Habitat Management Plan for
Genesee Valley Wildlife Management Area
2022 – 2031

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3/18/2022

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

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SUMMARY

Genesee Valley Wildlife Management Area (WMA) is 716.6 acres and exhibits a variety of habitat types, within the Genesee Valley corridor adjacent to the Genesee River. The property was a gift to NYSDEC by the Russel Family acquired through a series of parcels from 2001 to 2006. The property is comprised of two compartments separated by the meandering Genesee River. Compartment A on the west side of the river is only accessible when low water conditions occur on the river.

Habitat management goals for Genesee Valley WMA include:

- Increase young forest acreage to 41.3 acres (7.2% of the total forested acreage) to provide high stem density habitat for ruffed grouse, American woodcock, and wild turkey.
- Manage 4.2% as shrubland habitat.
- Manage 74.5% as intermediate and mature forest, including forested wetland, to provide habitat and hard mast for a variety of wildlife species including cavity nesters.
- Manage approximately 9.8% of the WMA as grassland to provide habitat for grassland-dependent species and waterfowl nesting.

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 Areas (MUAs) 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/MUAs. 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/MUA and identify the target species for management;
- Identify habitat goals for WMA/MUA-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/MUA 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 5 years, this HMP will be integrated into a comprehensive WMA/MUA 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 habitat adaptability and resilience under projected future conditions will be considered during the habitat management planning process and in any actions that are recommended in HMPs. Changing conditions that may affect habitat composition include warmer temperatures, milder winters, longer growing seasons, increased pressure from invasive species, more frequent intense storms, and moisture stress. It is also important to consider landscape-level effects to maintain the connectedness of habitats to allow range adjustments of both plant and wildlife species.

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

Genesee Valley Wildlife Management Area is located in DEC Region 9, Town of Genesee Falls, Wyoming County, Town of Granger, Allegany County, and DEC Region 8, Town of Portage, Livingston County (Figure 1).

TOTAL AREA

716.6 acres

HABITAT INVENTORY

A habitat inventory of the WMA/MUA was conducted in 2013 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 Genesee Valley WMA.

Habitat Type	Current Conditions (as of 2022)			Desired Conditions	
	Acres	Percent of WMA	Miles	Acres	Percent of WMA
Forest [a]	581.9	81.2%		534.2	Decrease to 74.5%
Young forest	0.0	0.0%		41.3	Increase to 5.8%
Shrubland	23.7	3.3%		30.1	Increase to 4.2%
Grassland	70.0	9.8%		70.0	No change
Agricultural land	0.0	0.0%		0.0	No change
Wetland (natural)[b]	0.0	0.0%		0.0	No change
Open water	30.0	4.2%		30.0	No change
Other (Parking lot)	0.3	0.0%		0.3	No change
Other (Utilities)	0.0	0.0%		0.0	No change
Roads	10.7	1.5%		10.7	No change
Rivers and streams			3.3		No change
Total Acres:	716.6	100%		716.6	

[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] Wetland acreage does not include forested wetlands, since they are included in the Forest category.

ECOLOGICAL RESOURCES

Wildlife Overview:

Wildlife present on Genesee Valley WMA include species commonly found on the Appalachian Plateau region of western New York such as:

- White-tailed deer, red fox, eastern coyote
- Beaver, raccoon, woodchuck, fisher
- Ruffed grouse, American woodcock, wild turkey, American crow, blue jay, Northern harrier
- Wood duck, mallard, Canada goose, hooded merganser
- Eastern American toad, spring peeper, wood frog
- Snapping turtle, painted turtle, Eastern garter snake

Wildlife and Plant Species of Conservation Concern:

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

species and/or SGCN may occur on the WMA/MUA (Table 2). [1] SGCN listed below include species that have been documented on or within the vicinity of the WMA/MUA that are likely to occur in suitable habitat on the WMA/MUA. Other SGCN may also be present on the WMA/MUA. Data sources include: the NY Natural Heritage Program, NY Breeding Bird Atlases,[2] NY Reptile and Amphibian Atlas,[3] DEC wildlife surveys and monitoring, and eBird.[4]

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

Species Group	Species	Federal Status	NY Status	NY SGCN Status
Birds				
	American kestrel			x
	American woodcock			x
	Bald Eagle		T	x
	Black-billed cuckoo			x
	Black-throated blue warbler			x
	Blue-winged warbler			x
	Bobolink			HP
	Brown thrasher			HP
	Canada warbler			HP
	Cerulean warbler			x
	Eastern meadowlark			HP
	Horned lark			HP
	Louisiana waterthrush			x
	Pied-billed grebe		T	x
	Ruffed grouse			x
	Scarlet tanager			x
	Vesper sparrow			HP
	Wood thrush			x
Amphibians and reptiles				
	Snapping turtle			x
Mammals				
	Northern myotis (Northern long-eared bat)		T	HP
Fish				
	None known			
Invertebrates				
	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 https://www.dec.ny.gov/animals/7179.html.
[2] Available online at https://www.dec.ny.gov/animals/7312.html.
[3] Available online at https://www.dec.ny.gov/animals/7140.html.
[4] Available online at https://ebird.org/content/ebird/about/. © Audubon and Cornell Lab of Ornithology.

Table 2. continued

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

Significant Ecological Communities:

There are roughly 20 ecological communities present on Genesee Valley WMA, several of which are classified as significant natural communities. The state rank reflects the rarity within NY, ranging from S1, considered the rarest, to S5, considered stable; definitions are provided in Appendix A. The following significant ecological communities occur on the WMA; community descriptions are from *Ecological Communities of New York State, Second Edition* [5] (Figure 2):

- **Spring (G4 S3):** the aquatic community of very small, cold stream sources where the flow is perennial. Springs are characterized by water with constant cold temperature and rich in dissolved oxygen. These streams are typically very shallow and have a short length and relatively constant and very low discharge.

- **Floodplain forest (G3G4 S2S3):** typically, a hardwood forest that occurs on mineral soils on low terraces of river floodplains and river deltas. These sites are characterized by their flood regime; low areas are annually flooded in spring and high areas are flooded irregularly. Some sites may be quite dry by late summer whereas other sites may be flooded again in late summer or early autumn (these floods are caused by heavy precipitation associated with tropical storms). This is a broadly defined community; floodplain forests are quite variable and may be very diverse.

- **Rich mesophytic forest (G4 S2S3):** a hardwood or mixed forest that resembles the mixed mesophytic forests of the Allegheny Plateau south of New York (Braun 1950) but is less diverse. It occurs on mineral-rich, fine-textured, well-drained soils that are favorable for the dominance of a wide variety of tree species. A canopy with a relatively large number of codominant trees characterizes this forest.

Additional information about significant ecological communities is available in the Ecological Communities of New York State, Second Edition prepared by the NY Natural Heritage Program.

Soils:

Genesee Valley WMA is almost completely composed of a Rhinebeck-Niagara-Hudson-Dunkirk-Collamer soil series group. These soils are common to glacial lake plains, valleys, and hilly moraines where deposits of glacio-lacustrine materials containing high amounts of clay and silt are found. They are very deep and range from somewhat poorly drained to well drained. The small area of property making up Compartment A is composed of a Wayland-Teel-Hamlin

[5] Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero. 2014. Ecological Communities of New York State, Second Edition. New York Natural Heritage Program, NYS Department of Environmental Conservation, Albany, NY. Available online at https://www.nynhp.org/ecological-communities/.

soil series group. These are flood plain soils formed of alluvium. They are very deep with very poor to well drainage properties. The soils can support native vegetation, including Northern hardwood species as well as a variety of conifer species.

