warbler | *Dendroica fusca* |
| Black-capped Chickadee | *Poecile atricapillus* |
| Black-crowned Night-Heron | *Nycticorax nycticorax* |
| Black-throated Blue Warbler | *Dendroica caerulescens* |
| Black-throated Green Warbler | *Dendroica virens* |
| Blue Jay | *Cyanocitta cristata* |

| | |
|---|---|
| Blue-gray Gnatcatcher | *Polioptila caerulea* |
| Blue-headed Vireo | *Vireo solitarius* |
| Blue-winged Warbler | *Vermivora pinus* |
| Bobolink | *Dolichonyx oryzivorus* |
| Brewster's Warbler | *Vermivora pinus x V. chrysoptera* |
| Broad-winged Hawk | *Buteo platypterus* |
| Brown Creeper | *Certhia americana* |
| Brown Thrasher | *Toxostoma rufum* |
| Brown-headed Cowbird | *Molothrus ater* |
| Canada Goose | *Branta canadensis* |
| Canada Warbler | *Wilsonia canadensis* |
| Carolina Wren | *Thryothorus ludovicianus* |
| Cedar Waxwing | *Bombycilla cedrorum* |
| Cerulean Warbler | *Dendroica cerulea* |
| Chestnut-sided Warbler | *Dendroica pensylvanica* |
| Chimney Swift | *Chaetura pelagica* |
| Chipping Sparrow | *Spizella passerina* |
| Cliff Swallow | *Petrochelidon pyrrhonota* |
| Common Grackle | *Quiscalus quiscula* |
| Common Merganser | *Mergus merganser* |
| Common Nighthawk | *Chordeiles minor* |
| Common Raven | *Corvus corax* |
| Common Yellowthroat | *Geothlypis trichas* |
| Cooper's Hawk | *Accipiter cooperii* |
| Dark-eyed Junco | *Junco hyemalis* |
| Double-crested Cormorant | *Phalacrocorax auritus* |
| Downy Woodpecker | *Picoides pubescens* |
| Eastern Bluebird | *Sialia sialis* |

| | |
|---|---|
| Eastern Kingbird | *Tyrannus tyrannus* |
| Eastern Meadowlark | *Sturnella magna* |
| Eastern Phoebe | *Sayornis phoebe* |
| Eastern Screech-Owl | *Megascops asio* |
| Eastern Towhee | *Pipilo erythrophthalmus* |
| Eastern Wood-Pewee | *Contopus virens* |
| European Starling | *Sturnus vulgaris* |
| Field Sparrow | *Spizella pusilla* |
| Fish Crow | *Corvus ossifragus* |
| Golden-crowned Kinglet | *Regulus satrapa* |
| Golden-winged Warbler | *Vermivora chrysoptera* |
| Grasshopper Sparrow | *Ammodramus savannarum* |
| Gray Catbird | *Dumetella carolinensis* |
| Great Black-backed Gull | *Larus marinus* |
| Great Blue Heron | *Ardea herodias* |
| Great Crested Flycatcher | *Myiarchus crinitus* |
| Great Egret | *Ardea alba* |
| Great Horned Owl | *Bubo virginianus* |
| Green Heron | *Butorides virescens* |
| Hairy Woodpecker | *Picoides villosus* |
| Hermit Thrush | *Catharus guttatus* |
| Hooded Merganser | *Lophodytes cucullatus* |
| Hooded Warbler | *Wilsonia citrina* |
| House Finch | *Carpodacus mexicanus* |
| House Sparrow | *Passer domesticus* |
| House Wren | *Troglodytes aedon* |
| Indigo Bunting | *Passerina cyanea* |

