

4.2 Education and Interpretation

The HLD restoration plan provides an opportunity for education and interpretation. Interpretive trail system and materials will provide physical and intellectual access to the natural and cultural history of the project area through informal education. The creation of a safe and comfortable series of interpretive areas, that are physically accessible to all types of people, including people of all ages and those with disabilities, is a vital part of this plan. Interpretive signage that contains materials about the site's ecosystems and cultural history will help visitors to expand their sense of place within the floodplain. Within the interpretive program, many types of visual, other sensory, and kinetic learning activities should be considered.

The encouragement and support of environmental education and interpretation in the HLD will be critical to the overall success of the restoration project. This support can be provided through the distribution of "Learning in Wetlands" and other relevant environmental education curricular materials to area grade and high schools. Providing curriculum guide, however, is not enough to ensure educators to take advantage of the opportunity of using the wetlands as a teaching tool. In-service training for teachers will help ensure they possess the knowledge and skills to apply wetlands related environmental education materials. In addition, the provision of ongoing support by phone and internet for teachers employing the restoration area as an education tool will make the educational plan more attractive to teachers. Activities such as wildlife and plant observation by students can also be encouraged through teacher training and involvement. In addition to introducing teachers to the methods involved in wetlands education, in-service training programs can ensure the benefits of environmental education in meeting curricular goals and school standards addressed in Section 3.2.2.

In addition to the educational and interpretive recommendations made in this project, the restoration process would benefit from involving the community in the restoration project through informational meetings or special events. Community support and future stewardship of the land can be encouraged through public awareness as well as the educational programs discussed in this section.

4.2.1 Developing Interpretation

Environmental interpretation is a type of informal environmental education that differs from standard environmental education in that it normally spans only a short period of time (two or three hours). The HLD restoration area provides a valuable opportunity for environmental education for local schools, in the form of school field trips, and for residents of the Hennepin community. Interpretation may be conducted through the activities of a guide or naturalist, or it may occur in a self-guided context.

Interpretation in the HLD could include several components:

- an indoor interpretive center or information center that may also serve as a welcome center;
- an outdoor interpretation program run by environmental educator and naturalists and by area teachers for their own school groups; and
- self-guided interpretative trails.

This project will develop indoor interpretive programs in the case of informing visitors about rare plants while restricting public access in the preservation area. In other cases, outdoor self-guided interpretative trails will allow visitors to experience the restoration area for themselves while providing information on the ecosystems and cultural history of the HLD.

Goals of the Interpretation

Several goals were used in the development of the interpretive materials for the HLD restoration area. These goals have been articulated to best take into account the experience of a visitor to the site.

- *Meeting Diverse Needs.* A wide range of people will visit the HLD. Visitors will include school groups on field trips to the site, people interested in learning about the flora and fauna of the area, those interested in recreational activities (such as biking), people interested in the cultural history of the area, and many

others. Visitors to an interpretive exhibit or trail normally desire a high degree of control over their experience. In addition, people vary in what they wish to learn and how they learn. This fact, as well as the great diversity of learning styles, must be accounted for in the interpretive experience. While some people learn well in a visual format, others need hands-on, auditory, or kinetic stimulation.

- *Accessibility.* Interest level and physical capability differ from visitor to visitor. Therefore, the interpretive site should be physically accessible to children, the elderly, and people with physical disabilities. Intellectual accessibility may also be an issue. With this in mind, interpretive signs and materials must be designed to be stimulating to visitors on many levels. By including pictures as well as text and by ensuring that technical language is avoided, the vast majority of visitors will find the interpretive materials interesting and understandable.
- *Creating a Positive Experience.* Visitors to the interpretive sites should have a safe, comfortable, and rewarding experience. Trails must be designed in a way that will allow visitors to safely experience the area. If visitors have a positive experience at the site, they are more likely to appreciate the site and the natural world that it represents.
- *Sharing Knowledge.* It is important that factual and relevant information be provided as a part of the interpretive experience. Visitors should be given the opportunity to leave knowing more about the site than they did when they arrived.
- *Providing Opportunities for Interaction with the Site.* Visitors must be able to make the connection between what they read and what they see. Therefore, it is important that all the interpretive materials, such as plants, are clearly identified. For example, since the HLD restoration plan deals with a specific ecosystem and a specific cultural history, it will be beneficial to focus on plants that occur in the floodplain and their local uses.

