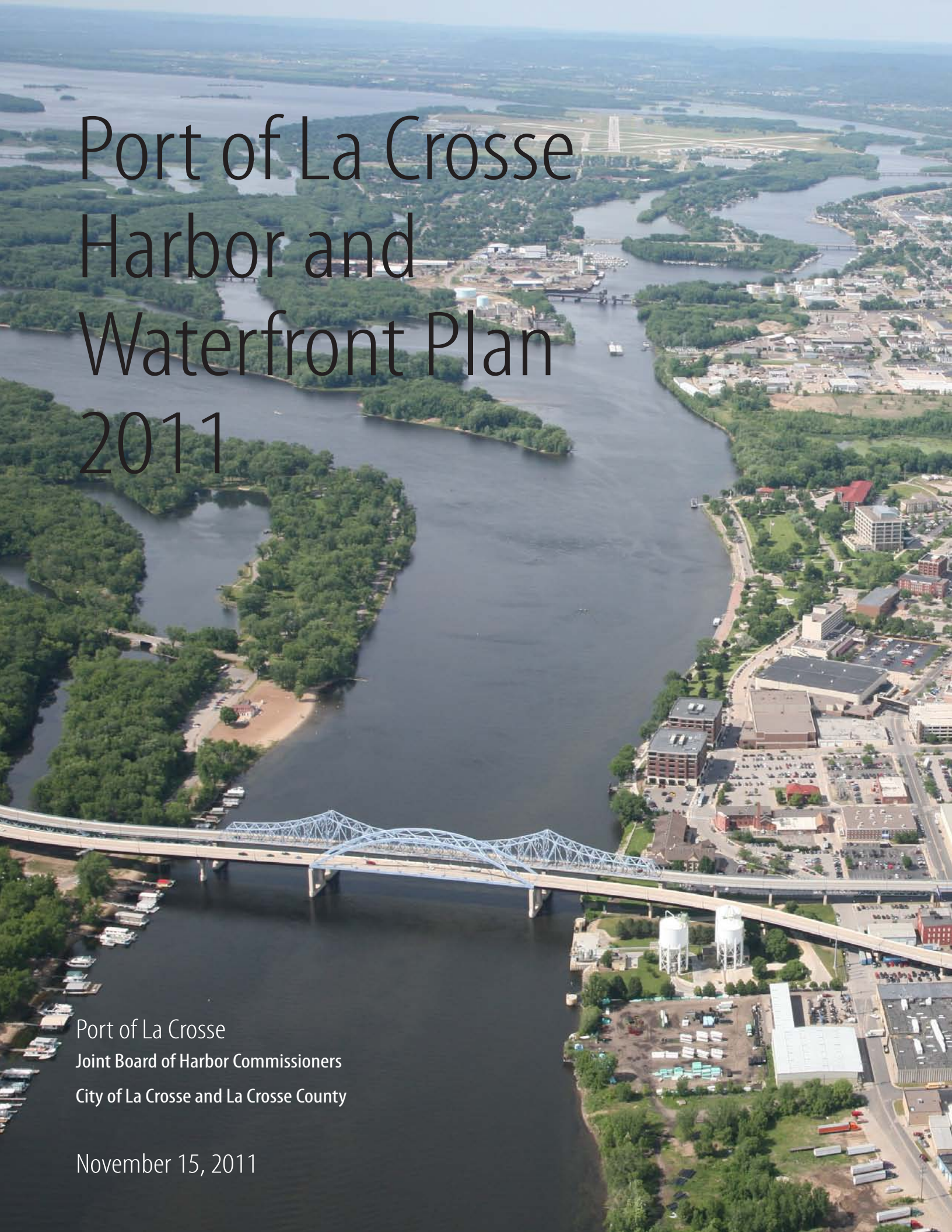
Port of La Crosse Harbor and Waterfront Plan 2011



Port of La Crosse

Joint Board of Harbor Commissioners

City of La Crosse and La Crosse County

November 15, 2011

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Executive Summary

The Power of Water

The Mississippi River is a national treasure. It drains all or parts of 31 states, representing two-thirds of the country's watershed. It provides navigation for barges that carry almost 500 million tons of cargo per year. It provides a recreational corridor with more than 125 communities actually lining the river. It hosts a critical diversity of wildlife with the Upper Mississippi perhaps the most important corridor of fish and wildlife habitat in the central United States. It is one of the North American continent's premier flyway for migratory birds.

The Mississippi River and its tributaries have a similar profound effect on the greater La Crosse area. The area's identity is defined by the river and its juxtaposition with the bluffs. La Crosse County is a regional example of water-focused development that also respects and protects the environment. La Crosse is a regional multi-state destination, attracting both outdoor recreational enthusiasts and riverfront event revelers.

The economic impact of the river is tremendous. Considering just the port, about 11-13 million tons of water-borne commodities are shipped via about 11-12 thousand barges on Pools 7 and 8, the stretch of the Mississippi River adjacent to La Crosse County. Of this total, about 2 million tons of commodities pass in or out of the Port of La Crosse. These barges carry food and agricultural products, construction materials, and fuels, including those for power generation.

The port activities, combined with water-oriented development and water-dependent recreational events, help to drive the greater La Crosse economy.

The Harbor and Waterfront Plan

These economic, recreational, and environmental assets must be protected and improved. The Port of La Crosse's regional position should be strengthened. The access to the river by residents and visitors should be improved. The ecological communities should be sustainably managed for future generations.

The Port of La Crosse has created a facilities and economic plan for harbor and river recreational facilities. First prepared in 1988, it was updated in 1999.

In 2007, the separate city and county boards of harbor commissioners were combined into a Joint Board of Harbor Commissioners. For the first time, one group oversaw all of the county's port facilities, and the board now views the port's economic position comprehensively.

This Harbor and Waterfront Plan updates and expands the 1999 port plan. Like the unified boards, this plan considers and plans for the entire waterfront comprehensively. A successful waterfront integrates many uses and activities, including port facilities, water-oriented development, recreational amenities, and environmental stewardship.

This plan is focused on the Mississippi, Black, and La Crosse Rivers within La Crosse County from the north County line south to Goose Island Park. Honoring the 100th anniversary of the John Nolen plan for Riverside Park, this waterfront plan provides public access and views to the waterfront along the entire stretch of the Black and Mississippi Rivers.

The City of La Crosse and La Crosse County are using this document to understand and manage this waterfront with a holistic view. Water knows no community boundaries and waterfront land use and access issues affect the County and all of its municipalities. It incorporates the revitalization efforts that the City of Onalaska is undertaking along with riverfront and port planning which includes the City of La Crosse, the Town of Shelby, Town of Onalaska, and the Town of Campbell.

This Harbor and Waterfront Plan seeks to establish a positive focus for port and waterfront development. It seeks to coordinate and bolster the existing work now performed by the many La Crosse area municipalities and agencies and leverage this asset to increase economic strength and the quality of life.

Plan Organization

This plan systematically analyzes the existing conditions, recommends an integrated approach to harbor and waterfront improvements, and proposes an action plan. Importantly, the entire process has been governed by a set of harbor and waterfront principles and through an iterative

discussion with a steering committee, and technical resource committee, and the community at large.

This plan is comprised of the following sections.

- Introduction – Description of the planning area, the guiding principles, and the planning process.
- Harbor and Waterfront History and Present Setting – A summary of historic and current river uses.
- Harbor and Waterfront Plans and Implementation Activities – A review of the regional waterfront planning initiatives and recent waterfront-oriented adopted plans.
- Inventory of Harbor and Waterfront Facilities – A listing and description of existing port, fleeting, marina, open space, recreation, and ecological facilities.
- Waterborne Commodity Movement Trends – A summary of the Port of La Crosse's current position within the regional commodity movement market.
- Recreational Boating Trends – A summary of recent studies and an indication of future water recreational trends.
- Significant Issues Impacting Port Operations and Waterfront Use – The context for this plan, including national and international commodity movement trends, transient marina needs, and major waterfront redevelopment initiatives.
- Harbor and Waterfront Master Plan – An integrated and graphical vision for the La Crosse County harbor and waterfront with project descriptions.
- Action Plan – The "to do" list for the Joint Board of Harbor Commissioners.

The most significant project recommendations include:

- Continue the migration of port facilities from Isle La Plume to a consolidated port at French Island, and prepare for eventual port expansion.
- Maintain existing fleeting sites and expand at Harold Craig and Xcel French Slough.
- Redevelop Isle La Plume as a regional waterfront recreational space that is integrated with the Gundersen campus.
- Locate a transient marina within easy walking distance of downtown La Crosse.
- Redevelop Division Street Dock as a transient marina or dry stack storage.
- Connect existing and future waterfront open space through a bicycle and blue trail network.
- Connect Onalaska and French Island with a trail bridge.
- Redevelop the Mobil site
- Redevelop the Barron Island site

See Figure 1, the folded insert, for a graphical summary of the full plan recommendations.

Joint Board of Harbor Commissioners

In November 1983, the City of La Crosse Common Council and the La Crosse County Board created two separate harbor commissions to serve the Port of La Crosse, both organized under provisions of Chapter 30.37 State Statutes. The City Commission was granted control of the two municipal terminals and the Isle La Plume fleeting site, and the County Commission operated the Harold E. Craig fleeting site.

Responding to a recommendation in the 1999 Harbor Plan, the two harbor commissions considered merging the two commissions. After initially rejecting a merger, the two commissions merged in May 2007. The Port of La Crosse Joint Board of Harbor Commissioners is supported by staff from the City of La Crosse and La Crosse County in alternating three-year periods.

It is the mission of the Joint Board to serve the best interests of the citizens, tourists, and visitors to the La Crosse area as well as waterborne commercial transportation interests. The Joint Board will provide a more efficient division of services concerning the use of public harbor facilities within the jurisdictions of the City of La Crosse, Town of Campbell, and La Crosse County and better coordinate planning and use relative to the navigable waters within the jurisdictional boundaries of the City of La Crosse and La Crosse County.

Acknowledgements

The Port of La Crosse Joint Board of Harbor Commissioners wishes to thank the following individuals for their contributions to this plan.

Steering Committee Members

- John Fisher, Chair, Joint Board of Harbor Commissioners
- Marc Schultz, Joint Board of Harbor Commissioners
- Don Meyers, Joint Board of Harbor Commissioners; La Crosse County Supervisor
- Patrick K. Gantert, Vice President & Chief Financial Officer, ALM Holding Company
- Bud Miyamoto, Market & Johnson, formerly with Downtown Main Street Incorporated
- Chris Butler, Community Credit Union
- Betty Woodruff, La Crosse County Housing Authority Commission
- Kent Pehler, J. F. Brennan Co., Inc.
- David Ring, Community Relations Coordinator, Kwik Trip
- John Noyes, President, F.J. Robers Company, Inc.
- Wayne Oliver, Joint Board of Harbor Commissioners

Technical Resource Committee Members

City of La Crosse
- Dale Hexom, City of La Crosse Public Works Director
- Randy Turtenwald, City of La Crosse Engineer
- Steve Carlyon, City Parks and Recreation Director

Other Municipal Representatives
- City of Onalaska: Jason Gilman and Deena Murphy, City Planning
- Town of Onalaska: David Paudler, Chair
- Town of Campbell, Jim Gitz, Administrator
- Town of Shelby, Jeff Brudos, Administrator
- La Crosse County: Charlie Handy, Planning
- La Crosse County: Brian Fukuda, Administrator's Office, Economic Development

Regional
- Mississippi River Regional Planning Commission: Greg Flogstad, Director, and Peter Fletcher, Transportation Planner
- La Crosse Area Planning Committee (MPO): Jackie Eastwood, Transportation Planner

State and Federal
- Paul Wydeven, WisDOT Bicycle / Pedestrian Coordinator for Southwest Region
- Larry Kiek, WisDOT Harbor Assistance Program
- Carrie Olson, Permitting WisDNR
- Daniel Helsel, Basin Supervisor, WisDNR Mississippi River Basin Group

- Bruce Neeb, Government Outreach Team Leader, WisDNR
- Jim Nissen, US Fish & Wildlife Service
- Randy Urich, US Army Corps of Engineers

Non-Governmental

- Tim Kabat, Downtown Mainstreet Inc.
- Jenny Kuderer, La Crosse Area Development Corporation (LADCO)
- Dave Clements, La Crosse Area Convention and Visitors Bureau
- Bob Fisher, Retired from Mississippi River Regional Planning Commission planner and author of the 1999 Port Plan

Stakeholder Meeting Participants

- Cottonwood, LLC
- Brice Prairie Conservation Association
- SkipperLiner
- Midwest Industrial Asphalt
- La Crosse Queen
- Wisconsin Department of Natural Resources
- Downtown Mainstreet, Inc.
- City of Onalaska Planning
- Mississippi Valley Conservancy
- City of La Crosse Parks & Recreation Department
- Coulee Region Audubon Society
- Holcim Trading, Inc.
- County Planning & Administration
- Coulee Region Sierra Club
- North La Crosse Business Association
- Mississippi Valley Archaeology Center
- Fisherman's Diner
- Brennan Marine, Inc.
- City of La Crosse Public Works
- University of Wisconsin-La Crosse River Studies Center
- La Crosse Area Convention & Visitors Bureau
- F.J. Robers Co., Inc.
- La Crosse Area Chamber of Commerce
- First Supply

Community Meeting Participants

- January 20, 2011 Workshop – 80 participants
- February 16, 2011 Workshop – 50 participants
- April 20, 2011 Workshop – 50 participants

Port of La Crosse Joint Board of Harbor Commissioners Staff

- Larry Kirch, City of La Crosse
- Karl Green, La Crosse County
- Nathan Patros, City of La Crosse
- Spencer Schoonover, City of La Crosse

Plan Preparation

This plan was prepared for the Port of La Crosse Joint Board of Harbor Commissioners.

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All photography by JJR unless otherwise noted.

Common Abbreviations

- USACE – U.S. Army Corps of Engineers
- US FWS – U.S. Fish and Wildlife Service
- WisDNR – Wisconsin Department of Natural Resources

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11”X17” PLAN SUMMARY GRAPHIC.

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Introduction

The Port of La Crosse Harbor and Waterfront Plan 2011 is an update and expansion of the Port of La Crosse, Wisconsin Harbor Plan 1999, which in turn was an update of the Port of La Crosse Harbor Inventory and Plan 1988. This is the first harbor plan completed by the Port of La Crosse Joint Board of Harbor Commissioners and it expands beyond the port facilities and considers the entire waterfront of the City of La Crosse and La Crosse County.

The harbor plan update reflects the changed inventories since 1999 and adapts previous recommendations to meet current waterborne commodity movement and recreational boating trends. The waterfront plan depicts in a graphic manner the development, transportation, recreation, and environmental networks and patterns and recommends strategies to better connect the greater La Crosse communities to the Mississippi and Black Rivers.

Harbor and Waterfront Planning Area

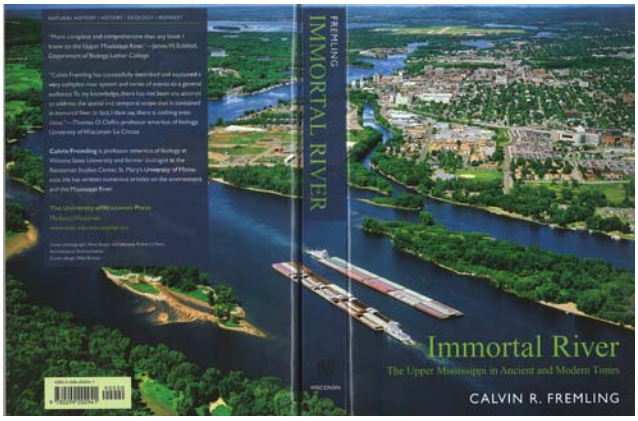
Waterborne commerce is an important element of the La Crosse County economy. Goods shipped along the Mississippi and Black Rivers include food and agricultural products, construction materials, and fuels, including those for power generation. This harbor plan considers the main waterways of La Crosse County, principally those along the Mississippi River between Locks and Dams 7 and 8. The Port of La Crosse stretches for about four miles from Black River mile 1.2 south to Mississippi River mile 698 just beyond the Harold E. Craig Fleeting site.

The waterfront and its wetlands and backwaters, juxtaposed with high bluffs, defines the character and quality of life of the La Crosse region. The waterfront plan explores the connections, open spaces, and land uses of the entirety of the waterfront between the Trempealeau County and Vernon County lines, from Amsterdam Prairie to Goose Island.

Guiding Principles

This plan and the planning process were guided by overarching principles that define the intrinsic qualities of the economy, ecology, and quality of life of the La Crosse region, and that envision the waterfront as simultaneously functional, accessible, and sustainable. The project steering committee debated and formulated these guiding principles to clearly state and prioritize the goals for this planning effort.

The Port of La Crosse Harbor and Waterfront Plan 2011 should:



Promote the Mississippi River as a **national ecological and cultural treasure.**

Draw on the plan to guide **incremental, phase-able, and economically sound** projects.

Promote the **highest and best water-oriented** uses on the waterfront.

Recognize the Harbor and Waterfront Plan as a **strategic long-term vision.**

Protect current ownership and control of **public waterfront property.**

Reinforce the region's **identity** and build on the **authenticity** of each community as a confluence of cultures, waterfront-dependent commerce, outdoor recreation, and ecological diversity.

Provide **visual and physical access** to publicly-owned parcels and future private waterfront-linked development.

Protect, manage, and repair the region's **ecology**.

Educate the regional community about the river's role and importance in **commerce and transportation**.

Advance the area as a destination for **recreational, heritage, and eco tourism.**

Position the river as an **economic catalyst** for public/ private partnerships.

Balance use of the waterfront with the region's **ecological capacity.**

Coordinate and integrate the long-term waterfront vision with local municipal and regional government and agency **planning initiatives**.

Promote **economic sustainability** and reduce the region's carbon footprint.

Successfully **communicate to the public** all waterfront policy decisions, planning initiatives, and capital improvements.

Planning Process

The Port of La Crosse is a major economic driver in the region and the County's waterfront defines the quality of life for all residents. Therefore, the planning process was open, transparent, and iterative.

The Port of La Crosse Joint Board of Harbor Commissioners hired JJR, LLC (JJR) and Jack Faucett Associates (JFA) in August, 2010 to prepare the plan. JJR conducted a three phase effort.

Integrate and Synthesize

JJR, JFA, and City of La Crosse and La Crosse County staff worked under the guidance of a steering committee comprised of Port of La Crosse Joint Board of Harbor Commissioners and representatives of the community. The steering committee established project direction and expectations and determined the community outreach efforts.

JJR and JFA reviewed the extensive and durable visioning and analyses that had already been completed for large sections of the La Crosse County waterfront. JJR investigated recreational boating, updated the recreational inventory for Pool 7 and 8, and mapped existing port facilities, land uses, water-oriented commercial facilities, recreational facilities, and environmental resources.

JJR and JFA reviewed past local and regional port plans, updated the harbor facilities inventory, and evaluated international and national shipping trend data and described the trends of waterborne commodity movement.

Depicting the Vision

Over multiple days in January 2011, JJR and JFA interviewed stakeholders and community members, prompting discussions about where the harbor and waterfront are now and what their future could be. JJR and JFA interviewed representatives of municipal, county, state, and federal agencies who have jurisdiction within the study area to understand the regulatory environment. JJR led an evening community workshop where 80 participants worked in small groups to brainstorm their visions and concerns for the port facilities and waterfront.

In response to this input, JJR prepared a waterfront plan that provided an overall vision for waterfront transportation, economy, recreation, and neighborhoods. JFA developed a current and future profile for port operations based on the previous plans and information collected at the stakeholder and community meetings.

In an iterative process, JJR and JFA returned to the community in February 2011 to test the conceptual ideas. JJR met again with municipal, county, state, and federal regulatory agencies to review the draft waterfront preliminary concept plan. JJR solicited comments and review of the draft concepts, explored potential regulatory concerns, and discussed existing and potential funding sources. JJR also led an evening community workshop with 50 participants to describe the preliminary harbor and waterfront concept plan.

Revised Plan and Implementation

Incorporating suggestions from the steering committee, technical review committee, and the community, JJR revised the preliminary waterfront concept plan. JJR and JFA then prepared a list of specific recommended projects and respective cost estimates to support the operation of the port and the waterfront's evolution. JJR prepared an action plan with prioritized actions, strategies, and policies. In April 2011, JJR presented the revised and recommended Harbor and Waterfront Plan to the steering committee, technical resource committee, and the community.

The Port of La Crosse Joint Board of Harbor Commissioners adopted this plan in INSERT DATE, 2011. The City of La Crosse Common Council adopted this plan in November 10, 2011, and the La Crosse County Commissioners adopted it in November 15, 2011.

Harbor and Waterfront History and Present Setting

Historic Mississippi River

From approximately 70,000 to 12,000 years ago, glaciers covered large portions of the northern part of the North American continent. As the glaciers melted they left land forms and major river systems in place as we would recognize them today, and the Mississippi River developed as the major drainage system of the mid-continent. From its modest size in northern Minnesota it swells in size as the Minnesota River, and the St. Croix, Chippewa, Black, and, Wisconsin Rivers all join to increase its size. Farther down river the Illinois, Missouri, and significantly, the Ohio, enter the stream to make the Mississippi River the largest drainage basin in the United States.

As early as 900 AD, Native Americans settled along the Mississippi River to utilize water transportation. Later, the confluence of the Mississippi, Black, and La Crosse Rivers made Prairie La Crosse an important location for trading and manufacturing. Furs and logs were the most prevalent products shipped, but as permanent settlement and farming increased, wheat, corn, and lumber became the dominant products shipped. The Mississippi River and its tributaries served as the earliest mode of long-range transportation in the Upper Midwest.

As the French explorers and traders ascended the Mississippi River toward the end of the seventeenth and beginning of the eighteenth centuries, they saw the Native Americans playing a ball game, a rough and tumble war-skills contest using a stick which reminded the French of a staff called a crosier. The prairie soon became known as Prairie La Crosse.

The large prairie of La Crosse that stretched for two miles from the river to the bluffs was the only open space for many miles up and down

On the Mississippi - Str. Glenmont and Row Boat, with long raft in town - Taken from Wagon Bridge - Looking South.
Source: City of La Crosse

La Crosse, from Mouth of Black River, Source: City of La Crosse

Source: City of La Crosse

the river. Lt. Zebulon Pike, leading a U.S. Army exploration mission in the Upper Mississippi River Valley, was the first white man to give a written report of this area in 1805. He noted the potential importance for defense, trade, and transportation of the prairie at the confluence of the Mississippi, Black, and La Crosse Rivers. Eventually, with portages and canals to the Great Lakes, the Mississippi and its tributaries were the major transportation waterways by which the Upper Midwest was settled.

Although the Native Americans and the French traders had used lightweight canoes to travel the river, and could travel either with or against the current, the Yankee traders favored larger, heavier craft propelled by poles. While these craft carried more than the canoes, they were more difficult to maneuver back up the river. In 1823, the steamboat revolutionized transportation along the Upper Mississippi. With the steamboat, transportation along the river was more easily possible in both directions. By the 1830s the USACE was operating "snag boats" to remove logs and debris from the river's navigation channels.

Harbor and Settlement

The first white man to establish a permanent residence at La Crosse was a young trader from New York named Nathan Myrick who built a cabin and store in 1846, two years before Wisconsin's statehood, on what is today called Barron Island. Later he and his business partner and their families moved to the mainland and established their business and residences at what is now called Spence Park, near the confluence of the three rivers. The fledgling village was approximately midway between the booming steamboat town of Galena, Illinois and the developing northern prairies and pineries. Myrick stayed for eight years, and witnessed the development of a thriving trading village before he moved on to new opportunities in St. Paul.

The 1850s saw La Crosse become the "Gateway City", a focal point for wagon roads as people took advantage of the region's access to the land beyond the river. La Crosse emerged as a center of the lumber manufacturing and shipping industry as logs were floated down river from the La Crosse, and especially the Black River, pineries to the north and east. Saw mills were established and the lumber was formed into rafts to be sent south to the growing markets in Illinois, Iowa, and Missouri. By 1853 there were over 30 sawmills operating in La Crosse. River towns such as La Crosse developed both as shipping points for products and people and also as steam boat-refueling points. Wheat became the principal crop in the county and so La Crosse became a center for grain and flour shipment.

The first railroad reached La Crosse in 1858. This brought still more opportunities to move people and farm products from the interior of the state to the west, and to ship lumber directly to the growing cities of Milwaukee and Chicago. Eventually railroads would be the death knell of the early steamboat trade, but first they had to cross the Mississippi. La Crosse continued to thrive as both a railroad and steamboat town as passengers and freight traveling farther up river, or to the west, had to transfer from one transportation mode to the other.

The expansion of the railroad throughout the latter half of the nineteenth century decreased the importance of river transportation in spite of USACE attempts to improve navigation and revitalize the river as a transportation artery. After the Civil War, a four foot deep channel project was started by USACE in order to improve the waterway from St. Paul to St. Louis, and in 1907 Congress authorized dredging to a six foot channel. In the 1860s packet boats started using barges lashed along side to increase cargo capacity, and soon the use of small non cargo carrying "tow boats" became popular. In spite of these efforts steamboat use suffered a decline in the later years of the nineteenth century as railroads became more widespread, and the restrictions of the river mode due to seasonal shutdown because of ice or low water made it less competitive.

Modern river navigation efforts began in the 1930s as Congress authorized not only a deepening of the channel to allow passage of craft with a nine foot draft, but also authorized a system of dams and locks to control the water level. This action, with the actual lock and dam construction occurring in the 1930's, created the present-day navigation system currently in use. In modern times this vast network has developed into a navigation system enabling commercial freight to move by water in a network reaching from Sioux City, Iowa; Brownsville, Texas; Knoxville, Tennessee; Freeport, Pennsylvania; Minneapolis, Minnesota; and New Orleans, Louisiana.

Although the types of products carried by river boats over the years have changed, from consumer goods such as furniture and clothing, to bulk products such as grain and coal, the total tonnage carried today far exceeds the loads of the past.

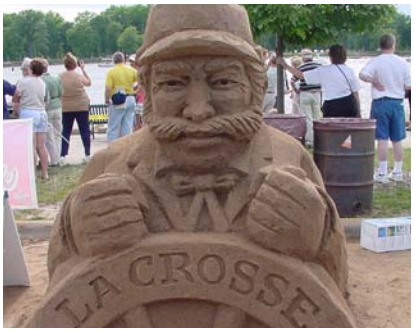
The Mississippi River today is a multiple-use river consisting of federal and state wildlife areas, commercial and sport fishermen, recreational use, barge terminals and fleeting areas. It provides many economic benefits to the region through tourism and transportation which also enhance the region's quality of life. Low cost water transportation provides the region's commodity producers and users with lower shipping costs.

River System Navigation Improvements

During the 1830s USACE began operating "snag boats" on the Mississippi River to remove huge dead trees that fell into the water and presented hazards to pole boats and the earliest steam boats that plied the river in commercial trade. In 1837 a young Army engineering lieutenant, Robert E. Lee, supervised the blasting work to cut a channel through the rough rapids at Keokuk, Iowa. In 1866 the U.S. Congress authorized a federal program to construct wing dams and closing structures to direct the river's natural current, along with dredging, to create a channel that would allow boats with a four-foot draft to navigate during the open water season. This project was completed by 1878.

In 1907 Congress authorized the maintenance of a six foot channel. Work on this began, but was never fully completed before it was realized it would not be economically cost effective to continue. Lock and Dams 1 and 2 at St. Paul and the dam at Keokuk, now known as dam 19, are legacies from this earlier navigation improvement effort.

In the early 1930s Congress authorized the design and work which led to the construction of 23 locks and dams to maintain a navigation channel capable of passing barge tows with a draft of nine feet. This work was essentially completed by the beginning of World War II; although a lock was added to the existing dam at Keokuk (L&D 19) in the 1950s, Lock and Dam 27, the last



in the chain, was built between 1947 and 1964, and a larger lock and dam (L&D 26R) replaced the original Lock and Dam 26 near St. Louis in 1990.

Riverside Park Development

The first recorded major water front alteration was the creation of Riverside Park. In 1908, Dr. Wendell A. Anderson, then mayor of La Crosse, pushed for the development of a large riverside park west of Front Street. The park was designed in 1911 by John Nolen, a noted landscape architect. Originally called Levee Park, $75,000 was to be used for land acquisition, dredge fill, and the development of the park. Three years later, La Crosse Dredging Company began to dredge fill the thirteen acres. In 1918, a Spanish canon, which was captured in the Spanish-American War, was placed in the park in honor of the USS Maine. A memorial bandstand was built in honor of the park's initiator, Dr. Wendell A. Anderson, in 1930. The "Hiawatha" sculpture, a fountain, and, eagle sculpture were all added to the park since 1962. In 1983, Riverfest, a five-day Fourth of July family funfest, was held at Riverside Park for the first time. The park has been the docking site fro historic paddle wheel tour boats. Riverside Park continues to be La Crosse's front door to visitors both by land and water.

Riverfront Urban Renewal Activities in the 1970s

The first major modern redevelopment of the La Crosse waterfront area began in 1977 when the Harborview Plaza project was designed to rejuvenate an area of industrial buildings and warehouses damaged by floods by building a public assembly multi-use facility, parking ramps, and a hotel along the waterfront. The new La Crosse Center would help to attract diverse interest in this area as the 120,000 square foot facility was three times as large as the old Mary E. Sawyer Auditorium. The Radisson-La Crosse Hotel Corporation became interested in the project and the Radisson was built in 1979. The urban renewal redevelopment boundaries included the river, Second Street, State Street, and Mount Vernon Street. The Harborview Redevelopment Project would serve the needs for public assembly, office buildings, residential, retail, and tourist accommodations and would point the way toward a "gentrification" of the river front in downtown La Crosse, away from industry and freight wharves and toward retail, dining, offices, and overnight lodging.

Recent Waterfront Land Use Changes

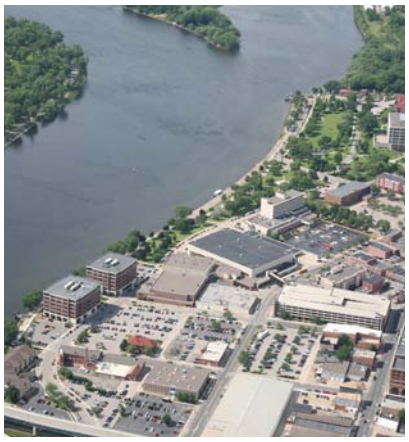
Since the 1999 plan, there has been a major change in the port facilities and character of the City of La Crosse waterfront.

Cargill Aghorizons/Riverside Center

Cargill Aghorizons' downtown river grain elevators were formerly located on Mississippi River mile 697.7 on Front Street in La Crosse. In September 2004, the City of La Crosse Redevelopment Authority reached an agreement to purchase this site, which was demolished and relocated to French Island on the Black River in 2005. The site has since been sold and redeveloped as Riverside Center, a private company that provides bioterrorism expertise, military medical readiness, and public health services. Cargill moved to a new location owned by F.J. Robers on the south end of French Island in October 2005, where two new 70,000-bushel silos, a grain dump pit, and a steel tower to support conveyors and barge spouts were constructed.

The redevelopment of this parcel has been well received by the community, as moving the grain silos onto French Island has improved the look and feel of the waterfront area, and has relieved some of the truck traffic through downtown.

This improvement has come with some costs. Farmers have voiced concern over the size of the new silos, which are significantly smaller than Cargill's former silos. Cargill will need to closely coordinate with farmers for just-in-time delivery of grain to coincide with barge shipment.[1] This change in location also shifts a significant amount of barge traffic from the Mississippi River portion of the Port of La Crosse to the northern sections of the Port on the Black River, creating a renewed opportunity for usage conflicts. Specifically, the construction of this new installation raised some concerns with the WisDNR as the area immediately east of the F.J. Robers has a high concentration of paddlefish, which is listed by the State of Wisconsin as a threatened species. The paddlefish have been attracted to this habitat area due the relatively deep waters, created by dredging for the port. In the end, construction went forward with the caveat that barge navigation should avoid the high paddlefish concentration area during spawning. Initial estimates were that the new grain elevator would load about 200-270 barges per year.[2]



1. The 2030 La Crosse and La Crescent Metropolitan Area Transportation Plan
2. *Ibid.*

Water Use Conflicts

Recreational boating covers a wide range of boat types and user interests, from fishing flats, to sandbar houseboats, to speedboats, jet skis, water skiers, and commercial excursion boats. These diverse craft, and owners' interests sometimes create conflict within the recreational boating community, but many recreational boaters, regardless of their conflicts with other recreational users, usually ally themselves against the commercial towing industry. In addition, non-boating river viewers often are concerned about commercial towing operations. The reason for these objections to barges, barge terminals, and fleeting areas varies, but can be summed up as:

Safety Concerns

- Parked or fleeted barges can block vision for boaters emerging from a side channel into the main channel, and also for boaters approaching these side channels and slips.
- Moored barges could break loose and drift down river into boats, shore improvements, or beaches and cause long term damage, especially if they are damaged and leak toxic materials.
- The bow waves generated by pleasure craft strike the large flat sides of the moored barges, or man made dock walls, and these waves bounce back causing an 'echo wave' effect which can create turbulent water conditions. A more natural shoreline breaks up the initially generated wave, without echoing it back.
- Moving tow boats and barges, because of their large size, somewhat restricted visibility (to the pilot) and comparative lack of maneuverability are perceived as a direct safety threat. Professional tow boat pilots are dismayed at the lack of training, and often unpredictable movements of some pleasure boaters.

Aesthetic Concerns

Beauty is in the eye of the beholder! Never is this more true than in dealing with barges and related activities. Many pleasure boaters, and river viewing tourists, enjoy the diversity of the commercial waterfront and the historical connection between the early steamboat era and modern towboats. Other boaters and river front visitors feel the moored barges and industrial terminals intrude upon the natural river scenery.

Biological Habitat

There exists in the scientific literature and sworn testimony at public hearings, sufficient evidence to support the observation that tow boat operations, especially maneuvers required in terminal areas, in some circumstances, disturb natural fish spawning and resting habitat and other aquatic resources. The physical presence of barges or terminal facilities can limit access to certain portions of the river by fishermen. Two conditions, acute spills, which is an emergency caused by an accident; and chronic spills, which is a result of routine operations, each cause harm to the environment and will be present, or potentially present wherever there are barge terminals.

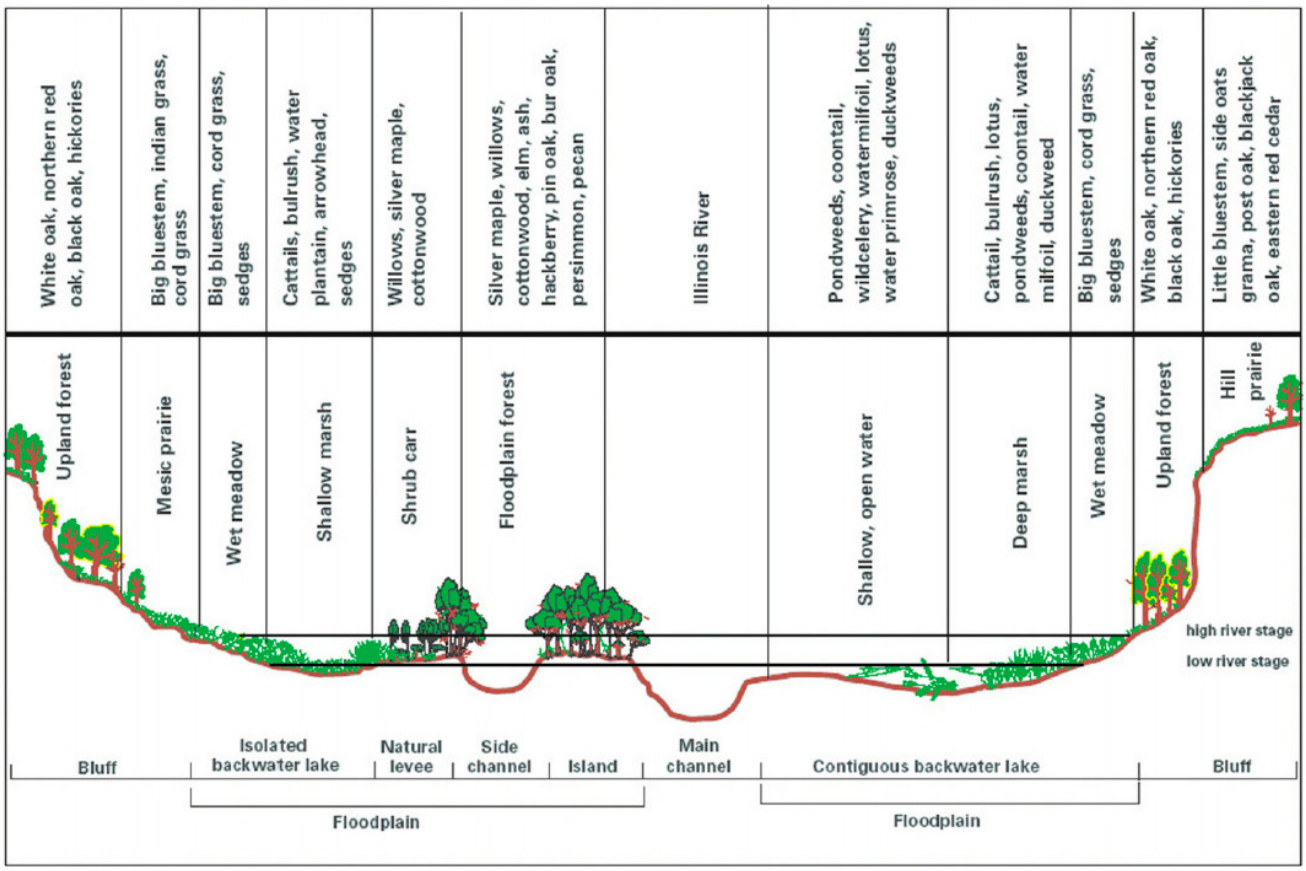
Ecological Setting, History and Condition

The La Crosse waterfront is entirely contained within the Upper Mississippi River National Wildlife and Fish Refuge (Refuge). The refuge is 240,220 acres and includes a 261 mile reach of the river between the Chippewa River in Wisconsin to the north, and Rock Island, Illinois to the south. The Harbor and Waterfront Plan planning area includes portions of the refuge between Pools 7 and 8.

Refuge Establishment

In 1871 the federal government established agencies to deal with forest and fish "conservation", and by 1905 the Bureau of Biological Survey recommended a system of national wildlife and fish refuges should be established. The Upper Mississippi River Wildlife and Fish Refuge was designated on June 7, 1924 and it runs from Lower Pool 4, near Wabasha, Minnesota to Pool 14 near Savannah, Illinois. This predates the modern lock and dam navigation system. When the nine-foot channel was established in 1930 USACE bought land for the wildlife refuge project and formed a cooperative agreement with the Department of the Interior, making that department responsible for the wildlife and fish management. Within the Department of the Interior, the

Figure 2. Typical Floodplain and Bluff Habitats of the Upper Mississippi River.



Source: J.C. Nelson, *Illinois Natural History Survey,* Great Rivers Field Station, Alton, IL, 218 pp. In Theiling, C. 1999. *Important milestones in the human and ecological history of the Upper Mississippi River System.* In. *Ecological status and trends of the Upper Mississippi River System 1998: A report of the Long Term Resource Monitoring Program*. U.S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse Wisconsin. April 1999.

