DCR-BOFF Forest Management Proposal

Project Name: Granby Sand Plains
Property Name: Holyoke Range State Park
Acres: 53.9
Forestry District: 5
Forester: Keith DiNardo

Date Proposed: February 2025
Town(s): Granby
Landscape Designation: Parkland
Rec Complex/District: Holyoke Range State Park
FOTL/F&P Supervisor: Crystal Cormier – District Manager

GENERAL PROJECT DESCRIPTION

Acres	Overstory Forest Type	Understory Forest Type	Stand Description
53.9	Overstory: White pine	Understory: variable density of regeneration predominately consisting of white pine	Heavily dominated by sapling and pole sized eastern white pine(Pinus strobus), with some inclusions of Eastern hemlock (Tsuga canadensis), pitch pine (Pinus rigida), and assorted hardwood species. There are occasional large (>20" DBH) white pine trees located along the entrance road and along some of the property boundary, along with a small area containing a higher prevalence of hardwood species such as red maple (Acer rubrum), black birch (Betula lenta), paper birch (Betula papyrifera), and red oak (Quercus rubra), among others. These current conditions are a result of natural regeneration and forest succession. In addition, there are open areas that support good to excellent quality patches of the native warm-season grass little bluestem (Schizachyrium scoparium), along with lowbush blueberry (Vaccinium angustifolium) and patches of open sand, which is a desirable for some listed species. A barrens obligate plant, sensitive partridge pea (Chamaecrista nictitans) still occurs on the site. These barrens habitats are sometimes referred to as "heathlands", and are one of the highest priority natural communities that occur in Massachusetts..

Project Summary, Goals and Objectives: This nearly 100 acre parcel is located in the town of Granby and was historically owned by the U. S. Air Force and utilized as a Strategic Air Command Facility from 1957 to 1983. In 2002 the federal government transferred ownership of this parcel to the Commonwealth of Massachusetts Department of Environmental Management (now Department of Conservation and Recreation). This parcel is designated by DCR as a Parkland. DCR's 2012 publication, "The Landscape Designations for DCR Parks and Forests: Selection Criteria and Management Guidelines," allows for some types of vegetation management within Parklands; as it states "Vegetation management necessary to comply with NHESP recommendations for the restoration and maintenance or enhancement of habitats for rare and endangered species…may be allowed."

In 2000, Paul Somers, Botanist, Natural Heritage & Endangered Species Program (NHESP); Tim Simmons, Restoration Ecologist, NESHP; and John Scanlon, Wildlife Forester, Division of Fisheries and Wildlife,

drafted a document entitled "Ecological Summary and Management Recommendations for the Granby Grassland Site" detailing a number of rare, declining species and outlined management strategies to favor growing conditions for these species. This project aims to implement some of the strategies described in that document with the hopes of re-establishing a mosaic of sandplain grassland and open pitch pine/oak woodland habitat across the northern portion of this parcel. Some modifications to the strategies outlined in the document must be incorporated due to the current state of the present vegetation. The overreaching goal is to remove the majority of the overstory trees and implement a prescribed fire regime over time in order to maintain barrens habitats including sandplain grassland and open pitch pine/oak woodland once it is restored.

MASSACHUSETTS FOREST ACTION PLAN GOALS

The goals listed below are sourced from *DCR (Department of Conservation and Recreation) Bureau of Forest Fire Control and Forestry. 2020.* ***MASSACHUSETTS STATE FOREST ACTION PLAN 2020***

- **Manage forest ecosystem health and biodiversity**
- **Support the role and use of prescribed fire in the landscape**

CLIMATE CHANGE ADAPTATION STRATEGIES AND APPROACHES

The strategies and approaches listed below are sourced from the Response to the Report of the Climate Change Committee, 2024 and the Report of the Climate Forestry Committee: Recommendations for Climate-Oriented Forest Management Guidelines, 2024.

- **1: Sustain fundamental ecological functions.**
- **5: Maintain and enhance species and structural diversity.**
- **9: Facilitate community adjustments through species transitions.**

CLIMATE ADAPTATION

Action Type	Identified Issue	Action Description
Resilience	Declining sandplain grassland and pitch pine oak barren habitat conditions	Restore native sandplain heathlands and pitch pine –oak barrens habitats through the removal of existing white pine and subsequent application of prescribed fire. Restoring these fire dependent natural communities will provide habitat for a diversity of rare species.

Adaptive Management Strategies:

• Maintain or restore a diversity of native tree and understory plant species.
• Use prescribed fire and mechanical treatments to manipulate structure and composition to reduce the risk of wildfire.
• Increase fuel reduction treatments in the wildland-urban interface.
• Restore fire-adapted ecosystems using fire-tolerant and drought-adapted native species that are expected to be resilient to future climate and fire regimes.

CLIMATE CHANGE CONSIDERATIONS

The Department of Conservation and Recreation, Division of State Parks and Recreation has determined that the decision to implement this project is consistent with EEA climate goals and guidelines and agency land management objectives.

