Habitat Management Plan
for
Margaret Burke Wildlife Management Area
2016 – 2025

Division of Fish and Wildlife
Bureau of Wildlife

65561 State Route 10, Stamford, NY 12167

November 23, 2016

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Prepared by:

Selinda Brandon, Biologist 1 (Wildlife), Michael Echtner, Forester 1,
Ben Peters, Forester 1 and Paul Farley, Forestry Technician 2
Young Forest Initiative

Karl Parker, Biologist 1 (Wildlife)
Land Management & Habitat Conservation Team

Reviewed and approved by:

Michael Clark, Regional Wildlife Manager Bureau of Wildlife	11/28/16 Date
James Farquhar, Chief Bureau of Wildlife	11/28/2016 Date
Doug Stang, Acting Director Division of Fish and Wildlife	December 5, 2016 Date

Financial support for development of this Habitat Management Plan was provided by the Federal Aid in Wildlife and Sport Fish Restoration Program and non-federal funds administered by the New York State Department of Environmental Conservation including Habitat & Access Stamp funds.

TABLE OF CONTENTS

SUMMARY 3
I. BACKGROUND AND INTRODUCTION 3
PURPOSE OF HABITAT MANAGEMENT PLANS 3
WMA OVERVIEW 5
LANDSCAPE CONTEXT 8
II. MANAGEMENT STRATEGIES BY HABITAT TYPE 8
FOREST 8
SHRUBLAND 13
GRASSLAND 14
AGRICULTURAL LAND 17
WETLANDS (NATURAL AND IMPOUNDED) 17
OPEN WATER (WATERBODIES AND WATERCOURSES) 19
HABITAT MANAGEMENT SUMMARY 19
III. FIGURES 20
IV. APPENDICES 25
APPENDIX A: DEFINITIONS 25
APPENDIX B. STATEMENT OF CONFORMITY WITH SEQRA 28
APPENDIX C: FOREST MANAGEMENT PRESCRIPTIONS 30
APPENDIX D: AMENDMENTS 33

LIST OF FIGURES

FIGURE 1. Location and access features at Margaret Burke WMA. 20
FIGURE 2. Wetlands, open water, and streams of Margaret Burke WMA.. 21
FIGURE 3. Land cover types and conservation lands in the landscape surrounding Margaret Burke WMA.. 22
FIGURE 4. Percent cover of land cover types within three miles of Margaret Burke WMA..... 23
FIGURE 5. Habitat types and location(s) of proposed management on Margaret Burke WMA.... 24

SUMMARY

Margaret Burke Wildlife Management Area (WMA) is managed for forested and early successional habitats including grasslands and shrublands. Many wildlife species, including white-tailed deer, ruffed grouse, wild turkey, Eastern screech owl and gray squirrels, reside on the area. It is also part of the Helderberg Bird Conservation Area and is managed to conserve the diverse assemblage of bird species utilizing the area, in particular to ensure that early successional habitats continue to be an important component of the area. This WMA is used for pheasant releases in the fall of each year.

Habitat management goals for Margaret Burke WMA include:

- Managing approximately 16% of the WMA as young forest (21% of the total forested area) to promote American woodcock, wild turkey, and ruffed grouse habitat;
- Maintaining approximately 58% as mature forest to provide habitat for forest interior species;
- Managing approximately 11% as grasslands to provide grassland breeding bird habitat;
- Managing approximately 5% as early successional shrublands; and
- Maintaining approximately 5% as wetlands.

Approximately 5% of the WMA consists of a shale bank and a utility easement maintained by Dominion Transmission.

I. BACKGROUND AND INTRODUCTION

PURPOSE OF HABITAT MANAGEMENT PLANS

BACKGROUND

Active management of habitats to benefit wildlife populations is a fundamental concept of wildlife biology, and has been an important component of wildlife management in New York for decades. Beginning in 2015, NYS Department of Environmental Conservation (DEC) Division of Fish and Wildlife (DFW) initiated a holistic planning process for wildlife habitat management projects. Habitat Management Plans (HMPs) are being developed for WMAs and other properties administered by DFW Bureau of Wildlife, including select Multiple Use and Unique Areas. The goal of HMPs is to guide habitat management decision-making on those areas to benefit wildlife and facilitate wildlife-dependent recreation. HMPs guide management for a ten year time period, after which the plans and progress on implementation will be assessed and HMPs will be modified as needed.

HMPs serve as the overarching guidance for habitat management on WMAs. These plans incorporate management recommendations from Unit Management Plans (UMPs), existing WMA habitat management guidelines, NY Natural Heritage Program's WMA Biodiversity

Inventory Reports, Bird Conservation Area guidelines, and other documents available for individual WMAs.

SCOPE AND INTENT

Primary purposes of this document:

- Provide the overall context of the habitat on the WMA and identify the target species for management;
- Identify habitat goals for WMA-specific target species, contemplating juxtaposition of all habitat types to guide the conservation and management of sensitive or unique species or ecological communities;
- Identify acreage-specific habitat goals for the WMA to guide management actions;
- Provide specific habitat management prescriptions that incorporate accepted best management practices;
- Establish a forest management plan to meet and maintain acreage goals for various forest successional stages;
- Address management limitations such as access challenges (e.g., topography); and
- Provide the foundation for evaluating the effectiveness of habitat management.

Within the next five years, this HMP will be integrated into a comprehensive WMA Management Plan that will include management provisions for facilitating compatible wildlife-dependent recreation, access, and facility development and maintenance.

Definitions are provided in Appendix A.

The effects of climate change and the need to facilitate wildlife adaptation under expected future conditions will be incorporated into the habitat management planning process and will be included in any actions that are recommended in the HMPs. For example, these may include concerns about invasive species, anticipated changes in stream hydrology, and the desirability for maintaining connectedness on and permeability of the landscape for species range adjustments.

This plan and the habitat management it recommends will be in compliance with the State Environmental Quality Review Act (SEQRA), 6NYCRR Part 617. See Appendix B. The recommended habitat management also requires review and authorization under the Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and State Historic Preservation Act (SHPA), prior to implementation.

WMA OVERVIEW

LOCATION

Margaret Burke WMA is located in DEC Region 4, Town of Knox, Albany County (Figure 1).

TOTAL AREA

244.4 acres

HABITAT INVENTORY

A habitat inventory of the WMA was conducted in 2015 and is proposed to be updated every ten to fifteen years to document the existing acreage of each habitat type and to help determine the location and extent of future management actions. Table 1 summarizes the current acreage by habitat type and the desired acreage after management. Desired conditions were determined with consideration of habitat requirements of targeted wildlife, current conditions on the WMA, and conditions in the surrounding landscape (see Landscape Context section below).

Table 1. Summary of current and desired habitat acreage on Margaret Burke WMA.

Habitat Type	Current Conditions (as of 2015)			Desired Conditions	
	Acres	Percent of WMA	Miles	Acres	Percent of WMA
Forest [a]	181.0	74%		143	Decrease to 58%
Young forest	0	0%		38	Increase to 16%
Shrubland	11.4	5%		11.4	No change
Grassland	27.9	11%		27.9	No change
Agricultural land	0	0%		0	No change
Wetland (natural) [b]	11.4	5%		11.4	No change
Wetland (impounded) [b]	0	0%		0	No change
Open water	0	0%		0	No change
Other (utility easement, shale bank)	12.7	5%		12.7	No change
Roads	0	0%		0	No change
Rivers and streams			0		No change
Total Acres:	244.4	100%	0	244.4	

[a] Forest acreage includes all mature and intermediate age classes of natural forest, plantations, and forested wetlands. Young forest is reported separately. Definitions are provided in the Forest section of this plan.
[b] Wetland acreage does not include forested wetlands, since they are included in the Forest category.

ECOLOGICAL RESOURCES

Wildlife Overview:

Wildlife present on Margaret Burke WMA includes many species commonly found throughout central New York and the Helderberg Escarpment, such as:

- Ruffed grouse, Eastern meadowlark, American woodcock, wild turkey

- Eastern cottontail, gray squirrel, white-tailed deer
- Spotted salamander, wood frog
- Garter snake, milk snake, red-bellied snake

Wildlife and Plant Species of Conservation Concern:

The following federal or state listed Endangered (E), Threatened (T), state species of Special Concern (SC), and/or Species of Greatest Conservation Need (SGCN) may occur on the WMA (Table 2).[1] SGCN listed below include species that have been documented on or within the vicinity of the WMA that are likely to occur in suitable habitat on the WMA. Other SGCN may also be present on the WMA. Data sources include: the NY Natural Heritage Program, NY Breeding Bird Atlases,[2] NY Reptile and Amphibian Atlas,[3] DEC wildlife surveys and monitoring, and eBird.[4]

Table 2. Species of conservation concern that may be present on Margaret Burke WMA, including state and federal Endangered (E) and Threatened (T) species, state Species of Special Concern (SC), High Priority SGCN (HP), and SGCN (x).

Species Group	Species	Federal Status	NY Status	NY SGCN Status
Birds	American kestrel			x
	American woodcock			x
	Black-billed cuckoo			x
	Black-throated blue warbler			x
	Blue-winged warbler			x
	Bobolink			HP
	Brown thrasher			HP
	Cooper's hawk		SC	
	Eastern meadowlark			HP
	Northern goshawk			HP
	Northern harrier		T	x
	Prairie warbler			x
	Ruffed grouse			x
	Scarlet tanager			x
	Sharp-shinned hawk		SC	
	Vesper sparrow		SC	HP
	Wood thrush			x
Mammals	Northern long-eared bat	T	T	HP
Amphibians and reptiles	Blue-spotted salamander			HP

[1] The 2015 New York State Wildlife Action Plan identifies 366 Species of Greatest Conservation Need (SGCN) including 167 High Priority SGCN. Available online at http://www.dec.ny.gov/animals/7179.html.
[2] Available online at http://www.dec.ny.gov/animals/7312.html.
[3] Available online at http://www.dec.ny.gov/animals/7140.html.
[4] Available online at http://ebird.org/content/ebird/about/. © Audubon and Cornell Lab of Ornithology.

