Habitat Management Plan
for
Kabob Wildlife Management Area
2017 – 2026

Division of Fish and Wildlife
Bureau of Wildlife

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SUMMARY

Kabob Wildlife Management Area (WMA) is comprised of 37 acres and is located in the Town of Stockton, Chautauqua County. The WMA has a variety of habitat types throughout the property consisting of both upland and wetland communities. The WMA's various habitats support a diversity of wildlife and plant species and provide a buffer to Cassadaga Creek located to the east. One of the county's largest wetland complexes (CS-8) of approximately 2,180.8 acres nearly surrounds the WMA.

The property was acquired as a gift to the New York State Department of Environmental Conservation (DEC) in 1978. Since acquisition, the intention has been to use this WMA as a ruffed grouse/American woodcock habitat management demonstration area, open to private landowners, showcasing habitat management techniques. Habitat management, even on the small acreage scale, will be beneficial to both of these species as well as other species. Signs will be installed for a self-guided walking tour describing what management is occurring in the stand and why, what methods were used to complete the project, monitoring techniques to gauge management success, deer impacts to regeneration success, and a brochure will be available from the Bureau of Wildlife (BOW).

Habitat management goals for Kabob WMA include:

- Manage approximately 13% of the WMA (18% of the total forested acreage) in young forest habitat to provide high stem density habitat for ruffed grouse and American woodcock.
- Manage approximately 55% as natural forest, including forested wetland.
- Manage 5% as grassland habitat providing habitat for a variety of grassland dependent species.
- Manage 3% as early successional shrubland habitat.

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, 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

Kabob Wildlife Management Area is located in DEC Region 9, Town of Stockton, Chautauqua County (Figure 1).

TOTAL AREA

37 acres

HABITAT INVENTORY

A habitat inventory of the WMA was conducted in 2017 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 Kabob WMA.

Habitat Type	Current Conditions (as of 2017)		Desired Conditions	
	Acres	Percent of WMA	Acres	Percent of WMA
Forest [a]	22.7	61.4%	20.5	Decrease to 55.4% [b]
Young forest	3.6	9.7%	4.7	Increase to 12.7%
Shrubland [c]	8.4	22.7%	8.4	No Change
Grassland	0.7	1.9%	1.8	Increase to 4.9%
Agricultural land	0.0	0.0%	0.0	No Change
Wetland (natural) [d]	0.0	0.0%	0.0	No Change
Wetland (impounded) [d]	0.0	0.0%	0.0	No Change
Open water	0.0	0.0%	0.0	No Change
Other (parking lot)	0.2	0.5%	0.2	No Change
Roads	1.4	3.8%	1.4	No Change
Rivers and streams	0.0	0.0%	0.0	No Change
Total Acres:	37.0	100%	37.0	

[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] The forest management proposed in this plan aims to replace poor quality forest, promote regeneration of native species, and establish a healthy mature forest for the future. See Landscape Context and Forest sections.
[c] Shrubland acreage includes both upland and wetland shrublands.
[d] Wetland acreage does not include forested wetlands, since they are included in the Forest category.

ECOLOGICAL RESOURCES

Wildlife Overview:

Wildlife present on Kabob WMA include species commonly found on the West Appalachian Plateau region of southwestern New York such as:

- White-tailed deer, wild turkey, Eastern coyote
- Beaver, raccoon, fisher, Virginia opossum
- Ruffed grouse, American woodcock, American crow, red-tailed hawk, pileated woodpecker
- Wood duck, mallard, Canada goose
- Eastern American toad, wood frog, northern spring peeper
- Eastern garter snake, northern water snake, snapping turtle, painted turtle

Wildlife and Plant Species of Conservation Concern:

The following federal or state listed Endangered (E), Threatened (T), or Special Concern (SC) species 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.

Table 2. Species of conservation concern that may be present on Kabob 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 woodcock			x
	American kestrel			x
	Eastern meadowlark			HP
	Grasshopper sparrow		SC	HP
	Red-shouldered hawk		SC	x
	Ruffed grouse			x
	Scarlet tanager			x
	Wood thrush			x
Mammals	None known			
Amphibians and reptiles	Snapping turtle			x
Fish	None known			
Invertebrates	None known			
Plants	None known			

[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.

Significant Ecological Communities:

There are 19 ecological communities located on Kabob WMA as identified by the NY Natural Heritage Program, none of which are classified as significant, rare or unique (Figure 2). Additional information about ecological communities is available in the Kabob WMA Biodiversity Inventory Final Report (1988) prepared by the Natural Heritage Program and in *Ecological Communities of New York State, Second Edition.*[4]

Soils:

Kabob WMA is made up of four different soil types/series that are listed in order of abundance on the WMA: Pompton, Halsey, Red Hook, and Getzville. The Pompton series consists of very deep, moderately well drained to somewhat poorly drained soils formed in water sorted sediments. The Halsey series consists of very deep, very poorly drained soils formed in glaciofluvial deposits on level ground and flood plains. Red Hook soil series consists of very deep, somewhat poorly drained soils formed in Wisconsinan age glaciofluvial deposits. The Getzville series consists of deep, poorly drained and very poorly drained soil formed in silty lacustrine sediments that overlie sandy lacustrine sediments. There is also a very tiny portion of the Wayland series in the southeast corner, which also consists of poorly to very poorly drained soil.[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 Kabob WMA include:

- One large wetland (CS-8) regulated by Article 24 of the Environmental Conservation Law and several additional forested/shrub wetlands shown on the National Wetlands Inventory (NWI; Figure 3). 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.
- Two streams (a watercourse entirely within the WMA) or segments of streams (a stream that meanders in and out of the WMA). Cassadaga Creek is classified as a Class C stream with a T standard indicating it may support a trout population.[6] The other watercourse is an intermittent stream originating from a pond to the north of the WMA.

