Habitat Management Plan for Cranberry Creek Wildlife Management Area 2017 - 2026

Division of Fish and Wildlife Bureau of Wildlife

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**SUMMARY**

Cranberry Creek Wildlife Management Area (WMA), acquired in 1967, is located in close proximity to the St. Lawrence River. Many of the wetlands associated with the WMA and river are important nesting, resting, and hibernating areas for migratory waterfowl, Osprey, northern pike, muskellunge, and Blanding’s turtles. The WMA has a memorial gravesite from The Battle of Cranberry Creek (War of 1812) which was dedicated to the site in the late 1990s.

Habitat management goals for Cranberry Creek WMA include:

- Retaining 82% of the WMA as mature forest habitat to provide high-quality nesting and roosting habitat for Osprey and Bald Eagles;
- Managing 9% of the WMA (10% of the forested landscape) as young forest (0-10 years) to provide forage for Ruffed Grouse, and;
- Maintaining 9% of the WMA as roads and trails for access into the WMA and to the memorial gravesite.

**I. BACKGROUND AND INTRODUCTION**

**PURPOSE OF HABITAT MANAGEMENT PLANS**

**BACKGROUND**

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

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

**SCOPE AND INTENT**

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

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

Definitions are provided in Appendix A.

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

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

WMA OVERVIEW

LOCATION
Cranberry Creek WMA is located in DEC Region 6, Town of Alexandria, Jefferson County (Figure 1).

TOTAL AREA
13.6 acres.

This plan does not include a 125 acre easement around the WMA. The easement, established in the late 1950s to 1960s, provides for flooding on neighboring properties to increase waterfowl production, increase fish spawning habitat, and allow for the potential of a better fishery.
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 Cranberry Creek WMA.

<table>
<thead>
<tr>
<th>Habitat Type</th>
<th>Current Conditions (as of 2015)</th>
<th>Desired Conditions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acres</td>
<td>Percent of WMA</td>
<td>Miles</td>
</tr>
<tr>
<td>Forest a</td>
<td>12.4</td>
<td>91%</td>
<td></td>
</tr>
<tr>
<td>Young forest</td>
<td>0.0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Shrubland</td>
<td>0.0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Grassland</td>
<td>0.0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Agricultural land</td>
<td>0.0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Wetland (natural) b</td>
<td>0.0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Wetland (impounded) b</td>
<td>0.0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Open water</td>
<td>0.0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0.0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Roads and trails</td>
<td>1.2</td>
<td>9%</td>
<td>0.4</td>
</tr>
<tr>
<td>Rivers and streams</td>
<td></td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Total Acres:</strong></td>
<td>13.6</td>
<td>100%</td>
<td>13.6</td>
</tr>
</tbody>
</table>

a Forest acreage includes all mature and intermediate age classes of natural forest, plantations, and forested wetlands. Young forest is reported separately. Definitions are provided in the Forest section of this plan.

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

ECOLOGICAL RESOURCES

Wildlife Overview:
Wildlife present on Cranberry Creek WMA includes species commonly found throughout northern New York and the St. Lawrence Valley, such as:

- Beaver, muskrat
- Red-winged Blackbird, Mallard, Ruffed Grouse, Wild Turkey
- White-tailed deer
- Snapping turtle, midland painted turtle
- Eastern milk snake, northern (DeKay’s) brown snake
- Bullfrog, northern leopard frog, green frog, eastern American toad, spring peeper, gray tree frog, wood frog

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
SGCN listed below include species that have been documented on or within the vicinity of the WMA or 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, NY Reptile and Amphibian Atlas, DEC wildlife surveys and monitoring, and eBird.