Table 2. Continued

Species Group	Species	Federal Status	NY Status	NY SGCN Status
Fish	None known			
Invertebrates	None known			
Plants	None known			

Significant Ecological Communities:

There are no rare or significant ecological communities on Margaret Burke WMA. Additional information about significant ecological communities is available in *Ecological Communities of New York State, Second Edition*.[5]

Special Management Zones:

Special Management Zones (SMZs) are areas adjacent to wetlands, perennial and intermittent streams, vernal pool depressions, spring seeps, ponds and lakes, recreational trails, and other land features requiring special consideration. SMZs on Margaret Burke WMA include:

- One wetland regulated by Article 24 of the Environmental Conservation Law (Figure 2). Each state-regulated wetland is protected by a buffer zone of 100 feet from the delineated wetland boundary, known as the adjacent area. There may be forestry prescriptions associated with forested wetlands and adjacent areas, and each management prescription will be reviewed individually for determination of impacts.

Guidelines for habitat management projects within these areas are outlined in the Division of Lands and Forests *Rules for Establishment of Special Management Zones on State Forests and Wildlife Management Areas.*[6] Some habitat management activities may either be prohibited or restricted in order to protect these features. Any deviations from these guidelines will be addressed in the individual stand prescriptions.

Soils:

The soil across much of Margaret Burke WMA is shallow and well drained, which limits the establishment and growth of some tree species. The timber harvest area is comprised of mainly Farmington silt loam soil group, with a land capability classification of 3e (having severe limitations that reduce the choice of plants or trees that may grow, and having a risk of erosion unless close-growing plant cover is maintained), typically occurring on a 0-8% slope.[7] Due to this soil type and depth, tree growth is relatively slow and the trees have moderate to poor health. There are also areas of little desirable understory regeneration in most stands due to competition from shrubs such as multiflora rose, buckthorn, and honeysuckle.

[5] Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero. 2014. Ecological Communities of New York State, Second Edition. New York Natural Heritage Program, NYS Department of Environmental Conservation, Albany, NY. Available online at http://www.dec.ny.gov/animals/97703.html.
[6] Available online at http://www.dec.ny.gov/outdoor/104218.html.
[7] Soil classification information available from: US Department of Agriculture, Natural Resources Conservation Service. Available online at http://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=NY.

LANDSCAPE CONTEXT

The goals of this HMP have been developed with consideration of surrounding landscape features, the availability of habitats, and other conservation lands adjacent to Margaret Burke WMA (Figures 3 and 4). The landscape within a three mile radius of the WMA is primarily privately-owned land including:

- Forest (58% combining deciduous, evergreen and mixed forests)
- Pasture/Hay (25%)
- Wetlands (7% combining woody and emergent herbaceous wetlands)
- Development (6%)
- Cultivated crops (3%)
- Open water (1%)

Since the surrounding landscape is primarily composed of forested habitats and maintained agricultural land, it is important to create young forest habitat within the landscape and to promote regeneration of select forest stands to ensure a healthy forest in the future.

Nearby conservation land includes Thompson's Lake and Thatcher State Parks, managed by NYS Office of Parks, Recreation and Historic Preservation.

II. MANAGEMENT STRATEGIES BY HABITAT TYPE

DEC will continue active management of wildlife habitat on Margaret Burke WMA to provide the following benefits:

- Maintain habitat characteristics that will benefit wildlife abundance and diversity within the New York landscape.
- Promote Best Management Practices for targeted wildlife and habitats.
- Provide opportunities for wildlife-dependent recreation such as trapping, hunting, and bird watching compatible with the ongoing habitat management practices and species management considerations.
- Improve habitat quality by reducing invasive species, if present and identified for treatment.

FOREST

Forested acreage includes the following forest types:

Natural forest: naturally forested acres, including hardwoods and softwoods. Includes any upland forested acreage that is not young forest, i.e., pole stands, other intermediate forest age classes, mature forest, and old growth forest.
Plantation: planted forested acres, generally planted in rows dominated by one or two species.

Forested wetland: wetland acres where forest or shrub vegetation accounts for greater than 50% of hydrophytic vegetative cover and the soil or substrate is periodically saturated or covered with water.
Young forest: young or regenerating forested acres, which are typically aged 0-10 years since a disturbance or regeneration cut, depending upon the site conditions. May include both natural forest and plantations.
Young forest (forested wetland): young, regenerating forested wetland acres.

Forest management on Margaret Burke WMA incorporates an approach to create and/or maintain the diversity of forest age classes that are required to support a diversity of wildlife. In 2015, DEC launched the Young Forest Initiative (YFI) to increase the amount of young forest on WMAs to benefit wildlife that require this transitional, disturbance-dependent habitat.[8] The Initiative's goal is to increase forest management so that a minimum of 10% of the WMAs forested acreage is classified as young forest habitat. In Margaret Burke WMA the goal is to create approximately 38 acres of young forest habitat, 21% of the forested acreage.

MANAGEMENT OBJECTIVES

- Retain the majority of the existing mature forest (143 acres) for forest interior species.
- Increase young forest from 0 to 38 acres (21% of the total forested area) to improve habitat for young forest-dependent wildlife, targeting American woodcock, wild turkey, and ruffed grouse.
- Encourage dispersal of native hardwoods (oak and hickory) to promote regeneration and increase availability of hard mast for wildlife.

DESCRIPTION OF EXISTING FOREST HABITAT AND TARGET SPECIES

There are 181 forested acres on Margaret Burke WMA. The majority of the forested area is located east of Rte. 254 (Pleasant Valley Rd.). The eastern parcel is dominated by mature mixed forest, with less than an acre of grassland. The west side of the property is comprised of a variety of habitats, including grasslands, shrublands, orchards, conifer stands and natural mixed deciduous forest (Table 3; Figure 5). Table 3 provides a summary of the forested areas, including the most common species found in the WMA's forests.

Table 3. Summary of the acreage and dominant overstory species for each forest type present on Margaret Burke WMA.

Forest Type	Acres (as of 2015)	Desired Acres	Overstory species
Natural forest (mature/intermediate)	166.2	143	sugar maple, red oak
Plantation	14.8	0	red pine, white pine
Forested wetland	0	0	
Young forest	0	38	
Young forest (forested wetland)	0	0	
Total Forested Acres:	181	181	

[8] Additional information about DEC's Young Forest Initiative and the YFI Strategic Plan is available online at http://www.dec.ny.gov/outdoor/104218.html.

Target species for young forest include American woodcock, wild turkey, and ruffed grouse. These species rely on forest and young forest areas for nesting, foraging, and cover and will benefit from management that creates the following habitat requirements:

- American woodcock:
    - Singing/peenting ground – Open areas from 1 to >100 acres, usually in an abandoned field.
    - Foraging – Moist, rich soils with dense overhead cover of young alders, aspen or birch.
    - Nesting – Young, open, second growth woodlands.
    - Brood rearing – Similar to nesting except also including bare ground and dense ground cover.
    - Roosting – Open fields (minimum of 5 acres) or blueberry fields and reverting farm fields.[9]
- Wild turkey:
    - Strutting areas – Open fields with short vegetation, <12 inches preferred, and mature hardwoods.
    - Nesting cover – Blowdowns and the bases of trees and stumps in open hardwoods and brushy cover in early successional habitats and field edges.
    - Brood rearing – Best brooding cover are fields with herbaceous vegetation from 12-18 inches preferred.
    - Foraging – The habitat required ranges from open field areas to mature forests:
        - Spring diet – Tubers and invertebrates.
        - Summer diet – Poult diets consist primarily of invertebrates. Adult diets consist of invertebrates and tubers, switching over to herbaceous vegetation and soft mast as summer progresses.
        - Fall diet – Hard and soft mast, seeds, and invertebrates.
        - Winter diet – Hard and soft mast, seeds (birch if available) and hardwood buds.
    - Winter cover – Mature conifer stands.
    - Roosting – Mature hardwoods and softwoods. Adults with poults tend to roost on the ground under large trees with a dense understory of young trees, shrubs, downed trees, rock outcrops, or brushy fields. [10, 11]
- Ruffed grouse:
    - Drumming areas – Downed trees surrounded by small diameter woody cover.
    - Foraging areas – Open areas with dense overhead cover of young forest with good mast production.
    - Nesting – Young, open forest stands or second growth woodlands.
    - Brood rearing – Herbaceous ground cover with a high midstory stem density.[12, 13]

---

[9] US Department of Agriculture, Natural Resources Conservation Service. 2010. American Woodcock: Habitat Best Management Practices for the Northeast by Scot J. Williamson. Wildlife Insight. Washington, DC.
[10] USDA – NRCS. 1999. Wild Turkey (*Meleagris gallopavo*) Fish and Wildlife Habitat Management Leaflet. 12 pp.
[11] Dickson, J. G. 1992. The Wild Turkey: Biology and Management. National Wild Turkey Federation and USDA Forest Service. Stackpole Books, PA. 480 pp.
[12] Dessecker, D. R., G. W. Norman, and S. J. Williamson. 2006. Ruffed Grouse Conservation Plan. Association of Fish & Wildlife Agencies: Resident Game Bird Working Group. 94 pp.
[13] Jones, B. C. et al. Habitat Management for Pennsylvania Ruffed Grouse, Pennsylvania Game Commission. 10 pp.