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.*[7] 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.

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[4] 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.
[5] Additional information is available online at https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/class/.
[6] Information about stream classification is available online at http://www.dec.ny.gov/permits/6042.html.
[7] Available online at http://www.dec.ny.gov/outdoor/104218.html.

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 Kabob WMA (Figures 4 and 5). The landscape within a three mile radius of the WMA is primarily privately-owned land including:

- Deciduous forest (43.4%)
- Wetlands (20.4% combining open water, emergent and woody wetlands)
- Cultivated crops (14.6%)
- Pasture/Hay (11.1%)
- Evergreen forest (3.1%)
- Developed (3.0%)
- Shrub/Scrub (1.9%)
- Grassland/Herbaceous (1.5%)
- Mixed forest (1.0%)

Stockton State Forest is located approximately 1.7 miles to the west of Kabob WMA and is comprised of 977 acres. The state forest was purchased in the 1930s for timber production, recreation, watershed protection and wildlife habitat. Numerous Civilian Conservation Corps (CCC) projects were completed including forest roads and conifer plantations. The hardwood and softwood stands of these state forests are managed by the Division of Lands and Forest through a series of thinnings, selective cuts, and other management techniques which remove the lower quality trees and give more growing space to the best quality trees. The conifer stands of pine and spruce were planted in old farm fields. They are usually managed by a series of partial harvest thinnings, which provide openings for sunlight to encourage natural regeneration of native hardwoods. The removal of the conifer overstory in the final harvest allows the hardwood seedlings to grow to maturity.

Almost all the property surrounding Kabob is in private ownership. The management goals typically used for hardwood and softwood stands on private property differ from the management goals for Kabob WMA. Private landowners generally follow a high grading management or uneven aged management strategy that is primarily income driven. This achieves an immediate economic gain with the harvest but does not create young forest as described in the Young Forest Initiative (YFI) Strategic Plan.[8] The goal at Kabob is to create young forest habitat on the WMA using even-aged management (e.g., clearcuts) as the primary management technique to benefit the target species of the WMA. Due to the absence of young forest habitat in the surrounding landscape, a minimum of 10% of the WMA will be maintained in a young forest stage.

[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.

II. Management Strategies by Habitat Type

DEC will continue active management of wildlife habitats on Kabob 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.

Pioneer hardwood stand selected for aspen regeneration management in attempts to create young forest habitat.

Photo: Justin Kindt, DEC

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 Kabob 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 to increase the amount of young forest on WMAs to benefit wildlife that require this transitional, disturbance-dependent habitat. [9]

MANAGEMENT OBJECTIVE

- Increase total young forest acreage from an existing 3.6 acres to 4.7 acres to improve habitat for ruffed grouse and American woodcock.

DESCRIPTION OF EXISTING FOREST HABITAT AND TARGET SPECIES

There are 26.3 forested acres on Kabob WMA. Forested habitat is an even mix of natural forest and forested wetland. Naturally forested stands are mostly pioneer hardwoods with a few stands of northern hardwoods or a hemlock/northern hardwood mix. All forested stands, aside from young forest, are in a pole/small saw timber stage. Over the course of the 10 year management plan for the property, select acres of natural forest will be managed to produce young forest habitat, then periodically tended in order to be maintained as such. Table 3 provides a breakdown of the forested acreage present upon Kabob WMA.

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

Forest Type	**Acres (as of 2017)**	**Desired Acres**	**Overstory species**
Natural forest (mature/intermediate)	12.5	10.3	Aspen spp, black cherry, red maple
Plantation	0	0	
Forested wetland	10.2	10.2	Red maple, green ash Eastern hemlock, alder
Young forest	2.0	3.1	
Young forest (forested wetland)	1.6	1.6	
Total Forested Acres:	26.3	25.2	

Grouse and woodcock require areas of young forest adjacent to mature forest for breeding, foraging, and cover and will benefit from management that creates the following conditions:

- **Ruffed Grouse Habitat Requirements:**
  - Drumming areas – Downed trees surrounded by small diameter woody cover.
  - Foraging – 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.
- **American Woodcock Habitat Requirements:**
  - Singing/Peenting Ground – Open areas from 1 acre to over 100 acres usually in an abandoned field.
  - Daytime areas – Moist, rich soils w/ dense overhead cover of young alders, aspen, or birch.
  - Nesting – Young open, second growth woodlands.

[9] Additional information is available online at http://www.dec.ny.gov/outdoor/104218.html.

- Brood rearing – Similar to nesting but with bare ground and dense ground cover.
- Roosting – Open fields (minimum of 5 acres) or reverting farm fields.

MANAGEMENT HISTORY

Kabob WMA was gifted to New York State in 1978. The property was then set aside, with aid from the National Ruffed Grouse Society, as a demonstration area for ruffed grouse management. A plan was developed to divide the WMA into four quadrants (each quadrant being intended for a breeding pair of ruffed grouse), then further subdivided into an additional 4 squares within the original quadrants creating a total of 16 squares. These were to be clear cut on rotation providing four age ranges and the necessary habitat to hold ruffed grouse. Some management has occurred within the squares, specifically in years 1995, 1998, and 2008, however, other blocks consisting of non-forested habitat or overly saturated soils have since been deemed unmanageable and young forest management rotations will be applied to select upland habitat only for this plan.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

The past management on Kabob WMA has established the current number of 3.6 acres of young forest habitat. The 10% young forest goal has already been achieved for the property, however because Kabob WMA is a demonstration area, additional management will occur for observational purposes.

The following management will result in a total of 4.7 acres of young forest or 13% of the total forested acres.