| | |
|---|---|
| Killdeer | *Charadrius vociferus* |
| Lawrence's Warbler | *Vermivora chrysoptera x V. pinus* |
| Least Bittern | *Ixobrychus exilis* |
| Least Flycatcher | *Empidonax minimus* |
| Long-eared Owl | *Asio otus* |
| Louisiana Waterthrush | *Seiurus motacilla* |
| Magnolia Warbler | *Dendroica magnolia* |
| Mallard | *Anas platyrhynchos* |
| Mallard x Am. Black Duck Hybrid | *Anas platyrhynchos x A. rubripes* |
| Marsh Wren | *Cistothorus palustris* |
| Mourning Dove | *Zenaida macroura* |
| Mourning Warbler | *Oporornis philadelphia* |
| Mute Swan | *Cygnus olor* |
| Nashville Warbler | *Vermivora ruficapilla* |
| Northern Bobwhite | *Colinus virginianus* |
| Northern Cardinal | *Cardinalis cardinalis* |
| Northern Flicker | *Colaptes auratus* |
| Northern Goshawk | *Accipiter gentilis* |
| Northern Harrier | *Circus cyaneus* |
| Northern Mockingbird | *Mimus polyglottos* |
| Northern Parula | *Parula americana* |
| Northern Rough-winged Swallow | *Stelgidopteryx serripennis* |
| Northern Waterthrush | *Seiurus noveboracensis* |
| Orchard Oriole | *Icterus spurius* |
| Osprey | *Pandion haliaetus* |
| Ovenbird | *Seiurus aurocapilla* |
| Peregrine Falcon | *Falco peregrinus* |
| Pied-billed Grebe | *Podilymbus podiceps* |

| | |
|---|---|
| Pileated Woodpecker | *Dryocopus pileatus* |
| Pine Siskin | *Carduelis pinus* |
| Pine Warbler | *Dendroica pinus* |
| Prairie Warbler | *Dendroica discolor* |
| Purple Finch | *Carpodacus purpureus* |
| Purple Martin | *Progne subis* |
| Red-bellied Woodpecker | *Melanerpes carolinus* |
| Red-breasted Nuthatch | *Sitta canadensis* |
| Red-eyed Vireo | *Vireo olivaceus* |
| Red-headed Woodpecker | *Melanerpes erythrocephalus* |
| Red-shouldered Hawk | *Buteo lineatus* |
| Red-tailed Hawk | *Buteo jamaicensis* |
| Red-winged Blackbird | *Agelaius phoeniceus* |
| Ring-necked Pheasant | *Phasianus colchicus* |
| Rock Pigeon | *Columba livia* |
| Rose-breasted Grosbeak | *Pheucticus ludovicianus* |
| Ruby-throated Hummingbird | *Archilochus colubris* |
| Ruffed Grouse | *Bonasa umbellus* |
| Savannah Sparrow | *Passerculus sandwichensis* |
| Scarlet Tanager | *Piranga olivacea* |
| Sharp-shinned Hawk | *Accipiter striatus* |
| Song Sparrow | *Melospiza melodia* |
| Sora | *Porzana carolina* |
| Spotted Sandpiper | *Actitis macularius* |
| Swainson's Thrush | *Catharus ustulatus* |
| Swamp Sparrow | *Melospiza georgiana* |
| Tree Swallow | *Tachycineta bicolor* |

| | |
|---|---|
| Tufted Titmouse | *Baeolophus bicolor* |
| Turkey Vulture | *Cathartes aura* |
| Veery | *Catharus fuscescens* |
| Virginia Rail | *Rallus limicola* |
| Warbling Vireo | *Vireo gilvus* |
| Whip-poor-will | *Caprimulgus vociferus* |
| White-breasted Nuthatch | *Sitta carolinensis* |
| White-eyed Vireo | *Vireo griseus* |
| White-throated Sparrow | *Zonotrichia albicollis* |
| Wild Turkey | *Meleagris gallopavo* |
| Willow Flycatcher | *Empidonax traillii* |
| Wilson's Snipe | *Gallinago delicata* |
| Winter Wren | *Troglodytes troglodytes* |
| Wood Duck | *Aix sponsa* |
| Wood Thrush | *Hylocichla mustelina* |
| Worm-eating Warbler | *Helmitheros vermivorum* |
| Yellow Warbler | *Dendroica petechia* |
| Yellow-bellied Sapsucker | *Sphyrapicus varius* |
| Yellow-billed Cuckoo | *Coccyzus americanus* |
| Yellow-breasted Chat | *Icteria virens* |
| Yellow-rumped Warbler | *Dendroica coronata* |
| Yellow-throated Vireo | *Vireo flavifrons* |