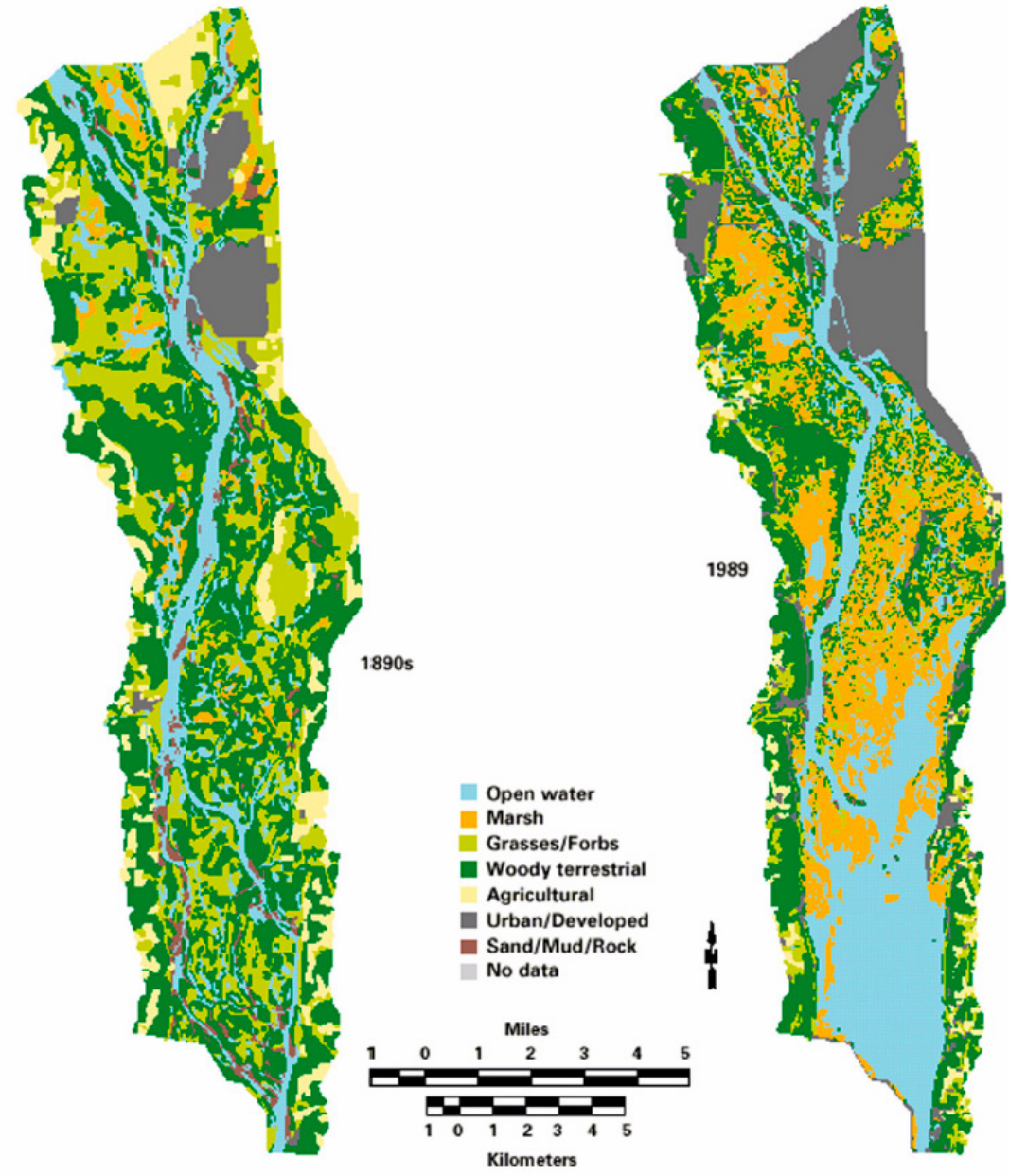


Figure 3. Landcover Maps of Pool 8, 1890s and 1989.
Source: *Upper Mississippi River National Wildlife and Fish Refuge / Comprehensive Conservation Plan.* 2006. US FWS. 226 pp. In Theiling, C. 1999. *Important milestones in the human and ecological history of the Upper Mississippi River System*. In. *Ecological status and trends of the Upper Mississippi River System 1998: A report of the Long Term Resource Monitoring Program.* U.S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse Wisconsin. April 1999.

current refuge administrating agency, the US FWS, was created in 1939. USACE retains certain rights to the federal lands it purchased, such as timber management, the right to build buildings for public recreation, and the right to flood the land.

Historic Ecological Setting

The historic ecological setting included a variety of dynamic habitat types including the main stem channel, deep and shallow backwater marshes and bottomland forests, wet and mesic prairies in the floodplain, and prairie, savanna and woodland communities in the upland overbank areas and bluffs.

Figure 2 shows a typical cross section of where these communities would have occurred along the river valley.

Wetland communities within and along the river were dramatically altered especially during the 1930s when a series of dams, wing dams, and levees were constructed to improve navigation. These structures moderated the natural flood regime which, among other things, simplified the habitats into three major ecological zones.

The lower impounded ecological zone occurs behind the dam. The historic wetland habitats are entirely submerged. Initially, the water is deep and entirely open. Ultimately, this backwater area becomes filled with sediment. The middle ecological zones consist of backwater marshes, shallow lakes, and stump fields. This middle zone extends both upstream and downstream over time as silt accumulates behind the dam. The upper ecological zones occur downstream from the dams. These zones most closely maintain their historic character between the downstream end of the dam and the backwater influence of the next dam.

Figure 3 shows the dramatic transition in Pool 8 from the bottomland forest and prairie communities that persisted into the 1890s to the predominantly marsh and open water communities that occur today.

The negative effect of these changes on natural resources are documented in Environmental Pool Plans[3] as well as the Comprehensive Conservation Plan[4] described below. They are summarized below and illustrated in Figure 4:

- Erosion of islands
- Excessive sedimentation of side channels and backwater lakes
- Reduced flow and current diversity
- Excessive current scour, wave action and re-suspension of sediments
- Stabilized long term water levels
- Changes in the connectivity of aquatic habitats and loss of isolated wetlands
- Reduced floodplain forest and terrestrial vegetation diversity.
- Nutrient enrichment

Refuge Management

While the refuge continues to provide important ecological, recreational and economic benefits, most riparian uses by wildlife and people have been compromised by the aforementioned structures, and now require active management to maintain. Management plans attempt to balance the maintenance of navigational benefits, with the restoration of compromised environmental benefits.

USACE and US FWS manage the Refuge through cooperative agreements. In general, the US FWS manage the fish, wildlife, and habitat on lands acquired by USACE. USACE manages the waterway as required for navigation projects, forestry, recreation areas managed by USACE, and most other rights.[5]

3. *Environmental Pool Plans: Mississippi River Pools 1-10*. 2004. Fish and Wildlife Work Group River Resources Forum.

4. *Upper Mississippi River National Wildlife and Fish Refuge / Comprehensive Conservation Plan.* 2006. US FWS.

5. General background reference: Hydrobiologia. 2010. *Forty Years of Science and Management on the Upper Mississippi River: An Analysis of the past and a view of the future.*

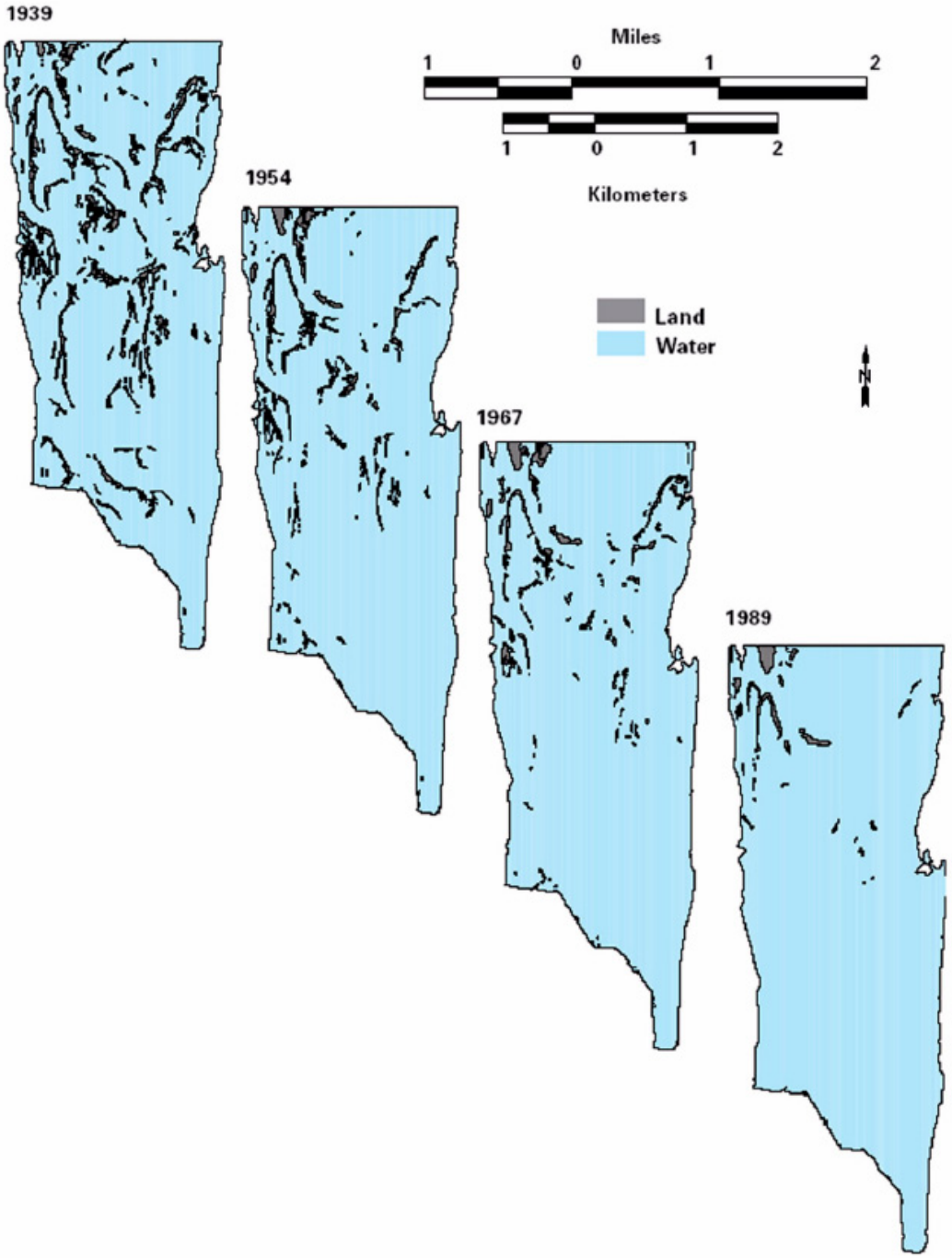


Figure 4. Erosion of Islands and the Increase in Open Water Relative to Land from 1939 to 1989

Source: *Upper Mississippi River National Wildlife and Fish Refuge / Comprehensive Conservation Plan.* 2006. US FWS. 227 pp. In Theiling, C. 1999. *Important milestones in the human and ecological history of the Upper Mississippi River System.* In. *Ecological status and trends of the Upper Mississippi River System 1998: A report of the Long Term Resource Monitoring Program.* U.S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse Wisconsin. April 1999.

Harbor and Waterfront Plans and Implementation Activities

The Upper Mississippi River and its tributaries and watershed are a national resource and a significant number of regional organizations and agencies study and manage this resource. In addition, local municipalities continuously plan and improve the waterfront and its connections to neighborhoods and commercial areas.

The intent of this plan is not to re-study and re-plan the Mississippi River waterfront, but to understand and integrate the work that has been done by others. This chapter summarizes the work of other river-oriented planning organizations and the plans that they have prepared since the 1999 plan.

Planning and Management Activities

Many regional organization and agencies study the economic, recreational, and environmental assets of the Upper Mississippi River and its tributaries.

Great River Environmental Action Team (GREAT)

GREAT was established in 1974 as a multidisciplinary, multi-agency committee to work in conjunction with Federal, State, and other public agencies to develop a long range management strategy for the multipurpose use of the river. The portion of the river between Minneapolis and Lock and Dam 10 at Guttenberg, Iowa was designated as GREAT I.

The GREAT I Study of the Upper Mississippi River was published in 1980, and included problems, tasks, conclusions, and recommendations of natural resources, human resources, and river system management. The principal natural features analyzed included: climate, topography, geology, soils, stream flow characteristics, water quality, air quality, and flora and fauna. Principal human features analyzed included: population, man-made alterations, shoreline development, commercial transportation, recreation facilities, and cultural features. The principal river system management features analyzed included dredging, farming, erosion control, public involvement, and operating protected lands.

The study made recommendations on actions, policy changes, and further study needs on many Upper Mississippi River issues. Over the years the recommendations of GREAT I have been refined into individual Pool Plans and finally into the Channel Maintenance Management Plan (CMMP). The CMMP provides implementation guidance to the St. Paul District, U.S. Army Corps of Engineers for all dredging and disposal on the Minnesota, St. Croix and Mississippi Rivers. The States of Minnesota, Wisconsin, and Iowa and the US FWS have endorsed this plan and base legal agreements for dredging and disposal on this plan.

River Resources Forum

The Channel Maintenance Management Forum was established during the negotiations of GREAT I. The group continued to work on important river issues, but the focus of the group changed from just channel maintenance activities to broader river issues. Consequently, the group was renamed to the River Resources Forum in 1991 to signify the change. The RRF membership includes representatives from these federal agencies, USACE, US FWS, U.S. Coast Guard, and the Environmental Protection Agency. It also includes state representatives from the Iowa, Minnesota, Wisconsin Departments of Natural Resources and Departments of Transportation.

The main purpose of the RRF is to discuss important river issues and to provide a forum to resolve problems with Mississippi River Management. The members act as an advisory committee to the St. Paul District

U.S. Army Corps of Engineers but most of the recommendations of the Forum are followed by USACE. The details of issue resolution are often handled for the Forum by three work groups of Fish and Wildlife, Recreation, and Navigation. In certain situations the Forum will establish a special task force to address issues that require more attention such as the newly-formed Water Level Management Task Force.

Comprehensive Master Plan for the Management of the Upper Mississippi River System

The Upper Mississippi River system is a major multi-purpose water resource and serves as a home for commercial, industrial, recreational, and wildlife refuge activity. The Comprehensive Master Plan for the Management of the Upper Mississippi River System of 1982 conducted by the Upper Mississippi River Basin Commission addresses the issue of how expanding development of the river will affect the wildlife habitats and safe recreation. This Master Plan looked at the needs of the three key river resources (environmental, economic, and recreation) and resolutions for the competing interests. Issues that were of particular interest were navigation carrying capacity, environmental impacts of navigation including mitigation measures, dredged material disposal out of the floodplain, and computer inventory and analysis capabilities. A dozen recommendations address each of these resource management concerns.

Upper Mississippi River-Illinois Waterway Navigation System Study

The growth of the commercial navigation industry has increased demand on the Lock and Dam system. In order to examine increasing river system capacity while protecting the environment, USACE established an effort in 1991 called the Upper Mississippi River-Illinois Waterway Navigation System Study. This study is assessing the need for navigation improvements at 29 locks on the Upper Mississippi River and 8 locks on the Illinois Waterway.

American Heritage Rivers Initiative

The American Heritage Rivers Initiative is a federal program, supervised by the Council on Environmental Quality, designed to support communities in their locally-based efforts to restore and protect America's rivers. In 1998, ten rivers were nominated by an Advisory Committee, and later selected by the President, as the first American Heritage Rivers. The Upper Mississippi River was included in this selection. Approximately 70 municipalities along the Mississippi River in the five states submitted applications asking for the American Heritage River designation. The cities of La Crosse and Onalaska were among the four submitting applications from Wisconsin.

Mississippi River Regional Planning Commission

The Mississippi River Regional Planning Commission is a commission of nine counties (Buffalo, Crawford, Jackson, La Crosse, Monroe, Pepin, Pierce, Trempealeau, and Vernon) located along the Mississippi River in Western Wisconsin. The Commission activities are directed by a board of 27 commissioners appointed by the county boards and governor.

The Commission was organized in 1964 to provide planning assistance on regional issues, assist local interests in responding to state and federal programs, provide advisory service on regional planning issues, act as a coordinating agency for programs and activities, and provide cost-shared planning and development assistance to local governments.

Specific examples of services include: comprehensive community plans, zoning and subdivision ordinances, grant writing, geographic information system map production, revolving loan fund administration, economic development planning, socioeconomic data collection, and dissemination and public policy advocacy on issues affecting the region. The Commission prepared the 1988 and 1999 Port of La Crosse Harbor Plans.

Upper Mississippi River Basin Association

The five Upper Mississippi River states of Minnesota, Wisconsin, Iowa, Illinois, and Missouri cooperate in action regarding the basin's water and related land resources. It sponsors studies of river-related issues, cooperative planning for use of the region's resources, and an information exchange. It allows the

member states to develop regional positions on resource issues and to advocate the basin states' collective interests before the U.S. Congress and federal agencies. The association has placed major emphasis on the Environmental Management Program, approved by the federal Water Resources Development Act of 1986. One representative from each state forms the governing body. In Wisconsin this representative is appointed by the governor. Five federal agencies with major water resources responsibilities serve as advisory members. When this Association had federal funding and full federal agency participation, it was known as the Upper Mississippi River Basin Commission, and prepared the Comprehensive Master Plan for the Management of the Upper Mississippi River System.

Upper Mississippi River Conservation Committee

The UMRCC is a non-profit organization of state river biologists from Minnesota, Wisconsin, Iowa, Illinois and Missouri. The group was formed in 1944 for conservation of fish and wildlife populations on the Upper Mississippi River.

Mississippi River Research Consortium

The MRRC meets on an annual basis in La Crosse to discuss current and ongoing research being conducted on the Mississippi and Illinois Rivers. MRRC members are scientists, river managers, teachers, students, and individuals from private business and the general public who want to encourage both pure and applied research on the water and land resources of the Mississippi River and its watershed. Other purposes of the organization include supporting organized research effort on the Mississippi River, establishing and encouraging communication among river scientists, the wider scientific community, and the public, encouraging cooperation among institutions (sharing of facilities, etc.), functioning as an advisory group, and providing an annual meeting where research results can be presented, common problems can be discussed, information can be disseminated, and river researchers can become acquainted with one another.

Great River Road

State Route 35 and 53 and US 14/61 in La Crosse County has the Great River Road National Scenic Byway designation, which it received from the U.S. Department of Transportation in 2000. The Mississippi River Parkway Planning Commission (MRPPC) appointed in 1938 and in cooperation with WisDOT is the primary authority developing, planning, and promoting the Great River Road. The Wisconsin Great River Road commission is one of ten state and one provincial commissions of the Mississippi River Parkway Planning Commission.

The Great River Road is a system of existing highways, marked by a common symbol, along both sides of the Mississippi River from Canada to the Gulf of Mexico. The goal is to preserve the unique historical heritage and beauty of the river valley as well as promote tourism and economic development compatible with the resources of the waterfront communities.

In addition to the efforts of the MRPPC, funding is available through competition for National Scenic Byways Discretionary Grants as part of the National Scenic Byways Program administered by the Federal Highway Administration. Wisconsin State statute s. 84.106 establishes a Wisconsin Scenic Byways Program included in Chapter 202 of the Wisconsin Administrative Code.

Review of Recent Planning Documents

This section is comprised of summaries of major plans and analyses that are associated with the port or waterfront area.

Proposed Multimodal Container Facility (Mississippi River Regional Planning Commission, undated)

The Mississippi River Regional Planning Commission undertook a study to assess the feasibility of establishing an intermodal containerized facility in the La Crosse area. Specifically, the study addressed whether a rail-to-truck intermodal facility would be economically viable. The study defined the following major criteria as important to a successful facility:

Location
Placement in an industrial area sufficiently distant from residential areas to avoid inconvenience to the surrounding population, but close enough to an arterial street or Interstate highway to minimize the truck traffic on local roads. To achieve minimally profitable operations, a minimum of ten acres would be required for a small terminal. A minimum of two acres would be required for a terminal meant primarily to serve a single customer.

Volume requirement
A free-standing terminal (one that is not operated as a part of a single company's logistics), must be able to recoup its investment and earn a return based on user fees. For the customer to be willing to use the facility, these user fees must be lower than customers are currently paying. To meet industry standard user fees ($25 per lift) and profits (20 percent return on investment), a $1 million investment would require a minimum of 20,000 lifts per year, or an average of 77 lifts per day.[1]

Ability for long- or short-term expansion
The site must be able to accommodate traffic through peak times of the year, and for years when volume of shipment may be higher than average (such as in a year of good harvests).

Adaptability to technological advances and alternative handling and storage modes
The site should be amenable to the use of new and emerging data handling systems. Drainage systems must be able to meet rigorous environmental standards. Further, loading and unloading equipment and storage facilities may change depending on the volume of the container being handled.

Adequate storage facilities
Storage requirements and wait times will vary by shipper and commodity. Generally, three storage spaces should be available in or near to the facility for each space allowed for on the work track. On average, a container/trailer will wait at a large intermodal yard for one day.

Accessibility for rail and road
The storage and working tracks at the site must be able to handle intermodal cars, which can be 89 feet for a standard intermodal car to 305 feet for a double stack articulated car, and there should be an equal number and length of storage and working tracks (these can be located at a general freight yard). Access tracks should have at least a 600 foot curve radius. Road access should not intersect with storage or work tracks.

Appropriate facilities and equipment
Adequate systems and equipment will be required for car staging, stripping, loading, as well as trackside storage transfer, storage to gate transfer, and gate processing.[2]

On these criteria, the study evaluated a number of potential sites for this facility, including:

- Brewery area
- BNSF Classification Yard
- Genoa power plant
- Brice Prairie
- Tomah shops
- La Crosse County Farm Industrial Site
- Old Roundhouse Area
- South French Island Industrial Area
- La Crescent South Side.

For a strictly rail-to-truck intermodal facility, the study found that the La Crosse County Farm Industrial Site was the most favorable due to its central location, convenience to the interstate and its distance from

1. Some studies estimate that 30,000 – 40,000 lifts per year would be required to meet industry standard profits.

2. Mississippi River Regional Planning Commission. "A Study on Establishing an Intermodal Containerized Facility in the La Crosse Wisconsin Area", undated. Note that the criteria differ from the middle and the end of the report. The above list is adapted from pages 21-24 of the report.

residential areas. The study also suggests that the south French Island industrial area might be well suited for a small intermodal terminal, which would have the added benefit of water access; however, the volume of traffic through the facility might be hampered by the inconvenience of interstate access from this location.

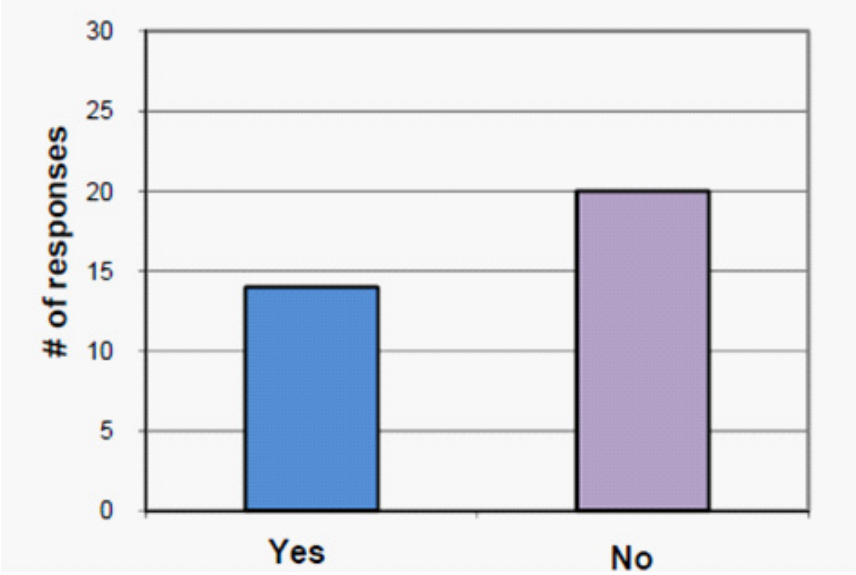
The study also gauged the interest of potential users of the facility.[3] Of 41 firms responding to the survey, less than 15 indicated that they already used intermodal containers for transportation (about 36 percent), using the facilities located in the Twin Cities or in Chicago. Figure 5 demonstrates the response of firms regarding their current usage of intermodal shipping methods. Two companies who did not currently use intermodal containers expressed strong interest in a terminal in La Crosse to improve their competitiveness in the export market. Figure 6 shows the interest of responding firms regarding their use of a potential intermodal terminal in the La Crosse area.

Based on this assessment, the study concludes that there is not currently sufficient container volume to sustain a public terminal with 77 lifts per day or 20,000 lifts per year. The study, however, suggests three alternatives, including:

- The development of a small multi-user terminal that would

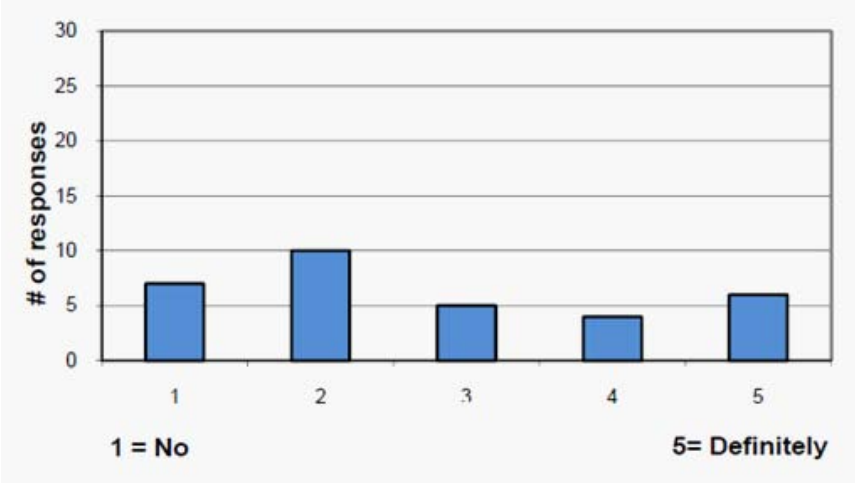
3. The researchers surveyed 90 manufacturing, warehousing and distribution firms located within a 75 mile radius of La Crosse, with a 45.5 percent response rate (41 surveys were returned). Thirty-six percent of targeted firms were in La Crosse County.

Figure 5: Response to the question, "Do you currently use intermodal shipping methods?"



Source: Mississippi River Regional Planning Commission. "A Study on Establishing an Intermodal Containerized Facility in the La Crosse Wisconsin Area.", undated, 36 pp.

Figure 6: Response to the question, "If an intermodal terminal were developed in the immediate La Crosse area, would you use the facility?"



Ibid, page 37.

leverage infrastructure at an existing intermodal terminal.
- The creation of a single industry intermodal terminal with public availability.
- Use of an existing intermodal facility 40 miles North of La Crosse in Arcadia, WI.

The first two of these propositions would need to be carefully considered in cooperation with local businesses and the railroads. While not directly examined by the study, the potential of providing river access at such a site might increase the number of lifts per year to a profitable level. This issue would also need to be examined in the course of such a study. If water access, potentially with container on barge (COB) service, were to be included in the plans, additional sites might be considered, including the Division Street Dock area or the Mobil Oil Site.

Interest in a trans-shipment facility with COB service has been strengthened by a potential increase in shipping along the Mississippi river corridor due to the widening of the Panama Canal. With this widening, the maximum container capacity per vessel in the Panama Canal will increase from about 2,400 40-foot containers to 6,300 containers. This will likely shift some of the container traffic between the U.S. and Asia to the East and Gulf Coasts, most of which is currently being shipped though California. Estimates of the impact of this change on container traffic vary. The Journal of Commerce, in its August 2010 edition, estimates an 18 to 20 percent increase to the Gulf Coast area, which would serve as the entry point into the Mississippi River system. Gary LaGrange, the President and CEO of the Port of New Orleans, is a bit more wary, estimating a 12-13 percent increase. It is even less certain the extent to which this might increase demand for waterborne shipping on the upper Mississippi. The adjacent text box provides some history and context on the prospects of inland large container shipping on the Upper Mississippi.

Prospects for Inland Large Container Shipping

"Starting a COB [Container on Barge] service where a traditional bulk barge operation exists presents a classical 'chicken and egg' dilemma. Carriers say that if there is a demand, they will provide the service. Shippers say that if there were a service they would use it. There is a role for the public sector to move both the chicken and the egg as close to each other as possible."

Port of Pittsburgh Commission Container-On-Barge Pre-Feasibility Study, July 2003

Due to the attractiveness of the high-capacity and low cost of shipping along inland waterways, the idea of a container on barge facility on the Mississippi River has been under discussion since at least the mid-1980s. One early study on the topic of COB service concluded that, due to the substantially longer transit time for containers shipped by barge along the Mississippi, compared with those shipped by rail, container-on-barge service will not be able to compete for time-sensitive cargoes. To succeed, the container-on-barge service will need to attract shippers of bulk and relatively low-value containerized shipments and be able to reposition empty containers.[1] While much has changed in the world of shipping since the mid-1980s, the length of time required for river-borne commerce to move along the Mississippi has not.

This is particularly the case for La Crosse, due to the need to pass through as many as 20 locks and dams along the Mississippi between La Crosse and New Orleans.

In light of this time issue, the commodities with the most potential for shipment by container out of the Port of La Crosse are grains for export, most notably corn. The effectiveness of such a facility would depend on the willingness of grain wholesalers to shift to this new means of shipment, and the likely volume of grain the establishment of such a facility could attract. For the moment this market does not appear to be adequate. F.J. Robers, who own and manage the site where Cargill now has its silos, indicated that shipment by container would not be efficient for most of their grains, with the exception of specialty grains (i.e. non-genetically modified, certified by the International Organization for Standardization (ISO)). At the moment there are not sufficient quantities of specialty grains being requested, however, to warrant the construction of a container site to serve this market. [2]

Further, establishing an effective COB service facility requires a number of minimum requirements, including:

- Dredging of key inland waterway segments
- On- and off-load equipment (cranes, forklifts, RO-RO capability)

Photo source: U.S. Department of Transportation Maritime Administration

1. Crew, J. A Hockstein and K Horn. "Prospects for Container-on-Barge Service on the Mississippi River." *Transportation Systems Planning and Management*, No. 1156, 1988.

2. Based on interview with John Noyes of F.J. Robers on January 19, 2011.

- Container storage and staging areas (land requirements)
- Consistency in navigable waterways
- Truck queue/waiting area (land requirements)
- Access to rails and highways [3]

In addition, for the facility to be competitive over time, the following aspects should be considered:

- Quality of rail and highway access
- Investment in specialized container lifting equipment
- Investment in well-developed and maintained infrastructure
- Investment in "shared vision" in economic development
- Homeland Security measures
- Leadership to follow through on measures by public authorities [4]
- Maintenance of river-system and locks and dams downstream.

Shipping containers-on-barge on inland rivers has been tried in the past with only moderate success. The biggest challenge being to reach a critical mass of regular users, as demonstrated in the quote regarding the Port of Pittsburgh at the beginning of the section. In La Crosse, this problem is further complicated due to the river being closed to barge transport three to four months of the year. The economic feasibility of such an investment would need to be carefully analyzed. During recent site visits, when asked about the feasibility of installing such a site, most operators of industrial port users interviewed indicated that there were not sufficient volumes of bulk commodities shipped through the port to warrant the construction of such a site.[5]

A mid-stream container dock at Venice, Louisiana is currently under construction to allow transfer of container-on-barge bulk commodities to and from rail, water, and road, and is expected to handle its first vessel in 2011. The experience of this terminal in its first years may provide important information regarding the potential for other similar terminal along the Mississippi.[6] Further, the construction of this new terminal may help to improve the efficiency of shipments of U.S. grains for export markets, by relieving the congestion at the Port of New Orleans.

Sources: Container-On-Barge Pre-Feasibility Study, Final Report, Port of Pittsburgh Commission, July 2003; Southeastern Ohio Port Authority, "Container-on-Barge Port Concept Paper," June 2008.

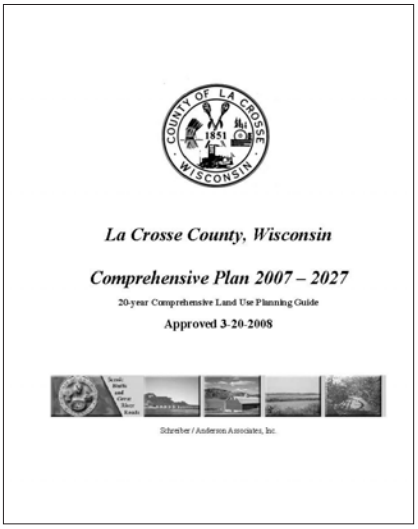
3. Missouri Department of Transportation. "Container-on-Barge Service for Missouri Waterways." Organizational Results Division of the Missouri Department of Transportation, November 2006.
4. Missouri Department of Transportation. "Container-on-Barge Service for Missouri Waterways." Organizational Results Division of the Missouri Department of Transportation, November 2006.
5. Based on interviews with industrial port users in La Crosse January 19-21, 2011
6. Jaeger, Steve. "Putting the Ship Back in Shipping." *Peoria* Magazine. January 2010.

La Crosse County Comprehensive Plan (2006)

The Comprehensive Plan is an inventory of the existing resources and a general statement of the direction for future program initiatives and growth patterns. In the inventory section, the plan describes the Port of La Crosse's dual public and private nature, stating that the port handles 1.2 million metric tons of commodities annually. Three out of five county-wide redevelopment opportunities are on the waterfront – the Barron Island Former Holiday Inn Site, the City of La Crosse's Riverside Redevelopment Project, and the City of Onalaska's Waterfront Redevelopment and Tourism Center. The list of industrial parks leads with the French Island Multimodal Facility (Town of Campbell). The County's largest employer is Gundersen Lutheran, which employs 5,000 full-time equivalent employees and is adjacent to the waterfront.

Many of the plan's goals will shape waterfront and port development, but four address it directly:

- 31.02 (3)(d) "Natural Resources Goal: Preserve and protect the overall beauty and natural resources of the County as these areas contribute to quality of life and are a critical component of the County's economic development strategy. Protect features including bluffs, coulees, wetlands, wildlife habitats, lakes, rivers, streams, woodlands, remnant prairies/grasslands, open spaces, and groundwater recharge areas."
- 31.03 (6) (b) (3) "Establish Design Corridors: The appearance of the County's highway corridors is an important design consideration. This Plan strongly recommends that local communities develop design standards for highway commercial clusters that will control unlimited highway access points and discourage the proliferation of strip-styled commercial development." The includes the Great River Road and Interstate 90 corridors in this design section.
- 31.04 (5) (b) "General Economic Development Policy. Economic development will be encouraged that:
  - Does not adversely impact the natural or already built environment;
  - Is consistent with community values stated in local comprehensive plans;
  - Encourages development that provides jobs to county residents;
  - Addresses unemployment in the county and seeks innovative techniques to attract different industries for a more diversified economic base;
  - Utilizes existing community infrastructure and sustainable inputs;
  - Promotes reinvestment in the local economy and educational system;
  - Supports retention and expansion of existing businesses; and
  - Enhances La Crosse County's position as an economic, cultural, employment, and tourism center for region."



- 31.04 (5) (c) (11) "Encourage municipalities in La Crosse County to provide sufficient land supply for industrial growth and development and to provide adequate buffers between these and other uses. Reservation of buffers with appropriate land uses and zoning provisions will ensure they will be available for future use. Ensure industrial land designations are sufficient to permit the concentration of industry in appropriate locations beyond 20 years. The designation of this land shall be established in a way that preserves natural resource based industries (quarrying, forestry, etc.) and other critical areas."

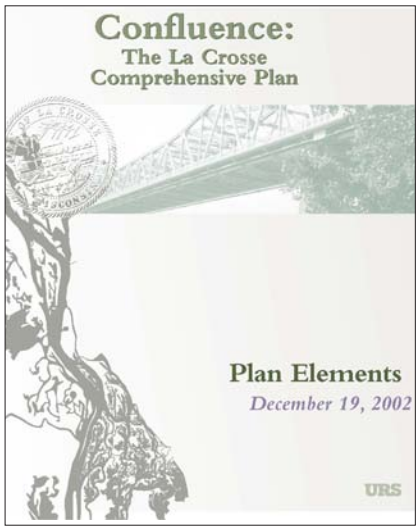
Confluence: The City of La Crosse Comprehensive Plan (2002)

The plan places particular emphasis on giving redevelopment and reinvestment priority to locations on the waterfront, in distressed areas, and key activity centers. Recommendations include:

- Encourage development near the river
- Continue to improve and expand open space systems and the trails or walkways that connect them
- Use funding programs and incentives (such as TIF) to facilitate site clearance, adaptive reuse, and infrastructure improvements
- Coordinate public investment and actions to encourage and facilitate private investment in areas targeted for revitalization, including the waterfront

Goals, objectives, policies addressing the port and the waterfront are throughout the plan, including:

- Land Use Objective 13: Enhance Riverfront. Capitalize on opportunities to develop more parks, housing, and offices along the waterfront while continuing to accommodate river-dependent industries.
- Urban Design Objective 2: Enhance Riverfront. Explore opportunities to enhance the appearance, ecology, and access to the riverfront through creation of more parks, trails and open space and careful site and building design.
- Transportation Objective 17: Waterways/Port. Promote safe and efficient river access while minimizing potential conflicts between commercial transportation and recreational waterway users.
- Parks, Recreation and Open Space Objective 11: Connected Park System. Improve connections between the City's waterfront, parks, open space areas, trails, and other places of significant interest to the community.



City of Onalaska Comprehensive Plan (2005)

The City of Onalaska does not have any port facilities within its boundaries and the comprehensive plan does not anticipate or encourage water- or rail-dependent industry.

Many goals, objectives, and policies focus on redeveloping the downtown waterfront redevelopment and the

Great River Road corridor. General City goals include:

- Balance growth and development with natural resource protection, particularly along the bluffs and waterfront.
- Connect downtown to the Black River by creating an environmentally sensitive, pedestrian friendly and aesthetically pleasing waterfront that is the defining feature and community gathering point for downtown Onalaska.
- Preserve the outstanding views of the river, lakes, and bluffs to the west of the City.
- Improve and enhance public access, use, and enjoyment of the public waterways, especially the downtown waterfront area.

The downtown waterfront should be focal point for the community, as stated in many chapters, including Agriculture, Cultural and Natural Resources, Economic Development, and Land Use. In the Land Use chapter is a listing of Waterfront principles, including "Improvements to the spillway are needed to make the facility a safer and more accessible, attractive recreational asset for the downtown and the larger community."

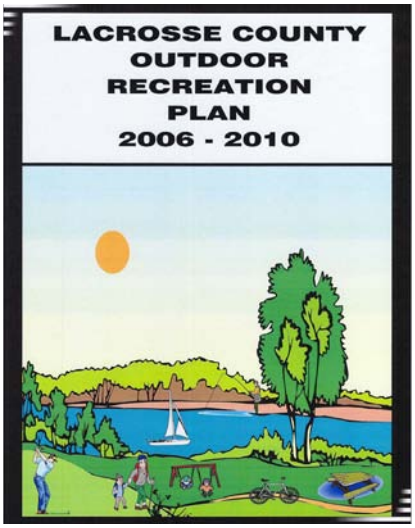
Improving the aesthetics and economic stability of the Great River Road, Highway 35, is another common goal found in the Intergovernmental Cooperation and Land Use chapters. Additionally, the City seeks to create more and better connections between the Great River Trail and the City's bicycle network.

Town of Campbell Comprehensive Plan (2007)

The Town of Campbell is located on parts of French Island and is bordered by the City of La Crosse. Over the years, an oftentimes contentious relationship has existed with the City, stemming primarily from annexation and water service issues. Presently, a 30-year boundary agreement exists that has caused the tension between the jurisdictions to ease.

The Town's comprehensive plan recognizes the Port of La Crosse as a major economic driver for the town and region. The plan describes the existing port access conditions: "The main line of the Canada Pacific Railroad passes through the south end of the Town of Campbell. Rail access is via two major movable span bridges across the Black River and Mississippi River main channels. The single-track main line has industrial spurs to several industries on either side of Bainbridge Street, a Town road. The rail spurs provide access to allow transfer of material between barges and trucks. The industries in Campbell are served as needed by an industrial switch run from the La Crosse classification yards about 1-1/2 mile east of Campbell. In addition to approximately 20 freight trains each 24-hour period, this main line track handles one daily Amtrak passenger train in each direction."

