

# Habitat Management Plan for Indian River Wildlife Management Area 2017 – 2026



outcropping view on Indian River WMA.  
egas, NYSDEC

Division of Fish and Wildlife  
Bureau of Wildlife

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Department of  
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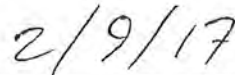
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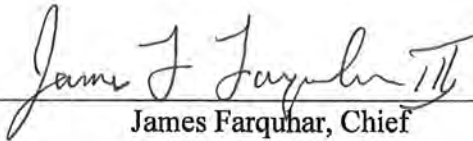
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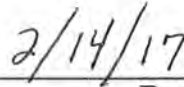
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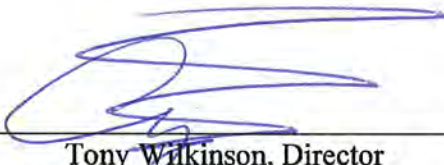
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## ***SUMMARY***

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Indian River Wildlife Management Area (WMA) was acquired as a wetland unit as three noncontiguous parcels and is important for both fish and wildlife resources. The WMA is predominantly a natural wetland complex consisting of open water, emergent marsh, shrub swamp, and floodplain forest. The primary objectives for this WMA are to maintain the large wetland complex it is known for and to create additional young forest habitat to promote the targeted species. Due to the makeup of this WMA, the key habitat management goals include:

- Managing approximately 7% of the WMA (10% of the forested landscape) as young forest (0-10 years) to promote American Woodcock, Ruffed Grouse, Golden-winged Warbler, and Wild Turkey habitat;
- Maintaining approximately 61% as wetlands and forested wetlands to provide prime breeding and migratory stopover habitat for marsh birds and waterfowl;
- Maintaining approximately 30% as intermediate and mature forest (10 to >100 years);
- Managing a minimum of 1% as grasslands; and
- Managing approximately 1% as early successional shrublands.

## ***I. BACKGROUND AND INTRODUCTION***

### **PURPOSE OF HABITAT MANAGEMENT PLANS**

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#### **BACKGROUND**

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

HMPs serve as the overarching guidance for habitat management on WMAs. These plans incorporate management recommendations from Unit Management Plans (UMPs), existing WMA habitat management guidelines, NY Natural Heritage Program's WMA Biodiversity Inventory Reports, Bird Conservation Area guidelines, and other documents available for individual WMAs.

## **SCOPE AND INTENT**

Primary purposes of this document:

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

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

Definitions are provided in Appendix A.

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

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

## **WMA OVERVIEW**

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### **LOCATION**

Indian River WMA is located in DEC Region 6, Town of Theresa, Jefferson County (Figure 1).

### **TOTAL AREA**

948 acres

## **HABITAT INVENTORY**

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

Table 1. Summary of current and desired habitat acreage on Indian River WMA.

<b>Habitat Type</b>	<b>Current Conditions (as of 2015)</b>			<b>Desired Conditions</b>	
	<b>Acres</b>	<b>Percent of WMA</b>	<b>Miles</b>	<b>Acres</b>	<b>Percent of WMA</b>
Forest <sup>a</sup>	657	69%		614	Decrease to 65%
Young forest	0	0%		66	Increase to 7%
Shrubland	27	3%		4	Decrease to < 1%
Grassland & other open areas	2	< 1%		2	No change
Agricultural land	0	0%		0	No change
Wetland (natural) <sup>b</sup>	244	26%		244	No change
Wetland (impounded) <sup>b</sup>	0	0%		0	No change
Open water	0	0%		0	No change
Other (easements)	1	< 1%		1	No change
Roads	17	2%	4	17	No change
Rivers and streams			1		No change
<b>Total Acres:</b>	948	100%		948	

<sup>a</sup> 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.

<sup>b</sup> Wetland acreage does not include forested wetlands, since they are included in the Forest category.

## **ECOLOGICAL RESOURCES**

### ***Wildlife Overview:***

Wildlife present on Indian River WMA includes many species commonly found throughout northern New York and the Indian River corridor, such as:

- Beaver, muskrat, mink
- Red-winged Blackbird, Indigo Bunting, Scarlet Tanager, Pileated Woodpecker, Common Yellowthroat Warbler
- Eastern coyote, white-tailed deer, Wild Turkey, gray fox, red fox
- Painted turtle, snapping turtle
- Bullfrog, northern leopard frog, green frog, American toad, spring peeper
- Garter snake, northern water snake
- Spotted salamander

### ***Wildlife and Plant Species of Conservation Concern:***

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

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

<b>Species Group</b>	<b>Species</b>	<b>Federal Status</b>	<b>NY Status</b>	<b>NY SGCN</b>
Birds	American Black Duck			HP
	American Kestrel			x
	American Woodcock			x
	Bald Eagle		T	x
	Blue-winged Teal			x
	Blue-winged Warbler			x
	Bobolink			HP
	Brown Thrasher			HP
	Eastern Meadowlark			HP
	Golden-winged Warbler		SC	HP
	Ruffed Grouse			x
	Wood Thrush			x
Mammals	Indiana myotis	E	E	HP
	Little brown myotis (little brown bat)			HP
	Northern myotis (long-eared bat)	T	T	HP
Amphibians and reptiles				
	Blanding's turtle		T	HP
	Blue-spotted salamander			HP
	Common ribbon snake			x
	Smooth green snake			x
	Snapping turtle			x
	Western chorus frog			x
Fish				
	Greater redhorse			x
Invertebrates	None known			
Plants	None known			

<sup>1</sup> 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>.

<sup>2</sup> Available online at <http://www.dec.ny.gov/animals/7312.html>.

<sup>3</sup> Available online at <http://www.dec.ny.gov/animals/7140.html>.

<sup>4</sup> Available online at <http://ebird.org/content/ebird/about/>. © Audubon and Cornell Lab of Ornithology.



### ***Significant Ecological Communities:***

There are no rare and/or significant natural communities located on Indian River WMA as identified by the NY Natural Heritage Program (Figure 3 and 4). Additional information about significant ecological communities is available in *Ecological Communities of New York State, Second Edition*<sup>5</sup> and in the Indian River WMA Biodiversity Inventory Final Report (1995) prepared by the NY Natural Heritage Program.

### ***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 Indian River WMA include:

- One wetland regulated by Article 24 of the Environmental Conservation Law and several additional wetlands shown on the National Wetlands Inventory (NWI; Figure 5 and 6). Each state-regulated wetland is protected by a buffer zone of 100 feet from the delineated wetland boundary, known as the adjacent area. There may be forestry prescriptions associated with forested wetlands and adjacent areas, and each management prescription will be reviewed individually for determination of impacts.
- Two streams (a watercourse entirely within the WMA) or segments of streams (a stream that meanders in and out of the WMA). The highest stream classification is Class C therefore no streams are regulated by Article 15 of the Environmental Conservation Law, but water quality standards will be adhered to.<sup>6</sup>
- Red Lake borders the southern section of Indian River WMA (Figure 5 and 6).
- The Indian River waterway was one of the earliest trails of the north and the area surrounding the river was an important home for the Native Americans. Known historical features will be protected during habitat management activities.

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*.<sup>7</sup> Some habitat management activities may either be prohibited or restricted in order to protect these features. Any deviations from these guidelines will be addressed in the individual stand prescriptions.

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<sup>5</sup> Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero. 2014. *Ecological Communities of New York State, Second Edition*. New York Natural Heritage Program, NYS Department of Environmental Conservation, Albany, NY. Available online at <http://www.dec.ny.gov/animals/97703.html>.

<sup>6</sup> Information about stream classification is available online at <http://www.dec.ny.gov/permits/6042.html>.

<sup>7</sup> Available online at <http://www.dec.ny.gov/outdoor/104218.html>.



### ***Soils:***

The topography commonly found within Indian River WMA consists of floodplains, wetlands, and rocky, steep terrain. Specific soil groups on the WMA include Millsite-Rock outcrop complex, Willette muck, Sapristis and Aquents, and Fluvaquents-Udifluvents complex.<sup>8</sup> These soils do not provide ideal conditions for tree growth. Between the topography and the soils on the WMA, access is limited to some areas of the WMA for habitat management purposes. However, good wetland habitat and upland habitat is available for a variety of wildlife.



An old well on Indian River WMA.