- **Management planned for 2017-2021** (Table 4, Figure 6):
  - Convert portion of pioneer hardwood Stand 4 to shrubland, establishing Stand 4.3 (0.5 acres).
  - Pioneer hardwood clearcut for aspen regeneration in portion of Stand 5, establishing Stand 5.1 (1.1 acres).
- **Management planned for 2022-2026** (Table 5, Figure 6):
  - Convert portion of pioneer hardwood Stand 4 to shrubland, establishing Stand 4.4 (0.6 acres).

Table 4. Forest management schedule for the first five-year period of this HMP (2017-2021).

Stand	Acres	Size Class	Forest Type		Management Direction	Treatment Type
			Current	Future		
4.3	0.5	Pole Timber	Pioneer Hardwoods	Shrubland	Wildlife	Clearcut
5.1	1.1	Pole Timber	Pioneer Hardwoods	Young Forest	Wildlife	Clearcut

Table 5. Forest management schedule for the second five-year period of this HMP (2022-2026).

Stand	Acres	Size Class	Forest Type		Management Direction	Treatment Type
			Current	Future		
4.4	0.6	Pole Timber	Pioneer Hardwoods	Shrubland	Wildlife	Clearcut

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 will include the following:

- **Stand 5 (1.1 acres):** This pioneer hardwood stand will be clearcut on a 45 year rotation by dividing it into thirds with one sub-stand cut every 15 years. This will create young forest habitat as well as establish a juxtaposition of different age classes. The overstory consists of pole and small sawtimber size aspen, with some inclusions of pole size softwoods. Due to the abundance of aspen, the stand should be harvested in the winter in order to productively regenerate a high stem density of aspen root sprouts. The small inclusions of young softwood species will remain uncut to provide additional cover and potential seeding of future thermal cover. The understory is a mix of desirable and undesirable vegetation which includes: red maple, aspen, green ash, black cherry, honeysuckle, multiflora rose, dogwood, autumn olive, poison ivy, grasses, and ferns. Interfering vegetation will be controlled with pre and post treatments.

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** [10]
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*

Wildlife Considerations:

General wildlife surveys of the project locations will be conducted prior to any forest management. Management activities will be limited to ensure impacts to sensitive species will be avoided or kept to a minimum. Projects will take into account seasonal weather conditions, along with the breeding and nesting period of wildlife species found on the WMA.

To avoid potentially negative impacts to the Northern long-eared bat, all forested habitat work will occur during the hibernation period of the species, October 1 through March 31.

Forest Health Considerations:

Undesirable species may outcompete desirable regeneration. A loss of function and diversity can occur when forest health declines from pests or other injurious agents. This could lead to fewer wildlife species being able to inhabit the area successfully, further contributing to the decline of health and diversity.

Forest management using sound silviculture helps encourage tree, stand, and forest resistance. A more resistant forest can lessen its susceptibility to the negative effects of injurious agents and

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

limit the spreading of harmful pests potentially present on the WMA. This can lead to improved wildlife habitat for the target species and a healthier ecosystem.

In the stands scheduled for management, undesirable species are quite prevalent. Pre- and/or post-treatments are likely needed in order to ensure the successful regeneration of desirable species. Observed interfering and invasive vegetation includes honeysuckle, multiflora rose, weeds, and grasses.

White-tailed deer herbivory is moderate to high on Kabob WMA. In areas where deer browse could pose a threat to desirable regeneration deer enclosures (natural or artificial) may be constructed to protect regeneration.

Common forest pests, such as emerald ash borer (EAB), hemlock woolly adelgid (HWA), Asian longhorned beetle (ALB), and gypsy moth, have not been observed on the WMA. Kabob WMA is located within an emerald ash borer quarantine zone, therefore additional regulations are currently applicable to all ash wood products.

Pre- and Post-treatment Considerations:

Pre- and post-treatments occur at the stand level and aim to promote the regeneration of desired species. Primarily the establishment of desired regeneration is achieved by reducing competing vegetation, exposing mineral soil, and improving the seedbed.[11] Treatment actions are typically carried out through mechanical and/or chemical means. However, certain ecological situations may be best treated through prescribed burning. Anticipated mechanical treatments include brush/chainsaw cutting invasive/undesired species from the understory. Traditionally, chemical treatments involve herbicide application to reduce vegetative competition.

Pre- and post-treatment actions will be addressed in detail in the silvicultural prescriptions.

MANAGEMENT EVALUATION

In order to determine whether the desired forest regeneration and wildlife responses 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*.[12] The Monitoring Plan establishes statewide standards for evaluating vegetation and target wildlife responses 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 Kabob WMA, which may be assessed to determine response to management, include:

- American woodcock
- Ruffed grouse

There will be two types of vegetative response surveys conducted following young forest management, ocular regeneration assessment and photo point records.

[11] Nyland, R.D. 2007. Silviculture: Concepts and Applications 2nd ed. Waveland Press.
[12] Available online at http://www.dec.ny.gov/outdoor/104218.html.

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

- Manage approximately 1.1 acres of upland shrubland habitat (3% of the WMA), providing habitat for a variety of shrubland-dependent species.
- Convert 1.1 acres of shrubland into grassland to provide brood rearing habitat for ruffed grouse and nesting and brood rearing habitat for other grassland-dependent species.
- Convert 1.1 acres of natural forest to shrubland.
- Maintain the shrubland via brush hogging every 3-5 years or as necessary.

DESCRIPTION OF EXISTING SHRUBLAND HABITAT AND TARGET SPECIES

Currently 8.4 acres of shrubland (1.1 acres of upland shrubland and 7.3 acres of wetland shrubland) exist on Kabob WMA. Shrubland species include honeysuckle, autumn olive, multiflora rose, wild apple, red osier/silky dogwood, crab apple, hawthorn, and alder. These densely-stemmed habitats provide valuable foraging and escape cover for both fledglings and adults of numerous wildlife species including the YFI target species:

- American woodcock
- Ruffed grouse

Other species benefitting from this habitat include: black-billed cuckoo, alder flycatcher and cottontail rabbit.