The Town intends to preserve and expand the port on French Island. "The presence of an existing rail and barge served industrial site bodes well for future expansion or location of heavy industrial activity in this



part of Campbell." Accordingly, the Future Land Use map maintains the Port of La Crosse areas as industrial, and shows the parcels adjacent to Bainbridge Street as either mixed use or single family residential.

La Crosse County Outdoor Recreation Plan, 2006-2010 (2006)

The plan inventories existing parks and recreation areas and sets "action programs" for the park systems of the County, towns, and villages. It underscores the importance of the Mississippi River, Black River, and Lake Onalaska since there are few natural inland lakes in La Crosse County. The recreational inventory includes fishing opportunity sites and camping opportunities at Goose Island and Pettibone Park. The outdoor recreation plan focuses on providing facilities for the most popular recreational activities, as determined by a survey completed for the statewide recreation plan. Riverfront-oriented activities that are popular are swimming, walking, biking, and hiking. Low popularity are canoeing, snowmobiling, and cross-country skiing. Recreational motorboating ranks in the middle of popularity statewide.

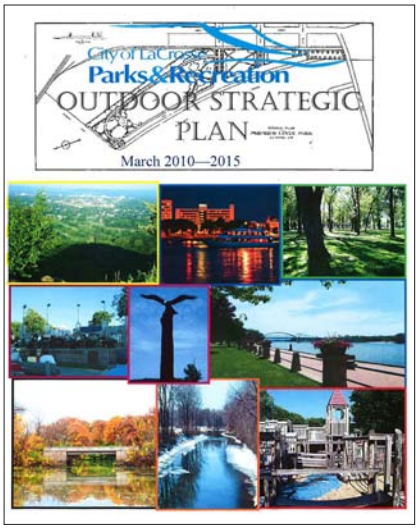
The element of the La Crosse County "action program" that most impacts the waterfront and port facilities is Connected Recreational Environment. "A goal identified in the planning process was to work towards creating recreational linkages (trails, open space corridors, etc.) throughout La Crosse County. This can be accomplished by requiring future developments/ redevelopments (at their expense) to incorporate greenways or other recreational resources into their projects. La Crosse County and local municipalities will also work toward acquiring (through state grant funding) specific properties that would connect existing trails or expand existing open space corridors."

City of La Crosse Parks & Recreation Outdoor Strategic Plan (2010-2015)

The plan inventories existing parks, notes needed facility improvements, and establishes goals and objectives. Water access is a critical element for the City's park system, and policies and projects to promote and improve water access are throughout the plan.

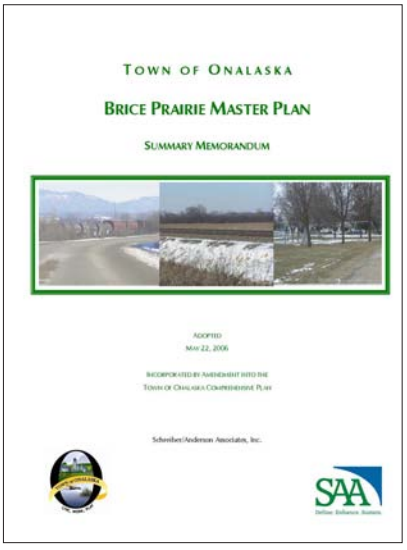
For instance, Goal D is to "Continue to Provide Public Access to the City of La Crosse's Recreational Lands and Waterways", with supporting objectives to acquire and develop boating access sites and increase public access to the three rivers.

The plan's recommended park facility improvements have been incorporated into this plan.



Brice Prairie Master Plan (2006)

The master plan is a focused area of the Town of Onalaska Comprehensive Plan. Brice Prairie seeks to maintain its mix of uses, with single family residential lining the edges of Lake Onalaska and interior industry and agriculture, with increased preservation of open space. The town seeks increased connections between residential areas and existing



Lake Onalaska access points (both boat and foot access) and between the Great River Trail and the Prairie's road network. The Prairie seeks to be an environmentally-focused recreational attraction with fishing, hunting, and biking facilities and activities. The Prairie seeks to maximize the educational and recreational opportunities of the US FWS headquarters.

La Crosse Municipal Airport Master Plan Update (2003)

The update assumes incremental growth in air traffic and recommends discrete projects for the airfield, terminal building, cargo facility, general aviation, auto parking, and other facilities.

Air cargo is a small portion of annual enplanements, and the master plan assumes that all types of traffic will increase except air cargo empanelment. Yet it assumes that cargo tonnage will increase by 5.2 percent. FedEx and Airborne Express will continue to use only trucks out of La Crosse, but UPS will use both trucks and aircraft. The plan recommendations include an expansion of air cargo space near the airport industrial park. Existing runway protection zones are sufficient and no expansion is recommended.

La Crosse Municipal Airport Land Use Master Plan (2011)

The master plan recommends land use restrictions for areas within flight paths to airport-compatible land uses, which are uses that can coexist with a nearby airport without either constraining the safe and efficient operation of the airport or exposing people living or working nearby to unacceptable levels of noise or hazards.

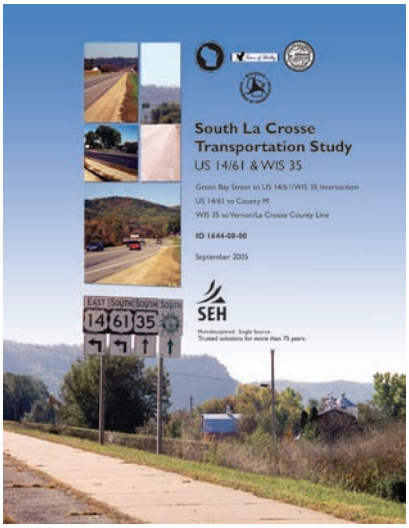
The French Island port facilities are in Zone B3 (approach surface (outer)). Land uses typical of port land facilities are permitted, including industrial service uses, general manufacturing, storage, and warehousing.

Fisherman's Road, its river access points, and the spillway are in Zones A (runway protection zone) and C (transitional zone). Man-made water bodies, wildlife preservation areas, indoor and outdoor commercial recreational uses and parks are not permitted in these zones.

WisDOT Interstate 90 Corridor Roadside Facilities Study (on-going)

WisDOT has initiated a study to evaluate roadside facilities along the Interstate 90 corridor from La Crosse to Tomah. The purpose of the study is to develop a long-range plan for modern roadside facilities along the Interstate 90 corridor that serve the traveling public, enhance freeway operations and safety, and are compatible with local land use planning.

The study will evaluate options for improving facilities at their present location and/or developing facilities at new locations. Four existing roadside facilities along the Interstate 90 corridor will be evaluated, including the La Crosse travel information center, located on French Island, mile marker 1 eastbound.



City of La Crosse Highway 53 Corridor Enhancement Plan (1999)

The corridor redevelopment plan recommends changes to the street cross-section, streetscape, and adjacent development patterns from Interstate 90 to Main Street in downtown La Crosse. The plan was partially implemented with the Rose Street reconstruction in 2001. North of Moore Street, the plan recommends the preservation of select views of the Black River. The plan assumes no multimodal access to the waterfront in this segment, instead routing bicycles on residential streets blocks from the river. It anticipates the long-term redevelopment of waterfront industrial land uses south of Copeland Park.

South La Crosse Transportation Study (2005)

The study evaluates roadway improvements to State Route 35 from Green Bay Street to Vernon County. There is no recommended cross-section, rather the study recommends three alternative cross-sections and a variety of intersection, multimodal, and urban design strategies.

The plan documents the poor pedestrian and bicycle facilities in both the urban area north of Highway 14/61 and the rural area south of this intersection.

The cross-sections do not include separate bike facilities but rather a wide outside travel lane, because the study assumes that most bicycle traffic will be carried on a network of off-street trails. The existing East Avenue route parallels Mormon Coulee Road from Ward Avenue to a Broadway Place connection to the Pammel Creek Trail. The proposed Goose Island Connector Trail will connect the Pammel Creek Trail to Goose Island County Park. The trail would include a ten-foot-wide paved multi-use path on the west side of Mormon Coulee Road, proceeding south to the intersection of US 14/61 and WIS 35, where it becomes a six-foot-wide striped shoulder on the west side of WIS 35 to County GI, the entrance to the park. In addition to striping, a physical barrier may be constructed to separate the multi-use facility from vehicular traffic on this portion of the trail. The proposed trail is 2.2 miles in length. Enhancement funds for construction have been applied for, but the trail connection is low regional priority.

In addition to road improvements, the study recommends many urban design interventions, including:

- Relocate and bury overhead utilities to remove visual clutter and promote a human scale.
- Promote community-oriented development such as inside-out development with buildings closer to the sidewalk and parking on the interior of lots, infill development, blocks, and liner shops to reduce the auto-dependent feel of the corridor.
- Increase pedestrian lighting at crosswalks and transit stops to provide a safe crossing and increase visibility of pedestrians.
- Provide a grass terrace and wider six-foot sidewalks to separate pedestrian zones from vehicular traffic and improve pedestrian comfort. Planting street trees in terrace areas provides shade to users, acts as a barrier between traffic and pedestrians, and adds a formal, uniform feel to the corridor.
- Enhance corridor aesthetics and promote a corridor-wide theme to create a sense of community. This can be achieved through uniform lighting, signage such as banners, benches, pavement coloring and patterns, or other elements such as planters.
- Provide adequate multimodal accommodations such as benches and shelters, and ensure that these elements are uniform throughout the corridor. Bus stops should all be served by sidewalks and safety lighting.
- Clean up visual clutter by removing billboards and applying uniform standards for commercial signs. Directional and wayfinding signage should be consistent as well.
- Encourage and support businesses so that they can improve facades, signage, and landscaping.

La Crosse Area Planning Committee 2035 Coulee Regional Bicycle Plan (2010)

The regional bicycle plan recommends significant bicycle corridors and facility design at the regional scale. The plan identifies rivers as a bike barrier, and recommends many bicycle facilities that run along the waterfront and cross waterways. Four recommended projects will significantly improve

waterfront bicycle mobility. All are included in this plan.

- Goose Island Connector Trail (2012/2014): Connect the Pammel Creek Trail to Goose Island Park
- Isle La Plume Trail/Urban Link Trail (2014-2016): Connect the 3 Rivers Trail and the VIP Trail
- Spillway Trail (long-range): Connect Fisherman's Road on French Island and The Great River State Trail in Onalaska
- Black River Trail (long-range): connect Copeland Park and the 3 Rivers Trail

Additionally, the Coulee Regional Bicycle Plan recommends preserving the capacity for a future bicycle facility in the I-90 Dresbach Bridge.

City and County Sustainability Strategic Plan (2009)

This Natural Step sustainability plan is a joint effort of the City of La Crosse and La Crosse County. There is no direct mention of port facilities and indirect references to the area's river systems and waterfront. A joint action item that could be related to the waterfront is to develop regional transportation/transit opportunities. The City has a goal to "preserve and enhance natural resources including: wildlife habitat, forest, water, wetlands, and blufflands." Potentially waterfront-related City tasks are to create a community bike program and to investigate closing streets to vehicles, including Pettibone Park on Sundays.

Upper Mississippi River Land Use Allocation Plan (U.S. Army Corps of Engineers and US FWS, 2011)

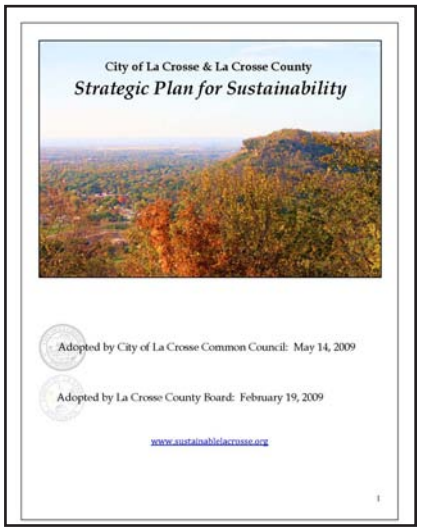
The Upper Mississippi River Land Use Allocation Plan is essentially a zoning plan for federal lands allocating lands in the floodplain for wildlife management, recreation and natural areas.

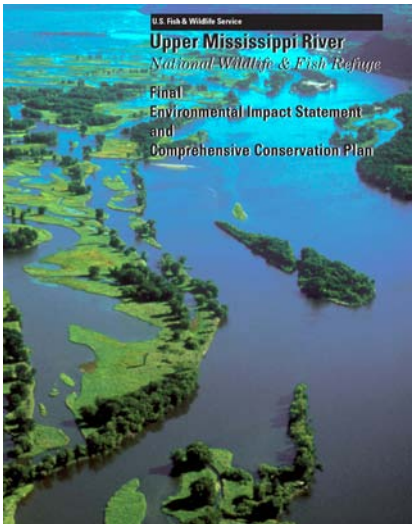
The general goals of the Land Use Allocation Plan are:

- To manage resource capabilities wisely in relation to multiple purpose resource demand (including recreation, fish and wildlife, and navigation interests).
- To maintain public recreational opportunities for all publics on an equal basis in accordance with recreation needs.
- To adjust management activity with respect to resource capabilities in relation to multiple resource demands for the greatest public benefit (including recreation, fish and wildlife, and navigation interests).
- To minimize user conflicts and to optimize public safety and access.
- To consider the implications of USACE planning and management activities on the Upper Mississippi National Wildlife and Fish Refuge.

US FWS Comprehensive Conservation Plan (2006)

The Upper Mississippi River National Wildlife and Fish Refuge, Comprehensive Conservation Plan governs the administration and management of the Refuge. Its general goals are:





- We will strive to maintain and improve the scenic qualities and wild character of the Upper Mississippi River Refuge.
- We will strive to improve the environmental health of the Refuge by working with others.
- Our habitat management will support diverse and abundant native fish, wildlife, and plants.
- We will manage public use programs and facilities to ensure abundant and sustainable hunting, fishing, wildlife observation, wildlife photography, interpretation and environmental education opportunities for a broad cross-section of the public.
- We will provide opportunities for the public to use and enjoy the Refuge for traditional and appropriate non-wildlife-dependent recreation that is compatible with the purpose for which the Refuge was established and the mission of the Refuge System.
- We will seek adequate funding, staffing, and facilities and improve public awareness and support, to carry out the purposes, vision, goals, and objectives of the Refuge.

The Comprehensive Conservation Plan identifies a number of issues, concerns and opportunities within the Refuge as follows.

Landscape Issues

- Clearly and accurately mark the Refuge boundary.
- An additional 36,000 acres of land within the refuge is targeted for Acquisition. This includes tracts within the Van Loon Wildlife Management Area on the Black River.
- Protect bluffland.
- Develop management plans for natural areas and special designations.

Environmental Health Issues

- The WisDNR has designated portions of Pool 8 in the Refuge and Black Creek in La Crosse as having "impaired" Water Quality per Section 303d of the Clean Water Act for high levels of mercury and PCBs in the water column or in fish tissue.
- Locks and dams associated with navigation have created the need for Water Level Management to simulate natural hydrology, and help reverse their negative effects on environmental resources.
- Invasive Plants (i.e. reed canary grass, water milfoil, etc.) and Animals (i.e. zebra mussels, Asian carp, etc.) are a major threat to native plant and animal communities.

Wildlife and Habitat Issues

- The aforementioned Environmental Pool Plans summarize and prioritize future habitat conditions.
- Guiding Principles for Habitat Projects provide the link between the numerous overlapping jurisdictions and agencies.
- Monitoring Fish, Wildlife, and Plant Populations provides the metrics to assess how well managers are meeting Refuge goals.
- The Bald Eagle and Higgins eye pearly mussel are two federally Threatened or Endangered Species known on the refuge. The massasauga rattlesnake and sheepnose mussel are two candidate species that occur on the refuge.
- Commercial and Recreational Hunting, Fishing, Guiding, Trapping and Fishing are managed but compatible Refuge uses.
- Forest and Grassland areas provide critical habitat that must be managed.

Wildlife-Dependent Recreation

- Hunting is one of the priority public uses.
- Waterfowl Hunting Closed Areas and Regulations continue to be important to balancing the needs of hunters with waterfowl and other wildlife conservation.
- Sky busting at the Firing Line, Pool 7, Lake Onalaska continues to kill a disproportionate number of birds (57 percent crippling mortality compared to 27 percent for non-sky busting), and also negatively impacts the hunting experience.
- Fishing Tournaments are growing in popularity. There is some concern about the effect of fishing tournaments on the overall health of the fish community.
- Wildlife Observation and Photography are increasingly popular activities.
- Interpretation and Environmental Education are priority uses. The demand is expected to grow. It is not clear how to meet projected demand.

Other Recreational Use Issues

- The Use and Maintenance of Beaches is high and has multiple technical and social management challenges.
- The increase in the availability and use of personal and other watercraft disturbs backwater areas that provide important habitat for animals.
- Slow, No-Wake Zones will continue to be reviewed and monitored.
- The Refuge needs to clarify its policy on Dog Use in the Refuge to allow especially hunting dog use while prohibiting uses that harass wildlife.
- General Public Use Regulations last updated in 1999 are outdated.

Administration and Operations Issues

There is a general lack of adequate office, maintenance and visitor contact facilities. The Comprehensive Conservation Plan states that: "The future well-being of the Refuge is tied to the public's awareness of its existence and significance."

Environmental Pool Plans, US FWS (2004)

The Environmental Pool Plans are intended to help develop common habitat goals and objectives for state and federal working within the Upper Mississippi River. These plans identify a desired future habitat condition that would address existing environmental stressors and move toward a more sustainable ecosystem. The following summarize goals for the future preferred conditions for Pools 7 and 8:

- Increase the depth and diversity of backwater areas;
- Protect and restore islands;
- Increase diversity through restoration and the management of invasive weeds;
- Maximize opportunities for water level management for ecological restoration;
- New structures within the pools should be reviewed to maximize their habitat value;
- Maximize opportunities for watershed management;
- Maximize opportunities for education;
- Minimize disturbances by motorized vehicles and personal water crafts to people and wildlife;
- Increase awareness of the needs for loafing and feeding habitat for migratory birds.

See the Ecological Inventory section for a map of specific management opportunities for Pools 7 and 8.

Inventory of Harbor and Waterfront Facilities

Freight Transportation System

La Crosse County benefits from a strong multimodal transportation system, which allows commercial freight to be moved by water, rail, truck, and air, depending on the prevailing cost of transportation and the nature of the goods. Figure 7 depicts the interplay of the multimodal freight transportation system in La Crosse County.

Riverway System

The United States has an extensive inland waterway system, which comprises 12,000 miles of commercially navigable channels, through 38 states. About 624 million tons of cargo is transported over this vast system every year, representing about 14 percent of all intercity freight and valued at about $70 billion. Roughly 60 percent of U.S. grain exports are transported by barge, along with the transportation of more than 22 percent of domestic petroleum and petroleum products, and 20 percent of the coal used for energy production.[1]

The largest river system in North America, the Mississippi River system runs approximately 2,320 miles, originating in Lake Itasca, MN and continuing to New Orleans, where it flows into the Gulf of Mexico. The Mississippi connects with numerous other navigable rivers, including the

1. "Industry Overview." U.S. Waterways Council. Accessed online 12/23/2010 at: <http://www.waterwayscouncil.org/WWSystem/WCI_086454_09IndustryStepSheets_Comp5.pdf>

Figure 7: Intermodal System of La Crosse County

Source: 2030 La Crosse and La Crescent Metropolitan Transportation Plan

Figure 8: Map of the Mississippi River System
Source: DEMIS Mapserver

Ohio, Illinois, Missouri, Arkansas, and Tennessee Rivers, linking the agricultural heartland of the U.S. to the coal belt and the country's industrial centers. Waterborne commerce along the Mississippi River increased significantly during the 20th century, increasing from 30 million tons per year in 1940 to almost 500 million tons currently.[2] The principal commodities shipped on the Mississippi include grains, coal and coke, petroleum products, sand and gravel, salt, sulphur and chemicals, and building materials.[3] Figure 8 illustrates La Crosse's placement on the Mississippi River system.

La Crosse County is situated along the Mississippi River between Locks and Dams 7 and 8. Commercial facilities are concentrated between miles 696.4 and 697.5 on the Mississippi River, and between miles 0.5 and 1.5 on the Black River, a tributary of the Mississippi whose mouth begins in La Crosse where the Mississippi is split at French Island. The Mississippi River in this area is open for navigation between mid-March and mid-December, depending on weather conditions.

2. "Mississippi River and Tributaries Project" Mississippi River Commission. Accessed online 12/23/2010. <http://www.mvd.usace.army.mil/mrc/mrt/index.php>

3. *Ibid*

Complementary Rail and Road Structure

Efficient use of barge shipping also requires linkage to the complementary road and rail system. For example, for the shipment of grains, farmers must be able to transport their goods to grain wholesalers and transporters in an efficient manner, generally by truck. Similarly, coal shipped by river is often loaded onto trains in coal producing regions prior to being loaded onto barges for long-haul transport. This type of multimodal system helps to reduce the costs of shipping bulk commodities.

Two major railroads run through La Crosse County, BNSF Railway (formerly the Burlington Northern & Santa Fe), and the Canadian Pacific Railway (CPR).

As shown Figure 7, BNSF Railway runs north-south through the City of La Crosse serving the east bank of the Black River waterfront and several other terminals. BNSF Railway runs several lines both north-south (from the Canadian border south into Texas) and east-west (serving points west of Chicago). Figure 9 presents the routes of BNSF Railway throughout the nation.

As demonstrated in Figure 7, CPR runs east-west along Interstate 90 to the east of La Crescent, then veering south as it nears downtown La Crosse crossing the Mississippi River to La Crescent at the southern tip of French Island. CPR runs primarily east-west, originating on the East Coast in New York, with lines running west through Canada (Toronto, Winnipeg,

Figure 9: Coverage of BNSF Railway

Source: Bureau of Transportation Statistics. Note: BNSF Railway as of 2009, trackage rights in purple

Figure 10: Coverage of Canadian Pacific Railway

Source: Adapted from *Trains Magazine*, May 2002.

Table 1: Connections to Rail

	Geographic Coverage	Main Commodities Shipped	Notes
CPR	Line runs from Vancouver to Montreal in Canada and from Moose Jaw in Canada across the northern Midwest of the U.S. to the Northeast. CPR also recently acquired the former DM&E line, which runs from coal regions in Wyoming, and grain regions in the lower Midwest, as well as the IC&E line, whose mainlines extend from Chicago, IL to Kansas City, MO and from Sabula, IA to Minneapolis-St. Paul, MN.	Freight traffic on this line includes bulk freight (grains, coal, sulfur, and fertilizer), merchandise freight (automobiles and forest products), industrial freight (chemicals, metals, minerals and plastics), and intermodal freight (manufactured consumer products)	The La Crosse County industrial park constructed facilities in 2004 to unload lumber. To accommodate the complex logistics of merchandise freight, CPR created a network of truck-rail transload facilities (i.e. Reload, Inc.). Former DM&E Intermodal facilities in Winona (about 26 miles north in MN) allow DM&E to transfer its grain products to barge for shipment down river.
BNSF	Covers 33,000 miles and 28 states in the Western U.S. and two Canadian provinces.	BNSF Railway is the largest grain-hauling railroad in the U.S. It also transports other commodities including coal, chemicals, metals and minerals, forest products, automobiles, and consumer goods.	BNSF Railway mainline has an average of between 45 and 50 trains a day between Hastings, Minnesota and La Crosse. The largest mover of intermodal traffic in the world, BNSF transported nearly 8.4 million loads in 2010 alone.

Source: 2035 La Crosse and La Crescent Metropolitan Area Transportation Plan. BNSF Railway notes Presentation by Cami Elliott, General Director of Marketing for BNSF Railway to the Midwest Association of Shippers, 2011.

and Calgary) and the Upper Midwest of the U.S. (Chicago, La Crosse, the Twin Cities, and up to Canada via South and North Dakota), both terminating in Vancouver. Figure 10 demonstrates the coverage of CPR. Table 1 provides a more detailed description of each of these lines.

Several major interstates and highways go through La Crosse County (Interstate 90, USH 53, USH 14/61, STH 35, 33, and 16), making road freight the most convenient means of transporting commercial freight in and out of La Crosse County.[4] Interstate 90 runs along the northern US from Seattle to Boston, intersecting with several important commercial and transit centers such as Chicago. Interstate 90 crosses the Mississippi River into Minnesota just north of commercial port facilities on the Black River. This is the route commonly used by farmers off-loading grain. USH 53 and WI-35 run through downtown La Crosse, intersecting with the waterfront at different points and linking up with Interstate 90. USH 53 is the primary north–south route in northwestern Wisconsin, linking-up with Interstate 94 at Eau Claire and Duluth. An alternative route across the Mississippi River, USH 14/61 crosses the river from downtown La Crosse into La Crescent, and continues north to the Twin Cities. Figure 11 demonstrates La Crosse's linkage with a few key

Figure 11: Linkage of La Crosse with Major Highways and Interstates

Source: Adapted from Googlemaps.

roadways, including Intestate 90, USH 53, and USH 61.

Finally, air freight, which represents less than one percent of total commercial freight in La Crosse County, is shipped in and out of the La Crosse Municipal Airport.[5] The La Crosse Municipal Airport is located on the northern side of French Island, and serves Delta and American Airlines. The location of the airport is indicated on Figure 12.

Introduction to Existing Facilities

The Port of La Crosse is best suited for bulk cargo product. The largest waterborne export products from the Port are corn/soybeans. The largest waterborne import products to the port are dry bulk, vegetable oils, cement, salt, coal, asphalt, aggregates, and caustic soda. Distribution of the imported goods is generally via truck, with little or no transshipment to rail. Bulk goods are also imported to the Port users by rail but do not then get transferred to barge, but rather are either delivered straight to the end user or are redistributed by truck. As described on page 31, containerized throughput is not a viable option for the Port unless the value of the product is high, it requires special handling, and is suitable for transport in smaller quantities, but is still not constrained by time for delivery.

There are two main general purpose dock facilities for the community, one of which is located on French Island and owned/operated by F.J. Robers Co. with tenant services for various users , and the other of which is the

4. According to the 2030 La Crosse and La Crescent Metropolitan Transportation Plan, in 2003 69 percent of total inbound and outbound freight processed in the County was carried by truck.

5. 2030 La Crosse and La Crescent Metropolitan Transportation Plan

Hanke Facility, who operate out of Isle La Plume.

The F.J. Robers facility currently has 720 feet of sheet pile dockface and backlands of 38 acres for use. The facility has no permanent product transfer infrastructure other than a grain elevator offloader. However, that capability could be added if the demand for that type service developed. Mobile cranes presently provide product transfer capability for break bulk cargoes. There is also adequate water frontage to extend the dock bulkhead if needed.

The Hanke facilities on Isle La Plume has 210 feet of total berthing space and a two-acre open storage area with the capacity for approximately 100,000 tons of bulk materials. This facility receives dry bulk such as coal, road salt, pig iron, and aggregate.

There are four other active dock facilities, each supporting a dedicated use. The dock at Midwest Industrial Asphalt handles liquid bulk transfer of asphalt and other petroleum product. The dock at Hydrite Chemical handles transfer of caustic soda. The dock at Holcim, adjacent the Division Street dock, receives cement product.

There are two public docks, Division Street and the Municipal Dock-Isle La Plume that are currently inactive but are occasionally used for temporary fleeting and queuing of barges.

The docks on French Island have rail spur access and a rail spur connection exists or could be extended with little effort to service the Division Street Dock/Holcim facility. There is rail service to Midwest fuels, but the spur does not access the dock. No rail connection to Isle de la Plume exists.

Intermodal Facilities

Barge freight travels along the Mississippi and Black Rivers, and can be on/off loaded at a number of intermodal facilities, commercial facilities and municipal docks, which allow for movement between modes of transportation. There are approximately 12 facilities which offer intermodal loading between water and either road or rail transport, of which eight are on the Black River and four are on the Mississippi. The municipal docks are located at Isle La Plume and South Copeland Park. Figure 12 depicts the location of the major facilities. Table 2 provides a detailed description of the sites, including their precise location, the purpose of the facility, and what transportation modes are available at the site. For example, the Hydrite Chemical site is located on the Black River at Mile 1.3, receives liquid caustic soda, and has access to rail and barge transportation.

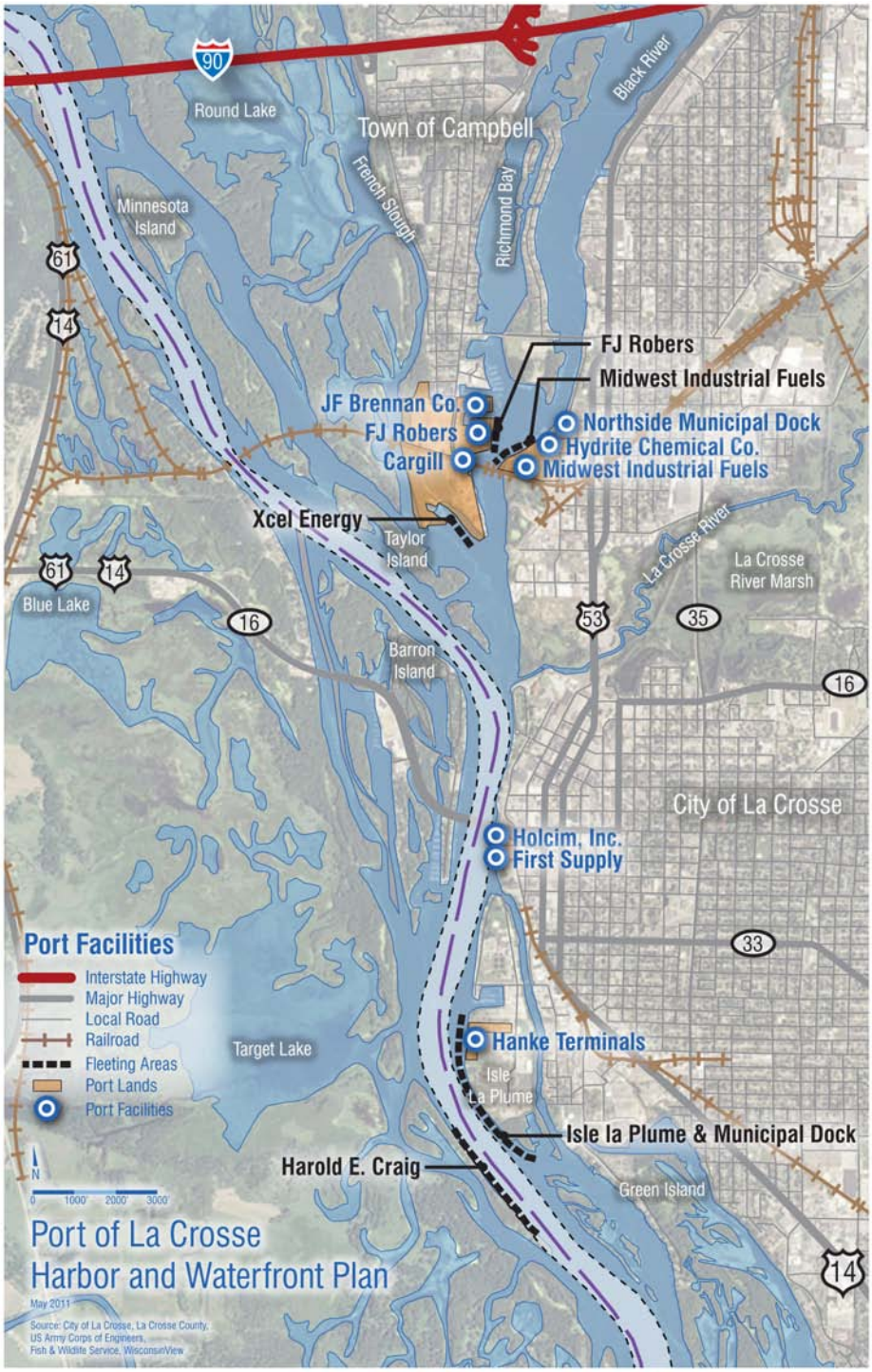


Figure 12: Map of Major Intermodal Facilities
Source: 2035 La Crosse and La Crescent Metropolitan Area Transportation Plan, City of La Crosse, La Crosse County, USACE, US FWS, WisconsinView

Table 2: Summary of Intermodal Facilities

	Location	Purpose	Modes
City of La Crosse North Side Municipal Dock	On the Black River (mile 1.4); southern end Copeland Park at the western terminus of St. Cloud Street, City of La Crosse.	Facility used as needed, with users entering into separate agreements with the City Board of Public Works each time it is used. First significant annual cargo was a lease of the facility in 1997 to receive and transload to trucks, barge borne pig iron. Used by Trane Co. and Chart Heat Exchangers to ship heavy machinery and by Hanke Trucking for the receipt of iron ore. Hanke continues to lease, but must allow short term users access. SkipperLiner, an excursion boat builder, has used this facility.	Barge and truck access.
Hydrite Chemical	On Black River (mile 1.3); Sumner Street, City of La Crosse.	Receives liquid caustic soda. An eight-inch pipeline extends from wharf to two steel storage tanks at terminal in rear, with a 2,100,000 gallon total capacity. Early and late in the shipping season barges received here usually first are taken to the Westway dock to have live steam piped into them to improve commodity flow.	Barge (20 barges per year) and rail (CPR).
Midwest Industrial Asphalt	On the Black River (mile 1.2), approximately one mile above Mile 698.1 Mississippi River; 0.2 mile above CPR System Bridge.; 615 Sumner Street, City of La Crosse.	The upper dock receives asphalt (about 100,000 tons/year) by barge and rail. Receipt of asphalt and petroleum products; fueling towboats; mooring barges for fleeting. Two eight-inch pipelines extend from wharf to seven asphalt storage tanks, total capacity 233,000 barrels. Metered fueling line on wharf is supplied by one 10,000 barrel diesel fuel storage tank. Brennan Marine, Inc. operates the "MIF Upper Fleet" with capacity for nine barges arranged in 3-3-2-1 configuration (north to south) adjacent to wharf.	Barge, truck and rail access. One surface track serves ten unloading stations at terminal in rear; connects with CPR.
Brennan Marine, Inc.	On Black River (mile 1.2); 820 Bainbridge Street, French Island, Town of Campbell.	Offers services such as switching, fleeting, barge cleaning, 110' x 70' 1,000-ton dry dock (largest north of St. Louis, MO), barge topside repairs, diving, and freight movement. Brennan Marine's sister company, J.F. Brennan Company, is a full service marine contractor. Operates a fleet of towing vessels during the navigational season, available for short-haul towing and placement moves.	No rail access.

Table 2: Summary of Intermodal Facilities (continued)

	Location	Purpose	Modes
F. J. Robers Co.	On Black River (mile 1.0) just south of Brennan Marine; Bainbridge Street, French Island, Town of Campbell.	Ships and receives bulk dry products. Specific commodities include: steel products (bars, ingots, IORS sheet pipe, scrap, etc.); cement; salt; coal, coke and other iron products; aggregates (sand, gravel, crushed stone, granite, limestone, etc.); generators and transformers; special rail projects; and fertilizers (phosphates, nitrogens, urea, etc.). The storage area for dry bulk commodities meets all current WisDNR water quality regulations. Multiple firms use the F.J. Robers facility: • Agri-Grain Marketing (operator for Cargill) is one of the main users of this facility, and receives shipments of grain by truck and transloads to barge. Approximately 160 to 250 barges annually are loaded with corn or soybeans. This is about 240,000 to 375,000 tons, or about 8 million to 13 million bushels of grain each year. • Westway Trading Company: Receives vegetable oils, • Cottonseed LLC: Receives cotton seed for animal feed. • La Farge: Receives between 25,000 tons and 50,000 tons of cement annually.	Rail access to dockside is provided by CPR, with three railroad tracks and 30 spots for loading train cars and 25 spots for trucks. 26,000 sq. ft. of covered storage space; 435,600 sq. ft. of uncovered, paved storage space; and 1,306,800 sq. ft. of uncovered, unpaved storage space.
Cargill Aghorizons	On Black River (mile 0.5), south of F.J. Robers Co; Bainbridge Street, French Island, Town of Campbell.	Located on the F.J. Robers site, Cargill receives grain by truck mostly from local farmers within a 50-mile radius and then ships the grain out by barge. Approximately 240,000 to 375,000 tons of corn and soybeans are loaded on 160 to 250 barges each year. Cargill has entered into a contract with F.J. Robers, who own the facility.	Barge and truck access. No rail access.

Table 2: Summary of Intermodal Facilities (continued)

	Location	Purpose	Modes
Holcim Trading, Inc.	On Mississippi River (mile 697.5); Cross Street, City of La Crosse.	Receives cement by barge and ships it out by truck. Has two 25-ton surge silos at rear served by a 14-inch pneumatic pipeline extending to three steel storage silos at terminal in rear, total capacity 11,900 tons. Cement is brought up-river by barge either from manufacturing facilities at Clarksville, MO, or imported through the Lower Mississippi ports from ocean freighters. It receives about 100 barges per year. The fact that imported cement is received from a freighter in the New Orleans-Baton Rouge area, where barge storage capability is limited, means as many as 15 barges at one time may come into La Crosse destined for Holcim. The plant can only handle two barges at their dock at one time, and unloading one may take eight hours, so storage or "fleeting" space must be found for the barges in the Port of La Crosse.	Barge and truck access. No rail access (rail spur exists, but not used).
First Supply Plumbing (Division Street Dock)	On Mississippi River (mile 697.4); End of Division Street, City of La Crosse.	Formerly used as a general commodity dry freight facility, and for the shipment of large pipes for First Supply Plumbing. Currently the site is being used to store ductile iron pipe that is transported by truck. Area along the dock is vacant.	Barge and truck access. No rail access.
Hanke Terminals	On Mississippi River (mile 696.4); west side of Isle La Plume, City of La Crosse.	Facility receives dry bulk such as coal, road salt, pig iron, and aggregate. Site has a two-acre open storage area with the capacity for approximately 100,000 tons of bulk materials.	Barge and truck access. No rail access.
Xcel Energy	On French Slough Black River (mile 0.7R) at south end of French Island, City of La Crosse.	Formerly used for receipt of fuel oil for the power plant. Primarily used for overflow temporary storage of up to 9 barges, and seasonal storage of local excursion boats.	Barge and truck access.

Source: 2035 Plan, 1999 Port Plan, U.S. Army Corps of Engineers Port Series No. 69, Port updates from port managers.

Fleeting Locations

Efficient shipping of commodities by barge requires that space along the waterways by a commercial port be set aside for barges to wait to be loaded and unloaded. This practice, known as "fleeting," keeps the main port from becoming overly congested with barges, and enables barges to wait until they are filled to an efficient capacity and that enough barges are collected for a tow before moving up or down river.

The placement of fleeting sites can be quite contentious, as fleeting space decisions must be made while respecting environmental concerns, and space set aside for fleeting is often in competition with recreational river use and waterfront redevelopment projects. In La Crosse County, fleeting has been mostly shifted to the south end of the City of La Crosse on the main channel of the Mississippi on and around the Isle La Plume. Table 3 provides a summary of the major fleeting sites.

Isle La Plume Fleeting Site

Harold E. Craig Fleeting Site

Table 3: Description of Major Fleeting Sites

Site Name	Location	Notes
Harold E. Craig Fleeting Site (also known as Hintgen Island or Broken Arrow)	On the west side of main channel of the Mississippi (mile 696.4), opposite Isle La Plume fleeting site, owned by La Crosse County, in the State of Minnesota.	Capacity to hold 15 barges arranged in five tiers. During low demand, this site is used primarily as a staging site for working the starboard side of a tow. Has space for 15 additional barges. Completed in 1998. State of Minnesota environmental laws apply. Operated by Brennan Marine Inc. under lease with the Joint Board.
Isle La Plume Fleeting Site	On the east side of main channel of the Mississippi (mile 696.4); west of Isle La Plume, south of Municipal Dock-Isle La Plume, across main channel from Harold E. Craig fleeting site, City of La Crosse.	WisDNR permit allows a capacity of 32 barges arranged in 8 tiers. Operated by Brennan Marine Inc. under lease with the Joint Board.
City of La Crosse Municipal Dock-Isle La Plume	Directly north of the Isle La Plume fleeting site. On the east side of main channel of the Mississippi River (mile 696.4) across from Harold E. Craig fleeting site; south end of Isle La Plume, City of La Crosse.	Publicly owned public dock. No rail access. Site no longer used for cargo handling. Waterfront used for barge fleeting. Four permitted fleeting berths. Riparian rights leased to Brennan Marine, Inc.
Midwest Industrial Asphalt	On the Black River, approximately one mile above Mile 698.1 Mississippi River; 0.2 mile above CPR System Bridge.	When not in actual use receiving product, is also available for temporary barge fleeting. WisDNR permits nine barges to fleet at this location. Four spaces are lost when asphalt tows offload (average duration 18 hours per barge).
F.J. Robers	On Black River (mile 1.0) just south of Brennan Marine, Bainbridge Street, French Island, Town of Campbell.	Dock is used for the temporary fleeting of six barges during unloading/loading of commodities.
Wisconsin DNR may allow additional temporary fleeting spaces at existing fleeting sites upon notification.		