Activities proposed	Carbon and climate change considerations
<u>Habitat restoration and maintenance prescribed fires -- heath, shrubland, woodland, or grassland</u>	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 surface, mid-story, and canopy vegetation hazardous fuels. • Excessive fuel buildup **negatively impacts the habitat quality** of the natural community and may eventually lead to an 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. • Kills trees. • Causes severe soil, duff, and below ground vegetation impacts. • May alter soil chemistry. • Threaten firefighter safety, human communities, and property damage. • May volatilize and release **soil carbon**. • Cause severe smoke impacts within a large airshed.
Diffuse overstory removal, partial cut, habitat modification/maintenance. Examples: Thinning to low residual density to restore open woodland/barrens/heath conditions.	Open **woodlands, savanna's, 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. This practice is for ecological restoration to ensure continued habitat function and to reduce 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.
Tree mowing & mulching (for maintaining aspen, e.g.) **Examples:** **a. Maintenance of young forest conditions by cutting off developing trees at a young stage and well before maturity. Expectation of stump sprouting and/or root suckering to quickly reestablish young forest.** **Mowing is typically done with a rotary blade whereas mulching is done with a toothed rotary drum mounted on different types of machinery**	Mowing and mulching are used to perpetuate both non-forest (grasslands) and **young sapling forest** conditions within a given footprint on the landscape. This practice **resets the development** of a stand that has grown out of the sapling stage to provide critical habitat in the absence of localized natural disturbances such as flooding or fire. Is an important practice for maintaining young aspen stands that support species of greatest conservation need. • Recommended as one type of climate-smart alternative for **young forest habitat.** • **Aligns with carbon objectives** versus harvesting mature forests. Can be prohibitively **costly to implement**.

SOILS AND TOPOGRAPHIC FEATURES

Acres	Soil Type	Drainage Characteristic
52.9	Merrimac fine sandy loam	Somewhat excessively drained
1	Swansea muck	Very poorly drained

Average Slope Percent:0-5%
General Aspect: South
Terrain Consistency: Constant
Terrain Position: Flatland

Description of Soils and Topographic Features: The site is predominantly flat, with some mild slopes located along Ingraham Brook and an elevation estimated at approximately 260 feet. Two soil types are present, including Merrimac fine sandy loam and Swansea muck. Merrimac fine sandy loam is described as a

fairly deep soil (more than 80 inches to a restrictive feature) which is somewhat excessively drained. The Swansea muck soil type is in the wetlands associated with Ingraham Brook.

WETLAND FEATURES

	Present	Crossing	Work within Filter/Buffer
Wetlands:	**Yes**	**No**	**Yes**
Regulated Streams:	**Yes**	**Yes**	**Yes**
Non-Regulated Streams:	**No**	**No**	**No**
Vernal Pools:	**No**	**No**	**No**
Seeps:	**No**	**No**	**No**

Description of Wetland Features: Ingraham Brook is a prominent stream which flows in a northerly direction through the property. Although there is a defined channel of water flowing across the property the flat topography has allowed for the establishment of a wide vegetated wetland buffering the stream channel. The property is within a 100 year flood plain.

CULTURAL RESOURCES

	Present	At Risk	Work Within Buffer
Stone Walls:	No	N/A	N/A
Foundation / Cellar Hole:	No	N/A	N/A
Well:	No	N/A	N/A
Structures:	Possible	Possible	Possible
Cemetery:	No	No	No
Other: N/A	Choose an item.	N/A	N/A

Description of Cultural Resources: Currently no cultural features have been identified within the bounds of the proposed project area; all historical and cultural resources located during further site work will be recorded with a GPS and indicated on project maps accordingly and will be protected from disturbance when and where possible. It is required by deed restriction that DCR complies with Section 106 of the National Historic Preservation act and that an "intensive" archeological survey be completed prior to the disturbance of the site. As stated in Deed Book 6959 Page 52, "The Massachusetts State Historic Preservation Officer and the Wampanoag Tribal Historic Preservation Officer have been consulted in accordance with Section 106 of the National Historic Preservation Act and have determined that the property has no architectural significance, but has archeological significance. The Grantee shall conduct an intensive archeological survey in consultation with the Tribal Historic Preservation Officer should disturbance of the Property be contemplated. The Grantee agrees to comply with Section 106 of the National Historic Preservation Act of 1966."

NATURAL HERITAGE / WILDLIFE-HABITAT MANAGEMENT / OTHER RESOURCES

Natural Heritage Polygon: Yes
Natural Heritage Restrictions: Yes
Restrictions on Harvest Description: To be determined by further review by the Natural Heritage and Endagered Species Program.

Wildlife Specific Management: Yes
Targeted Species: Grassland species
Goals: Establish and promote order to maintain barrens habitats including sandplain grassland and open pitch pine/oak woodland once it is restored.

Additional Habitat Management: Choose an item.
Habitat Type: Click or tap here to enter text.
Goals: Click or tap here to enter text.