Photo: Rachel Hillegas, NYSDEC

## **LANDSCAPE CONTEXT**

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The goals of this HMP have been developed with consideration of surrounding landscape features and the availability of habitats and other conservation lands adjacent to Indian River WMA (Figures 7 and 8). The landscape within a three mile radius of the WMA is primarily privately-owned land including:

- Deciduous forest (48%)
- Wetlands (24% combining open water, emergent, and woody wetlands)
- Pasture/hay and grassland (13%)
- Evergreen forest (6%)
- Early successional shrubland (2%)
- Development (2%)
- Cultivated crops (1%)

Nearby conservation lands include:

- Indian River Lakes Conservancy (2,600 acres)
- Pulpit Rock State Forest (1,602 acres)
- Several state owned fishing and waterway access sites

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<sup>8</sup> 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>.

Review of aerial photography of nearby private landowners has revealed forestry work neighboring the WMA. Approximately 150 acres of the private land has been thinned or had a shelterwood harvest in an area to the west of the southern section of the WMA. In addition, 50 acres of thinning has occurred to the east of the southern section of the WMA.

The WMA is located within a predominantly forested/wetland landscape, and the current forest age structure in the region provides only limited benefits to species requiring young forest habitat. Thus, a goal of this plan is to manage the WMA to afford a greater percentage of this limited habitat type while retaining the forested character of the greater landscape. Currently, 69% of Indian River WMA is forested wetland and forest containing a mix of deciduous, mixed, and plantation forests with very little young forest, well under DFW's Young Forest Initiative (YFI) goal of managing at least 10% of the forested landscape on most WMAs as young forest.<sup>9</sup> The amount of mature forest on both the WMA and surrounding landscape makes the goal of creating additional young forest habitat desirable. The forest management proposed in this plan aims to replace poor quality forest, promote regeneration of native species, and establish a mix of healthy mature and young forest for the future. This will benefit wildlife and provide recreational opportunities without adversely affecting mature forest dependent wildlife.

## ***II. MANAGEMENT STRATEGIES BY HABITAT TYPE***

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

- Maintain habitat characteristics that will benefit wildlife abundance and diversity within the New York state 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**

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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.

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<sup>9</sup> 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>.

**Forested wetland:** wetland acres where forest or shrub vegetation accounts for greater than 50% of hydrophytic vegetative cover and the soil or substrate is periodically saturated or covered with water.

**Young forest:** young or regenerating forested acres, which are typically aged 0-10 years since a disturbance or regeneration cut, depending upon the site conditions. May include both natural forest and plantations.

**Young forest (forested wetland):** young, regenerating forested wetland acres.

Forest management on Indian River 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 YFI to increase the amount of young forest on WMAs to benefit wildlife that require this transitional, disturbance-dependent habitat.

### **MANAGEMENT OBJECTIVES**

- Increase young forest to approximately 66 acres (10% of the total forested area) to improve habitat for young forest-dependent wildlife, particularly Golden-winged Warbler, American Woodcock, Wild Turkey, and Ruffed Grouse.
- Soften the transitions between young and mature forest (i.e., create feathered edges), while providing patchy shrubs, and herbaceous cover for species like Golden-winged Warbler and Wild Turkey.
- Retain the remaining 614 acres of forest and forested wetland to provide habitat for forest-dependent wildlife.

### **DESCRIPTION OF EXISTING FOREST HABITAT AND TARGET SPECIES**

There are 657 forested acres on Indian River WMA, consisting of forested wetlands, natural forests, and plantations (Table 3). No young forest stands currently exist on the WMA. Table 3 provides a summary of the forested areas, including the most common species found in each.

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

<b>Forest Type</b>	<b>Acres (as of 2015)</b>	<b>Desired Acres</b>	<b>Overstory species</b>
Natural forest (mature/intermediate)	282	239	maple, oak, white pine, hickory
Plantation	40	40	white pine, red oak
Forested wetland	335	335	silver maple, green ash
Young forest	0	66*	-
Young forest (forested wetland)	0	0	-
<b>Total Forested Acres:</b>	657	680	

\*This includes 23 acres of shrubland that will be converted to young forest, increasing the total forested acres.

The forested areas on Indian River WMA have moderate growth rates and moderate health. Understory regeneration is good in many of the hardwood stands, but is limited by shallow soils and competing honeysuckle and buckthorn in several of the rocky stands. In the forested

wetlands, regeneration is limited by seasonal flooding and competition from shrubs, grasses, ferns, and forbs.

The current management practices coupled with creation of new young forest habitat will benefit American Woodcock, Ruffed Grouse, Golden-winged Warbler, Wild Turkey, and other Species of Greatest Conservation Need. These species rely on forest and young forest areas for nesting, foraging, and cover and will benefit from management that creates the following habitat requirements:

- American Woodcock:
  - Singing/peenting ground – Open areas from 1 acre to over 100 acres usually in an abandoned field.
  - Daytime areas – Moist, rich soils with dense overhead cover of young alders, aspen, or birch.
  - Nesting – Open young forest stands, second growth woodlands.
  - Brood rearing – Similar to nesting except also including bare ground and dense ground cover.
  - Roosting – Open fields (minimum of 5 acres) or blueberry fields and reverting farm fields.<sup>10</sup>
- Ruffed Grouse:
  - 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 – Open young forest stands or second growth woodlands.
  - Brood rearing – Herbaceous ground cover with a high midstory stem density.<sup>11</sup>
- Golden-winged Warbler:
  - Breeding territory (singing, nesting) – Open patches from 5 to 25 acres, usually in a patch with approximately 5 to 15 scattered deciduous overstory trees to perch on in the opening and with a moderate density of shrub cover with interspersed herbaceous openings.
  - Post-fledging – Similar to nesting except also including clumps of younger trees and mature forest adjacent to early successional habitat patch.
  - Foraging – Similar to breeding territory: open areas with scattered deciduous trees, clumps of shrubs, and patches of herbaceous vegetation that supports insects and spiders.<sup>12</sup>
- 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.

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<sup>10</sup> Sepik, G. F. et al. 1981. A Landowner's Guide to Woodcock Management in the Northeast, Moosehorn National Wildlife Refuge, USFWS. 25 pp.

<sup>11</sup> Jones, B. C. et al. Habitat Management for Pennsylvania Ruffed Grouse, Pennsylvania Game Commission. 10 pp.

<sup>12</sup> Golden-winged Warbler Working Group. 2013. Best Management Practices for Golden-winged Warbler Habitats in the Great Lakes Region. [www.gwwa.org](http://www.gwwa.org).

- 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:
- 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.<sup>13, 14</sup>

### **MANAGEMENT HISTORY**

Three white spruce plantations were planted on Indian River WMA off Greenacre Road in 1976, but none of the plantations were successful or productive. It is not certain why the plantations failed, but a likely contributing factor is the poorly drained soils which are not ideal for tree growth. Several firewood sales (less than 5 acres each) were conducted on the WMA between 1978 and 1980, where small stands were thinned and trees along roadsides were sold as firewood. Little forest management has occurred since the last sale.

Beginning in 2013, habitat management on the WMA transitioned from maintaining a 23 acre field for grassland bird habitat, to limiting mowing practices and allowing the field to convert to shrubland and/or young forest habitat. This management transition provides the opportunity to create and/or enhance Golden-winged Warbler breeding habitat. The decision to change management practices of this field and focus on Golden-winged Warblers rather than grassland bird habitat was based on the small size of the field, limited success of attracting targeted grassland birds and the fact that this parcel is within the Golden-winged Warbler focus area.

### **IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE**

The following management is proposed for the next 10 years with a young forest acreage goal of reaching approximately 66 acres (which includes 23 acres of field that will be allowed to convert to young forest):

- **Management planned for 2017-2021** (Table 4, Figure 9):
  - Seed tree harvest in portions of Stands B-2.1 and B-5 (19 acres). Includes softening\* the forest edge along Stand B-6.
  - Shelterwood harvest in part of Stand B-9 to soften\* the forest edge along Stand B-6 (3 acres).
- **Management planned for 2022-2026** (Table 5, Figure 9):
  - Shelterwood harvest in Stand B-2.2 (6 acres).
  - Additional seed tree harvest part of Stand B-2.1 (15 acres).

\*Habitat management such as softening or feathering the edges of the field will create 45 acres of young forest.

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<sup>13</sup> USDA – NRCS. 1999. Wild Turkey (*Meleagris gallopavo*) Fish and Wildlife Habitat Management Leaflet. 12 pp.

<sup>14</sup> Dickson, J. G. 1992. The Wild Turkey: Biology and Management. National Wild Turkey Federation and USDA Forest Service. Stackpole Books, PA. 480 pp.

