Habitat Management Plan
for
West Cameron Wildlife Management Area
2017 - 2026

Photo: John Mahoney

Division of Fish and Wildlife
Bureau of Wildlife
6274 East Avon-Lima Road, Avon, New York 14414

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Prepared by:

Michael Palermo, Biologist 1 (Wildlife)
Emily Bonk, Forester 1
John Mahoney, Forestry Technician 1
Young Forest Initiative

Scott Smith, Biologist 1 (Wildlife)
Kelly Raab, Fish & Wildlife Technician 2
West Cameron WMA Management

Heidi Kennedy, Biologist 1 (Wildlife)
Land Management & Habitat Conservation Team

Reviewed and approved by:

Michael Wasilco, Regional Wildlife Manager Bureau of Wildlife	12/16/16 Date
James F Farquhar III, Chief Bureau of Wildlife	12/19/2016 Date
Tony Wilkinson, Director Division of Fish and Wildlife	12/21/16 Date

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SUMMARY

West Cameron Wildlife Management Area (WMA) consists of 165 acres in the Town of Cameron, Steuben County, and is located on a ridgetop along the west side of the Canisteo River valley. The property is mostly forested and provides habitat for most common wildlife species of the northern Allegheny Plateau, including deer, turkey, bear, squirrel, and many songbirds. Primary forest types are oak, northern hardwood, natural conifer, and white pine plantation. Two open fields are present, each with a small marsh, and an intermittent stream runs through the center of the WMA. This plan elaborates upon habitat objectives described in the Canisteo River Basin Unit Management Plan[1] (UMP) and provides guidance for the revision of that document. West Cameron WMA is primarily managed to provide diverse forest habitats to benefit wildlife and affords multiple recreational opportunities including hunting, trapping and bird watching.

Habitat management goals for West Cameron WMA include:

- Converting 19% of forest acreage to young forest to improve stand quality and promote American woodcock, ruffed grouse, and other young forest wildlife;
- Maintaining approximately 75% as intermediate and mature forest to provide diversity in forest habitats and promote associated wildlife, such as scarlet tanager and wood thrush;
- Managing approximately 6% as grasslands to provide diverse food and cover options for forest wildlife; and
- Maintaining existing wetland impoundments to provide a reliable water resource for upland wildlife and promote semi-aquatic species, such as frogs and salamanders.

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.

[1] Information of DEC Unit Management Plans is available online at http://www.dec.ny.gov/lands/4979.html

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.

The Canisteo River Basin UMP is scheduled for revision in 2017. At that time, objectives from this HMP will be integrated into the UMP, and management provisions for facilitating compatible wildlife-dependent recreation, access, and facility development and maintenance will be addressed.

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

West Cameron Wildlife Management Area is located in DEC Region 8, Town of Cameron in Steuben County (Figure 1).

Total Area

165 acres

Habitat Inventory

A habitat inventory of the WMA was conducted in 2016 and will 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 West Cameron WMA.

Habitat Type	Current Conditions (as of 2016)			Desired Conditions	
	Acres	Percent of WMA	Miles	Acres	Percent of WMA
Forest [a]	159	96%		123	Decrease to 75%
Young forest	0	0%		31	Increase to 19%
Shrubland	0	0%		0	No change
Grassland	5	3%		10	Increase to 6%
Agricultural land	0	0%		0	No change
Wetland (natural)	0	0%		0	No change
Wetland (impounded)	0.3	<1%		0.4	<1%
Open water	0	0		0	No change
Roads and parking	0.7	<1%	1.1	0.7	No change
Rivers and streams			0.4		No change
Total Acres:	165	100%		165	

[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.

Ecological Resources

Wildlife Overview:

West Cameron WMA is located within the northern limit of the Appalachian Plateau and resident wildlife are associated with a landscape characterized by active and abandoned farmland interspersed with woodland. Very little wetland habitat is present and consequently the area is home to primarily upland wildlife species.

Several species that were absent entirely in the early 20th century have repopulated the area. The black bear population has been expanding for the past 30 years and sightings are now quite common. Bobcat and fisher have been present for a number of years at low levels; however, populations have begun to grow and harvest areas have expanded into the southern tier.

Although a small WMA, excellent hunting opportunities exist for both small and big game. White-tailed deer are the primary big game species, although black bear are also hunted. Small game include: cottontail rabbit, ruffed grouse, squirrels, wild turkey, and woodcock. Furbearer species are present, with raccoon, red and gray foxes, and coyote popular for hunting and trapping.

Numerous non-game species are important residents of West Cameron WMA. Several songbirds can be found in the diverse habitats of forest, grassland, and the edge between them. Common frog and turtle species can be found in the small wetlands here. Timber rattlesnakes, a threatened species in New York, den across the Canisteo River valley and on rare occasions may travel to the WMA during the warmer months of the year.

Wildlife and Plant Species of Conservation Concern:

There are no federally listed Endangered or Threatened species known to occur on the WMA. The following 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).[2] Species listed below have been documented on or within the vicinity of the WMA and are likely to occur in suitable habitat on the WMA. Other species of conservation concern may also be present on the WMA. Data sources include: the NY Natural Heritage Program, NY Breeding Bird Atlases,[3] NY Reptile and Amphibian Atlas,[4] DEC wildlife surveys and monitoring, and eBird.[5]

Table 2. Species of conservation concern that may be present on West Cameron 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
	Blue-winged warbler			x
	Brown thrasher			HP
	Canada warbler			HP
	Cooper's hawk		SC	
	Prairie warbler			x
	Ruffed grouse			x
	Scarlet tanager			x

[2] 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.
[3] Available online at http://www.dec.ny.gov/animals/7312.html.
[4] Available online at http://www.dec.ny.gov/animals/7140.html.
[5] 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
	Sharp-shinned hawk		SC	
	Wood thrush			x
Mammals	None known to occur			
Amphibians and reptiles	Smooth greensnake			x
	Timber rattlesnake		T	HP
Fish	None known to occur			
Invertebrates	None known to occur			
Plants	None known to occur			

Significant Ecological Communities:

There are no known rare and significant natural communities located on West Cameron WMA as identified by the NY Natural Heritage Program (Figure 2). Additional information about ecological communities is available in the West Cameron WMA Biodiversity Inventory Final Report (1996) prepared by the NY Natural Heritage Program.

Soils:

Most of the soils on West Cameron WMA are of the Volusia-Mardin-Lordstown associations.[6] Soil types here are generally well-drained and provide moderate growing conditions. The majority of the WMA is on gentle slopes, with a few steep areas. Management actions will avoid areas with high erosion potential.