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

<table>
<thead>
<tr>
<th>Species Group</th>
<th>Species</th>
<th>Federal Status</th>
<th>NY Status</th>
<th>NY SGCN Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birds</td>
<td>American Bittern</td>
<td>SC</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>American Black Duck</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bald Eagle</td>
<td>T</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Black-billed Cuckoo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Black Tern</td>
<td>E</td>
<td></td>
<td>HP</td>
</tr>
<tr>
<td></td>
<td>Blue-winged Teal</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Blue-winged Warbler</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brown Thrasher</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cerulean Warbler</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Northern Harrier</td>
<td>T</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Osprey</td>
<td>SC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pied-billed Grebe</td>
<td>T</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ruffed Grouse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mammals</td>
<td>Indiana myotis</td>
<td>E</td>
<td>E</td>
<td>HP</td>
</tr>
<tr>
<td></td>
<td>Little brown myotis (little brown bat)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Northern myotis (long-eared bat)</td>
<td>T</td>
<td>T</td>
<td>HP</td>
</tr>
<tr>
<td>Amphibians and reptiles</td>
<td>Blanding’s turtle</td>
<td>T</td>
<td></td>
<td>HP</td>
</tr>
<tr>
<td></td>
<td>Blue-spotted salamander</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Common ribbon snake</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Snapping turtle</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Wood turtle</td>
<td></td>
<td></td>
<td>HP</td>
</tr>
<tr>
<td></td>
<td>Eastern rat snake</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Fish</td>
<td>None known</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invertebrates</td>
<td>None known</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plants</td>
<td>None known</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Available online at [http://ebird.org/content/ebird/about/](http://ebird.org/content/ebird/about/). © Audubon and Cornell Lab of Ornithology.
**Significant Ecological Communities:**

There are no significant natural communities on Cranberry Creek WMA, but the WMA and adjacent deep water emergent marsh are a waterfowl winter concentration area (S3S4; Figure 2). The state rank (e.g., S1) reflects the rarity within NY; rank definitions are provided in Appendix A. Additional information about significant ecological communities is available in *Ecological Communities of New York State, Second Edition*[^5] and in the Cranberry Creek WMA Biodiversity Inventory Final Report (1998) 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 Cranberry Creek WMA include:

- One wetland regulated by Article 24 of the Environmental Conservation Law (ECL) and three additional wetlands shown on the National Wetlands Inventory (NWI; Figure 3). Each state-regulated wetland is protected by a buffer zone of 100 feet from the delineated wetland boundary, known as the adjacent area. There may be forestry prescriptions associated with forested wetlands and adjacent areas, and each management prescription will be reviewed individually for determination of impacts.

- One stream (a watercourse entirely within the WMA) or segments of a stream (a stream that meanders in and out of the WMA). The highest stream classification is Class D therefore no streams are regulated by Article 15 of the ECL, but water quality standards will be adhered to.[^6]

- A memorial gravesite of soldiers of The Battle of Cranberry Creek (War of 1812) will be protected and buffered. The site is located off Swan Hallow Road and on the bank of Cranberry Creek. It is marked with historic markers, fencing, and a maintained trail and lawn.

Guidelines for habitat management projects within these areas are outlined in the Division of Lands and Forests *Rules for Establishment of Special Management Zones on State Forests and Wildlife Management Areas.*[^7] Some habitat management activities may either be prohibited or restricted in order to protect these features. Any deviations from these guidelines will be addressed in the individual stand prescriptions.

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

Soils:
Soil groups on the WMA include rock outcrop-Rhinebeck-Kingsbury-Hollis. In general, the soils are well-drained and fairly productive. The topography is gently sloped from the road down to the adjacent wetland.

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

- Pasture/hay and grassland (30%)
- Wetlands (26% combining open water, emergent, and woody wetlands)
- Deciduous forest (23%)
- Development (8%)
- Evergreen forest (4%)
- Cultivated crops (3%)
- Grassland/herbaceous (3%)
- Early successional shrubland (2%)

Currently, the forested land on Cranberry Creek WMA includes no 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. The forest management proposed in this plan aims to convert 10% of the forested acreage to habitat suitable for young forest-dependent species. However, due to the small size of the WMA, the historical significance of the site, and the close proximity to regulated wetlands, management for young forest habitat is secondary to protecting the historical and ecological features of the WMA.

II. MANAGEMENT STRATEGIES BY HABITAT TYPE

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

- Maintain habitat characteristics that will benefit wildlife abundance and diversity within the New York landscape.
- Provide opportunities for wildlife-dependent recreation such as trapping, hunting, and bird watching compatible with the ongoing habitat management practices and species management considerations.

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9 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.
- Improve habitat quality by reducing invasive species, if present and identified for treatment.

**FOREST**

Forested acreage includes the following forest types:

*Natural forest:* naturally forested acres, including hardwoods and softwoods. Includes any upland forested acreage that is not young forest, i.e., pole stands, other intermediate forest age classes, mature forest, and old growth forest.

*Plantation:* planted forested acres, generally planted in rows dominated by one or two species.

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

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

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

Forest management on Cranberry Creek 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**

- Retain the majority of the existing mature forest (11.2 acres) to provide high-quality nesting and roost trees for Osprey and Bald Eagle.
- Increase young forest from zero to 1.2 acres (10% of the total forested area) to improve habitat for young forest-dependent wildlife, targeting Ruffed Grouse.
  - Conduct a 1.2 acre seed tree cut to release apple trees.