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 (Figure 3). SMZs on Genesee Valley WMA include:

- Currently, there are no known state-regulated wetlands on the WMA. However, there is a state-regulated wetland, PO-13, protected by Article 24 of the Environmental Conservation Law, adjacent to the boundary of the WMA. If any habitat projects occur adjacent to this wetland all necessary precautions will be followed to avoid impact to this valuable resource. The National Wetlands Inventory (NWI) maps show wetland acreage separate from state-regulated wetlands due to a difference in mapping criteria. Several forested/shrub wetlands and one emergent wetland are noted along with riverine habitat. There may be forestry prescriptions associated with forested wetlands and each management prescription will be reviewed individually for determination of impacts.
- Six streams (a watercourse entirely within the WMA/MUA) or segments of streams (a stream that meanders in and out of the WMA/MUA). The Genesee River and six tributaries that flow through the WMA into the Genesee River have a C Classification[6] and are protected by Article 15 of the Environmental Conservation Law.
- Vernal pools and spring seeps exist on the WMA. Management activities will follow SMZ rules established for WMAs/MUAs.

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.

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

- Deciduous forest (39.9%)
- Cultivated crops (22.2%)
- Pasture/Hay (10.9%)
- Mixed forest (10.4%)
- Evergreen forest (5.7%)
- Developed (5.3%)

[6] Information about stream classification is available online at https://www.dec.ny.gov/permits/6042.html.
[7] Available online at https://www.dec.ny.gov/outdoor/104218.html.

- Wetlands (includes emergent herbaceous and woody wetlands) (3.1%)
- Open water (1.4%)
- Shrub/Scrub (0.9%)

Two properties managed by the DEC's Division of Lands and Forest are located to the southeast and east of Genesee Valley WMA:

- English Hill State Forest - 1,395 acres; 2 miles southeast
- Ossian State Forest – 1,292 acres; 10 miles east

The hardwood and softwood stands of these state forests are managed through a suite of silvicultural practices specifically applied with regard to existing conditions and desired outcomes. The conifer stands of pine and spruce were planted in old farm fields by the Civilian Conservation Corps to prevent soil erosion on abandoned farmland. They are usually managed by a series of partial harvest removals, 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.

Hardwood stands are also managed via selective cuts providing more growing space for residual trees, improving forest health, and creating openings for seed germination and seedling growth. When regeneration is determined to be adequate, the remaining overstory trees are then harvested. Removal of the overstory allows ample sunlight to reach the forest floor stimulating seedling growth.

Two additional Wildlife Management Areas are located relatively close to Genesee Valley and include:

- Keeney Swamp WMA - 708 acres; 8.5 miles south
- Rattlesnake Hill WMA - 5,100 acres; 9.5 miles east

HMPs for these two WMAs have been completed and are available on the DEC website. Genesee Valley WMA consists primarily of upland forest, with smaller acreages of grassland, shrubland, and wetland. Habitat management will be somewhat limited due to topography and archeological concerns.

Several properties managed by the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) are relatively close to the WMA and include:

- Letchworth State Park – 14,408 acres; 2.5 miles north
- Silver Lake State Park – 783 acres; 9 miles north

Minimal habitat management occurs at these parks. Forest management in general, and specifically young forest management, are not part of the management strategy for these parks.

The remaining property surrounding Genesee Valley WMA is in private ownership. Private landowners generally follow a diameter-limit 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 DEC's *Young Forest Initiative Strategic Plan*.[8] The goal at Genesee Valley 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. A minimum of 7.2% of the forested acreage on the WMA will be maintained in a young forest stage.

II. Management Strategies by Habitat Type

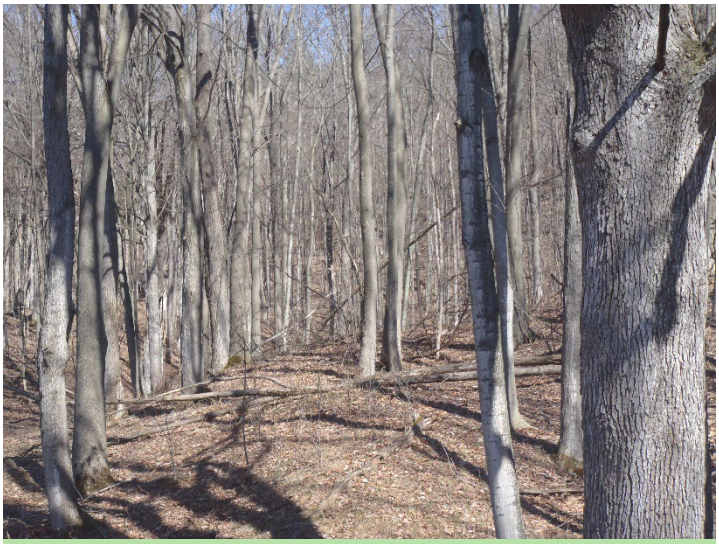
DEC will continue active management of wildlife habitats on Genesee Valley WMA to provide the following benefits:

- 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



Typical hardwood forest on Genesee Valley WMA.

Photo: Greg Ecker, NYS DEC

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

forested acres, typically 0-20 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 Genesee Valley 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. [9]

MANAGEMENT OBJECTIVES

- Increase young forest acreage from an existing 0 acres to approximately 41.3 acres intended to improve habitat for young forest target species, specifically ruffed grouse, American woodcock, and wild turkeys.

DESCRIPTION OF EXISTING FOREST HABITAT AND TARGET SPECIES

Genesee Valley WMA contains 581.9 acres of forested habitat (Figure 6). Natural hardwood forest is the dominant cover type on the property, with most stands in a poletimber – small sawtimber size class. Common species found throughout the property include white ash, red maple, black walnut, white pine, red and white oaks. The WMA consists of two compartments that assist in administrative purposes. A major challenge for forest management on the property could be equipment accessibility. This would be due to the topography and hydrology of the property. Steep gradients and drainage ravines can create potentially severe erosion concerns when trying to access certain areas of the WMA, especially when factors such as approach and slope are considered for trail layout.

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

Forest Type	Acres (as of 2021)	Desired Acres	Overstory species
Natural forest (mature/intermediate)	563.9	529.1	White ash, red maple, red oak
Plantation	15.9	3.0	Norway spruce, Scotch pine
Forested wetland	2.1	2.1	Willow spp.
Young forest	0	41.3	
Young forest (forested wetland)	0	0	
Total Forested Acres:	581.9	575.5*	

*Total forested acres will be reduced by 6.4 acres due to a habitat conversion to shrubland.

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

[9] Additional information about DEC's Young Forest Initiative and the Strategic Plan for Forest Management on WMAs is available online at https://www.dec.ny.gov/outdoor/104218.html.

- **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.[10]

- **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.
  - Brood rearing – Similar to nesting except there needs to be bare ground and dense ground cover.
  - Roosting – Open fields (min. of 5 acres) or blueberry fields and reverting farm fields.[11]

- **Wild Turkey (in Northern Hardwood Forests):**
  - Strutting areas – Open fields with short vegetation, <12 inches preferred, and mature hardwoods.
  - Nesting cover – Blowdowns and the bases of trees and stumps in open hardwoods and brushy cover in early successional habitats and field edges.
  - Brood rearing – Best brooding cover are fields with herbaceous vegetation from 12-18 inches preferred.
  - Foraging – The habitat required ranges from open old-field areas to mature forests:
    - Spring diet – Tubers and invertebrates.
    - Summer diet – Poult diets consist primarily of invertebrates. Adult diets consist of invertebrates and tubers, switching over to herbaceous vegetation and soft mast as summer progresses.
    - Fall diet – Hard and soft mast, seeds, and invertebrates.
    - Winter diet – Hard and soft mast, seeds (birch if available) and hardwood buds.
  - Winter cover – Mature conifer stands.
  - Roosting – Mature hardwoods and softwoods. Adults with poults tend to roost on the ground under large trees with a dense understory of young trees, shrubs, downed trees, rock outcrops, or brushy fields. [12, 13]

[10] Jones, B. C. et al. Habitat Management for Pennsylvania Ruffed Grouse, Pennsylvania Game Commission. 10 pp.
[11] Sepik, G. F. et al. 1981. A Landowner's Guide to Woodcock Management in the Northeast, Moosehorn National Wildlife Refuge, USFWS. 25 pp.
[12] USDA – NRCS. 1999. Wild Turkey (*Meleagris gallopavo*) Fish and Wildlife Habitat Management Leaflet. 12 pp.
[13] Dickson, J. G. 1992. The Wild Turkey: Biology and Management. National Wild Turkey Federation and USDA Forest Service. Stackpole Books, PA. 480 pp.