MANAGEMENT HISTORY

West side of Rte 254:

Numerous firewood sales were conducted between 1978 and 1980. A wild apple tree release was completed in 2008 on about 2 acres.

East side of Rte 254:

Numerous firewood sales were conducted between 1978 and 1980. A contract timber sale was completed in 1980. This sale included hemlock, hard maple, and various other small amounts of hardwood.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

The following management is proposed in order to reach the young forest acreage goal of 38 acres within ten years:

- **Management planned for 2016-2020** (Table 4, Figure 5):
  - Clearcut red pine plantation and white pine in Stand 11 (14.8 acres).
  - Clearcut white pine plantation in Stand 3.1 (2.3 acres).
- **Management planned for 2021-2025** (Table 5, Figure 5):
  - Perform a clearcut to seedling/saplings and northern hardwoods in Stands 8 and 9 (5.7 and 3.6 acres).
  - Perform an 11.2 acre seed tree cut in Stand 8 to provide mast for wildlife and seed mass for regeneration.

Table 4. Forest management schedule for the first five-year period of this HMP (2016-2020).

Stand	Acres	Size Class	Forest Type		Management Direction	Treatment Type
			Current	Future		
11	14.8	Pole Timber 6”-11”DBH	Plantation red pine – white pine – scots pine	Young forest	Wildlife	Clearcut
3.1	2.3	Seedling-Sapling < 5”	Plantation red pine – white pine – scots pine	Young forest	Wildlife	Clearcut

Table 5. Forest management schedule for the second five-year period of this HMP (2021-2025).

Stand	Acres	Size Class	Forest Type		Management Direction	Treatment Type
			Current	Future		
9	3.6	Small saw timber 12”-17”DBH	Northern hardwood – white pine	Young forest	Wildlife	Clearcut
8	5.7	Small saw timber 12”-17”DBH	Northern hardwood – hemlock	Young forest	Wildlife	Clearcut
8	11.2	Small saw timber 12”-17”DBH	Hemlock - hemlock	Young forest	Wildlife	Seed Tree

Stand locations and planned management actions are also summarized in Figure 6. Specific forest stand descriptions and detailed management prescriptions will be prepared for each proposed forest management area prior to implementation (see template, Appendix C). Briefly, habitat management for each of these stands will include the following:

- **Stand 11:** Clearcut a portion (14.8 acres) of a poor quality red pine plantation, with some seedling/sapling areas scattered within it, and naturally occurring white pine near the west side of stand. The red and white pine within the stand will be clearcut through a commercial timber harvest. The seedlings/saplings within the stand, including invasive species such as honeysuckle and buckthorn, will be cut through the use of a forestry cutter or with the help of an operations crew. Invasive or unwanted vegetation will be removed either mechanically or chemically. Increasing the young forest habitat as proposed will establish more habitat for American woodcock, wild turkey and ruffed grouse.
- **Stand 3.1:** A 2.3 acre white pine stand, planted around the perimeter of grassland, within Stand 3.1 will be clearcut and harvested at the same time as Stand 11.
- **Stands 8 & 9:** Stand 9 is a small sawtimber stand consisting mainly of sugar maple and white pine, with moderately sized pockets of quaking aspen. Invasive brush within the stand include buckthorn, honeysuckle and multi-flora rose. Stand 9 (3.6 acres) will be clearcut through a commercial timber harvest and the invasive species, listed above, will be cleared using a forestry cutter. Invasive or unwanted vegetation will be removed either mechanically or chemically. The clearcut in Stand 9 will be continued to include approximately 5.7 acres of the southwestern corner of Stand 8, a northern hardwood-hemlock forest. An additional 11.2 acres within Stand 8, contiguous with the clearcut, will be harvested using a seed-tree method. Species to be marked as leave trees include red oak, black cherry and shagbark hickory. These species will be retained to provide mast for wildlife and seed mass for regeneration.

Natural regeneration of the stands will be allowed to occur to create quality habitat for American woodcock, wild turkey and ruffed grouse. Best Management Practices for American woodcock will be incorporated into the young forest acreage created. Forest management prescriptions on this WMA will focus on promoting regeneration will a high stem count per acre (i.e., cutting of aspen species causing root suckering and stump sprouting of native hardwoods). Invasive species within Stands 3.1, 9 and 11 may be controlled through chemical means if needed.

BEST MANAGEMENT PRACTICES

Forest management on all WMAs follows Best Management Practices to protect soil and water resources, promote quality wildlife habitat, and establish healthy forests (Table 6).

Table 6. Best Management Practices for forest management on WMAs.

Resource	**Guidance Document** [14]
Soils	*Rutting Guidelines for Timber Harvesting on Wildlife Management Areas*
Water quality	*NYS Forestry Best Management Practices for Water Quality*
Wildlife	*Retention Guidance on Wildlife Management Areas*
Plantations	*Plantation Management Guidance on Wildlife Management Areas*

[14] All guidance documents referenced here are available online at http://www.dec.ny.gov/outdoor/104218.html.

Wildlife Considerations:

Due to the sensitivity of endangered, threatened, or SGCN grassland birds potentially found on the WMA, cutting of trees and/or brush will be conducted outside the breeding season if the species are known to be on the area or within close proximity. Due to the possibility of Northern long-eared bats being on the area, tree selection for cuts and the timing of cuts will be evaluated to protect the bats.

Forest Health Considerations:

Buckthorn, honeysuckle and multiflora rose in Stands 3.1, 9 and 11 may outcompete hardwood regeneration. Where possible, this interference with native regeneration will be mitigated through mechanical removal or herbicide application.

Pre- and Post-treatment Considerations:

Stands 3.1, 9 and 11 contain multiple invasive species (e.g., buckthorn, honeysuckle). Treatment of the interfering vegetation may be required to promote desired regeneration.

Pre- and post-treatment actions to promote the desired forest regeneration will be addressed in greater detail in the silvicultural prescriptions.

MANAGEMENT EVALUATION

In order to determine whether the desired forest regeneration and wildlife response(s) have been achieved by the management outlined above, pre- and post-management assessments will be conducted in accord with guidelines in the *Young Forest Initiative Monitoring Plan: 2016-2025*.[15] The Monitoring Plan establishes statewide standards for evaluating vegetation and target wildlife response to forest management to determine if the outcome is as prescribed. Regeneration assessments will be conducted within one year of harvest completion, three, and five years after the harvest or until the forester determines adequate natural or artificial (i.e., planting) regeneration has been securely established. YFI wildlife target species selected for Margaret Burke WMA, which may be assessed to determine response to management, include:

- American woodcock
- Wild turkey
- Ruffed grouse

SHRUBLAND

Shrublands are early successional habitats dominated by woody plants typically less than ten feet tall with scattered open patches of grasses and forbs that provide floristic diversity. Shrublands are typically characterized by >50% cover of shrubs and <25% canopy cover of trees.

MANAGEMENT OBJECTIVES

- Maintain 11.4 acres of shrublands to provide early successional habitat for cottontail rabbit, ruffed grouse, pheasant and other early successional species.

[15] Available online at http://www.dec.ny.gov/outdoor/104218.html.

DESCRIPTION OF EXISTING SHRUBLAND HABITAT AND TARGET SPECIES

Shrublands occur on the west side of Pleasant Valley Rd., in the center of the property, north of Wetland AL-17. These areas are interspersed with a shrub component of dogwoods, honeysuckle, and some buckthorn.

The shrublands provide habitat for species such as:

- American woodcock
- Wild turkey
- Ruffed grouse
- Eastern cottontail
- Ring-necked pheasant
- White-tailed deer

MANAGEMENT HISTORY

Margaret Burke WMA was historically farmland. Over the years, much of the land has reverted to forest; some fields that had originally been maintained have grown up to shrubland due to limitations on DEC's ability to mow areas regularly, or due to wet soils. As equipment has been available, some of the shrubland has been periodically brush-hogged and allowed to regrow.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2016-2025** (Figure 6):
    - The grassland component of these shrubby areas should be mowed every 2-3 years to maintain hunting access and to maintain these open areas. The shrub component should be mowed every 7-10 years with a forestry mower or similar equipment in order to maintain shrub density.
    - As time is available, the tree component of these shrublands should be reduced by removal of trees so that trees do not dominate and shade out the shrubs.
    - Invasive vegetation will be monitored and controlled if needed.

BEST MANAGEMENT PRACTICES

Mowing of the grassy component of shrublands will occur after August 15 in order to avoid negatively affecting nesting birds. Mowing will typically be completed prior to the opening of most small game hunting October 1. However, in some cases work in these areas may occur in late December or throughout the winter when the ground is frozen.

MANAGEMENT EVALUATION

Visual evaluations of the shrublands will be conducted annually to assess needed management actions, such as brush-hogging of grassy areas, cutting or mowing of shrubs, or removal of trees.

GRASSLAND

Grasslands are open, grassy areas with a minimal amount of shrub and tree cover (<35%) that are maintained, or could be maintained, without significant brush cutting. Grassland management

will restore and maintain habitat that will be used by migratory birds as well as contribute to the goal of building self-sustaining grassland bird populations.

MANAGEMENT OBJECTIVES

- Mow all 27.9 acres of fields every 2-3 years to maintain grassland habitat for wildlife.