## Appendix E – Exceptions and Deeded Restrictions

| ***Exceptions and Deeded Restrictions*** | | | |
|---|---|---|---|
| **Facility Name** | **RA #** | **Description**<br>E.g., deeded ROW, easement, access lane, water rights, cemetery, etc. | **Proposal ID (Surveyor's Reference)** |
| Stissing Mountain Multiple Use Area | Du. 2 | -Excepting a strip of land in the northwest corner of the property lying between the lane and wire fence. | Dutchess 10.1, 10.2, 10.3, 35, 50 & 26.1 B-2210-2212 |
| Depot Hill Multiple Use Area | Du. 3 | -Subject to the rights of others to Depot Hill Road<br>- Appalachian Trail crosses property | Dutchess 11.1 B-2213 |
| Lafayetteville Multiple Use Area | Du. 4 | -Subject to public rights on NYS Route 199 & Wilbur Flats Road | Dutchess 16.1 B-2224 |
| Wassaic Multiple Use Area | Du. 5 | -Subject to a Utility Easement granted to New York Telephone as per Liber 374 of Deeds at page 425.<br>-Subject to a Utility Easement granted to Amenia Electric, Light & Power Company, Inc. as per Liber 563 of Deeds at page 45.<br>-Subject to the right to maintain existing pole lines and wires thereon, over and across said lands.<br>-Excepting therefrom a private cemetery as now fenced containing about one rod square. | Dutchess 14.1 & 14.2 B-2225 & B-2226 |

## APPENDICES & FIGURES

| *Exceptions and Deeded Restrictions* | | | |
|---|---|---|---|
| **Facility Name** | **RA #** | **Description** E.g., deeded ROW, easement, access lane, water rights, cemetery, etc. | **Proposal ID (Surveyor's Reference)** |
| West Mountian State Forest | Du. 7 | -Together with the right to travel over and upon the roads of Pawling Lake Estates, Pawling Acres, Inc.<br>-Together with a 50' wide Right-of-Way for the purpose of ingress, egress, and regress from Blueberry Lane to the property.<br>-Together with a right of way for the purpose of ingress, egress, and regress, in common with others, over the former Gardner Hollow Highway that runs along the west side of filed map 7882.<br>-Subject to the rights of the public, as such rights may exist, into any and all roads adjoining or running through the property.<br>-Subject to a 50' wide Right-of-Way for ingress and egress from the lands now or formerly of Alpi Realty, Inc. to the former Gardener Hollow Highway. | Dutchess 52 |
| Nimham Mountian Multiple Use Area | Pu. 1 | -Subject to a Concurrent Use and Occupancy Agreement dated July 16, 2001 for erecting and operating a new radio tower. | Putnam 4.1, 4.2, 4.3, 4.4, 4.6, 4.7 & 4.8<br>B-2209, 2218, 2219, 2221 |

| | | | |
|---|---|---|---|
| Big Buck Mountain Mountain Multiple Use Area | Pu. 2 | -Subject to a 30’ wide Right-of-Way for ingress and egress over a strip of land leading northwesterly from Farmer’s Mills Road.<br>-Together with an easement for ingress and egress from the centerline of the Old Road (now Farmers Mills-Robinstontown Schoolhouse Road) for a depth of forty (40) feet over and upon the most easterly five (5) feet of Parcel “B” as shown on filed Map No. 247 along the line South 02 degrees 18 minutes 10 seconds East, and the benefits of spring rights and a restrictive covenant reserved in Liber 263 of Deeds at page 28.<br>-Subject to an easement for ingress and egress from the centerline of the Old Road (now Farmers Mills-Robinstontown Schoolhouse Road) for a depth of forty (40) feet over and upon the most easterly five (5) feet of Parcel “B” as shown on filed Map No. 247 along the line South 02 degrees 18 minutes 10 seconds East, and the benefits of spring rights and a restrictive covenant reserved in Liber 263 of Deeds at page 28.<br>-Subject to a Water Supply Easement and Spring rights reserved in Liber 262 of Deeds 367, as they may still affect.<br>-Subject to restrictive covenant in Liber 262 of Deeds at page 367.<br>-Subject to utility easements in Liber 258 of Deeds at page 41, Liber 258 of Deeds at page 33, Liber 772 of Deeds at page 839. | Putnam 6.1 Putnam 6.2 Putnam 27 B-2214 & 2215 |
| California Hill State Forest | Pu. 3 | -Subject to mining and mineral rights, if any, which may be owned by the Philipse heirs.<br>-Subject to and together with the right and privileges set forth in a certain agreement recorded in Liber 443 of Deeds at page 327. | Putnam 7.3, 7.5, 11, 11A, 17, 22 & 24 |