MANAGEMENT HISTORY

Limited forest management has taken place on Genesee Valley WMA and no specific young forest habitat has been created.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

The following management is proposed in order to reach the goal of 41.3 acres of young forest habitat or approximately 7.2% young forest habitat of the total forest acreage over the ten-year plan:

- **Management planned for 2022-2026** (Table 4, Figure 6):
  - Clearcut the northern half of hardwood forest in Compartment B Stand 6 to create young forest habitat (10.7 acres).
  - Convert natural forest in Compartment B Stand 45 in to shrubland habitat (6.4 acres).
  - Clearcut a Norway spruce plantation in Compartment B Stand 26 to create young forest habitat (11.4 acres).
- **Management planned for 2027-2031** (Table 5, Figure 6):
  - Clearcut the northern half of hardwood forest in Compartment B Stand 20 to create young forest habitat (2.8 acres).
  - Clearcut the remainder of Compartment B Stand 6 (10.6 acres).
  - Clearcut the remainder of Compartment B Stand 20 (2.8 acres).
  - Clearcut a Norway spruce plantation in Compartment B Stand 14 and a hardwood stand containing aspen in Compartment B Stand 15 to create young forest habitat (3 acres).

Table 4. Forest management schedule for the first five-year period of this HMP (2022-2026).

Stand	Acres	Size Class	Forest Type		Management Direction	Treatment Type
			Current	Future		
B6	10.7	Small sawtimber	Transition hardwoods	Young forest	Wildlife	Patch Clearcut
B45	6.4	Small sawtimber	Northern hardwoods	Shrubland	Wildlife	Clearcut
B26	11.4	Small sawtimber	Plantation	Young forest	Wildlife	Clearcut

Table 5. Forest management schedule for the second five-year period of this HMP (2027-2031).

Stand	Acres	Size Class	Forest Type		Management Direction	Treatment Type
			Current	Future		
B20	5.6	Poletimber	Northern hardwoods	Young forest	Wildlife	Clearcut
B6	10.6	Small sawtimber	Transition hardwoods	Young forest	Wildlife	Patch Clearcut
B14	1.5	Poletimber	Plantation	Young forest	Wildlife	Clearcut
B15	1.5	Poletimber	Pioneer hardwood	Young forest	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 for each of these stands will include the following listed in approximate chronological order:

Management for 2022-2026 (28.5 acres)

Natural forest (17.1 acres)

Compartment B Stand 6

This is a 21.4-acre transition hardwood stand, containing oaks and other hardwoods. The northern half of this stand will be clearcut, while retaining mature oak scattered throughout the stand. This should create young forest habitat for the target species as well as ideal access for future hunting opportunities.

Compartment B Stand 45

This is a 6.4-acre northern hardwood stand. It runs along the base of a forested hill next to a future grassland field. It contains ash, cottonwood, and willows. The stand will be converted into shrubland habitat and further detailed in that section.

Plantation (11.4 acres)

Compartment B Stand 26

This is a 12.1-acre Norway spruce plantation. This mature stand would better serve the targeted wildlife species after being clearcut to regenerate as young forest habitat. This will create an ideal juxtaposition of early successional habitat between young forest and nearby grasslands.

Management for 2027-2031 (19.2 acres)

Natural forest (17.7 acres)

Compartment B Stand 20

This is a 5.6-acre hardwood stand, containing mostly black walnut and white ash. The stand is located between a grassland field and shrubland habitat. The northern half of this stand will be cleared to regrow as young forest. The remainder of the stand will then be cleared approximately three years later to establish a two-aged young forest stand.

Compartment B Stand 6

The remaining half of this stand will be clearcut to create a multi-aged stand of young forest habitat.

Compartment B Stand 15

This is a 1.5-acre hardwood stand composed primarily of aspen and other pioneer species. It will be clearcut along with Compartment B Stand 14 to establish and expand aspen regeneration to create young forest habitat.

Plantation (1.5 acres)

Compartment B Stand 14

This is a 2-acre Norway spruce plantation. It is very overcrowded and has no desirable regeneration in the understory. It will be cleared in conjunction with Compartment B Stand 15 to promote aspen regeneration creating young forest habitat.

BEST MANAGEMENT PRACTICES

Forest management on all WMAs/MUAs 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/MUAs.

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:

General wildlife surveys of 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.

A Northern long-eared bat survey has not yet been conducted following the U.S. Fish and Wildlife Service (USFWS) approved survey protocol. Forest management will not occur outside of Northern long-eared bat hibernation season, until a survey has been conducted and concludes probable absence.

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

Forest Health Considerations:

Forest management using sound silviculture helps encourage tree, stand, and forest resilience. This can improve wildlife habitat for target species and create a healthier ecosystem. A more resilient forest is less likely to succumb to the adverse effects of injurious agents or limit the spread of damaging pests that may already be present on the WMA. Loss of function and diversity can occur when forest health declines from pests or other destructive agents. This could lead to fewer wildlife species inhabiting an area successfully, further compounding the decline of health and diversity.

Undesirable vegetation is any vegetation deemed to inhibit the successful establishment and growth of more desirable vegetation, which can be based on wildlife or timber values. It can possess traits that allow it to readily outcompete desirable regeneration, such as growth rate and environmental tolerances. Pre- and/or post-treatments are likely needed to ensure the successful regeneration of desirable species. Observed interfering or invasive vegetation includes American beech, hawthorn, ironwood, honeysuckle, multiflora rose, poison ivy, various weeds, ferns, and grasses.

White-tailed deer herbivory varies across Genesee Valley WMA and has been observed at high intensities in some of the forested stands. 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, hemlock woolly adelgid (HWA), Asian longhorned beetle (ALB), or spotted lanternfly have not been observed on the WMA. Unfortunately, Emerald ash borer has been found throughout the property. Also, it should be noted the fall of 2021 had a heavy gypsy moth infestation in much of the region, including this property. This resulted in the defoliation of many oaks and other hardwood species. While most trees can recover from a single outbreak, continuous infestations can permanently damage otherwise healthy trees.

Pre- and Post-treatment Considerations:

Pre- and post-treatments occur at the stand level and aim to promote the regeneration of desired species. The establishment of desired regeneration is primarily achieved by reducing competing vegetation, exposing mineral soil, and improving the seedbed.[15] Additionally, deer browse also greatly impacts the success of desired regeneration. Treatment actions are typically carried out through mechanical and/or chemical means. It should also be noted that certain ecological situations are best treated through a prescribed burning regimen.

Mechanical treatments will most commonly include the use of brush saws or chainsaws to cut out invasive or undesired species from the understory. Chemical treatments will involve the use of herbicides to reduce vegetative competition. Pre- and post-treatment actions to promote the desired forest regeneration will be addressed in detail in the silvicultural prescriptions.

[15] Nyland, R.D. 2007. Silviculture: Concepts and Applications 2nd ed. Waveland Press.

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 following guidelines in the Young Forest Initiative Monitoring Plan. The Monitoring Plan established 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 Genesee Valley WMA, which may be assessed to determine response to management, include:

- American woodcock
- Ruffed grouse
- Wild Turkey

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. Typically characterized by >50% cover of shrubs and <25% canopy cover of trees.