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 West Cameron WMA include:

- Two small impoundments (Figure 3).
- Approximately 0.4 miles of stream (Figure 3). This stream is classified as C and therefore is not regulated by Article 15 of the Environmental Conservation Law; however, water quality standards will be adhered to.[7]

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*

[6] 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.
[7] Information about stream classification is available online at http://www.dec.ny.gov/permits/6042.html.

Wildlife Management Areas.[8] 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.

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

- Forest (72% combining deciduous, evergreen, and mixed)
- Pasture/hay and grassland (14%)
- Cultivated crops (9%)
- Developed (2%)
- Early-successional shrubland (2%)
- Wetland (1% combining emergent and woody wetlands)
- Open water (<1%)

West Cameron WMA is within a linkage zone spanning across Steuben County that connects several forest matrix blocks. Forest matrix blocks are large, unfragmented examples of the dominant forest communities throughout the state. Linkage zones describe corridors between a pair of forest blocks that maintain connectivity for the populations of plants and animals of these forests. More information regarding forest matrix blocks can be found within the *Strategic Plan for State Forest Management*.[9]

Two other conservation lands are near West Cameron WMA, however they comprise only 10% of the surrounding landscape (Figures 4 and 5). This includes:

- Cameron State Forest (1,965 acres) – multiple-use forest, mixed age classes.
- Cameron Mills State Forest (544 acres) - multiple-use forest, mixed age classes.

The WMA sits within a predominantly forested landscape but the current forest age structure in the region provides only limited benefits to species requiring a young forest component. Thus a goal of this plan is to manage the WMA to afford a greater component of this limited habitat type while retaining the forested character of the greater landscape.

[8] Available online at http://www.dec.ny.gov/outdoor/104218.html.
[9] The Strategic Plan for State Forest Management is available online at http://www.dec.ny.gov/lands/64567.html.

II. MANAGEMENT STRATEGIES BY HABITAT TYPE

DEC will continue active management of wildlife habitats on West Cameron 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.

Photo 1: Stand 04 is a poor quality pine plantation. A clearcut is planned to regenerate a forest with improved habitat value.

Photo: Michael Palermo, DEC

Forest management on West Cameron 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. [10]

[10] 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.

MANAGEMENT OBJECTIVES

- Increase young forest from zero to 31 acres (19% of WMA forested acreage) to improve stand quality and provide habitat for young forest wildlife species. Future management should maintain at least 10% of WMA forested acreage as young forest in perpetuity.
- Convert approximately 5 acres of forest to grassland to expand existing fields, establish an additional field, and increase available food and cover for forest wildlife, such as white-tailed deer and wild turkey.
- Maintain 123 acres of forest in intermediate or mature age classes to provide a diversity of forest habitats to benefit associated wildlife.
- Promote the persistence of oak as a dominant species in hardwood stands to maintain the availability of hard mast for wildlife.
- Maintain a coniferous component to provide diverse food and cover options for wildlife.

DESCRIPTION OF EXISTING FOREST HABITAT AND TARGET SPECIES

There are 159 acres of forest covering approximately 96% of West Cameron WMA (Figure 6). Table 3 provides a summary of the forested areas, including the most common tree species present in each.

Forest cover on the WMA is largely unbroken, containing just two small fields (each approximately 2.5 acres), with 75% of the property boundary bordering private forest lands. Oak is an important species here, dominant in nearly half of the WMA forest area, providing an abundant mast resource consumed by a wide range of wildlife including blue jays, squirrels, white-tailed deer and wild turkey. A strong conifer component is present, with stands covering over a third of the WMA, composed of both pine plantations and natural hemlock and pine forest. These conifer stands provide important insulating cover resulting in cooler summer and warmer winter temperatures. Aspen is also an important species here, with high abundance in several stands, providing valuable winter and spring food sources of buds and catkins.

The majority of forest on the WMA is small sawtimber, with a minor component of pole timber. This prevalence of mature forest provides very little diversity of forest structure. Current forest provides habitat for many species common to western New York but minimal habitat for those dependent upon young forest.

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

Forest Type	**Acres (as of 2016)**	**Desired Acres**	**Overstory species**
Natural forest (mature/intermediate)	122	121	Oak, aspen, birch, maple, ash, white pine, hemlock
Plantation (mature/intermediate)	37	2	Red and white pine
Young forest	0	31	Currently not present on the WMA
Total Forested Acres:	159	154 [a]	

[a] Decline in total forest acreage is due to the planned conversion of approximately 5 acres of forest to grassland.

Target Species:

Due to the predominance of mature forest, and lack of young forest, there has been a decline of wildlife species dependent upon young forests. Target species for forest habitat management at West Cameron WMA are American woodcock and ruffed grouse. Both of these are SGCN and popular game species.

Photo 2: Ruffed grouse require the dense cover of young forest for drumming and courtship.

Photo: Art Kirsch, DEC

These species rely on areas of young forest adjacent to mature forest for breeding, foraging, and cover and will benefit from management that creates the following habitat conditions:

- American woodcock:
  - Singing/peenting ground – Open areas from 1 to >100 acres, usually in an abandoned field.
  - Foraging areas – Moist, rich soils with dense overhead cover of young trees.
  - 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 reverting farm fields.[11]
- Ruffed grouse:
  - Drumming areas – Downed trees surrounded by small diameter woody cover with high stem density (Photo 2).
  - Foraging areas – Open areas with dense overhead cover of young forest with good mast production and catkins.
  - Nesting – Young, open forest stands or second growth woodlands.
  - Brood rearing – Herbaceous ground cover with a high midstory stem density.[12, 13]

Management actions to create young forest will also benefit several other SGCN known to occur on or near the WMA, including blue-winged warbler, brown thrasher, Canada warbler, and smooth greensnake. Bobcat, white-tailed deer, wild turkey, and a variety of pollinator species are expected to benefit as well. Pollination is critical to the reproduction of wild and cultivated

[11] 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.
[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.

plants and providing habitat to sustain these pollinator populations is important both ecologically and economically.

It is important to note that young forest habitat is beneficial to many species typically associated with mature forest. The abundant and diverse food (berries, catkins, insects) present in young forests attract juveniles of interior nesting bird species during critical growth periods, as well as juveniles and adults preparing for energy intensive migrations.