## APPENDICES & FIGURES

| *Exceptions and Deeded Restrictions* | | | |
|---|---|---|---|
| **Facility Name** | **RA #** | **Description** E.g., deeded ROW, easement, access lane, water rights, cemetery, etc. | **Proposal ID (Surveyor's Reference)** |
| | | -Subject to the rights of the upper & lower riparian owners with respect to the bed of and waters flowing in the Peekskill Hollow Creek and any other bodies of water abutting or flowing through the property.<br>-Subject to a Utility Easement granted to NYSEG per Liber 237 of Deeds at page 522.<br>-Subject to a Cell Phone Tower Easement, until 12-31-2073, as reserved in Liber 1655 of Deeds at page 408.<br>-Subject to various water rights as conveyed in Liber 479 of Deeds at page 375.<br>-Subject to a 50' Right-of-Way on Waywayanda Road as per Liber 413 of Deeds at page 332.<br>-Subject to a 50' Right-of-Way as described in Liber 1204 of Deeds at page 208.<br>-Subject to and together with an agreement with Niagara Mohawk Power Corp. as per Liber 470 of Deeds at page 325. | B-2220 & 2223 |

| *Exceptions and Deeded Restrictions* | | | |
|---|---|---|---|
| **Facility Name** | **RA #** | **Description**<br>E.g., deeded ROW, easement, access lane, water rights, cemetery, etc. | **Proposal ID (Surveyor's Reference)** |
| White Pond Multiple Use Area | Pu. 4 | -Subject to a surface easement for highway purposes granted to the County of Putnam.<br>-Subject to the right of the City of New York to construct, operate and maintain facilities as maybe required for the protection of the purity of the Croton Water Supply.<br>- Subject to a Right-of-Way, indicated on this map, for use as an access road from Cold Spring Road to the cemetery.<br>-Subject to a 10' wide Right-of-Way for ingress & egress to benefit lands now or formerly Richter, their heirs and assigns. | Putnam 3 & 3A |
| Croton Gorge Unique Area | W. 1 | -Subject to a Right-of-Way for purposes of ingress and egress in favor of the adjoining owner over the existing driveway as it presently traverses the property, as per Liber 6053 of Deeds at page 73. | Westchester 2.3 & 2.5 |

## APPENDICES & FIGURES

| *Exceptions and Deeded Restrictions* | | | |
|---|---|---|---|
| **Facility Name** | **RA #** | **Description** E.g., deeded ROW, easement, access lane, water rights, cemetery, etc. | **Proposal ID (Surveyor's Reference)** |
| Montrose Point State Forest | W. 2 | -Together with the benefit of adjoining lands (L. 7729, cp. 169) not being able to erect any structure or improvement over 30' in height from present grade and used in connection with present activities (swimming, boating, social club)<br>-Together with a drainage easement for an outlet for waters of a pond to and from the Hudson River.<br>-Together with a 20' wide easement across and through lands formerly of Moncor Development (L. 7729, cp. 169) and will terminate at the Hudson River, to be used for storm, sewer, water, fuel or other utility purposes.<br>-Subject to a non-exclusive 30' wide access easement (off of Kings Ferry Road).<br>-Subject to a non-exclusive easement providing an aerial Right-of-Way for electrical power lines. | Westchester 10 |
| Salt Hill State Forest | W. 3 | - Subject to a fifty (50) foot wide right of way to access the 2-acre Woodhouse inholding. | Westchester 23 |

## Appendix F: Nimham Mountain MUA Arsenic Abatement Project

**NIMHAM ARSENIC MINE**

**PUTNAM COUNTY**

**KENT, NEW YORK**

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# SITE MANAGEMENT PLAN

**NYSDEC Site Number: 344033**

**USEPA ID # 340032**

**Prepared for:**

Department of Lands and Forests

21 South Putt Corners Road

New Paltz N.Y. 12561

**Prepared by:**

Department of Environmental Conservation

625 Broadway Ave

Albany NY 12233

**Revisions to Final Approved Site Management Plan:**

| Revision No. | Date Submitted | Summary of Revision | NYSDEC Approval Date |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