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

There are 12.4 forested acres on Cranberry Creek WMA, all of which are natural forest, with dense shrubs in parts of the understory (Table 3).
The most common tree species on Cranberry Creek WMA are white ash, white pine, aspen, and red maple. Red oak, white oak, and apple are less common on the WMA but are an important source of food for wildlife. Much of the WMA, particularly the area surrounding the Battle of Cranberry Creek memorial, is rather brushy with dense thickets of European honeysuckle and common buckthorn, which limits tree regeneration.

Ruffed Grouse is the target species for young forest habitat management. Grouse rely on sites for foraging in this area and will benefit from management that creates the following habitat requirements:

- **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.10

**MANAGEMENT HISTORY**

Several small firewood sales occurred on Cranberry Creek WMA in the 1970s.

**IMPLEMENTATION PLAN AND ANTICIPATED SCHEDULE**

The following management is proposed for the next ten years with a goal of reaching approximately 1.2 acres of young forest:

- **Management planned for 2017-2026** (Table 4, Figure 6):
  - Seed tree cut in Stand 1 to release apple trees (1.2 acres).

**Table 4. Forest management schedule for the ten-year period of this HMP (2017-2026).**

<table>
<thead>
<tr>
<th>Stand</th>
<th>Acres</th>
<th>Size Class</th>
<th>Forest Type</th>
<th>Management Direction</th>
<th>Treatment Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.2</td>
<td>Pole Timber 6”-11” DBH</td>
<td>Other Natural Stands</td>
<td>Other Natural Stands</td>
<td>Wildlife</td>
</tr>
</tbody>
</table>

The stand location and planned management are also summarized in Figure 6. A specific forest stand description and detailed management prescription will be prepared for the proposed forest management area prior to implementation (see template, Appendix C). Briefly, habitat management will include the following:

- **Stand 1**: seed tree cut will be completed on 1.2 acres in order to create young forest habitat and to improve soft mast production for wildlife foraging. Invasive species, including common buckthorn and European honeysuckle, will be removed. Apple trees will be the preferred species to retain, where possible. The seed tree cut will be assessed for effectiveness after approximately five years.

**BEST MANAGEMENT PRACTICES**

Forest management on all WMAs follows Best Management Practices to protect soil and water resources, promote quality wildlife habitat, and establish healthy forests (Table 5).

Table 5. Best Management Practices for forest management on WMAs.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Guidance Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils</td>
<td><em>Rutting Guidance on Wildlife Management Areas</em></td>
</tr>
<tr>
<td>Water quality</td>
<td><em>NYS Forestry Best Management Practices for Water Quality</em></td>
</tr>
<tr>
<td>Wildlife</td>
<td><em>Retention Guidance on Wildlife Management Areas</em></td>
</tr>
<tr>
<td>Plantations</td>
<td><em>Plantation Management Guidance on Wildlife Management Areas</em></td>
</tr>
</tbody>
</table>

**Wildlife Considerations:**

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 anticipated that soil disturbance will occur.

Cranberry Creek WMA is also known to have Northern Harriers, Least Bitterns, and Bald Eagles within the area. Proposed apple tree releases will not negatively impact these species.

Due to the possibility of Indiana and northern long-eared bats being on the area, tree selection for and the timing of cuts will be evaluated to protect the bats. For example, only trees less than three inches in diameter at breast height will be cut during the summer, while trees larger than three inches will be cut between November 1st and March 31st of the following year.

Potential Blanding’s turtle area on a conservation easement neighboring Cranberry Creek WMA.  
Photo: James Canvari, NYSDEC

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11 All guidance documents referenced here are available online at [http://www.dec.ny.gov/outdoor/104218.html](http://www.dec.ny.gov/outdoor/104218.html).
Forest Health Considerations:
Overall, the forest on Cranberry Creek WMA is in fairly good health. The most significant concern is the impact of the dense shrubs on the forest regeneration.

Pre- and Post-treatment Considerations:
Hardwood regeneration is often out-competed by thick stands of invasive buckthorn and honeysuckle. Treatment of the interfering vegetation may be required to promote desired regeneration and to achieve habitat goals.