Matthaei Botanical Gardens Ethnobotany Trail

The ethnobotanical trail at the University of Michigan's Matthaei Botanical Gardens provides one example of how an ethnobotanical trail could be set up to maximize interpretive

potential. The trail describes and identifies plants as they grow in their natural environment. Medium sized, durable signs give biological and usage information about each species. For example, from the signs, one learns that American basswood has stimulant properties and can be used for fiber and cordage or in canoe building, that black walnut can be used as a mosquito repellent when mixed with bear grease (a use that would likely have been very important to the inhabitants of a floodplain), and that jewelweed produces a yellow dye. Examples such as this one may prove useful in the development of an ethnobiological trail within the HLD restoration area.

A visitor to the interpretive trails will be able to shape their own visitation experience with the aid of interpretive trails and accompanying brochure that will be produced for distribution at the restoration area.

4.2.2 Interpretive Center

An interpretive center provides visitors with a location to acquire knowledge from various media. Many styles of learners can be reached by incorporating sensory experiences into the interpretive experience. The content addressed in such a center and the style of exhibition can vary significantly and can be adapted to suit all types of visitors. For example, an interpretive exhibit targeting upper elementary age children could include a game that encourages children to match wetland wildlife to their ecosystem. For adults, an art exhibit featuring local wildlife artists may be more appropriate. A wide range of activities and exhibit types should be available at the interpretive center.

At the interpretive center, visitors could access site maps and brochures, a small library, or naturalists. In addition to serving as a base of operations for visitors, an indoor interpretive center complements outdoor interpretive trails. For instance, preservation concerns mean that the yellow monkey flower preservation area be restricted for most visitors. The interpretive center fills the gap left by these necessary restrictions through supplemental documents, graphics, photos, video or slide shows, or even plant samplings to demonstrate the characteristics of yellow monkey flower, its status in the Senchachwine Seep, and the importance of preserving this species. An exhibition of ducks, wading birds,

migrating birds, furbearers, small mammals, amphibians, and insects could be used to prepare visitors to better enjoy the time they spend on the outdoor interpretive trails.

The interpretive center on the HLD can possibly be established by renovating the existing barns. Two possible buildings in a desirable location are beside the state highway (S-26), close to the possible entrance, on the east of the HLD (Figure 4.2.2-1). We also recommend that the interpretive center become a community center for the Hennepin community to develop stewardship in sustaining the restored wetlands.



Figure 4.2.2-1 An interpretive center is established by renovating existing barn beside the state highway (S-26).

4.2.3 Interpretive Trail Design

Taking advantage of the profound natural and cultural resources inherent in the HLD, the outdoor interpretive trails are intended for educating and illustrating several site-specific themes:

- Wetland Ecosystems,
- Ethnobiology and Archaeology,
- The History of the HLD, and
- The Yellow Monkey Flower Preservation Area.

Wetland Ecosystems Interpretive Trail

This trail will emphasize the ecological diversity and importance of the HLD floodplain. Based on the order of vegetation zones, the interpretive material will address the characteristics of each wetland type, characteristic flora and fauna species, and general descriptions of the importance, functions, and values of the wetlands. Several topics selected as interpretation stops on this trail include:

- Wetland Ecosystems,
- Shallow Open Water Communities,
- Deep Marsh Communities,
- Shallow Marsh Communities,
- Sedge Meadow Communities,
- Wet Prairie Communities, and
- Upland Communities.

In this model, a boardwalk made from compressed, recycled wood is located in the shallow open-water areas, marshes, wet meadow, and wet prairie areas (Figure 4.2.3-1). The boardwalk is constructed at least 60 cm (2 feet) higher than the average water level and the normal elevation of vegetation zones. The boardwalk will also have a minimum width of 1.5 m (5 feet) with sections 2.5 m (8 feet) wide every 30 m, and with slope no greater than 1:10 so that wheelchair access to the walkway does not present difficulties and the walkway can be traveled in both directions. In the upland areas, the walkway is paved with gravel and sand. Interpretive signage will be placed according to vegetation zonation at the average water level. Benches will be provided at specific viewing spots or at every intervals of 400 m (0.25 mile) from the entrance. Since the boardwalk will be flooded when water levels change in the wetlands, some portions of the trail will be closed seasonally or periodically.