**SEPTEMBER 2022**

**SITE MANAGEMENT PLAN**

**NIMHAM ARSENIC MINE**

**PUTNAM COUNTY**

**KENT, NEW YORK**

# TABLE OF CONTENTS

# Contents

**ES EXECUTIVE SUMMARY 4**

**1.0 INTRODUCTION 6**

1.1 GENERAL ..... 6
1.2 REVISIONS ..... 6
1.3 NOTIFICATIONS ..... 7

**2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS 3**

2.1 SITE LOCATION AND DESCRIPTION ..... 3
2.2 PHYSICAL SETTING ..... 3
*2.2.1 Land Use ..... 3*
*2.2.2 Geology ..... 3*
*2.2.3 Hydrogeology ..... 4*
2.3 INVESTIGATION AND REMEDIAL HISTORY ..... 4
2.4 REMAINING CONTAMINATION ..... 4
*2.4.1 Soil ..... 4*
*2.4.2 Sediment ..... 5*
*2.4.2 Groundwater ..... 5*
*2.4.4 Surface Water ..... 5*

**3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN 6**

3.1 GENERAL ..... 6
3.2 INSTITUTIONAL CONTROLS ..... 6
3.3 ENGINEERING CONTROLS ..... 7
*3.3.1 Cover (or Cap) ..... 7*

**4.0 MONITORING PLAN 7**

4.1 GENERAL ..... 7
4.2 SITE – WIDE INSPECTION ..... 8

**5.0 OPERATION AND MAINTENANCE PLAN 9**

5.1 GENERAL ..... 9

**6.0. REPORTING REQUIREMENTS 10**

6.1 SITE MANAGEMENT REPORTS ..... 10
6.2 PERIODIC REVIEW REPORT ..... 11
6.3 CORRECTIVE MEASURES WORK PLAN ..... 11

## ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, maintenance and reporting activities required by this Site Management Plan:

Site Identification: #344032 / #344033 Nimham Arsenic Mine Gipsy Trail Road

| | | |
|---|---|---|
| Institutional Controls: | 1. The property may be used for restricted residential use; | |
| | 2. No Intrusive Activities | |
| | 3. All ECs must be inspected at a frequency and in a manner defined in the SMP. | |
| Engineering Controls: | 1. Cap System | |
| Inspections: | | Frequency |
| 1. Cap Inspection | | Bi-Annually |
| Maintenance: | | |
| 1. Trail Maintenance | | As needed |
| 2. Fence Maintenance | | As needed |
| Reporting: | | |
| 2. Annual Inspection Report | | Annually |

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

# 1.0 INTRODUCTION

## 1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Arsenic Mine Site located in Kent, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Superfund, Site No. 340033, which is administered by New York State Department of Environmental Conservation (NYSDEC or Department).

After completion of the investigation and remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment.

All reports associated with the site can be viewed by contacting the NYSDEC Department of Environmental Remediation (DER) Project Manager or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Table A of this SMP.

This SMP was prepared by the Department of Environmental Remediation for the Department of Lands and Forests (DLF). This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

## 1.2 Revisions

If revisions to this plan are needed, please contact the DER project manager listed in Table A.

## 1.3 Notifications

Notifications will be submitted to the DER project manager listed in Table A.

1. 60-day advance notice of any proposed ground-intrusive activity.
2. Notice within 48 hours of any significant damage to ECs that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
3. Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

Table A on the following page includes contact information for the above notifications.

## APPENDICES & FIGURES

**Table 1: DER and DOH Contact List**

| **Name** | **Contact Information** | **Required Notification**** |
|---|---|---|
| Mark Domaracki<br>DER Project Manager | 518-402-9832<br>mark.domaracki@dec.ny.gov | All Notifications |
| Kerry Maloney<br>Section Chief | 518-402-9622<br>kerry.maloney@dec.ny.gov | All Notifications |
| Steve Lawrence<br>DOH Project Manger | 518-402-0450<br>stephen.lawrence@health.ny.gov | All Notifications |
| | | |
| | | |

* Note: Notifications are subject to change and will be updated as necessary.