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

MANAGEMENT EVALUATION
In order to determine whether the desired forest regeneration and wildlife responses have been achieved by the management outlined above, pre- and post-management assessments will be conducted in accord with guidelines in the Young Forest Initiative Monitoring Plan. 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 Cranberry Creek WMA, which may be assessed to determine response to management, include:
- Ruffed Grouse

SHRUBLAND

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

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

GRASSLAND

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

MANAGEMENT OBJECTIVES
- There is no grassland habitat on the WMA or any plan to develop such habitat.

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AGRICULTURAL LAND

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

MANAGEMENT OBJECTIVES

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

WETLANDS (NATURAL AND IMPOUNDED)

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

MANAGEMENT OBJECTIVES

- There is less than one acre of wetland habitat on the WMA, and there is a state regulated wetland adjacent to the WMA along with a few NWI wetlands. There are no plans to manage wetlands on the WMA. Some wetland species found on the WMA include the gray tree frog, spring peeper, wood frog, and the midland painted turtle.

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

There is one stream (Cranberry Creek) on the WMA, totaling about 0.1 miles. Beyond this stream, there is no other open water (no named lakes or ponds) or any plan to develop such habitat.
In summary, Table 6 lists the habitat management actions planned for Cranberry Creek WMA over the next ten years. Any substantive changes will be appended to this HMP annually or as needed (Appendix D).

Table 6. Summary of habitat management actions recommended for Cranberry Creek WMA, 2017-2026. (Also see Figures 3 and 6.)

<table>
<thead>
<tr>
<th>Habitat</th>
<th>Management Action</th>
<th>Acres</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>Seed tree cut in part of Stand 1.</td>
<td>1.2</td>
<td>2017-2026</td>
</tr>
</tbody>
</table>
III. FIGURES

FIGURE 1. Location and access features at Cranberry Creek WMA.
FIGURE 2. Significant ecological communities on Cranberry Creek WMA. Data from the NY Natural Heritage Program.
FIGURE 3. Wetlands, open water, and streams of Cranberry Creek 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 Cranberry Creek WMA. Conservation lands are from the NY Protected Areas Database available online at http://www.nypad.org/. Land cover types are from the 2011 National Land Cover Data (NLCD) and differ from the habitat types used in the WMA habitat inventory. NLCD definitions are available online at http://www.mrlc.gov/nlcd2011.php.
FIGURE 5. Percent cover of land cover types within three miles of Cranberry Creek WMA.

Land cover types are from the 2011 National Land Cover Data (NLCD) and differ from the habitat types used in the WMA habitat inventory. NLCD definitions are available online at http://www.mrlc.gov/nlcd2011.php.
FIGURE 6. Habitat types and location of proposed management on Cranberry Creek WMA. Numbers indicate the stand number from habitat inventory.
IV. APPENDICES

APPENDIX A: DEFINITIONS

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

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

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

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

**Community:** An assemblage of plants and animals interacting with one another, occupying a habitat, and often modifying the habitat; a variable assemblage of plant and animal populations sharing a common environment and occurring repeatedly in the landscape. (NY Natural Heritage Program)

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

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

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

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

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

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

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

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

**Landscape:** A spatial mosaic of several ecosystems, landforms, and plant communities across a defined area irrespective of ownership or other artificial boundaries and repeated in similar form throughout.
**Mast:** The fruit of trees considered as food for wildlife. Hard mast is the fruits or nuts of trees such as oak, beech, walnut, and hickories. Soft mast is the fruits and berries from plants such as dogwood, viburnum, elderberry, huckleberry, hawthorn, grape, raspberry, and blackberry.

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

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

**Old Growth Forest:** Forest with an abundance of late successional tree species, at least 180 - 200 years of age in a contiguous forested landscape that has evolved and reproduced itself naturally, with the capacity for self-perpetuation, arranged in a stratified forest structure consisting of multiple growth layers throughout the canopy and forest floor, featuring canopy gaps formed by natural disturbances creating an uneven canopy, and a conspicuous absence of multiple stemmed trees. (Adapted from the NYS Strategic Plan for State Forest Management)

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

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

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

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

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

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

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

**State Rank of Significant Ecological Communities:**
- **S1** = Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.
- **S2** = Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.
- **S3** = Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.
- **S4** = Apparently secure in New York State.
- **S5** = Demonstrably secure in New York State.
- **SH** = Historically known from New York State, but not seen in the past 15 years.
- **SX** = Apparently extirpated from New York State.
- **SE** = Exotic, not native to New York State.
- **SR** = State report only, no verified specimens known from New York State.
- **SU** = Status unknown.
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, the young forest target species at Cranberry Creek WMA is Ruffed Grouse.