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		
B-2.1	10	Pole Timber 6"-11" DBH	Other Natural Stands	Seedling-Sapling-Natural	Wildlife	Seed Tree
B-5	9	Pole Timber 6"-11" DBH	Other Natural Stands	Seedling-Sapling-Natural	Wildlife	Seed Tree
B-9	3	Pole Timber 6"-11" DBH	Other Natural Stands	Seedling-Sapling-Natural	Wildlife	Shelterwood

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

Stand	Acres	Size Class	Forest Type		Management Direction	Treatment Type
			Current	Future		
B-2.1	14	Pole Timber 6"-11" DBH	Other Natural Stands	Seedling-Sapling-Natural	Wildlife	Seed Tree
B-2.2	7	Small Saw Timber 12"-17" DBH	Northern Hardwood-White Pine	Seedling-Sapling-Natural	Wildlife	Shelterwood

Stand locations and planned management actions are also summarized in Figures 9 and 10. Specific forest stand descriptions and detailed management prescriptions will be prepared for each proposed forest management area prior to implementation (see template, Appendix C).

Briefly, habitat management for each of these stands will include the following:

- **Stand B-2.1** (84 acres) **and Stand B-5** (10 acres) - northern hardwoods with dense brush in the understory and scattered rock outcrops. Nine acres in Stand B-5 and 10 acres in Stand B-2.1 will be thinned, using the seed tree method, to create Golden-winged Warbler habitat. Small groups of trees will be retained as song perches for the warblers. Due to the amount of brush (honeysuckle, buckthorn, dogwood, and prickly ash) in these stands, pre- or post-treatment herbicide applications may be necessary to provide herbaceous openings and to allow regeneration of desirable species. Towards the end of the second five-year period of the HMP, an additional 14 acres in **Stand B-2.1** will be treated in order to maintain habitat for Golden-winged Warblers and other young forest dependent species. A seed tree harvest will be completed in the same manner as the previous harvest in this stand, outlined above.



- **Stand B-2.2** (7 acres)  
– mixed northern hardwoods and white pine, with shallow, rocky soil. A shelterwood harvest will be completed in the stand with the goal of encouraging dense regeneration of white pine and mast producing hardwoods, which will provide food and shelter for American Woodcock, Ruffed Grouse, and Wild Turkey.



Stand B-6 view on Indian River WMA.

Photo: Rachel Hillegas, NYSDEC

- **Stand B-6** (23 acres, not listed in Tables 4 and 5 as it is not currently forest) – old field converting to shrubland. The edges of the field are fairly hard vertical edges, meaning the vegetation abruptly changes from low shrubs and grasses to tall trees. Feathering the neighboring stands (**Stands B-2.1, B-5, and B-9**) to create a stadium effect will provide more vertical diversity and provide habitat that is preferred by Golden-winged Warblers and other young forest species. Mowing will be limited in Stand B-6 to allow it to convert to young forest. Meandering trails will occasionally be mowed to maintain patches of herbaceous cover for Golden-winged Warblers and to provide access for hunters, birdwatchers, and others. If needed, native trees and shrubs may be planted in small groups to improve the species composition.

### **BEST MANAGEMENT PRACTICES**

Forest management on all WMAs follows Best Management Practices (BMPs) 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.

<b>Resource</b>	<b>Guidance Document</b> <sup>15</sup>
Soils	<i>Rutting Guidelines for Timber Harvesting on Wildlife Management Areas</i>
Water quality	<i>NYS Forestry Best Management Practices for Water Quality</i>
Wildlife	<i>Retention Guidance on Wildlife Management Areas</i>
Plantations	<i>Plantation Management Guidance on Wildlife Management Areas</i>

<sup>15</sup> All guidance documents referenced here are available online at <http://www.dec.ny.gov/outdoor/104218.html>.



***Wildlife Considerations:***

Since Blanding's turtle are known to occur on the Indian River WMA, date restrictions for equipment in wetlands will be followed to protect species such as Blanding's turtle (no work from October 15<sup>th</sup> – April 15<sup>th</sup>).

No ground disturbance or work with heavy machinery will take place in Blanding's turtle nesting areas from May 28<sup>th</sup> – October 7<sup>th</sup>.

The regional representative for DFW's Amphibian and Reptile Diversity team will be contacted prior to conducting management in known areas of Blanding's turtle occurrences if it is desirable to do work outside of the date restrictions specified above. Work can take place in nesting areas after July 9<sup>th</sup> if surveys of nesting Blanding's turtles have confirmed the absence of Blanding's turtles in the work area.

Due to the possibility of Indiana and Northern long-eared bats being on the area, tree selection for cuts and the timing of cuts will be evaluated to protect the bats. BMPs will be followed according to species detected.

***Forest Health Considerations:***

Thick grey-stemmed dogwood, buckthorn, and honeysuckle in many of the stands outcompete hardwood regeneration. Where possible, this interference will be mitigated through brush cutting and herbicide spraying.

***Pre- and Post-treatment Considerations:***

Topography on Indian River WMA limits access to many forest stands for management purposes. Rock out crops and cliffs are very common within the WMA. The base of these formations are usually wetlands or very wet areas that would prohibit the use of mechanical equipment.

The treatment for Stands B-2.1, B-5, and B-9 may involve removing brush via mechanical means to create Golden-winged Warbler habitat. It may be necessary to treat invasive species with herbicide before and/or after the brush cutting.

Mowing in Stand B-6 will be reduced to allow the shrubland to continue to convert to young forest. If it is determined the desired species are not present, then planting patches of native trees and shrubs will be considered.

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

**MANAGEMENT EVALUATION**

In order to determine whether the desired forest regeneration and wildlife response(s) have been achieved by the management outlined above, pre- and post-management assessments will be conducted in accordance with guidelines in the *Young Forest Initiative Monitoring Plan: 2016-*

2025.<sup>16</sup> The Monitoring Plan establishes statewide standards for evaluating vegetation and target wildlife responses to forest management to determine if the outcome is as prescribed.

Regeneration assessments will be conducted within one year of harvest completion, three, and five years after the harvest or until the forester determines adequate natural or artificial (i.e., planting) regeneration has been securely established. YFI wildlife target species selected for Indian River WMA, which may be assessed to determine response to management, include:

- American Woodcock
- Golden-winged Warbler
- Ruffed Grouse
- Wild Turkey

## SHRUBLAND

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

### MANAGEMENT OBJECTIVES

- Provide 4 acres of shrubland habitat for shrubland obligate species and other wildlife, including several YFI target species.
- Convert 23 acres of shrubland to young forest to improve habitat for Golden-winged Warbler and other young forest species.

### DESCRIPTION OF EXISTING SHRUBLAND HABITAT AND TARGET SPECIES

There are 27 acres of shrublands on Indian River WMA that consist of mixed shrubs, hardwood seedlings, grasses, and forbs. Stand B-6 (23 acres) was a grassland field that is now converting into shrubland due to changed management practices. This parcel was identified as shrubland in the inventory. This conversion will be allowed to continue to young forest, to create habitat for Golden-winged Warblers and other wildlife including several of the YFI target species:

- American Woodcock
- Golden-winged Warbler
- Ruffed Grouse
- Wild Turkey



Golden-winged Warbler found in 2013 on Indian River WMA.

Photo: Elizabeth Truskowski, NYSDEC

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<sup>16</sup> The YFI Monitoring Plan is available online at <http://www.dec.ny.gov/outdoor/104218.html>.

## **MANAGEMENT HISTORY**

Historically, stand B-6 was maintained as grassland habitat through a cooperative agreement, which was discontinued in 2011 in order to allow the stand to convert into shrubland or young forest habitat. This conversion aids in creating additional Golden-winged Warbler breeding habitat. See Forest section (above) for more information.

## **IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE**

- **Management planned for 2017-2021** (Figure 9 and 10, Table 7):
  - Allow vegetative succession of Stand B-6 to continue from grassland into denser shrubland habitat.
  - Periodically mow meandering trails to maintain patches of herbaceous cover for Golden-winged Warblers and to provide access for hunters, birdwatchers, and other wildlife related recreational activities.
- **Management planned for 2022-2026** (Figure 9 and 10, Table 7):
  - Continue to allow Stand B-6 to convert into young forest and plant native trees and shrubs if needed.
  - Periodically mow meandering trails to maintain patches of herbaceous cover for Golden-winged Warblers and to provide access for hunters, birdwatchers, and other wildlife related recreational activities.

## **BEST MANAGEMENT PRACTICES**

Brush hogging/mowing will be conducted from mid-August through early October when dry conditions normally persist and there is minimal interference with nesting activities of wildlife.