Mature forest on the WMA currently provides valuable habitat for associated species, such as Cooper's hawk, scarlet tanager and wood thrush. Over time, managing at least 10% of forest acreage as young forest, through the rotation of even-aged management throughout the WMA, will ensure a diversity of forest age classes in perpetuity, including the mature forest these species require. The abundance of mature forest in the surrounding landscape, and the likelihood of its persistence, also ensures the continued presence of this habitat for these species.

MANAGEMENT HISTORY

The lands constituting West Cameron WMA were deeded to the State in 1947 to satisfy a mortgage loan against the property. The land was then administered by the Office of General Services (OGS) until being transferred to the DEC Bureau of Wildlife in 1982.

During OGS administration, much of the property reverted from open farmland to shrubland and forest, with much of the forest area being cut for sawtimber and fuelwood. Under DEC management, the primary objective of forest management has been to improve stand quality. The most recent and largest (29 acres) timber harvest activity on the WMA occurred between 2005 and 2010, and was a thinning in Stands 5, 7, and 10 to invigorate tree growth and mast production.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

The following management is proposed during the timeframe of this plan:

- **Management planned for 2017-2021** (Table 4, Figure 6):
  - Clearcut Stand 04 (35 acres) and convert approximately 4 acres to grassland.
  - Clearcut approximately 1 acre of Stand 15 and convert to grassland.
- **Management planned for 2022-2026**:
  - There is no management currently planned during this time period.

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		
04	35	Small Saw Timber 12"-17" DBH	Plantation - White Pine	Young Forest / Grassland	Wildlife	Clearcut / partially convert to grassland
15	1	Pole Timber 6"-11" DBH	Northern Hardwoods - White Pine	Grassland	Wildlife	Clearcut / convert to grassland

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 04:** This stand is a white pine plantation of poor timber quality and marginal habitat, with aspen, birch, and red maple also present (Photo 1). Hawthorne, honeysuckle, and other undesirable vegetation occur in the understory and will likely require herbicide treatment to prevent interference with forest regeneration. Clearcutting this entire stand at the same time will provide better control of invasives, allowing a better quality stand to regenerate, and will establish a large patch of young forest habitat. Cutting this stand in winter should favor abundant resprouting of aspen and birch, and adjacent oak stands are expected to provide a valuable seed source. Naturally regenerating white pine will be encouraged to continue conifer presence in this stand. Approximately 4 acres of this stand will be converted to grassland, with 1 acre adjacent to existing grassland Stand 941, and the remaining 3 acres establishing a new grassland stand closer to the WMA parking area.
- **Stand 15:** This stand is a mix of northern hardwoods and poor quality white pine, the product of a former field not being maintained and reverting to forest. Converting approximately 1 acre of this stand, which borders grassland Stand 940, will increase habitat beneficial to many wildlife species associated with the surrounding forest. This will be accomplished by clearcutting the forest, leveling the area with a bulldozer, and seeding with an herbaceous plant mix favored by target species.

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*

Wildlife Considerations:

Sensitive species known to be present on or near West Cameron WMA that warrant special consideration include:

- *Forest raptors*. Surveys will be conducted prior to timber harvests and if nesting is documented, harvest activities nearby may be adjusted to occur outside the breeding season and nest buffers may be established.
- *Indiana, northern long-eared, and tri-colored bats*. There are no known occurrences of these species on the WMA. However, surveys will occur in suitable habitat prior to

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

timber harvest activities to detect presence or probable absence, or harvests will take place in winter to avoid potential impacts.

- *Timber rattlesnake*. Two rattlesnake dens exist within a mile of the WMA but snakes need to cross both the Canisteo River and County Route 119 to get here. Therefore, rattlesnakes are rare visitors to the WMA and management activities are not expected to impact this species.
- *Wehrle's salamander*. This salamander lays its eggs in damp logs, moss, and rock crevices, often on slopes near streams. No management is currently proposed in areas where this salamander has been found, however, future timber harvests in these areas should occur in winter and be selective to retain canopy shade.

Due to the sensitivity of endangered, threatened, and special concern species, and SGCN, special management guidelines may be implemented if additional species become known to occur in or within close proximity to a forest stand to be harvested.

Forest Health Considerations:

Forest pests and invasive vegetation are an ongoing problem for habitat management. When pests attack forests in high numbers and cause decline and mortality, habitat values can shift to the detriment of many resident wildlife species. Likewise, as invasive plants invade an area, outcompeting and dominating native vegetation, a lower diversity plant community is created. This decrease in habitat values means less wildlife may be able to utilize the area. All efforts to manage habitats on West Cameron WMA must consider these forest pests and invasive species and ensure that measures are taken to control their presence or prevent their establishment.

Infestations of non-native insects such as emerald ash borer (EAB), gypsy moth, hemlock wooly adelgid (HWA), pear thrips, and pine shoot beetle are of present concern and bear persistent monitoring. Gypsy moth and pear thrips densities fluctuate and can reach outbreak levels where complete defoliation of host trees can occur. Gypsy moth most commonly attacks oak and aspen species while pear thrips favors sugar maple. EAB and HWA have not yet been detected on the WMA however they are present in Steuben County. EAB infests ash trees and HWA infests hemlock trees, and both cause mortality of host trees within a few years. Stands dominated by hemlock exist here and although management actions to prevent or control HWA infestation are currently limited, they may be implemented should effective methods be developed.

Native insect species such as fall cankerworms are cyclic in population and may impact vegetation through defoliation at some time in the future as they have in the past. Cankerworms feed on a wide-range of species including: ash, basswood, beech, black cherry, maples, and oaks.

Invasive plants that are known to be in or near the forested areas of the WMA include: autumn olive, garlic mustard, honeysuckle, Japanese barberry, and multiflora rose.

Pre- and Post-treatment Considerations:

Regeneration of a forest stand requires suitable conditions to ensure that desired species will succeed. Non-native invasive vegetation and undesirable native trees (hawthorn, ironwood, musclewood, and striped maple) are present in the understory of many stands here and have the potential to interfere with forest regeneration. Although these native species have many beneficial qualities, they are considered undesirable in this context because they have the

potential to interfere with forest regeneration. If invasives and undesirable species become significantly abundant, pre-treatment herbicide application may be necessary.

Deer herbivory has potential to be an issue at West Cameron WMA. If it is determined that herbivory is intense enough to prevent regeneration of desired tree species, fencing of treatment areas may be necessary. Efforts to promote deer hunting on the WMA to maintain the local deer herd at desired levels will continue.