DESCRIPTION OF EXISTING GRASSLAND HABITAT AND TARGET SPECIES

The 27.9 acres of grassland habitat at this WMA are primarily found in 5 different fields. Because these fields are all relatively small, and are interspersed with some shrubs and trees, they provide limited habitat for grassland nesting birds. These areas provide important habitat for pheasants released at this property immediately prior to and during the small game hunting season. They also provide foraging habitat for white-tailed deer and wild turkey.

The grasslands provide habitat for species such as:

- Wild turkey
- Ring-necked pheasant
- White-tailed deer

MANAGEMENT HISTORY

This property was historically farmland and presumably existing fields were once used for grazing by cows and/or horses. Due to the very shallow soils, it seems unlikely that much row crop agriculture occurred at this site. After DEC acquired this property, extensive planting of trees occurred with the intention of providing wildlife habitat. Most remaining fields have a perimeter of planted trees, and/or small stands of trees planted within the fields. Most recent management has involved maintaining and reclaiming fields that had become overgrown, and in trimming back perimeter tree growth that was continually encroaching on the fields and physically impeding mowing.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2016-2025** (Figure 6):
    - Mow 28 acres of fields every 2-3 years to maintain grassland conditions. Some limited mowing may be done annually to provide hunter access. Mowing will generally occur after August 15 and will be completed prior to release of pheasants in late September.
    - Improve fields by limbing perimeter trees, and limbing and/or removing individual trees or small stands of trees in fields that shade, obstruct, break up, or have invaded the field. Generally, one field may be treated per year. Much of this work will be done during the late fall or winter after the conclusion of deer season.

BEST MANAGEMENT PRACTICES

The following sub-sections provide guidelines for grassland habitat management on all WMAs in NY. For more detailed information and recommendations see *A Plan for Conserving*

Grassland Birds in New York.[16] In particular, refer to the plan for species-specific habitat requirements and detailed recommendations regarding grassland management and restoration techniques.

General Management Recommendations

- Target management for grassland bird species known to be in the vicinity, and consider the needs of both breeding and wintering grassland bird species.
- Consider the surrounding landscape when making management decisions.
- Conduct baseline grassland bird surveys on newly acquired fields or fields targeted for management changes to determine species present.
- Increase field size by hedgerow removal, removing trees, etc. to benefit species that require large fields.
- Conduct invasive species control (glossy buckthorn, pale and black swallowwort, Canada thistle, Phragmites, etc.) to improve habitat quality.
- Consider a variety of factors, such as the targeted grassland bird species, pollinators, seed mix (warm versus cool season grasses, forbs, wildflower mixes, grass height and density), timing of planting, existing conditions, and vegetation removal techniques (including herbicide and intensive disking) in developing grassland planting or restoration projects.
- Utilize mowing, haying, burning, and grazing for maintaining grassland habitat, after evaluating the appropriateness of these methods relative to site conditions and management objectives. In particular, burning cool season grasses is not advisable in most situations in New York.

Timing of Management

- Fields over 25 acres (including all contiguous fields) or fields with a history of listed (federally listed and/or state E/T or SC) grassland bird species within the last 10 years, including fields of any size AND contiguous fields. Can also include nearby fields if deemed necessary:
    - Mowing or other management should be avoided between April 23 and August 15 unless at least one of the following criteria are met and the fields are assessed or surveyed to confirm there is no active nesting by E/T/SC grassland birds:
        - Management is to be done for long term benefits to the habitat/wildlife (such as invasive species management).
        - The fields are assessed or surveyed and there is no active nesting by E/T/SC grassland birds.
        - Nesting locations can be avoided, such as using spot treatment for invasive species, reducing any negative impact to the species of concern.
- Fields under 25 acres (including all contiguous fields) with no history of listed species:
    - Field can be managed/mowed within the period April 23 and August 15 if necessary to accomplish other goals and priorities that benefit other species that use the habitat. If early management is proposed, then the habitat requirements

[16] Morgan, M. and M. Burger. 2008. A Plan for Conserving Grassland Birds in New York: Final Report to the New York State Department of Environmental Conservation under Contract #C005137. Audubon New York, Ithaca, NY.

and nesting periods of other species should be considered (e.g., nesting waterfowl, American bittern, reptiles and amphibians).

Additional Mowing Guidelines

- Frequency of mowing, size of area mowed, and mowing techniques should be based on species present and current and desired habitat conditions.
- Block or spot mowing is preferred and strip mowing should be limited (especially in fields over 25 acres).
- Unmowed blocks should be in the shape of a square as opposed to long rectangles.
- When mowing, consider mowing from one side of the field to the other side or start in the center and mow outwards to avoid concentrating animals in the area yet to be mowed.
- In general, mow grass to a residual height of 6-12 inches.

MANAGEMENT EVALUATION

Fields will be assessed annually to determine the need for mowing. Most of the fields have a substantial component of suppressed shrubs that quickly regrows if not kept in check, so determination as to mowing will largely depend on the height and vigor of shrub regrowth. Fields will also be assessed for issues regarding

AGRICULTURAL LAND

Agricultural lands on WMAs include any acreage on which crops are grown, primarily areas that are under cooperative agreements or farming contracts, but also including wildlife food plots.

DESCRIPTION OF EXISTING AGRICULTURAL LANDS AND TARGET SPECIES

There is no acreage on Margaret Burke WMA that is managed as agricultural land and no plan to develop such habitat.

WETLANDS (NATURAL AND IMPOUNDED)

Natural wetlands are areas where the soil or substrate is periodically saturated or covered with water, including emergent (perennial herbaceous vegetation accounts for >50% of hydrophytic vegetative cover) and scrub-shrub wetlands (woody vegetation under 20 feet tall accounts for >50% of hydrophytic vegetative cover). Impounded wetlands are areas similar to natural wetlands, but where water is held back by a berm, road, or other structure. Forested wetlands are addressed in the Forest section above.

MANAGEMENT OBJECTIVES

- Maintain existing wetlands to provide habitat for wildlife.

DESCRIPTION OF EXISTING WETLAND HABITAT AND TARGET SPECIES

A single state wetland, AL-17, is mapped for the western edge of the WMA. AL-17 is mapped as occupying approximately 11.4 acres on the WMA. This wetland has no open water, though

water may be present at the surface during wet periods. A seep leads from the well at the former spring house on the property and drains south into the wetland. AL-17 is mostly dominated by thick dogwood shrubs. Portions of the wetland are being invaded by non-native common buckthorn.

The wetlands provide habitat for species such as:

- American woodcock
- Wild turkey
- Ruffed grouse
- White-tailed deer
- Amphibians

MANAGEMENT HISTORY

No wetland management has occurred at this site during DEC ownership. It is likely that when the area was farmed, the wetland was in pasture.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2016-2020** (Table 4, Figure 5):
    - Inventory distribution of common buckthorn in wetland AL-17 on the WMA, and prepare a map of its distribution and density.
    - Control buckthorn by applying appropriate herbicide such as Garlon 4 using the hack and squirt method. This method may need to be repeated for several years until all plants die and immediate seed sources are exhausted.
- **Management planned for 2021-2025** (Table 5, Figure 5):
    - Conduct inspections of AL-17 on an annual basis to identify any new plants. This will be done annually for the first 5 years following conclusion of treatment, and then at least every 2 years thereafter.

BEST MANAGEMENT PRACTICES

Top priority should be given to treating mature, berry-producing female buckthorn plants. Application of the herbicide should occur immediately following the cutting of the truck or stem of the plant, but no more than 2 hours thereafter. The most effective timing for control of buckthorn is July to March, when the plant is either moving sugars to the roots, or dormant. Treating in the fall or early winter can be most practical because the leaves and berries tend to persist longer than other plants, so this makes locating plants more efficient. This would also avoid impacts to nesting birds.

MANAGEMENT EVALUATION

Periodic surveys for amphibians in the wetter portions of the wetland near the spring house seep may occur as opportunity arises.

Conduct inspections of AL-17 on an annual basis to identify any new buckthorn plants. This will be done annually for the first 5 years following successful conclusion of treatment, and then at least every 2 years thereafter.

Open Water (Waterbodies and Watercourses)

Open water is defined as any area of open water, generally with less than 25% cover of vegetation or soil and typically named (e.g., Perch Lake, South Colwell Pond).

Description of Existing Open Water Habitat and Target Species

There are no streams, segments of streams or open water on Margaret Burke WMA and no plan to develop such habitat.

Habitat Management Summary

In summary, Table 7 lists the habitat management actions planned for Margaret Burke WMA over the next ten years. Any substantive changes will be appended to this HMP annually or as needed (Appendix D).

Table 7. Summary of habitat management actions recommended for Margaret Burke WMA, 2016-2025. (Also see Figure 6.)