## **MANAGEMENT EVALUATION**

DEC and Audubon staff conducted presence/absence survey point counts for Golden-winged Warblers on the WMA in 2015 and 2016, respectively. These point counts will be continued (pre- and post-treatment) in order to document any response to recent habitat management for shrublands and/or young forest. Singing ground and drumming surveys may also be conducted in this area for American woodcock and ruffed grouse, respectively. The vegetation in Stand B-6 will be monitored to assess whether the stand is succeeding successfully to young forest.

## **GRASSLAND AND OTHER OPEN AREAS**

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Grasslands are open, grassy areas with a minimal amount of shrub and tree cover (<35%) that are maintained, or could be maintained, without significant brush cutting. Grasslands may include cooperative agreements as a method of management (e.g., late season mowing once per year).

## **MANAGEMENT OBJECTIVES**

- Maintain the existing small open areas (2 acres).
- Monitor for invasive species and attempt to eradicate where possible.

### **DESCRIPTION OF EXISTING GRASSLAND HABITAT AND TARGET SPECIES**

There are 2 acres of open habitat on Indian River WMA in Stand C-10 (Figure 9 and 10). This area is essentially the mowed clearings around the WMA sign and the boat launch along the Indian River. Open areas of this small scale are not conducive to support grassland breeding birds and will not be managed as such.

### **MANAGEMENT HISTORY**

In the past, 23 acres of old field/grassland habitat (Stand B-6), which represented 3% of the WMA, had been maintained through a cooperative agreement. Annual mowing, through the cooperative agreement, was used to set back vegetative succession to maintain grassland habitat. The stand was last mowed in 2011.

### **IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE**

- **Management planned for 2017-2026** (Figure 9 and 10):
  - Continue to maintain the roadside opening (2 acres) by mowing.

### **MANAGEMENT EVALUATION**

None.

## **AGRICULTURAL LAND**

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

### **DESCRIPTION OF EXISTING AGRICULTURAL LANDS HABITAT**

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

## **WETLANDS (NATURAL AND IMPOUNDED)**

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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 244 acres of non-forested wetlands as they currently exist.
- Provide habitat for wetland-dependent wildlife such as waterfowl, muskrat, and beaver.
- Provide nesting, foraging, and cover habitat for Blanding's turtle.

### **DESCRIPTION OF EXISTING WETLAND HABITAT AND TARGET SPECIES**

There are 244 acres of natural wetlands (non-forested; see Forest section for the forested wetlands) on Indian River WMA (Figure 5 and 6). The diverse wetlands, consisting of scrub-shrub, emergent, and open water type wetlands, provide habitat for species such as:

- American Woodcock
- Beaver, muskrat
- Blanding's turtle, midland painted turtle
- Chorus frog, bullfrog, northern leopard frog, green frog, American toad, spring peeper
- Migratory waterfowl

### **MANAGEMENT HISTORY**

Wetlands have not been previously managed on Indian River WMA.

### **IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE**

- **Management planned for 2017-2026:**
  - None planned at this time.

### **BEST MANAGEMENT PRACTICES**

Date restrictions for equipment in wetlands will be followed to protect species such as Blanding's turtle (no work from October 15<sup>th</sup> – April 15<sup>th</sup>).

No ground disturbance or work with heavy machinery will take place in Blanding's turtle nesting areas from May 28<sup>th</sup> – October 7<sup>th</sup>.

The regional representative for DFW's Amphibian and Reptile Diversity team will be contacted prior to conducting management in known areas of Blanding's turtle occurrences if it is desirable to do work outside of the date restrictions specified above. Work can take place in nesting areas after July 9<sup>th</sup> if surveys of nesting Blanding's turtles have confirmed the absence of Blanding's turtles in the work area.

### **MANAGEMENT EVALUATION**

Monitor the wetlands for protection of Blanding's turtle.

## **OPEN WATER (WATERBODIES AND WATERCOURSES)**

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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, Black Lake).

### **DESCRIPTION OF EXISTING OPEN WATER HABITAT**

There are two streams or segments of streams on Indian River WMA (Figure 5 and 6). The Indian River flows along and through the majority of the WMA. Beyond these streams, there is no other open water (no named lakes or ponds) or any plan to develop such habitat.

## HABITAT MANAGEMENT SUMMARY

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In summary, Table 7 lists the habitat management actions planned for Indian River 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 Indian River WMA, 2017-2026. (Also see Figures 9 and 10.)

Habitat	Management Action	Acres	Timeframe
Forest	Perform seed tree cut in Stands B-2.1 and B-5	19	2017-2021
Forest	Perform a shelterwood cut in Stand B-9	3	2017-2021
Forest	Perform an additional seed tree cut in Stand B-2.1	14	2022-2026
Forest	Perform a shelterwood cut in Stand B-2.2	7	2022-2026
Shrubland	Stand B-6 to be allowed to convert to young forest with meandering mowed paths	23	2017-2026