If it is concluded post-treatment that desired tree species are not regenerating in a high enough frequency, or that undesirable species are dominating the area and suppressing regeneration, then the stand may be re-treated. This may include mechanical and/or herbicidal control of undesirable species, removal of additional trees to increase available sunlight, scarification of forest floor to stimulate seedling establishment, and/or the direct seeding of desired tree species.

Pre- and post-treatment actions to promote the desired forest regeneration will be addressed in 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 established in the *Young Forest Initiative Monitoring Plan*: *2016-2025*.[15] The Monitoring Plan provides 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 West Cameron WMA, which may be assessed to determine response to management, include:

- American woodcock
- Ruffed grouse

Monitoring of these species may include woodcock singing-ground surveys and ruffed grouse drumming surveys to determine habitat use and abundance in response to forest management. The establishment of periodic bird point counts and amphibian and reptile surveys in all forest types would be beneficial to better understand species diversity and use.

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.

DESCRIPTION OF EXISTING SHRUBLAND HABITAT AND TARGET SPECIES

There is no shrubland habitat on the WMA or any plan to develop such habitat.

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

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.

MANAGEMENT OBJECTIVES

- Maintain existing grassland habitat (5 acres) to encourage favorable herbaceous species and prevent reversion to shrubland and forest.
- Convert approximately 5 acres of forest to grassland, increasing total grassland area to 10 acres, to benefit target species which utilize both forest and grassland.
- Identify and control invasive species to prevent their dominance in fields.

DESCRIPTION OF EXISTING GRASSLAND HABITAT AND TARGET SPECIES

There are 5 acres of grassland habitat on West Cameron WMA (Figure 6, Photo 3) composed of two small fields, approximately 2.5 acres each. These fields are completely surrounded by forest and provide valuable habitat for forest wildlife.

Photo 3: Grassland field at West Cameron WMA showing abundance of goldenrod and wild sunflower.

Photo: Mike Palermo, DEC

Grasslands on the WMA are composed mostly of cool season grasses and forbs, with some switchgrass remaining from previous planting. Both fields currently contain an abundance of undesirable woody plant growth (e.g., autumn olive, gray dogwood, and multiflora rose) that should be controlled to prevent reversion to shrubland.

Maintenance of these fields as grassland is intended to benefit several wildlife species that inhabit the surrounding forest. For example, deer find high-quality forage in these openings and turkey strut to attract mates. Pollinators and various other insects also thrive in these herbaceous areas and this provides an important high-protein food for grouse chicks, turkey poults, and songbirds.

The entire WMA is within the Southern Tier Grassland Focus Area.[16] These focus areas are regions of the state that support key, residual

[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. Audubon New York, Ithaca, NY. Available online at http://ny.audubon.org/conservation/grassland-bird-conservation-program.

populations of grassland birds. Grassland dependent bird species typically require large patches of grassland with low edge-to-area ratios in an open landscape, therefore the small fields here are not suitable habitat.

Target species for grassland management at West Cameron WMA include:

- White-tailed deer
- Wild turkey

MANAGEMENT HISTORY

Historically, much of West Cameron WMA was used for agriculture and reverted to forest after State acquisition in 1947. When the property was transferred to DEC management in 1982, an old field remained, and approximately 2.5 acres of this was maintained as grassland (Stand 940) and the rest reverted to forest (Stand 15). An additional grassland field (Stand 941) was converted from forest in the mid-1980s to provide additional habitat diversity to the WMA. These fields have been maintained ever since through routine mowing, and reseeding has occurred to provide herbaceous plants of higher food value to wildlife.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2017-2026** (Figure 6):
    - Throughout all grasslands, routinely perform maintenance actions.
        - Mow fields every 1-3 years to prevent establishment of woody vegetation.
        - Incorporation of prescribed burning in these fields would be beneficial to promote warm season grasses with high food and cover value for target wildlife, and to control undesirable woody vegetation growth.
        - Burning should occur on a three year rotation, however habitat conditions may require a more frequent interval.
        - Control invasive vegetation mechanically and/or with herbicide.
        - As needed: lime, fertilize, disk, and reseed grasslands. Promote native herbaceous species where practical.
    - Expand Stands 940 and 941, and establish new grassland stand.
        - Clearcut 1 acre of forest Stand 15 adjacent to Stand 940, bulldoze, and seed to grass.
        - Stand 04 is planned to be clearcut to improve forest habitat, as this occurs, bulldoze and seed to grass 1 acre adjacent to Stand 941, and 3 acres near the center of Stand 04 to create a new grassland field.

BEST MANAGEMENT PRACTICES

Due to the small, fragmented nature of grasslands on West Cameron WMA and the related lack of suitable grassland bird habitat, best management practices followed here intend to enhance habitat value for forest wildlife using grasslands. For more detailed information and recommendations see *A Plan for Conserving Grassland Birds in New York*.[17]

[17] 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.

General Management Recommendations

- Conduct invasive species control (buckthorn, pale and black swallowwort, Canada thistle, Phragmites, etc.) to improve habitat quality.
- Consider a variety of factors, such as the targeted wildlife 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 of any size (including all contiguous fields) with no history of listed species:
    - Mowing and other management actions should be avoided between April 23 and August 15.
    - Field can be managed/mowed within the period April 23 and August 15 if necessary to:
        - Control the growth of invasive vegetation in fields where grassland habitat value is degraded.
        - Ensure that suitable grass cover will be present to provide important winter habitat for wildlife.
    - If early management is proposed, then the habitat requirements and nesting periods of other species should be considered (e.g., nesting waterfowl, 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.
- 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

Current monitoring of grassland habitat use at West Cameron WMA is informal and data are often derived opportunistically, and will be continued. However, the establishment of periodic surveys would be beneficial to better understand species diversity and habitat use.

Monitoring of invasive vegetation control efforts will be necessary to ensure success and prevent future spread.

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 West Cameron 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 impounded wetlands to provide a water resource for upland wildlife and breeding habitat for amphibians and invertebrates.
- Create a small wetland impoundment (approximately 0.1 acre) in Stand 941 to facilitate future prescribed burning of stand and provide additional aquatic habitat.

DESCRIPTION OF EXISTING WETLAND HABITAT AND TARGET SPECIES

There is less than one acre of wetland habitat on West Cameron WMA (Figures 3 and 6). This consists of two small marsh impoundments (Photo 4). There are no New York State regulated wetlands or wetlands mapped by the National Wetlands Inventory on the WMA (Figure 3).