MANAGEMENT OBJECTIVES

- Manage approximately 30.1 acres as shrubland habitat (4.2% of the WMA), providing habitat for a variety of shrubland dependent species. This is a combined acreage of 19.2 acres of wetland shrubland and 10.9 acres of upland shrubland.
- Convert 6.4 acres of natural forest to shrubland.
- Brush piles for cottontail rabbit habitat will be constructed from the slash generated after tree removal.
- Maintain selected shrubland stands/partial stands via a forestry mower every 3-5 years or as necessary.
- Conduct apple tree releases as necessary.
- Invasive species monitoring will be conducted annually. Treatment of invasive species will occur as deemed necessary and as funding becomes available.
- Plantings of soft-mast shrubs and conifers in clumps will be considered.

DESCRIPTION OF EXISTING SHRUBLAND HABITAT AND TARGET SPECIES

Currently 23.7 acres of shrubland exist on Genesee Valley WMA composed of wetland shrubland species such as alder, red osier dogwood, silky dogwood, and elderberry. Species present in drier soil conditions include: crab apple, wild apple, honeysuckle, grey-stemmed dogwood, multi-flora rose, autumn olive, and sumac. These densely stemmed habitats provide foraging and escape cover for both young of year and adults of numerous wildlife species, including the YFI target species:

- American woodcock
- Ruffed grouse
- Wild turkey

Other species benefitting from this habitat type:

- Common yellowthroat
- black-billed cuckoo
- cottontail rabbits

MANAGEMENT HISTORY

Unknown.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2022-2026** (Figure 6):
    - **Compartment B Stand 45:** Convert entire stand to shrubland (6.4 acres) by clearcutting the stand. Slash from removed trees will be stacked to form brush piles scattered throughout the stand and along the stand boundary. Maintenance of the stand will be conducted with a forestry mower every 3 to 5 years or as necessary. Conifer clump plantings will be considered and incorporated into the stand.
    - **Stand 931:** Manage the 3.6-acre scrub-shrub wetland with a forestry mower or chainsaw to enhance the habitat for woodcock and other wetland dependent species. Maintain small irregular shaped openings within stand.

Habitat management will include the following:

- **Compartment B Stand 45:** Currently this 6.4 acre stand is a natural forest comprised mainly of white ash with some cottonwood and black willow mixed in. Slash from the removed trees will be stacked into brush piles forming habitat for rabbits and small rodents. Future planting of soft mast shrubs will be considered depending on the stand's response to the overstory removal. Scattered conifer clump plantings will be strategically located to enhance escape cover and provide vital winter thermal cover.
- **Stand 931:** Maintain desirable habitat species through periodic cutting using a forestry mower or chainsaw depending on current soil and moisture conditions. Establish and maintain small irregular shaped openings to provide foraging opportunities for wetland dependent species such as woodcock.

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 consider seasonal weather conditions, along with the breeding and nesting period of wildlife species found on the WMA.

MANAGEMENT EVALUATION

These stands will be included in the American woodcock singing ground survey and the ruffed grouse drumming survey routes established on the WMA. 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. Periodic inspections will be conducted to ensure tree species do not recolonize the project areas. Winter track surveys will monitor wildlife activity in and surrounding these shrublands.

GRASSLAND AND OTHER OPEN SPACE

Grasslands are open areas dominated by grasses and forbs, with less than 25% woody vegetation. Ideally, the forb component should not exceed 25% by area. Grasslands may contain shrubs and other woody vegetation, but not to the point beyond which maintenance would require significant brush cutting (i.e., not suitable for brush-hogging). Grasslands may include areas where hay is harvested by late season mowing once per year.

MANAGEMENT OBJECTIVES

- Maintain 70 acres of grassland and open areas (9.8 % of the WMA) to provide nesting and brooding habitat for a variety of wildlife species including woodcock, wild turkeys, bobolinks, and Eastern meadowlarks.
- Maintain grasslands and smaller fields annually to suppress encroachment of woody vegetation.
- Periodically lime and fertilize the grasslands to enhance annual growth.
- Re-seed grasslands/fields to re-establish desirable species.
- Construct brush piles periodically along the perimeter of the grassy openings.

DESCRIPTION OF EXISTING GRASSLAND HABITAT AND TARGET SPECIES

Stand 940 is in Compartment A of the WMA and was formed as a result of the meandering Genesee River. The stand has seeded naturally but remains unmanaged due to the lack of access. Stands 941 through stand 944 are fallow, former agricultural fields. In 2020, Stands 945, 946 and 947 were plowed, disked and planted by The Division of Operations. Stand 945 was planted with a mix of alfalfa, clover and oats while stands 946 and 947 were planted with clover, orchardgrass and bird's foot trefoil.

Genesee Valley WMA Compartment B Stand 943: former food plot, currently fallow and mowed annually.

Photo: Greg Ecker, NYS DEC

Species that benefit from grassland best management practices include:

- Eastern meadowlark
- Bobolink

- Woodcock

MANAGEMENT HISTORY

Prior to 2019, the seven stands (941-947) were part of agricultural agreements with two local farmers. Stands 941, 945, 946 and 947 were planted in crop grains, mainly corn and soybeans. Stand 942 was planted with a grain crop and under seeded with clover and Stand 944 was planted with red and white clover for a wildlife food plot. Stand 943 was mowed annually. The agreements ended with the 2018 growing season and all fields remained fallow in 2019. In 2020, stand 945 was planted with a mix of alfalfa, clover and oats while Stand 947 was planted with clover, orchardgrass and bird's foot trefoil. Unfortunately, seed germination was very poor.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2022-2026** (Figure 6):
  - **Stand 947:** Plow, disk and reseed with a warm season grass mix.
  - **Stands 941 – 947:** Continue field maintenance following an annual mowing schedule.
  - All grasslands will be periodically limed and fertilized.
  - Construct brush piles periodically along field perimeter.
- **Management planned for 2027-2031** (Figure 6):
  - **Stands 941 – 947:** Continue field maintenance following an annual mowing schedule.
  - All grasslands will be periodically limed and fertilized.
  - Construct brush piles periodically along field perimeter.

Habitat management will include the following:

- **Stands 941 through stand 947:** The perimeter of stands will be mowed annually to suppressed woody vegetation encroachment. Lime and fertilizer will be added to maintain pH levels and nutrient availability favored for growth of desired grassland species.

BEST MANAGEMENT PRACTICES

The following sub-sections provide guidelines for grassland habitat management on all WMAs in NY. For more detailed information and recommendations see *A Plan for Conserving Grassland Birds in New York*.[16] In particular, refer to the plan for species-specific habitat requirements and detailed recommendations regarding grassland management and restoration techniques.

General Management Recommendations

- Target management for grassland bird species known to be in the vicinity and consider the needs of both breeding and wintering grassland bird species.

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

- 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 which species are present.
- Increase field size by hedgerow removal, removing trees, etc. to benefit species that require large open fields.
- Control invasive plant species (Japanese knotweed, Phragmites, multiflora rose etc.) to improve habitat quality.
- When developing grassland planting or habitat restoration projects, consider a variety of factors including the targeted grassland bird species, pollinators, seed mix (warm versus cool season grasses, forbs, wildflower mixes, grass height and density), timing of planting, existing site conditions, and vegetation removal techniques (including herbicide and intensive disking).
- Utilize mowing, haying, burning, and grazing for maintaining grassland habitat, after evaluating the appropriateness of these methods relative to site conditions and management objectives. In particular, burning cool season grasses is not advisable in most situations in New York.

Timing of Management

- Fields over 25 acres (including all contiguous fields) and fields of any size with a history of listed (federally listed and/or state E/T or SC) grassland bird species within the last 10 years:
    - Avoid mowing or conducting other management between April 23 and August 15, unless the field(s)/area(s) targeted for management are first assessed or surveyed to confirm there is no active nesting by E/T/SC grassland birds and the proposed management will provide long-term benefits to the habitat/wildlife (such as invasive species management). In some cases, if nesting locations can be avoided, such as using spot treatment for invasive species, work can be done as long as any negative impacts to the species of concern are eliminated.
- Fields under 25 acres (including all contiguous fields) with no history of listed species:
    - Fields can be managed/mowed between 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).
- Wintering Restrictions: Avoid mowing and other management from November 1 to March 1 within fields over 25 acres (including all contiguous fields) and fields with a history of listed wintering raptors (regardless of field size). If management to improve habitat is planned during this time, conduct pre-treatment winter raptor surveys using established protocols to confirm there is no use by listed wintering raptors (short-eared owl and northern harrier). Other activities that cause excessive disturbance such as frequent high-speed snowmobile, ATV, motorized vehicle operation, or other loud noises should be avoided from November 1 to March 1, inclusive, for the protection of wintering raptors.