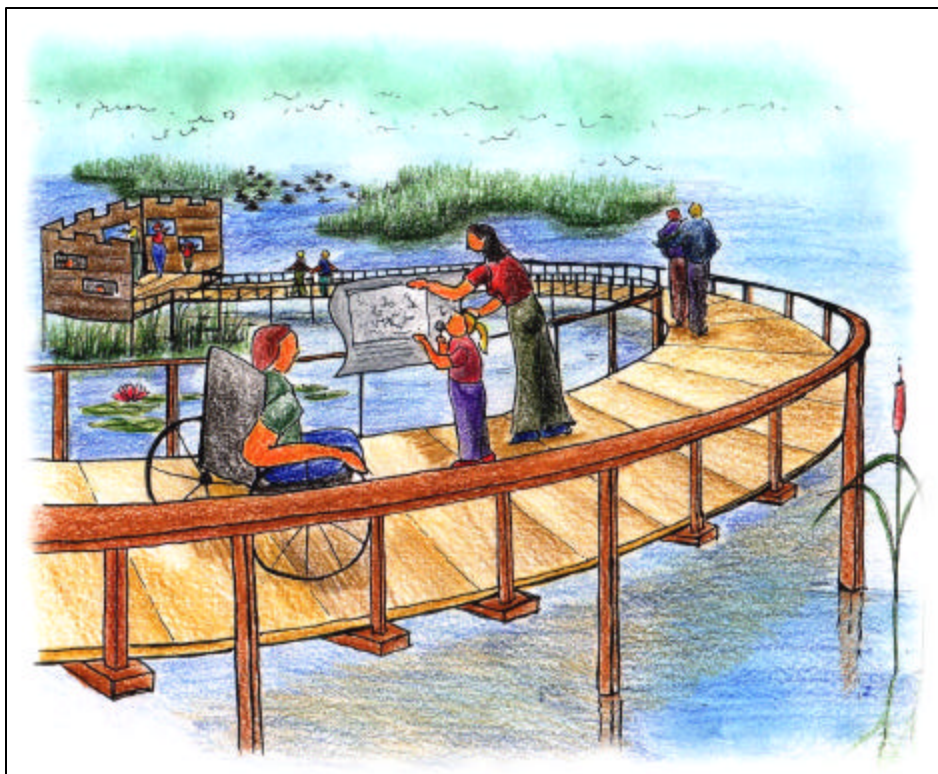


Figure 4.2.3-1 A wheelchair-accessible boardwalk with interpretive sign and observation screen on the Wetland Ecosystems Interpretive Trail.

Hennepin Levee District History Interpretive Trail

To foster appreciation, visitors to the HLD need to be reminded of how the area has been changed and altered by humans through time, how the restoration project was initiated, and what the future changes could mean for the HLD (section 2.1 and 2.2). The main subjects in the Hennepin Levee District History Interpretive Trail included in the interpretation materials are:

- *Presettlement in Hennepin.* This station will describe the Native Americans who lived in this region from 200 BCE until 1000 CE and their life in the floodplain.
- *Hennepin in the 1800s.* This station will describe the early European settlement of the area and duck hunting in the historical Hennepin and Hopper Lakes.
- *Hennepin in the 1900s.* Agriculture was an important part of life for people of the Hennepin region in the past century. This station will describe how agricultural practices of the area altered the landscape and land use in the HLD.

- *The Vision for Hennepin.* This station will describe the inceptions of the HLD restoration plan and the vision for the HLD in the Illinois River region.