### III. FIGURES

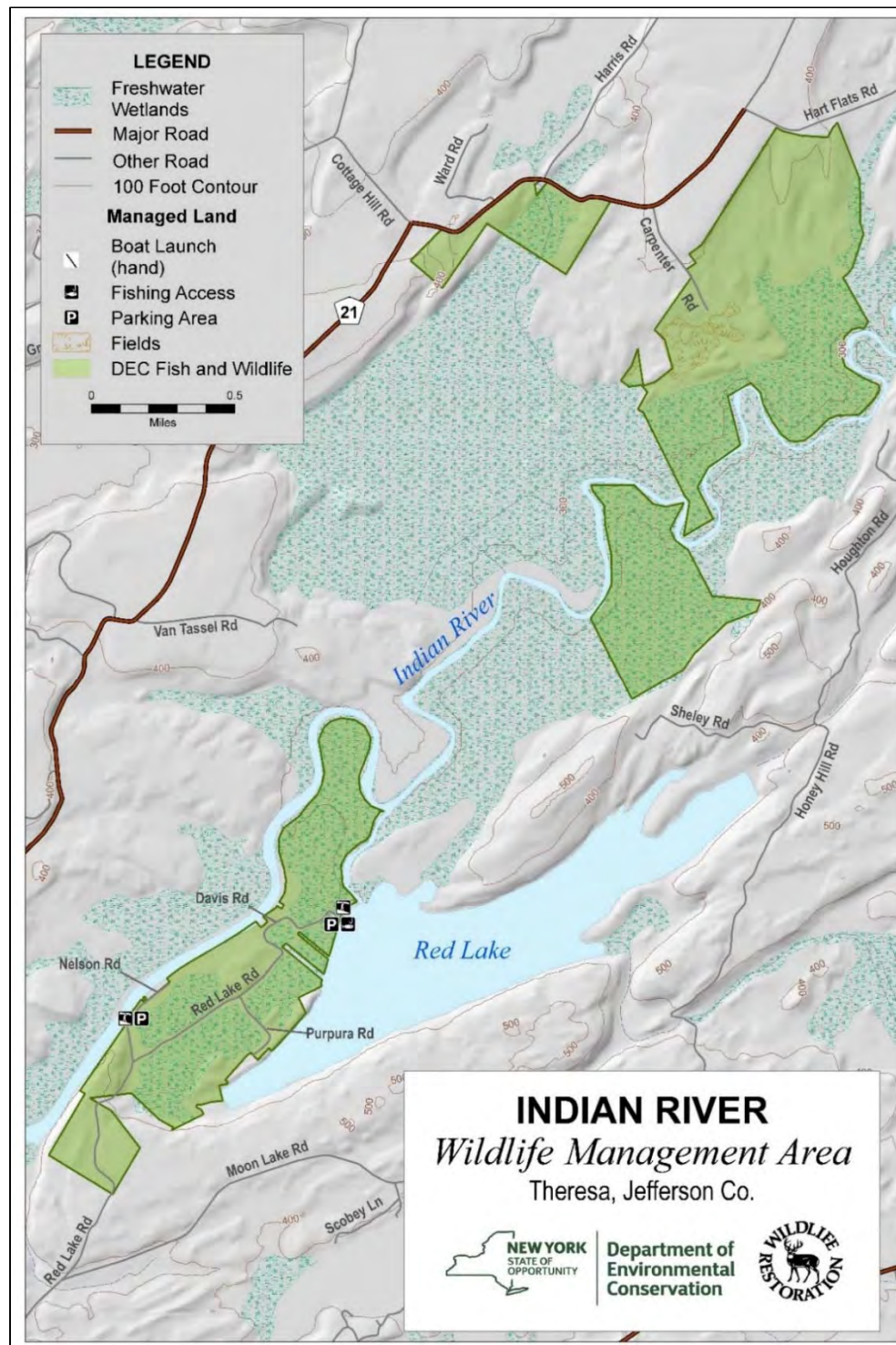
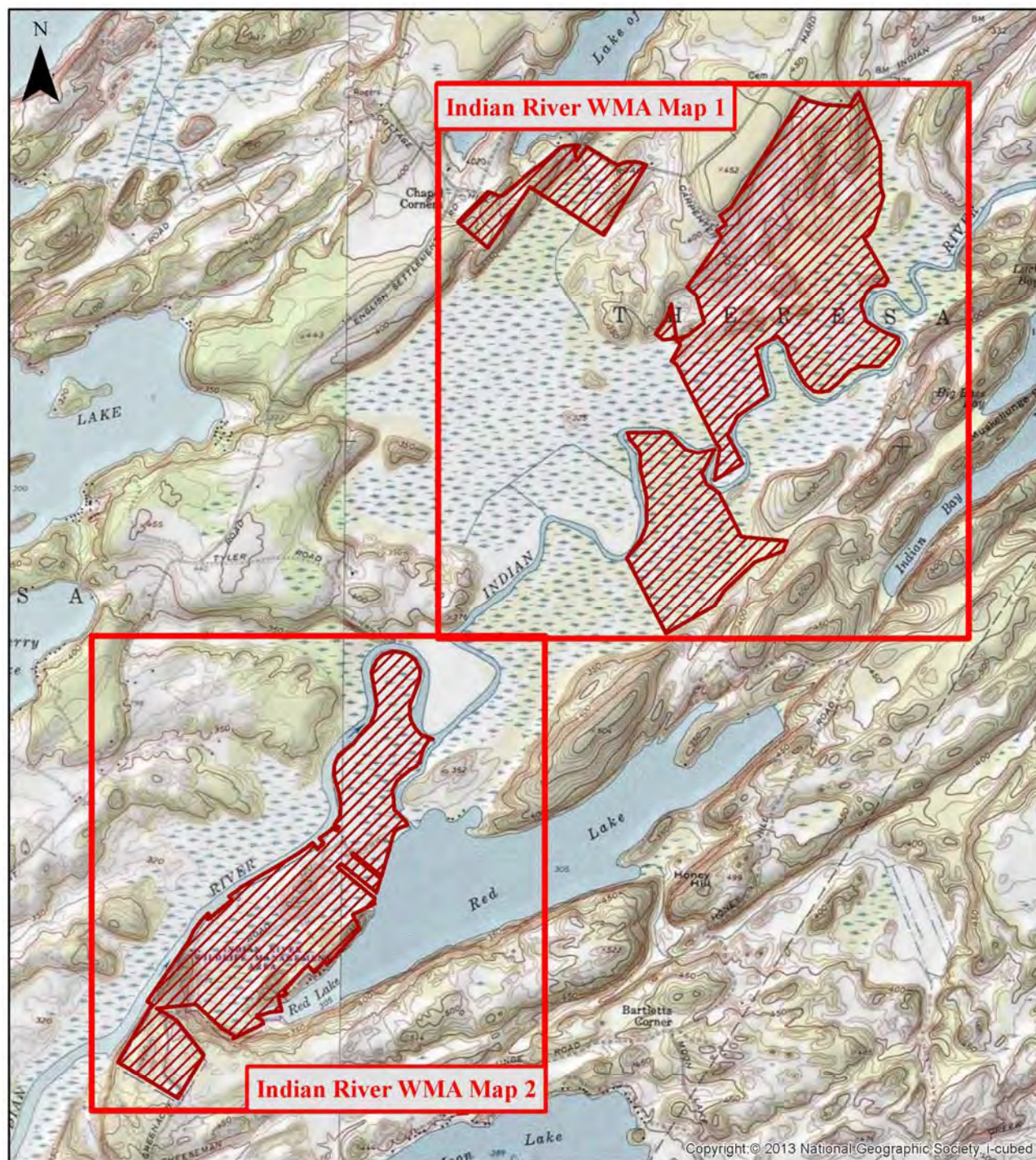


FIGURE 1. Location and access features at Indian River WMA.





**Legend**



WMA Boundary

**Map Index- Indian River WMA**

Map created on 10/2015  
by E. M. Cooper, Habitat Conservation Unit

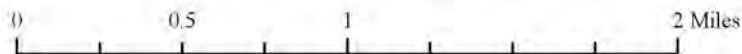
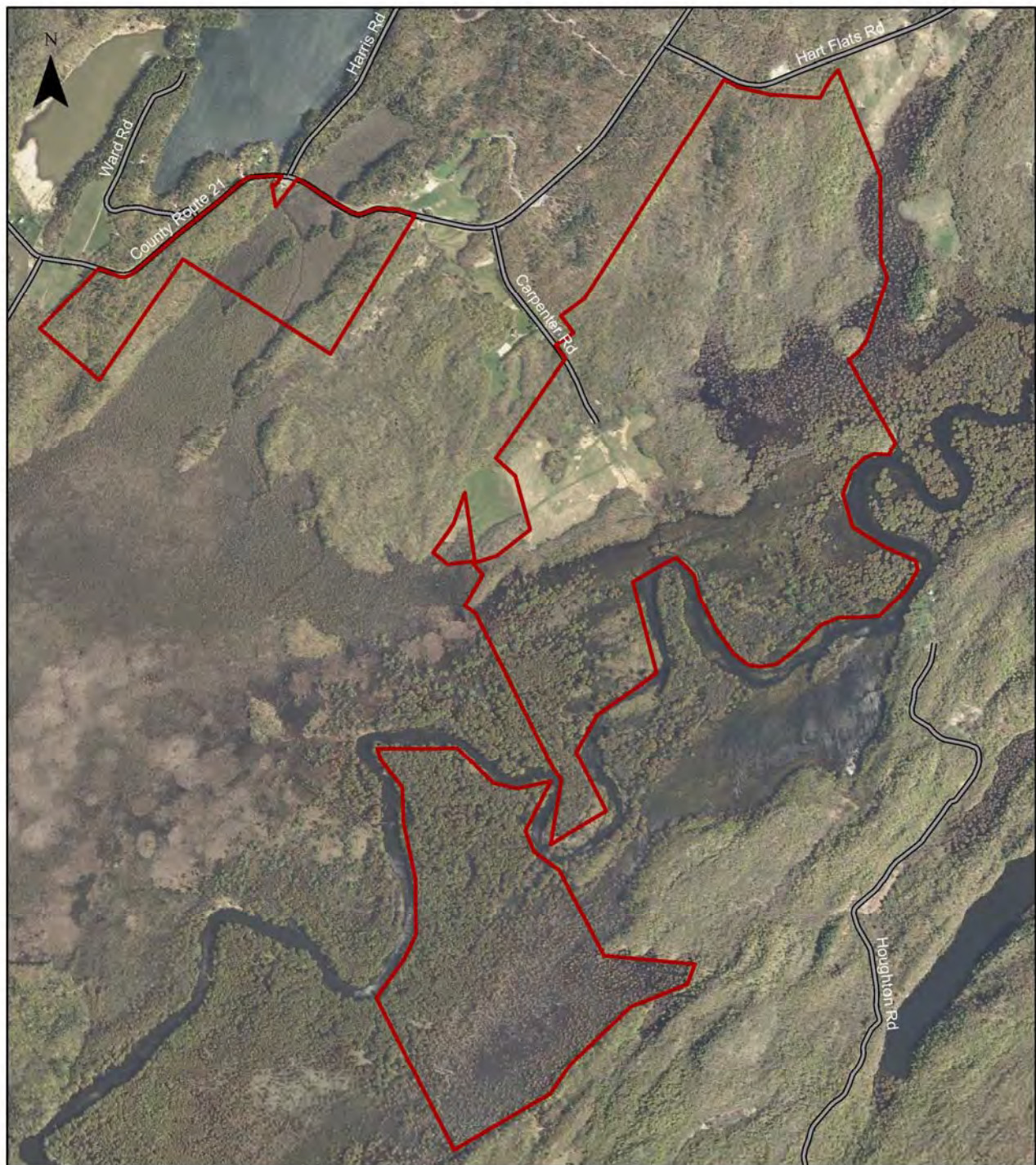


FIGURE 2. Indian River WMA Map Index.