Habitat	Management Action	Acres	Timeframe
Forest	Clearcut red pine plantation and white pine in Stands 11.	14.8	2016-2020
Forest	Clearcut white pine in Stand 3.1.	2	2016-2020
Forest	Clearcut sugar maple, white pine and portions of northern hardwood forest in Stands 8 and 9.	10	2021-2025
Forest	Perform seed tree cut in Stand 8.	11	2021-2025
Shrubland	Maintain shrubland (Stand 3.3) by cutting/limbing trees and mowing every 2-3 years.	≤11.4	2016-2025
Grassland	Continue mowing grassland fields (Stand 3.2) every 2-3 years to maintain grassland conditions and improve field perimeters by limbing/removing trees.	≤27.9	2016-2025
Wetland	Inventory and control buckthorn within wetland.	≤11.4	2016-2025

III. FIGURES

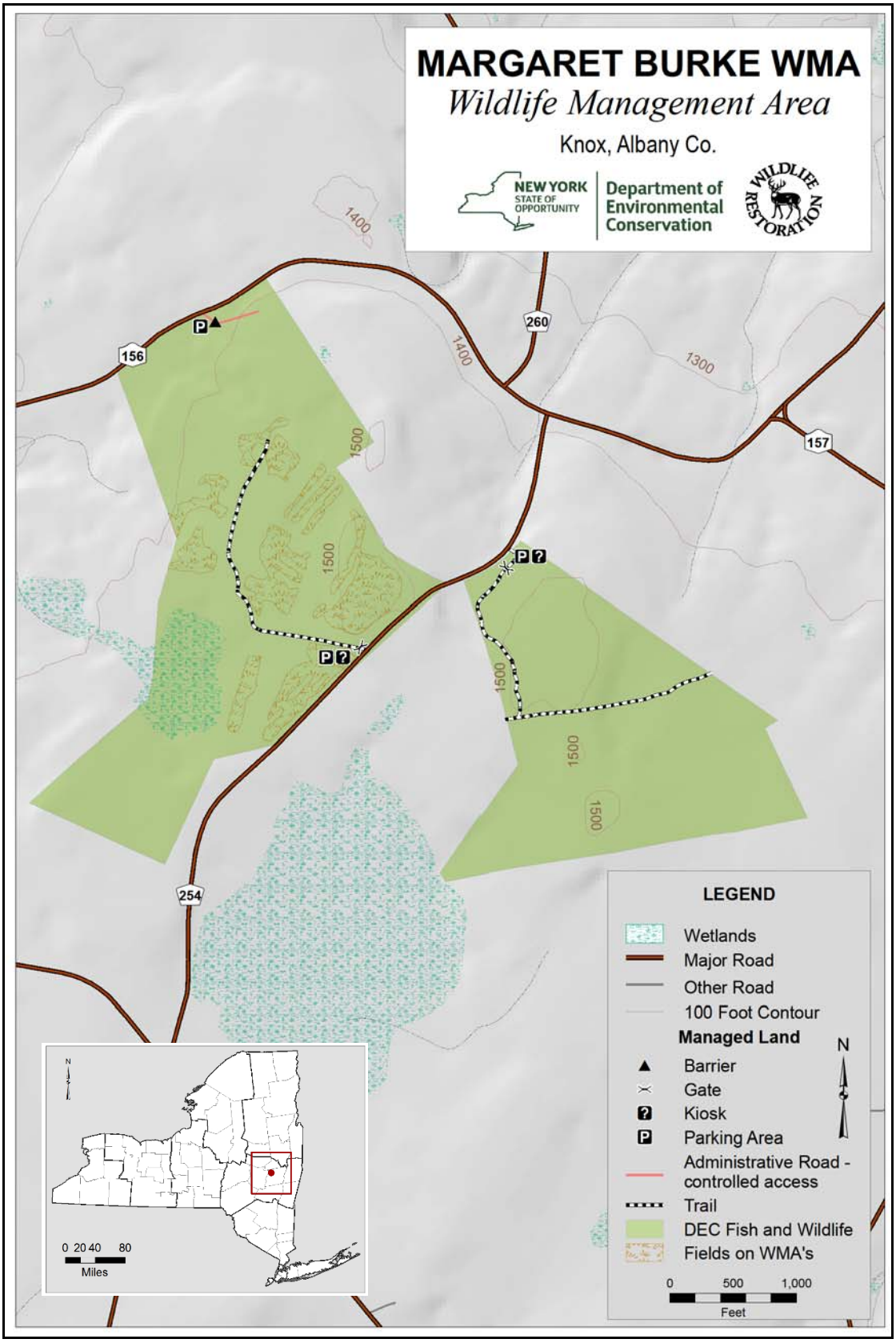

FIGURE 1. Location and access features at Margaret Burke WMA.

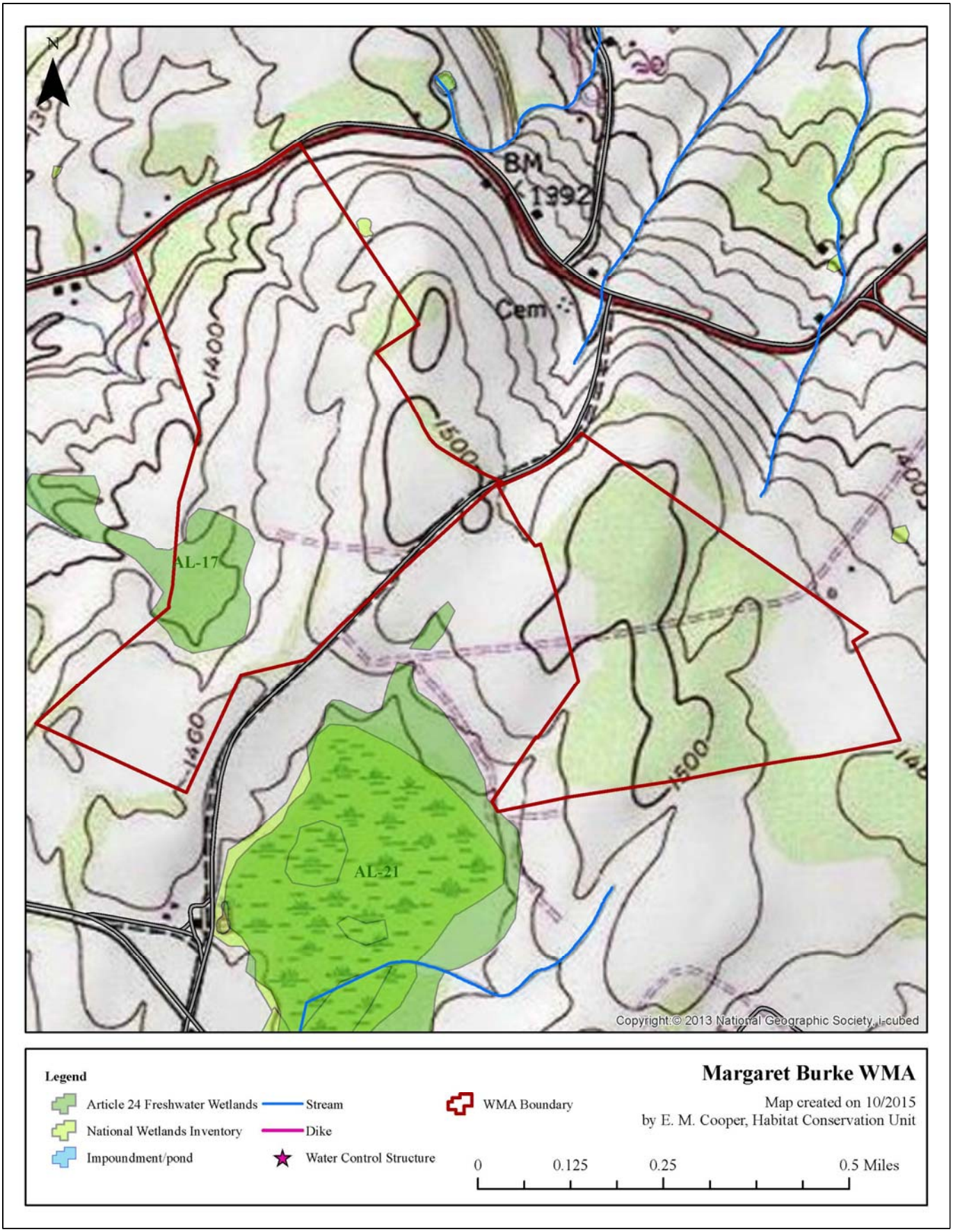

FIGURE 2. Wetlands, open water, and streams of Margaret Burke WMA. Note: Wetland boundaries are not exact and may not be used for regulatory purposes without a current delineation.