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). In some cases, spot/wander mowing can be done to leave cover while targeting problem areas.
- 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

These stands will be included in the American woodcock singing ground survey and the ruffed grouse drumming survey routes established on the WMA. Point counts of bird species pre- and post-management may occur to document presence or absence of young forest and grassland species and species response to the proposed management. Periodic winter track surveys will monitor wildlife activity in and surrounding these grassy openings.

AGRICULTURAL LAND

Agricultural lands on WMAs/MUAs 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

Genesee Valley WMA does not contain any stands that are currently 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 19.2 acres of scrub-shrub wetlands; management objectives covered in the shrubland section of this HMP.
- Maintain natural hydrology and water quality on the WMA.

DESCRIPTION OF EXISTING WETLAND HABITAT AND TARGET SPECIES

There are 23.7 acres of scrub-shrub habitat on Genesee Valley WMA, the majority consisting of 19.2 acres of scrub-shrub wetland.

The wetlands provide habitat for species such as:

- American woodcock
- Beaver, mink
- Migratory waterfowl, shorebirds
- Wood frog, spring peeper
- Snapping turtle, painted turtle, northern water snake

MANAGEMENT HISTORY

Unknown.

Best Management Practices

Timing of the management activities will be limited to ensure impacts to habitat and wildlife are kept to a minimum. Projects will consider 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

None.

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

The open water habitat consists of the Genesee River and six unnamed tributaries that flow through the WMA into the river. The Genesee River and associated tributaries have a C Classification[17] and are protected by Article 15 of the Environmental Conservation Law.

MANAGEMENT HISTORY

No management has occurred with this habitat type.

IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE

- **Management planned for 2022-2031** (Figure 6):

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

- Routine inspection of the banks adjacent to the Genesee River for erosion. If erosion threatens the integrity of the adjacent hardwood stands, habitat management activities should be adjusted accordingly.

BEST MANAGEMENT PRACTICES

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

MANAGEMENT EVALUATION

None.

HABITAT MANAGEMENT SUMMARY

In summary, Table 7 lists the habitat management actions planned for Genesee Valley 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 Genesee Valley WMA, 2022-2031. (Also see Figures 3 and 6.)

Habitat	Management Action	Acres	Timeframe
Forest	Hardwood clearcut the northern half of Compartment B Stand 6.	10.7	2022-2026
Forest	Convert forest habitat to shrubland in Compartment B Stand 45.	6.4	2022-2026
Forest	Clearcut Norway spruce plantation in Compartment B Stand 26.	11.4	2022-2026
Grassland	Plow, disk, and reseed Stand 947	28.4	2022-2026
Shrubland	Shrubland refresh in Compartment B Stand 931	3.6	2022-2026
Forest	Clearcut remaining southern half of Compartment B Stand 6.	10.6	2027-2031
Forest	Clearcut northern half of hardwood forest in Compartment B Stand 20.	2.8	2027-2031
Forest	Clearcut southern half of hardwood forest in Compartment B Stand 20, three years post treatment of northern half.	2.8	2027-2031
Forest	Clearcut Norway spruce plantation in Compartment B Stand 14 and pioneer hardwood in Compartment B Stand 15.	3.0	2027-2031
Shrubland	Stand maintenance every 3-5 years or as deemed necessary.	-	2022-2031
Grassland	Annual field maintenance.	-	2022-2031

III. FIGURES

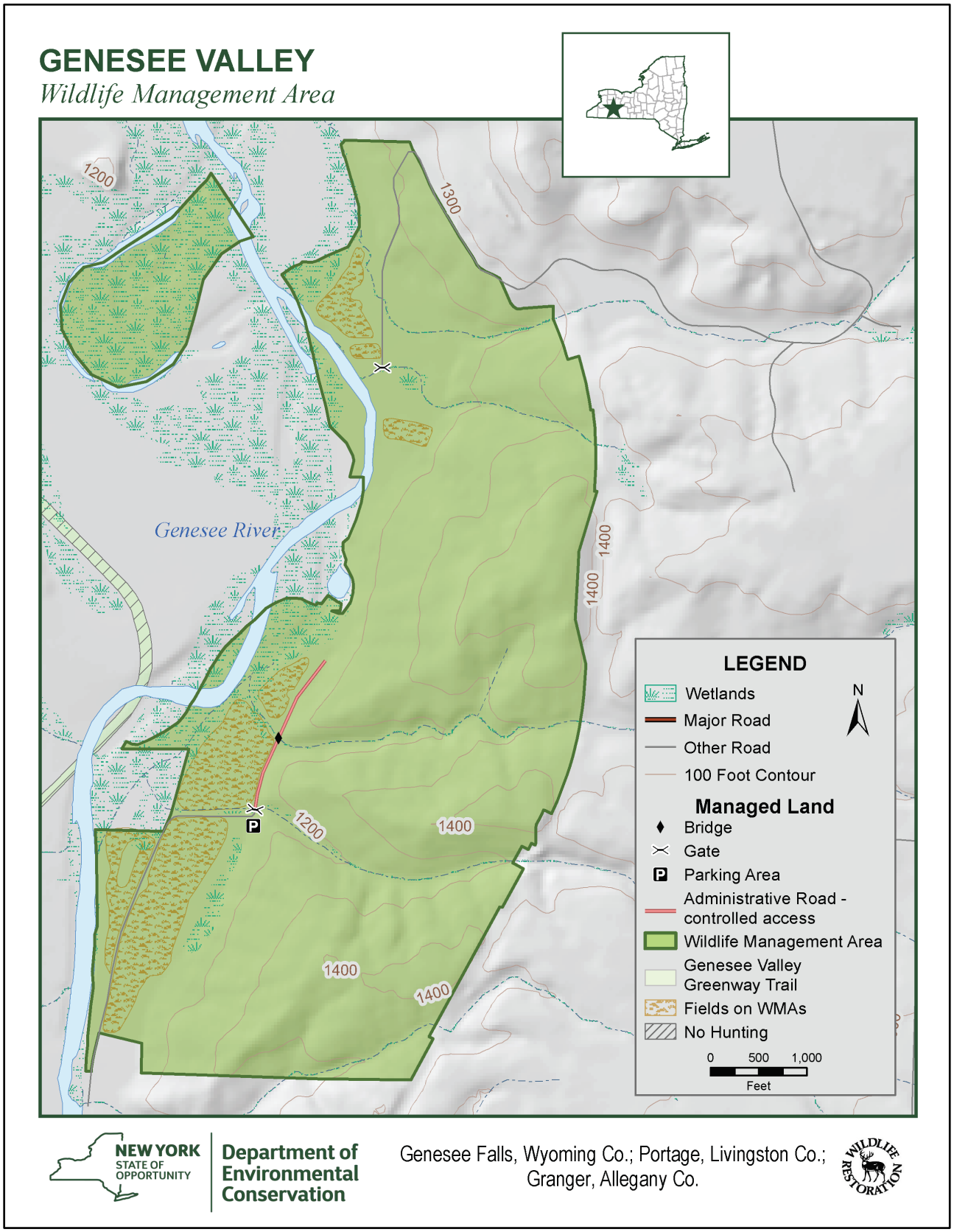


FIGURE 1. Location and access features at Genesee Valley WMA.