### Legend



WMA Boundary

### Indian River WMA (Map 1)

Map created on 10/2015

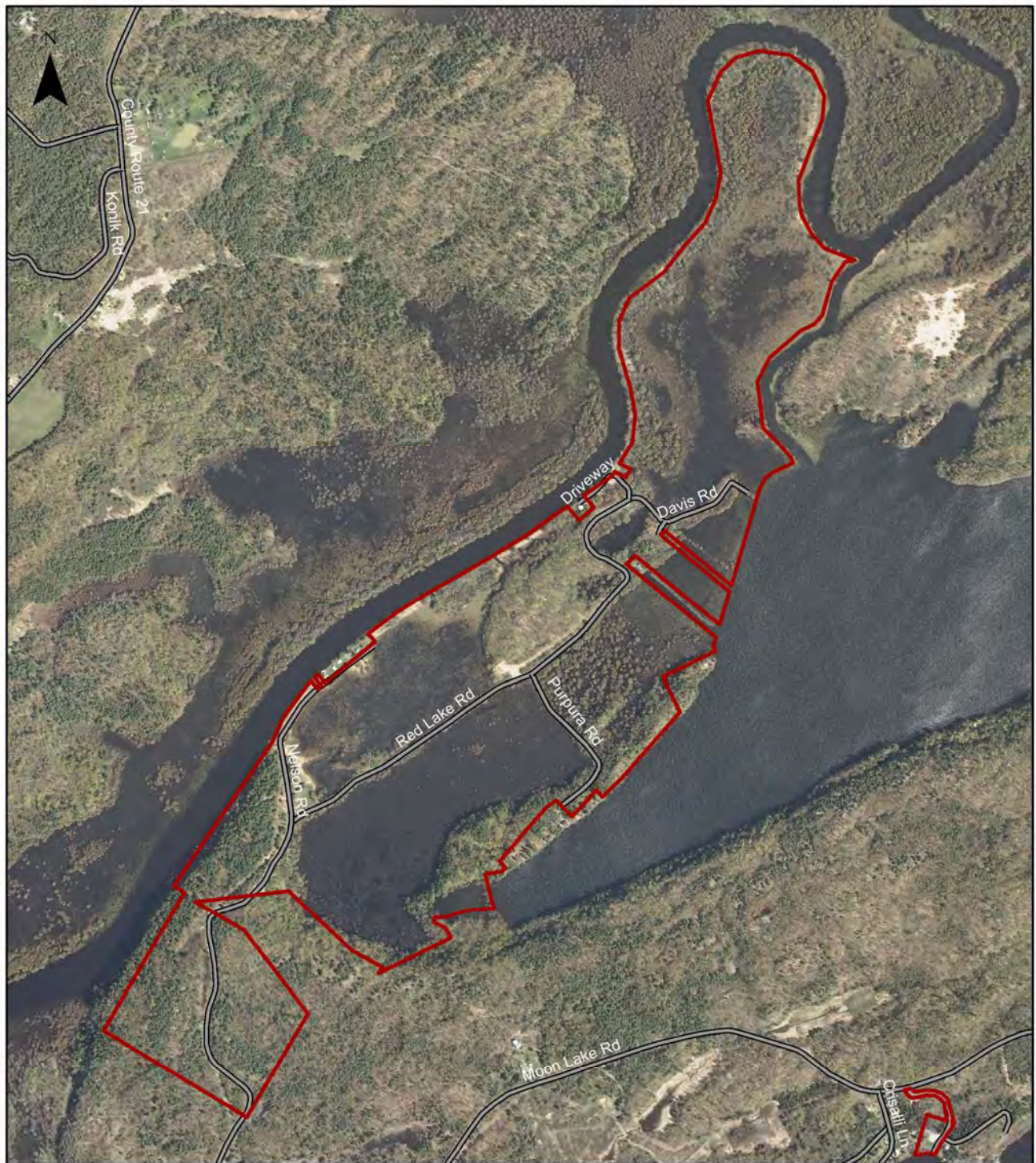
by E. M. Cooper, Habitat Conservation Unit

0 0.125 0.25 0.5 Miles

\*From community delineations in the 1990's, conditions may have changed.

FIGURE 3. No significant ecological communities are on Indian River WMA (Map 1 of 2). Data is from the NY Natural Heritage Program.





### Legend



WMA Boundary

### Indian River WMA (Map 2)

Map created on 10/2015

by E. M. Cooper, Habitat Conservation Unit

0 0.125 0.25 0.5 Miles

\*From community delineations in the 1990's, conditions may have changed.

FIGURE 4. No significant ecological communities are on Indian River WMA (Map 2 of 2). Data is from the NY Natural Heritage Program.



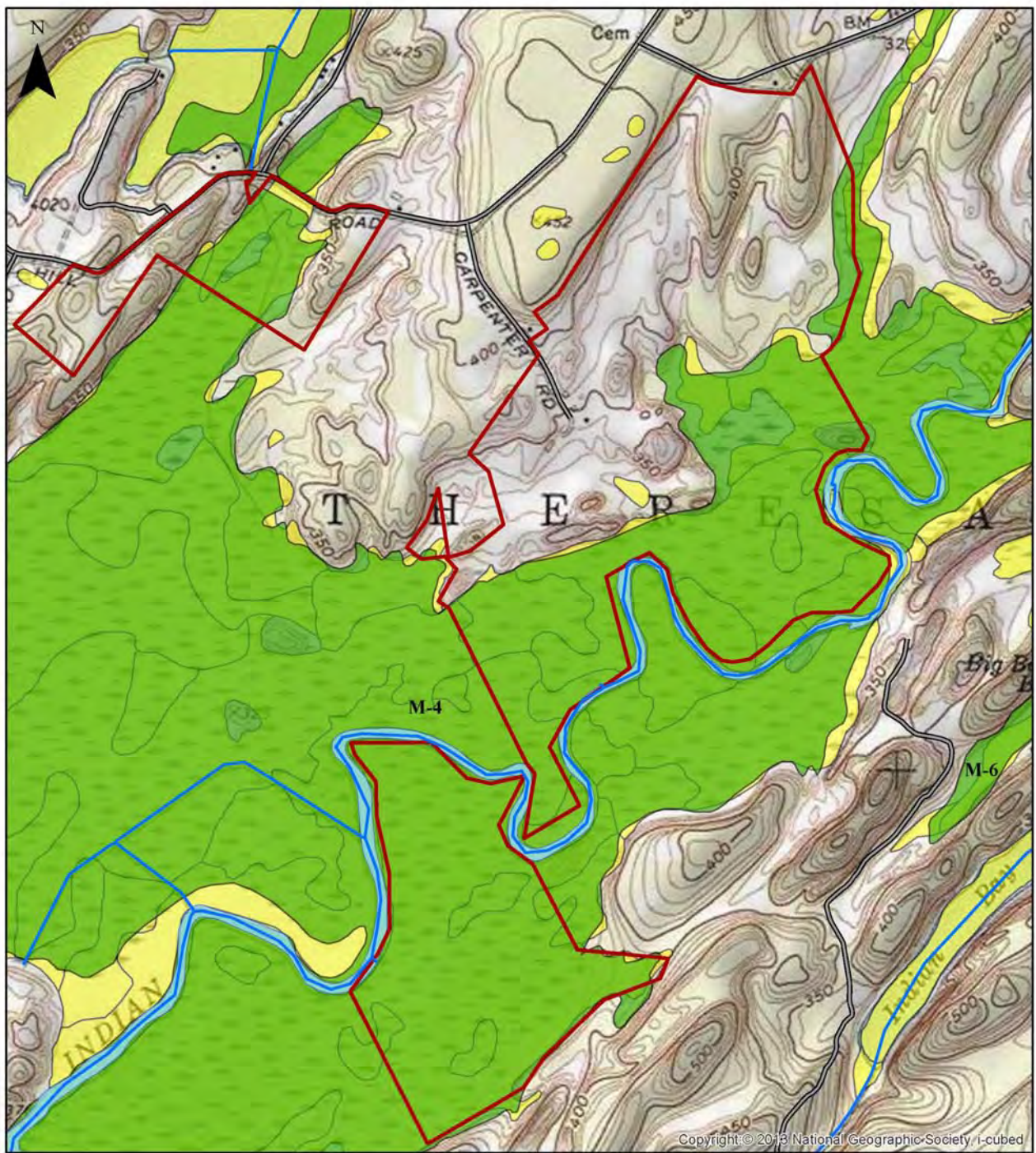


FIGURE 5. Wetlands, open water, and streams of Indian River WMA (Map 1 of 2). Note: Wetland boundaries are not exact and may not be used for regulatory purposes without a current delineation.



