

Department of the Interior
U.S. Fish and Wildlife Service

DRAFT ENVIRONMENTAL ASSESSMENT

For

**Development of a Wildlife Viewing Facility on
the Amann Tract Overlooking Lake Onalaska**

**Upper Mississippi River National Wildlife and Fish Refuge
La Crosse District**

Regional Director
Region 3, U.S. Fish and Wildlife Service
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CHAPTER 1. Purpose and Need for Action

1.1 Purpose

The purpose of this environmental assessment is to evaluate three alternatives identified for constructing a public wildlife viewing facility along the Lake Onalaska shoreline on the 0.21-acre Amann Tract. This facility would be linked to the La Crosse District Visitor Center/Office through a trail system (Figure 1). The site is located along a developed shoreline with homes on both sides of the tract. This environmental assessment will also convey information to the public and provide a basis for public review and comment.

The Amann Tract was acquired by the U.S. Fish and Wildlife Service (Service) in July 2012 specifically to develop a viewing area. Funding for the acquisition was provided by the Land and Water Conservation Fund. The tract, located on Brice Prairie in T. 17N., R. 8W, Section 25, Town of Onalaska, La Crosse County, Wisconsin, is managed by the Service as part of the Upper Mississippi River National Wildlife and Fish Refuge (Refuge).

Work began in June 2013 to prepare the site for the facility. Work included removal of a small deteriorated house, abandoning the septic system and well, and backfilling disturbed areas.

1.2 Need

The site offers one of the best views of the Upper Mississippi River/Lake Onalaska (Navigation Pool 7) and the thousands of waterbirds that concentrate on it during each spring and fall migration because it is located 35-40' above the surface of this backwater (Figure 2). Currently, there are no other public viewing sites available in the upper part of the lake to observe migratory birds, the Sommers Chute Delta/barrier islands, or the Minnesota bluffs.

This facility would be connected to the Refuge's La Crosse District Visitor Center/Office by a walking/bike trail located on the adjacent Brice Prairie Tract. Visitors, who prefer to drive to the facility, or those arriving in buses or recreational vehicles, would be able to park in the small Refuge parking lot recently constructed for this purpose along County Road ZB.

Currently, wildlife observation, photography, and interpretation account for nearly 767,000 visits annually to the Refuge. Typical use is by individuals, families, small groups, and school groups. These three activities are becoming increasingly popular and a source of economic growth for many communities. As three of the six priority public uses of the National Wildlife Refuge System, these uses are to be encouraged when compatible with the purposes of the Refuge. The public and communities desire more opportunities for these uses, while managers must balance opportunities with the need to limit human-caused disturbance.

Developing a facility on the Amann Tract provides the opportunity to meet the growing interest in these activities, while at the same time, ensuring that disturbance to wildlife concentrated on Lake Onalaska will be minimized. Visitors who use the facility will be able to observe eagles and other raptors, waterbirds (swans, geese, ducks, pelicans, and herons), furbearers, and the diversity of flora and fauna through the seasons.

The development of a facility would provide increased visitor opportunities for wildlife observation, photography, and interpretation, and to a lesser extent, environmental education. These activities meet Objectives 4.10 (Wildlife Observation and Photography) and 4.11 (Interpretation and Environmental Education) and associated strategies, respectively, in the Refuge's Comprehensive Conservation Plan (CCP) approved in 2006 (U.S. Fish and Wildlife Service 2006).

Development of a viewing area would also meet other CCP goals, including:

- Landscaping the shoreline and sideslope with native plants could serve as a demonstration area to guide other shoreline owners. Stabilizing the steep slope using native plants without the use of fertilizer or herbicides would contribute to the goal of improving water quality (Objective 2.1, Water Quality).
- Control invasive non-native plant species (Objective 2.3, Invasive Plants). Currently, Siberian elm (*Ulmus pumila*) trees can be found throughout the slope and along the shoreline. Another invasive non-native plant, smooth brome grass (*Bromus inermis*), is a dominant plant on the slope. Purple loosestrife (*Lythrum salicaria*), yet another invasive non-native plant, is found growing along the shoreline. These plants pose a challenge to managing native vegetation on the tract if they are not eliminated and controlled through an integrated approach.
- Provides the public with more information on both resource-related and public use-related aspects of the Refuge in keeping with a balanced approach (Objective 6.4, Public Information and Awareness).
- Expanded opportunities for volunteers (Objective 6.5, Staffing Needs). Volunteers will be critical to the success of the project. Opportunities for volunteers will be available during the construction phase, in planting and maintaining the native plant community, providing maintenance, and outreach to visitors.

Development of a facility and restoring native vegetation at this location also meet goals identified in the Town of Onalaska Comprehensive Plan (Schreiber/Anderson Associates, Inc. 2005) and Brice Prairie Master Plan (Schreiber/Anderson Associates, Inc. 2006). Among the goals/objectives that would be met through this project include promoting ecotourism, implementing best management practices along the Lake Onalaska shoreline, and controlling/managing invasive plant species.

1.3 Decisions that Need to be Made

The Acting Refuge Manager will review the analysis of the three alternatives described in this assessment and the comments received during the 30 day public-comment period. Based on the review, the Refuge Manager will select an alternative to be implemented. The Regional Director, U.S. Fish and Wildlife Service, Region 3, will review the Acting Refuge Manager's selection of one of three alternatives analyzed in detail and will determine, based on the facts and recommendations contained herein, whether this Environmental Assessment (EA) is adequate to support a Finding of No Significant Impact (FONSI) decision, or whether an Environmental Impact Statement (EIS) will need to be prepared.

1.4 Background

The Refuge:

Congress passed the Upper Mississippi River Wild Life and Fish Refuge Act on June 7, 1924. The act authorized the acquisition of land for a Refuge between Rock Island, Illinois and Wabasha, Minnesota. The 1924 act set forth the purposes of the Refuge as follows:

- “...as a refuge and breeding place for migratory birds included in the terms of the convention between the United States and Great Britain for the protection of migratory birds, concluded August 16, 1916, and
- to such extent as the Secretary of Agriculture¹ may by regulations prescribe, as a refuge and breeding place for other wild birds, game animals, fur-bearing animals, and for the conservation of wild flowers and aquatic plants, and
- to such extent as the Secretary of Commerce¹ may by regulations prescribe as a refuge and breeding place for fish and other aquatic animal life.”

