

Enhancing Forest at Hastings Scientific and Natural Area in Southeast Minnesota

Background

The Hastings Scientific and Natural Area (SNA) contains a diverse complex of native plant communities, including maple-basswood forest, mesic oak forest, floodplain forest, mixed emergent marsh, and open water. Due to its rarity, the maple-basswood forest is ranked as imperiled in the State. Located on north-facing talus slopes and steep escarpments of limestone, this forest is dominated by old-growth red oak, sugar maple, and basswood. The herbaceous layer is diverse and contains mosses, lichens, liverworts, Dutchman's breeches, hepatica, bloodroot, and snow trillium—a rare species.

The site is connected to the Vermillion River Bottoms, an expansive area identified as one of the top four sites in the State for rare forest birds, and designated by the Audubon Society as an Important Bird Area. When the Dakota County biological survey was completed by the Minnesota Department of Natural Resources in the mid 1990s, the Hastings SNA ranked as having moderate to high biodiversity significance. Since then, exotic invasive woody plants have established, especially along forest edges.

The Hastings SNA project is vitally important, as it contributes to a collaborative effort by State, Federal, and local agencies and organizations to protect and restore the roughly 25,000-acre Vermillion and Cannon River Bottoms area.

Location

The Hastings Scientific and Natural Area is located in southeastern Minnesota (star on map).

Goals

The goal of the project is to enhance the maple-basswood and floodplain forests by controlling exotic invasive brush.

Expected Results

The first step towards addressing the ecological issues will be to evaluate the site and update the management

plan, which was developed in the 1980s. Once the site evaluation is completed, discussions with the Department of Natural Resources will lead to decisions about how best to manage the property.

Another concern for the larger ecosystem is the invasion of nonnative woody species. Buckthorn and honeysuckle are present at the site, and controlling them will help to reduce their invasion into adjacent habitats. These brush species are still at relatively low levels of abundance and can readily be managed.

The Friends of the Mississippi River (FMR) will engage community volunteers to assist with some portions of the activities.

The site will be evaluated regularly during the brush removal work, to assess the methods and progress and to document the process. If the funding cycle makes it feasible, before-and-after bird surveys will also be completed, to detect changes to the bird population.

Expected Outcomes

The expected outcome of this project is to improve and help to ensure the long-term health of the natural communities that exist within this scientific and natural area. The primary method for assessing the buckthorn removal progress will be to establish photograph points (marked via GPS) to document visual changes before, during, and after the project. At least one vegetation



The Upper Mississippi Forest Partnership and the National Fish and Wildlife Foundation jointly initiated the Upper Mississippi River Watershed Fund. The fund supports projects that benefit the forests of the Upper Mississippi while improving wildlife habitat and water quality.

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Northeastern Area
State and Private Forestry
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study plot will be set up to record changes in coverage of all plant species, before and after buckthorn removal. The survey plot will give more quantitative information on the buckthorn abundance, but changes to the native vegetation coverage may not be detected during the timeframe of the grant period, since native woodland species can be slow growing.

While the initial restoration goals may be accomplished during the grant period, the long-term management of the site will not be completed in the 2-year grant period. If the site is left unmanaged, the initial project work could be undone in just a few years by regrowth of the nonnative shrubs. These species typically require at least 5 years of regular management and then a program of long-term monitoring to catch new invasions before they expand. The FMR has a history of long-term engagement at project sites. Lack of followup is one of the primary failings of ecological management. The FMR avoids this failing by staying engaged with site landowners beyond the initial 2-year grant period and by committing to seeking funding and support for long-term management.

Partners

- Friends of the Mississippi River (grantee)
- Metro Conservation Corridors-Phase VI

Grant Amount

\$21,443