Source: 2009 Port of La Crosse Fleeting Summary, 1999 Port Plan, updated by JJR.

Marina Facilities

Within Pool 8 of the Mississippi River System, there are essentially five full service marinas operating with slips numbering more than 50 and which are intended for permanent, seasonal moorage of recreational vessels – the La Crosse Municipal Boat Harbor, the Pettibone Boat Club, the North Bay Marina, the South Bay (aka Bikini) Marina, and Chut's Landing at the southern boundary of the City.

There are also several marinas with slip counts of 25 to 50, which cater to the local boating market; with few exceptions, they generally offer few amenities. These satisfy a demand for pure moorage but provide essentially no services, or they cater to a transient market to support other private accommodations. Individual homes and condo/ apartment units also have private piers for their tenants or owners. The total slip count in the Pool 8 area is approximately 1,300. There are no permanent boat moorages on Pool 7. Figure 13 shows the location of marina facilities and Table 4 describes their location and amenities.

La Crosse Municipal Boat Harbor

Black's Cove Marina

Cat Gut Slough Marina

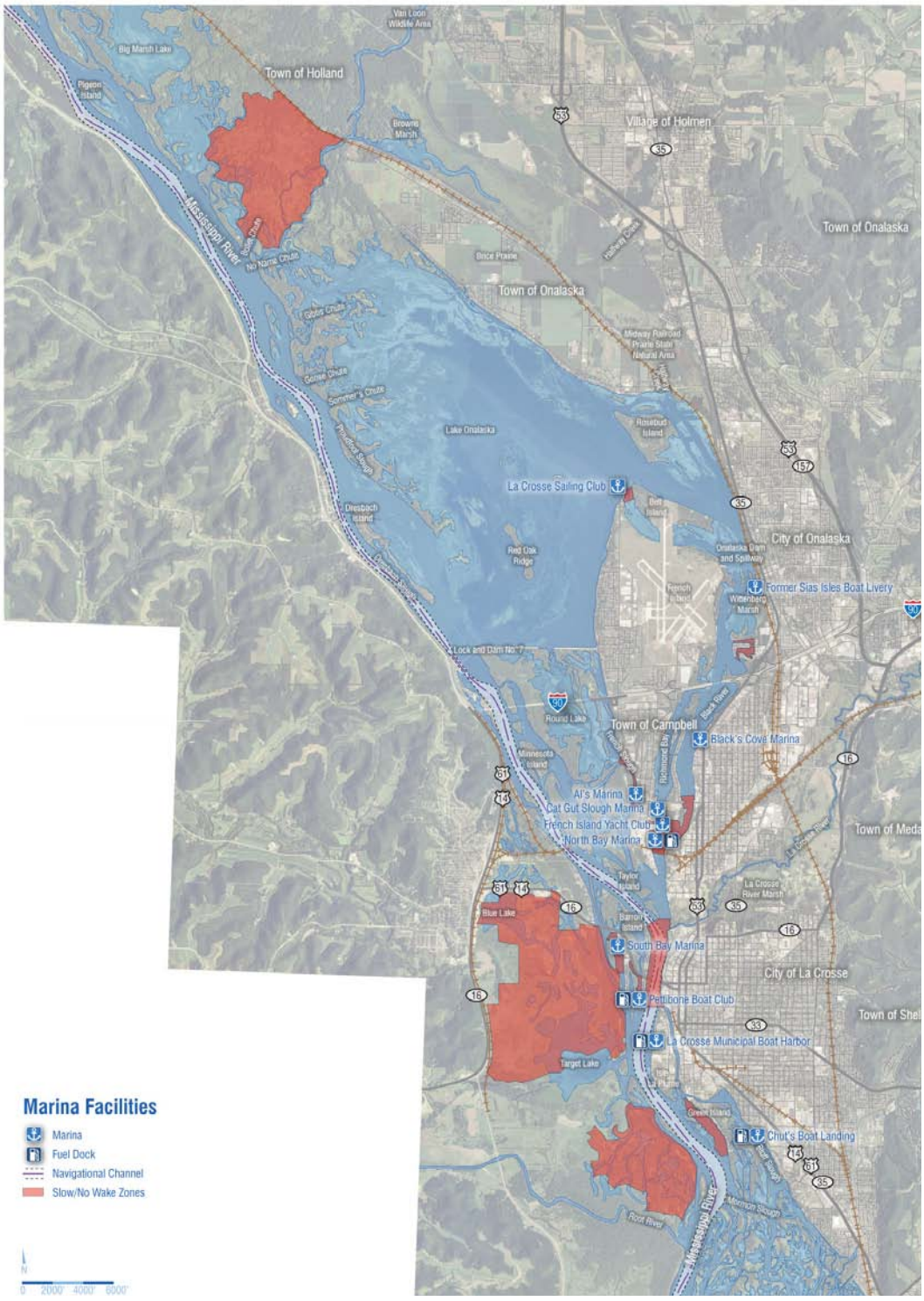


Figure 13: Marina Facilities
Source: City of La Crosse, La Crosse County, USACE, US FWS, WisconsinView

Table 4: Description of Marina Sites

Site Name	Site Location	Description
La Crosse Sailing Club	North end of Lake Shore Drive, French Island, Town of Campbell	Sailing Club leases shoreline separate from Nelson Park lease. Common paved parking lot shared with Nelson Park and boat ramp. Lake Onalaska is one of few areas on Mississippi River where sailboats can operate.
Former Sias Isles Boat Livery	Upper end of "lower" Black River at spillway; 107 1st Avenue South, City of Onalaska	Purchased by City of Onalaska to be redeveloped as part of waterfront initiative
Black's Cove Marina	On north side of the City of La Crosse. Black River mile 2.6; 2003 Rose Street, City of La Crosse	Electricity, water, pumpout, showers, and rest rooms are available. Harbor depth is five feet. There are 48 slips that accommodate boats up to 50 feet long. Transient use can be accommodated up to five or six boats.
Al's Marina	On French Slough. Black River Mile 0.5; 1311 La Crescent St., French Island, Town of Campbell	This facility primarily caters to local seasonal renters with 26 slips, and sells gasoline and miscellaneous snack foods. It is located on the west side of French Island.
Cat Gut Slough Marina	On Richmond Slough (also known as Catgut Slough); 136 Clinton Street, French Island,. Town of Campbell	Approximately 40 slips for seasonal rental and for transients using eating/dining/retail facilities of Fisherman's Diner. Under renovation at the time of this writing.
French Island Yacht Club	Access to Richmond Slough; 132 Marina Drive, French Island, Town of Campbell. Access via Bainbridge Street.	Private marina with 24 owner's slips and 13 rental slips – no transient slips. Concrete boat ramp available for use for a fee to private operator. No store, fuel, or other amenities.
North Bay Marina	On Richmond Slough; 127 Marina Drive, French Island, Town of Campbell	Marina with 150 slips for seasonal and transient mooring (45 designated for transient use). Fuel, water, pump-out and restaurant. Lift-out capability, out-of-water boat storage. Full service engine, drive train and hull repairs.
American Marine	Two locations: On the east side of the Black River adjacent to Copeland Park, and the other at the south end of Veteran's Memorial Boat Landing. Both locations are south of the Clinton Street Bridge, City of La Crosse.	The east dock contains a combined 36 slips for a season lease only. 22 slips accommodate 40'-56' vessels, 10 slips accommodate 20'-22' vessels, and 4 slips are designated for outboard pontoons up to 18'. The south dock contains 23 slips for a season lease only. 19 slips can accommodate 30'-40' vessels and the remaining slips can accommodate 16' flats bottoms.

Table 4: Description of Marina Sites (continued)

Site Name	Site Location	Description
South Bay Marina (formerly Bikini Yacht Club) (Closed)	On west channel of Mississippi River; 621 Park Plaza Drive (USH 14/61), behind former resort motel complex, Barron Island, City of La Crosse.	Previously operated as part of the SkipperLiner family of marinas. Formerly operating commercial marina that had seasonal and transient docking, with approximately 53 slips (40 designated for transients). Channel and harbor depth is 12 feet. Formerly offered ship store, rest rooms/ showers. pumpout, repair service.
Pettibone Boat Club	Water access primarily on inlet west of Mississippi River main channel; on Barron Island south of Cass Street Bridge, City of La Crosse	Commercial marina on land leased from City of La Crosse with approximately 250 slips for seasonal renters and 15 for transient use. Some shore space is sublet to individual boat owners and boat house owners to maintain their own piers. Restaurant and bar on-site is open seasonally. Transient boat reservations are requested. Fuel, toilet and showers, pump-out and public boat ramp located at this location. Ramp is a single width concrete slab. Parking is shared with general vehicles at the marina. Club membership not required to use the landing. Commercial business leases space from City of La Crosse Park Board.
La Crosse Municipal Boat Harbor	On bay with direct exit to Mississippi River main channel; on Isle La Plume south of Houska Park and sewage treatment plant, 1500 Houska Drive, City of La Crosse	On City owned land, operated by leasee, doing business as La Crosse Harbor Services. There are 185 slips, mostly for seasonal renters and a launch ramp for public use. Pump-out, gas, rest rooms and showers, laundromat, houseboat rentals, ships store, and boat and engine repairs. Boat on-land storage. Two double-wide paved ramps. Ramp parking is shared with marina in 100 car capacity lot, and along access road. Refreshments and bar is operated seasonally. Commercial operation with lease on site from City Parks and Recreation Department.
Chut's Boat Landing	On Swift Creek/Bluff Slough, approximately 1.5 miles from Mississippi River main channel; 2700 S. 15th Street at Gladys Street and Huber Court, City of La Crosse	Commercial marina with approximately 25 slips, primarily for seasonal rental by local boaters. Gas and snack food items available. Commercial marina, with limited services.

Source: 1999 Port Plan, updated by JJR 2011.

Vehicular Circulation

The waterfront is lined and divided by vehicular transportation routes. STH 35 runs along the east bank of the Mississippi River south of the Town of Onalaska, and fronts the river or is only a few parcels or blocks inland. This highway restricts and complicates access to the river from inland homes and businesses. The Great River Road designation follows parts of STH 35, USH 53, and USH 14/61.

Interstate 90 crosses the river between the cities of La Crosse and Onalaska. The interstate has two interchanges on the river, one at Bainbridge Street on French Island and the other at Highway 35, and a rest stop at the west edge of French Island. Bainbridge Street is a largely residential road and it provides truck access from French Island port facilities to Interstate 90.

USH 14/61 crosses the river and connects La Crescent with La Crosse, providing multimodal access to Barron Island.

Rail lines separate the City of Onalaska from the river. Rail service is available on French Island and south of downtown La Crosse.

Figure 14 shows the locations of these facilities. A full description of the region's multimodal transportation infrastructure can be found in existing plans including municipal comprehensive plans and metropolitan planning organization reports.

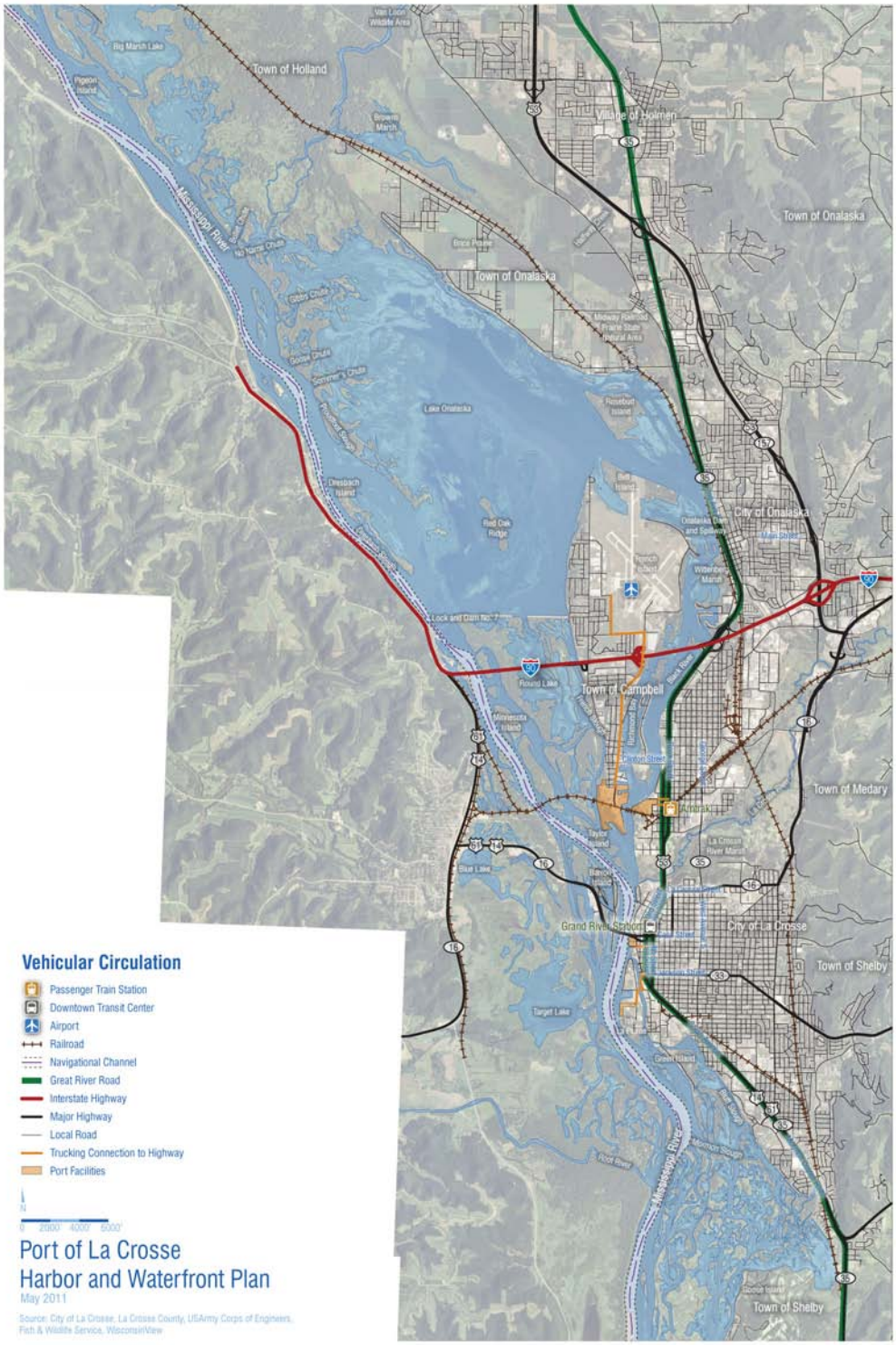


Figure 14: Vehicular Circulation
Source: City of La Crosse, La Crosse County, USACE, US FWS, WisconsinView

Recreational Facilities and Non-Vehicular Circulation

The Upper Mississippi River National Wildlife and Fish Refuge (Refuge) offers 11,898 acres of wetlands, wooded bottom lands, sedge meadows, and upland slopes in La Crosse County. Wisconsin and Minnesota have a reciprocal fishing license agreement that allows the holder of a license issued by either state to fish within either state's waters west of the BNSF Railway tracks in Wisconsin and east of the Canadian Pacific Railway tracks in Minnesota. The US FWS and USACE own and maintain or lease many of the boat landings in Pools 7 and 8.

The City of La Crosse has an extensive bike route network, with connections to trails in the City of Onalaska, Brice Prairie, and the Town of Campbell. Blue/water trails are now limited to the La Crosse River, Pettibone Lagoon, and backwaters around Goose Island.

Large segments of the waterfront are publicly owned as public parks, camping areas, or conservation areas. Major public waterfront parks are described in Table 5 and shown in Figure 15, and other public water access points are described in Table 6 and shown in Figure 16.

A full description of the region's recreational facilities and non-vehicular transportation infrastructure can be found in existing plans including those municipal comprehensive plans and comprehensive outdoor recreation plans.

In addition to these facilities, the rivers themselves teem with wildlife, and eagle and other wildlife watching are popular activities.

Great River Trail commuter under Interstate 90 bridge

North end of Houska Park

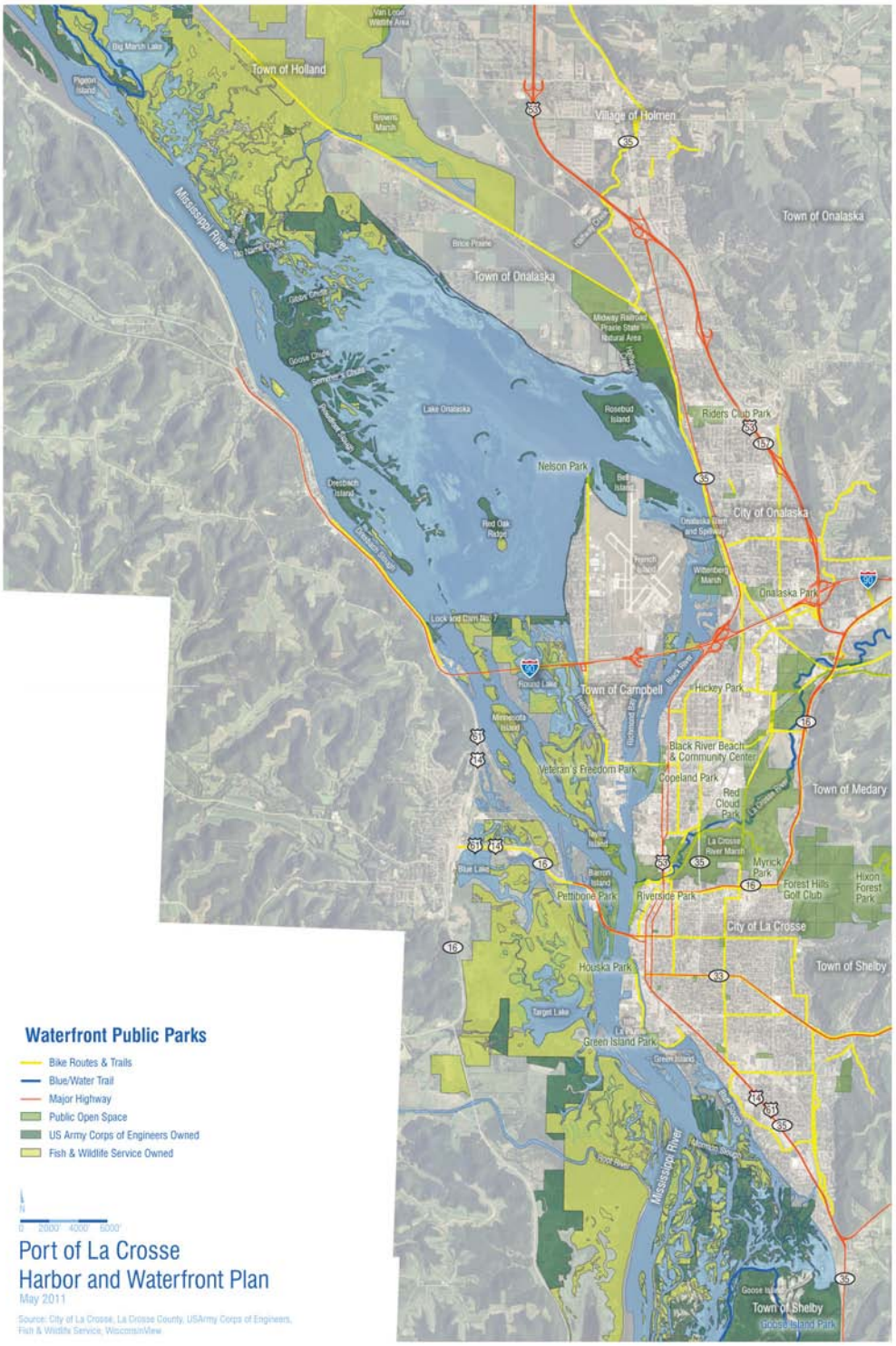


Figure 15: Waterfront Public Parks
Source: City of La Crosse, La Crosse County, USACE, US FWS, WisconsinView

Table 5: Description of Waterfront Public Parks

Site Name	Site Location	Description
Great River Trail	On an abandoned Chicago-Northwestern railroad line that runs along the northern edge of Brice Prairie, along the City of Onalaska waterfront, and connects to the La Crosse River State Trail (then to the Elroy/Sparta Trail).	The 24-mile trail has a finely crushed limestone surface suitable for walking and bicycling for much of the year and snowmobiling, cross-country skiing and snowshoeing in winter. It is managed by WisDNR and is part of the 3,000-mile Mississippi River Trail.
Seven Bridges of McGilvray Road	Amsterdam Prairie Road, 3.5 miles northwest of the Village of Holman in the VanLoon Wildlife Area.	The old McGilvray Road is the former Highway 93 which joins La Crosse County to Trempealeau County by crossing the main channel of the Black River. It now is a part of the 4000 acre Van Loon Wildlife Area (Black River bottoms) owned by WisDNR. The McGilvray road bridges are a unique combination of five rare bowstring arch truss bridges and one low truss bridge built between 1905 and 1908. Listed on the National Register for Historic Places. The bridges are open only to pedestrian traffic. The bottoms flood and make travel difficult some times during the year. Hunters, bird watchers, fisherman, and outdoor enthusiasts enjoy access to the Black River bottoms through the McGilvray Road access.
Black River Beach Neighborhood Center	End of Logan Street, north side of La Crosse	Five acres. Offers swimming in the Black River, fishing, volleyball, boat launch, and open space. The bath house and neighborhood center was reconstructed in 2009. Operated by City of La Crosse Park and Recreation Department.
Copeland Park	Black River Mile 1.7. South of Clinton St. bridge, City of La Crosse.	20 acre city-wide park. Well known for events – the north side Oktoberfest grounds and the Loggers baseball field. Black River waterfront for walking and fishing. Features include preserved locomotive, caboose and railroad tower, wading pool, covered hockey rink/group shelter, rest rooms, boat rental and mooring, two playground areas, tennis and basketball courts, fishing. Operated by City of La Crosse Park and Recreation Department.
Veteran's Freedom Park	South of Clinton Street across the Black River from Copeland Park.	Designated as a park by the City of La Crosse in 2008 on a site that was one the City's original landfills. The park offers open space, parking, and boat launch area.

Table 5: Description of Waterfront Public Parks (continued)

Site Name	Site Location	Description
Riverside Park	End of State Street on the Main Channel of the Mississippi River just below the entry of the Black and La Crosse Rivers into the Mississippi, City of La Crosse.	This is the main "front door" park of the City of La Crosse. It is a community-wide park approximately 13 acres in size. Park features include a bandshell, small gazebo, piped water and rest rooms, a riverwalk with lighting and benches, and regional bike trail connections. There is a 25 foot tall sculpture of a Native-American, commonly referred to as "The Big Indian", that guards the place where three rivers meet, an important location in native history. There is a concessionaire stand which provides light meals during the summer. Site for "Riverfest" festival and the Rotary Lights. Former location for excursion boat dockings.
Pettibone Park	On Barron Island, north of USH 14/61, City of La Crosse.	This 167 acre wooded area occupies most of the island north of the highway linking La Crosse and La Crescent. It is a city-wide park with woods, wetlands, lagoon, and river frontage on Main Channel and West Channel. The park offers bank fishing shelters, volleyball, trails, a disc golf area, picnic tables, grills, and open space. The park is well-known for the beach that fronts on the main channel of the Mississippi River. The beach gives an excellent vantage point to view the panorama of central La Crosse across the river and a place to view the passing commercial towboats and pleasure craft. Operated by City of La Crosse Department of Parks and Recreation. A campground and RV park is between the west channel and the lagoon. It is operated by a commercial operator on a lease from the City of La Crosse. The site provides camping pads, primarily for camper trailers and motor homes. Although the entire campground is influenced by the water, there are no boat launch site within the campground.
Houska Park	Mississippi River mile 897.2L. 700 Houska Park Dr., located on Isle La Plume north of wastewater treatment plant. Shoreline is directly on Mississippi River Main Channel on west side of park. City of La Crosse.	City-wide park, 14 acres, with waterfront access on Main Channel opposite scenic, wooded shoreline, bank fishing, picnic shelter, flush toilets, running water, playground apparatus, wading pool, baseball field, and dog park. Operated by City of La Crosse Department of Parks and Recreation.

Table 5: Description of Waterfront Public Parks (continued)

Site Name	Site Location	Description
Green Island Park	2312 S. 7th St. on Swift Creek, City of La Crosse.	Neighborhood park, seven acres, with water frontage on south end of Swift Creek and bank access to Swift Creek and sloughs. Also includes playground, ball diamond, picnic shelter, rest rooms and enclosed heated ice arena for organized youth hockey league. Operated by City of La Crosse Park and Recreation Department
Gundersen/Lutheran Medical Center walking paths	South end of Gundersen Lutheran property on Swift Creek/Bluff Slough, City of La Crosse.	Fitness walking trail (2,837 feet) with exercise stations, located on 20 acres of hospital grounds, with water frontage on Swift Creek/Bluff Slough. Paved walking/ biking trail is open to public. Wooded and native cover areas along shore of Swift Creek provide bank fishing, or canoe launching capability. Parking in hospital lot. Operated by the non-profit medical center, but outdoor recreation facility and waterfront open to public use to encourage physical fitness.
Goose Island County Park and Campground	Five miles south of La Crosse on STH 35 just north of the Vernon County Line. The park is located on an island along the Mississippi River.	710 acre county park with over 400 sites available for camping. Amenities located at the park include boat launches, fish cleaning shed, camp grounds, picnic areas and shelters, a canoe trail, swimming beach, and several natural and scenic trails. Fishing and waterfowl hunting is also permitted within the park. Audubon indicates the park is a good bird watching location. Private concessionaire operates campground and canoe and row boat rental. Pier extends into water but no ramp at this location. Campground users with their own boats pull them up along the shore.

Source: 1999 Port Plan, City of La Crosse Outdoor Recreation Strategic Plan 2010, updated by JJR 2011.

Riverside Park

Veteran's Freedom Park

Houska Park

Table 6: Description of Public Water Access Sites

Site Name	Site Location	Description
Pool 7		
Lone Tree Observation Deck	RM 706.3L	Gravel boat ramp access to Big Marsh, off channel of Mississippi River. One vehicle parking access and no facilities. Officially closed access, but still accessible and used. Owned by US FWS.
Lytle's Canoe Access	Adjacent to Great River State Trail at north end of CTH Z in Town of Onalaska.	Canoe carry-in access to Black River complex. Small parking area serves both access to Great River Trail and river access. Vault toilet. Owned by WisDNR.
Tubes Walk-In (Homestead Landing)	On Black River. At the end of North Shore Drive, Brice Prairie, Town of Onalaska	Walk-in canoe access via a 66 foot wide right-of-way. Playground apparatus, picnic tables, limited street-side parking. The river at this point is shallow and cannot accommodate large craft. Town of Onalaska holds USACE lease for shoreline.
Brice Prairie Channel Walk-in	8217 CTH ZB, Brice Prairie, Town of Onalaska	This is a lot owned by DNR developed and landscaped primarily for ice fishing access.
Upper Brice Prairie Landing	CTH ZB, across road from Swarthout Park, Brice Prairie, Town of Onalaska	Two lane concrete boat ramp with courtesy dock and 50 car paved parking lot, two double stall vault toilets. Sufficient shoreline for bank fishing access and picnic area. Access is to Lake Onalaska. Handicapped fishing facility. Town of Onalaska maintains landing on shoreline leased from USACE.
Clearwater Walk-In	7605 CTH ZB, adjacent to Clearwater Cabins, Brice Prairie, Town of Onalaska	Unimproved access for canoes, small craft, and ice fishing via 66 foot right-of-way. Ice fishing access. Town of Onalaska maintains landing on shoreline leased from USACE.
Red Pines Bar & Grill	W7305 CTH Z, Brice Prairie, Town of Onalaska	Private paved boat launch.
Schaefer's Boat Livery	W7221 North Shore Lane, Brice Prairie, Town of Onalaska	Public daily boat rental. Commercial resort (bait shop, rental cabins and rental boats and slips; cabin renters have access to slips for their own or rental boats).
Mosey's Landing	Adjacent to Schaefer's Boat Livery, North Shore Lane near CTH Z, Brice Prairie, Town of Onalaska	Two lane paved boat ramp, 11 car parking area. Drive in ice fishing access. Closest access to Rosebud fish habitat area in Lake Onalaska. Town of Onalaska leases land from US FWS.

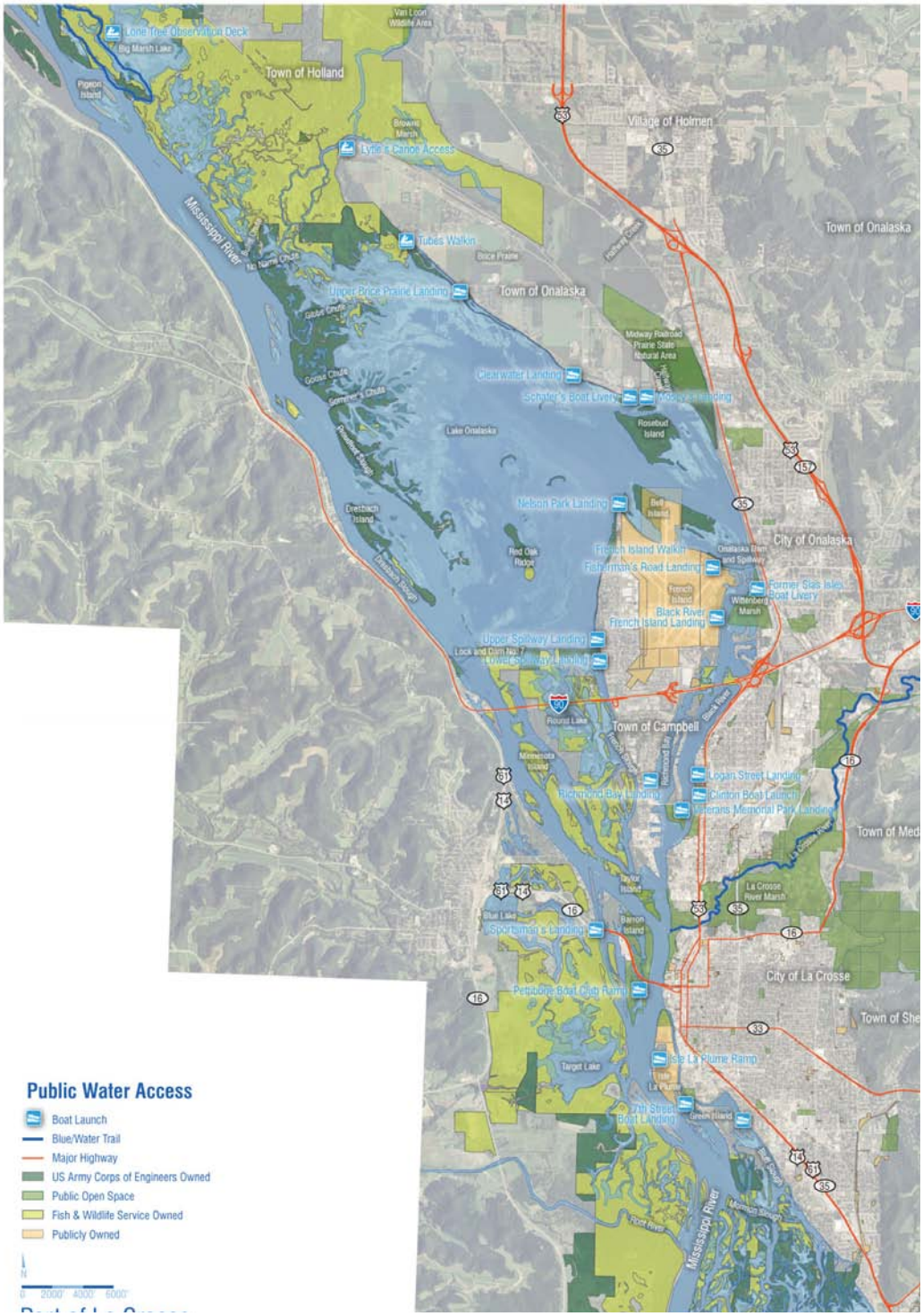


Figure 16: Public Water Access
Source: City of La Crosse, La Crosse County, USACE, US FWS, WisconsinView

Table 6: Description of Public Water Access Sites (continued)

Site Name	Site Location	Description
Fisherman's Walkdown	Sunset Vista Road, (behind Marge's Restaurant), N5135 Hwy 35, Town of Onalaska.	Primarily ice fishing access to Lake Onalaska. Walk-down pedestrian access to shoreline. Steep wooded stairway from parking area to shoreline precludes easy carrying of boats or canoes. Blacktop bike path to bike trail from 80-car parking lot. Parking area is maintained by County Highway Department. Ownership and maintenance of stairway is not clearly defined. Shoreline is leased by Town from USACE.
Nelson Park Landing	At north end of French Island on Lake Shore Drive, French Island, Town of Campbell.	30+ acre town park. Concrete ramp has holding area for two boats in adjacent water. Paved parking lot serves ramp, park, and La Crosse Sailing Club. Boat ramp serves middle portion of Lake Onalaska. Park has shoreline access for fishing and viewing lake, portable toilets, picnic tables, ball diamonds.
French Island Walkin	End of Fisherman's Road, City of La Crosse	Unimproved and poorly maintained, but accessible. A gate blocks the road after certain evening hours. Access areas across sand and poorly maintained ramps for small craft into Black River above dike. Access to Lake Onalaska and Main Channel for shallow draft craft. Controlled by La Crosse Municipal Airport Board.
Fisherman's Road Landing	Fisherman's Road, City of La Crosse	Paved ramp and 8 car parking lot. Access to Lake Onalaska on north side of dike. In addition to the gate on Fisherman's Road, another gate is in place on the access road to this site. Operated by US FWS.
La Crosse Sailing Club	In Nelson Park, At north end of Lakeshore Drive, French Island, Town of Campbell.	Sailing club leases shoreline separate from Nelson Park lease. Common paved parking lot shared with Nelson Park and boat ramp. Lake Onalaska is one of few areas on Mississippi River where sailboats can operate.
Upper Spillway Landing	RM 701.7. Spillway Drive, French Island, Town of Campbell.	Two lane concrete plank ramp-share parking with Lower Spillway landing. Access to Lake Onalaska. Subject to wind fetch and siltation which produces shallow conditions. Operated by Town of Campbell, under lease from USACE.
Pool 8		
Lower Spillway Landing	RM 701.7L. Spillway Drive, French Island, Town of Campbell.	Two lane concrete plank ramp-share parking with Upper Spillway Landing. Access to Mississippi River sloughs and the Main Channel of the Mississippi River in Pool 8. Blacktop parking for 15-20 cars/trailer. Handicapped access pier. Operated by Town of Campbell, under lease from USACE.

Table 6: Description of Public Water Access Sites (continued)

Site Name	Site Location	Description
Black River French Island Landing	Fisherman's Road, French Island, City of La Crosse.	Gravel access ramp with parking space for 8 vehicles with trailers. The shoreline accessible by Fisherman's Road, both north and south of the dike is publicly owned and accessible by fishermen and small craft launchers. Several sites are used but are in poor condition. Access is at City Water Well Number 22.
Richmond Bay Landing	On Richmond Bay. East end of Goddard Street on French Island, Town of Campbell.	Launch ramp at end of town street. No parking except "on-street". Operated by Town of Campbell.
Black River Boat Landing (North) & Clinton Street Boat Landing (South)	On east side of Black River. at the end of Logan Street, and adjacent to the Clinton Street Bridge, City of La Crosse.	Double-wide paved boat access ramp-shares 50 car parking lot with Clinton Street Landing. Space between Clinton and Logan Street ramps is leased by City to boathouse owners. Rest rooms at Black River Beach Neighborhood Center are available to users of this ramp. Walking distance to restaurants. Operated by City of La Crosse Park and Recreation Department.
Veteran's Freedom Park Boat Landing	West bank of Black River south of Clinton St. bridge, French Island, City of La Crosse. Across the from Copeland Park.	Two double wide concrete ramps accessing Black River. Paved parking lot, 100 vehicle capacity. Portable toilets are on site. Site is walking distance to restaurants and shopping. Adjacent Veteran's Freedom Park was former landfill. Most of land area is undeveloped with sandy soil and willow and native shrub cover.
Sportsman's Landing	DNR Landing Rd., first right adjacent to bridge. West of Barron Island, La Crescent, MN.	Single wide ramp with steep grade into the water. Parking lot accomodates 16 vehicles.
Pettibone Boat Club Ramp	South of Cameron StBridge	Single lane paved landing with a single pier on the south side.
Isle la Plume Municipal Boat Harbor	Located on Marco Dr. SE corner of harbor	Double wide paved ramp with a single pier on the south side. The parking lot has a capacity of 50 vehicles. Operated by the City of La Crosse Park & Rec. Dept.
7th Street Boat Landing	River Mile 695.3L 2412 S. 7th on Swift Creek (south of creek from Green Island Park), City of La Crosse.	Double lane paved ramp with courtesy piers each side of ramp. Parking capacity approximately 48 vehicles. Part of the Green Island Park complex. Operated by City of La Crosse Park and Recreation Department.

Site Name	Site Location	Description
Upper Goose Island Landing	River Mile 692.8L Northwest side of Goose Island County Park.	Single lane gravel ramp with concrete planks at waterline. Grass/gravel parking area for ten vehicles. Toilets, hand pump, and picnic tables and enclosed picnic shelter are a short distance away. The water depth is best off this ramp of all Goose Island ramps Access into sloughs and backwaters of Mississippi River. La Crosse County Park Department leases land from USACE.
Goose Island Landing	River Mile 692.5L. In Goose Island County Park, 500 feet north of the boat livery/concessionaire.	Double-wide paved ramp with paved 35 vehicle parking lot. This is the closest ramp to the park entrance and campground. La Crosse County Park Department leases land from USACE.

Source: 1999 Port Plan, updated by JJR 2011.

Ecological Features

As described in the US FWS Environmental Pool Plans, the following are specific management opportunities for Pools 7 and 8. The locations are shown in Figure 17.

- Black River Bottoms Slow, No Wake Area. This is a waterfowl and wildlife protection zone where between March 16 and October 31 watercraft are required to travel slowly and without wake, and airboats and hovercraft are prohibited.
- Browns Marsh Electric Motor Area. This is a waterfowl and wildlife protection zone closed year round to all non-electric motorized vehicles and watercraft.
- Existing Lake Onalaska Closed Area. This is a waterfowl protection zone closed to hunting.
- Waterfowl Avoidance Area. This is an important waterfowl protection zone where river users are asked to voluntarily avoid the area during October 15 through mid-November.
- Blue/Target Lake Slow Area. This is a waterfowl and wildlife protection zone with existing high quality habitat where between March 16 and October 31 watercraft are required to travel slowly and without wake, and airboats and hovercraft are prohibited.
- Root River Slow, No Wake Area. This is a waterfowl and wildlife protection zone where between March 16 and October 31 watercraft are required to travel slowly and without wake, and airboats and hovercraft are prohibited.
- Black River Bottoms and Delta. This is a 10,130 acre area of nearly contiguous bottomland forest. Land ownership is mixed private and public. A public/private partnership is working to reduce sedimentation through watershed management, combat reed canary grass, and to restore the aging forest.
- Halfway Creek. A tremendous amount of sediment from Halfway Creek discharges into Pool 7. Halfway Creek wetlands were constructed to control runoff and sediment. They are capable of intercepting 10 percent of the sediment carried by Halfway Creek during large runoff events. Halfway Creek was included in the Lower Black River Watershed Project in the 1980's. Agricultural practices were installed to reduce non-point source water pollution from the watershed. USFWS, DNR, and local conservation dollars have been used to rip rap stream banks and improve trout habitat. Two large in-stream sediment traps were designed for Halfway Creek and Sand Lake Creek to capture bed-load sediment.
- Lake Onalaska. A number of habitat restoration measures are

proposed to maximize habitat heterogeneity and complexity, create isles, protect isles, and create deep inlets.