¹*Changed to Secretary of the Interior pursuant to reorganization and transfer of functions in 1939 (16 USC 721-723).*

The National Wildlife Refuge System Improvement Act of 1997 amended the National Wildlife Refuge System Administration Act of 1966 and became a true organic act for the System by providing a mission, policy direction, and management standards. Among other provisions, the Act directed the Secretary of Interior to plan and direct the continued growth of the National Wildlife Refuge System (System) and recognized compatible wildlife-dependent recreational uses as the priority general public uses of the System, ensured that opportunities for compatible wildlife-dependent recreation are provided, and ensured that wildlife-dependent recreation received enhanced consideration over other uses. The Act also provided compatibility of uses standards and procedures and required that each unit of the National Wildlife Refuge System complete a Comprehensive Conservation Plan (CCP) by 2012.

CHAPTER 2. Alternatives, Including the Proposed Action

2.1 Alternatives not Considered for Detailed Analysis

Access to the River:

The Amann Tract was acquired to develop a public viewing area and, secondarily, to serve as a demonstration site for slope/shoreline restoration. A small parking lot and access to the trail system linked to the La Crosse District Visitor Center/Office were recently constructed through another project. The steep, highly erodible slope does not provide a good site for accessing the river (Figure 3). There is also a concern from neighbors that providing access at this site could lead to trespass onto their property. Further, providing access to the shoreline through this tract may be a source of disturbance to migratory birds, and other wildlife, concentrated below the overlook and cause a conflict with visitors using the facility for the intended purposes. For these reasons, river access will not be provided at this site. This is the same approach used at other Service-managed overlooks in the Refuge’s La Crosse District.

Nearby river access is provided at an existing public walkdown located less than ¼-mile from this site. A second parking lot was constructed on the Refuge along County Road ZB during an earlier project to provide parking for those wishing to access Lake Onalaska for ice fishing, canoe/kayaking, or other authorized activities.

Hunting and Furbearer Trapping:

Hunting and furbearer trapping were not considered for additional analysis for the following reasons: The location along a developed shoreline with homes on both sides, the small size of the tract (0.21-acre), and the potential conflict with the primary goal for acquiring the tract, i.e., developing a site to provide Refuge visitors with expanded opportunities to enjoy wildlife observation, photography, and interpretation.

The discharge of firearms is prohibited within 100 yards of buildings devoted to human occupancy as outlined in a “Firearms/Discharging of Weapons Ordinance” adopted by the Onalaska Town Board on November 30, 2007. The purpose of this ordinance, which addressed firearms and archery equipment, is to “promote the safety, health and general welfare by regulating the use of weapons in the Town of Onalaska.” This tract is located along a developed shoreline with occupied homes located within 100 yards on either side. County Road ZB, a well-traveled highway, borders the tract.

No hunting or furbearer trapping is permitted on the Refuge’s Mathy and Sarazin Tracts, located across County Road ZB from the Amann Tract. Both activities were addressed in two separate environmental assessments completed in March 2009 and May 2011, respectively. The public was provided the opportunity to review and comment on each environmental assessment for 30 days. After careful review of all comments received, the decision was made by the Service not to permit hunting or furbearer trapping on either tract for a variety of reasons, including the potential to compromise the goals of the visitor center/office and trail system, development on surrounding privately-owned land, and limited game potential. Two additional tracts, Moeller and Rusak, each less than 2.50 acres in size and located along County Road Z in proximity to the visitor center/office and maintenance facility, were acquired by the Service/Refuge in 2012 and 2013, respectively. No hunting and furbearer trapping is permitted on either tract for the same reasons as identified for the Amann Tract. Collectively, these four tracts, totaling about 186 acres, are now referred to as the Brice Prairie Tract.

The opportunity to hunt on the Refuge is not diminished by the closure of this 0.21-acre tract. Hunting is one of the priority public uses of the National Wildlife Refuge System and remains a vital part of the cultural, social, and economic fabric of the communities along the Refuge, including Brice Prairie. In 2006 when the CCP was completed, about 78% of the Refuge’s 240,000 acres were open to hunting. With the exception of the Brice Prairie Tract, most of the Refuge’s 240,000 acres are open to furbearer trapping at least part of the season in accordance with Refuge and State regulations and season dates.

2.2 Alternatives Carried Forward and Analyzed

2.2.1 Alternative A (No Action – Provide a Site to View Lake Onalaska and Use a Combination of Native Vegetation and Riprap to Protect the Steep Slope and Shoreline)

Under this alternative, equal emphasis would be placed on providing a site for visitors to view the upper end of Lake Onalaska and observe/photograph wildlife concentrated on/around the lake, and protect the steep slope and shoreline using a combination of native vegetation and riprap.

The area at the top of the sand terrace where the house was previously located would be landscaped to address run-off concerns and would serve as the site for visitors to use. To address drainage issues, an existing collapsed retaining wall on the south side of the tract would be removed and the site graded to blend with the topography on the adjacent lots. An undetermined amount of fill material trucked-in when the house was constructed would be removed and a swale constructed to address stormwater run-off (Figure 4).

Public amenities would be few. No benches or scopes would be installed and signs would be regulatory in nature rather than interpretive. A portion of the site would have a surface to meet accessibility standards required by the Architectural Barriers Act (ABA) and Americans with Disabilities Act (ADA).

Protecting the privacy of neighboring homes is an objective of the project and would be addressed by creating visual barriers along tract boundaries using a combination of native plants and fencing. The site would be open from daylight to dark, no lighting would be installed, and no snow removal is planned.

Implementing the no action alternative would minimally meet the primary goal of the project.

A combination of plantings and riprap would be used to address the goal of protecting the slope and shoreline using native plants. Existing vegetation on the slope is dominated by invasive non-native Siberian elm trees and smooth brome grass plants, and other herbaceous and woody plants. Purple loosestrife plants, another invasive non-native, are also present along the shoreline. These plants would be removed and replaced with native plants adapted to this environment. Highly eroded sites along the lower 10-12' of slope and along the shoreline may be protected using a combination of riprap and native vegetation (Figure 5).

2.2.2 Alternative B (Construct an On-Grade Patio Structure to Serve as a Viewing Area and Use a Combination of Riprap and Native Vegetation to Protect the Slope and Shoreline)

This alternative meets the primary goal for acquiring the tract, which is to develop a public viewing area. The facility would be limited to a viewing area located on the site formerly occupied by the house. The viewing area, constructed of concrete or gravel, would measure approximately 15' x 15' (225 square feet). A safety railing would be installed around the perimeter of the area. The site would be accessible, meeting the standards required by the Architectural Barriers Act (ABA) and Americans with Disabilities Act (ADA). To meet the

standards, a 6' wide concrete sidewalk would be constructed leading from County Road ZB to the viewing area and would impact approximately 300 square feet. Amenities installed at the viewing area include a bench, spotting scope, and a minimal number of interpretive signs.