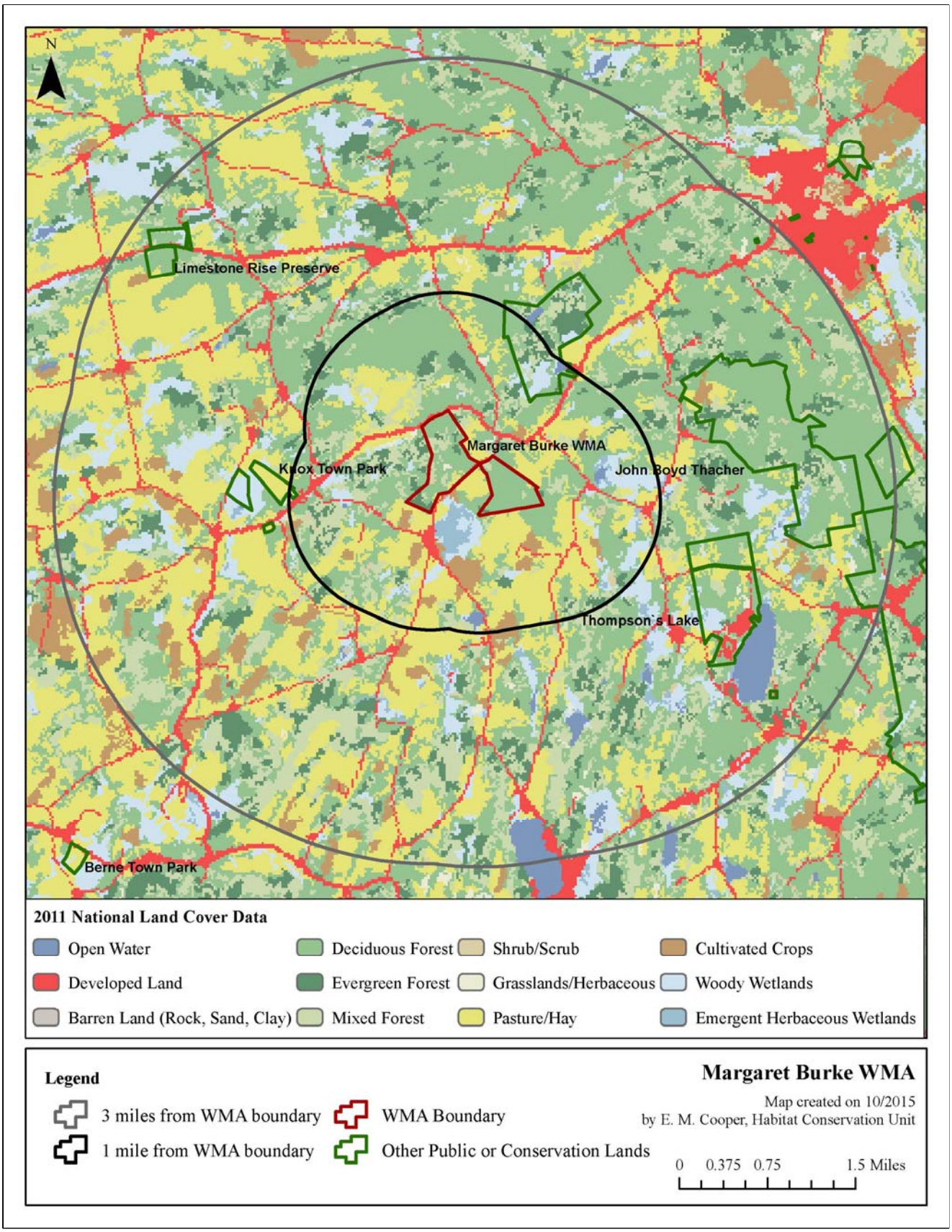

FIGURE 3. Land cover types and conservation lands in the landscape surrounding Margaret Burke WMA. Conservation lands are from the NY Protected Areas Database available online at http://www.nypad.org/. Land cover types are from the 2011 National Land Cover Data (NLCD) and differ from the habitat types used in the WMA habitat inventory. NLCD definitions are available online at http://www.mrlc.gov/nlcd2011.php.

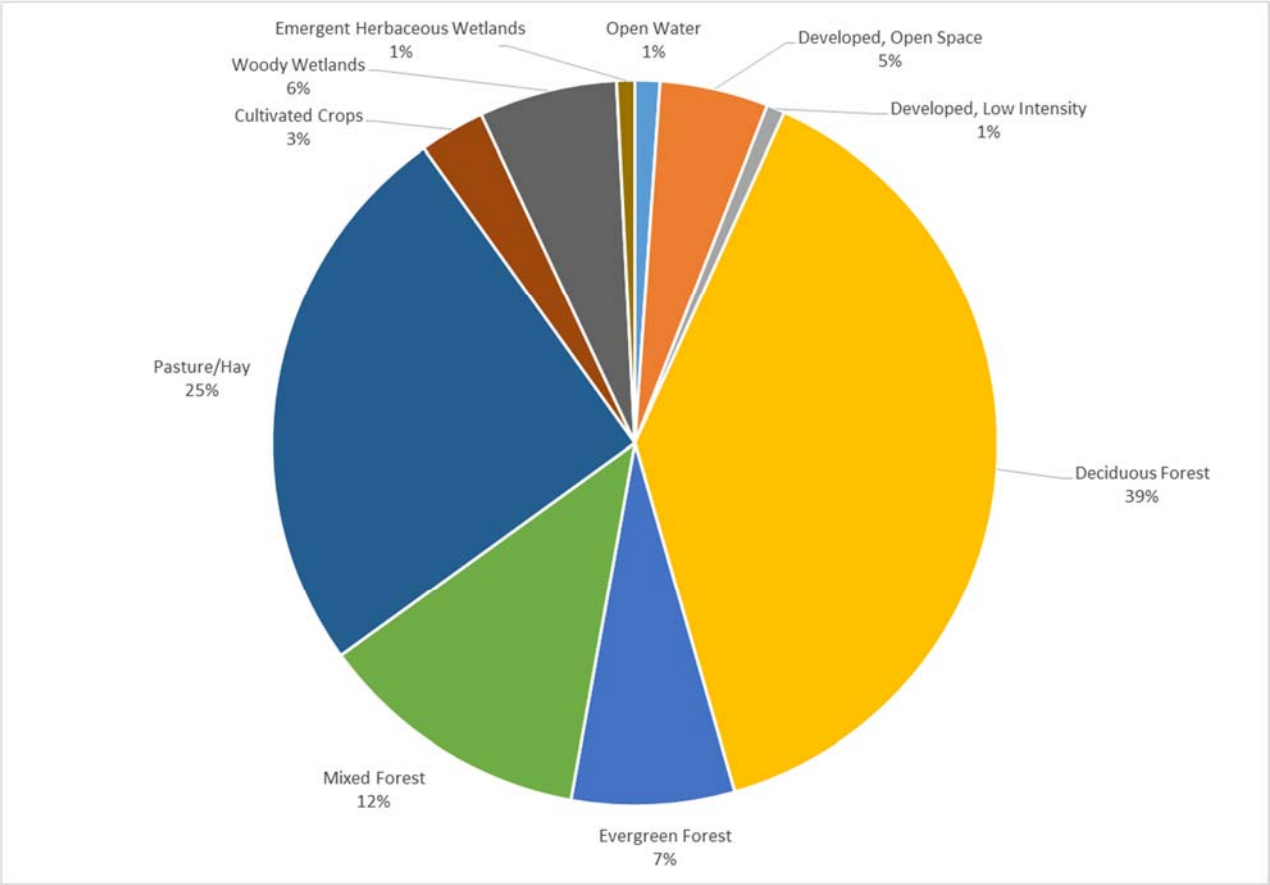

FIGURE 4. Percent cover of land cover types within three miles of Margaret Burke WMA.

Land cover types are from the 2011 National Land Cover Data (NLCD) and differ from the habitat types used in the WMA habitat inventory. NLCD definitions are available online at http://www.mrlc.gov/nlcd2011.php.

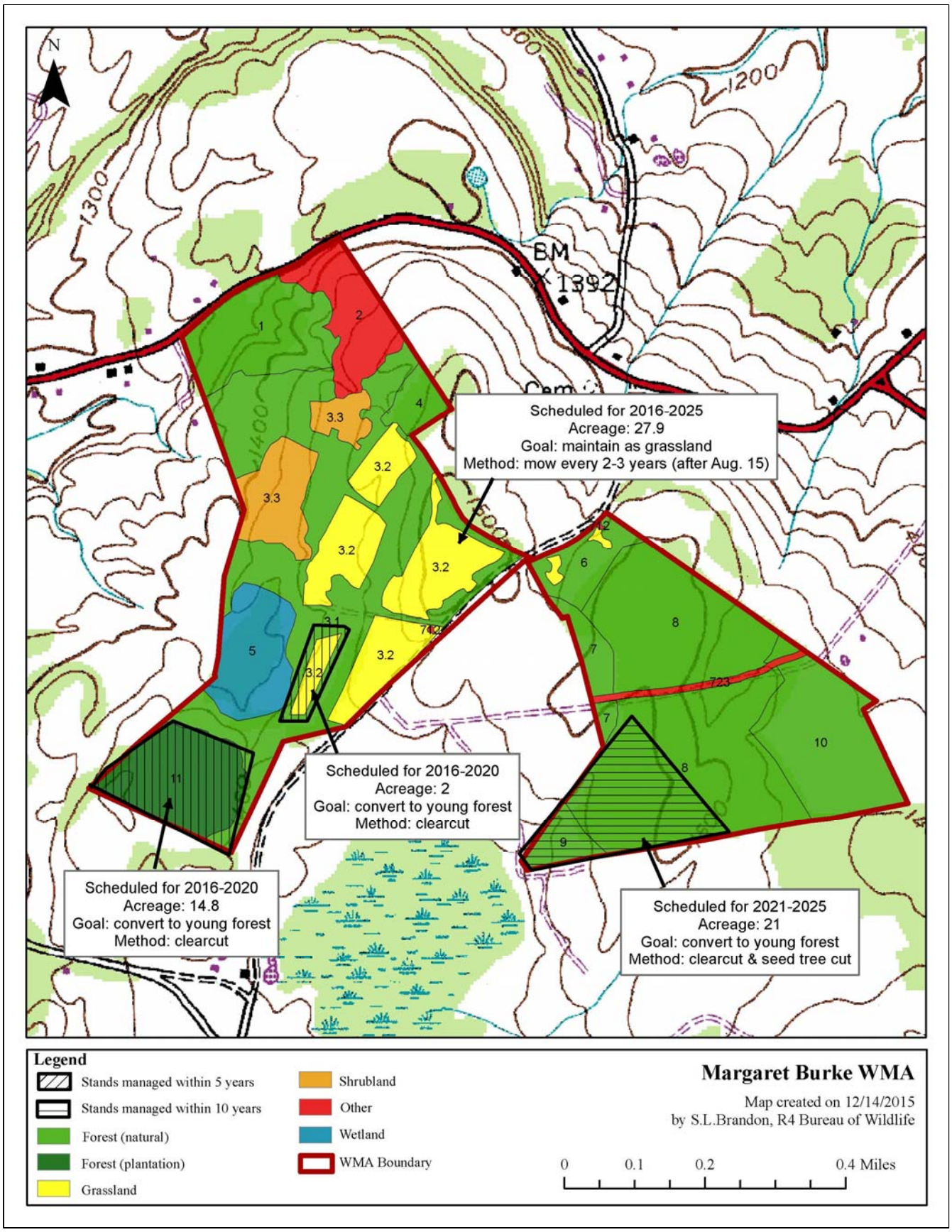

FIGURE 5. Habitat types and locations of proposed management on Margaret Burke WMA. Numbers indicate the stand number from habitat inventory.