The wetland shrubland acreage will not be included in any stand management at this time. Growing conditions have favored the shrubland community which in turn has prevented establishment of tree species in the stands. The stands will, however, be monitored and may require management in the future.

MANAGEMENT HISTORY

There has not been any shrubland management on the WMA. The shrubland that exists is a result of the natural succession of old fields and naturally occurring wetland shrubland habitat resulting from growing conditions that have not been favorable for the establishment of tree species.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2017-2021** (Figure 6):
    - **Stand 6:** Brush hog approximately 1.1 acres of sparse shrubland converting the acreage to grassland. This stand has been unmanaged resulting in some shrubland stem establishment. Sparse shrubland growth will be brush hogged and maintained as grassland with annual mowing. Several apple and crab apple trees will be retained and pruned to enhance valuable soft mast production. A clump of

spruce will be avoided and allowed to grow providing winter thermal and escape cover.
    - **Stand 4:** Utilize a forestry cutter and chainsaws/hand felling to convert sparse natural forest to shrubland, establishing stand 4.3 (0.5 acres). Several areas of this stand have low stem densities and would require minimal effort to convert to shrubland. The boundary of the shrub habitat will be irregular to provide additional edge habitat. These portions of stand 4 are in close proximity to grassy areas and existing young forest habitat. The new shrublands will provide valuable escape cover and foraging habitat.
- **Management planned for 2022-2026** (Figure 6):
    - **Stand 4**: Utilize a forestry cutter and chainsaws/hand felling to convert sparse natural forest to shrubland, establishing stand 4.4 (0.6 acres). Several areas of this stand have low stem densities and would require minimal effort to convert to shrubland. The boundary of the shrub habitat will be irregular to provide additional edge habitat. These portions of stand 4 are in close proximity to grassy areas and existing young forest habitat. The new shrublands will provide valuable escape cover and foraging habitat.

BEST MANAGEMENT PRACTICES

Timing of the management activities will be limited to ensure impacts to the habitat and wildlife are kept to a minimum. Projects will take into account seasonal weather conditions, along with the breeding and nesting period of wildlife species found on the WMA.

MANAGEMENT EVALUATION

Due to the small acreage of the WMA, ruffed grouse and American woodcock survey routes will not be a practical method to evaluate habitat management success. Track and/or flushing surveys may be conducted to evaluate the target species response to the habitat management. Point counts of bird species pre- and post- management may occur to document presence or probable absence of young forest species and species response to the proposed management. Details of the methodology and data collection can be found in the *Young Forest Initiative Monitoring Plan*.

GRASSLAND AND OTHER OPEN SPACE

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. Grasslands may include areas where hay is harvested by late season mowing once per year.

MANAGEMENT OBJECTIVES

- Maintain 1.8 acres of grassy open areas through annual mowing providing brood rearing habitat for a wide range of wildlife species.
- Convert 1.1 acres of sparse shrubland to grassy open space habitat.
- Periodically lime and fertilize the grassy open areas to enhance annual growth.
- Reseed grassy areas if necessary to reestablish desirable species.

DESCRIPTION OF EXISTING GRASSLAND HABITAT AND TARGET SPECIES

Currently two small openings at the north end of the WMA and a small opening at the south end account for just under an acre of grassy habitat. Although the acreage of these openings is small, this habitat is lacking both on the WMA and in the surrounding landscape. Establishing more of this habitat type will provide additional brood rearing habitat and potential nesting habitat for species dependent on this cover type.

Shrubland conversion to grassland in Stand 6.
Photo: Greg Ecker, NYSDEC

Species that benefit from grassland best management practices include:

- Field sparrow
- Eastern towhee
- Cottontail rabbit

MANAGEMENT HISTORY

DEC Division of Operations maintains the grasslands following an annual mowing schedule provided by the Bureau of Wildlife. The grassy openings are mowed annually to prevent the establishment of woody vegetation.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2017-2021** (Figure 6):
  - **Stand 1 and 14:** Continue annual mowing with a brush hog (0.7 acres).
  - **Stand 6:** Convert entire stand from sparse shrub habitat to a small grassy field (1.1 acres). This stand has been unmanaged, resulting in some shrubland species establishment. Sparse shrubland growth will be brush hogged and maintained as grassland with annual mowing. Several apple and crab apple trees will be pruned and left to provide valuable soft mast. A clump of spruce will be avoided and allowed to grow providing winter thermal and escape cover. Scot's pine in the stand will be felled and used to construct brush piles for cottontail rabbit escape cover.
- **Management planned for 2022-2026** (Figure 6):
  - **Stand 1 and 14:** Continue annual mowing with a brush hog (0.7 acres).

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*.[13] 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

[13] 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.

- 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 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

Due to the small acreage of the WMA, ruffed grouse and American woodcock surveys will not be a practical method to evaluate habitat management success. Track and/or flushing surveys may be conducted to evaluate the target species response to the habitat management. Point counts of bird species pre- and post- management may occur to document presence or probable absence and species response to the proposed management.

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

Kabob WMA does not contain any stands that are managed as agricultural land. Future

management plans do not include adding agricultural fields to the existing 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 7.3 acres of shrub wetlands.
- Maintain natural hydrology and water quality on the WMA.
- Manage beaver occupancy at levels that will not impact current infrastructure.

DESCRIPTION OF EXISTING WETLAND HABITAT AND TARGET SPECIES

Kabob WMA contains 7.3 acres of shrub wetlands (Figure 3). A portion of Stand 3, a wetland shrubland habitat is adjacent to an administrative road. A road culvert is occasionally plugged by beaver activity, therefore, this area requires continuous monitoring.