Site preparations include removing an existing collapsed retaining wall on the south side of the tract, removing an undetermined amount of fill material trucked-in when the house was constructed, and constructing a swale to address stormwater run-off.

Protecting the privacy of neighboring homes is an objective of the project and would be provided by locating the viewing area near the center of the tract and close to County Road ZB. Native plants and/or fencing would be used along the tract boundaries to create a visual barrier and define the tract boundaries.

The facility would be open from daylight to dark, no lighting would be installed, and no snow removal is planned.

Implementing this alternative would minimally meet the goal of developing a public viewing area at this site to provide Refuge visitors with increased opportunities to observe and photograph wildlife and wildlands, and increase their level of understanding about the Upper Mississippi River/Refuge. However, by offering few amenities, the facility would not be as attractive to visitors, visits would likely be of short duration, and limited to wildlife/wildlands observation. Further, with no structure to serve as a "blind or hide," disturbance to wildlife concentrated along the shoreline may increase, with reduced opportunities for observing or photographing wildlife. While the objective of maintaining the privacy of nearby neighbors may be met, the viewing area as described may not be aesthetically appealing.

The secondary goal of restoring/protecting the slope and shoreline would be addressed. Invasive non-native woody and herbaceous plants, consisting of Siberian elms, smooth brome grass, and purple loosestrife, would be eliminated and replaced with native plants. The use of bioengineering techniques would be explored to protect the shoreline and highly eroded sites along the lower 10-12' of slope.

2.2.3 Alternative C (Proposed Action – Construct a Small Overlook and Use a Combination of Native Vegetation and Riprap to Protect the Steep Slope and Shoreline)

An overlook would be constructed in the area where the house was previously located. Constructing a structure at the edge of the terrace provides a more expansive view of the lake. The overlook would be constructed using a combination of wood and composite material. The structure, measuring approximately 18' in length x 24' in width (432 square feet), would be enclosed with a safety railing. A 6' wide concrete sidewalk, transitioning into a ramp constructed of wood and composite material, covering about 300 square feet, would provide access to the overlook from County Road ZB. Visitor amenities include the installation of two spotting scopes, two benches, and interpretive signing. Interpretive signing may include signs mounted on a single-panel kiosk and two "railing" brackets.

The structure, sidewalk/ramp, and single-panel kiosk, if constructed, would meet the standards required by the Architectural Barriers Act (ABA) and Americans with Disabilities Act (ADA) and would also meet setback requirements prescribed by La Crosse County.

Site preparations include removing an existing collapsed retaining wall on the south side of the tract, removing an undetermined amount of fill material trucked-in when the house was constructed, and constructing a swale to address stormwater run-off.

To meet the project objective of ensuring the project fits into the surrounding residential area, screens would be used on the north and south sides of the structure to serve as visual barriers. Further, the structure would be located near the center of the tract, close to County Road ZB, and employ the use of fences and/or landscaping to delineate property boundaries and provide additional visual barriers. The structure would also be sized to fit the site and designed with an arbor or similar feature to better fit the surrounding area.

The facility would be open from daylight to dark, no lights would be installed, and no snow removal is planned.

The secondary goal of restoring/protecting the slope and shoreline would be addressed. Invasive non-native woody and herbaceous plants, consisting of Siberian elms, smooth brome grass, and purple loosestrife, would be eliminated and replaced with native plants. The use of bioengineering techniques would be explored to protect the shoreline and highly eroded sites along the lower 10-12' of slope.

CHAPTER 3. Affected Environment

3.1 Physical Characteristics

The Refuge encompasses one of the largest blocks of floodplain habitat in the lower 48 states. Bordered by steep wooded bluffs that rise 100 to 600 feet above the river valley, the Upper Mississippi River corridor and Refuge offer scenic beauty, a wild character, and productive fish and wildlife habitat unmatched in mid-America. The Refuge covers approximately 240,000 acres and extends 261 river miles from north to south at the confluence of the Chippewa River in Wisconsin to near Rock Island, Illinois.

More than 300 species of birds, 51 species of mammals, 42 species of freshwater mussels, 119 species of fish, 31 species of reptiles, and 14 species of amphibians have been recorded on the Refuge.

The Amann Tract borders Lake Onalaska, a nearly 7,400-acre backwater complex located in lower Navigation Pool 7, with open water, interior islands, barrier island complexes with associated marsh, and flowing channels that convey water from the main channel into the lake.

3.2 Biological Environment

3.2.1 Habitat/Vegetation

Approximately 47,867 acres of the Refuge total are located in the La Crosse District and include about 28,245 acres of open water, 19,057 acres of wetlands, and 565 acres of upland.

Vegetation on the Amann Tract is currently dominated by invasive non-native species. Siberian elm trees can be found throughout the slope and along the shoreline. Smooth brome grass is a dominant plant on the slope, and purple loosestrife plants are found growing along the shoreline.

3.2.2 Listed, Proposed, and Candidate Species

No federally listed threatened or endangered species, or candidate species, are known to use the Amann Tract. Bald eagles, delisted in 2007, perch in trees located along the shoreline.

3.2.3 Other Wildlife Species

Wildlife use of the 0.21-acre Amann Tract is limited due to its size and location. However, the tract provides an exceptional view of Lake Onalaska. The arrangement of habitat types within the lake supports large concentrations of migrating waterbirds each fall and spring, including diving and puddle ducks, swans, and geese. A variety of other migratory birds, including bald eagles, white pelicans, and great blue herons are attracted to the quantity and quality of habitat available nearby, along with reptiles, amphibians, and mammals, such as river otters and beaver. Lake Onalaska also supports one of the premier panfish fisheries on the Upper Mississippi River. A considerable amount of habitat restoration work has been completed in/around Lake Onalaska since 1989.

3.3 Land Use

Brice Prairie, where the Amann Tract is located, is characterized by agricultural land use and residential development, surrounded by wetlands either privately-owned or part of the Refuge. Agriculture consists largely of corn, soybean, and alfalfa production, with some livestock pasture. Brice Prairie, along with the rest of the Town of Onalaska, experienced significant growth and development over the past 50 years, with accelerated growth rates occurring between 1960-1980 (Schreiber/Anderson Associates, Inc. 2005). Residential growth is expected to continue.