- French Slough. Deepen especially the mouth of French Slough which has become filled with sediment. Protect the island from erosion and dissection.
- Island Protection. Especially protect islands between river miles 702.5 and 697 where large cottonwood trees provide perching sites for bald eagles. Protect also the rookery at mile 701.
- La Crosse River Valley. Restore wetlands throughout. Protect and preserve through partnerships, easements, and purchases.
- Root River. Promote land use changes that reduce erosion and sedimentation into the River.

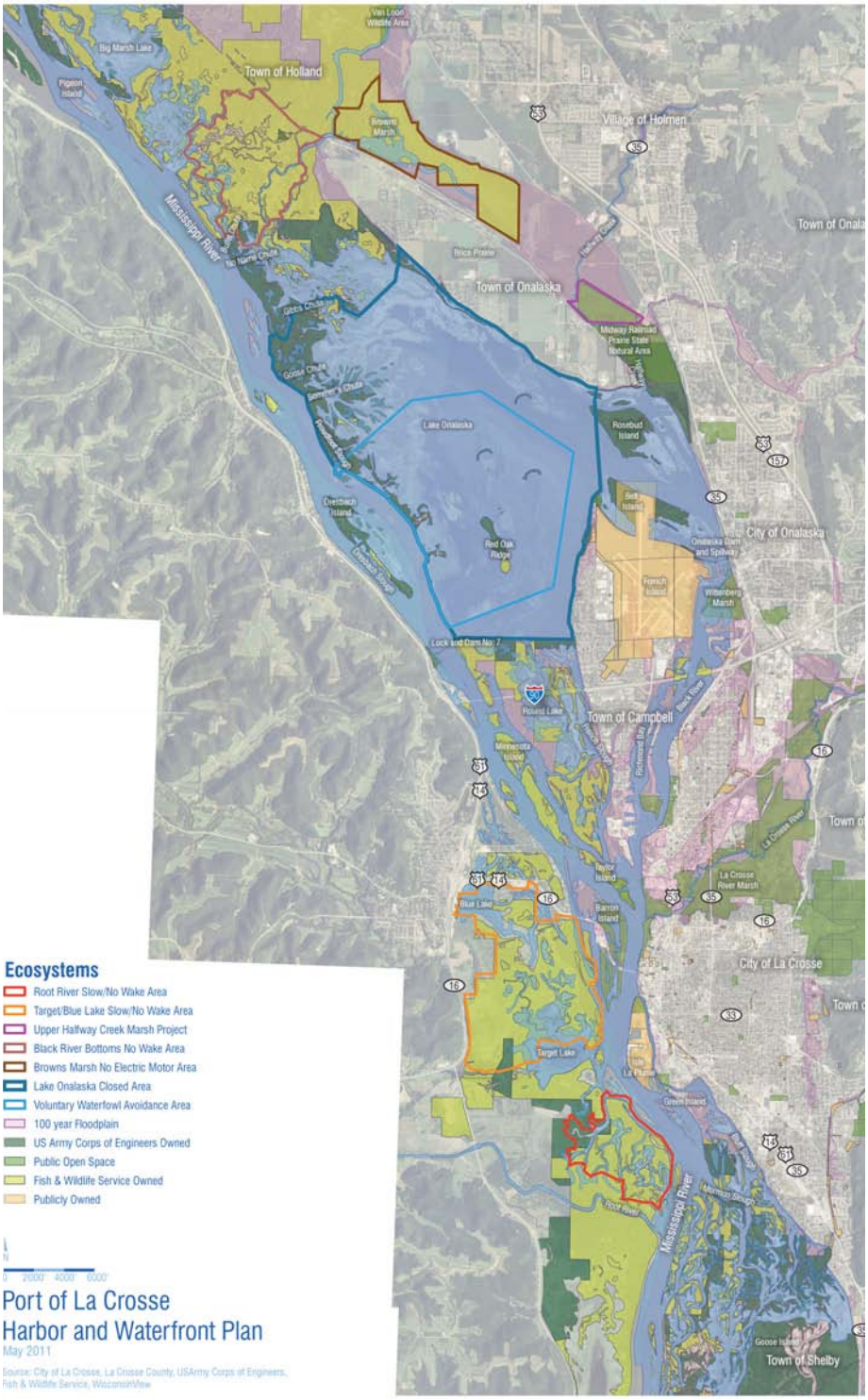


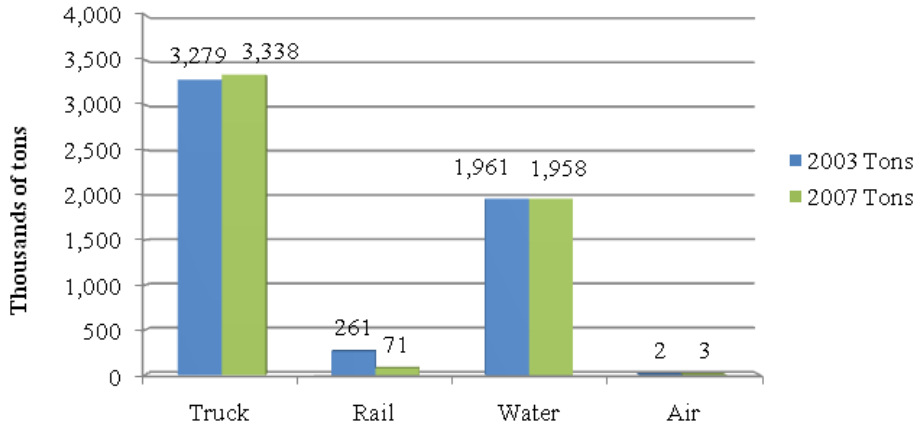
Figure 17: Ecological Features
Source: City of La Crosse, La Crosse County, USACE, US FWS, WisconsinView

Waterborne Commodity Movement Trends

Shipment by barge is the second most important mode of transporting commodities in La Crosse County.[1] The La Crosse area ships and receives commodities via water, rail, truck, and air. Of these modes, trucking carried the greatest share of tonnage for commodities at about 61 percent of the total inbound and outbound freight processed in the county in 2003, while water transport carried about 36 percent. Rail and air carried about three percent and less than 0.05 percent, respectively. Figure 18 describes the inbound and outbound commodity flows by mode for La Crosse County in 2003 and 2007.[2]

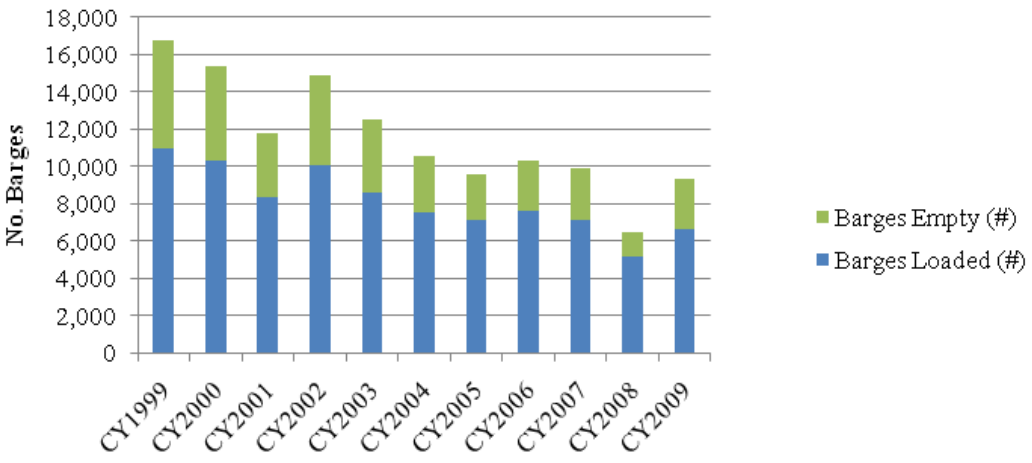
On average, about 11-13 million tons of waterborne commodities are shipped via 11-12,000 barges on the stretch of the Mississippi River between Locks 7 and 8. Of this total, about 2 million tons of commodities pass in or out of the Port of La Crosse (see Figure 18).[3] River freight has decreased since 1999 due to the effects of the recession, among other reasons. As demonstrated in Figure 19, barge traffic through Lock and Dam 8 decreased significantly over the past ten years. The number of loaded barges decreased by about 39 percent over the period, while the number of empty barges decreased by 54 percent.

Figure 18. Commodity Flow by Mode in La Crosse County, 2007 (thousands of short tons)



Source: WisDOT; Commodity Flow Survey

Figure 19: All Barges through Lock and Dam 8



Source: U.S. Army Corps of Engineers, www.mvr.usace.army.mil

1. 2003 Commodity Flow Survey
2. These values include commodity movement internal to La Crosse County.
3. This level is based on the 2003 and 2007 Commodity Flow survey. This level is likely above those prevailing at the time of the writing of this report, as the economic downturn and climatic conditions have somewhat dampened shipping levels across all modes in recent years.

Description of Major Industries Currently Using Riverborne Commerce

While a relatively wide variety of bulk commodities may be shipped by barge, a few commodities dominate riverborne commerce passing through La Crosse County. The most prominent commodities include: Farm products, crude materials, chemical products, coal, and primary manufactured goods. Figure 20 provides a description of the relative importance of each of these commodities over the period 1999-2009, and Figure 20 provides a comparison of the commodity flows in 1999 with those in 2009.

Farm Products

As demonstrated in Figure 20 and Figure 21, food and farm products, particularly corn and soybeans, make up the largest part of barge borne commodities, representing 47 percent of tons shipped in 2009, up somewhat from 43 percent in 1999.[4] Major crops being shipped out of the Port of La Crosse include primarily grains and vegetable oil. On the Upper Mississippi River, corn is the predominant grain, representing 77 percent of all farm products shipped between mile marker 691 and 713 of the Mississippi. Cargill Aghorizons—the sole industrial shipper of grain in the La Crosse area—services about 2,000 farmers within a 50-mile radius of La Crosse, shipping between 8-12 million bushels of soybeans and corn depending on the annual harvest (about 224,000-338,000 tons). On average, these shipments are sent on about 225 barges per year.[5] The other farm products being shipped out of La Crosse County are vegetable oils, carried by Westway Trading Company. This product is received by rail, and consolidated in tanks at La Crosse for other markets.

Inbound farm products at the Port of La Crosse primarily include cottonseed and molasses. Cottonseed is offloaded at the F.J. Robers terminal for Cottonseed, LLC, and is processed into a high protein cattle feed supplement. Cottonseed receives about 15 barges of cottonseed per year, for a total of 15,000 tons. Shipments have been down in recent years as the cost of feed and milk has fallen. Farmers are less able to afford cottonseed feed products, which are a premium product. While not currently being shipped through the Port of La Crosse, Molasses has been received in the past by Westway Trading Company.

Primary Manufactured Goods and Crude Materials

In combination, these categories represented on average 20 percent of commodities passing through Locks and Dams 7 and 8 from 1999 to 2009. Crude materials include such commodities as forest products, limestone, sand, gravel and rocks, iron, iron and steel scrap, clay and slag. Primary manufactured goods include cement, pig iron, and other iron and steel bars, pipes and tubes. In 2003, about 150,000 tons of clay, concrete and stone products passed through the Port of La Crosse.[6] However, the annual tonnage of cement shipped through the Port of La Crosse has varied greatly over the past decade with the rise and fall of construction of new homes. Two cement wholesalers operate out of La Crosse – Holcim and La Farge Cement. Holcim receives between 70,000 tons and 250,000 tons annually, while La Farge receives between 25,000 tons and 50,000 tons annually.[7]

In addition, 16 tons of scrap metal and 10 tons of primary metal products were shipped through the port in that same year.[8] Within this category, pig iron is increasing as an important crude material commodity. Pig iron began to be shipped through the Port of La Crosse in the mid-1990s, after a reduction of riverborne traffic on the Illinois River system due to major lock rehabilitation, but shipments of pig iron continued through the La Crosse area after the end of lock rehabilitation due to a shift in traditional traffic patterns.

Coal

On the Upper Mississippi River system, coal represents about 7 percent of total tonnage through Locks and Dams 7 and 8. These coal shipments include both "southern" coal, being shipped up the river from Ohio and Illinois River systems, and "western" coal, which is also commonly shipped

4. On average between 1999 and 2009, Farm Products represented 38 percent of tonnage shipped between segments Lock and Dam 7 and Lock and Dam 8.

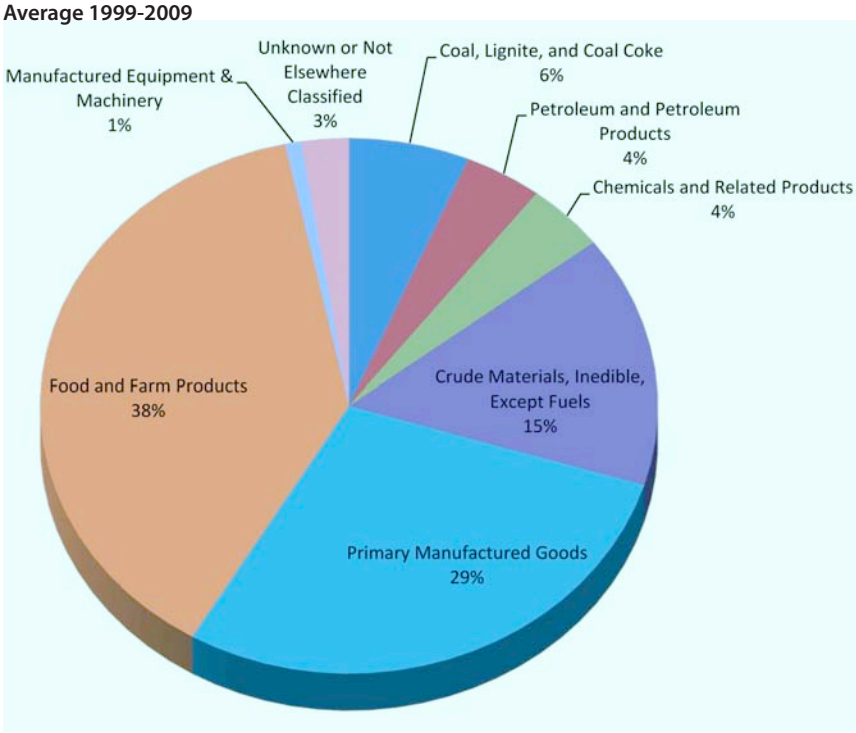
5. Interview with John Noyes of F.J. Robers on January 19, 2011

6. 2003 Commodity Flow Survey

7. Interview with John Noyes of F.J. Robers on January 19, 2011 and interview with Jack Holm of Holcim on January 21, 2011

8. *Ibid.*

Figure 20: Composition of Commodities Shipped Between Locks and Dam 7 and 8, Average 1999-2009



Source: U.S. Army Corps of Engineers, www.mvr.usace.army.mil. Estimates drawn from finding the difference between those goods shipped between Lock and Dam 7 and Lock and Dam 8.

by rail. Locally, within the Port of La Crosse, the receipt of inbound coal from down river locations is a relatively insignificant part of the riverborne commerce. In 2003, about 230,000 tons was received, according to estimates from the WisDOT 2003 Commodity Flow Survey. This coal is primarily steam coal used at industrial or institutional power plants as Trane Company, UW-La Crosse, and Fort McCoy. The tonnage remains fairly steady over the years although individual contracts with end users may vary. The tonnage of coal shipped through the port may decrease in coming years, due to a shift away from coal fire energy production. This issue is treated in more detail later in the report.

Chemical Products

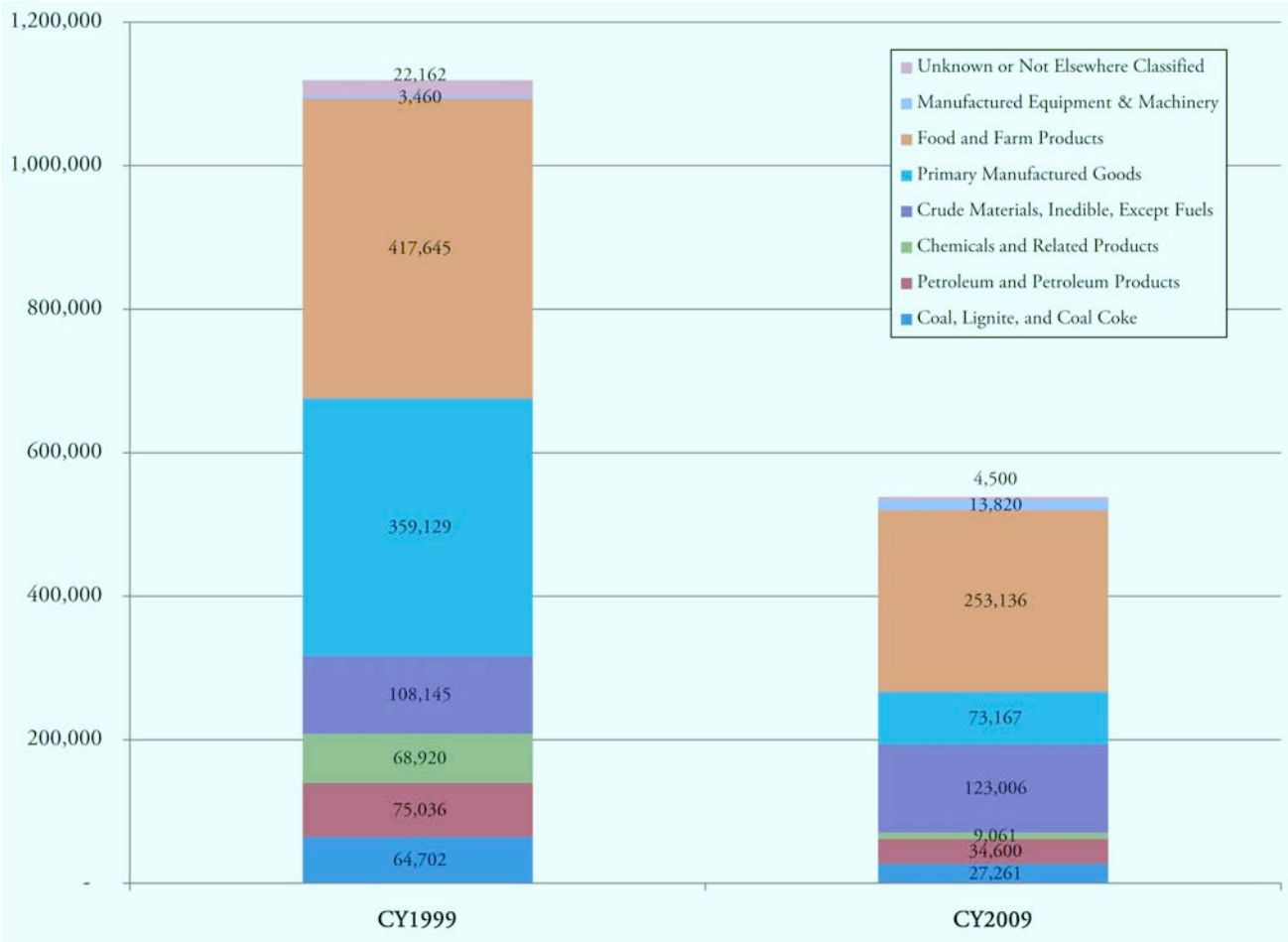
This category, which represents about 13 percent of total riverborne commodities shipped through Locks and Dams 7 and 8, is constituted primarily by fertilizers for commercial farming use. Most shipments of fertilizer in La Crosse, however, are received by train. One chemical distributor, a regular user of barge transportation, has a private dock for the delivery of their products. This distributor primarily receives caustic soda shipped up the Mississippi from Louisiana. They receive about 15,000 tons per barge, which they break down to make cleaning agents. During the course of the recession, their business fell by roughly 50 percent.[9] In addition, a relatively small volume of highway salt is shipped in through the Port of La Crosse, for distribution to surrounding municipalities.

Other Commodities

The remaining four percent of commodities shipped include petroleum products, manufactured equipment, and other. Asphalt shipped to a distributor in La Crosse on the Black River remains one of the few petroleum product movements in the Port of La Crosse.[10] These shipments arrive by a dedicated tow, and are pumped out in about a 12 hour period during which the entire tow and towboat remain on-site at the asphalt terminal. Manufactured equipment and machinery, particularly heating and cooling units from Trane and Chart, while not important in terms of overall tonnage, are significant in terms of outbound commodities, perhaps only second to grains.

9. Interview with Kent Pehler of Brennan Marine January 19, 2011
10. Nearly all petroleum and related products have ceased to be shipped over the water system due to federal and state legislation and environmental regulations (Oil Pollution Act of 1990; Wisconsin Chapter 292, State Statutes Remedial Action). As a result, it is no longer economically viable to operate smaller or older terminals, such as the Mobil Oil transfer facility and tank farm in La Crosse, which has been closed.

Figure 21: Total Tonnage by Commodity through Lock and Dam 8, 1999-2009 (in thousands of tons)



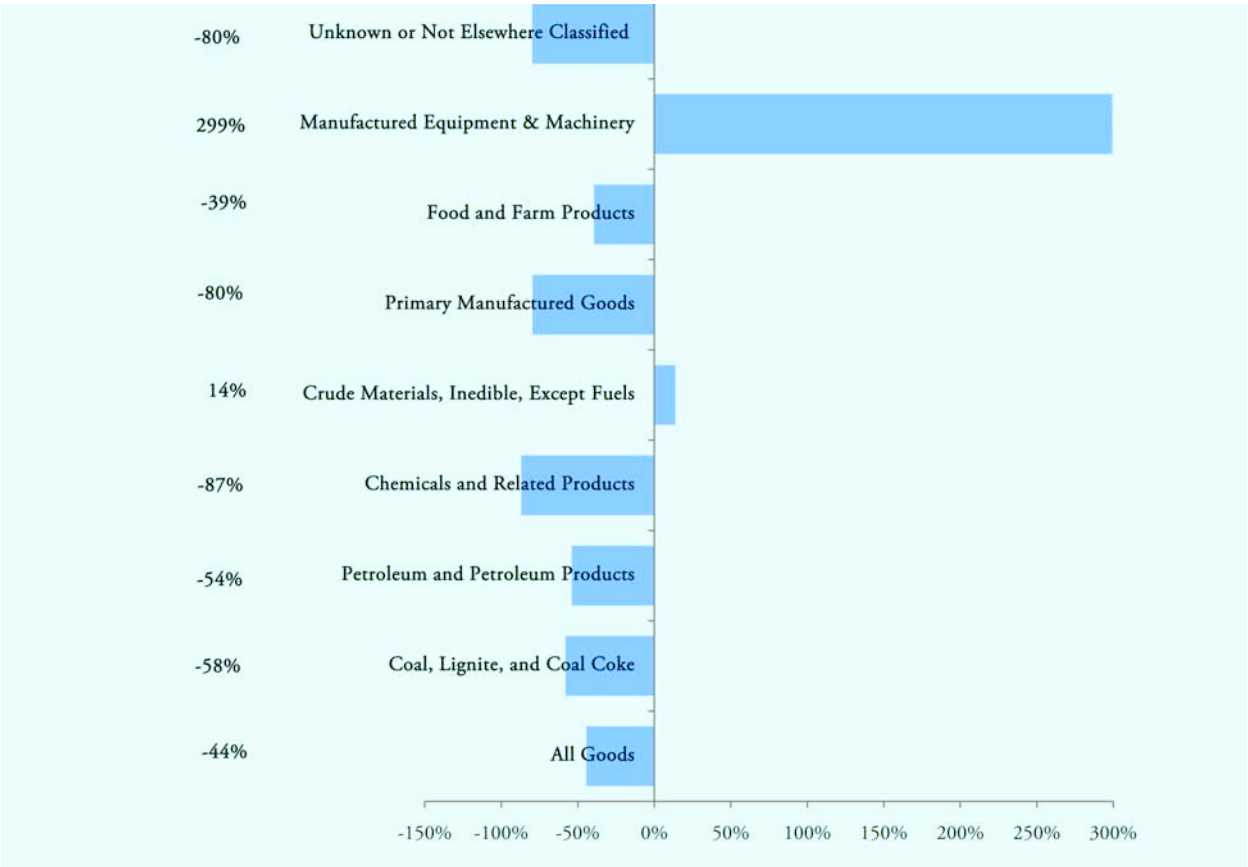
Source: U.S. Army Corps of Engineers, www.mvr.usace.army.mil

As mentioned previously, the amount of goods shipped on all modes, including by barge has decreased since the last La Crosse County Harbor Plan. Figure 22 provides a summary of the changes in riverborne commerce through Lock and Dam 8 between 1999 and 2009. The total tonnage of goods decreased by about 40 percent over the period, with the largest contraction coming from other miscellaneous goods (-83 percent), and from manufactured goods (-58 percent). While there was a 54 percent decline in the tons of food and farm products shipped, it remains the most important category of barge borne commodities. Holcim, a cement wholesaler, saw its volumes of cement shrink from 250,000 tons in 2005, down to 70,000 in 2009, due to the effects of the collapse in the construction sector.[11] Similarly, reduced demand for corn ethanol, the effects of the economic downturn, and climatic conditions led to a decrease in the tonnage handled by Cargill from 321,000 in 2007 to 204,000 tons in 2009.[12] The only categories of goods for which the number of tons shipped by barge increased over the period were crude materials, which increased by 14 percent, and manufactured machinery, which increased by 299 percent, albeit from a small base.

11. Interview with Jack Holm of Holcim in La Crosse January 21, 2011

12. Port of La Crosse 2009 Barge Fleet Summary

Figure 22: Change in Total Tonnage by Commodity Group through Lock and Dam 8, 1999-2009



Source: U.S. Army Corps of Engineers, www.mvr.usace.army.mil

Shipbuilding

In addition to the shipment of freight, La Crosse County boasts of a number of other water-dependent industries, including ship-building. The major local shipbuilder is SkipperLiner. Founded in 1971, SkipperLiner has built nearly 1,000 boats, including custom houseboats and custom yachts (40'–120' class) and U.S. Coast Guard certified passenger vessels (40'–200' class), paddlewheelers and ferryboats. On average, the company builds about 3 105' vessels a year, as well as a few special requests. After suffering some economic turmoil during the recession, which led to a 50 percent decrease in business, the company has been bought by a new owner and manager, and is continuing to operate on a smaller scale.[13] In light of the recession, SkipperLiner is planning to expand its business in boat refurbishing, to expand their client base. Additionally, the company was recently awarded a $1.7 million contract to construct a new 78-foot barge (carrying approximately 12 vehicles), as well as a 45-foot tugboat to push it.[14] This is the first vehicles transport ferry that the company has produced, and represents a potential new product line.

13. Information on effect of recession: Interview with Jeb Griffeth January 20, 2011. For more see: Marcus, Samantha. "SkipperLiner closes: recession sinks boat maker; 55 lose jobs." *La Crosse Tribune*. May 1, 2010. and McMahon, Rob. "New Ownership Continues Prestigious Boat Brand." *SkipperLiner Press Release*. November 10, 2010.

14. McMahon, Rob. "SkipperLiner Receives Cassville Ferry Contract." *SkipperLiner Press Release*. December 10, 2010.

Fleeting Trends

Fleeting of barges in the La Crosse area is used primarily for terminal operations, not staging of fleets. Above St. Louis, tows are limited in size to 15 barges so the fleeting area must be large enough to accommodate a complete flight of barges plus additional unoccupied slips for temporary queuing as barges must be re-positioned during loading and unloading. Typically, three extra fleeting "berths" are needed to allow for the queuing process. The available fleeting potential in the Port of La Crosse area is largely already realized. However due to the slowed economy, the existing capacity is not currently being utilized to its maximum potential.

Employment Effects of Port Related Industry

The Port of La Crosse is not only an important means to get commodities in and out of the county, but also provides an important source of employment. A 2010 study on the economic impact of Wisconsin's ports identifies five categories of employment that the presence of a commercial port brings to a community:

- Marine businesses at ports, defined as those private businesses that engage in freight and passenger transportation, that furnish marine services, and that engage in marine cargo handling at the ports.
- Port administration, defined as the management and administration of ports (includes USACE).
- Ship and boat building, defined as businesses that repair and refurbish boats and ships, excluding canoe and other non-port oriented activities.
- Commercial and charter fishing, defined as private businesses whose catch is sold on the market.
- U.S. Coast Guard is included in light of their activities in shipbuilding and repair.[15]

This study further goes on to conclude that the economic effects of the port extend outward through the community, creating economic opportunities and employment both directly and indirectly. The study defines direct economic impact as the initial port-related spending done by the port authorities, contractors, terminal operators, water

15. Wisconsin Department of Transportation. *Wisconsin's Commercial Ports: Playing a Vital Role in the Flow of Commerce*. Wisconsin Department of Transportation: December 2010.

Table 7: Estimates of Direct, Indirect and Induced Employment

	Number directly employed	Multiplier	Number indirectly employed	Total
Marine businesses	276	1.44	397	673
Ship and boat building	5	1.61	8	13
Commercial and charter fishing	7	0.12	1	8
Related government agencies (i.e. USACE)	94	1.00	94	188
Total	**382**	**-**	**500**	**882**

Source: Employment data estimated from employers or manta.com, with the exception of commercial fishing which is estimated from the number of commercial fishing licenses from WisDNR. Related government agencies include the U.S. Army Corps of Engineers (La Crescent Office), the U.S. Fish and Wildlife Service in La Crosse, the WisDNR staff in units related to the Mississippi and the US Geological Service (USGS) Office Staff working on Mississippi River issue. The USGS has approximately 45 staff in La Crosse that work on the river for all or part of their research and monitoring efforts of a total of 65 permanent staff. This number excludes the 35 temporary (summer and part-time) and term (1 year or longer) staff and student workers. Multiplier based on WisDOT, 2010.

transportation service providers, as well as the U.S. Coast Guard and USACE. It defines indirect and induced impacts as those generated by the suppliers to the above mentioned groups, as well as that produced by the spending undertaken by those employed directly at port facilities and businesses. Thus this economic impact analysis assigned a multiplier of the indirect effect of economic activity to each category of employment, from which an estimation of the indirect employment of the port facilities was generated.

The research team estimated similar figures for the specific case of La Crosse County. First, the number of jobs per category of employment was estimated, with the exclusion of the U.S. Coast Guard, as the team was unable to confirm the existence of employment in this category for La Crosse County. The multipliers estimated for Wisconsin as a whole were then employed to estimate the number of indirect and induced jobs created for La Crosse County. Table 7 provides an estimate of the direct, indirect and induced employment effects of the La Crosse commercial port facilities.

The issue of induced employment is critical, as the existence of river port facilities has important effects on the businesses and entrepreneurs in the county. Without such facilities, local businesses would have to pay higher prices to ship inputs into the county and their final products to market. This negative effect on their profitability might prohibit certain businesses from expanding or in the extreme case, a business to close. For example, if Cargill had decided to move its operations from the La Crosse area, there would have been significant negative economic impacts. The next closest grain elevator is in Winona, MN (about 30 miles from La Crosse) and is quite small, or in Prairie du Chien in Crawford County (about 60 miles south of La Crosse). To truck the grain to Prairie du Chien, a farmer would have to pay an additional 18¢ per bushel.[16] Further, closing the Cargill facility would have resulted in less money being spent in local La Crosse County businesses and a potential loss of jobs to the La Crosse economy.

16. At 52,500 bushels per barge, the additional cost of loading one barge amounts to $9,450.

Recreational Boating Trends

Regional Trends

No recent recreational boating surveys or data is available for Pools 7 and 8. However, the Winona District of the Upper Mississippi River National Wildlife and Fish Refuge has conducted user surveys for Pools 4, 5, 5a, and 6 for the years 2001, 2002 and 2010 which might be used to extrapolate trends for Pools 7 and 8.

The statistics were developed by conducting a count of active boats in the waterway. Table 8 indicates the trends in recreational boat use, both in terms of numbers of users which has increased in spite of the rising fuel costs, and also in terms of changes in boating experience. Personal water craft grew the greatest amount, while the "runabout" remains the most popular. The larger "cruiser" saw a general decline in active use. Fishing related boating, i.e. "Bass Boats" also saw a large increase in use.

Table 9 compares users of the different pools for recreational boating versus the origin of the boater as defined by home zip codes. The data suggests that transient boater use declined between 2002 and 2010. This is most evident in the sample of Rochester users. There was a noticeable decrease in use of adjacent pools (Pool 5) with a corresponding increase in the use of the pool nearest home (Pool 4) in the 2010 data.

This conclusion seems to be further supported by USACE annual lockage reports. It doesn't tell how many people are actually using the pool beaching, but it does give the number of recreational lockages that occurred within a given year. The recreational lockage counts have generally been flat or decreasing with increased gas prices.

La Crosse Area Boating

The primary La Crosse area marinas offer slips ranging in size from 20 feet to 50 feet, as do a few of the smaller facilities like Black's Cove. There are no formalized waiting lists for slips; however the larger marinas are projecting occupancy of 85 percent to 100 percent for the 2011 boating season, suggesting the likelihood of a pent up demand for slips if available. Anecdotal inquiries about slip availability are generally for slips of sizes 30 feet and larger. In this size range the boat type is both cruiser and houseboat, and is generally not trailerable.

There also appears to be a significant shift in the market demand for slips away from the transient boat demand. The La Crosse Municipal Boat Harbor reports that fuel sales are only 30 percent of what they were in 2005. This may indicate that few boaters from outside Pool 8 are now making La Crosse a port of call, and boat usage is limited to short jaunts within the pool by the local boater. Those slips traditionally reserved for transient use are being taken by the local boat owner, and the marinas are not "re-renting" the empty if the slip owner is away for a weekend. Interviews with random selected boaters reflect a sentiment that transient use of the marinas is not desirable, and they prefer that the marinas remain locally occupied.

Table 8 shows shifts toward both more personal water craft usage, and toward larger boats. The former is not surprising given the cost of fuel and the fact that the marinas are also

Table 8: Recreational Use Survey, Pools 4, 5, 5a, and 6, Boat Type by Year

Boat Type	2010	2002	2001
Runabout	237 (26%)	198 (47%)	172 (28%)
Houseboat	145 (16%)	99 (24%)	109 (18%)
Fishing	212 (24%)	62 (15%)	48 (8%)
Pontoon	114 (13%)	27 (6%)	59 (10%)
Cruiser	123 (14%)	25 (6%)	184 (30%)
PWC	61 (7%)	4 (1%)	
Canoe			5 (1%)
Sailboat			3 (0%)
Unknown*	237		36
Total used for percent	893	419	618

* Unknown were typically noted during high use days while observers were unable to quickly count and categorize boats at the same time (Independence Holiday)
Source: Upper Mississippi River National Wildlife and Fish Refuge, Winona District Beach User Surveys. DRAFT Summary of 2001, 2002, 2010, pp 4., undated.

Table 9: Recreational Use Survey, Pools 4, 5, 5a, and 6, Residency (Residency as Determined by Zip Code)

Pool	2010	2002
4	Rochester, MN 28% Wabasha, MN 11%	Rochester, MN 20% Wabasha, MN 8%
5	Cochrane, WI 15% Rochester, MN 7% Winona MN 5%	Rochester, MN 14% Cochrane, WI 7%
5A	Winona, MN 32% Rochester, MN 10%	Winona, MN 29% Rollingstone, MN 8%
6	Winona, MN 59%	Winona, MN 62%

Source: Upper Mississippi River National Wildlife and Fish Refuge, Winona District Beach User Surveys. DRAFT Summary of 2001, 2002, 2010, pp 4., undated.

near capacity with waiting lists so this is the entry point for new young boaters to enter the sport. The latter trend is following a national norm in boating that existing owners of boats continue to replace and upgrade to larger vessels.

"No Wake" Zones

"No Wake" or speed restrictive zones are marked by buoys and signs properly permitted and conforming to Uniform Waterway Marker standards. Regulatory signs have been placed at all public access points to Pools 7 and 8 in La Crosse County, and by signs on the bridges at the actual site of the zones.

Various studies have established the surface water area recommended for safe operation of recreational craft to be in the range of something over 15 acres per active watercraft. When the density approaches the 10-15 acre per watercraft point, special measures should be undertaken. The initiation of no-wake and speed restrictions in these areas is a legitimate response to the density per acre of active watercraft.

Imposition of No Wake Zones along the waterfront lengthens the required travel time to recreational and fishing waters. However, the same improves the shoreline agitation, making temporary berthing at Riverside Park safer.

Older Studies

The 1999 Port Plan summarized many older studies of recreational boating trends.

- A Study of Water-Based Recreation on the Upper Mississippi River (Pools 7 and 8), U.S. Army Corps of Engineers Waterways Experiment Station, September, 1996.
- Recreational Boating Study of the Lower St. Croix Scenic Riverway and the Mississippi River from the Twin Cities to Lock and Dam 10, Minnesota-Wisconsin Boundary Area Commission for the U.S. Army Corps of Engineers and the Minnesota and Wisconsin Departments of Natural Resources, 1997.
- Summary of Marina Usage Assessment for the Greater La Crosse Area, Stephen C. Brokaw, Ph.D. & James E. Finch, Ph.D., Department of Marketing in the College of Business Administration, University of Wisconsin-La Crosse, August 15, 1992.
- Recreational Boating Impact Investigations-Upper Mississippi River System, Pool 4, Red Wing, Minnesota, February, 1994.
- Feasibility Study for the Transient Boat Docking Facility, La Crosse, Wisconsin – Phase One – Findings and Conclusions Evaluating Needs and Demand, prepared by JJR, LLC and Premise Associates for the La Crosse (City) Board of Harbor Commissioners, January 12, 1998.

Significant Issues Impacting Port Operations and Waterfront Use

Over the next decade a number of factors are likely to affect the use of waterborne commerce in La Crosse County. Economic and environmental considerations may lead to a shift from trucking and rail to barge transportation. This effect may be reinforced by a return to high gasoline prices, as the U.S. Energy Information Administration reports that U.S. average retail prices for motor gasoline topped $3.80 per gallon in April 2011, and are projected to remain above $3.50 per gallon through the end of 2012.[1] At the same time, economic recovery over the next several years may lead to an increase on all modes, including waterborne transportation. Finally, new industries may develop that could benefit from access to the Port of La Crosse, particularly if the proposed intermodal containerized facility is developed.

This chapter will examine these issues, beginning with an analysis of the efficiency of waterborne transportation compared with other modes, and continuing with a prognosis of the major trends likely to affect traffic through the Port of La Crosse in coming years.

Efficiency of Waterborne Transportation

While many of the goods currently transported by barge could also be transported by other modes of transportation, such as truck or rail, transportation by barge is generally the most cost-effective and environmentally responsible means of transportation. Switching to other modes of transportation will lead to serious repercussions regarding costs, environmental impact, and congestion on roadways and bridges.

As mentioned above, the cost per ton of freight, as well as the impact of shipping on the environment and road congestion, vary enormously between these three modes of transport. Water transport is the cheapest per ton, followed by rail, truck, and air transport. According to the Tennessee Valley Authority, water freight is shipped at an average transportation savings of $10.67 per ton over the cost of shipping by alternative modes. Much of the savings comes from fuel-efficiency, which also has a direct impact on the carbon footprint of each type of transportation. Barges move a ton of cargo 576 miles on a single gallon of fuel, while trains and trucks get 413 and 155 "ton miles per gallon," respectively. The Environmental Protection Agency (EPA) estimates that towboats produce 35 to 60 percent less emissions than locomotives or trucks.[2] Generally, low-value, heavy commodities are most efficiently transported by water or rail and high-value, light or time sensitive commodities, are best transported by semi-truck or air. Figure 23 compares the efficiency of barges with trains and semi-trucks. Note that eliminating one fifteen barge tow would result (on average) in putting 870 trucks on the road. These 870 trucks, assuming 150 feet between trucks while moving, would stretch 34.5 miles.