Using the existing levee as a walkway, this interpretive trail leads visitors from the Village of Hennepin to the Wetland Ecosystems Interpretive Trail. Interpretative materials describing the chronological history of the region have the earliest time periods address at the town and progressing through history as one approaches the Wetland Ecosystems Interpretive Trail. Facilities such as interpretive signage are set evenly apart and benches are provided every 400 m (0.25 mile) on the trail (Figure 4.2.3-2).

Archaeology and Ethnobiology Interpretive Trail

The archaeology and ethnobiology interpretive trail can help visitors learn about the cultural history of the area and the value of wetland ecosystems to people in the past. The trail and the information it imparts are especially relevant due to the known presence of Woodland archaeological deposits in the restoration area.

The Ethnobiology Trail will help visitors gain an understanding of what life was like for the Native American peoples, known as the Potawatomi, who inhabited this floodplain from 200 BCE until 1000 CE. The ways in which people made their living from the region's plants and animals and the types of dwelling they inhabited will be addressed. Interpretive signage will be placed accordingly to the onsite materials (Figure 4.2.3-3) and the following stations will be included:

- *The Middle and Late Woodland Periods.* This station will introduce the visitor to the trail, to Middle and Lake Woodland life, and to the concept of ethnobiology.
- *Native Uses of Plants.* This station will describe wetland plants such as arrowhead, cattail, groundnut, and Jerusalem artichoke, as well as their many uses to Woodland people.
- *Native Uses of Animals.* This station will discuss the many ways in which animals were used and thought of by Woodland people.
- *A Late Woodland Dwelling.* This station will consist of a reconstruction of a typical Woodland Indian dwelling built so that visitors can obtain a tangible idea of what life may have been like long ago in the HLD.



Figure 4.2.3-2 Using existing levee as a walkway in the Hennepin Levee District History Interpretive Trail. Interpretive sign and benches are provided on the trail.



Figure 4.2.3-3 A model of Late Woodland dwelling and interpretive sign on the Archaeology and Ethnobiology Interpretive Trail.

Yellow Monkey Flower Preservation Area Interpretive Platform

An ongoing dilemma is to find balance between human uses and natural conservation. The land containing the yellow monkey flower habitat was a donation meant to become a natural preserve with public access. TWI also intends to exhibit the resources in the Senachwine Seep area. However, human actions such as trampling and constructing boardwalk might damage the plants and have impacts on the sensitive habitat.¹ In order to resolve the conflicts between accommodating human desires and minimizing negative ecological impacts, visual access can be provided in the preservation area.

On the south border of the Senachwine Seep, there is existing levee, which provides a lookout and visual overview of the habitat for the yellow monkey flower. Interpretive signage providing a general description of the Senachwine Seep is set up on the levee where views of the preservation area are possible. Instead of providing a trail through the habitat, an interpretive platform is an alternative way to appreciate the endangered and rare species. The platform, built from recycled compressed wood debris, is located under the lookout and accessible by wooden steps down along the slope of the levee. Benches and interpretive signage placed on the platform describe the yellow monkey flower, the bog twayblade orchid, and the crested shield fern (Figure 4.2.3-4).