3.4 Cultural Resources

The Brice Prairie region contains numerous cultural resources indicating continual human occupation extending over approximately the past 12,000 years. Cultural resources (limited to before European contact) are located across Brice Prairie, a Holocene-age low terrace formed by glacial outwash.

There are three archaeological sites located in the vicinity of the Brice Prairie Tract. The oldest, a plowed down burial mound recorded in 1889 is the shape of an animal (often called an “effigy”) of some kind. It is from the Late Woodland Period and dates between 750-1100 A.D. While described as “ruined” in 1889, parts of it may be under the plowzone. The other two sites

are from the Oneota Period (1300-1400 A.D.). This area was particularly a hotbed of settlement from about 1300-1400 A.D., which is called the “Brice Prairie Phase of the Oneota Period.” Occupation may have continued later into the Pammel Creek Phase (1400-1500 A.D.) and Valley View Phase (1500-1625 A.D.), but its peak was from 1300-1400 A.D. One site, called the Olson Site, is a very large and dense Oneota Village eligible for inclusion on the National Register of Historic Places. It has intact houses below the plowzone. Another site, a less dense campsite that was probably a “suburb” of the Olson Village, is located nearby. It will also have a few features intact below the plowzone.

3.5 Local Socioeconomic Conditions

The Amann Tract is located in the Town of Onalaska. The Town is located next to two of the fastest growing municipalities in the region, the City of Onalaska and the Village of Holmen. As a result, the Town is also experiencing considerable development pressure and population growth (Schreiber/Anderson Associates, Inc. 2005).

Constructing a wildlife viewing facility on the Amann Tract that is linked to the La Crosse District Visitor Center/Office and trail complex will draw visitors to observe and photograph wildlife, learn about the Upper Mississippi River and Refuge, and enjoy the viewscape. Travellers on Highway 35, a National Scenic Byway, will also benefit from the project. Visitors will likely consist of individuals, families, and small groups, with spring and fall expected to be the busiest times.

Lake Onalaska is a popular destination for sport anglers, hunters, sailors and boaters, and for observing wildlife. Mosey Landing and the Fred Funk Boat Landing provides access from Brice Prairie to the popular Lake Onalaska. The landings receive nearly year-round use. The 24-mile long Great River State Trail (bike trail) passes through Onalaska and Trempealeau, Wisconsin and is located in proximity to Brice Prairie.

The financial impact of the Mississippi River and Refuge is substantial. The Upper Mississippi River System annually contributes an estimated \$1 billion in recreational benefits to the region (U.S. Fish and Wildlife Service 2006). The Refuge was one of 92 refuges examined as part of a recent peer-reviewed study, *Banking on Nature*, released in November 2013 (U.S. Fish and Wildlife Service, 2013). The study found that recreational visitors to the Refuge generated \$226 million in economic effects in FY2011 on a budget of \$4.9 million – about \$46 for every \$1 in budget expenditure. The Refuge also supported the greatest number of jobs of all sampled refuges at 1,394. The Refuge is the most visited in the National Wildlife Refuge System. \In FY2013 (October 1, 2012 through September 30, 2013), the La Crosse District received an estimated 872,905 visits for the following activities:

- 325,000 visits for non-wildlife dependent recreation
- 229,930 visits for wildlife observation
- 215,000 visits for fishing
- 44,490 visits for interpretation
- 30,525 visits for hunting
- 26,900 visits for wildlife photography
- 1,060 visits for environmental education

CHAPTER 4. Environmental Consequences

This chapter describes the foreseeable environmental consequences of implementing the three management alternatives identified in Chapter 2.

4.1 Effects Common to All Alternatives

4.1.1 Environmental Justice

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” was signed by President Bill Clinton on February 11, 1994.

This executive order focuses federal attention on the environmental and human health conditions of minority and low-income populations with the goal of achieving environmental protection for all communities. The executive order directs federal agencies to develop environmental justice strategies to aid in identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The executive order is also intended to promote non-discrimination in federal programs substantially affecting human health and the environment, and to provide minority and low-income communities’ access to public information and participation in matters relating to human health or the environment.

This environmental assessment has not identified any adverse or beneficial effects for any of the three alternatives unique to minority or low-income populations in the affected area. None of the alternatives will disproportionately place any adverse environmental, economic, social, nor health impacts on minority or low-income populations.

4.1.2 Listed, Proposed, and Candidate Species

No current federally listed threatened/endangered/candidate species are known to use the Amann Tract. As a result, none of the alternatives will directly or indirectly affect (neither negatively nor beneficially) individuals of listed/proposed/candidate species or designated/proposed critical habitat of such species.

4.1.3 Irretrievable and Irreversible Commitment of Resources

In the no action alternative, Alternative A, funding would be required to address drainage issues on the site previously occupied by the house. This objective would be met by removing an existing collapsed retaining wall and excavating and removing an undetermined amount of fill material before leveling the site. This leveled area would serve as the viewing area. Additional resources would be needed to fund landscaping and/or fence construction along the tract boundaries to form a visual barrier and delineate the tract boundaries. Existing vegetation on the steep slope and along the shoreline includes three species of invasive non-native plants. These plants would be removed and the slope protected using native vegetation adapted to such sites. Using a combination of riprap and native vegetation to protect the highly eroded bottom 10-12’

of slope and shoreline would be explored. Permanent impacts to the tract would be minimal and may include fencing, riprap, or gravel to delineate a viewing area at the edge of the terrace. The cost to implement this alternative is estimated at \$70,000 and funding is available through a 2012 grant from the Scenic Byways Program.

Alternative B requires funding for many of the same features identified in Alternative A, plus constructing a concrete- or gravel-surfaced on-grade patio structure to serve as the viewing area, constructing a concrete sidewalk, and purchasing/installing a bench, spotting scope, and interpretive signing. An estimated 525 square feet of the tract would be permanently impacted by this project. The total cost to implement this alternative is estimated at \$85,000. Funding is available through a 2012 grant from the Scenic Byways Program.

The proposed action, Alternative C, provides additional amenities for the public to enjoy wildlife-dependent recreation on the Amann Tract. In addition to most of the features proposed in Alternatives A and B, an 18' x 24' overlook, constructed of wood and composite material, would be featured in Alternative C. Two spotting scopes and two benches would be purchased and installed on the overlook. Alternative C may also include the design/fabrication/installation of interpretive signing on a single-panel kiosk located near the overlook. Two additional interpretive signs may be mounted on brackets on the railing of the structure. Screening is also proposed to be installed on the sides of the structure to provide additional privacy for neighboring homes. Approximately 735 square feet of the tract would be permanently impacted by this project. The cost estimate to implement Alternative C is estimated at \$155,000. Partial funding is available through a 2012 grant from the Scenic Byways Program, donations, and the contributions of volunteers. Additional funding would be needed to construct all features. As a result, work may be completed in phases as funding becomes available.

