DIVISION OF
FISHERIES & WILDLIFE

Menameset Habitat Restoration Project Summary
CE-MN-TS1

Location
Site: Menameset (former Tanner/Hiller Airport; East Quabbin Land Trust)
Town: New Braintree
District: Central

Project Acres
~50 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

Menameset (former Tanner/Hiller Airport) is a newly protected area associated with a former small airport in New Braintree. The site contains grassland, woodland, forested wetland, and riparian habitats and approximately 2.5 miles of frontage along the Ware River. The broad vision for this site is to carry out restoration projects that promote a mix of healthy xeric (dry) habitats, including grassland, heathland, shrubland, and oak woodland, as well as floodplain, forested wetland, and riparian habitats that support suites of regionally significant plants and wildlife.

The site currently supports important examples of inland sandplain grassland and floodplain forest natural communities. With restoration, there is an opportunity to significantly increase the sandplain grassland component and to reinvigorate oak woodland, heathland, and pitch pine-scrub oak natural communities. Sandplain grassland restoration will benefit the grasshopper sparrow, which is threatened

under MESA, as well as other Species of Greatest Conservation Need (SGCN) identified in the Massachusetts State Wildlife Action Plan. The former airfield at Menameset was identified in the 2013 *Action Plan for the Conservation of State-listed Obligate Grassland Birds in Massachusetts* as one of the best novel opportunities remaining in the Commonwealth to further the conservation of grasshopper sparrow.

Project Activities and Expected Outcomes

Selective tree removal will be conducted on approximately 50 acres around the old airstrip (20 acres) and will occur at varying intensities to promote the growth of diverse understory shrubs, grasses, and forbs. Individual or clusters of pitch pine trees and all oak trees with high habitat value will be retained to provide wildlife with food, cover, and space. Much of the site, including the woodlands and grasslands, will be maintained with prescribed fire. Project planning and oversight will be implemented by a team of experienced Habitat Biologists. The project will be developed in partnership with the East Quabbin Land Trust, and planned activities will create open habitats and diversify the habitats currently available in the area.

Highlights:

- Selective tree removal to restore open oak and pitch pine woodlands will promote the growth of an important shrub layer that includes blueberry, huckleberry, and scrub oak. This will provide high quality habitat needed for numerous MESA and SGCN species, like eastern whip-poor-will, and expand nesting, foraging, and cover important for many other wildlife species, like American Woodcock and wild turkey.
- The project will create soft edges in and among sandplain grassland, which will benefit MESA listed birds, such as grasshopper sparrow, and other vulnerable wildlife.
- The site will be managed as a mosaic of appropriate natural communities that complement one another through broad ecotones that reach from the Ware River into the wooded uplands.

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 decrease tree density reducing vulnerability to wildfire and harmful insects like the southern pine beetle;
- restoring native species that are best adapted to the site promoting resilience to future drought, wildfire, and harmful insects;
- thinning to prepare the site for the reintroduction of low-intensity prescribed fire to promote resilient native vegetation; and
- restoring fire-influenced ecosystems that provide reliable carbon sinks in the long term compared to vulnerable dense fire-excluded forests.

See page 4 for more details.