IV. APPENDICES

APPENDIX A: DEFINITIONS

The following key words were used in the development of this Habitat Management Plan. Definitions are from The Dictionary of Forestry, Society of American Foresters, J. A. Helms, Editor, unless otherwise noted.

Best Management Practices: (BMP) A practice or combination of practices that are determined to be the most effective and practicable means of avoiding negative impacts of habitat management.

Biodiversity: The variety and abundance of life forms, processes, functions, and structures of plants, animals, and other living organisms, including the relative complexity of species, communities, gene pools, and ecosystems at multiple spatial scales.

Clearcut: A forest regeneration or harvest method that entails the cutting of essentially all trees, producing a fully exposed microclimate for the development of a new age class. Depending on management objectives, a clearcut may or may not have reserve trees left to attain goals other than regeneration.

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. (NY Natural Heritage Program)

Endangered Species: Any species listed on the current state or federal endangered species list as being in danger of extinction throughout all or a significant portion of its range.

Forb: Any broad-leafed, herbaceous plant other than those in the Poaceae (Gramineae), Cyperaceae, and Juncaceae families (i.e., not grass-like).

Forest: An ecosystem characterized by a dense and extensive tree cover, often consisting of stands varying in characteristics such as species composition, structure, age class, and associated processes, and commonly including meadows, streams, fish, and wildlife.

Forest Health: The condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigor, presence of unusual levels of insects or disease, and resilience to disturbance.

Grassland Focus Area: Regions of NY that support key, residual populations of grassland birds. There are currently eight focus areas, within which there is a concentrated conservation effort for these species. (A Plan for Conserving Grassland Birds in New York, Audubon NY.)

Habitat: A place that provides seasonal or year round food, water, shelter, or other environmental conditions for an organism, community, or population of plants or animals.

Hardwood: A broad leaved, flowering tree belonging to the botanical group Angiospermae, such as red maple, yellow birch, American beech, black cherry, etc.

Impoundment: A pond caused by a dam across a stream and used for purposes such as water supply, water power, or wildlife habitat. (Edinger et al. 2002. Ecological Communities of New York State, Appendix B)

Landscape: A spatial mosaic of several ecosystems, landforms, and plant communities across a defined area irrespective of ownership or other artificial boundaries and repeated in similar form throughout.

Mast: The fruit of trees considered as food for wildlife. Hard mast is the fruits or nuts of trees such as oak, beech, walnut, and hickories. Soft mast is the fruits and berries from plants such as dogwood, viburnum, elderberry, huckleberry, hawthorn, grape, raspberry, and blackberry.

Multiple Use Area: Lands that were acquired by DEC to provide outdoor recreation and wherever possible the conservation and development of natural resources. As their name suggests, they are to be managed for a broader range of public use. (Public Use of Lands Managed by the Bureau of Wildlife)

Native: A plant or animal indigenous to a particular locality.

Old Growth Forest: Forest with 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 canopy gaps formed by natural disturbances creating an uneven canopy, and a conspicuous absence of multiple stemmed trees. (Adapted from the NYS Strategic Plan for State Forest Management)

Pole: A tree of a size between a sapling (1" to 5" diameter at breast height) and a mature tree.

Regeneration Cut: A cutting procedure by which a new forest age class is created; the major methods are clearcutting, seed tree, shelterwood, selection, and coppice. The Young Forest Initiative includes these silvicultural treatments: clearcuts, seed tree cuts, and shelterwood cuts. Salvage (following a natural disturbance) will be considered based on the size and scope of the disturbance.

Seed Tree Method: A forest regeneration or harvest method that entails cutting of all trees except for a small number of widely dispersed trees retained for seed production and to produce a new age class in fully exposed microenvironment.

Shelterwood Method: A forest regeneration or harvest method that entails the cutting of most trees, leaving those needed to produce sufficient shade to produce a new age class in a moderated microenvironment.

Shrubland: A community dominated by woody plants typically less than ten feet tall with scattered open patches of grasses and forbs that provide floristic diversity. Typically characterized by >50% cover of shrubs and <25% canopy cover of trees. (Adapted from Edinger et al. 2002. Ecological Communities of New York State, Appendix B)

Softwood: A coniferous tree belonging to the botanical group Gymnospermae, such as white pine, Eastern hemlock, balsam fir, red spruce, etc.

Special Management Zone: A vegetation strip or management zone extending from wetland boundaries, high-water marks on perennial and intermittent streams, vernal pool depression, spring seeps, ponds and lakes, and other land features requiring special consideration. (Adapted from DEC Division of Lands and Forests Management Rules for Establishment of Special Management Zones on State Forests)

State Rank of Significant Ecological Communities:

S1 = Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.
S2 = Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.
S3 = Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.
S4 = Apparently secure in New York State.
S5 = Demonstrably secure in New York State.
SH = Historically known from New York State, but not seen in the past 15 years.
SX = Apparently extirpated from New York State.
SE = Exotic, not native to New York State.
SR = State report only, no verified specimens known from New York State.

SU = Status unknown.
(Edinger et al. 2002. Ecological Communities of New York State, Appendix A)

Stand: In forestry, a contiguous group of trees sufficiently uniform in age-class distribution, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable and manageable unit. In this HMP, the term "stand" is also applied to other habitat types (e.g., grassland, shrubland) to describe an area composed of similar vegetation composition and structure, as delineated during the habitat inventory.

Stand Prescription: A planned series of treatments designed to change current stand structure to one that meets management goals. Note: the prescription normally considers ecological, economic, and societal constraints.

Target Species: A suite of high priority wildlife species of conservation interest that are being targeted to benefit from management of a particular habitat type. For example, young forest target species at Margaret Burke WMA include: American woodcock, wild turkey, and ruffed grouse.

Unique Area: Lands that were acquired by DEC for their special natural beauty, wilderness character, geological, ecological, or historical significance for inclusion in the state nature and historical preserve. The primary purpose of these lands is to protect the feature of significance that led to the land being acquired by the state. (Public Use of Lands Managed by the Bureau of Wildlife)

Upland: Sites with well-drained soils that are dry to mesic (never hydric). (Edinger et al. 2002. Ecological Communities of New York State, Appendix B)

Wetland: "Freshwater wetlands means lands and waters of the state as shown on the freshwater wetlands map which contain any or all of the following:

(a) lands and submerged lands commonly called marshes, swamps, sloughs, bogs, and flats supporting aquatic or semi-aquatic vegetation of the following types: wetland trees, wetland shrubs, emergent vegetation, rooted, floating-leaved vegetation, free-floating vegetation, wet meadow vegetation, bog mat vegetation, and submergent vegetation;
(b) lands and submerged lands containing remnants of any vegetation that is not aquatic or semi-aquatic that has died because of wet conditions over a sufficiently long period, provided that such wet conditions do not exceed a maximum seasonal water depth of six feet and provided further that such conditions can be expected to persist indefinitely, barring human intervention;
(c) lands and waters substantially enclosed by aquatic or semi-aquatic vegetation as set forth in paragraph (a) or by dead vegetation as set forth in paragraph (b) the regulation of which is necessary to protect and preserve the aquatic and semi-aquatic vegetation as set forth in paragraph (a) or by dead vegetation as set forth in paragraph (b) the regulation of which is necessary to protect and preserve the aquatic and semi-aquatic vegetation; and
(d) the waters overlying the areas set forth in (a) and (b) and the lands underlying."

(Refer to NYS Environmental Conservation Law, Article 24 § 24-0107 for full definition.)

Wildlife Management Area: Lands that were acquired by DEC primarily for the production and use of wildlife, including hunting and trapping. These areas provide and protect wildlife habitats that are particularly significant in their capacity to harbor rare, threatened or endangered species, host unusual concentrations of one or more wildlife species, provide an important resting and feeding area for migratory birds, provide important nesting or breeding area for one or more species of wildlife, or provide significant value for wildlife or human enjoyment of wildlife. (Public Use of Lands Managed by the Bureau of Wildlife)

Young Forest: Forests that result from a regeneration cut, typically having a dense understory where tree seedlings, saplings, woody vines, shrubs, and herbaceous vegetation grow together. Young forests are typically 0-10 years old. (Adapted from www.youngforest.org). It is acknowledged that "young forests" will differ in their character in different ecological areas of the state and that 0-10 years is a continuum into more mature forest types. (Refer to: A DEC Strategic Plan for Implementing the Young Forest Initiative on Wildlife Management Areas 2015-2020)

APPENDIX B. STATEMENT OF CONFORMITY WITH SEQRA

Habitat Management Plans will be in compliance with the 1979 *Programmatic Environmental Impact Statement on Habitat Management Activities of the Department of Environmental Conservation; Division of Fish and Wildlife* by following the criteria for site specific assessments included in this Programmatic Environmental Impact Statement (EIS) and by discussing further in Appendix B, Statement of Conformity with the State Environmental Quality Review Act (SEQRA). Appendix B will be included in each plan, thereby satisfying overall compliance with 6 NYCRR Part 617, the State Environmental Quality Review. If any of these criteria are exceeded an additional site specific environmental review will be required.