4.1.4 Short-term Uses and Long-term Productivity

As proposed in Alternatives B and C, construction of expanded facilities would entail disturbance to wildlife and primarily invasive non-native plants. Depending on which alternative is selected, these facilities would permanently cover an estimated 525-735 square feet. Disturbance from construction activities could involve another 1,200 to 1,400 square feet. However, the impacts during construction are site-specific and of short duration. Additional temporary disturbance is expected through slope and shoreline restoration activities. This temporary disturbance should be more than offset by increasing the long-term productivity of the entire tract through habitat restoration. After the facility is constructed, localized disturbance may result from maintenance activities. This disturbance should be localized and is not expected to measurably affect the long-term productivity of habitat on much of the tract.

4.1.5 Unavoidable Adverse Effects

Construction of a viewing area (Alternative B) or overlook (Alternative C), and slope restoration and shoreline stabilization activities, proposed in all three alternatives, would result in unavoidable short-term impacts to both habitat and wildlife. Moreover, permanent impacts to about 525 square feet would result from construction of a viewing area (Alternative B), or 735 square feet through the construction of an overlook (Alternative C). These effects are mitigated to some extent by the use of best management practices, precautions that safeguard surrounding

habitat, and the control of the timing and means of visitor use (i.e. confined to an area or structure with no lake access), and are more than offset by habitat restoration on the entire tract.

All three alternatives, to varying degrees, will have adverse impacts to a certain segment of the public that does not favor any of the alternatives and will thus be disappointed with the decision. This social impact is unavoidable given the diversity of public desires, project goals, and the availability of suitable sites to develop a public overlook along a developed shoreline.

4.2 Alternative A (No Action - Provide a Site to View Lake Onalaska and Use a Combination of Native Vegetation and Riprap to Protect the Slope and Shoreline)

4.2.1 Habitat and Biological Impacts

The area at the top of the sand terrace where the house was previously located would be leveled and landscaped to address run-off concerns and would serve as the site for visitors to use. To address drainage issues, an existing collapsed retaining wall on the south side of the tract would be removed and the site graded to blend with the topography on the adjacent lot. An undetermined amount of fill material trucked-in when the house was constructed would be removed and a swale constructed to address stormwater run-off.

A combination of native plants and fencing would be used to delineate tract boundaries and would also serve as visual barriers.

Native plants and riprap would be used to address the goal of protecting the slope and shoreline. Existing vegetation on the slope is dominated by invasive non-native Siberian elms and smooth brome grass. Purple loosestrife plants, another invasive non-native, are also present along the shoreline. These plants would be removed and replaced with native plants adapted to this environment. Highly eroded sites along the lower 10-12' of slope and the shoreline would be protected using a combination of riprap and native vegetation.

With limited site development and an emphasis on site restoration/protection, impacts to vegetation, wildlife, soil, and groundwater would be minimal.

4.2.2 Cultural Resources

Based on the presence of approximately of 9½ to 12' of fill over the parent material in the area surveyed, the Service believes there is a low probability of disturbing significant intact cultural deposits in the area where the house was previously located if the site is leveled and left. However, given the proximity of this tract to known archaeological sites, as a precautionary measure, a professional archaeologist is required to be on-site to monitor construction activities.

Trees/shrubs growing on the slope and along the shoreline, including several large trees, would be cut as low to the ground as possible and chipped. The stumps would be treated with an herbicide to prevent resprouting and left to decompose naturally. This method minimizes topsoil

disturbance and confines it to the surface. Prior to project initiation, a professional archaeologist would be consulted to review, and approve, the recommended course of action.

4.2.3 Visitor Use

Visitors may be interested in stopping at this site to observe first-hand the results of the slope/shoreline restoration effort and to learn of the methods used. Visits for wildlife/wildlands observation would be expected to show a slight increase if a small viewing area were available. However, without the addition of ancillary features such as a well-defined viewing area or overlook, spotting scopes, benches, and interpretive signing, the goals identified for this facility would be minimally met. Moreover, the larger goal of providing the public with more information on both resource-related and public use-related aspects of the Refuge may not be met.

4.2.4 Refuge Operations

A temporary expansion of Refuge operations is expected to complete the restoration/stabilization project on the steep slope and along the shoreline. After completion of restoration activities, maintenance responsibilities would be addressed by staff and volunteers. These responsibilities would include invasive plant control, mowing the area serving as the viewing area, and fence maintenance. Maintenance would be an annual and long-term need.

4.2.5 Public Health and Safety

To access the Amann Tract, visitors will have to cross County Road ZB either from the recently-constructed Lake Overlook Parking Lot or from the Main Trail. Both facilities are located on the Brice Prairie Tract. The posted speed limit on this highway is 35 mph. After discussing this topic with the La Crosse County Highway Department Commissioner, the recommendation was made to wait until after work is completed to determine if a crosswalk and signing are needed to alert both motorists and pedestrians. Another option being explored is to post signs in the parking lot or on the trail reminding visitors to be mindful of the highway crossing. To alert motorists and those intending to use the parking lot, a “Scenic Overlook Ahead” sign may be posted along County Road ZB about ¼-mile southeast of the parking lot. This sign would be posted on the Refuge side of the highway.

Given the steep slope leading from the relatively flat area where the house was located, down to the river, a safety fence would be constructed near the edge of the flat area, confining visitors to this area.

4.2.6 Viewscape

There would be minimal impacts to the viewscape because limited development is planned.

4.2.7 Socioeconomic Impacts

A percentage of the visitors to the visitor center and adjoining trail system would likely be primary users of this facility. Use would be expected to peak during spring and fall migrations.

Visitors would have the opportunity to view Lake Onalaska and the Upper Mississippi River, waterbirds, eagles, and the Minnesota bluffs. However, without the addition of other amenities, the project goal, and consequently economic impact, would be minimally met. It is expected the local economy would benefit little from this activity because the facility would not serve as a destination.

4.2.8 Cumulative Impacts

Under this alternative, the slope down to the river would be restored by removing at least three species of invasive non-native plants and replacing them with a mix of native plants adapted to this area and application. Further, this project would explore protecting the lower slope and shoreline using a combination of riprap and native plants.