Photo 4: Wetland impoundment on West Cameron WMA.

Photo: Mike Palermo, DEC

These wetlands provide valuable diversity to the mostly upland WMA and important habitat for species such as:

- American toad, red-spotted newt, spotted salamander, spring peeper, and wood frog.
- Painted and snapping turtles.
- Dragonflies, damselflies, and mayflies.

These small impoundments also provide an important source of water during dry months for upland wildlife, such as deer and turkey, and provide resting areas for migrating waterfowl.

MANAGEMENT HISTORY

DEC management of West Cameron WMA included the construction of two marsh impoundments, one in each grassland field (Figure 3). These were developed to provide water for upland wildlife and breeding sites for amphibians. Since construction, these have been maintained through routine inspection and mowing of earthen dams.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2017-2026** (Figure 6):
  - Maintain integrity of existing marsh impoundments.
    - Inspect dams and spillways annually and repair as needed, including the filling and compacting of animal burrows.
    - Burn or mow dam annually to prevent establishment of woody vegetation.
    - Monitor for non-native invasive vegetation and as needed control mechanically and/or with herbicide application.
  - Create additional impoundment.
    - A small pond (approximately 0.1 acre) is planned to be constructed within the lower portion of grassland Stand 941 to provide a more easily accessed water source for prescribed burning activities (Figure 6).
    - Consider feasibility of creating an impoundment within the additional grassland planned to be created.

BEST MANAGEMENT PRACTICES

Management activities within wetlands will take into consideration the timing of amphibian breeding and hibernation seasons and when practicable these periods of time will be avoided. Wetland management will follow guidelines established in the General Permit GP-0-16-003: Habitat Management by NYSDEC, and will obtain any necessary additional permits.

MANAGEMENT EVALUATION

Current monitoring of wetland habitat use at West Cameron WMA is informal and data are often derived opportunistically, and will be continued. However, the establishment of periodic surveys for amphibian, reptile, and waterfowl presence would be beneficial to better understand species diversity and use.

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

Approximately 0.4 miles of an intermittent stream flows west to east through the center of the WMA (Figure 3, Photo 5). This stream is primarily fed by spring snow melt and heavy precipitation events. Pools and seeps often remain year-round and are an important water source for upland wildlife, and habitat for salamanders and aquatic invertebrates. This stream is heavily shaded by a mature hemlock forest and provides a cold water input to the Canisteo River.

Beyond this stream, there is no other open water habitat (no named lakes or ponds) or any plan to develop such habitat on the WMA. Habitat management activities will adhere to best management practices to protect the water quality of this stream and its input to the Canisteo River.

Photo 5: Intermittent stream on West Cameron WMA.

Photo: Mike Palermo, DEC

HABITAT MANAGEMENT SUMMARY

In summary, Table 7 lists the habitat management actions planned for West Cameron 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 West Cameron WMA, 2017-2026 (Also see Figure 6).

Habitat	Management Action	Acres	Timeframe
Forest	Clearcut Stand 04. Allow 31 acres to regenerate as natural forest and convert approximately 4 acres to grassland.	35	2017-2021
Forest	Clearcut approximately 1 acre of Stand 15 and convert to grassland.	1	2017-2021
Grassland	Maintain grassland acreage with prescribed fire or mowing.	10	Annual, biennial, or triennial
Grassland	Improve grassland quality (control invasives, lime, fertilize, disk, and reseed).	10	2017-2026, as needed
Wetlands	Maintain wetland impoundments (inspect, mow, burn, and repair dams).	< 1	2017-2026, annually
Wetlands	Create wetland impoundment in Stand 941.	< 1	2017-2026