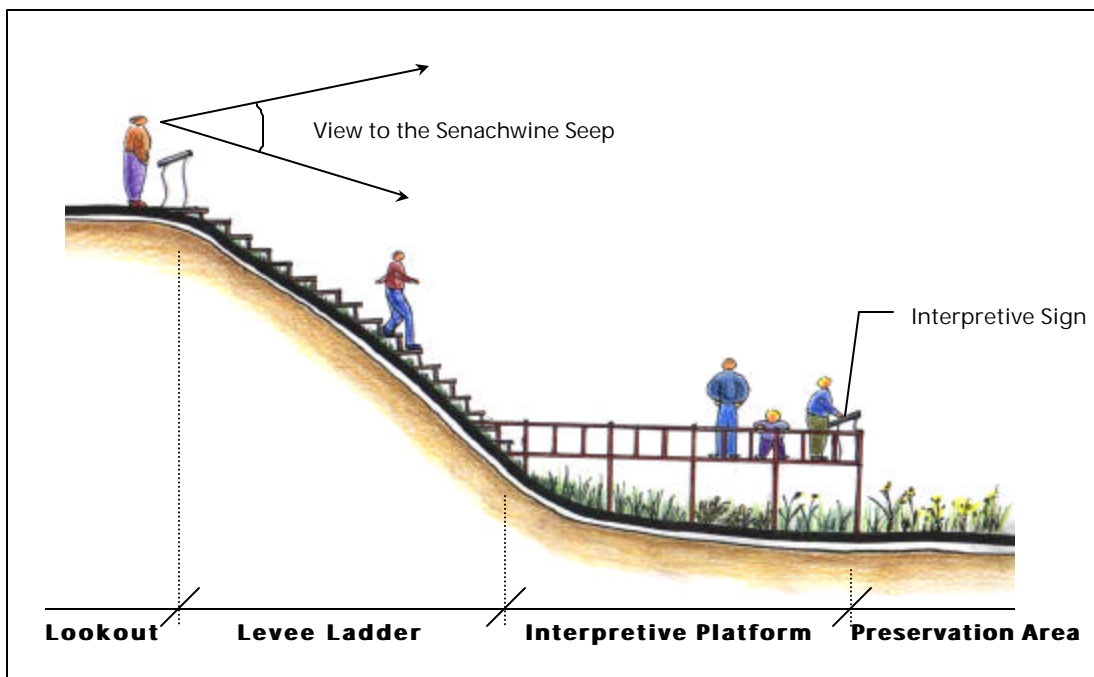


Figure 4.2.3-4 A lookout and an interpretive platform for the Yellow Monkey Flower

Preservation Area.

4.2.4 Interpretation Scripts

This section provides examples of interpretation materials on the following interpretive trails and stations:

Wetland Ecosystems Interpretive Trail

- Wetland Ecosystems
- Shallow Open Water Communities
- Deep Marsh Communities²
- Shallow Marsh Communities³
- Sedge Meadow Communities⁴
- Wet Prairie Communities⁵
- Upland Communities

Hennepin Levee District History Interpretive Trail

- Presettlement in Hennepin⁶
- Hennepin in the 1800s⁷
- Hennepin in the 1900s⁸
- The Vision for Hennepin

Archaeology and Ethnobiology Interpretive Trail

- The Middle and Late Woodland Periods⁹
- Native Uses of Plants and Animals¹⁰
- Arrowhead and Cattail¹¹
- Groundnut and Jerusalem Artichoke¹²
- A Late Woodland Dwelling¹³

Yellow Monkey Flower Preservation Area Interpretive Platform

- The Senachwine Seep
- The Yellow Monkey Flower¹⁴
- The Bog Twayblade Orchid¹⁵
- The Crested Shield Fern¹⁶

¹ Williams, M. 1990. p289-292.

² Photograph from <http://www.hootowlhollow.com/photos/waterplants>

³ Cattails photograph from <http://www.lanst.com/bozsik.naturepedia>

Great Blue Heron photograph from <http://www.epa.gov.OWOW/wetlands/vital/wetlands>

⁴ Photograph from www.mic.alden-hebron.org/sedgemed6

⁵ Photograph from <http://www.chias.org/www/diorama/w7.html>

⁶ Illustration from <http://www.germantown.k12.il.us/html/woodland2>

⁷ Photograph from <http://www.decoy.net>

⁸ Aerial photo from TWI. Photograph from <http://www.koeller.com/fieldphoto2>

⁹ Illustration from <http://www.museum.state.il.us/muslink>

¹⁰ White-tailed deer photograph from <http://www.cerfs.ifrance.com>

¹¹ Arrowhead photograph from <http://www.aquat1.ifas.ufl.edu>

Cattail photograph from www.aquat1.ifas.ufl.edu

¹² Groundnut photograph from <http://wiseacre-gardens.com>

Jerusalem artichoke photograph from <http://www.holoweb.com>

¹³ McConaughy. 1991.

¹⁴ Photograph by Bill Bushing from <http://www.catalinaconservancy.org>

¹⁵ Photograph by Kitty Kahout from <http://www.wiscinfo.doit.wisc.edu/herbarium>

¹⁶ Photograph by Markku Savela from <http://www.funnet.fi/pub/sci/bio/life/plants>