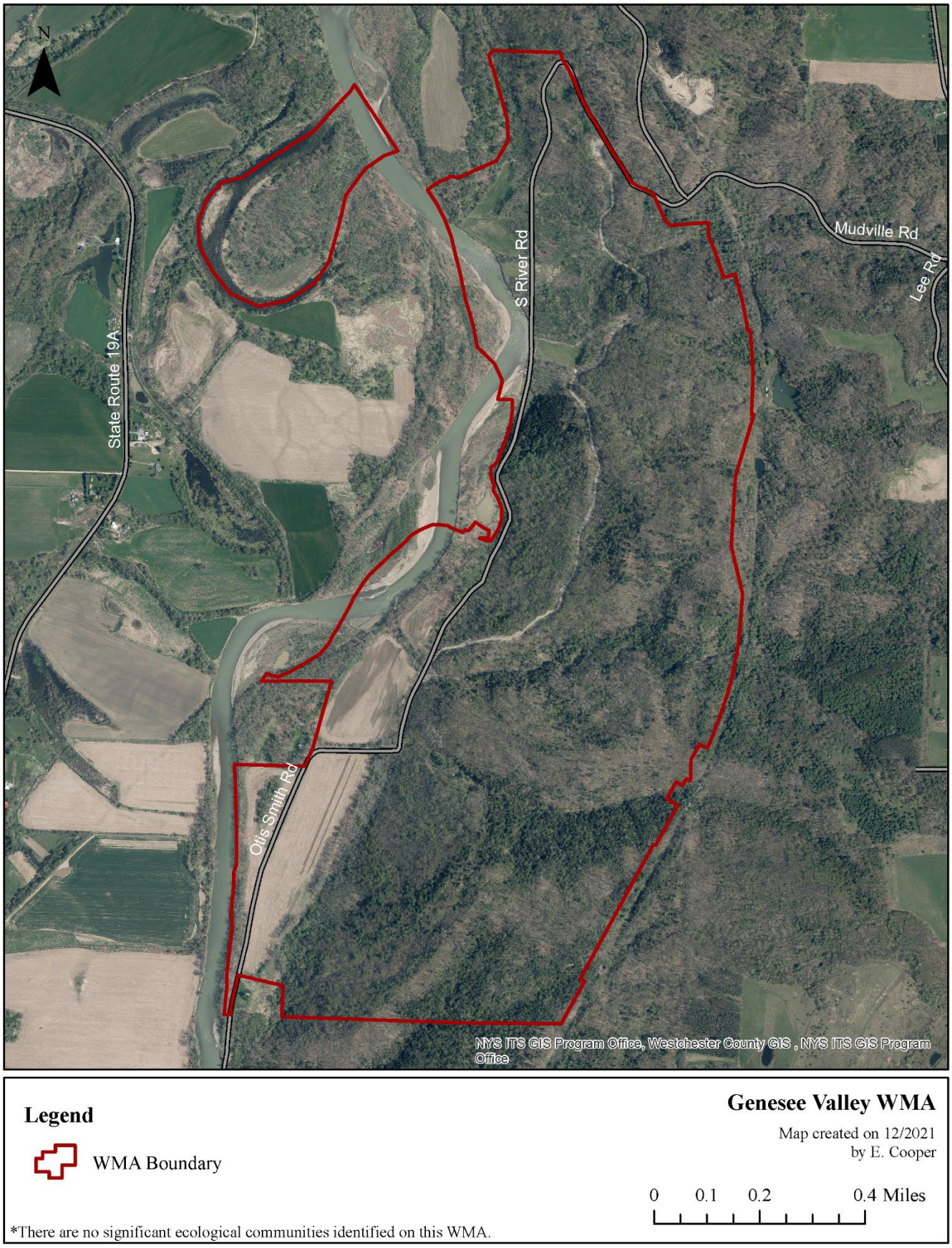


FIGURE 2. Significant ecological communities on Genesee Valley WMA. Data from the NY Natural Heritage Program.

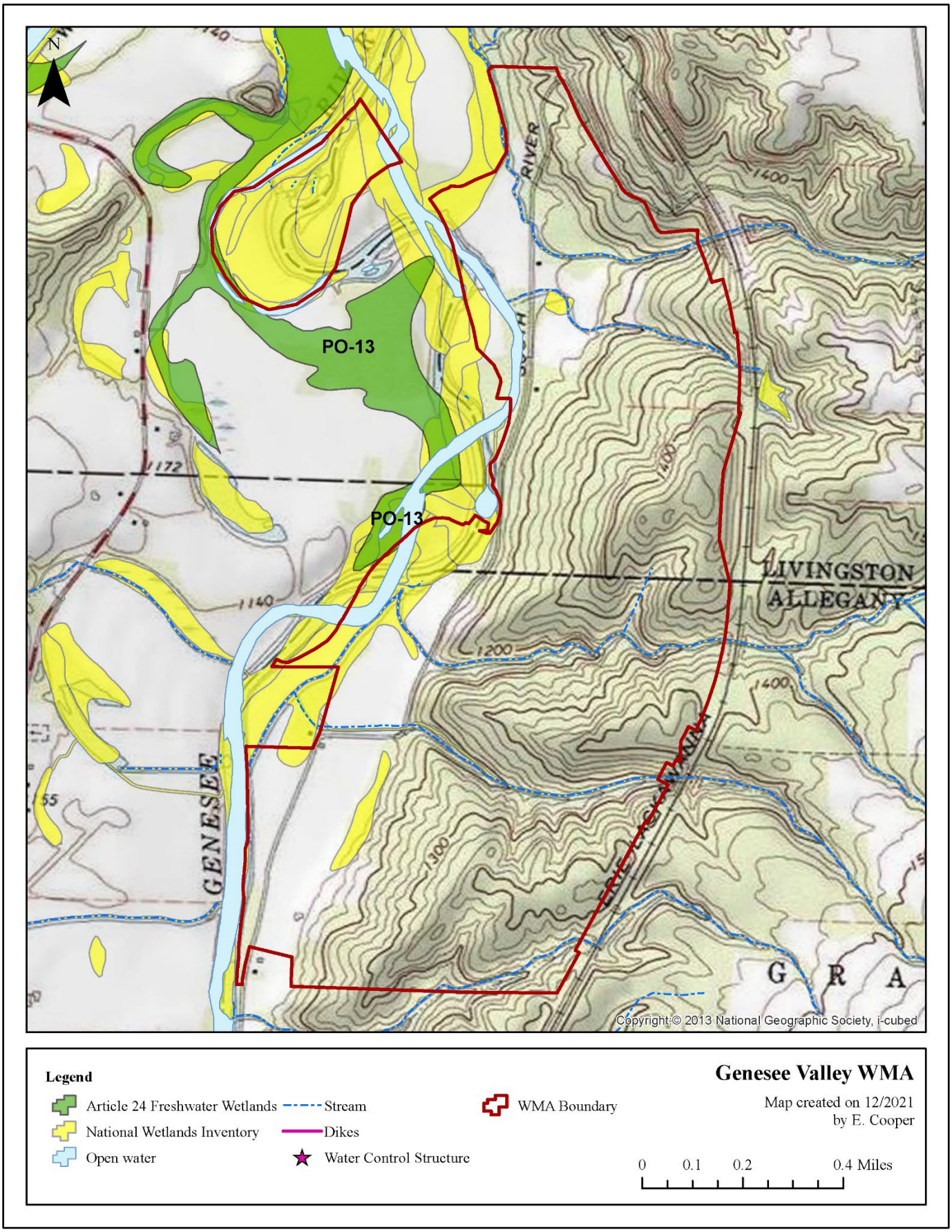


FIGURE 3. Wetlands, open water, and streams of Genesee Valley WMA. Note: Wetland boundaries are not exact and may not be used for regulatory purposes without a current delineation.