III. FIGURES

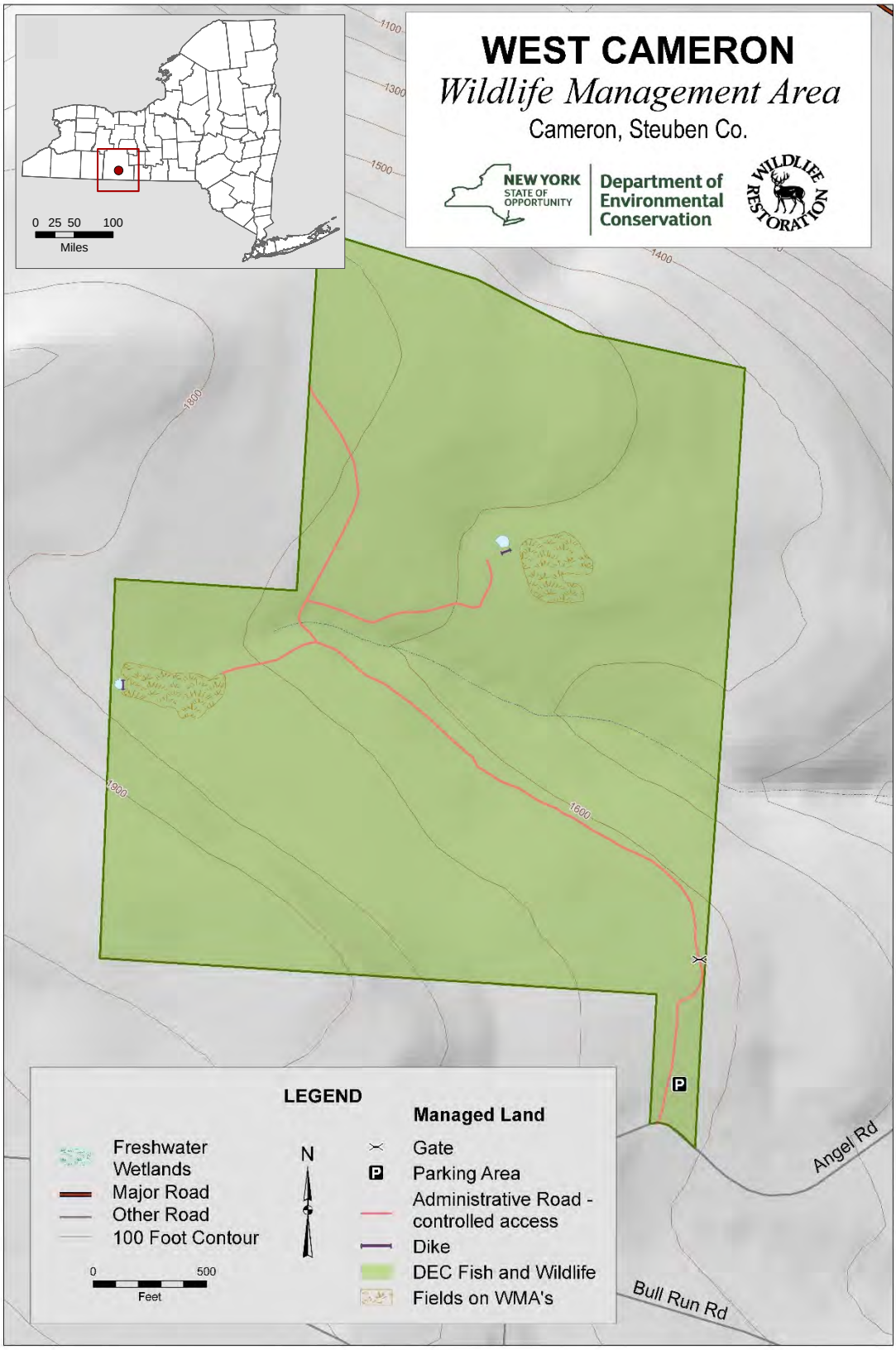

FIGURE 1. Location and access features at West Cameron WMA.

FIGURE 2. No significant ecological communities exist on West Cameron WMA. Data from the NY Natural Heritage Program.

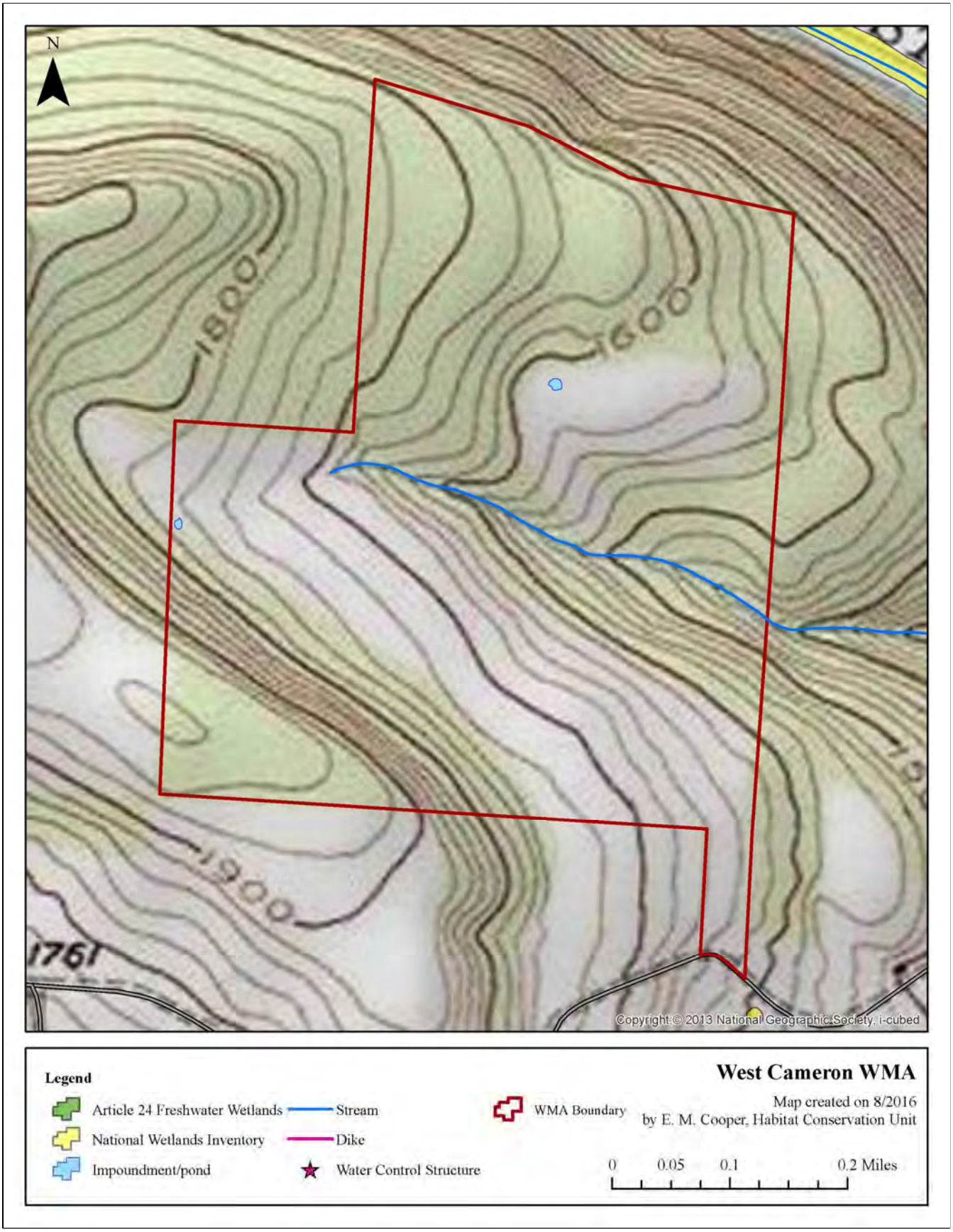

FIGURE 3. Wetlands, open water, and streams of West Cameron WMA. Note: Wetland boundaries are not exact and may not be used for regulatory purposes without a current delineation.