The relative efficiency of waterborne transportation may result in a movement from truck to barge, if there is a return to high oil prices in the future. A 2008 study by the U.S. Maritime Administration found that waterborne freight traffic may increases by a factor of two to three as fuel prices increase from $2 up to $7 per gallon. Further, this study found that the Mississippi River freight corridor would be able to sufficiently divert traffic from truck and, to a lesser extent, from rail transportation to initiate new water services. After several years of stagnant growth in waterborne transport due to improvements in rail productivity, rising fuel prices, along with a shortage of rail capacity, are likely to shift the shipping cost and lead to an increase in demand for waterborne traffic in the future. Figure 24 provides estimates of the extent to which domestic waterborne traffic might increase in response to increases in diesel fuel prices for a variety of different U.S. waterways, including the Mississippi, which is projected to be the most sensitive to variations in fuel prices.

1. U.S. Energy Information Administration Short Term Energy Price Projections, May 2011.

2. 2030 Plan

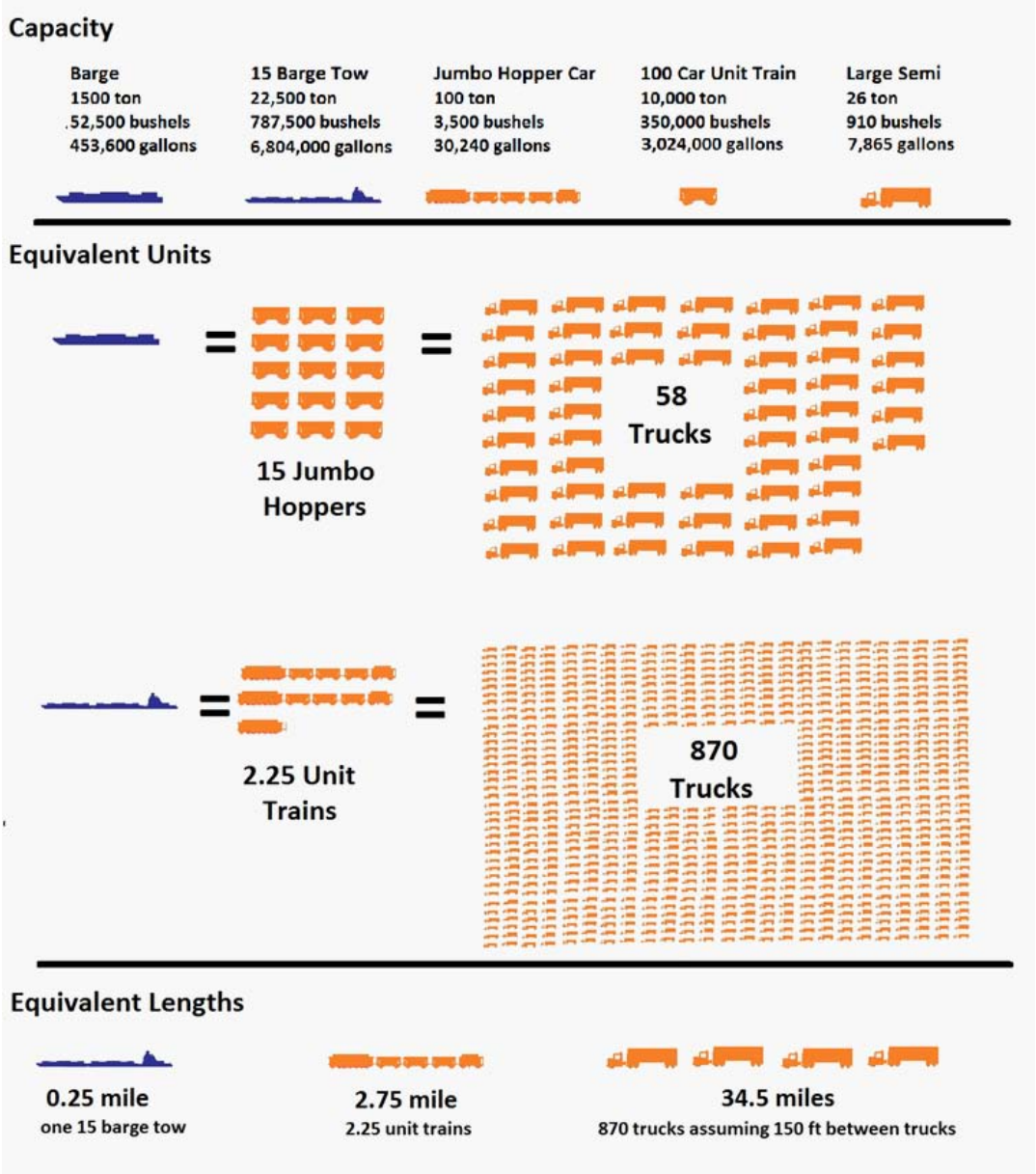


Figure 23: Efficiency of Barges Compared with Trains and Semi-Trucks
Source: MARAD *A Modal Comparison of Domestic Freight Transportation Effects on the General Public* prepared by the Center for Ports and Waterways Texas Transport Institute for the U.S. Department of Transportation Maritime Administration and the National Waterways Foundation.

Prospects for the Growth in Riverborne Commerce in La Crosse County

Riverborne commerce might expand in La Crosse County through three means:

- Expansion of industries currently using barge transportation,
- A shift in transportation use from rail or truck to barge, or
- The opening of new businesses or industries using barge transportation.

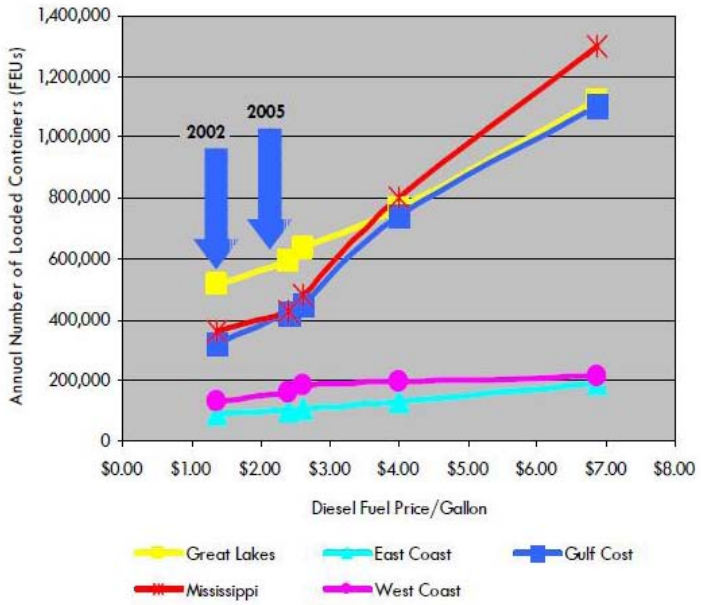
Expansion of Industries

With a return to economic growth and a recovery in construction, there is the potential for an expansion in the industries currently using barge transportation. After real GDP growth of 0.4 percent in 2008 and –2.4 percent 2009, the Congressional Budget Office estimates that U.S. economic growth rebounded somewhat in 2010 to 2.8 percent. The Congressional Budget Office estimates that real economic growth will again be positive in 2011, but that an accelerated recovery, with real economic growth rates of 3.5 percent, would likely not begin until 2014.[3]

Recovery in the construction sector, for which building materials are commonly shipped by barge, is projected to be slower. As shown in Figure 25, new housing starts dropped nationally by about 70 percent between 2006 and 2009, and are unlikely to return to previous levels for several years. As this sector

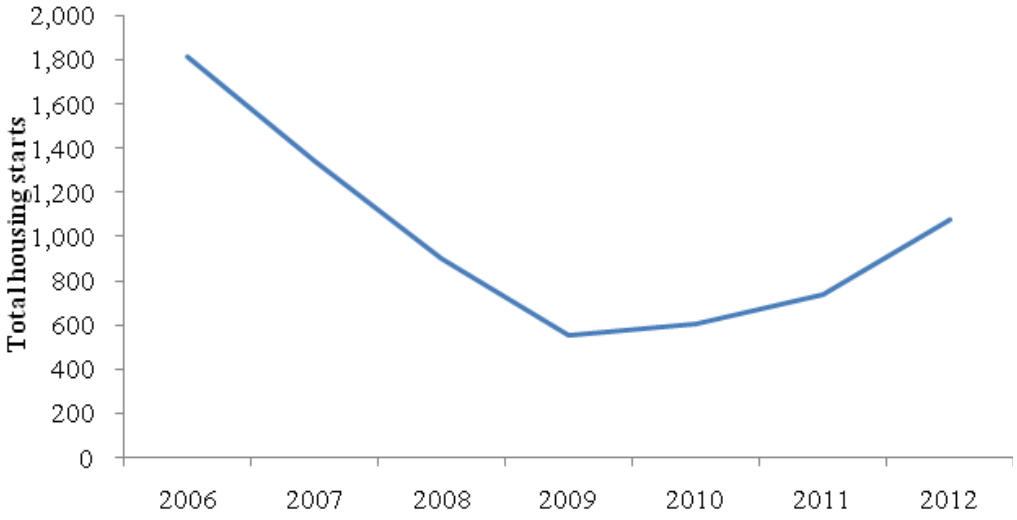
3. "The Budget and Economic Outlook: Fiscal Years 2011 to 2021." Congressional Budget Office, January 2011.

Figure 24: Sensitivity of Domestic Container Traffic (FEU) to Diesel Fuel Prices (in 2008 U.S.$)



Note: East and West Coast container traffic does not include most import and export containers.
Source: MARAD, 2008.

Figure 25: Project Rebound in Housing Construction (National)



Source NAHB, 2010

slowly rebounds, shipments of concrete, stone, and other building materials will increase incrementally. Holcim has already seen an improvement in the market from the lows of 2008-09; cement shipments increased from 70,000 tons in 2009 to 145,000 tons in 2010. They do not anticipate being back to 2005-06 levels until at least 2014-15.[4]

Cottonseed, LLC, who ship cottonseeds used for animal feed, expects their business to grow in the coming years. This projected growth is based on two emerging trends. First, it is anticipated that the price for corn, an alternative feed product, will rise as demand for ethanol products increases. Second, there will be an increase in supply in cottonseeds. In recent years, farmers in southern states had experimented in growing corn to benefit from the ethanol market. Having found that the climate and land were not well suited to corn production, many farmers are returning to producing cotton, leading to falling prices for cottonseeds.[5]

On the other hand, it is likely that some other industries may contract over the next ten years. For example, the UW System has a goal of reducing carbon emissions, so the use of coal in the UW-La Crosse power plant is likely to fall. At the moment, this power plant uses about 70 percent natural gas and 30 percent coal. The facility uses about 5,500 tons of coal per year, which is largely used for the winter heating season. This is shipped into La Crosse on four barges over the months September and October, through the F.J. Robers terminal. Contingent on the necessary funding being available to retrofit the facilities to alternative production, it is likely that their use of coal will be gradually eliminated over the next ten years. This production will likely be replaced by biomass power generation, the fuel for which is likely to be trucked in from local agricultural producers. [6]

Modal Shift

According to the WisDOT 2003 Commodity Flow Survey, a total of 669,000 tons of commodities were transported by train in and out of La Crosse County. Of the 409,000 tons of inbound commodities transported by rail, about 51 percent was food and kindred products, 24 percent lumber and wood products,[7] 15 percent chemicals, with primary metal products, hazardous materials, nonmetallic minerals and waste or scrap materials making up the remaining 10 percent.[8]

Outbound commodities, which were approximately 260,000 tons in 2003, consisted of about 62 percent food or kindred products, 30 percent lumber and wood products, eight percent waste and scrap.[9] As with barge transportation, transportation by rail has decreased substantially in recent years. Between 1999 and 2004, according to carload waybill samples, there was a 44 percent decrease in total tonnage of all rail commodities terminating in La Crosse County. Further, the decline in rail shipments is more dramatic than that of barge transport, as there has been a shift toward cheaper barge transport.[10]

According to the 2003 Commodity Flow Survey, about 7 million tons of commodities were transported by truck in La Crosse County, representing 69 percent of total commodities. Some of these commodities are time sensitive, such as fresh seafood and mail, but others might potentially be transported by barge. For example, 100 percent of all La Crosse County inbound and outbound shipments of forest products, furniture and fixtures, military supplies and accessories, leather products, and textile mill products were transported by truck and rail; as well as about 99 percent of the total tonnage of apparel, electrical machinery, fabricated metal products, miscellaneous manufacturing products, nonmetallic minerals, printed materials, rubber or miscellaneous plastics products, and transportation equipment was

4. Interview with Jack Holm January 21, 2011
5. Interview with Nathan Kromke of Cottonseed, LLC January 20, 2011
6. Phone conversation with Ralph Warner of the Energy Procurement Unit of the Division of Facilities in the Wisconsin State Department of Administration on January 5, 2011.
7. 6. From 1999 through 2002, lumber and wood products were the dominant commodity group transported by rail from La Crosse County as reported in carload waybill samples. After a 72 percent drop in tons shipped of lumber and wood products (dropping from 137,000 tons in 1999 to 39,000 tons in 2003), food and kindred products became the dominant commodity group in 2003, representing 48 percent of total rail commodity tonnage originating in La Crosse County. Source WisDOT 2003 Commodity Flow Survey.
8. All other categories of commodities make up less than one percent
9. All other categories of commodities make up less than one percent
10. WisDOT 2003 Commodity Flow Survey.

transported by truck. A movement toward shipment by barge of some of these commodities might result in significant reductions in road congestion and economic impact. There is not strong evidence, however, that there is currently strong interest from these industries to shift to barge transportation.

New Businesses or Industries Using Barge Transportation

With the return to economic growth, there is the possibility that additional businesses might open or relocate to La Crosse which would benefit from access to river transport. Past studies have identified a number of industries which benefit from particular efficiency gain from having access to a river port. The development of such industries would encourage value added on locally produced materials or by-products, thus providing a new source of employment. Table 10 provides a number of examples of such industries, estimating the acreage required to establish such a facility and how many jobs the establishment of such a facility might provide. While these estimates date back to 2000, they provide an idea of the employment impact of different industries that would have an interest to use commercial port facilities.

Further, during interviews with current port users, the idea emerged to ship 'frac sand' from neighboring areas through the Port of La Crosse. "Frac sand" is high quality, strong round sand grains commonly used in the extraction process of oil and natural gas. This sand, mixed with water and other additives, is injected into rock used to hold open fractures so the oil and natural gas can emerge and be captured.[11] For the moment, the launching of such a venture in La Crosse faces several constraints. First, if the sand from the 'frac sand' plants is delivered wet, the product would be heavier and more costly to ship by barge. Second, to dry the sand prior to shipping, the shippers or the mining company would need to invest in new equipment, which would again add to the cost of the product. Third, much of the sand comes from the north of the state, and the ports of Red Wing and Minneapolis may be closer, more economical alternatives. Finally, the mining of 'frac sand' is controversial due to its potential environmental effects; thus port operators may be reluctant to encourage the business in Wisconsin.

It is worth noting that many of the facilities mentioned in Table 10 would have a larger employment impact than would a multimodal container facility or an expanded facility to ship 'frac sand.' Such bulk shipment facilities only employ a small crew to operate and maintain the facility's equipment. To promote employment, the County of La Crosse would need to target high value added industries. Generally, a Port Authority or the Office of Economic Development would delegate an individual to aggressively court industries and businesses to relocate to La Crosse. In its current state, the Port of La Crosse Joint Board of Harbor Commissioners is essentially an organization of volunteers with partial staff support, so it is difficult for this body to take the lead on promoting the port and other transportation facilities available in La Crosse County. (See the Action Plan for a recommendation to delegate this responsibility to a full-time staff, who could develop and implement a comprehensive strategy to bring in investors.)

If the establishment of a multimodal container facility in or near La Crosse is part of a wider strategy to attract manufacturers due to the area's low shipping costs, it might be a viable venture. However, this case has not yet been established and it would be necessary to establish a framework for promoting water dependent industry in La Crosse County that defines the industries being targeted and the necessity of such a multimodal container transfer facility prior to making this investment.

11. Bruce Brown, senior geologist for non-metallic and industrial minerals at the U.S. Geological Survey in Madison as quoted in Jones, Meg "Wisconsin's diamonds: 'Frac sand." *Milwaukee Journal Sentinel.* December 11, 2006.

Table 10: Industries Benefiting from Port Access

Industry	Acreage Required	Estimated Number of Jobs
Steel scrap recycling center	Small: 5 Medium: 10	Small: 4 Medium: 6
Recycled paperboard facility	Medium: 25 Large: 40	75
Newsprint material recovery facility	Medium: 10	Medium: 30
Lumber mill	Small: 5 Medium: 10 Large: 25	Small: 5 Medium: 15 Large: 100
Woodchip consolidation and loading facility	Medium: 5	Medium: 7
Forest product manufacturing (furniture, cabinetry, millwork)	Small: 5 Medium: 5 Large: 5	Small: 10 Medium: 40 Large: 500
Waste Tire Recycling Plant	Medium: 10	Medium: 50
Wallboard Manufacturing Facility	Large: 100	Large: 150
Fertilizer Receipt and Distribution Center	Small: 5 Medium:10 Large: 25	Small: 5 Medium:7 Large: 10

Source: Master Plan for the Buffalo Putnam Port District, 2000.

Port Regional Competitive Environment

The Port of La Crosse is located in the "Upper River" in terms of barge transport, and as such is subject to an added carriage surcharge on all goods. This is a fee imposed by the barge industry, not a tariff that may be legislated away. As such, La Crosse is at a certain economic disadvantage in terms of a port. The added savings of bringing goods for shipment locally to La Crosse may in some cases not be offset by the added shipping costs to deliver the product downriver to be loaded, where the surcharge is not applied. The port is also a "seasonal" port subject to closure during the winter season when the navigation channels are closed due to ice. Therefore the commodities that are exported or imported through the Port of La Crosse must be non-time sensitive in delivery, could be stockpiled, and are not price sensitive to the upper river surcharge.

An examination of the regional waterborne commerce environment can yield ideas regarding potential uses of properties with port access that may become available (i.e. First Supply, Isle La Plume, Mobil Oil). The Upper Mississippi is an important hub of commercial shipping. On average between 2004 and 2008, a little less than 70 million tons of commodities were shipped annually.[12] This water corridor is particularly important for U.S. exports of grains and other agricultural products, linking the grain belt of the country with international shipping facilities in the Gulf of Mexico. In 2009, grain shipments along the Mississippi exiting through the Gulf represented about 50 percent of grain inspected

12. U.S. Army Corps of Engineers U.S. Waterways Data. Includes Mississippi River, Minneapolis, MN to Mouth of Missouri River – Section Included: Minneapolis, MN to Mouth of Missouri River; Upper Mississippi River from mile 857.6 to mile 195. Maintained Depth: 9 feet. Navigation Seasons: 23 March to 5 December upper portion; annual closure in upper portion due to winter freeze-up; open all year in lower portion except during brief periods when the channel may be blocked by ice.

for export.[13] This industry has created a number of complementary businesses, such as the shipping of fertilizers and other agricultural inputs. Additionally, barge shipping along the upper Mississippi carries much of the region's needs in steel, coal, asphalt, timber, salt, and other bulk items.

A number of communities near La Crosse along the Upper Mississippi have established thriving commercial river ports. The most notable of these sites are: Dubuque, IA, Prairie du Chien, WI, and Winona, MN.

Dubuque, IA
The main commodities shipped through Dubuque, IA include oats, grains, lignin,[14] bulk fertilizers, salt, steel coal, and asphalt. The Dubuque Port area is served by Canadian National Railway (CN).

Major terminals in the area which service the same commodities as does La Crosse include:

- Peavey, Dubuque Bulk Materials Wharf – Receipt of miscellaneous bulk materials, including grains, fertilizer, coal, salt, oats, and occasionally steel products. This site has rail access and storage facilities for grain, fertilizer, and bulk materials.
- Koch Materials Co., Dubuque Terminal Dock – Receipt of asphalt. This site has rail access and storage facilities.
- AGRI Grain Marketing, Dubuque, Wharf – Receipt of miscellaneous dry bulk materials including fertilizer, salt, steel coils, and grain. This site has rail access and storage facilities.

Prairie du Chien, WI
The main commodities shipped through Prairie du Chien include grain, fertilizer, coal, salt, and crushed stone. The Prairie du Chien port area is served by the Wisconsin & Southern Railroad and BNSF Railway. Major terminals in the area which service the same commodities as does La Crosse include:

- Prairie Sand & Gravel, St. Feriole Island West Dock – Receipt of miscellaneous dry bulk materials including coal, salt, crushed stone and fertilizer. This site has rail access and storage facilities.
- Prairie Sand & Gravel, South Grain Dock. (ConAgra) – Shipment of grain. This site has rail access and storage facilities.
- Prairie Sand & Gravel, Prairie du Chien, North Grain Dock. (AGRO Distribution LLC) – Shipment of grain. This site has rail access and storage facilities.
- Prairie Sand & Gravel, Dillman Harbor Dock. Receipt of miscellaneous bulk materials including fertilizer and salt. This site does not have rail access.

Winona, MN
The main commodities shipped through Winona, MN include of grains, fertilizer, cottonseed, salt, magnesium oxide (animal feed additive), coal, and salt. The Winona, MN port area is served by Union Pacific Railroad and Canadian Pacific Railway. Major terminals in the area which service the same commodities as does La Crosse include:

- Winona River & Rail Barge Wharf – Receipt and shipment of fertilizer and other miscellaneous dry bulk materials. This site has rail access and storage facilities.
- Modern Transport Terminal, Lower and Upper Wharves – Shipment of grain. This site has rail access and storage facilities.
- Kujak Brothers Dock – Receipt of miscellaneous dry bulk materials, including coal, fertilizer, and salt. This site has rail access and storage facilities.
- Harvest States Cooperatives, Winona West Terminal – Shipment of grain. This site has rail access and storage facilities.
- ADM/Growmark Winona Grain Elevator Dock – Shipment of grain. This site has rail access and storage facilities.

In addition to these river terminals, there are a number of important rail terminals in the area that ship bulk goods. A 40 acre multimodal rail-to-road container transfer facility was established in Arcadia, Wisconsin, with 3,200 feet of usable intermodal rail track directly serving Chicago, Stevens Point, Neenah, Green Bay, and Minneapolis via Canadian National Railway. This terminal primarily serves Ashley Furniture; however, it is open to the public and is used occasionally by other shippers. A branch of Ashley Furniture, Ashley Distribution, manages a fleet of trucks to supply transport within a 150-mile radius

13. "A reliable waterway system is important to agriculture." December, 2010.
14. Lingin is derived from wood, can be used to make newsprint, as a dispersant in cement, in water treatment, for agriculture, to suppress dust, in making polyurethane foam, among other uses.

of the Arcadia site to those wanting to take advantage of backhaul container availability. This terminal currently generates about 20,000 lifts of multimodal containers annually, which is generally considered to be the minimum efficient level, and is one of a handful of small-volume rail facilities receiving regular service for double-stack container movement in the U.S. This facility does not appear to be favored in the surrounding area, as none of the firms contacted for a recent study on the potential of a similar facility in La Crosse indicated they used the CN intermodal terminal at Arcadia.

In La Crosse, Reload Inc., whose facilities are located within the BNSF railyard, are equipped to ship a number of bulk commodities, including aluminum and nonferrous metals, steel products, manufactured products (bricks, insulation and siding, poles and posts, railroad ties, roofing materials, etc.), and lumber and wood panel products (including strand board and plywood).[15]

15. 2035 La Crosse and La Crescent Metropolitan Area Transportation Plan

Transient Boating Demand

The local business community views the boating market as a possible revenue generator; one that is primarily fueled by transient boater visitation. To increase the likelihood of boater visitation, many have requested additional transient moorage in the form of day use only or overnight berthing rather than an extended stay visitor.

The business community would like to the transient slips within a maximum of ten-minute (half-mile) walking distance of the City of La Crosse Central Business District. Within this radius, no existing marina facility is able to satisfy a transient slip requirement. This transient moorage would likely need to be sponsored by the City of La Crosse or La Crosse County since the revenues from slip rental would not directly offset the investment. Payback would come from increased tax income due to expanded hospitality and food service sales.

There are only two locations currently vacant and suitable for developing as a transient boat facility: the confluence of the La Crosse, Black, and Mississippi Rivers, (either the north or south bank of the La Crosse at its mouth) or at the Division Street Dock. Due to strong currents in the main channel of the Mississippi River and the amount of river traffic, either location would require a marina to be carved from shoreland, similar to the existing La Crosse Municipal Boat Harbor basin. The next chapter recommends how to accommodate this expressed need.

Redevelopment Sites

At times, urban development and environmental protection concerns necessitate the transformation of a riverside site from a commercial terminal into a residential, commercial development or wildlife site. These transitions should be done with caution, as once a site is transformed from being a commercial terminal, it is difficult to regain access to that site for this purpose, and because the displacement of such terminals may have adverse economic effects.

US FWS Visitor Center/Office at Brice Prairie

The US FWS is completing the expansion of and improvements at the La Crosse District Visitor Center/ Office and maintenance facilities in Brice Prairie. These include:

- Purchasing an additional 107.7 acres of sand prairie which expands the total project area to 183 acres that can be managed as one unit;
- Restoring and managing the sand prairie;
- Expanding the trail system to include a 0.25 mile loop at the Visitor's Center and the construction of 2.4 miles of new trail;
- Parking lot construction;
- Construction of an education center shelter large enough to accommodate a class of 30 students;
- Construction of a stormwater/ biofiltration basin per WisDNR regulations.

The purpose of the Visitor's Center and adjoining land is to provide educational opportunities that demonstrate sand prairie restoration, maintenance and management, especially for grassland birds; energy conservation; stormwater management; and other wildlife dependent recreational uses.[16]

16. Draft Environmental Assessment for Habitat Management, Facility Development and Wildlife Dependent Recreational Uses on the Capitol Air System, Inc./Richard G. Sarazin (Sarazin) Tract, La Crosse County, WI. Upper Mississippi River National Wildlife and Fish Refuge. Department of the Interior. US Fish and Wildlife Service. March 2011

Upper Mississippi River National Wildlife and Fish Refuge La Crosse District Visitor Center and Headquarters (artists rendering)

Onalaska Waterfront

The City of Onalaska is redeveloping its downtown waterfront. A master plan prepared in 2008 envisions many water-oriented uses at the west end of Main Street, including the Great River Cultural and Tourism Center, non-motorized boat dock, environmental preservation and interpretation sites, and trail connections. The City is now designing a new streetscape for Highway 35 and design guidelines for private redevelopment.

City of Onalaska Waterfront Master Plan

Mobil Oil Site

One of the largest single parcels of potentially developable land in the City of La Crosse is the 26-acre former Mobil Oil tank farm. This property has Black River frontage and formerly received barge-borne petroleum products. Federal pollution control legislation in effect since 1990 has required more safeguards to be installed at terminals and on the transporting vessels and has made petroleum movement and transfer considerably less cost effective at smaller terminals such as the Mobil or Midwest Industrial Asphalt terminals. Due to this and changes in the Mobil petroleum distribution system, Mobil closed their terminal and removed the large storage tanks.

The dock was removed on the request of the WisDNR and the 26-acre site was purchased by the City of La Crosse Redevelopment Authority. The City has proposed consolidating this site with the adjoining 11-acre "Patros Property," and a 7-acre parcel of City owned land and creating a new multi-use development with a waterfront natural area. Bicycle trails and La Crosse River access points in this vicinity already exist. A transient marina area, intended for visitors downtown, had previously been proposed and studied for the mouth of the La Crosse River, but currents and sediment in the La Crosse River present problems for this use at that location. The City is planning a redevelopment charrette for the full 65-acre redevelopment zone for 2012.

Mobil Oil Site

Barron Island

Barron Island

Located west of downtown La Crosse and west of the Mississippi River main channel, Barron Island is connected to La Crosse and La Crescent by USH 14/61. The south end of Barron Island is Pettibone Park and a campground. The north end of the island is privately owned.

Adjacent to USH 14/61 are several redevelopment parcels that are privately owned or owned by La Crosse County because of tax delinquency. The redevelopment site is 12 acres on which a hotel, a call center, and a private marina once stood. Redevelopment of Barron Island with private tax-paying uses is a priority for both the City of La Crosse and La Crosse County.

First Supply Plumbing (Division Street Dock)

First Supply Plumbing (Division Street Dock)

The First Supply Plumbing site, in the Division Street Dock area, consists of a parcel of about nine acres of waterfront property, to the south of Holcim and north of the municipal waste water treatment facilities. First Supply has changed their business strategy and now arranges direct shipment of pipes to construction sites from the manufacturing facilities, rather than routing the shipments through their dock facilities in La Crosse. The remaining smaller pipes are trucked in. While First Supply still uses the land for storage of larger pipes, their business is no longer water dependent and they might be re-located elsewhere.

Some uses have been proposed for this site, including the construction of apartments, the expansion of neighboring Holcim to accommodate additional storage or allow for rail shipments, or the installation of a new water dependent industry.

Harbor and Waterfront Master Plan

Guiding Principles

The recommendations in this section further the vision and the guiding principles of the Port of La Crosse Harbor and Waterfront Plan 2011. These recommended projects and policies:

- Promote the Mississippi River as a national ecological and cultural treasure.
- Recognize the Port and Riverfront Plan as a strategic long-term vision.
- Draw on the plan to guide incremental, phase-able, and economically sound projects.
- Reinforce the region's identity and build on the authenticity of each community as a confluence of cultures, waterfront-dependent commerce, outdoor recreation, and ecological diversity.
- Promote the highest and best water-oriented uses on the waterfront.
- Protect, manage, and repair the region's ecology.
- Protect current ownership and control of public waterfront property.
- Advance the area as a destination for recreational, heritage, and eco-tourism.
- Provide visual and physical access to publicly-owned parcels and future private waterfront-linked development.
- Balance use of the waterfront with the region's ecological capacity.
- Educate the regional community about the river's role and importance in commerce and transportation.
- Promote economic sustainability and reduce the region's carbon footprint.
- Position the river as an economic catalyst for public/private partnerships.
- Coordinate and integrate the long term-waterfront vision with local municipal and regional government and agency planning initiatives.
- Successfully communicate to the public all waterfront policy decisions, planning initiatives, and capital improvements.

Port and Harbor

The essence of a port is a place of exchange of product. The most successful ports offer multiple options or modes for commodity movement and transfer: water, rail, road, and potentially air. The Port of La Crosse largely focuses on general cargo and primarily bulk cargo commodities. Therefore the air mode is not a contributor to the port activities though the airport is conveniently located to share in the commodity movement.

Three existing sites offer dock face for commercial transfer of goods to and from barge: Hanke Terminals on Isle La Plume, North Side Municipal Dock, and the F.J. Robers facility. Also maintaining industrial dock facilities but for private dedicated use are Holcim, Midwest Industrial Asphalt, and Brennan Marine. With the exception of Hanke Terminals, all these facilities are tri-mode operations, allowing shipment and receipt of product via barge, rail, and truck, depending on the advantages and economics of each mode.

Port Backland Needs

JJR and JFA interviewed all dock users and they reported that the actual dock facilities are more than adequate for the throughput level presently worked and projected. The facilities are also reasonably located to the service market and impact on or from community traffic is considered minimal.

Port operators cited two general limitations – a lack of backland to stockpile product and/or a limitation of the available fleeting area to temporarily hold barges until needed to load or unload. The exception to the lack of backland is the F.J. Robers property, which was built with growth potential in mind and was constructed to meet all WisDNR water quality regulations.

For general cargo operations, the productivity of berth typically ranges between 200 tons and 400 tons per running foot of berth for average occupancy.[1] Because the vast majority of the current port throughput is dry bulk material, which increases the productivity of the dock, a productivity value of 400 tons/foot is assumed to establish the existing dock capacity. Allowing for all public and private industrial moorage (approximately 6,000 feet of dock), the existing facility has the potential to handle roughly 2,400,000 tons of goods annually. JFA analysis indicated that during the years 2003 and 2007, roughly 2,300,000 tons of freight moved through the port via water. Therefore the existing facilities have already essentially operated at their maximum capacity.

Further guidelines for moorage require that the length of any berth be 20 percent longer than the length of the vessel and that wharf width should include at least clear water space of at least two design vessel widths. The land area of the wharf should extend at least 650 feet inland from the dock. For multi-purpose port facilities, the required backland generally ranges from 0.6 to 0.8 tons/square foot[2]. Therefore to at least maintain the historic high freight throughput of 2,300,000 tons, the port needs to have at least 66 acres aggregate to support the effort. The capacity of the F.J. Robers property alone offers sufficient dock face (1,300 linear feet) to handle 475,000 tons of material, which is approximately its current throughput. However, in terms of backland, that requires only 13.2 acres of which 55.5 acres are available. Therefore this facility alone has a 400 percent excess capacity in terms of backland expansion.

On the other hand, the 450,000 tons of freight moving through F.J. Robers commercial dock operation is only a third of the total tonnage moving through the port. The balance, ignoring the smaller tonnage moving through Hanke terminals, is point-to-point delivery of asphalt and petroleum products to Midwest Industrial Asphalt or cement to Holcim and La Farge. These products do not pass through the commercial docks. These facilities are all physically at maximum capacity and require more upland in order to increase throughput.

The Port of La Crosse is, therefore, unbalanced in terms of available wharfage to needed backlands.

1. Tsinker, G., 2004, *Port Engineering*, John Wiley Publishing

2. Bruun, P. 1989, *Port Engineering,* Volume 1, Gulf Publishing

Port Facility Improvements

The Port of La Crosse Joint Board of Harbor Commissioners should protect sites with good access to the multiple modes of water, road, and rail. Because existing sites are physically constrained by development or other physical limits, it should intensify the use of existing port sites in order to maximize asset utilization and achieve high throughput in the lowest possible footprint. It should allow some regulatory flexibility for businesses to undertake alternative environmental mitigation strategies to intensify use on their existing land, such as in the case of Midwest Industrial Asphalt.

Due to the weak economic climate, most port users are not currently planning major capital improvement projects. Further, a number of operators have recently undertaken capital improvement projects. At the same time, to maintain the competitiveness of the facilities, the Joint Board may consider to promote the preservation of key elements of this infrastructure and to facilitate a number of targeted investment projects, including:

City of La Crosse North Side Municipal Dock
Hanke is the main user of this facility. Despite repeated follow-up attempts, Hanke was not available to comment directly with JJR and JFA on their facility needs. The Joint Board should continue to follow up.

Hydrite Chemical
The Joint Board should work to maintain the rail access that Hydrite

South French Island

J.F. Robers

Chemical now leverages for both rail and barge delivery for cost advantage.

Midwest Industrial Asphalt
Midwest Industrial Asphalt reports being constrained at its facility, not by water access, but rather its landside storage potential. Because of floodplain and security constraints, they are unable to increase their operation unless expansion land can be found. However, their operation involves processing so splitting the facility into multiple locations is not economically viable. Adjacent land acquisition or total relocation would be the only options to grow. The Joint Board should support Midwest Industrial Asphalt efforts in coordinating with adjacent parcel owners and relocating businesses that are not water-dependent to another location. Additionally, the Joint Board should work to maintain the rail access that Midwest Industrial Asphalt now leverages for both rail and barge delivery for cost advantage.

Brennan Marine
Brennan Marine recently undertook some dock wall improvement with the support of the Harbor Assistance program. In interviews with JJR and JFA no other specific capital projects needs were expressed.

F.J. Robers
To maximize the potential of the F.J. Robers existing backland operation for pure port activities, up to 4,000 feet of dock face could be added. While the F.J. Robers property is ideal for further port expansion, it is more likely that alternate and more efficient material handling methods will be introduced before building more wharf. The F.J. Robers property is equipped with rail siding, and the Joint Board should work to preserve rail service to this facility. (This user has a philosophical objection to taking Harbor Assistance Funds.)

Holcim
Holcim requires temporary moorage for a barge fleet awaiting offloading, since the offloading process requires eight hours per barge. They also rely on winter seasonal fleeting for product held in barges as the demand for their product begins early in the spring before new shipments can arrive due to ice.

Holcim indicates that the present facility location is ideal for their truck distribution system and the present location allows them easy highway access to clientele located to the south and east-west. However if they were to expand operation to a dual offloading and silo, they would need to expand onto the First Supply property or possibly relocate to French Island. Because of the speed of offloading however, more critical is adequate queuing for the barges.

The Holcim terminal can benefit from an active rail spur that presently is used only as far as the brewery. The Joint Board should take steps to preserve and extend service to this facility for future growth. This includes working with local municipalities to preserve rights of way and corridors for rail usage.

Hanke Terminals, Isle La Plume
Despite repeated follow-up attempts, Hanke was not available to comment directly with JJR and JFA on their facility needs. The Joint Board should continue to follow up.

Berth Edge Expansion – Mid City Industrial Area
It is expected that existing berth edges will provide sufficient capacity to handle the expected port activity within the life of this plan.

The long term opportunity for additional berth edge is to the east side of the Black River, south of the railroad bridge and north of the Mobil Oil site. This area, referred to here as the Mid City Industrial Area, would be ideal for constructing an incised berth. The property is situated between two rail lines in an existing industrial area. This site is already environmentally impacted, and the Joint Board should favor brownfield reuse and redevelopment over greenfield development for port expansion.

The new slipway would need to be four-to-five barge beams wide, and greater than two barge lengths in length.[3] Because of a narrowing of the river at this location, berthing along the river proper should be avoided. Residual industrial uplands should be preserved as open ground for port related operations.

This berth edge expansion is not needed in the short term. However, the Joint Board should protect the area for continued industrial uses, particularly as Mobil Oil is redeveloped. It is expected that the Port of La Crosse will continue to be an association of private port operators, so the Joint Board should

3. Tsinker, G., 2004, *Port Engineering*, John Wiley Publishing

maintain open communications with the parcel landowners regarding their interest in future port operations.

As the port expands, the Joint Board should identify, protect, and buffer parks and natural resources such as wetlands, hydric soils, floodplains, remnant upland habitat, etc. This site includes man-made wetlands that may be designated by WisDNR as critical fish habitat.

Fleeting Sites

Port operators have indicated an infrequent lack of fleeting opportunities. The existing fleeting sites should be preserved and the Joint Board should seek to expand fleeting locations. Preservation of all the deep water fleeting, regardless of location, is critical to the long term health of the port.

Isle La Plume Fleeting Site
Isle La Plume is a major fleeting site and it complements the Hanke terminal operation. As Isle La Plume's upland uses change over the long term, the existing permitted fleeting site must be maintained.

Harold E. Craig Fleeting Site
This fleeting site has space for 15 additional barges on the southern end. The Joint Board should seek to expand the number of barges permitted at this site.

Xcel Energy French Slough Fleeting
As the port expands to its full capacity, there will be a greater demand for fleeting than can be accommodated at the Isle La Plume and the expanded Harold E. Craig sites. The majority of fleeting capacity is located considerably south of

Mid City Industrial Area

Isle La Plume Fleeting

French Island so as to avoid the more environmentally sensitive waters in the Black River. However, this location is not convenient for port operations at French Island, adding roughly an hour to each barge changeover. When new fleeting capacity is needed, the current overflow barge fleeting site west of Xcel Energy within the southern end of French Slough should be improved and expanded. A fleeting area for nine barge positions (three by three matrix) can be accommodated in this area.

Xcel Energy and French Slough

Port-Dependent Development

The port may generate additional revenues by expanding beyond its stevedoring activities to include port-dependent businesses at or near the port. These businesses are operations that rely on the access or close proximity to the water. The southern end of French Island is well-suited to accept additional industrial development because of the easy links to water, rail, and interstate highway.