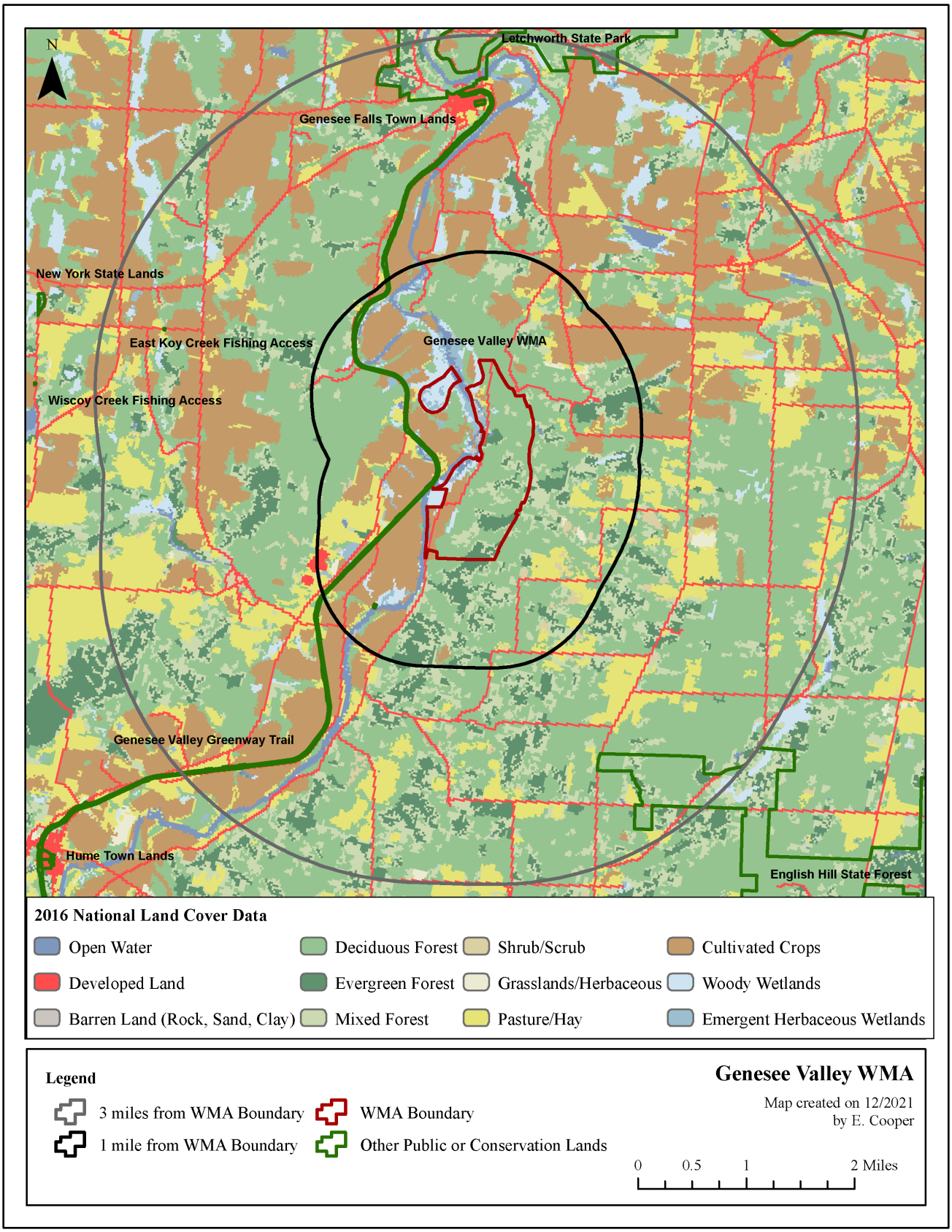


FIGURE 4. Land cover types and conservation lands in the landscape surrounding Genesee Valley WMA. Conservation lands are from the NY Protected Areas Database available online at https://www.nypad.org/. Land cover types are from the 2016 National Land Cover Data (NLCD) and differ from the habitat types used in the WMA habitat inventory. NLCD definitions are available online at https://www.mrlc.gov/data/legends/national-land-cover-database-2019-nlcd2019-legend.

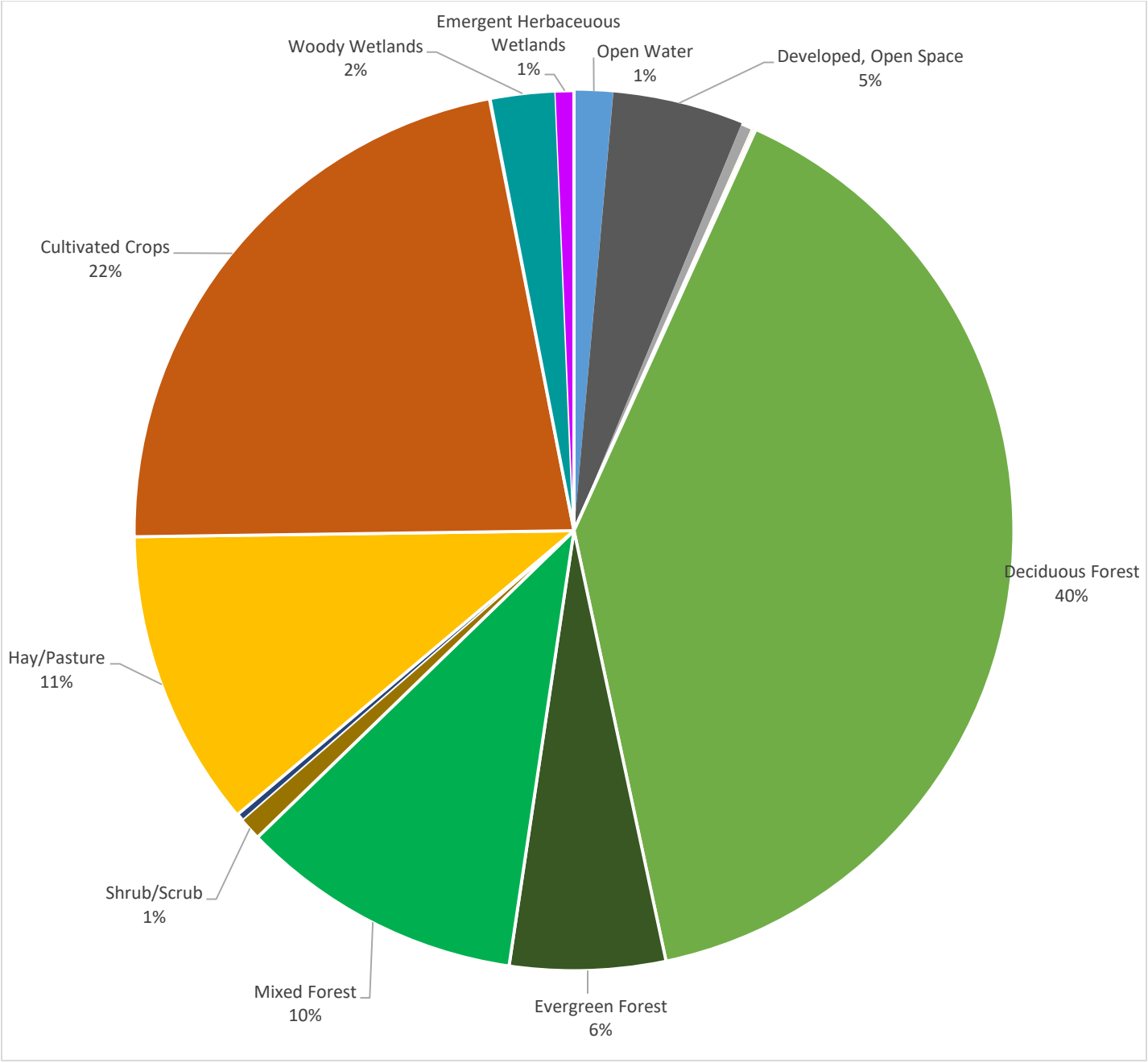


FIGURE 5. Percent cover of land cover types within three miles of Genesee Valley WMA.