State Forest Action Plan: Yes
ACEC: No
BIO Map2: Yes
State Wildlife Action Plan: Yes
Public Water Supply: No
Current Resource Management Plan: Yes
Additional Detail: According to the most recent Natural Heritage and Endangered Species Program (NHESP) layer available at www.mass.gov/mgis, portions of the project area have been identified as "Priority Habitat." These areas appear to be portions of the parcel where overstory tree growth is limited and sandplain grassland conditions are still present. Without intervention, it is anticipated that these grassland areas will fade as forest conditions take hold without disturbance by fire.

The intent of this project is to create conditions more favorable to sandplain grassland and open pitch pine oak woodlands dependent flora and fauna, by both maintaining the current grassland conditions and converting areas which have been reclaimed by more mesic forest (especially white pine) in the absence of fire. Existing grasslands conditions will be perpetuated by implementing the use of prescribed fire. Areas which have begun to revert to forest conditions will be cleared and subsequently burned. All forest management activities pertaining to this particular project area will be done in close coordination with officials from NHESP and the Department of Fish and Game - Division of Fisheries and Wildlife (DFW).

FOREST HEALTH / INVASIVE SPECIES

Forest Health Concern: No
Species Affected: **Click or tap here to enter text.**
Management Considerations: **Click or tap here to enter text.**

Plant Invasive Species Present: Yes
Species Present: Multiple
Management Considerations: Several invasive plant species were identified during preliminary field work. A more comprehensive list and management strategy will be developed as work continues.

Insect Invasive Species Present: Possible
Species Present: **Click or tap here to enter text.**
Management Considerations: **Click or tap here to enter text.**

INFRASTRUCTURE / RECREATION/ AESTHETICS

Access Road: Green Meadow Lane
Condition: Good
Existing Landing: Yes
Ownership: Town of Granby
Road Repair/Upgrade: No
Landing Repair/Upgrade: No
Project Access and Landing Site: Access for the project will be located off Green Meadow Lane. There is some concern regarding the large culvert over Ingraham Brook. This crossing will be temporarily bridged.

Existing Skid Trail Network: Yes
Pre-Harvest Repair/Upgrade: No
Skid Trail Network Description: Several existing forest roads and illegal ATV trails are present throughout the property.

Shared Infrastructure: No
Road/Trail Names: Click or tap here to enter text.
Management Considerations: Click or tap here to enter text.

Infrastructure Present

Infrastructure	Present	Condition
Official Trail	No	Click or tap here to enter text.
Illegal Trail	Yes	Click or tap here to enter text.
Existing Trail Head	No	Click or tap here to enter text.
Recreation Facility	No	Click or tap here to enter text.

Recreation and Aesthetic Concerns/Opportunities:
There will be a drastic change in appearance observed as a result of this habitat restoration work. In order to establish conditions favorable for the restoration of sandplain grassland and open pitch pine/oak woodlands habitats, the large majority of overstory trees will be removed. Scattered retention trees including pitch pine and tree oaks will be left across the project area and buffers will be implemented along the wetland surrounding Ingraham Brook and the property boundary.

There are no officially designated DCR trails located on the property, although there are several trails present. This parcel is currently used for all types of passive recreation and is subject to heavy illegal ATV use. Work associated with this project will include blocking current ATV access points onto DCR property in an attempt to discourage illegal ATV use. A deed restriction (Deed Book 6959 Page 52) states "…the property shall be used and maintained exclusively for public park or public recreation purposed …" In order to comply with these deed restrictions, DCR intends on creating more opportunities for parking and installing signage to further enhance recreational opportunities pertaining to this property.

SILVICULTURE

Acres	Silviculture Type	Silviculture Description
53.9	Ecological Restoration	Removal of existing white pine and other species to favor pitch pine and oak present.

General Comments on Silviculture Proposed: Silvicultural treatments will coincide with the management guidelines set forth in DCR's Management Guidelines document and are anticipated to be as follows:

In order to achieve conditions that are suitable for the establishment and maintenance of grassland habitat, the strategies implemented throughout the project area will focus on the almost complete removal of the existing overstory vegetation. Several pitch pine and oak will be designated for retention within the project area. Minimal woody material will be left on site with the intent of minimizing fuel loads and creating conditions for future prescribed fire. This habitat rehabilitation work will be completed in close coordination with officials from both the NHESP and the DFW.

PERMIT REQUIREMENTS / OPPORTUNITIES

Restrictions	Description
Seasonal Restrictions: Possible	Click or tap here to enter text.
Equipment Restrictions: No	Click or tap here to enter text.
Recreation Restrictions: Yes	Area will be closed during active tree removal work.
Green Docket: No	Click or tap here to enter text.
In-kind Services: No	Click or tap here to enter text.

Potential Local Economic Benefits: Fire suppression infrastructure upgrades including access roads and fire breaks.

Attachments:
Locus Map
Project Map

2025 Eastern Connecticut Valley District Proposal

Project Name:
Granby Sand Plains

Facility: Holyoke Range State Park

Forester: Keith DiNardo

Area : +/- 53.87 acres

Designation: Parkland