Scheduling a professional archaeologist to be on-site during construction should adequately address cultural resource concerns.

Without an expansion of facilities, such as a developed viewing area or overlook, along with benches, spotting scopes, and interpretive signing, there would be lost opportunities. Some of the lost opportunities are specific to this site; others are broader in scope and impact. Lost opportunities may include:

- Providing another facility in the area for compatible wildlife-dependent recreation (wildlife/wildlands observation, photography, and interpretation). This contributes to the goal of increasing awareness of the need for conservation and appreciation of natural resources and public lands management.
- Developing the site into a destination that benefits a variety of local and regional businesses.

4.3 Alternative B (Construct an On-Grade Patio Structure to Serve as a Viewing Area and Use a Combination of Riprap and Native Vegetation to Protect the Slope and Shoreline)

4.3.1 Habitat and Biological Impacts

The area at the top of the sand terrace where the house was previously located would be landscaped to address run-off concerns and would also serve as the location for the approximately 15' x 15' on-grade concrete or gravel-surfaced patio. To address drainage issues, an existing collapsed retaining wall located on the south side of the tract would be removed and the site graded to blend with the topography on the adjoining residential lot. An undetermined amount of fill material trucked-in when the house was constructed would be removed and a swale constructed to address stormwater run-off.

A combination of native plants and fencing would be used to delineate tract boundaries and would also serve as visual barriers.

The secondary goal of restoring/protecting the slope and shoreline would be addressed. Invasive non-native woody and herbaceous plants, consisting of Siberian elms, smooth bromegrass, and purple loosestrife, would be eliminated and replaced with native plants. The use of bioengineering techniques would be explored to protect the shoreline and highly eroded sites along the lower 10-12' of slope.

With limited site development and an emphasis on site restoration/protection, impacts to vegetation, wildlife, soil, and groundwater would be minimal.

4.3.2 Cultural Resources

Based on the presence of approximately of 9½ to 12' of fill over the parent material in the area surveyed, combined with the history of disturbance, the Service believes there is a low probability of disturbing significant intact cultural deposits in the area where the house was previously located if an on-grade patio is constructed. To accommodate the patio, existing fill would be removed and replaced with new granular fill for better compaction. Given the proximity of this tract to known archaeological sites, as a precautionary measure, a professional archaeologist is required to be on-site to monitor construction activities.

Trees/shrubs growing on the slope and along the shoreline, including several large trees, would be cut as low to the ground as possible and chipped. The stumps would be treated with an herbicide to prevent resprouting and left to decompose naturally. This method minimizes topsoil disturbance and confines it to the surface. Prior to project initiation, a professional archaeologist would be consulted to review, and approve, the recommended course of action.

4.3.3 Visitor Use

Refuge visitation would be expected to increase if this alternative is implemented. This increase would likely be for the following wildlife-dependent activities: Wildlife/wildlands observation, photography, and interpretation. Completion of this facility complements the nearby visitor center and trail system and the ongoing efforts of the City of Onalaska to develop the Great River Landing Project and provides another destination for the traveling public as well as local residents. A restored slope and shoreline would also attract visitors interested in observing the results or learning of the methods used. Regardless of the reason for visiting, this facility would contribute toward meeting the larger Refuge goal of increasing public awareness of the Refuge and its significance by expanding opportunities for the public.

4.3.4 Refuge Operations

A temporary expansion of Refuge operations is expected to complete the restoration/stabilization project on the steep slope and along the shoreline. After completion of restoration activities, maintenance responsibilities would be addressed by staff and volunteers. These responsibilities would include invasive plant control and landscaping maintenance. Other duties would include mowing around the viewing patio and sign and fence maintenance. Maintenance would be an annual and long-term need.

4.3.5 Public Health and Safety

To access the Amann Tract, visitors will have to cross County Road ZB either from the Lake Overlook Parking Lot or from the Main Trail. Both facilities are located on the Brice Prairie Tract. The posted speed limit on County Road ZB is 35 mph. After discussing this topic with the Commissioner of the La Crosse County Highway Department, the recommendation was made to wait until after work is completed to determine if a crosswalk and signing are needed to alert both motorists and pedestrians. Another option being explored is to post signs in the parking lot or on the trail reminding visitors to be mindful of the highway crossing. To alert motorists and those intending to use the parking lot, a “Scenic Overlook Ahead” sign may be posted along County Road ZB about ¼-mile southeast of the parking lot. This sign would be posted on the Refuge side of the highway.

Given the steep slope leading from the relatively flat area where the house was previously located, down to the river, a safety fence would be constructed near the edge of the flat area, confining visitors to this area.

4.3.6 Viewscape

There would be minimal impacts to the viewscape because limited development is planned.

4.3.7 Socioeconomic Impacts

Visitors to the visitor center and adjoining trail system would likely be primary users of this facility. Additionally, local residents and those traveling along the Upper Mississippi River during spring and fall migrations would also be expected to use the facility. Peak visitation would likely occur during spring and fall migrations. This facility may not serve as a destination for “non-residents,” but when packaged as another amenity with similar sites along the Refuge in the tri-state area of Minnesota, Wisconsin, and Iowa, increased benefits to the local economy would likely result. In the 2013 *Banking on Nature* report, visitor recreation expenditures for non-consumptive activities, such as wildlife/wildlands observation, photography, and interpretation, accounted for the largest expenditure of any activity, including hunting and fishing.

4.3.8 Cumulative Impacts

Depending on the final size and location of the on-grade patio, this concrete or gravel-surfaced structure may permanently impact an estimated 525 square feet of the tract in the area where the house was previously located. Disturbance from construction activities could temporarily disturb another 1,200 to 1,400 square feet. However, the impacts during construction are site-specific and of short duration.

Scheduling a professional archaeologist to be on-site during construction should adequately address cultural resource concerns.

To address drainage issues, an existing collapsed retaining wall located on the south side of the tract would be removed and the site graded to blend with the topography on the adjoining

residential lot. An undetermined amount of fill material trucked-in when the house was constructed would be removed and a swale constructed to address stormwater run-off.

Given the relatively flat terrain of the construction site and plans for stabilizing the adjoining slope with native vegetation, sedimentation resulting from construction activities is not expected to have any long-term cumulative impacts.

Additional temporary disturbance is expected during slope and shoreline restoration activities. This temporary disturbance should be more than offset by increasing the long-term productivity of the entire tract through habitat restoration and the removal of invasive exotic plants.

After the facility is constructed, localized disturbance may result from maintenance activities. This disturbance should be localized and is not expected to measurably affect the long-term productivity of habitat on much of the tract.