The wetlands provide habitat for species such as:

- American woodcock
- Beaver, mink
- Migratory waterfowl
- Wood frog, spring peepers
- Snapping turtle, painted turtle

MANAGEMENT HISTORY

Mowing of the administrative road is completed annually by the Division of Operations following the WMA work plan. Beaver control and monitoring is ongoing by wildlife staff.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2017-2026:**
    - Continue periodic monitoring of beaver activity.

BEST MANAGEMENT PRACTICES

Timing of the management activities will be limited to ensure impacts to the habitat and wildlife are kept to a minimum. Projects will take into account seasonal weather conditions, along with the breeding and nesting period of wildlife species found on the WMA. Date restrictions for water level management or equipment in wetlands will be followed to protect hibernating amphibians and reptiles (October 1st – March 31st).

MANAGEMENT EVALUATION

Beaver activity will be continuously monitored.

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).

MANAGEMENT OBJECTIVES

- Protect water quality on all streams and segments of stream as management activities are conducted.

DESCRIPTION OF EXISTING OPEN WATER HABITAT AND TARGET SPECIES

Kabob WMA does not contain any areas of open water and currently there are no plans to construct any impoundments. Two streams (a watercourse entirely within the WMA) or segments of streams (a stream that meanders in and out of the WMA) exist on Kabob WMA. Cassadaga Creek is classified as a Class C stream with a T standard indicating it may support a trout population.[14] The other watercourse is an intermittent stream originating from a pond to the north of the WMA. Cassadaga Creek is stocked annually with brown trout upstream from the WMA. Some of these trout may venture downstream to the short segment of the creek that passes through the WMA providing angling opportunities.

MANAGEMENT EVALUATION

None.

[14] Information about stream classification is available online at http://www.dec.ny.gov/permits/6042.html.

HABITAT MANAGEMENT SUMMARY

In summary, Table 7 lists the habitat management actions planned for Kabob 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 Kabob WMA, 2017-2026. (Also see Figures 3 and 6.)

Habitat	Management Action	Acres	Timeframe
Forest	Convert pioneer hardwood Stand 4.3 to shrubland.	0.5	2017-2021
Forest	Clearcut pioneer hardwood Stand 5.1 to establish young forest.	1.1	2017-2021
Shrubland	Convert upland shrubland Stand 6 to grassland.	1.1	2017-2021
Forest	Convert pioneer hardwood Stand 4.4 to shrubland.	0.6	2022-2026
Grassland	Annual mowing in Stands 1 and 14.	0.7	2017-2026

