DIVISION OF
FISHERIES & WILDLIFE

Hawks Brook WMA Project Summary
WE-HB-TS1

Location
Site: Hawks Brook Wildlife Management Area (WMA)
Town: Hawley
District: Western

Project Acres
~150 Acres

MassWildlife's Approach to Habitat Management

MassWildlife uses habitat restoration and management to conserve both common wildlife and vulnerable species, including rare plants and animals protected by the Massachusetts Endangered Species Act (MESA) and other declining Species of Greatest Conservation Need (SGCN) identified in the Massachusetts State Wildlife Action Plan (SWAP). As part of this effort, biologists plan and implement projects to create, restore, and maintain a variety of healthy habitats to increase biodiversity and climate resiliency across our forests, wetlands, streams, fields, and more.

Biologists plan habitat projects that may include tree cutting, mowing, and mulching to strategically increase open habitats, promote patches of vigorous young forest, restore natural processes, and remove invasive plants. This project has been designed to ensure consistency with recommendations for climate-oriented forest management provided by the Climate Forestry Committee (Climate Forestry Committee Report, 2024; see below).

Site Significance

The project area lies within the 509-acre Hawks Brook WMA (Fig 1). This WMA is located within a unique and diverse 1600' elevation landscape containing a mix of upland and wetland habitats, including northern hardwood forests, vernal pool complexes, and field habitat. It is home to several MESA-listed species, including amphibians and plants. The 150-acre proposed project area has been prioritized for habitat management and restoration practices to directly benefit MESA-listed species and Species of Greatest Conservation Need (SGCN) as identified in the Massachusetts State Wildlife Action Plan. Targeted management will create a greater mosaic of habitat types that will add ecological diversity to this already rich landscape and will directly benefit plants and animals listed as SGCN, along with common wildlife.

Project Activities and Expected Outcomes

Habitat management will focus on the southern section of the property where tree removal will be conducted on up to 150 acres and will occur at varying intensities to stimulate different vegetation responses. Certain portions will focus on conifer removal to promote hardwood regeneration and young forest to enhance MESA-listed habitat surrounding the wetland resources. Other areas will have 50–75% of overstory tree canopy removed. Retention of individual and groups of healthy large trees will provide mature forest attributes within a matrix of the regenerating forest and will result in a more diverse plant species composition. Soft edges will be created along old fields by cutting trees encroaching the field edges while retaining all apple trees.

Additional restoration activities will focus on transitioning the cool season hay fields into native warm season grasses and forbs that will eventually be managed with prescribed fire. Project planning and oversight will be implemented by a team of experienced Habitat Biologists.

Highlights:

- Selective tree removal will invigorate the herbaceous and shrub layers within the forested portions of the WMA to improve feeding and nesting opportunities for SGCN migratory birds, ruffed grouse, and American woodcock.
- The improved age class diversity and structural complexity resulting from the harvests will provide high quality habitat and critical resources for MESA-listed species.

Climate Considerations

This project was designed to ensure consistency with recommendations for climate-oriented forest management provided by the Climate Forestry Committee, and includes:

- thinning to open woodlands conditions to promote resilience to future drought and/or harmful insects;
- restoring native species that are best adapted to the site to promote resilience to future drought and harmful insects; and
- prioritizing and maintaining at-risk species and habitats that are under pressure from climate change.

See page 4 for more details.