Most activities recommended in this HMP are a continuation of habitat management that DEC routinely conducts under the Programmatic EIS. Beginning in 2015, DEC's Young Forest Initiative (YFI) will considerably increase forest management on Wildlife Management Areas (WMA); YFI's conformity with SEQRA is specifically addressed below. The overarching goal of the YFI is to restore and maintain young forest habitat on WMAs in order to address the declining amount of young forest habitat in the state and provide habitat for key species of conservation interest, including both at-risk and game species. The habitat management activities to be carried out under the YFI are in compliance with the above referenced document and these management activities:

- Will not adversely affect threatened or endangered plants or animals or their habitat.
    - Careful review of the NY Natural Heritage Program's "Natural Heritage Element Occurrence" database in conjunction with a field survey when necessary prior to management activities taking place allows field staff to assess the presence or absence of threatened and endangered species. Appropriate actions will be taken if a threatened or endangered plant or animal is encountered in the project area including, but not limited to: establishing adequate buffer zones around known occurrences, moving the project area, or aborting the project altogether.
- Will not induce or accelerate significant change in land use.
    - The forestland affected by the YFI will be regenerated and remain forested land, therefore no land use change will take place.
- Will not induce significant change in ambient air, soil, or water quality.
    - All projects carried out under the YFI will protect air, soil and water quality through careful project planning, use of appropriate NYS Best Management Practices for Water Quality, and establishment of Special Management Zones around sensitive land and water features requiring special consideration.
- Will not conflict with established plans or policies of other state or federal agencies.
    - YFI projects will follow established plans or policies of other state and federal agencies. Additionally, all YFI projects will be in compliance with all relevant US Fish and Wildlife Service rules and regulations.
- Will not induce significant change in public attraction or use.
    - The WMA program is part of a long term effort to establish permanent access to lands in New York State for the protection and promotion of its fish and wildlife resources. Projects carried out under the YFI will continue to protect, promote and maintain public access to WMAs and their wildlife resources.
- Will not significantly deviate from effects of natural processes which formed or maintain area.
    - Habitat management projects under the YFI will be carried out primarily through even-aged forest management. Even-aged silvicultural systems are designed to mimic natural disturbances, such as flooding, wildfire, insect and disease outbreaks and storm damage often found in nature.
- Will not result in areas of significantly different character or ecological processes.
    - The even-aged silvicultural techniques that will be employed for habitat management projects under the YFI intentionally result in areas of different character and ecological processes. However, they are not considered significant as they are ephemeral or transitional and will not permanently alter the landscape.
- Will not affect important known historical or archeological sites.
    - Each YFI project will be reviewed by DEC's State Historic Preservation Officer (SHPO) as well as the Office of Parks, Recreation and Historic Preservation (OPRHP) to determine whether

project sites may potentially affect any historical or archeological sites. In addition, thorough field review prior to management activities taking place allows field staff to assess the presence or absence of any apparent historical or archeological sites that may not be found during the review process. Should known important historical or archeological sites present themselves necessary actions will be taken to protect these resources under the direction of DEC's SHPO and the OPRHP Archaeology Unit staff.

- Will not involve the application of herbicides, pesticides or other such chemicals.
    - YFI projects may involve the judicious use of pesticides which may be necessary to control invasive species, to protect rare and endangered plants from competition, or to control vegetation interfering with forest regeneration. If projects do require the use of herbicides or pesticides an additional site-specific environmental review will be required.
- Will not stimulate significant public controversy.
    - It is not anticipated that YFI projects will stimulate significant public controversy. A significant amount of public outreach and notification will be conducted on an on-going basis as well as prior to projects being implemented on the ground including, but not limited to: public information sessions regarding the Habitat Management Plans for each WMA, signage installation at project sites informing the public of the scope and purpose of the project, establishment of one demonstration area in each region to showcase YFI management techniques to the public, periodic informational articles published in local media outlets and the development of a public YFI website. The YFI has one full time position dedicated to facilitating the program's public outreach and communication efforts.

APPENDIX C: FOREST MANAGEMENT PRESCRIPTIONS

PRESCRIPTION FOR WILDLIFE MANAGEMENT AREA TIMBER HARVEST

Region: **Wildlife Management Area:** **Stand number:** **Stand acreage:**

Species composition:

Basal area: **Trees per acre:** **Mean stand diameter:**

Stand inventory or analysis date:

Regeneration data:

Natural Heritage Element Occurrence layer review:

SMZ layer review:

Retention data:

Soil types and drainage:

Interfering vegetation:

Acres to be treated: **Target basal area:**

Technical guidance/stocking guide:

Treatment purpose:

Management Objective: Even aged or Uneven Aged

-If even aged, specify treatment (i.e. shelterwood, seed tree, clearcut)

Clearcut acreage and configuration: (if applicable)

Natural Heritage /MHDB considerations and mitigation: (if applicable)

Retention considerations and adjustments:

Treatment descriptions:

Name and Title of Preparer:

Central Office Lands and Forests Staff **Date**

Regional Wildlife Manager **Date**

PRESCRIPTION NOTES

Species Composition: At a minimum, the three most common species found in the overstory should be included, assuming at least three species comprise the stand. Species that individually constitute less than 5% of the stand may be lumped together as "Other" or "Miscellaneous." For instance, if beech, hemlock and yellow birch each make up 3% of the stand, they may be lumped together as "Other – 9%."

Natural Heritage Element Occurrence layer review: List those species that the Natural Heritage Element Occurrence (EO) data layer indicates are or were known to be present in the stand, or could be affected by treatments to the stand. For instance, if a rare fish was indicated in a water body that is a short distance downstream of a creek that flows through the stand, it should be listed in the prescription.

SMZ layer review: The SMZ data layer includes Special Management Zones around all streams and wetlands, as well as vernal pools, spring seeps and recreation areas that staff have mapped and digitized. If any of these features are mapped incorrectly or are missing from current data layers, staff can correct their locations by editing their office layers.

Retention data: Include numbers of existing snags, cavity trees, Coarse Woody Material, Fine Woody Material, and legacy trees. Ocular estimates are acceptable.

Soil types and drainage: Specifically named soil types are useful, but not necessarily required. "Flat, sandy, well-drained hilltop" or "Steep, gravelly, moderately well-drained mid-slope" may be just as useful as "Hershiser-Koufax Sandy Silt Loam" in describing the soil conditions as they relate to management decisions. The important point is to note those characteristics that may limit equipment operation or establishment of regeneration. Soil type data is available for some counties on the Data Selector.

Interfering vegetation: Indicate the existing amount of interfering vegetation such as beech, striped maple, fern, etc. This may be quantified using mil-acre plots or by ocular estimate.

Technical guidance used: This may include stocking guides, articles found in technical journals, textbooks or other silviculture-related publications. Other sources of guidance may be acceptable as well.

Treatment purpose: As used here, "treatment purpose" and "management objective" (see below) are two different things. Also, "treatment purpose" is not what is to be done (i.e., "reduce basal area by 25%" or "remove every third row"), but rather is an explanation of why it is being done (i.e., "stimulate regeneration and increase growth of residual stand" or "regenerate current stand and convert to young forest").

Management objective: As used here, the term "management objective" is somewhat general. At a minimum, the prescription should indicate the desired future age structure and stand type. An entry as general as "Even aged hardwood" is acceptable, but regional staff may be more specific if they so choose. The management objective for a stand may be specified in the Habitat Management Plan (HMP) for the Wildlife Management Area in question. If the existing HMP does not specify the management objective regional staff should choose the management objective when the prescription is written.

Clearcut acreage and configuration: If the harvest involves one single clearcut, indicate the total contiguous area, in acres. If the harvest comprises more than one clearcut, indicate the total combined area of clearcuts, as well as the area of the largest clearcut.

Natural Heritage/MHDB considerations: Indicate what measures will be taken to protect those elements or features that were found in the review of the Natural Heritage Element Occurrence and Special Management Zone (not applicable yet) layers.

Retention considerations: Indicate whether or not existing levels meet the standards set forth in the Division's policy on Retention on State Forests, or whether they are expected to do so as a result of the proposed treatment. Also indicate if or how the treatment was adjusted in order to improve compliance with the policy standards.

Treatment description: The intended treatment should be clearly described. The amount of information necessary to accomplish this will vary greatly. For instance, in a row thinning of a pole timber sized plantation that had no SMZs or other special features, it may be sufficient to simply indicate "Remove two out of every six rows, taking two adjacent rows and leaving four rows between successive pairs being removed." An intermediate thinning in a sawtimber sized hardwood stand with a recreational trail, two streams and a known occurrence of an endangered plant community would require significantly more detail. One rule of thumb that could be used is to describe the treatment so that a qualified forestry professional could use it to assist in marking the harvest.

Additionally, since we are focused on creating young forests you should also address the presence/absence of advanced regeneration. If you are planning on clearcutting without advanced regeneration, address how you are going to mitigate that. For example, "This aspen stand will be clearcut and it is anticipated that future regeneration will be established through aspen root sprouting". Or, "This stand will be clearcut and replanted with Norway spruce to establish conifer cover."

Furthermore, if you are planning on conducting a shelterwood or seed tree cut, please indicate when you are planning on returning to the stand to conduct the final harvest (overstory removal).

APPENDIX D: AMENDMENTS

Any substantive changes to the habitat management described in this plan will be amended to the plan annually or as needed. Such changes may include: land acquisition, unforeseen natural disturbance, or any other change that alters the need for or the scope, method, or timing of management.

FY 16-17 (4/1/16 - 3/31/17)