Land cover types are from the 2016 National Land Cover Data (NLCD) and differ from the habitat types used in the WMA habitat inventory. NLCD definitions are available online at at https://www.mrlc.gov/data/legends/national-land-cover-database-2019-nlcd2019-legend.

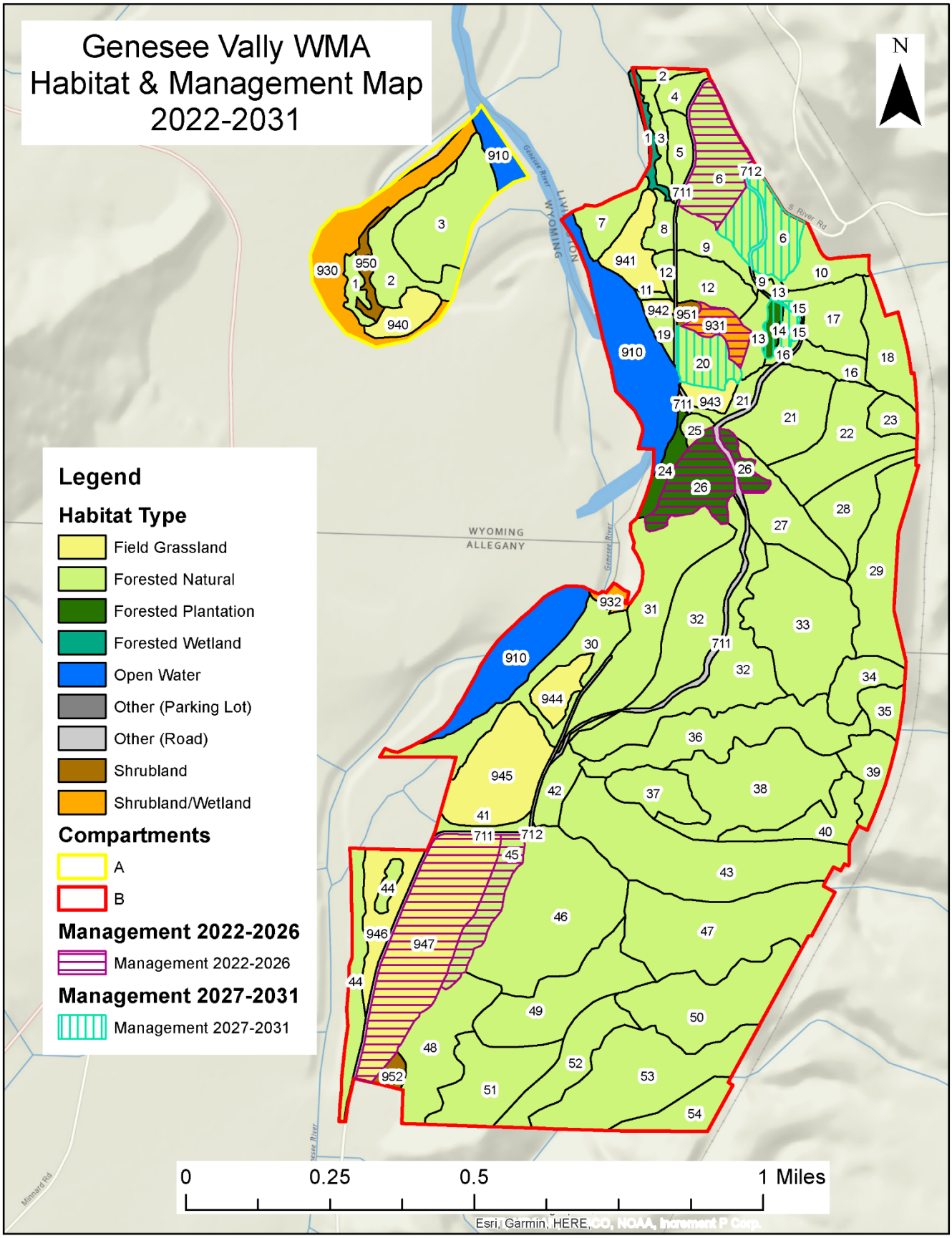


FIGURE 6. Habitat types and location(s) of proposed management on Genesee Valley WMA. Numbers indicate the stand number from habitat inventory.

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 Bird Conservation Center: A landscape of at least 25,000 acres that meets at least two of the following three criteria: (1) >7,500 acres of grassland [i.e., >25% of the landscape is currently in some form of grassland habitat], (2) a grassland "anchor" field that meets specific criteria, and/or (3) at least 1,000 acres of grasslands already managed under BMPs for grassland birds (NYSDEC Strategy for Grassland Bird Habitat Management and Conservation 2021-2026).

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. 2014. 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. 2014. 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. 2014. 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. 2014. 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 are generally 0-20 years following a disturbance and composed of seedling-sapling sized trees (<5" DBH). Includes the stand initiation and beginning of stem exclusion phases of stand development. Old fields with woody encroachment and shrublands offer similar habitat structure as seedling-sapling stands for many of the target species.

APPENDIX B: COMPLIANCE WITH STATE ENVIRONMENTAL QUALITY REVIEW

This plan identifies habitat management activities to be conducted on the Wildlife Management Area. These activities were analyzed in the 1979 *Programmatic Environmental Impact Statement on Habitat Management Activities of the Department of Environmental Conservation; Division of Fish and Wildlife* (PEIS), as updated and amended in 2017 by the *Supplemental Final Environmental Impact Statement* (SFEIS).[18] Any activity that exceeds the thresholds of, or was not analyzed in the 1979 PEIS as amended in 2017, will require individual, site-specific environmental review. Environmental assessment forms prepared as a result of this review will be posted on the Environmental Notice Bulletin (ENB).[19]

The activities recommended in this plan:

- Will not adversely affect threatened or endangered plants or animals or their habitat.
    - Prior to implementation of any activity, staff review the NY Natural Heritage Program's "Natural Heritage Element Occurrence" database and perform field surveys when necessary. If a protected species is encountered in a project area, staff may establish buffer zones around the occurrence, move the project area, follow time-of-year restrictions, or cancel the project.
- Will not induce or accelerate significant change in land use.
    - All lands and waters within the WMA system are permanently protected as wildlife habitat.
- Will not induce significant change in ambient air, soil, or water quality.
    - Activities are designed to protect air, soil, and water quality through careful project planning, use of appropriate Best Management Practices, 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.
    - Activities will follow established plans or policies of other state and federal agencies, including all relevant U.S. Fish and Wildlife Service rules and regulations.
- Will not induce significant change in public attraction or use.
    - The WMA system 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. Proposed activities 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 an area or result in areas of significantly different character or ecological processes.
    - Activities will be conducted in a manner that maintains, enhances, or mitigates ecological processes and/or natural disturbances as appropriate for each WMA and habitat type. Some activities, such as even-aged forest management, intentionally result in areas of different character and ecological processes; however, they are not considered significant because they are ephemeral or transitional and will not permanently alter the landscape.
- Will not affect important known historical or archeological sites.
    - Activities that may result in ground disturbance are reviewed by DEC's State Historic Preservation Officer (SHPO) and/or the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) to identify potential impacts to historical or archeological sites. Sensitive sites will be protected under the direction of DEC's SHPO and the OPRHP Archaeology Unit.
- Will not stimulate significant public controversy.
    - It is not anticipated that activities on WMAs will stimulate significant public controversy. A public comment period was held during development of both the PEIS and the SFEIS; no relevant comments in opposition of proposed management activities were received during the SFEIS public comment period. Staff also hold a public information session after completing each HMP, consider feedback from these sessions, and may adjust management as deemed appropriate. Kiosks, signs, webpages, articles, demonstration areas, and other outreach materials also raise awareness about habitat management activities.

[18] Available online at https://www.dec.ny.gov/regulations/28693.html.
[19] Available online at https://www.dec.ny.gov/enb/enb.html.

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.