** Note: Numbers in this column reference the numbered bullets in the notification list in this section.

# 2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

## 2.1 Site Location and Description

The site is located in the town of Kent, Putnam County, New York and is identified as Section 32 Block 1and Lot 15 on the Putnam County Tax Map. The site is an approximately 50 -acre area and is bounded by Nimham Mountain Road to the north, Gypsy Trail Road to the east and NYS owned tax parcels to the south and west (see Figure 2 – State MUA Tax Parcel Outline).

## 2.2 Physical Setting

### 2.2.1 Land Use

The Site consists of the following: a hiking trial and forest. The Site is currently a State-owned Multiple Use Area (MUA). The site may have visitors who walk and bike the trails.

The properties adjoining the Site primarily include NYS owned MUA State forest and federally owned EPA NPL properties. The properties immediately south and west of the Site include State owned land properties; the properties immediately north and east of the Site include federally owned properties.

### 2.2.2 Geology

The site lies within the geologically complex New England Uplands physiographic province within the Hudson Highlands. The geologic structure of the area is typified by northeast trending folds and faults. Glaciation has left low permeability till on hill tops, and lacustrine sand and gravel deposits in valleys. Bedrock in the area is high-grade

metamorphosed Precambrian sedimentary and igneous rocks with dominant gneiss, schist, and granite, formed under high temperature and pressure conditions. Arsenic is naturally occurring in the rock which underlies the site.

#### 2.2.3 Hydrogeology

While bedrock groundwater flow direction at the site has not yet been determined, it can be assumed that shallow bedrock groundwater and any bedrock seeps will follow topographic drainage patterns, while deep bedrock flow will follow preferred fracture pathways. Regional folding and faulting trends northeast-southwest but local folding and fractures could override those macrostructures as flow paths for groundwater.

The watershed is a part of the larger Lower Hudson River Basin. Water at the site drains into an unnamed tributary and wetland and south almost 2 miles to a discharge point on the West Branch Reservoir.

## 2.3 Investigation and Remedial History

The "Nimham Arsenic Mine Summary Report" is provided in Appendix A. The report provides a narrative of the investigation and remedial history. Supporting documents and reports can be access by contacting the DER project manager in Table A.

## 2.4 Remaining Contamination

#### 2.4.1 Soil

Table 1 and Figure 5a in Appendix A summarize the XRF results of soil samples collected within the MUA. Naturally occurring arsenic is present across the MUA exceeding federal and state maximum contaminant levels. Arsenic was detected at a

maximum concentration of 30,054 ppm. Table 2 and Figure 5a in Appendix A show contamination in soils from 0-6" via analytical sampling. Arsenic was detected up to 41,800 milligrams per kilogram (mg/kg) compared to the standard of 16 mg/kg. All analytical samples exceed the residential SCO for arsenic. Chromium, Cadmium and Barium were identified to exceeded residential SCOs in some locations. Lead, Selenium, Silver, and Mercury were identified exceeding unrestricted is in some locations.

The only area in the MUA that is capped is the trail. Figure 11 in the appendix shows the location of the trail in 2019. Any soil contacted in the MUA has the potential to be contaminated with the site COCs listed above. Signage at the trail head should request no off-trail activity.

### 2.4.2 Sediment

Table 3 and Figure 7 in Appendix A summarize the results of all sediment samples collected during the remedial investigation. Arsenic exceeding standards was detected in on-site in almost every sediment sample collected on site at a maximum of 175 mg/kg, over the Class A sediment guidelines of 10 mg/kg. The highest concentrations were found in sediments in the tributary emanating from the former mine entrance. Chromium was also identified exceeding Class A standards at a maximum of 95 mg/kg compared to the standard of 43mg/kg.

Sediment remains contaminated and signage at the trail head should request no off-trail activity.

### 2.4.2 Groundwater

Groundwater was not yet analyzed on the site, but arsenic contamination in groundwater has been detected up to 170 micrograms per liter (µg/L) on the adjacent EPA NFL site; the federal and state maximum contaminant level is 10 µg/L.