III. FIGURES

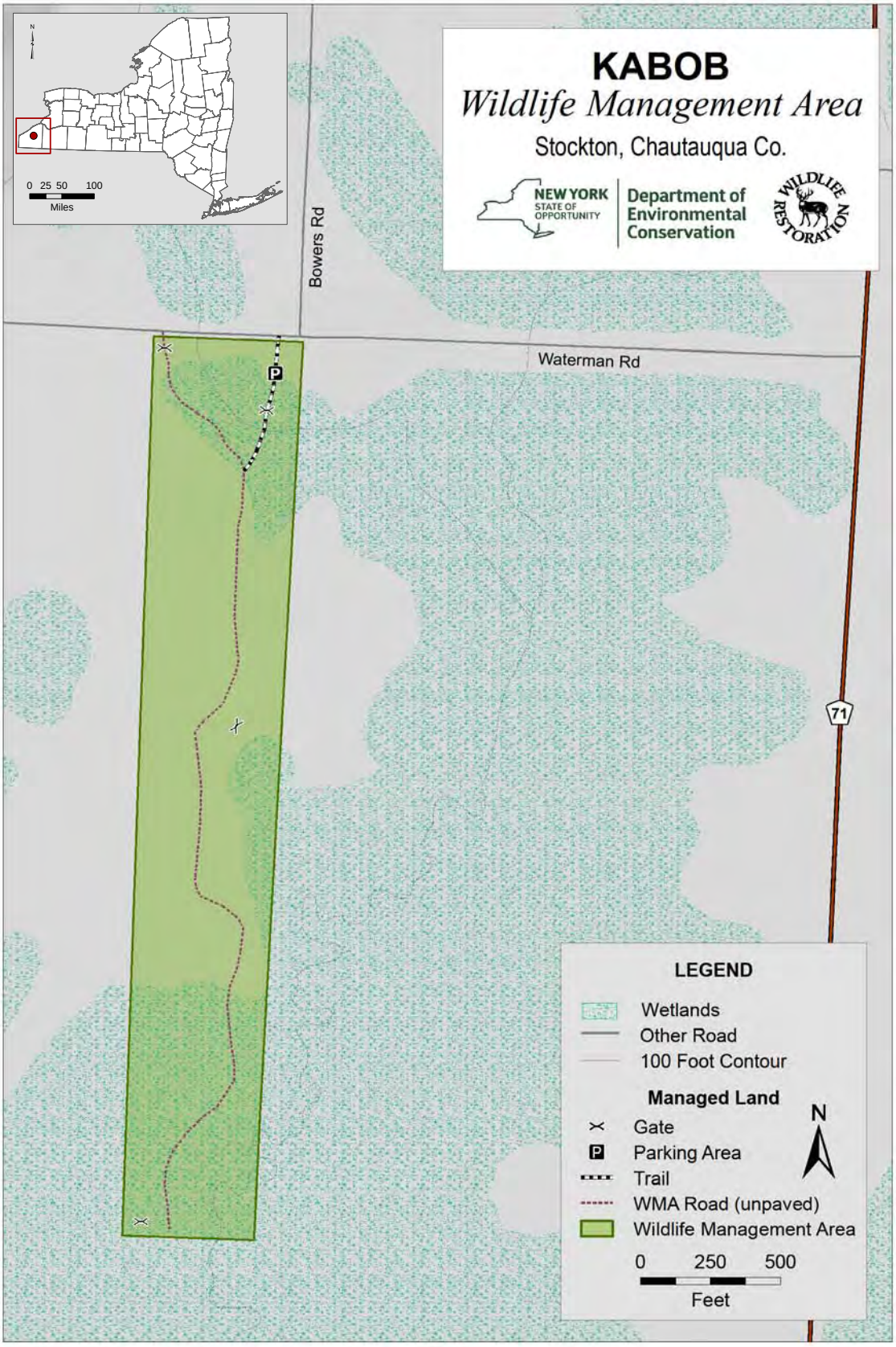

FIGURE 1. Location and access features at Kabob WMA.

FIGURE 2. Significant ecological communities on Kabob WMA. Data from the NY Natural Heritage Program.

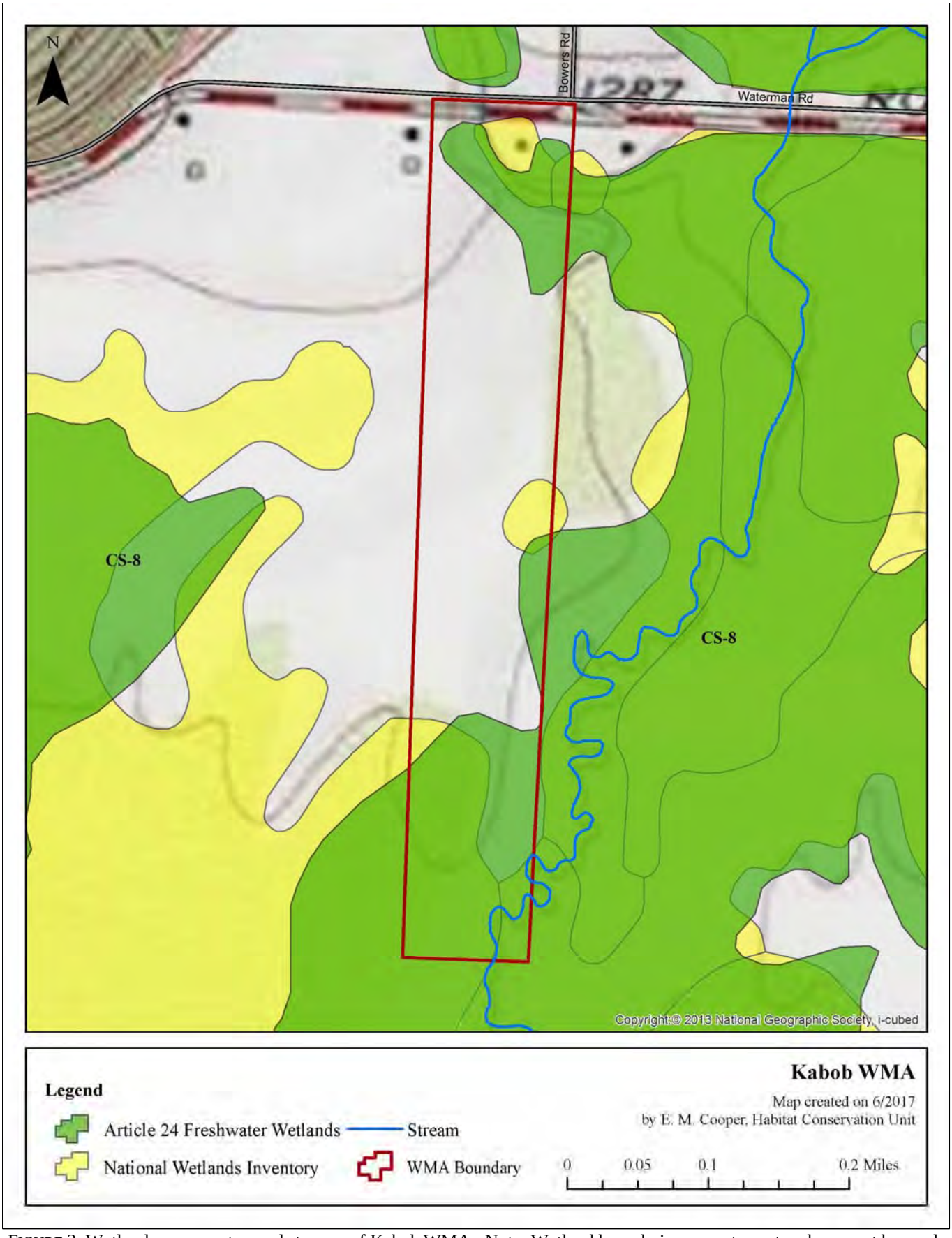

FIGURE 3. Wetlands, open water, and streams of Kabob WMA. Note: Wetland boundaries are not exact and may not be used for regulatory purposes without a current delineation.

