USA: Minnesota: Oak Savanna Restoration along an Urban River

Prairie Oak Savanna is a grassland where the over-story of oaks form an open canopy. Source: Margie O'Loughlin

Gorge Stewards circle up Source: Longfellow Nokomis Messe

Overview

The Mississippi River Gorge, in the heart of the Twin Cities in Minnesota, is one of the most significant features of the entire 2,350-mile long Mississippi River. Oak savanna was once a common ecosystem in Minnesota, covering about 10% of the state, but it is now rare habitat because of fire suppression activities, farming, and development. Oak savannas are highly diverse because they are transition zones from woodland to prairie. An oak savanna restoration project has been implemented and continues to be maintained by local volunteers along a 5-acre stretch of the Mississippi River Gorge in the Minneapolis neighborhood called Longfellow. The project seeks to eliminate the threat of exotic species, reintroduce the appropriate gorge plant community, and address erosion concerns with the collaborative effort of national and local agencies, and the advocacy of the local community.

Project Details

Lead Entity:

National Park Service

Lead entity types:

- Governmental Body

Partner Organizations:

Longfellow Community Council Minneapolis Park and Recreation Board Friends of the Mississippi River

Adaptive management

Describe adaptive management processes and mid-course corrections taken to address unforeseen challenges and improve outcomes in each of the following categories:

State of Progress:

- Planning

Project Start:

2013-01-01

Project End:

2019-01-01

Global Regions:

- Americas

- Northern America
- World

Countries:

- United States of America

Ecosystem Functional Groups / Biomes:

- Savannas and grasslands biome

Extent of project:

- Other

Extent of restoration:

- Other

Degradations:

- Invasive species
- Urbanization, Transportation & Industry

Description:

Fire suppression has prevented the periodic clearing of understory vegetation typical of oak savannas. As a result, buckthorn and other invasive, exotic plants have become established in a thicket and crowded out native prairie species. Heavy recreational use along the Mississippi Gorge area has caused erosion issues. In some places, erosion was so severe that gullies had formed and sediment washed into the river during heavy rains.

Planning and Review

Goals and Objectives

Was a baseline assessment conducted:

unsure

Was a reference model used:

OTHER

Other reference models used::

The reference ecosystem is primarily based on <u>historical information</u> about ecological attributes at the site prior to degradation.

were_goals_identified:

YES

Goals and objectives:

- Other

Goals Description::

 Eradicate exotic species in the area. Reintroduce and restore native oak savanna species and the appropriate community distribution. Engage the local community in interpretive events and volunteer activities.

Stakeholder Engagement

Were Stakeholders engaged?:

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Description of Stakeholder Involvement:

The land is owned by the Minneapolis Park and Recreation Board, but this area of the gorge in the Longfellow neighborhood is part of the 72-mile stretch of the river that is designated national park. Following community advocacy for restoring the area and addressing erosion issues, project partners - the Longfellow Community Council, Minneapolis Park and Recreation Board, and National Park Service - developed a plan to guide restoration efforts. Volunteers from the local community organized by Friends of the Mississippi River and Ecological Strategies embraced these restoration efforts in the past six years by participating in invasive species removal, litter clean up, seed collection, planting, and through strengthening their ties to the gorge at interpretive events. Thanks to the collaboration of many partner organizations and countless hours of volunteer service for more than ten years, the area that was once a buckthorn thicket is now showing signs of renewed life.

Ecosystem Activities and Approaches

1) eliminate existing threats to the ecosystem: To address the erosion issues, the eroded gullies were filled with soil and seeded with native grasses and flowers. Signs were also posted asking hikers and other recreationists to remain on the designated trails. In some places, temporary fences were installed as an added protection measure. At steeper portions of the trails, erosion control bars and stairs are being installed. 2) reinstate appropriate physical conditions (e.g. hydrology, substrate): Measures have also been taken to reestablish vegetation on paths where it had been worn away and soil exposed from people traveling up and down the bluff, off designated trails, to access the river. Buckthorn and other non-native woody plants, as well as some native trees, were removed to restore the openness of mesic oak savanna forest. The stumps of the exotic species were treated with an herbicide to prevent regrowth. A prescribed burn plan was developed as part of the maintenance plan. 3) achieve a desirable species composition : Native prairie plants were planted. Volunteer groups continue to remove exotic species like sweet clover, reed canary grass, and garlic mustard and maintain existing plantings and the collection and spreading of desirable native seed at this site designated as oak brushland that is being restored to oak savanna.

Project Outcomes

Reinstate appropriate physical conditions: The project has restored the open landscape typical of oak savanna and doubled the amount of mesic oak savanna in the metropolitan area. Achieve a desirable species composition: Native plants appropriate to the oak savanna gorge community have returned to the area. Cultural dimensions including recreational, aesthetic and/or spiritual values: Ecological Strategies hosts Oak Savanna Workdays in the Longfellow restoration project area which offer an opportunity for local residents to learn more about this site, create a special place for residents of gorge neighborhoods and thousands of annual visitors, and instill a sense of connection to the river gorge area in visitors through interpretive activities.

Monitoring and Data Sharing

Does the project have a defined monitoring plan?:

NO

Open Access URL:

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Long Term Management

STAPER