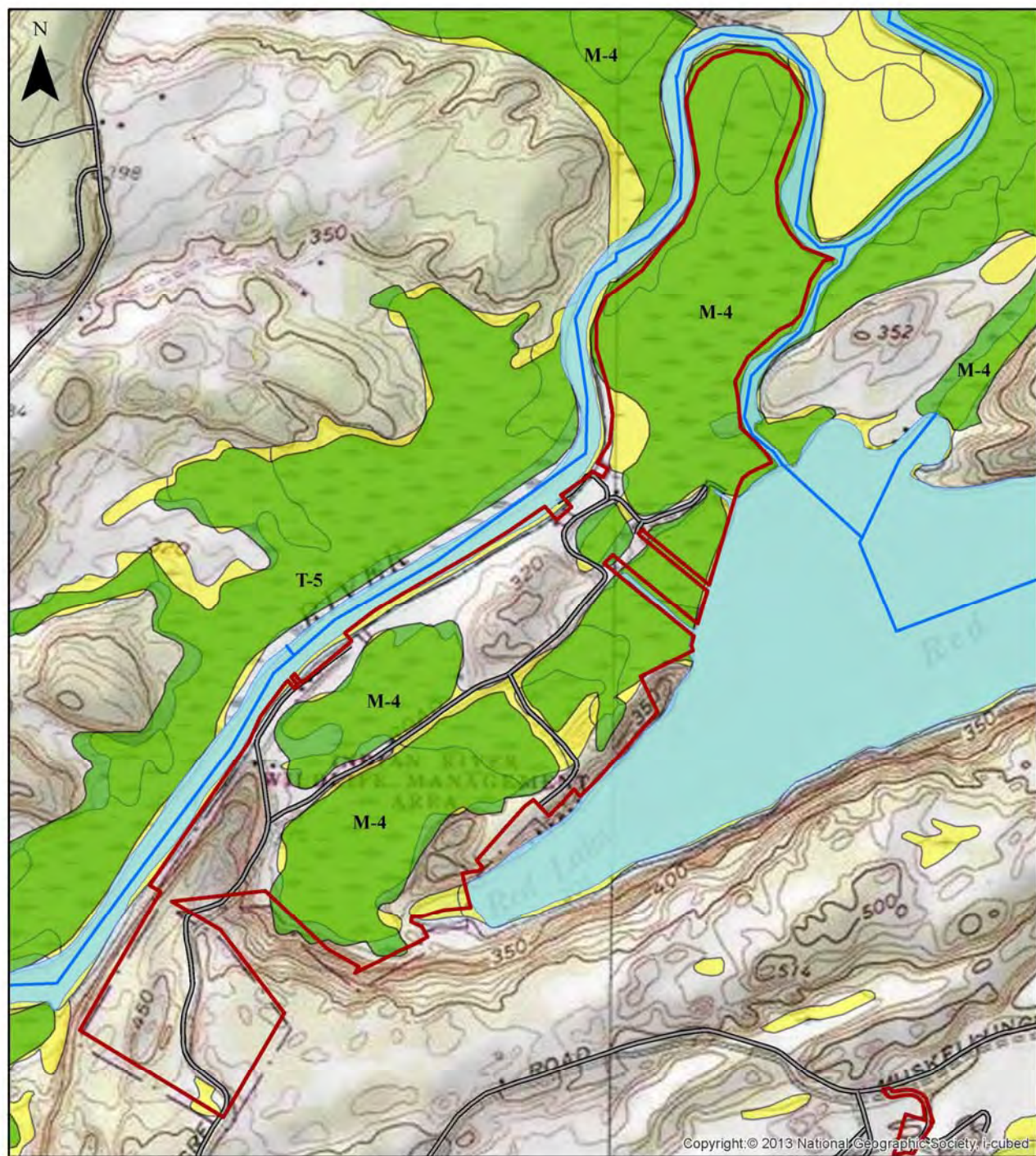


FIGURE 6. Wetlands, open water, and streams of Indian River WMA (Map 2 of 2). Note: Wetland boundaries are not exact and may not be used for regulatory purposes without a current delineation.



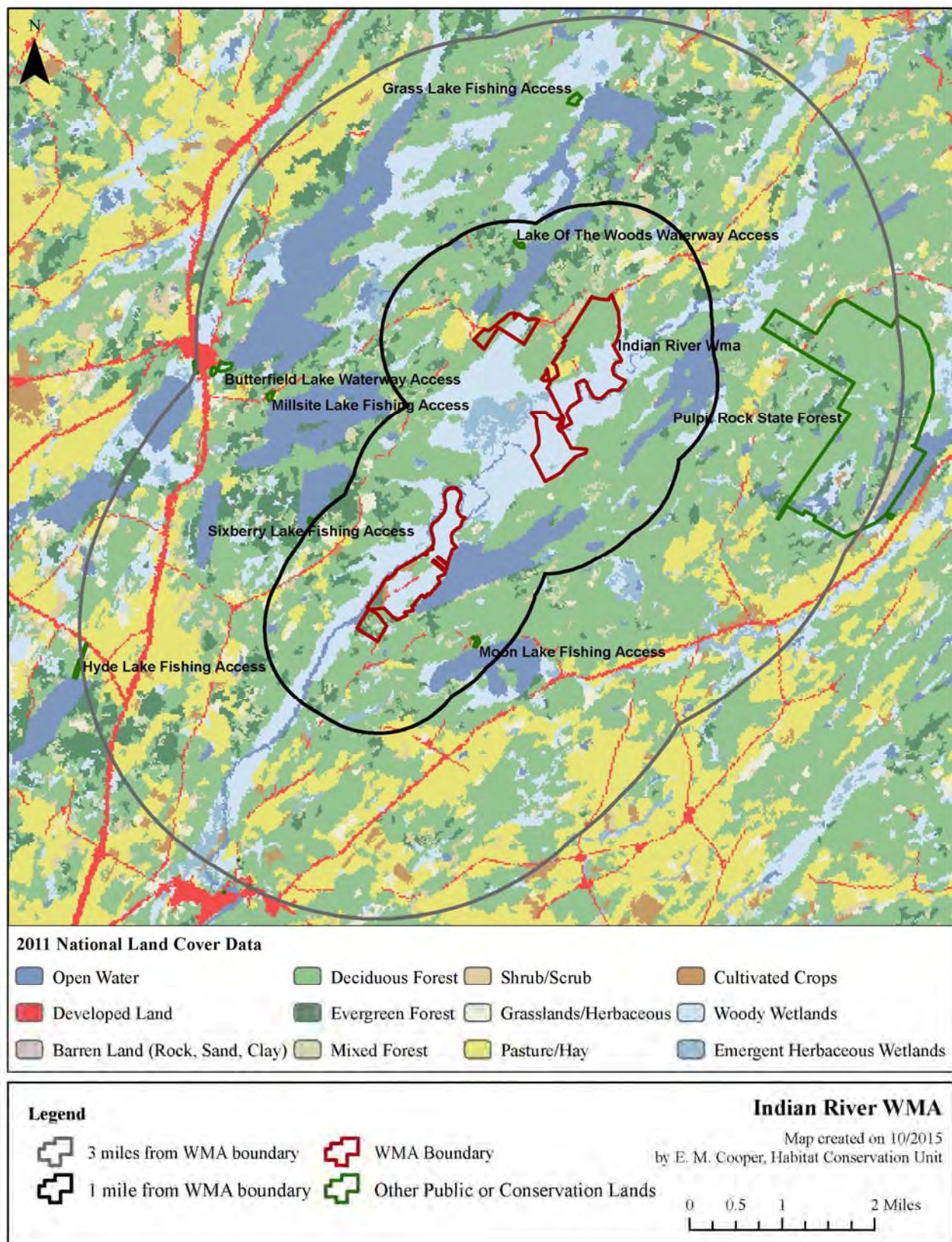


FIGURE 7. Land cover types and conservation lands in the landscape surrounding Indian River WMA. Conservation lands are from the NY Protected Areas Database available online at <http://www.nypad.org/>. Land cover types are from the 2011 National Land Cover Data (NLCD) and differ from the habitat types used in the WMA habitat inventory. NLCD definitions are available online at <http://www.mrlc.gov/nlcd2011.php>.