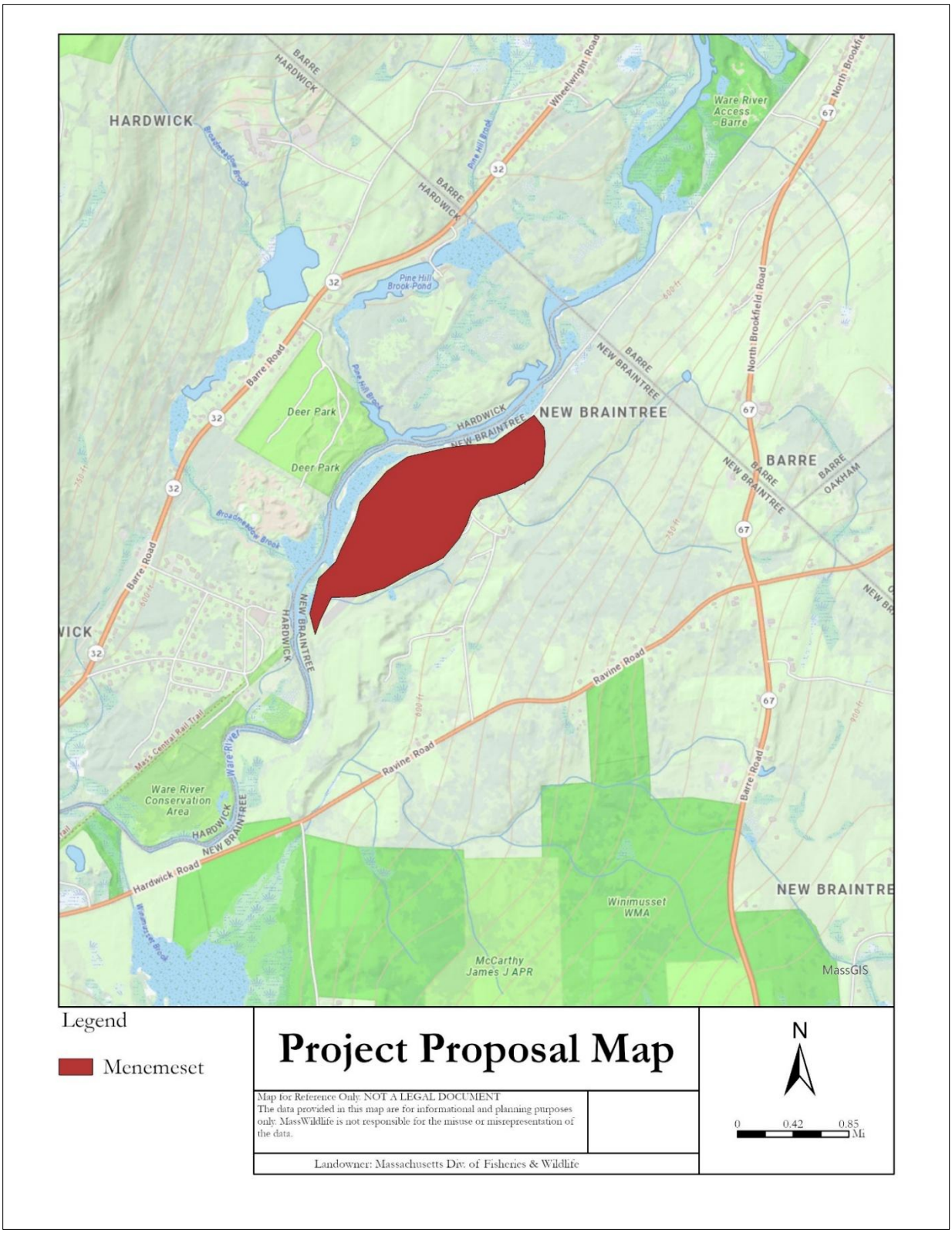

Figure 1. Map of Menameset (former Tanner/Hiller Airport) with highlighted project area.

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.
Establishing and/or maintaining fuel/fire breaks.	Climate models predict **drought and wildfire potential** increasing in the region due to climate change, and the agency is adopting strategies to both **reduce the risk of catastrophic fire spread** and **maintain fire-adapted habitats**. Fuel breaks and fire breaks are essential tools for both prescribed burning and wildfire control. **Fuel breaks** are: • **vegetated areas,** • maintained at lower structure and density,

	• designed to **slow the spread of fire**, • designed to **control prescribed fire** or wildfire, • opportunities to encourage open woodland, shrubland, or grassland natural communities. **Fire breaks** may be natural or constructed **barriers to the movement of fire**, with some examples being: • open water, • paved roads, • graveled woods roads, • trails, • and periodically mowed paths ("fire lines"). The fuel and/or fire breaks proposed in this project were designed as **part of agency planning efforts** for fire control and management for this area within a **framework of reducing climate vulnerability**.
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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