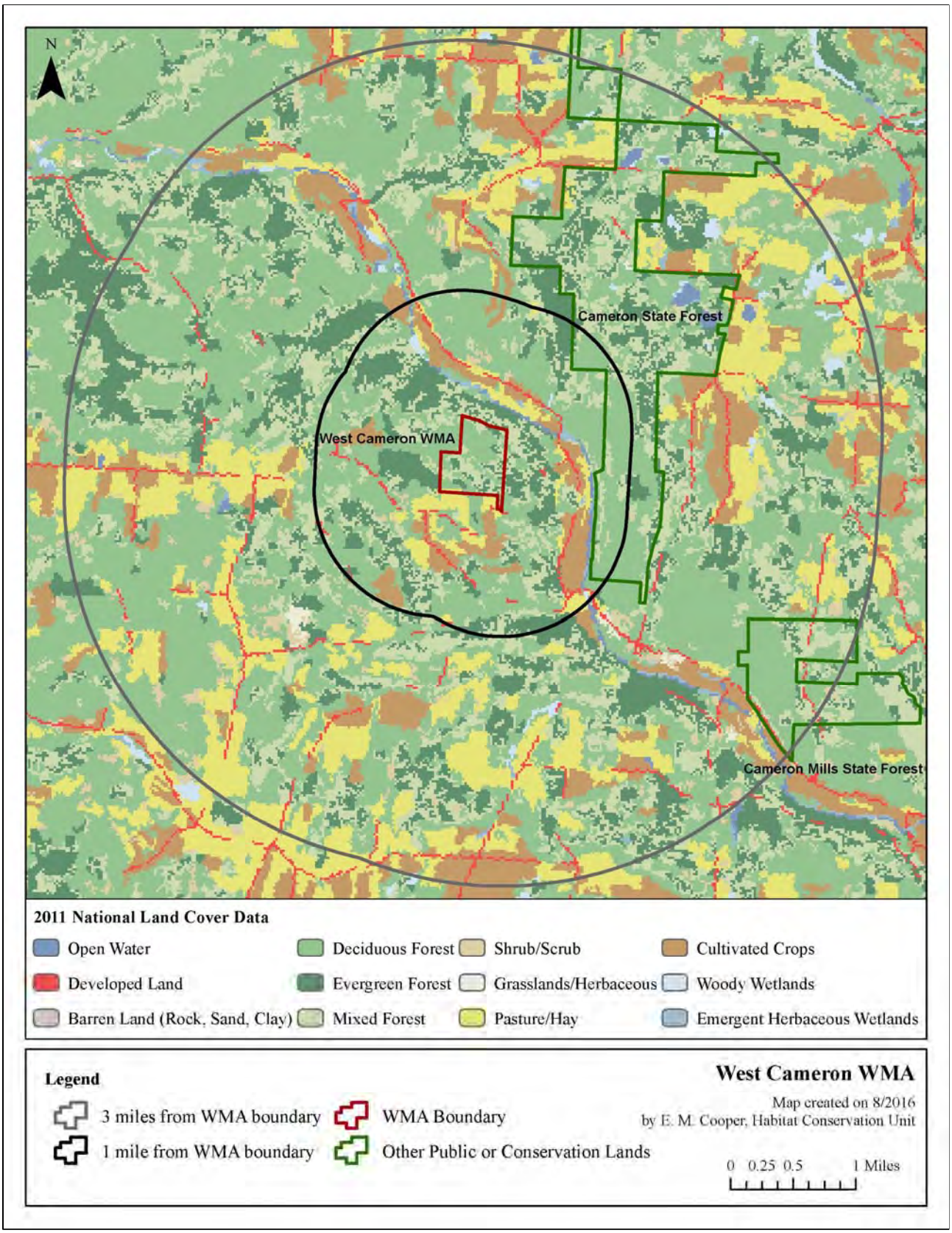

FIGURE 4. Land cover types and conservation lands in the landscape surrounding West Cameron WMA. Conservation lands are from the NY Protected Areas Database available online at http://www.nypad.org/. Land cover types are from the 2011 National Land Cover Data (NLCD) and differ from the habitat types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

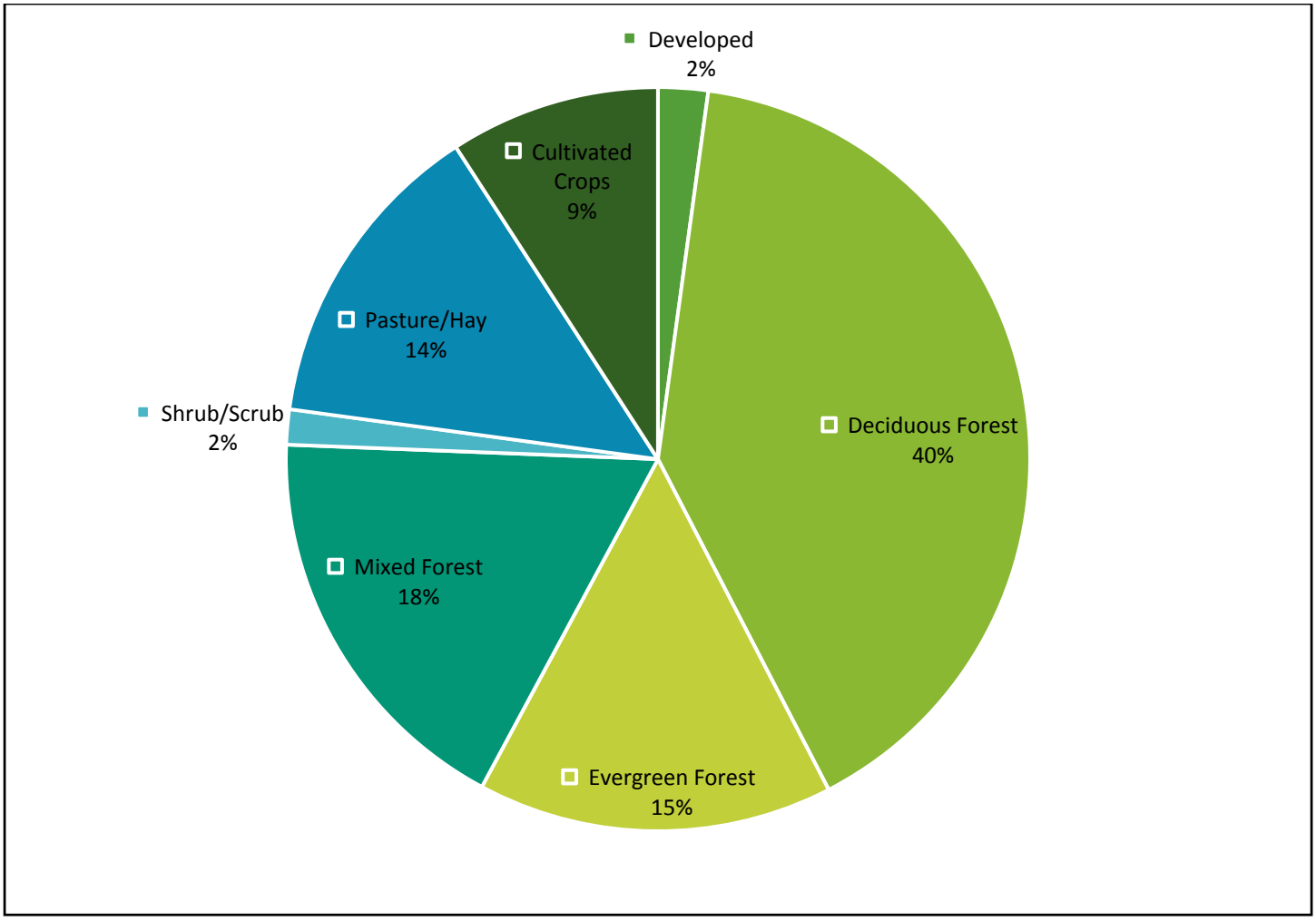

FIGURE 5. Percent cover of land cover types within three miles of West Cameron WMA.