Use of the tract for wildlife-dependent recreation, consistent with the purposes for which the land was acquired, would add another opportunity for the public to experience the outdoors. This would also contribute to the goal of increasing awareness of natural resource conservation, Upper Mississippi River management, the Refuge and National Wildlife Refuge System, and public lands management.

4.4 *Alternative C (Proposed Action - Construct a Small Overlook and Use a Combination of Native Vegetation and Riprap to Protect the Slope and Shoreline)*

4.4.1 Habitat and Biological Impacts

The overlook would be constructed using a combination of wood and composite material. The structure, measuring approximately 18' in length x 24' in width (432 square feet), would be enclosed by a safety railing. A 6' wide concrete sidewalk, transitioning into a ramp constructed of wood and composite material, covering about 300 square feet, would provide access to the overlook from County Road ZB. Visitor amenities include the installation of two spotting scopes, two benches, and a variety of interpretive signing that may include signs mounted on a single-panel kiosk and two "railing" brackets.

The area at the top of the sand terrace where the house was previously located would be landscaped to address run-off concerns and would also serve as the location for the overlook. To address drainage issues, an existing collapsed retaining wall located on the south side of the tract would be removed and the site graded to blend with the topography on the adjoining residential lot. An undetermined amount of fill material trucked-in when the house was constructed would be removed and a swale constructed to address stormwater run-off. Erosion control measures would be implemented in accordance with "Best Management Practices" and methods prescribed by federal, state, and local agencies' regulations. Impacts to water quality should also be minor and short term since precautions such as the use of silt fences or curtains would be used to minimize the potential for erosion during all activities.

A combination of native plants and fencing would be used to delineate tract boundaries and would also serve as visual barriers.

Confining visitors to an overlook, complete with railing and an arbor, may minimize disturbance to waterbirds concentrated in the lake below the structure, particularly during migrations.

The secondary goal of restoring/protecting the slope and shoreline would be addressed. Invasive non-native woody and herbaceous plants, consisting of Siberian elms, smooth bromegrass, and purple loosestrife, would be eliminated and replaced with native plants. The use of bioengineering techniques would be explored to protect the shoreline and highly eroded sites along the lower 10-12' of slope.

With limited site development and an emphasis on site restoration/protection, impacts to vegetation, wildlife, soil, and groundwater would be minimal.

4.4.2 Cultural Resources

On-site borings conducted in July 2013 found 9½ to 12' of fill was placed over parent material in the area surveyed. This fill consisted mostly of fine-grained sand. Below the fill, coarse alluvium, consisting mostly of fine-medium grained sand was encountered. The existing fill at the site is not suitable for building because excess settlement could occur. As a result, the overlook requires support from drilled shafts, spread footings, or helical piles.

Prior to adding the structural support, an unknown quantity of fill would be excavated and removed from this site. Because of the history of previous disturbance, the Service believes there will be no potential effect to cultural resources when these supports are constructed. However, given the proximity of this tract to known archaeological sites, as a precautionary measure, a professional archaeologist is required to be on-site to monitor construction activities.

Trees/shrubs growing on the slope and along the shoreline, including several large trees, would be cut as low to the ground as possible and chipped. The stumps would be treated with an herbicide to prevent resprouting and left to decompose naturally. This method minimizes topsoil disturbance and confines it to the surface. Prior to project initiation, a professional archaeologist would be consulted to review the proposal and develop a course of action.

4.4.3 Visitor Use

Refuge visitation would increase if this alternative is implemented. Visits for wildlife/wildlands observation, photography, and interpretation would all likely increase. A restored slope and shoreline would also attract visitors interested in learning about invasive species removal and restoration using native plants. Completion of this facility complements the nearby visitor center and trail system and the ongoing efforts of the City of Onalaska to develop the Great River Landing Project and provides another destination for the traveling public as well as local residents. This facility would meet the Refuge goal of increasing public awareness of the Refuge and its significance by expanding opportunities for the public.

4.4.4 Refuge Operations

An expansion of Refuge operations would occur if this alternative is implemented. Refuge staff and volunteers would be involved in planning, constructing the single-panel kiosk, designing and installing signs, and landscaping. After completion of the project, maintaining the facility would be the responsibility of Refuge staff and volunteers. A temporary expansion of Refuge operations is also required to complete the restoration/stabilization project on the steep slope and along the shoreline. After the restoration is completed, invasive plant control would likely be required. Maintenance would be an annual and long-term need.

4.4.5 Public Health and Safety

To access the Amann Tract, visitors will have to cross County Road ZB either from the Lake Overlook Parking Lot or from the Main Trail. Both facilities are located on the Brice Prairie Tract. The posted speed limit on County Road ZB is 45 mph. After discussing this topic with the Commissioner of the La Crosse County Highway Department, the recommendation was made to wait until after work is completed to determine if a crosswalk and signing are needed to alert both motorists and pedestrians. Another option being explored is to post signs in the parking lot or on the trail reminding visitors to be mindful of the highway crossing. To alert motorists and those intending to use the parking lot, a “Scenic Overlook Ahead” sign may be posted along County Road ZB about ¼-mile southeast of the parking lot. This sign would be posted on the Refuge side of the highway.

Due to the steep and unstable slope, no access to the river would be available at this site. Visitors would be confined to the overlook by railings and landscaping. Periodic inspections would be conducted to ensure the facility continues to meet safety standards.

4.4.6 Viewscape

A design objective is to construct an overlook compatible with the adjacent surroundings which include private residences on either side of the Amann Tract, the Upper Mississippi River/Lake Onalaska to the front, and County Road ZB and restored sand prairie in the rear. To meet this objective and protect the viewscape, the overlook will remain small, be constructed of wood/composite material, and include an arbor.

In addition, fencing, landscaping, and screens would be utilized to protect the privacy of neighboring homes.

4.4.7 Socioeconomic Impacts

While visitors to the visitor center and adjoining trail system would likely be the primary users of this facility, local residents and those traveling along the Upper Mississippi River on National Scenic Byways during spring and fall migrations would also find the overlook of interest. Peak visitation would likely occur during spring and fall migrations. During times of the year, particularly in October when fall foliage is at peak colors or when canvasbacks are feeding in the upper part of Lake Onalaska, the overlook may serve as a destination for “non-residents.” When

not serving as a destination, this venue would remain an attraction when packaged as part of a tour package with similar sites on the Refuge in the tri-state area of Minnesota, Wisconsin, and Iowa. Increased benefits to the local and regional economy would accrue when this occurs.