Another utilization for port property is business that is dependent on river access not because of its transport efficiency but rather the conveyance vehicle itself. SkipperLiner Industries offer a unique capability in the form of repair/refurbishing of recreational house boats. The trend is away from new craft construction due to the weak economy. This opens the door of opportunity for business to boom in the restoration field.

The companion industrial service is offered by J.F. Brennan in the form of barge cleaning and repair. Other businesses in town support

this growing field in the form of construction of new bottoms for boats and barges. This suggests a potential expansion into the field of river craft shipbuilding if the demand can be sustained. This business is less climate and season dependent and can in fact be active twelve months of the year versus the seasonal limits for traditional port activities.

With SkipperLiner and Brennan Marine (dry dock) located adjacent to one another, co-locating a full service marine fabrication facility on the F.J. Robers property would increase efficiency and lower the industrial footprint and impact.

Cultivate New Economic Opportunities for the Port

The La Crosse region's convenient access to multiple modes of transportation, role as a regional hub for commerce, pool of skilled labor, and relatively open businesses environment make the area attractive as a locale for new investment. In order to attract new businesses to the area, particularly those which might benefit from river access, the Port of La Crosse Joint Board of Harbor Commissioners, La Crosse County, and its municipalities should undertake a number of actions:

- Establish a framework for promoting water dependent industry in La Crosse County.
- Empower a Joint Board staff, another public entity individual, or a private economic organization to aggressively promote the Port of La Crosse.
- Redevelop land and make investments where appropriate, particularly in the complementary road and rail infrastructure.
- Develop dialogue with rail operators and water shippers to improve coordination, promote more favorable pricing, and ensure their continued presence in the county.

Division Street Dock from water

Enhance Public Understanding and Support of the Port's Role in the Region

It is important to establish strong lines of communication between port users and other stakeholders. This not only empowers port users to communicate their role in bringing jobs, tax revenues, and economic well-being to the region, it allows other users to voice their concerns regarding port users operations and to seek mutually beneficial solutions.

- Clearly and transparently communicate the Port's mission, activities, and accomplishments to the public at large and all stakeholders.
- Increase community engagement through transparent planning and decision-making.
- Build and maintain constructive working relationships between port users, public agencies, homeowners, and recreational river users.

Recreational Boating

The trend in the local boating market points to two near-term realities. Growth of the personal watercraft market does not require an increase in marina capacity, although some upgrades and capacity increases at key boat launch ramps may be warranted. Identification of which ramps are most sought for use by personal watercraft users requires a user survey of the ramps.

A reconfiguration of the existing marinas is necessary to address the growth of the larger vessel market, but does not necessarily place pressure on the water from additional berthing of any significant numbers.

Pools 7 and 8 Recreational Boating Survey

This study's recommendations are based on extrapolations from recreational boater surveys from other Mississippi River pools and anecdotal interviews from Pools 7 and 8. To better understand the recreational trends of Pools 7 and 8, the Joint Board should coordinate with others to regularly survey the trends and needs of the local recreational boating community.

To be effective in determining long-term trends, any survey should be repeated using comparable survey techniques on a regular basis over many years. Additionally, given the state jurisdiction lines and the value of this recreational boating data for multiple users, the expense of a survey should be shared by all those that will find value in it. The Joint Board should contract with a surveying organization to establish the survey protocol, conduct the survey, and then repeat the survey on a regular basis. An ongoing survey could be a project of the local parks and recreation departments, a cooperative research project of the Minnesota and Wisconsin Departments of Natural Resources, or a research project of the University of Wisconsin-La Crosse.

Mobil Site Marina

The redevelopment planning and feasibility studies for the Mobil site should evaluate the inclusion of a transient marina within or adjacent to the redevelopment site. The site is within a ten-minute walking distance of downtown La Crosse, assuming a pedestrian bridge that connects Riverside Park to the Mobil redevelopment site. A transient/resident marina may be carved inland, avoiding sensitive habitat. An inland marina would need to include the relocation of a sewer force main that parallels the waterfront. See the next section for additional recommendations for the Mobil redevelopment site.

Division Street Dock Marina

The Division Street Dock location offers water access and has the potential for rail distribution. It could be considered for port expansion. However, the combined 330 feet Division Street Dock/Holcim dock requires approximately 3.5 acres of working backland area. The area available for this terminal is roughly four acres, so any dock expansion of this facility beyond its present size requires increased backland, ideally extending to 2nd Street to give the needed work space for typical operations. The Division Street Dock is constrained by existing development, therefore no attempt to increase the size of the dock should be attempted.

Should the inclusion of a transient marina be determined infeasible at the Mobil site, the City of La Crosse should assess a marina at the Division Street dock, a location also within walking distance of downtown La Crosse.

Carving a basin from the ground currently occupied by First Supply would not compromise the operation of the Holcim facility and would preserve the existing deep water slip moorage already existing there. Because barge queuing is relatively static, egress to a marina basin would not be a navigation concern and in fact may create a safer marina entrance by creating shielding from current flows.

The present dock for the Holcim facility could be extended and integrated into the marina basin design. The Holcim cement offloading system does not require additional river frontage, but could benefit from additional barge queuing space to increase transfer efficiency if the demand for product increases. An inland marina at this location would also need to include the relocation of a sewer force main that parallels the waterfront.

Division Street Dock Dry Storage

If the transient marina can be accommodated at the Mobil site, the Division Street Dock would also be

ideal for offering dry, secure vertical storage of boats, inside a newly constructed building architecturally configured to blend with the adjacent historic warehouse buildings. Only a dry stack storage operation there would be effective given the concerns about odor from the nearby brewery and sewage treatment plant and the proximity of the bridge and the Holcim cement transfer conveyors, both of which have the potential for releasing dust on the marina-berthed craft.

A dry storage operation at this location would also open up wet slip areas at the La Crosse Municipal Boat Harbor for larger craft, for which there is a waiting list. The other advantage of a dry marina at this location is that it affords the local population an alternative to ramp launching of boats back in the coulees, shortening their cruising distance by as much as a half hour to the desired fishing or recreating areas.

New recreational boating marinas that are established for overnight or seasonal docking or storage of pleasure boats should provide a full range of basic services such as fuel, water, garbage collection, and sanitary disposal of waste water.

La Crosse Municipal Boat Harbor

The City of La Crosse Municipal Boat Harbor should make improvements that will allow it to adjust the slip mix to larger vessel types and should increase parking and other amenities.

Improve Existing Non-Motorized Launch Sites

The popularity of canoeing, kayaking, and similar silent watersports in the Black and Mississippi Rivers will likely increase due in part to No Wake Zones. Improvements to existing launch sites are needed but additional sites are not yet warranted.

City of La Crosse Waterfront Park Improvements

The 2010 City of La Crosse Parks and Recreation Outdoor Strategic Plan identified needed recreational boating improvements for the City's waterfront parks.

- Veteran's Freedom Park: Add two new fishing piers ($40,000)
- 7th Street Boat Landing: Create fish cleaning station ($79,000), replace current dock ($12,000), finish paving the remainder of the parking lot ($9,500), and add parking lot lights ($34,000).

No needed improvements were discovered during stakeholder interviews for Black's Cove Marina, Al's Marina, French Island Yacht Club, North Bay Marina, Pettibone Boat Club, and Chut's Boat Landing.

Continue to Assess and Advise on No Wake Zones

The County Board of Supervisors and the City Council, upon advice of the Port of La Crosse Joint Board of Harbor Commissioners, establish No Wake Zones, and the County enforces them. The Port of La Crosse Joint Board of Harbor Commissioners should continue to review the "No Wake" zone procedure and adjust zone boundaries in accordance with the applicable state and federal laws and with the safety and conservation intentions. The Joint Board should advise the County Board and City Council to continue to designate and enforce the "No Wake" procedure in accordance with the appropriate state and federal laws.

The Joint Board should consider establishing/defending the following Slow and No Wake zones that the US FWS recommend in the Environmental Pool Plans for Pools 7 and 8:

- Black River Bottoms Slow, No Wake Area – This is a waterfowl and wildlife protection zone where between March 16 and October 31 watercraft are required to travel slowly and without wake, and airboats and hovercraft are prohibited.
- Browns Marsh Electric Motor Area – This is a waterfowl and wildlife protection zone closed year round to all non-electric motorized vehicles and watercraft.
- Lake Onalaska Closed Area – This is a waterfowl protection zone closed to hunting.
- Waterfowl Avoidance Area – This is an important waterfowl protection zone where river users are asked to voluntarily avoid the area during October 15 through mid-November.

Implement a Recreational Boating Safety Education Program

In spite of current educational efforts, there is still evidence that

many recreational boat operators are either willfully or ignorantly violating boating safety and "rules of the road" laws. The County Sheriff's boat patrol and the U.S. Coast Guard Auxiliary is charged with the responsibility of coordinating and supporting boating safety at the local level. Education of the public of the applicable rules is an important part of enforcement.

The Port of La Crosse Joint Board of Harbor Commissioners should work with local and regional law enforcement agencies to establish, strengthen, and broaden boating safety education strategy to educate the public and recreational boat operators regarding boat safety and marine rules of the road. Resources of existing agencies such as U.S. Coast Guard Auxiliary, USACE, US FWS, and the WisDNR regarding boating safety education should be utilized by the Joint Board in implementing an effective boating safety strategy.

At a policy level, the Joint Board should support the enforcement of safe recreational boating. This could include:

- Support state or federal legislation for boat operators licensing or mandatory training;
- Support efforts to strengthen penalties and enforcement of laws regarding drunk or drugged boat operators;
- Continue to support, as a permanent commitment, the County Sheriff and U.S. Coast Guard Auxiliary boat patrol staffed by sworn officers in adequate watercraft. The periods of operation should at least

La Crosse Municipal Boat Harbor

Division Street Dock from air

cover weekends, holidays, and other selected periods during the navigation season.

Implement a Water Use Conflict Education Program

The Port of La Crosse Joint Board of Harbor Commissioners should support efforts to increase understanding between recreational boaters, commercial tow pilots and the commercial towing industry, and environmentalists. Potential educational outreach efforts are "open houses" at commercial river terminals, harbor tours with an emphasis on the commercial freight role of the Port of La Crosse, videotape view from the pilot house of a 15 barge tow of what a tow boat pilot sees and more importantly doesn't see as a tow maneuvers out of a lock or past a marina.

It is often the transient, line-tow pilots who are less aware of the environmentally sensitive Upper Mississippi than the local fleeting companies. A traveling river biologist program, arranged with the line tow companies, could actually ride a tow boat and point out to the non-resident pilots where environmentally sensitive areas are, and what impact an improperly operated tow boat may have on those areas.

Ecology

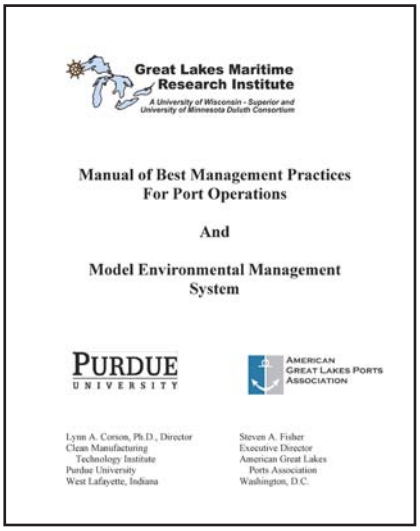
A tremendous amount of information on the historic and existing ecological conditions of the project area is available through the plethora of world-class natural resource and educational institutions actively managing, studying and working in the region. These institutions include the US FWS, USACE, United States Geologic Survey, WisDNR, Natural Resource Conservation Service, University of Wisconsin-La Crosse, and others.

Furthermore, much of the will of the public and local governments related to natural resources is reflected in existing federal plans that through the NEPA process are required to incorporate the results of public hearings.

The La Crosse area doesn't need more research and information. Rather, there needs to be more communication. The future health of the resource lies in communicating and coordinating what is known; bridging the gap between resource managers and those living in the community; and through the practical application best management practices on federal, state, county, municipal, and private lands. Recommendations herein therefore reflect this belief and do not replicate recommendations in existing federal plans.

Wisconsin Clean Marinas

The Port of La Crosse Joint Board of Harbor Commissioners should encourage and incentivize all existing and future marinas to be certified as a Wisconsin Clean Marina. The Wisconsin Clean Marina program is managed by University of Wisconsin Sea Grant Institute and provides best management practices for nonpoint source pollution related to marinas and boatyards. It includes best management practices related to siting new and expanded marinas,



design and maintenance, stormwater management, vessel maintenance and repair, petroleum control, handling sewage, waste disposal and laws and regulations. In June 2011, the City of La Crosse Park and Recreation Department implemented the Wisconsin Clean Marina Program for municipal boat landings, American Marine, and Pettibone Boat Club.

Port Operation Best Management Practices

The Port of La Crosse Joint Board of Harbor Commissioners should encourage and incentivize all existing and future port operators to adopt best management practices. The *Manual of Best Management Practices for Port Operations and Model Environmental Management System*[4] describes specific best management practices for specific port operations including: dry bulk storage and operation, liquid bulk storage and transfer, non-bulk chemical storage and handling, diesel-powered handling equipment, fueling, oversight of tenant activities, management of hazardous and non-hazardous waste, general operations, and buildings and grounds maintenance.

In particular, the best management practices should be applied to:

- Storage and Transfer of Chemicals – Midwest Industrial Asphalt
- Cargo Handling – Powered by Diesel Engines: Hanke Terminals, F.J. Robers, Division Street Dock
- Fueling and General Operations – all port facilities

Best management practices have been adopted by the City of La Crosse Parks & Recreation department as of June 2011.

Communicate with Resource Managers

The Port of La Crosse Joint Board of Harbor Commissioners should meet regularly (perhaps quarterly) with USACE, US FWS, United States Geological Service, and WisDNR resource managers to keep everyone in the loop as to opportunities, constraints, and other issues.

Manage Human and Pet Waste

People with boat homes, houseboats, and their pets using the river to deposit waste is a growing source of fecal coliform in the river. Riverfront municipalities should manage this waste through education and more toilet facilities. The Joint Board should encourage additional toilet facilities that are accessible by recreational users and boaters.

Support the Environmental Work of Others

The Joint Board should support the existing and excellent work of the natural resource agencies, institutions, and municipalities.

Naturalize Shoreline Treatments
All waterfront municipalities should encourage landowners to protect eroding shorelines using native plants and bioengineering to the extent practical on a moving river with water level fluctuations. Improvements should provide habitat, water quality, and aesthetic benefits in addition to shoreline protection.

Reduce Nonpoint Source Pollution
The Mississippi River's tributaries discharge a tremendous amount of sediment and nonpoint source pollutants into Pools 7 and 8. These pollutants degrade habitat and result in costly restoration and dredging activities. The source of this sediment is primarily agricultural land uses, non-stabilized construction sites and urban runoff. La Crosse County and other municipalities should implement watershed management plans to identify sources of sediment and non-point source pollution, accompanied by regulations, policies, education, and on-the-ground best management practices designed to keep soil on the land and out of the water. The County and other municipalities should also aggressively enforce existing stormwater management regulations.

Educate the Public and Local Officials
Local residents do not appear to have a very good understanding of how land uses within the watersheds of Pools 7 and 8 affect the ecological health of Pools 7 and 8. There is a tremendous opportunity to educate the public and local officials on how to protect and restore the ecological health of the Mississippi River resource, perhaps at the new US FWS facility at Brice Prairie. The Joint Board should support the efforts of resource managers to educate the public.

4. *Manual of Best Management Practices for Port Operations and Model Environmental Management System.* Lynn A. Corson, Purdue University, and Steven A. Fisher, American Great Lakes Ports Association. Great Lakes Maritime Research Institute, 2008.

Multimodal Mobility

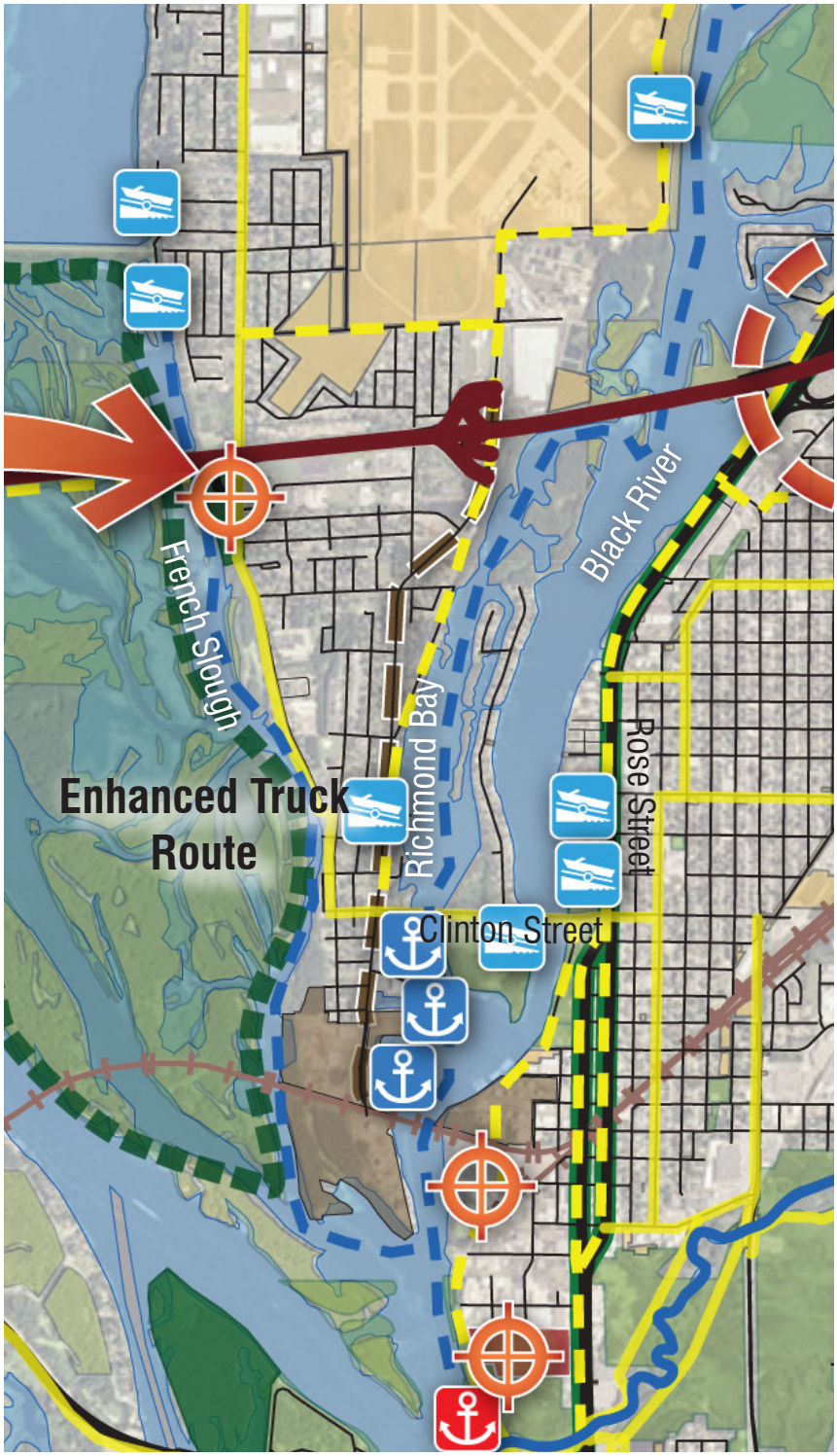
Connecting the La Crosse area communities with their waterfront is a core goal behind the waterfront plan. Access and connections to the river help remind people that they are living on a river, and will foster good environmental stewardship.

Roads and trails are the backbone of a community, around which land uses develop. The waterfront transportation infrastructure has significant impacts, including both providing and denying access to the water. Road improvements should increase access and respect environmental resources.

WisDOT and MnDOT have adopted "complete streets" policies, directing that all road improvements should provide for those driving, biking, and walking. The Joint Board should coordinate with WisDOT and local municipalities to ensure that all waterfront road projects provide for all modes.

Truck Route on Bainbridge Street to Interstate 90

The strength of port facilities is their multimodal transportation connections, so the road connections to existing port facilities must be maintained and strengthened. The concentration of port facilities on the south end of French Island now access the interstate system via the Bainbridge Street/Dawson Avenue truck route. The majority of this truck route is lined with single family homes, which has not yet created traffic conflict. The Port of La Crosse Joint Board of Harbor



Commissioners should coordinate with the Town of Campbell and the County to maintain this truck route, ensuring that the route continues to allow efficient truck movement, and either accommodating the needs of adjacent residents or transitioning the land uses to commercial.

Interstate 90 Bridge and Interchanges

Through multiple phases and projects, WisDOT and MnDOT are planning a reconstruction of Interstate 90 and its interchanges in the La Crosse region.

Mississippi River Crossing

Interstate 90 is one of only two existing links across the Mississippi River in La Crosse County. The USH 14/61 bridges allow bicyclists, but the interstate bridge is limited to only vehicles. The Mississippi River Trail runs along both banks and another connection between the parallel trail segments is needed.

The Dresbach bridge will be reconstructed because it is nearing the end of its useful life Construction will begin in 2012 and will conclude in 2015. When the Interstate 90 bridge is redesigned and reconstructed, the corridor should allow for multimodal circulation. For safety, bicycles and pedestrians should not be mixed with high-speed vehicular traffic, but a multimodal trail could be included in the bridge design along the main deck.

There are few crossings of the Mississippi River in the national interstate system, so these bridges should match the power and majesty

Pedestrian/bicycle facilities incorporated into new bridge construction and conncting trails. (Source: Hudson, WI http://www.johnweeks.com/bridges/pages/sc02.html)

of the river. The Dresbach bridge crossing should be iconic, enabling dramatic views of the river corridor for those in vehicles, those biking, and those walking across the river.

The new interstate bridge is an enormous infrastructure investment that will not be significantly rebuilt for multiple generations. If a multimodal trail cannot be incorporated into the bridge construction due to funding limitations, then at least the bridge design should not preclude the later addition of a multimodal trail to the bridge in the coming decades.

Dawson Avenue Interchange
The Dawson Avenue interchange will be reconstructed as part of pavement replacement project in 2015. Should the interchange be redesigned, it should maintain safe multimodal circulation, accommodating all types of traffic. Trucks from the French Island port facilities should safely and easily access the interstate and be able to efficiently travel both east and west on the interstate. In addition, the interchange should accommodate trucks and passenger vehicles to the airport should this mode be more important in the Port of La Crosse multimodal port.

A north-south bicycle trail should be constructed in the corridor to connect Fisherman's Road river access points with the French Island bicycle route/trail network. The trail can either be incorporated in the interchange project or built in an adjacent parallel corridor such as along the Black River waterfront.

Highway 35 Interchange
The Highway 35 interchange will be completely redesigned and reconstructed in two phases in 2014 and 2015. It is the first access from the interstate to the Cities of La Crosse and Onalaska so it must provide easy access to businesses on the north and south sides of the interchange. Signage should point travelers to the Welcome and Tourism Center on the Onalaska waterfront.

The bicycle networks of the Cities of La Crosse and Onalaska should be well connected and integrated. There should be multiple crossings over the Interstate 90 corridor. A bike ride from downtown La Crosse to downtown Onalaska should be direct, safe, and easy with frequent views of the river.

The Highway 35 interchange area does not safely allow bicycle and pedestrian passage through the interchange, despite that this area is a critical connection point for north-south multimodal trails. The reconstructed interchange should provide a safe and enjoyable path that connects the bicycle networks of La Crosse and Onalaska and to the a Mississippi River crossing. The trail connection should be close to the river and could route along a pile-supported boardwalk along the Black River under the vehicular bridges.

The Interstate 90 corridor should be as porous as possible for bicyclists and pedestrians so the Joint Board of Commissioners should also support the City of La Crosse's efforts to construct a bridge over the railroad to connect Salem Road and Enterprise Avenue, enabling a connection to the Great River State Trail path under the interstate.

Great River Road

The Great River Road parallels the Mississippi River, routed on a variety of types of local roads. It is the signed route for regional tourists so the streetscape and adjacent development patterns and design should highlight the best qualities of the La Crosse area quality of life.

In each municipality that the Great River Road passes through, the municipality should:

- Install landscaping, predominantly street trees, coordinated lighting and other streetscape elements in conjunction with public street reconstruction.
- Remove, relocate, or bury power lines to the extent possible, in conjunction with street reconstruction or major private development.
- Require parking lot screening on commercial properties abutting major roadway corridors.
- Develop and enforce sign design standards and work to remove (via amortization plan) or limit the location and proliferation of off-premise signs, including the purchase and removal of billboards.
- Encourage better and more intensive land use, improved urban design and better land site access management.

Nearly the entire length of the Great River Road in La Crosse County is not bicycle-friendly, forcing

recreational cyclists to use parallel bike trails/routes. The Great River Road should welcome tourists and residents using all modes, so as segments of the Great River Road are reconstructed, bicycle and pedestrian should be safely accommodated.

North of downtown La Crosse, the City's trail network should connect the La Crosse River and the Great River Trail along the waterfront. The bicycle and pedestrian facility and urban design recommendations of the Highway 53 Corridor Enhancement Plan should be implemented as the road is improved. The corridor enhancement plan routes bicyclists on an existing parallel bicycle route on Avon Street and Liberty Street, but this route is inside the residential neighborhood and blocks from the river.

In addition to this residential route, the corridor should have a multimodal route/trail along the Black River between the La Crosse River and the Great River Trail in Onalaska. This connection should be routed along the waterfront where possible and pass through Copeland Park. It could utilize Copeland and Rose Street bicycle lanes and should pass under the reconstructed Highway 35/Interstate 90 interchange. The bicycle route should safely pass through or by the port facilities and other industrial parcels. (As recommended elsewhere in this plan, the North La Crosse waterfront industrial land uses should be preserved, contrary to the Highway 53 Corridor Enhancement Plan.)

South of downtown La Crosse, the City should provide safe multimodal facilities along South Avenue that connect Green Bay Street and the East Avenue bicycle route as close to the river as possible.

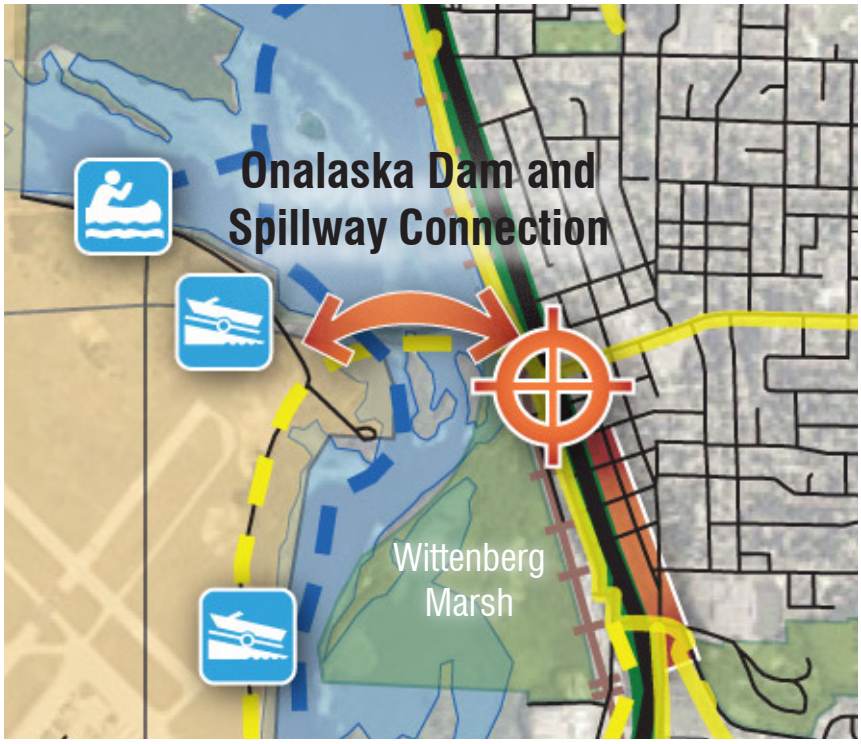
Further south, the City of La Crosse, the Town of Shelby, and WisDOT should implement the urban design recommendations from the South La Crosse Transportation Study. However, these partners should consider a separate bicycle route or trail along Mormon Coulee Road to Goose Island County Park than what is recommended in the transportation study. The needs of recreational and commuter bicyclists are greater than can be accommodated with just a wide 14-foot outside travel lane.

In 2011, the City of La Crosse will update its pedestrian and bicycle plan. The citywide plan should seek to provide safe bicycle facilities the entire Great River Road as well as establish a continuous waterfront bicycle path.

Connect Onalaska and French Island Trails near Spillway

Although the Black River access points on Fisherman's Road on French Island are near downtown Onalaska, they are inaccessible. The Fisherman's Road open space amenities can only be reached through a long, circuitous drive through the Town of Campbell and around the airport. The feeling of remoteness encourages illegal activities along Fisherman's Road.

A bridge in the vicinity of the Onalaska spillway would connect



Bridges of various engineering designs and costs can effectively connect Onalaska neighborhoods with French Island's river access points.

Fisherman's Road and the Town of Campbell with the improving regional attraction of the Onalaska waterfront. The increased likelihood of increased activity on Fisherman's Road will bring more "eyes" and surveillance to this remote area. A bridge near the spillway would link the Town of Campbell and Fisherman's Road open spaces and water access points to Onalaska neighborhoods and downtown redevelopment.

A wide range of bridge types could connect either side of the spillway, as indicated on this page. USACE has indicated that no changes to the existing spillway facility will be supported unless the project improves navigation. An accessible bridge connecting Onalaska and Fisherman's Road will shift people from the unsafe crossing on top of the existing spillway, thus reducing the safety risk associated with this "attractive nuisance."

The beach access, trails, and spillway portage along Fisherman's Road should be improved, perhaps as part of a bird-watching trail.

Riverside Park Trail Extensions North and South

The existing and highly popular Riverside Park trails should be extended north and south along the waterfront to link this open space asset and its regional trail connection to waterfront neighborhoods and redevelopment sites. These trail connections extend the reasonable walking distance from Riverside Park and its adjacent commercial uses.

Riverside Park Walking Trail Extensions
Extend the Riverside Park trail network north to Mobil and south to Isle La Plume (paths shown in yellow)

A trail should extend north into and through the Mobil site redevelopment. The trail should cross the La Crosse River on a non-vehicular bridge and route along the Black River, continuing north through the industrial land uses. (See Mobil site redevelopment recommendations.)

The Riverside Park trails should continue south to the redeveloped Isle La Plume. The path should remain as close the river as practical. Where necessary, the trails should shift to one block inland, at least in the short-term. The City of La Crosse should seek long-term access easements as waterfront sites are redeveloped. As the Division Street Dock is redeveloped, possibly into the recommended transient marina or dry storage site, a public access easement should be required. Those walking and biking from Riverside Park will cross the existing pedestrian bridge at the end of Market Street to access Houska Park and other recreational redevelopment on Isle La Plume. The new pedestrian and bicycle bridge from Isle La Plume to Cook Street over Isle La Plume Slough connects further to existing and planned trails around the Gundersen Lutheran campus (see redevelopment opportunities section).

Other Bicycle Connections

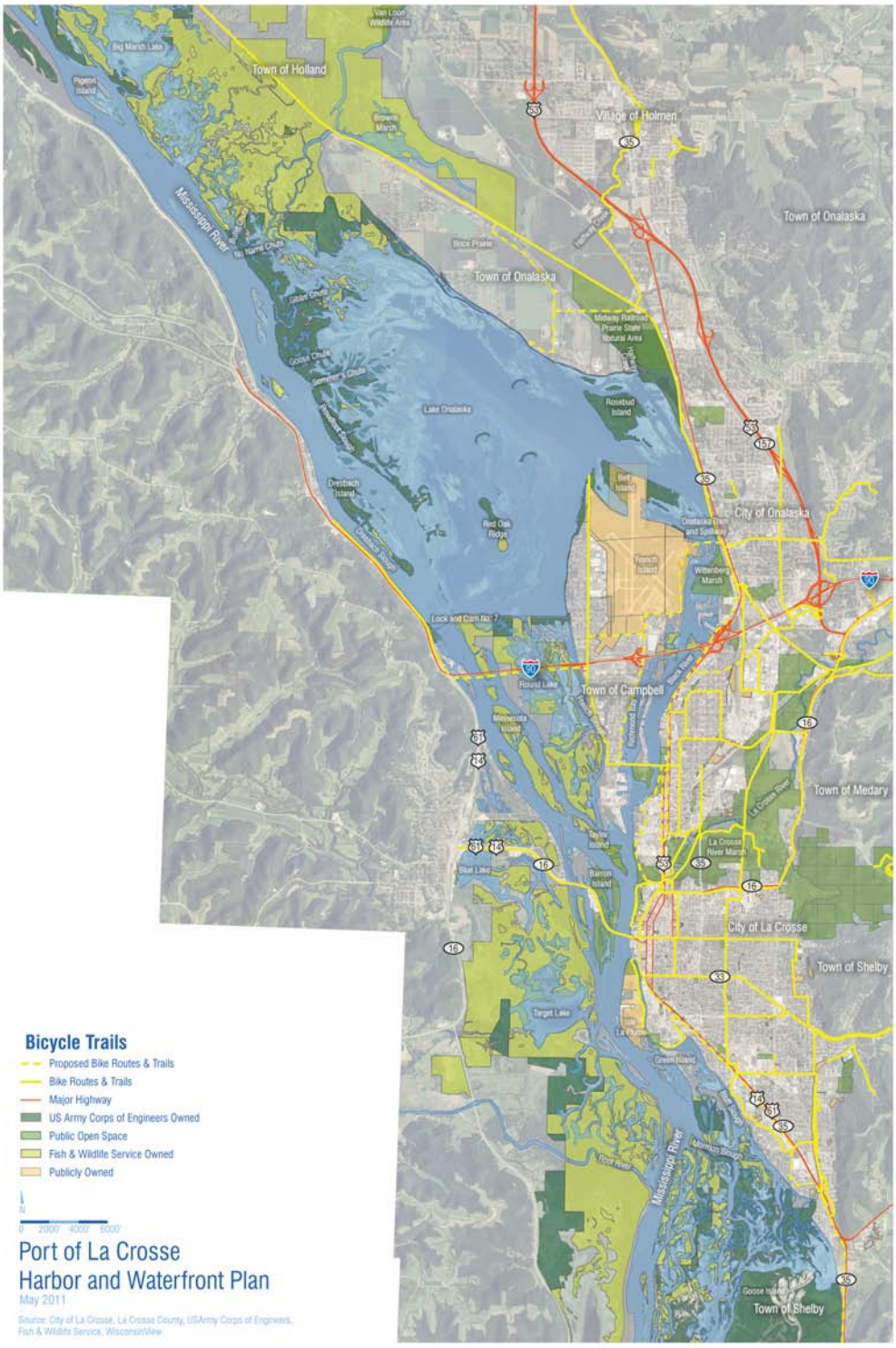
Beyond the Great River Road bicycle routes/trails and trails within walking distance of Riverside Park described in the previous sections, multimodal connections should extend along the entire La Crosse County waterfront. Many waterfront trails already exist and new some connections are needed.

As a multi-jurisdictional and regional body, the Port of La Crosse Joint Board of Harbor Commissioners should encourage, support, and enable the construction of dense bicycle networks along the waterfront and ensure they connect across municipal lines.

On French Island in the Town of Campbell, existing bicycle routes on Clinton Street and Lakeshore Drive should be preserved with improvements to safety when opportunities arise. The bicycle network should be expanded to designate Bainbridge Street north of Clinton Street as a bike route, potentially using La Fond Avenue and new bayfront trail connections created with land redevelopment and the Dawson interchange reconstruction. The route should connect to Fisherman's Road and the recommended pedestrian bridge near the existing spillway. A bicycle route on Fanta Reed Road should connect Fisherman's Road and Lakeshore Drive.

The City of La Crosse's bicycle network should also connect neighborhoods to the river. The City and Gundersen Lutheran Hospital should connect Isle La Plume with South Avenue. The City and hospital should connect Isle La Plume open spaces to the hospital campus using the Cook Street pedestrian bridge to encourage the large employee base and visitors to walk and bike the island's open spaces during breaks. The Joint Board should refer to the City of La Crosse bicycle plan that will be prepared in 2011.

Finally, as recommended on page 109, MnDOT and WisDOT should provide bicycle facility along Interstate 90 and that crosses the Mississippi River, or least engineer the bridge so that a facility can be constructed later.



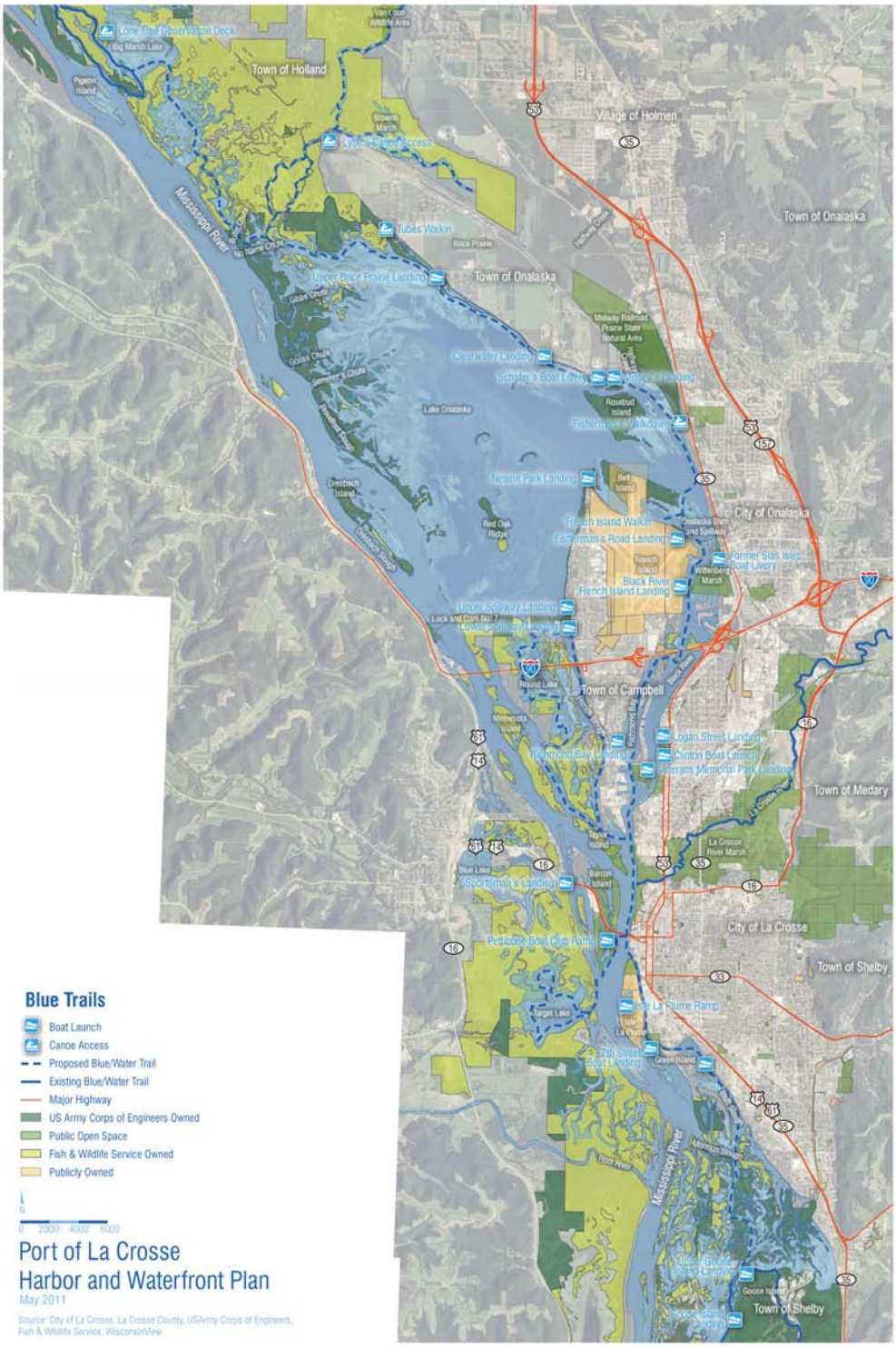
Bicycle network of off-street and on-street facilities will connect all open spaces along the entire waterfront.