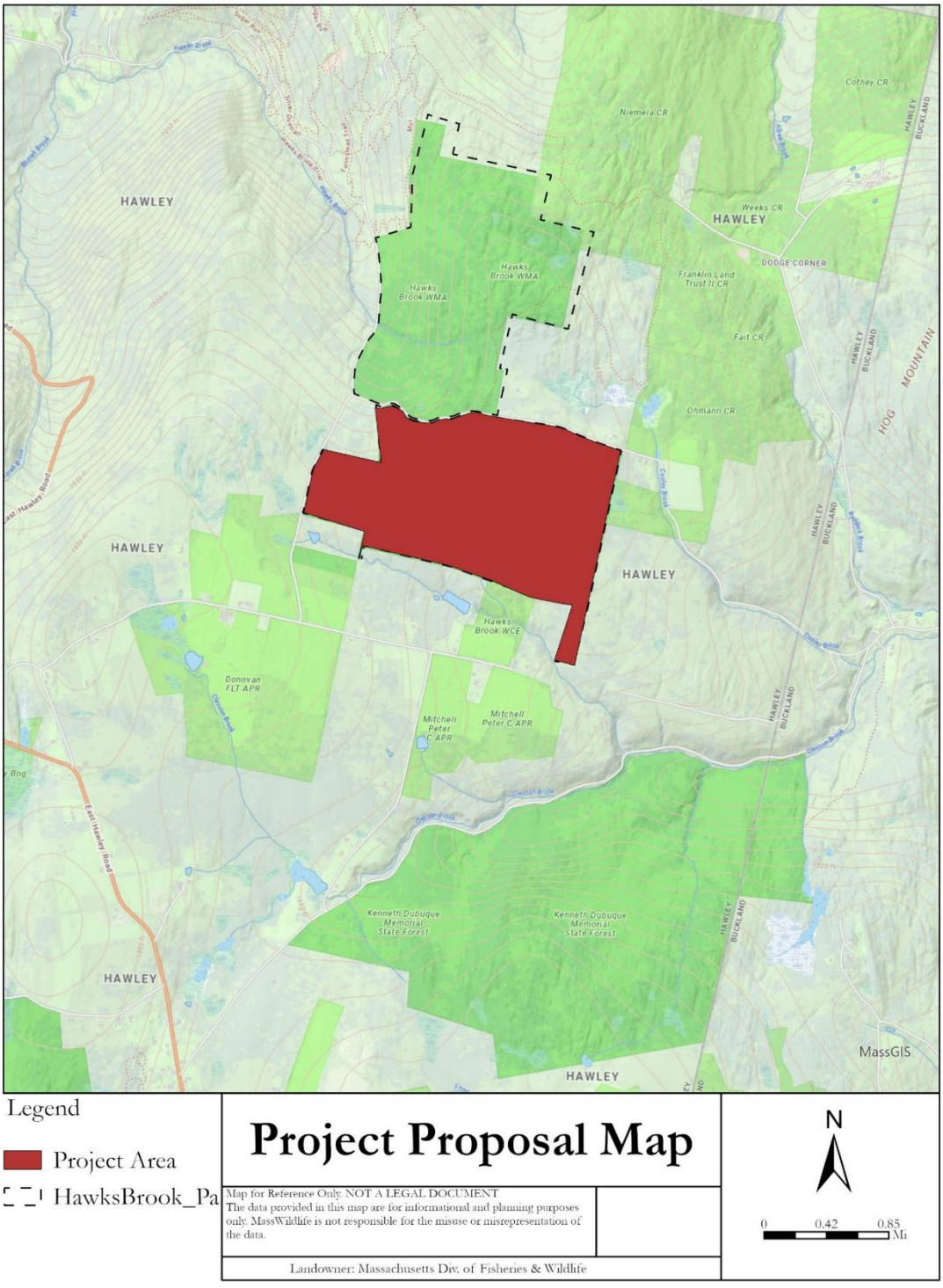

Figure 1. Map of Hawks Brook Wildlife Management Area with highlighted project area.

Climate Considerations Details

MassWildlife has determined that the decision to implement this project is consistent with EEA climate goals and guidelines and agency land management objectives. Carbon and climate change considerations specific to the activities proposed for this project are discussed below.

Proposed Activity	Alignment of Activity with Climate Oriented Strategies and Recommendations
Access improvements (landing improvements, gravel, road grading, ditch maintenance, road widening, straightening, and alteration of intersections).	Roads, landings, and associated infrastructure are critical for access by both the public and natural resource managers. These infrastructure elements are also associated with both **vulnerabilities** and **opportunities** in terms of climate change **resiliency**. **Vulnerabilities:** • Roads occupy areas that would otherwise be carbon rich forest. • Road edges can become avenues for the spread of invasive species. • Roads have the potential for sediment transport into surface water resources. **Opportunities:** • A well-designed and well-maintained access system makes all other land management and monitoring activities possible while minimizing impacts. • Roads provide for public access including hiking, hunting fishing, etc. • Roads are critical for both Emergency Response (Injuries, Accidents, etc.) and Incident Stabilization (fire, flood, storm damage, etc.). Given the predicted **increase in storm frequency and intensity**, improving and maintaining roads, road surfaces, and stormwater infrastructure is imperative. • Proper surfacing, grading, and ditching **minimize erosion** from stormwater and snowmelt. • Periodic maintenance is required to **avoid water channelizing** within compacted tire paths. • **Adding gravel** or other material to the road surface helps support the **heavy vehicle traffic** associated with forestry work, fire operations, and post-storm recovery efforts. Alterations (**widening, straightening**) are often needed to upgrade old, narrow farm lanes to meet modern vehicle access needs. • Ditching, cross culverts, and relief cuts can be designed with **future storm intensities** in mind and should minimize, to the greatest degree possible, impacts to surface water resources. Most log landings are **temporary** in nature. Permanent landings that are properly located and well-built can serve as permanent access infrastructure, concentrating activities and minimizing the non-forested footprint required to conduct agency management. Whether temporary or permanent, the use, maintenance, and stabilization of landings will include considerations of **future climate change impacts**. Landing BMPs include:

	• **Post-harvest stabilization** measures such as grading and smoothing to prevent erosion and sedimentation. • **Seeding** to provide cover and further stabilize the soil. • **Invasive plant survey and control** to minimize further infestation risks. • Periodic mowing of permanent landings to allow herbaceous and shrubby vegetation to dominate the site between harvests, adding **diverse habitat opportunities** for local wildlife.
Invasive plant control, including pre- and/or post-harvest and follow up treatments.	Strong consensus exists among land managers and climate science experts regarding the **threat to future forest health** posed by the introduction and spread of invasive plants. **Invasive plants** can: • aggressively **outcompete native plant species**, • dominate understory communities, and even climb, kill, and topple mature trees, • threaten overall **biodiversity,** • threaten **soil health** and long-term **carbon storage**. **Monitoring and controlling** invasive and interfering plant populations prior to and following forestry operations is a critical practice for **minimizing the risk of further impacts** inadvertently (though not unexpectedly) spread by harvesting-related activities.
Habitat restoration and maintenance prescribed fires—heath, shrubland, woodland, or grassland.	Prescribed Fire is the planned use of fire in a particular place and time, under established conditions and safety requirements to accomplish resource management goals. • Prescribed fire improves habitat for a **variety of wildlife and native plants** and **restores natural communities** dependent on fire. • In fire-influenced natural communities, fragmentation of the landscape and the suppression of fires (prescribed or natural) leads to accumulation of volatile hazardous fuels in the surface, mid-story, and canopy vegetation layers. • Excessive vegetation density **negatively impacts the habitat quality** of the natural community and may eventually lead to fuel buildup and unplanned, catastrophic wildfire. • Prescribed fires that reflect natural return intervals increase below-ground **carbon storage and sequestration**. The consequences of **catastrophic wildfires** include: • The release of large amounts of **carbon** including **soil carbon**. • Tree mortality. • Severe soil, duff, and below ground vegetation impacts. • Potential alteration of soil chemistry. • Threats to firefighter safety, human communities, and property damage.

	• Threats to human health from severe smoke impacts both locally and potentially at long distances.
Diffuse overstory removal, partial cut, habitat modification/maintenance.	Open **woodlands, savannas, barrens, and heathlands** are low tree-density, **fire-dependent** forests with diverse understory vegetation critical for conserving many state-listed rare species. They are **imperiled** across Massachusetts due to development and negative ecological alterations resulting from a lack of management primarily decades of fire exclusion. Climate experts recommend **prioritizing and maintaining sensitive or at-risk species and habitat**, with the expectation that pressure on these will only increase with changing climate. Ecological restoration of these sites ensures continued habitat function and reduces climatic vulnerability: • Reducing tree **density reduces vulnerability** to pests like southern pine beetle and to drought stress. • Restoring **native species** that are best adapted to the site **promotes resilience** to future drought, wildfire, and harmful insects. • Reintroducing low-intensity fire **promotes resilient native vegetation**. • Removing heavy fuel loads **reduces vulnerability to wildfire**. • Restoration better positions these **sites to adapt to climate change**. • Restored sites are **more reliable carbon sinks in the long term** than highly vulnerable dense fire-excluded forests. The agency recognizes that this site may store less carbon than denser forests in the short term. But climate models predict an increase in disturbance on these sites including drought, wildfire and range expansion of harmful insects that puts a dense fire suppressed forest at greater risk of becoming a carbon source in the long term. Projects like this are undertaken on federal, state agency, and other conservation lands across the Commonwealth, under the guidance of collaborative teams consisting of biologists, restoration ecologists, foresters, and fire management professionals.

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