### 2.4.4 Surface Water

Table 4 and Figures 7, 8 and 9 summarize the results of surface water sampling. Figure 7 shows the location of on-site surface water sampling. Figures 8 and 9 show sampling locations at upgradient location in Pine Pond and downgradient locations at Veterans Memorial Park Pond. No site contaminants of concerned where identified exceeding standards on-site or off-site.

## 3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

### 3.1 General

Since remaining contamination exists at the site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the DER project manager.

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the controls to be evaluated during each required inspection and periodic review;

### 3.2 Institutional Controls

A series of ICs is intended to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to restricted residential / recreational uses only.

- The property may be used for: restricted residential / recreational use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Putnam County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- Vegetable gardens and farming on the site are prohibited;
- All future activities that will disturb the subsurface must be reviewed by the DER Project Manager to determine appropriate precautions.

### 3.3 Engineering Controls

#### 3.3.1 Cover (or Cap)

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. This cover system is comprised of a minimum of 12 inches, of clean stone Figure 11 in Appendix A presents the location of the cover system. Should any intrusive activities be needed or if the cover system is breached, penetrated or temporarily removed contact the DER project manager in Table A. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP.

## 4.0 Monitoring plan

### 4.1 General

This Monitoring Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring Plan may only be revised with the approval of the DER project manager.

# 4.0 MONITORING PLAN

This Monitoring and Sampling Plan describes the methods to be used for:

- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment.

To adequately address these issues, this Monitoring Plan provides information on:

- Annual inspection and periodic certification.

## 4.2 Site – wide Inspection

Site-wide inspections will be performed bi-annually or at a minimum of twice per year. These periodic inspections must be conducted when the ground surface is visible (i.e. no snow cover). Site-wide inspections will be performed by a representative of the New York State Department of Lands and Forests. Modification to the frequency of the inspections will require notification to the DER project manager. Site-wide inspections will also be performed after severe weather conditions that may affect the trail cap. During these inspections, an inspection form will be completed as provided in Appendix B – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- Ensure no camping or settlements have been established;
- Whether stormwater management systems, such as basins and outfalls, are working as designed;
- The site management activities being conducted including inspecting the trail and fence engineering controls for any defects or failure.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the DER project manager must be given. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs a summary of actions taken, or to be taken should be provided to the DER project manager within 5 days of the site inspection.

## 5.0 OPERATION AND MAINTENANCE PLAN

### 5.1 General

The site remedy does not rely on any mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

## 6.0. REPORTING REQUIREMENTS

6.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix B. All site management inspection, maintenance, and monitoring events will be conducted by New York State Department of Lands and Forests.

All applicable inspection forms and other records generated for the site during the reporting period will be provided in electronic format to DER in accordance with the requirements of Table B and summarized in the Periodic Review Report.

**Table B : Schedule of Interim Monitoring/Inspection Reports**

| **Task/Report** | **Reporting Frequency*** |
|---|---|
| Inspection Report | Bi-annual (Twice a year) |
| Periodic Review Report | Annually |

* The frequency of events will be conducted as specified until otherwise approved by the DER project manager.

All interim inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);

- Copies of all field forms completed
- A figure illustrating sample type and sampling locations;

## 6.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the DER project manager annually to the DER project manager. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period.
- A site evaluation, which includes the following:
  - The operation and the effectiveness of all ECs including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding site contamination based on inspections;
  - Recommendations regarding any necessary changes to the Monitoring Plan;

## 6.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control or failure to conduct site management activities, a recommendation should be made to the DER project manager to create a Corrective Measures Work Plan to rectify the failed control. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved.

**APPENDIX B**

**SITE MANAGEMENT FORMS**

**Initial Report Period**

Date: _____

**Current Reporting Period**

Reporting Period From: _____ To: _____

**Contact Information**

Preparer's Name: _____ Phone No.: _____

Preparer's Affiliation: _____

## I. Inspection:

| **Description of IC/EC**<br><br>(photo documentation of the trail & fencing requested) |
|---|
| Trail Cap: |
| Fencing: (photos of Pit 2 and Pit 3 fencing) |
| Other: |

| |
|---|
| |

| **CERTIFICATION** |
|---|
| I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of the New York State Lands and Forests. According to my knowledge and belief, all items foregoing is a true and correct statement of the the period covered by this application.<br><br>_____<br><br>**Date** |