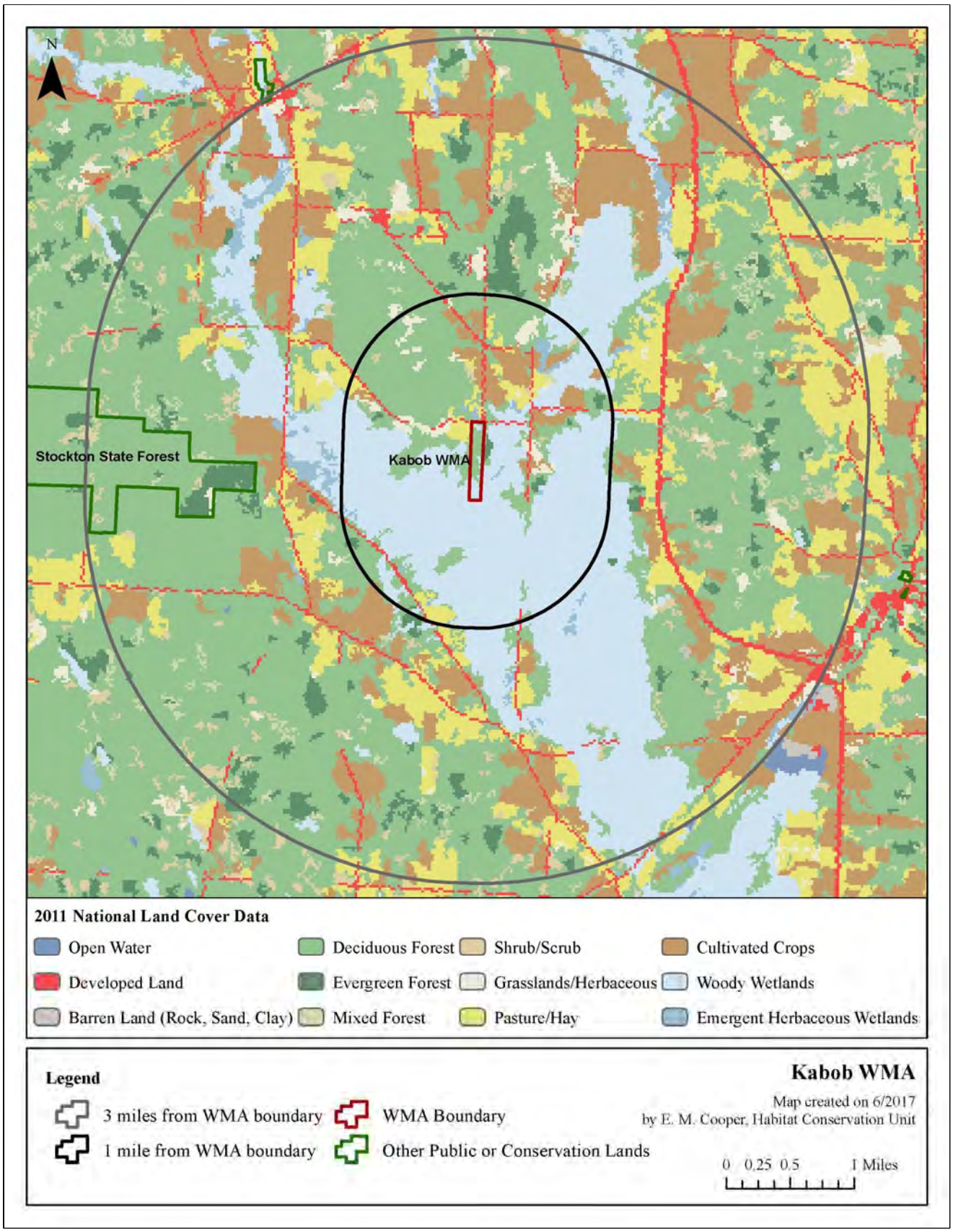

FIGURE 4. Land cover types and conservation lands in the landscape surrounding Kabob WMA. Conservation lands are from the NY Protected Areas Database available online at http://www.nypad.org/. Land cover types are from the 2011 National Land Cover Data (NLCD) and differ from the habitat types used in the WMA habitat inventory. NLCD definitions are available online at http://www.mrlc.gov/nlcd2011.php.