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.

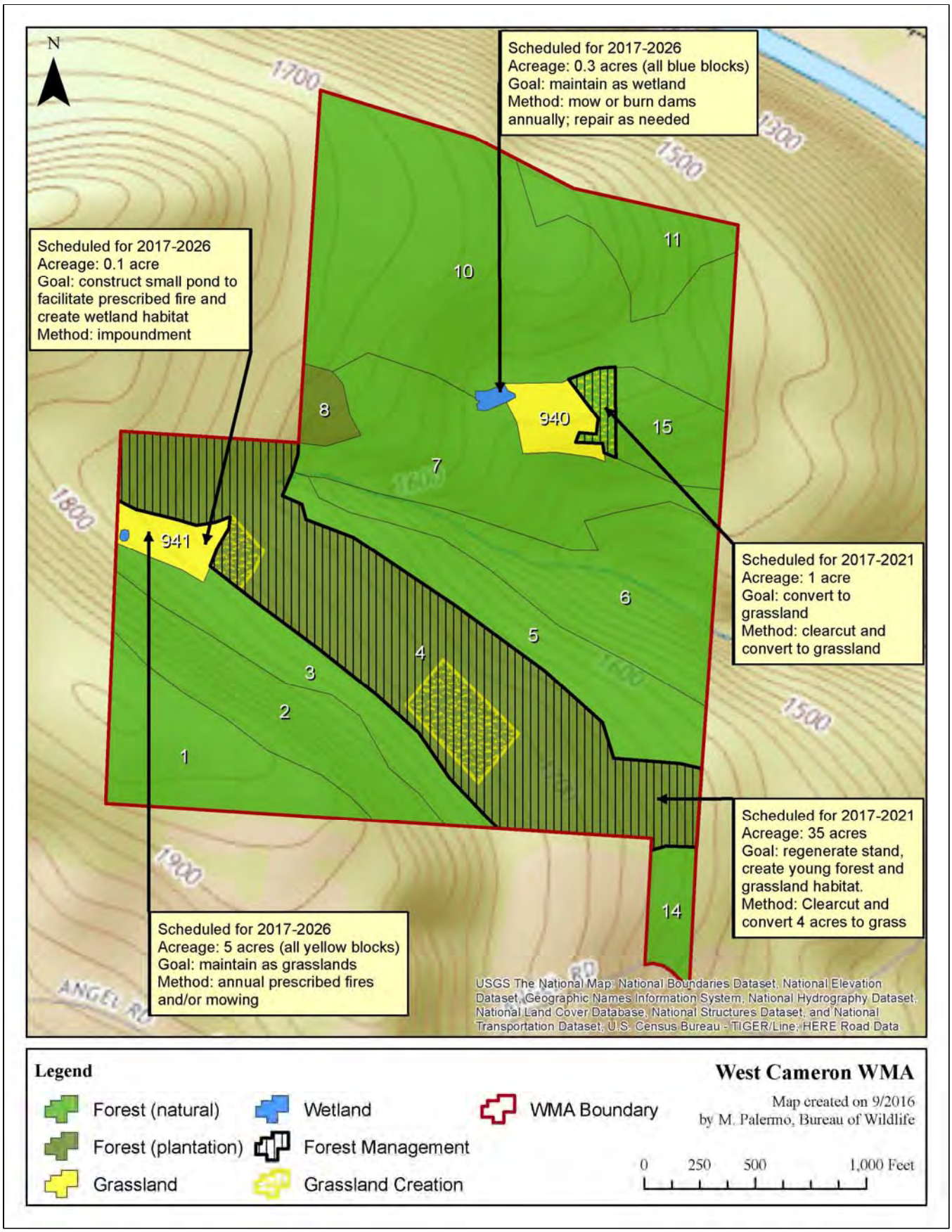

FIGURE 6. Habitat types and location(s) of proposed management on West Cameron WMA. Numbers indicate the stand number from habitat inventory.

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 West Cameron WMA include: American woodcock 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.

PRESCRIPTIONS

Silvicultural prescriptions provide a detailed approach for each forest management area (See Appendix C). For additional information about the prescriptions listed below, please contact Emily Bonk, senior forestor, at (607) 622-8281. The following prescriptions have been prepared for West Cameron WMA.

Prescription approved November 2018:

- Stand A-4 (28 acres) will receive a clearcut/coppice cut with the intention of regenerating 24 acres and coverting 4 acres to grassland. This is less acreage than identified in Table 4 because the western end of the stand was removed from the project to buffer the upper reaches of an intermittent stream. Everything over 2 inches in diameter will be cut; some desirable saplings / a few overstory trees for seed may be reserved. Tree tops and other coarse and fine woody debris are expected to be left within the harvested area, and some slash piles are desired. This clearcut will be allowed to regenerate naturally and will provide valuable young forest habitat for target wildlife. Aspen is expected to regenerate prolifically through root suckering. Four acres within this stand will be converted to grassland, which includes a new 3 acre field and a 1 acre expansion to the existing grassland Stand A-941.

- One acre of Stand A-15 will also be converted to grassland to expand the size of existing grassland Stand A-940. Grassland conversion areas will be cut, stumps removed, graded and seeded to grass (native warm-season grasses preferred). Stumps will be piled around field edges for wildlife.

- A portion (5 acres) of Stand A-5 will be cut on the southwest side of the administrative road (adjacent to Stand A-4) which will reduce relative density by roughly half. Residual trees should be of good quality and high vigor to ensure good seed crop from parent trees. Predominantly oaks will be retained and to a lesser degree maples, softwoods, and other unique desirable tree species (basswood) to provide diversity to the stand and serve as a seed source for the adjacent Stand A-4. Areas with aspen and birch will be cut to stimulate root suckering. White ash is a minor component in the overstory and is expected to die from emerald ash borer; ash will either be cut or retained as future woody debris. This cut should provide sufficient light to stimulate desirable regeneration of oaks and aspen. This type of harvest would be considered a deferment harvest because timing of final overstory removal is not known at this time.