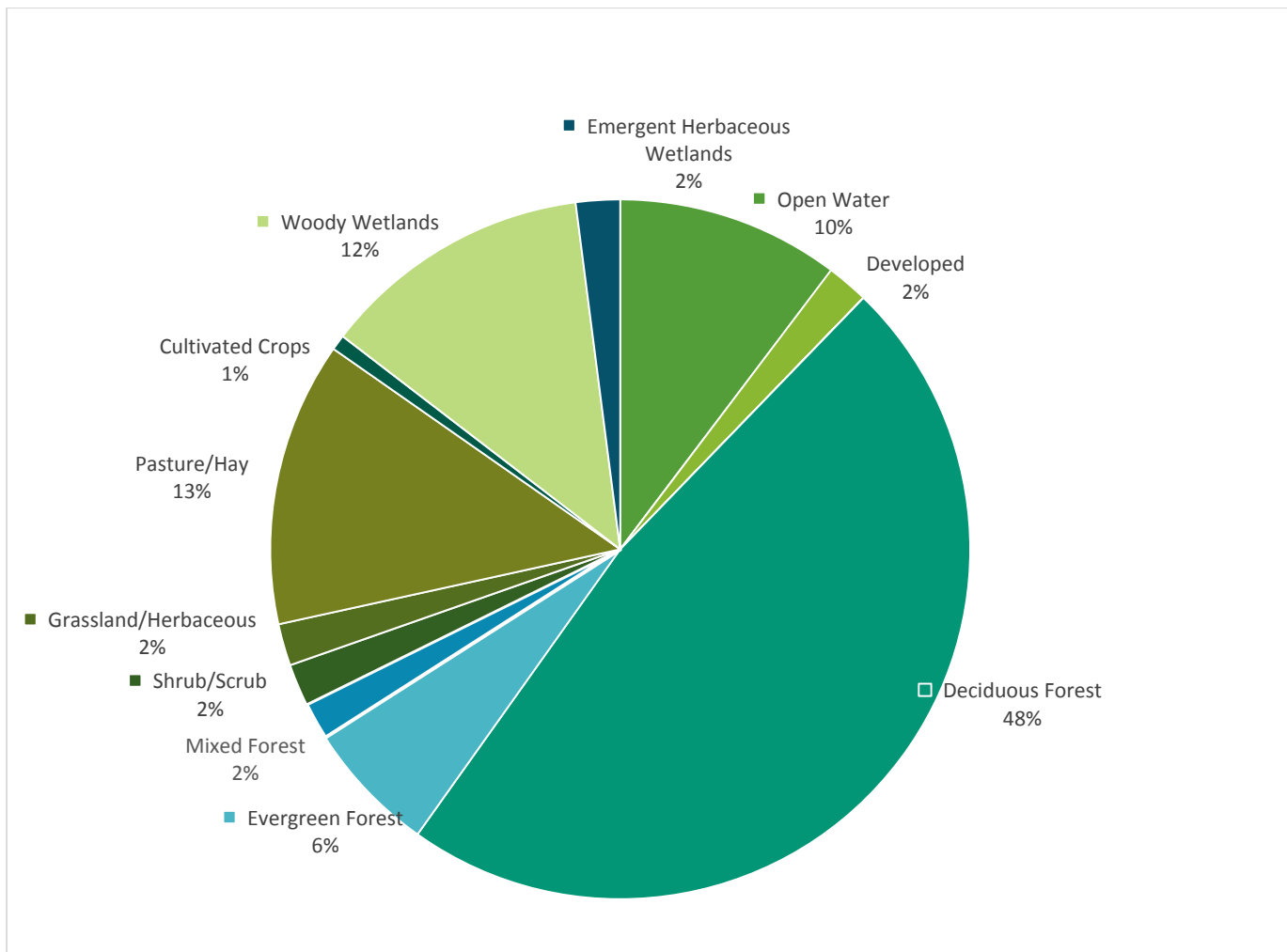


FIGURE 8. Percent cover of land cover types within three miles of Indian River WMA.

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>.



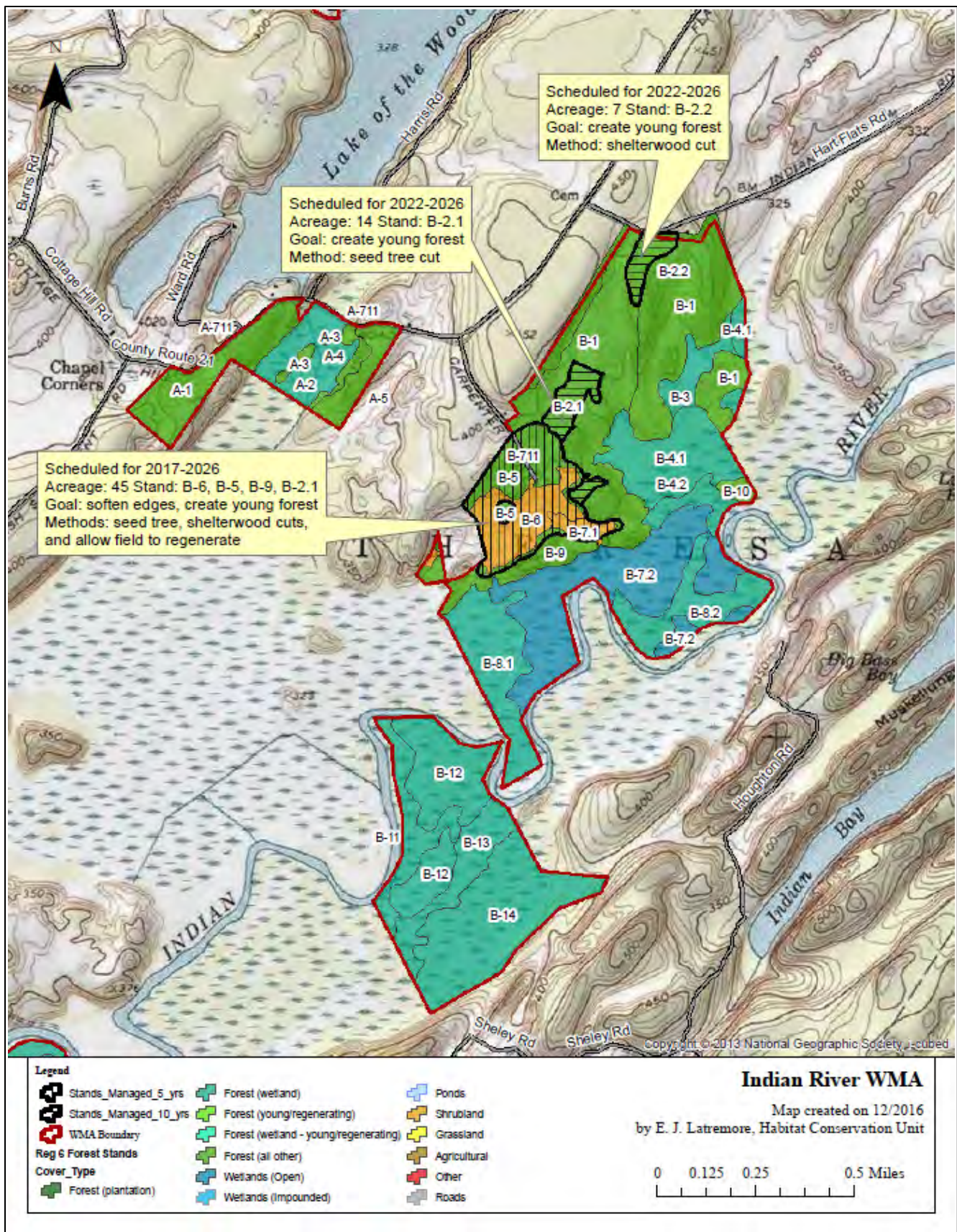


FIGURE 9. Habitat types and location(s) of proposed management on Indian River WMA (Map 1 of 2). Numbers indicate the stand number from habitat inventory.





## 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 (including technological, economical, and institutional considerations) 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-leaved, 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 Indian River WMA include: American Woodcock, Golden-winged Warbler, Ruffed Grouse, and Wild Turkey.

**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](http://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

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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 and by discussing further in Appendix B, Statement of Conformity with the State Environmental Quality Review Act. 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.

The overarching goal of the Young Forest Initiative (YFI) is to restore and maintain young forest habitat on DEC's Wildlife Management Areas (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 important 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

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### 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:**

**PRO 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:**

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**Central Office Lands and Forests Staff**

**Date**

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**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 “Hershisier-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

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

### **FY 17-18 (4/1/17 - 3/31/18)**

None.