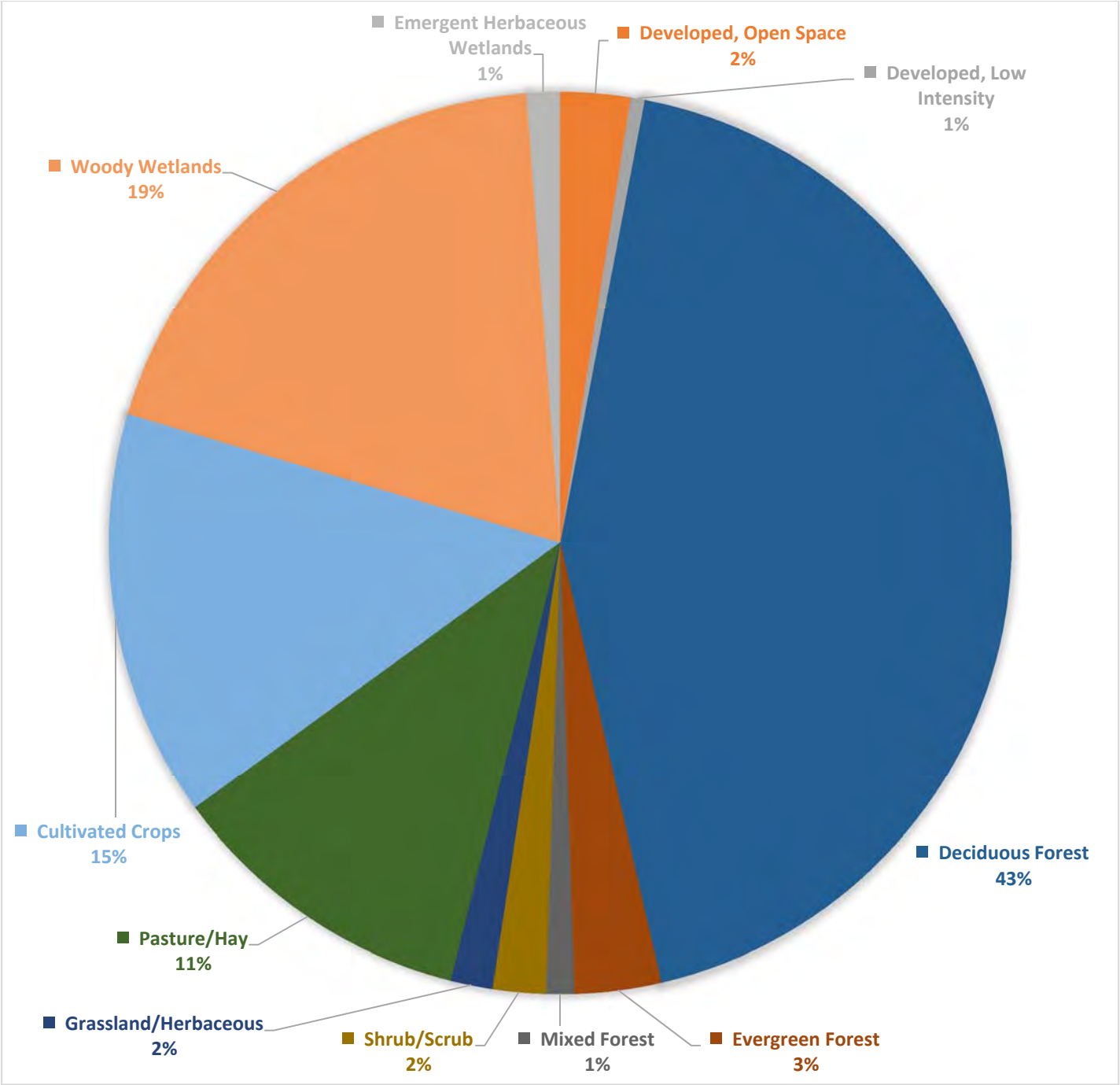

FIGURE 5. Percent cover of land cover types within three miles of Kabob WMA.

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.

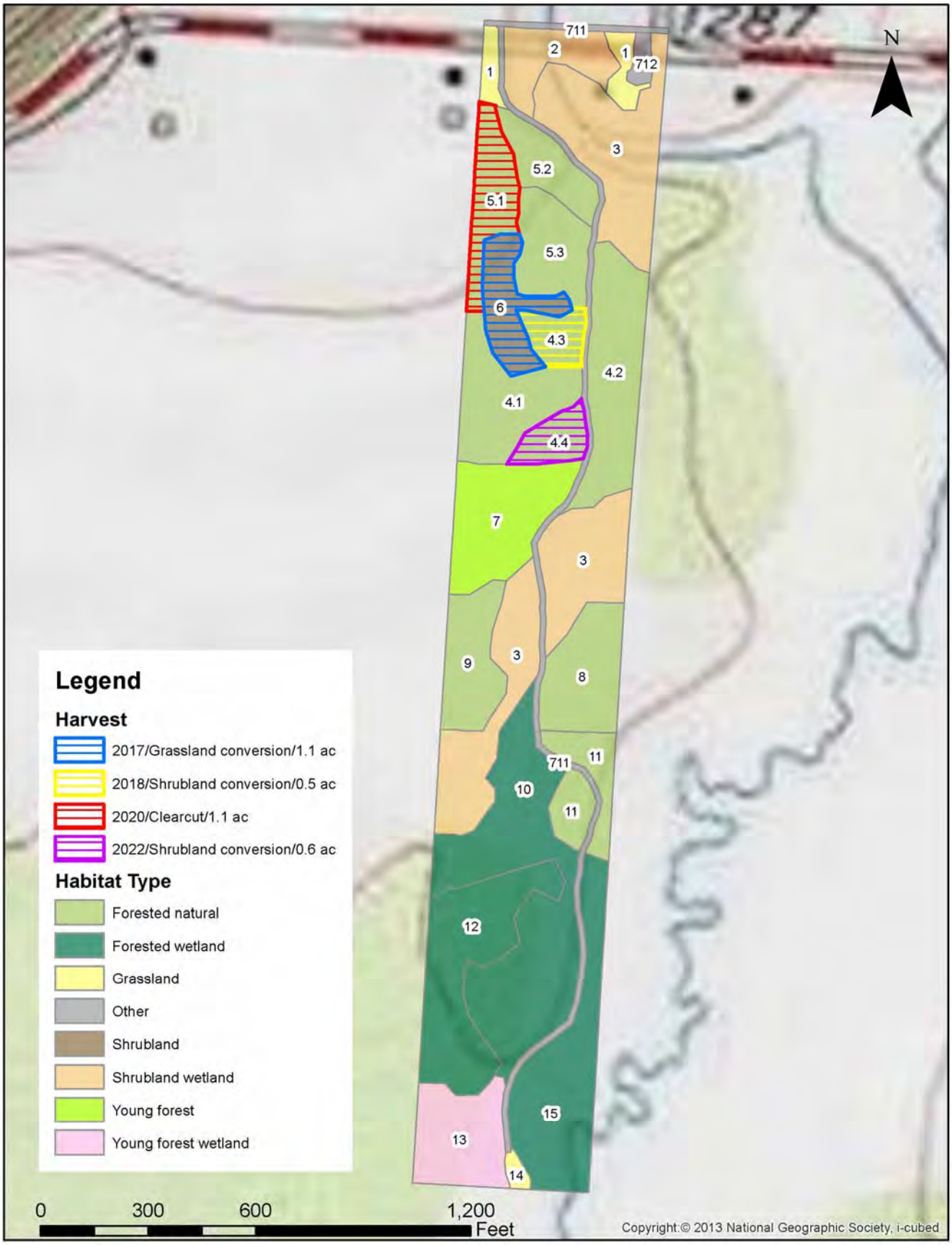

FIGURE 6. Habitat types and locations of proposed management on Kabab WMA. Numbers indicate the stand number from habitat inventory.

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.

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.