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

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

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

(a) lands and submerged lands commonly called marshes, swamps, sloughs, bogs, and flats supporting aquatic or semi-aquatic vegetation of the following types: wetland trees, wetland shrubs, emergent vegetation, rooted, floating-leaved vegetation, free-floating vegetation, wet meadow vegetation, bog mat vegetation, and submergent vegetation;

(b) lands and submerged lands containing remnants of any vegetation that is not aquatic or semi-aquatic that has died because of wet conditions over a sufficiently long period, provided that such wet conditions do not exceed a maximum seasonal water depth of six feet and provided further that such conditions can be expected to persist indefinitely, barring human intervention;

(c) lands and waters substantially enclosed by aquatic or semi-aquatic vegetation as set forth in paragraph (a) or by dead vegetation as set forth in paragraph (b) the regulation of which is necessary to protect and preserve the aquatic and semi-aquatic vegetation as set forth in paragraph (a) or by dead vegetation as set forth in paragraph (b) the regulation of which is necessary to protect and preserve the aquatic and semi-aquatic vegetation; and

(d) the waters overlying the areas set forth in (a) and (b) and the lands underlying.”

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

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

Young Forest: Forests that result from a regeneration cut, typically having a dense understory where tree seedlings, saplings, woody vines, shrubs, and herbaceous vegetation grow together. Young forests are typically 0-10 years old. (Adapted from www.youngforest.org). It is acknowledged that “young forests” will differ in their character in different ecological areas of the state and that 0-10 years is a continuum into more mature forest types. (Refer to: A DEC Strategic Plan for Implementing the Young Forest Initiative on Wildlife Management Areas 2015-2020)
Habitat Management Plans will be in compliance with the 1979 Programmatic Environmental Impact Statement on Habitat Management Activities of the Department of Environmental Conservation; Division of Fish and Wildlife by following the criteria for site specific assessments included in this Programmatic Environmental Impact Statement (EIS) and by discussing further in Appendix B, Statement of Conformity with the State Environmental Quality Review Act (SEQRA). Appendix B will be included in each plan, thereby satisfying overall compliance with 6 NYCRR Part 617, the State Environmental Quality Review. If any of these criteria are exceeded an additional site specific environmental review will be required.

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

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

- Will not involve the application of herbicides, pesticides or other such chemicals.
  - YFI projects may involve the judicious use of pesticides which may be necessary to control invasive species, to protect rare and endangered plants from competition, or to control vegetation interfering with forest regeneration. If projects do require the use of herbicides or pesticides an additional site-specific environmental review will be required.

- Will not stimulate significant public controversy.
  - It is not anticipated that YFI projects will stimulate significant public controversy. A significant amount of public outreach and notification will be conducted on an on-going basis as well as prior to projects being implemented on the ground including, but not limited to: public information sessions regarding the Habitat Management Plans for each WMA, signage installation at project sites informing the public of the scope and purpose of the project, establishment of one demonstration area in each region to showcase YFI management techniques to the public, periodic informational articles published in local media outlets and the development of a public YFI website. The YFI has one full time position dedicated to facilitating the program’s public outreach and communication efforts.
APPENDIX C: FOREST MANAGEMENT PRESCRIPTIONS

PRESCRIPTION FOR WILDLIFE MANAGEMENT AREA TIMBER HARVEST

Region: Wildlife Management Area: Stand number: Stand acreage:
Species composition:
Basal area: Trees per acre: Mean stand diameter:
Stand inventory or analysis date:
Regeneration data:
Natural Heritage Element Occurrence layer review:
SMZ layer review:
Retention data:
Soil types and drainage:
Interfering vegetation:
Acres to be treated: Target basal area:
Technical guidance/stocking guide:
Treatment purpose:
Management Objective: Even aged or Uneven Aged
   -If even aged, specify treatment (i.e. shelterwood, seed tree, clearcut)
Clearcut acreage and configuration: (if applicable)
Natural Heritage /MHDB considerations and mitigation: (if applicable)
Retention considerations and adjustments:
Treatment descriptions:
Name and Title of Preparer:

______________________________  ______________________________
Central Office Lands and Forests Staff  Date

______________________________  ______________________________
Regional Wildlife Manager  Date
**Prescription Notes**

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

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

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

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

*Soil types and drainage:* Specifically named soil types are useful, but not necessarily required. “Flat, sandy, well-drained hilltop” or “Steep, gravelly, moderately well-drained mid-slope” may be just as useful as “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

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.