In the 2013 *Banking on Nature* report, visitor recreation expenditures for non-consumptive activities, such as wildlife/wildlands observation, photography, and interpretation, accounted for the largest expenditure of any activity, including hunting and fishing.

4.4.8 Cumulative Impacts

Depending on the final location of the overlook and concrete sidewalk, these structures may permanently impact an estimated 735 square feet of land in the area where the house was previously located. Disturbance from construction activities could temporarily disturb another 1,200 to 1,400 square feet. However, the impacts during construction are site-specific and of short duration.

Scheduling a professional archaeologist to be on-site during construction should adequately address cultural resource concerns.

To address drainage issues, an existing collapsed retaining wall located on the south side of the tract would be removed and the site graded to blend with the topography on the adjoining residential lot. An undetermined amount of fill material trucked-in when the house was constructed would be removed and a swale constructed to address stormwater run-off.

After the facility is constructed, localized disturbance may result from maintenance activities. This disturbance should be localized and is not expected to measurably affect the long-term productivity of habitat on much of the tract.

Additional temporary disturbance is expected during slope and shoreline restoration activities. This temporary disturbance should be more than offset by increasing the long-term productivity of the entire tract through habitat restoration and the removal of invasive exotic plants.

Use of the tract for wildlife-dependent recreation, consistent with the purposes for which the land was acquired, would add another opportunity for the public to experience the outdoors. This would also contribute to the goal of increasing awareness of natural resource conservation, Upper Mississippi River management, the Refuge and National Wildlife Refuge System, and public lands management.

4.5 Summary of Site Objectives by Alternative

A summary table providing the consequences of each of the three alternatives is provided. The proposed action combines the best benefits, meets the primary project goal of developing an overlook that provides increased opportunities for quality wildlife-dependent recreation, and restores/protects a steep slope and a section of shoreline on Lake Onalaska.

Consequences	Alternative A (No Action)	Alternative B	Alternative C (Proposed Action)
Habitat and Biological Impacts	Minimal permanent impacts; disturbance to wildlife possible without an overlook	525 square feet of permanent impacts; disturbance to wildlife possible without an overlook	735 square feet of permanent impacts; overlook minimizes disturbance to wildlife
Control invasive species	Yes	Yes	Yes
Cultural Resources	Review plans; site monitoring required	Review plans; site monitoring required	Review plans; site monitoring required
Visitor Use	Slight increase for wildlife observation and to view restored slope/shoreline	Increase for wildlife observation; minor increase for photography and , interpretation and to view restored slope	Increase in visitation; overlook becomes a destination for travelers
Refuge Operations	Minor maintenance after site leveled and restoration complete	Staff and volunteer involvement in restoration activities and facility/site maintenance	Staff and volunteer involvement in construction, restoration, and facility maintenance
Public Health and Safety	Visitors crossing ZB; confine visitors to top of sand terrace with fence	Visitors crossing ZB; confine visitors to viewing area with fence	Visitors crossing ZB; confine visitors to overlook
Viewscape	Minimal impact	Minimal impact	Minimal impact;
Socioeconomic Impacts	Limited	Benefits the local economy	Benefits the local and regional economy
Cumulative Impacts	Minimal development; lost opportunities	525 square feet of permanent impacts; increased opportunities for visiting public	735 square feet of permanent impacts; broad cross section of public benefits
Compatible With a Developed Shoreline	Landscaping and fencing; visitors stand in the open	Landscaping and fencing; visitors stand on a hard surface patio	Landscaping and fencing; visitors stand on an overlook with arbor and screening

CHAPTER 5. List of Preparers

This Environmental Assessment was prepared by staff of the La Crosse District of the Refuge and reviewed by Tim Yager, Acting Refuge Manager, and Cindy Samples, Refuge Visitor Services Manager. Brian Stemper, Refuge Wildlife Biologist, prepared the map. Engineering staff from the Service's Region 3 Regional Office, provided facility design and cost estimates. James Myster, Region 3 Historic Preservation Officer, provided guidance for the various sections involving cultural resources.

CHAPTER 6. Consultation and Coordination with the Public and Others

The general public will be made aware of the document along with an invitation to provide comments through a news release or direct mailing. Comments will be accepted for 30 days, from January 7 through February 7, 2014.

Copies of this draft Environmental Assessment are being made available for public review at the Town of Onalaska Hall in Midway, WI; at the Refuge's La Crosse District Visitor Center/Office, N5727 County Road Z, Onalaska, WI; and on the Refuge's website at:
http://www.fws.gov/refuge/upper_mississippi_river/

All comments received from individuals become part of the official public record. All requests for such comments will be handled in accordance with the Freedom of Information Act and the Council on Environmental Quality's NEPA regulations in 40 CFR 1506.6(f). Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours.

Individual respondents may request that we withhold their home address for the record, which we will honor to the extent allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comments.

CHAPTER 7. Public Comment on the Draft Environmental Assessment and Service Response

This section will be completed as part of the final environmental assessment.

References

Schreiber/Anderson Associates, Inc. 2005. Town of Onalaska Comprehensive Plan, 2005-2025, Volume 1 and 2, Adopted May 26, 2005

Schreiber/Anderson Associates, Inc. 2006. Town of Onalaska Brice Prairie Master Plan, Summary Memorandum Incorporated by Amendment Into the Town of Onalaska Comprehensive Plan, Adopted May 22, 2006

U.S. Fish and Wildlife Service. 2006. Final Environmental Impact Statement (EIS) and Comprehensive Conservation Plan (CCP), Upper Mississippi River National Wildlife and Fish Refuge. Regional Director, Fort Snelling, Twin Cities, MN

U.S. Fish and Wildlife Service. 2013. Banking on Nature: The Economic Benefits to Local Communities of National Wildlife Refuge Visitation. Division of Economics, Washington, DC

Figure 1. Location of the Amann Tract and Proposed Wildlife Viewing Facility.





Figure 2. Proposed location for a wildlife viewing facility on the Amann Tract overlooking the upper end of Lake Onalaska.

FWS Photo, 11/2013



Figure 3. A steep, highly erodible slope leads down to Lake Onalaska.

FWS Photo, 11/2013



Figure 4. Condition of the retaining wall located on the downstream side of the tract. Note the amount of fill present behind the wall.

FWS Photo, 11/2013



Figure 5. Eroded sites along the lower 10-12' of slope and the condition of the shoreline. The sign is a U.S. Army Corps of Engineers boundary sign.

FWS Photo, 11/2013