Blue Trails

In addition to land-based green trails, a dense blue trail network should connect non-motorized watercraft to the many waterfront open spaces along the Mississippi, Black, and La Crosse Rivers. The blue trail network should extend the entire length of the La Crosse County waterfront, with connections to the La Crosse River blue trail and west to the Minnesota waterfront.

Each segment should connect existing public river access points. These segments are both existing and new and should include:

- Lytle's Canoe Access to the north – New blue trails that will connect to the Van Loon Wildlife Area, the Seven Bridges of McGilvray Road, and Big Marsh Lake
- Lytle's Canoe Access to Mosey's Landing – A blue trail up along Brice Prairie's edge, connecting to the many Brice Prairie boat and foot access points.
- Brice Prairie to Richmond Bay – The blue trail should connect Mosey's Landing to the north and east edges of French Island. A portage using the existing Fisherman's Road boat launches should move canoeists around the Onalaska spillway. The trail could continue along the east edge of French Island through Richmond Bay.
- South French Island to Isle La Plume – The No Wake Zone within the Black River and west of Riverfront Park in the Mississippi River enables a potential connection of blue trails. In a manner to be negotiated with port operators, the Black River blue trail could continue past the French Island port facilities to connect with a canoe landing and/or marina at the redeveloped Mobil site redevelopment and the existing La Crosse River blue trail. The blue trail could pass south through the No Wake Zone west of Riverside Park to Swift Creek. A spur within the Mississippi River will connect to the Municipal Boat Harbor.
- Round Lake – A blue trail system within Round Lake should connect the South Spillway trailhead with the Black River blue trail around the southern tip of French Island. Again, the blue trail path will need to be negotiated with port users.
- Isle La Plume to Goose Island – Using Bluff Slough, Running Slough, and existing but unmarked access routes, the blue trail can extend south to the existing Goose Island blue trails.
- Pettibone Lagoon to the west main channel and Target Lake area is heavily canoed and kayaked. Paddlers should put in at Pettibone canoe and kayak launch at the lagoon's north end.
- Isle La Plume to Barron Island and Minnesota blue trails – Where possible, existing and new blue trails should take advantage of No Wake Zones to connect to blue trails on the west side of the Mississippi River. Safe connections must be negotiated with commercial shipping interests.



Blue trail network will connect existing public landings.

Waterfront Open Space

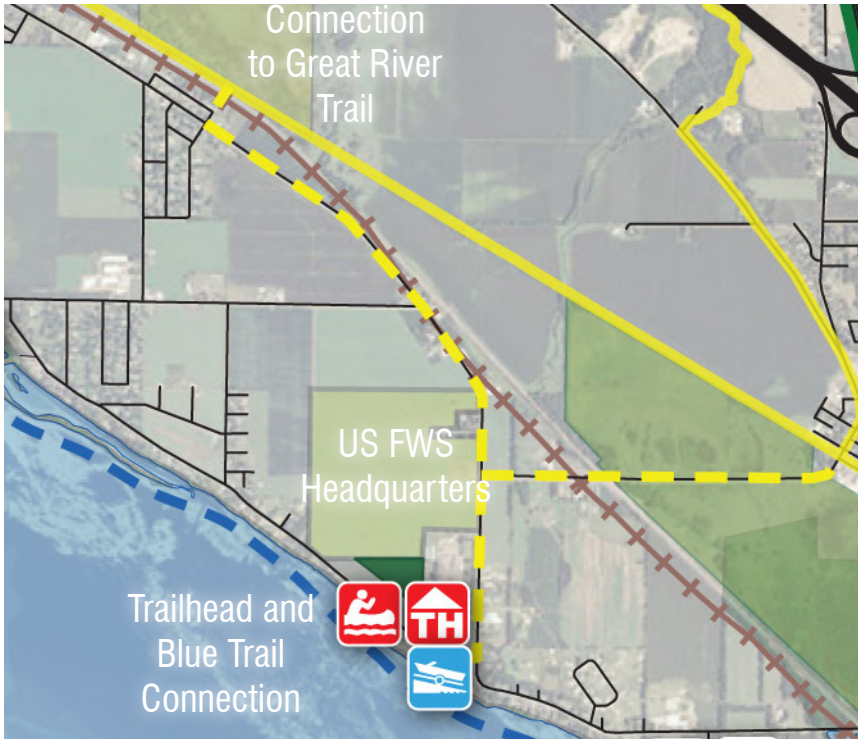
For residents and visitors without access to watercraft, the public open spaces along the Mississippi River and Black River are their best opportunities to connect to these natural resources. This plan maximizes the existing waterfront public parks by connecting them to one another and to residential neighborhoods.

Connect Brice Prairie US FWS Headquarters to Great River Trail and Lake Onalaska

US FWS is investing in the Brice Prairie community by locating its headquarters there. This facility will not only be a center for research but also have a significant public education and outreach role.

The US FWS headquarters should be connected to the region's open space network, and could serve as an area trailhead. The site should be connected to the Great River Trail through bicycle-friendly cross-section design on County Roads Z and ZN and a trail connection at the Oak Grove Family Learning Center, as proposed in the Brice Prairie Master Plan.

The US FWS headquarters' on-site foot trails should be connected to the existing foot access point to Lake Onalaska, and the headquarters site could serve as an area blue trail trailhead.



Wisconsin Welcome Center

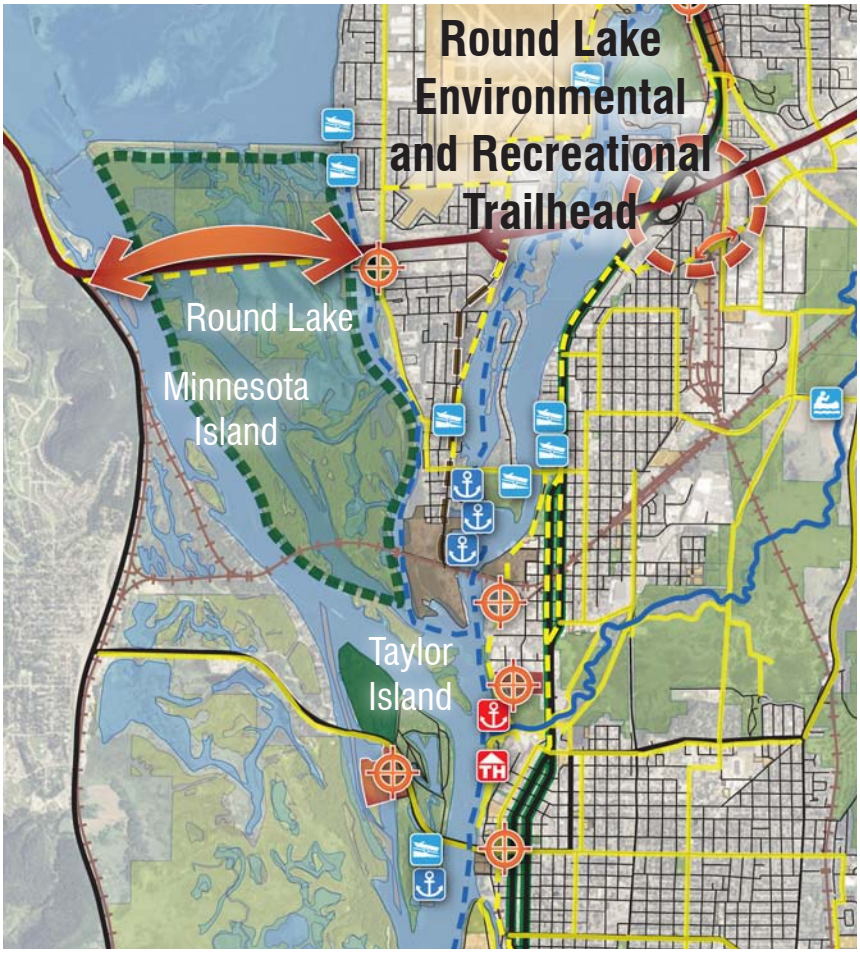
WisDOT will improve the current French Island visitors center. The site, just over nine acres in size, does not meet current guidelines for mixed traffic circulation, truck parking design, building efficiency. WisDOT has recently completed a Environmental Assessment for the roadside facilities from La Crosse to Tomah.

The recommended approach is to upgrade the welcome center and improve access, parking, and aesthetic features. Within the existing parcel, WisDOT plans to:

- Build a modern and larger welcome center building on the west edge of the property overlooking French Slough.
- Provide truck parking (north of the site) and move auto parking toward the middle of the site, close to the new building.
- Add a lane to Interstate 90 to minimize weaving conflicts.

The Wisconsin Department of Tourism withdrew funding for welcome center staff and this function has ended, but the Greater La Crosse Convention and Visitors Bureau intends to reactivate the welcome center function with volunteer staffing.

The La Crosse Area Convention and Visitor's Bureau should remain an active partner with WisDOT as the welcome center is redesigned. The building should enhance views and physical access to French Slough so that visitors associate the La Crosse area with its magnificent waterfront. The Convention and Visitor's Bureau



should work with local environmental resource managers to prepare interpretive signage that explains the environmental resources and history of Round Lake, the river, French Island, and Lock and Dam Number 7. Among major bird populations, Round Lake currently has active eagle nests and a heron rookery, and the site should capitalize bird watching and interpretation opportunities. This general area also continues to be a popular and productive fishing resource.

Round Lake Environmental and Recreational Trailhead

Existing boat access to French Slough and Round Lake is the Lower Spillway Landing, located at the end of Spillway Drive on French Island. The landing has a ramp which accommodates 15-20 vehicles. It is operated by Town of Campbell, under lease from USACE.

The role of this landing should be expanded to a recreation trailhead that provides non-motorized access to Round Lake and its blue trails. A structure could feature green and blue trail information and public outreach education. The recreational trailhead can be coordinated with the existing boat launch south of the lock and dam spillway. It has access from Lake Shore Drive, a Town bicycle route.

Riverside Park Trailhead and Improvements

Riverside Park in downtown La Crosse is a regional open space asset, the site of community celebrations, passive recreation, and an active interchange between downtown and the working waterfront. The park connects to the 21.5 mile La Crosse River State Trail, which connects into the state trail system, linking to the Elroy-Sparta State Trail and the 400 Trail. The park should host a recreational trailhead that describes its hub role in the region's local and state bicycle/pedestrian trails and blue trails.

The historic fish rearing facility at the north end of the park now serves as an interpretive facility.

The La Crosse Parks and Recreation Department intends to improve Riverside Park by replacing the band shell ($600,000) and replacing the water fountain. It also intends to add decorative fencing to the levee area ($80,000). When improvements are made to the levee and shoreline, the City should further study the safety of the riverboat dock wall. Any improvements need to allow for periodic transient boater access and minimize any blocking of the views of the river from inside Riverside Park. Differentiation of the public riverwalk and the city's commercial dock wall need to be clearly signed and identified as two distinctively different elements. Public access should be limited along the dockwall, clearly stating any hazards associated with the edge condition.

City of La Crosse Waterfront Park Improvements

The 2010 City of La Crosse Parks and Recreation Outdoor Strategic Plan identified needed open space improvements for the City's waterfront parks.

- Clinton Boat Launch: Construct a gazebo and a "Liberty Tree" as focal points for the park.
- Copeland Park: Repaint the shelters and replace the open shelter lights ($42,000)
- Veteran's Freedom Park: Construct "Liberty Tree" and other memorials and trails ($28,000).
- Green Island Park: Construct trail connecting VIP trail to City Trail.
- Houska Park: Add benches ($2,700) and improve shoreline ($50,000).

The redesigned Wisconsin Welcome Center and the Round Lake Environmental and Recreational Trailhead should include eagle watching and interpretation opportunities.

Development Opportunities

The La Crosse area waterfront offers a limited number of prominent redevelopment sites that could dramatically change the character and connections along the waterfront. Four of the redevelopment opportunities should be the focus of the Port of La Crosse Joint Board of Harbor Commissioners.

Great River Landing, City of Onalaska

A significant project along the northern reaches of La Crosse County's waterfront is the City of Onalaska's Great River Landing. The City has invested a tremendous level of effort and resources over the past ten years with public improvements, strategically acquiring parcels of land, and creating a holistic waterfront vision.

The project will showcase the region's natural and cultural setting to visitors and local residents alike. The proposed waterfront public access will reconnect the community to the waterfront.

Some of the proposed uses include :

- Archeological collections,
- Scenic Byway visitors center, environmental education areas
- Recreational trails
- Blue trails
- Transient dockage
- Historic interpretation
- Fishing access
- Habitat restoration
- Bird watching

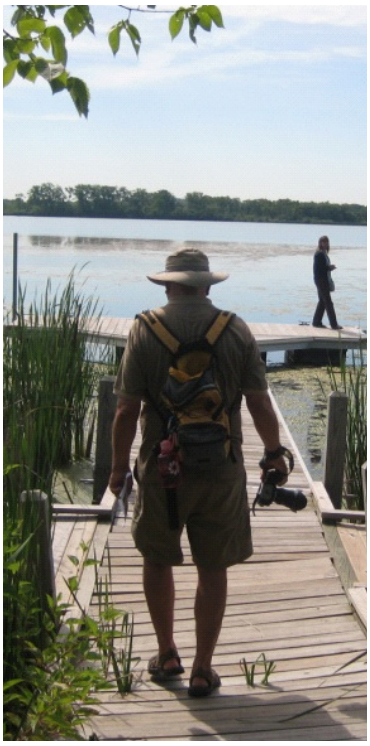
The City has identified additional public improvements and opportunities for private investment. Some component projects and their estimated phasing are:

- STH 35 Reconstruction, 2012
- Onalaska Welcome and Tourist Center, 2013
- Private infill development, 2011
- Onalaska Public Market, 2011
- Wittenberg Marsh Environmental Education Area, 2012
- Waterfront park improvements, 2011-2013
- Boat docking facilities, 2012
- Riverwalk, 2012-13
- Overlooks/fishing access, 2012-2013

While this project is led by the City of Onalaska, it will result in a county-wide destination and with county-wide positive economic impacts. As a scenic byway visitors center, it will attract national and regional visitors.

Its connections to the regional land and water trails will strengthen biking paddling, and activity on Fisherman's Road.

Thus the Joint Board of Harbor Commissioners should support this project and its incremental completion and later promotion.



Mobil Oil Site

Since the closure of the operations of the Mobil Petroleum Tank Farm there have been numerous discussions and efforts to plan the transformation from brownfield to urban redevelopment.

The collective vision to date has been to envision a mixed-use development that capitalizes on public access to the river as well as the environmental assets of the site. Repurposing an existing rail corridor, reclaiming the water's edge for public use, the immediate connection to the La Crosse River corridor, and proximity to the downtown all make it attractive for private investment.

The City of La Crosse has employed a variety of studies to test the future uses of this site. As the environmental cleanup is being monitored, the City is getting closer to being able to formalize the next redevelopment planning initiatives. The next anticipated planning effort in 2012 will solicit the interest of national planning/design firms to utilize an intense and interactive charrette planning process. This comprehensive planning exercise will explore the next level of redevelopment recommendations.

The intent is to better understand what trends and approaches have been successful around the nation in innovative waterfront brownfield redevelopment.

The redevelopment efforts should incorporate the following site parameters and community goals:

The waterfront should promote public access.

- Honor each of the Port of La Crosse Harbor and Waterfront Plan 2011 Guiding Principles,
- Infill redevelopment should be a mix of residential and retail land uses,
- Create an urban edge that engages the Copeland Avenue streetscape,
- Create a sense of a northern gateway to the downtown,
- Incorporate non-vehicular connections to the downtown, including bicycle and pedestrian connections,
- Create a street and block scale with connections to the immediately adjacent areas;
- Establish a public edge and use along the river,
- Continue and connect existing trails,
- Link to the La Crosse River corridor,
- Integrate wetlands and habitat enhancements into the development,
- Respect and interpret archeological elements including the War Eagle,
- Incorporate public overlooks/ fishing access,
- Buffer the industrial use to the north to preserve future port expansion opportunities, and
- Promote sustainable development features.

Given its proximity to downtown La Crosse, the redevelopment site has been assessed as a site for resident and transient marina. The City should seek assistance in determining the market and physical feasibility of the marina on the Mobil site.

The facing page plan demonstrates how the site might be programmed.

Mobil Site Opportunities Diagram
Mixed use redevelopment with three potential marina sites.

Barron Island

Barron Island has had a blend of publicly and privately held land for decades. Historically it seems that traditional public uses such as Civic Park (Pettibone Park), public beach, historic band shell, campground, and marina have been more successful than private commercial ventures.

Private commercial use has been limited to three upland sites with an additional private entity providing marina services along the shoreline of the western slough. Previous private investment has been limited to manufacturing, distribution center, and lodging. The results have been mixed from non-water dependent use to a poorly managed waterfront destination use.

Although they are beautiful, the private sites face a number of challenges for private development. The river's crossing currents, difficult highway access, and distances from downtown La Crosse are conditions that create challenges regarding continued private development.

There is no question that waterfront property is immediately thought of as offering a potentially high value and return. Should private investment be desirable, recent discussions imply that high-end residential uses, boutique lodging, related amenities for residents, and a destination restaurant would have the highest likelihood of success.

Reopening the closed marina will require a significant investment. Existing strong river currents during high water result in a difficult navigation for all but the most experienced recreational boat operators. The current is not an issue at the normal river levels during the boating season, but becomes a problem when levels reach about two feet above normal. The source of these currents is not fully determined. The marina owner and USACE cooperated on a project to restore the upstream closing dam and modify the downstream closing dam several years ago but that has only limited value when the river rises. The West Channel is split around an island across from the marina and more of the flow used to travel the westerly route. Maintenance dredging of the marina and the change in the skew of the upstream highway bridge abutments has changed more flow to the easterly channel, increasing the current. Construction of a new submerged closing dam just upstream of the marina and dredging a pilot channel on the west side of the island have been suggested as a means to reduce current. Alternately, the private landowner could carve a new marina basin into land, but that would increase development costs and decrease already limited developable land. Significant coordination with USACE will be necessary.

Barron Island is close but disconnected from downtown La Crosse

Another consideration is to consolidate the property and create a public/private entity such as a

research institution. This entity could build on working partnerships that exist today and expand to include all river-related public sector groups that have strong research, education, and conservation objectives. These include the UW-La Crosse River Center, US FWS, USACE, WisDNR, and USGS. Complementing the public sector would be opportunities for private investment in science, research, and environmental businesses. This partnership could create the "Woods Hole" of the Upper Mississippi River.

There are similar efforts under way in Dubuque, IA, and Alton, IL, where river related educational/research facilities are underway. Neither of these other efforts have the non-urban waterfront environment, the beauty, intensity, proximity to Chicago, Twin Cities, Rochester, and Madison, or the relationship to quality urban fabric. La Crosse County also has a history of interagency cooperation and programs through the UW-La Crosse River Center as well as all the agencies listed above. While this idea may have first been discussed 25 years ago, recent and current international conferences show that La Crosse region is in a strong position to develop the reputation and interest of a national river research facility on one of the world's greatest rivers.

The economic return of such an institute could equal if not exceed market rate condos or boutique lodging. The research institution would rely on the downtown for lodging, food and beverage, and retail resulting a more positive economic impact. Other economic

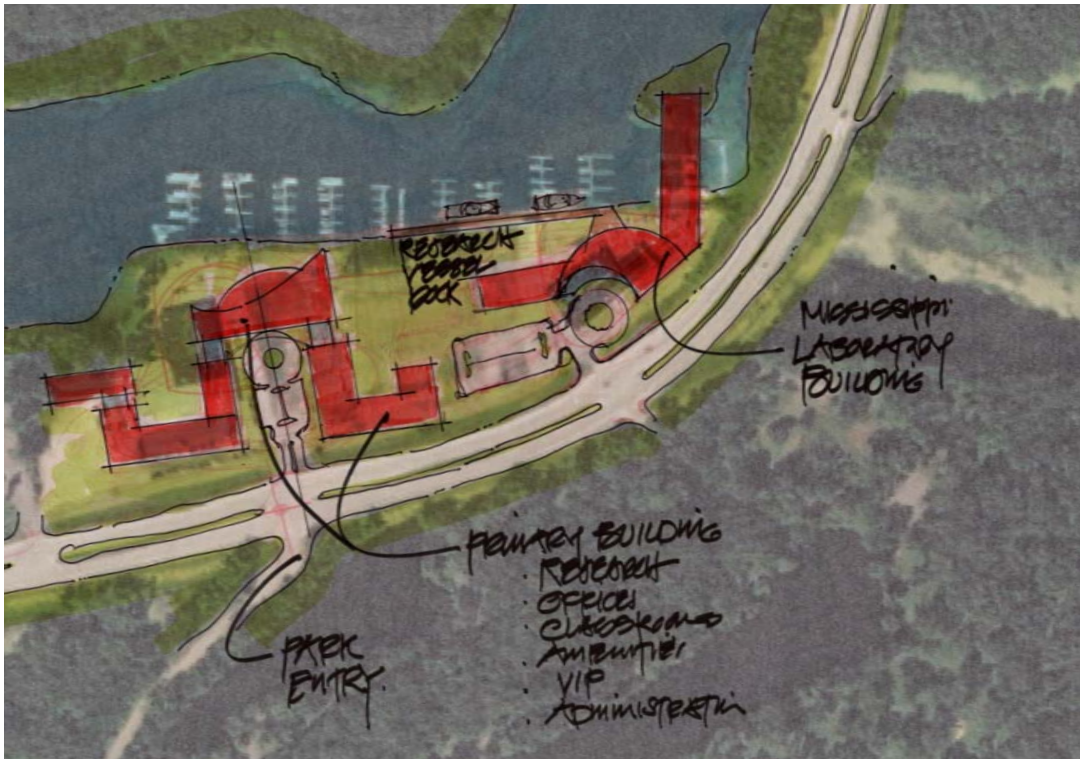
Redevelopment site is surrounded by the Mississippi River and floodplain and wetland areas.

A river research institution would include public education about river habitat.

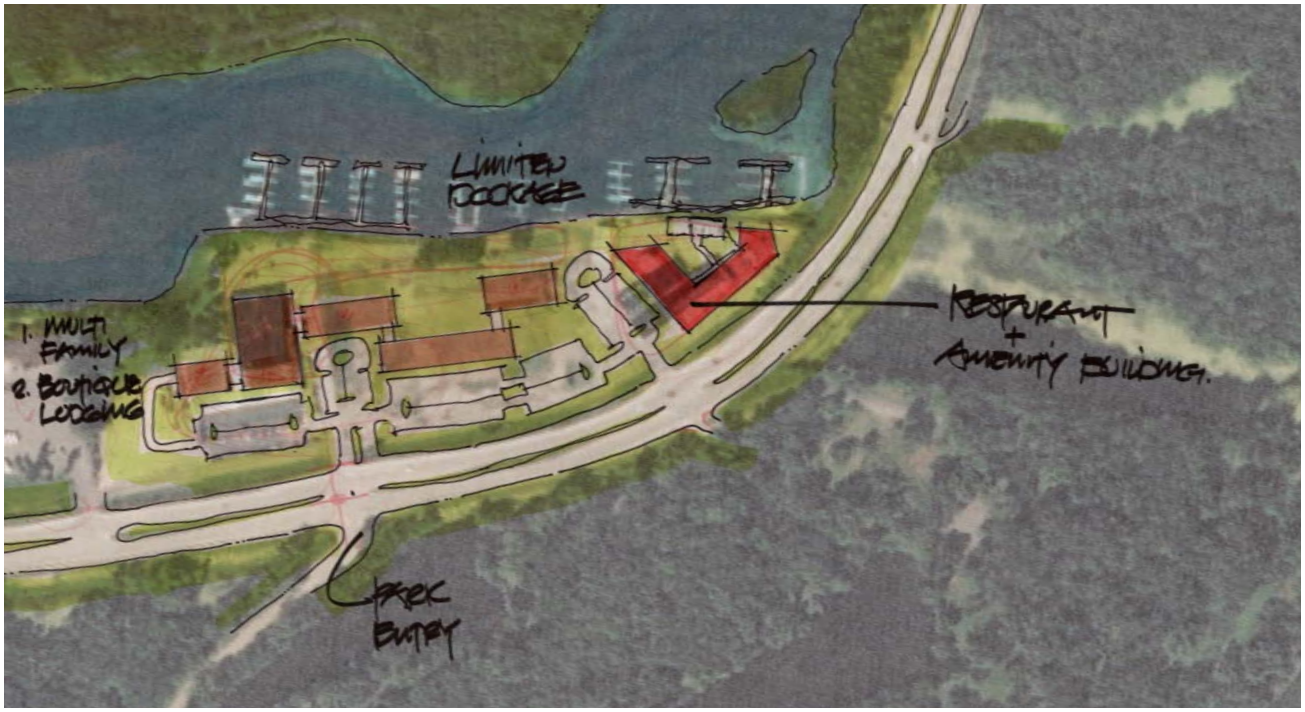
considerations include increasing the current rate of grant monies generating interest for river-oriented businesses, well paying jobs, and employment relocation to La Crosse County, creating spin-off jobs, and retaining the younger educated population.

The plans on the facing page and photos provide images of what the two redevelopment scenarios might look like. One illustration shows potential site utilization of market rate housing and a destination restaurant, while the other depicts a public/private research destination.

Potential Public/Private River Research Building Design



Barron Island Opportunities Diagram – Public/ Private Research Center



Barron Island Opportunities Diagram – Residential and Hotel

Isle la Plume Park and Industry Interpretation Center/Gundersen Triangle

The redevelopment of former port and municipal quasi-industrial lands on Isle La Plume will increase the amount of river-focused open space near downtown as well as extend the river orientation inland to the Gundersen triangle.

Poor for Port Expansion

Rail service is not currently available on Isle La Plume and service extension is not considered a viable option. Rail service via a connection to BNSF, now serving the brewery complex, offers potential service to Isle La Plume. This rail line passes through the Gundersen Lutheran medical campus. The use of this track is limited both in terms of the number of shipments that can pass through and the hours of delivery (only pre-dawn hours of the morning), to avoid disruption to the hospital campus.

Isle La Plume is not recommended for long term port/industrial re-development because of its lack of rail service. Particularly because of the sensitivity of product delivery to climatic conditions, but also due to the volatile cost for shipping, any new enterprise seeking to develop will be attracted only to sites that offer the maximum options for product and raw material shipment.

Isle La Plume offers direct water access and it could be an acceptable site for port-dependent businesses, but only if the raw product were delivered by barge and the end product could be distributed via truck. Not only can the site not offer multiple modes, but additional truck traffic will also impact urban traffic flow and result in a decline in traffic level of service in downtown La Crosse.

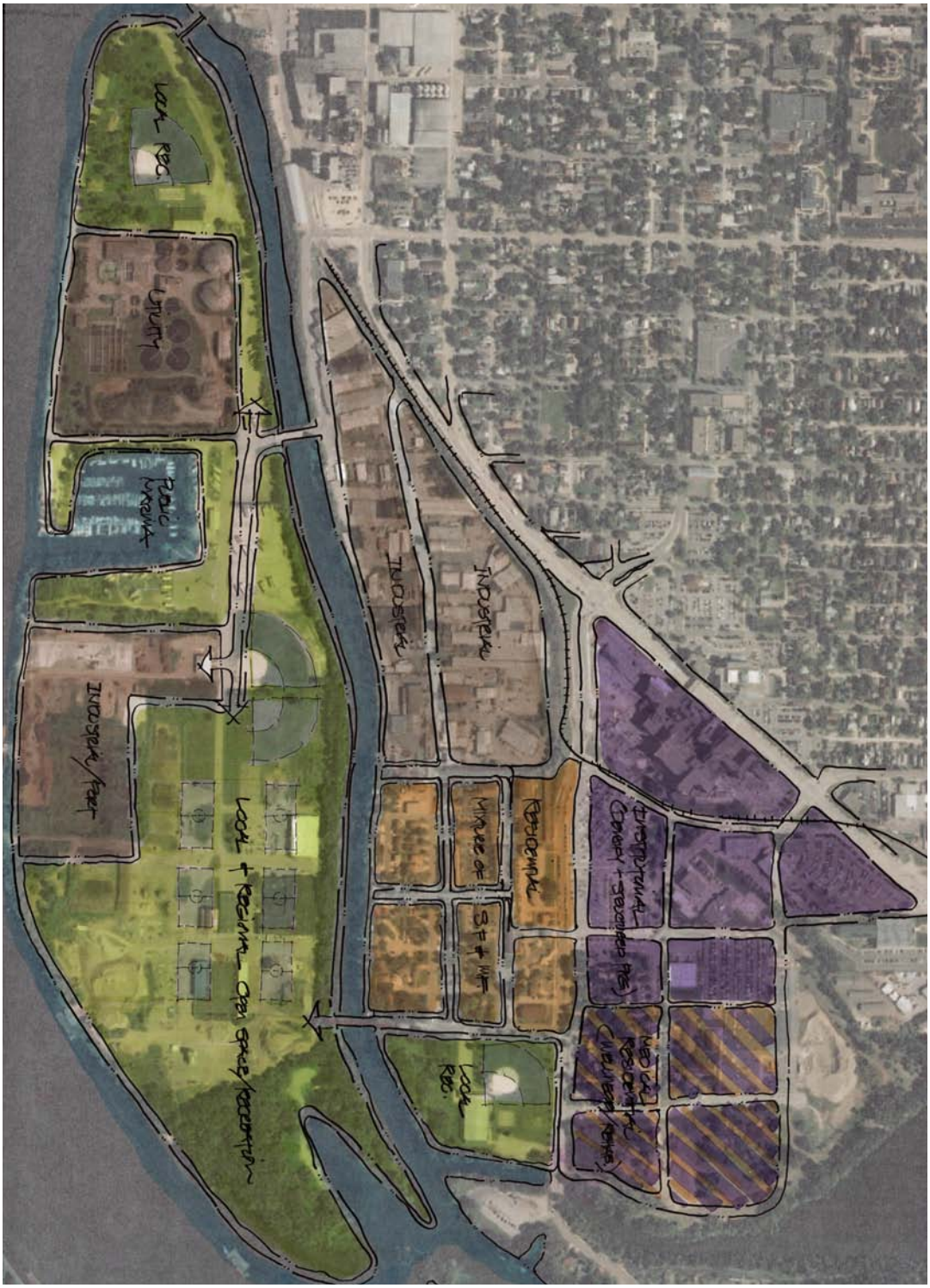
No additional port facilities should be located at Isle La Plume, and existing facilities could be considered for long-term redevelopment. The deep water fleeting moorage must be maintained, and any redevelopment should be compatible with it.

In addition, consolidating port and industrial activities makes it easier and less expensive to implement and monitor best management practices and reduces the environmental footprint of port and industrial activities. Consolidating port facilities from Isle La Plume to French Island would ease the implementation and monitoring of best management practices.

Isle La Plume Redevelopment

There is current private port activity but this holding does not appear to require any expansion. There is barge fleeting activity that occurs along the island as well as across the river. There is no reason that these activities cannot continue.

However, the majority of land on Isle La Plume is in public ownership of some form. Much of this public land is recreational – athletic fields, passive



Isle La Plume/ Gundersen Triangle Opportunities Diagram
Regional and connected waterfront open space could be a catalyst for larger redevelopment and infill. The illustration to the left is an example of how redevelopment can reconnect residents and business to the waterfront.

open space, fishing, paths, trails, and two pedestrian bridges connecting the island to the mainland. There is also the municipal recreational marina and boat harbor which has the opportunity to expand both water- and land-based facilities.

Yet the remaining publicly owned land is occupied for non-water dependent use, such as: Yard Waste, Police Impound Inside/Outside Storage, Salt Barn, Cold Equipment Storage, Main Maintenance Shop, Fuel Pump, Bus Barn, Fire Department Training Tower, Utility Staging, and other various storage facilities. These uses are not water dependent; the quasi-industrial uses were located on Isle La Plume not because of its waterfront location, but because the land was available and has land use restrictions as a former landfill site.

[During the process of adopting the plan, the City deleted the references to relocating the Municipal Service Center functions from Isle La Plume as it was not a feasible action during the planning horizon of this plan. The County also deleted the same three paragraphs.]

The City of La Crosse should develop an Isle La Plume park master plan. This plan should consider a program of local and regional recreational facilities. The park master plan should provide space for the Municipal Boat Harbor to adjust its slip mix to larger vessel types, increase parking, and provide additional land-based amenities such as rest rooms/showers.

The private port facility and fleeting should be allowed to continue and


Marjorie Pirz, Landscape Architect

respond as the market fluctuates. The island's educational interpretation program should include the story of La Crosse's working waterfront and use the fleeting and port activity as a living teaching tool.

Gundersen Triangle

Isle La Plume's open space resources would serve the downtown, the immediate residential neighborhoods, and the Gundersen Hospital campus.

A park facility of this nature would provide huge catalytic impact. Gundersen Hospital is the region's largest private employer and it attracts many local, regional, and national visitors to its campus. The Isle La Plume redevelopment into open spaces would spur a reconsideration of the entire Gundersen campus and adjacent areas. Gundersen would gain an identity as a waterfront campus with direct access to waterfront recreation and views, reinforcing the La Crosse waterfront focus on this critical site. It would also increase investment and property values.

Through a campus master plan, Gundersen could densify its campus and transform surface lots to parking decks and occupied buildings. The remaining Gundersen holdings to the south should consider medical-related residential development. This could support rehabilitation facilities, assisted and independent living, resident/intern housing, and housing for students engaged in fulfilling clinical studies.

The existing recreational trail system would connect to Isle La Plume the regional trail network, making the Gundersen campus a hub for a community wellness program and rehabilitation.

Between Gundersen and Isle La Plume, the additional waterfront recreational uses would maintain then increase residential values of those living east of Swift Creek. It would offer an amenity base that would encourage an increase in development of residential density.

The current light industrial land uses west of the rail line could remain as such. As recommended elsewhere in this plan, the active rail line should remain in place, providing rail access to the brewery and potentially the Division Street Dock.

The strength of the new waterfront campus identity is the hospital's connections to the river and open space, as well as regional access into the campus. Gundersen and the City of La Crosse should retain many local street connections and connect existing bike trails to the regional network. As Gundersen plans infill, the campus should recreate the smaller street block patterns and eliminate large surface lots, thus creating a very definable neighborhood district.

The exhibit on page 133 demonstrates how a finer grain neighborhood fabric could redefine the Gundersen neighborhood without compromising its potential build out.

Recognize the Port of La Crosse Joint Board of Harbor Commissioners as the Local Surface Water Use Authority

The Joint Board should be active in land use decisions beyond these four key redevelopment sites.

Land use decisions cannot be made in a vacuum ignoring the impact of that decision on other land. Land use decisions which adversely, or positively, impact waterfront use are a legitimate concern of the Port of La Crosse Joint Board of Harbor Commissioners.

The Joint Board should be included as a review and advisory agency on all land use recommendations and decisions on all land having actual water frontage, and as an approval capacity on land use decisions which may impact commercial harbor use or marina and boat ramp use. This review should occur in all waterfront La Crosse County municipalities, and the Port of La Crosse Joint Board of Harbor Commissioners should seek to coordinate and unify the port and waterfront activities of each municipality.

Action Plan

The recommended projects described in the previous chapter represent a long-term vision for the port and waterfront. These initiatives will not all be led by Port of La Crosse Joint Board of Harbor Commissioners, but the Joint Board should support and coordinate the efforts of its implementation partners.

Role of the Joint Board

The port and waterfront are important sources of economic well-being for the La Crosse area. In order to maintain the value and vitality of these important assets, the Port of La Crosse Joint Board of Harbor Commissioners should work with the City of La Crosse, La Crosse County, and other waterfront municipalities to undertake these recommendations:

The role of the Joint Board and its staff will vary depending on the nature of the project and the availability of a project partner, and funding opportunities. As the only agency that focuses on the working and recreational roles of the entire La Crosse County waterfront across jurisdictions, it is the Joint Board's role to lead multi-jurisdictional efforts and balance the needs of the port with recreational and environmental efforts.

Beyond coordination with local, state, and federal agencies, the Joint Board's role is communication and coordination with the area's private organizations, connecting the municipal and La Crosse County efforts with the Chamber, LADCO, recreational groups, hunting and fishing groups, and other private organizations.

The opportunities for the La Crosse port and waterfront are significant, but so are the challenges. The Joint Board is now staffed by a part time person that alternates between the City of La Crosse and La Crosse County.

To successfully lead and implement the recommended projects within this plan, the Joint Board will require more dedicated and significant staff support. The Joint Board should study its ability to support an expansion of its staff capacity. The Joint Board staff must be well-rounded in port and waterfront issues and be able to simultaneously support and balance competing interests. The Joint Board staff would need to:

- Coordinate among and maintain the loose confederation of private businesses and public landlords that make up the Port of La Crosse.
- Develop a revenue generation mission and a consolidated market and facility growth strategy for the port. Existing Wisconsin port authorities in Green Bay (county government) and Milwaukee (city government) can serve as models.
- Advise local governments about land use issues, such as all waterfront land use decisions, and the balance and protection of public open spaces and private industrial land uses.
- Advise local governments about existing and new No Wake Zones.
- Lead educational efforts about the port's economic impact, boating safety, and water use conflicts
- Aggressively market the port, working with existing economic development organizations.
- Track and apply for grants and other funding for port and waterfront facilities.
- Coordinate among all waterfront municipalities regarding their own

Table 11: Projects that the Joint Board will Lead

Project	Short Description	Implementation Partners
A. Implement the Plan and Duties	Define requirement to implement the plan	
B. Explore Staffing	Flesh out job description, salary, and funding sources	
C. Implement a Recreational Boating Safety Education Program	Expand and strengthen recreational boating safety education	U.S. Coast Guard Auxiliary, the USACE, US FWS, WisDNR
D. Promote/Incentivize Wisconsin Clean Marinas	Encourage existing that have not implemented this program and future marinas to adopt and implement clean marina standards, and include such land use language in lease renewals.	Marina operators, City of La Crosse Parks and Recreation
E. Promote/Incentivize Port Operations Best Management Practices	Encourage existing and future port operations to adopt and implement best management practices	Port operators, City of La Crosse Engineering
Expand Backland for Midwest Industrial Asphalt	Assist Midwest Industrial Asphalt in coordinating with adjacent property owners to enable backland expansion. If unsuccessful, assist in new site search.	LADCO, BWP
Protect/prepare Mid City Industrial Area for future port expansion	Maintain industrial zoning and potential for port uses on site. Coordinate parcel consolidation when possible.	LADCO, City of La Crosse not including Viner wetlands
Expand Harold E. Craig fleeting	Preserve and extend fleeting area south with the installation of additional mooring tripod and shoreline erosion protection to receive three more barges	State of Minnesota, La Crosse County, Town of La Crescent, Wisconsin DOT
Expand Xcel Energy French Slough for fleeting	Install a berth head cell and a system of mooring tripods to accommodate nine barge slips; dredge as required to accommodate fully laden barges	Xcel, DNR
Downtown La Crosse Transient Marina	Update market demand study to include location for transit marina	City of La Crosse Parks and Recreation
Construct Division Street Marina and Dry Stack Storage	Investigate the market and physical feasibility of a marina and/or dry stack storage and seasonal transient storage	Holcim, First Supply, City of La Crosse Parks and Recreation, DNR
Improve Municipal Boat Harbor	Investigate improvements to adjust slip mix to larger vessel types and should increase parking and other amenities	City of La Crosse Parks & Recreation

planning for land uses, recreation, and economic development.
- Coordinate among existing water-oriented non-profits and community organizations, and support the creation of additional non-profits as deemed necessary (such as "Friends of the Waterfront").

As redevelopment momentum and enthusiasm for the waterfront builds, the Joint Board may consider broadening the implementation effort beyond its staff. The Joint Board could sponsor and support a non-profit dedicated to the development of the La Crosse waterfront. There are many examples in the Midwest, including River Action (Quad Cities), Detroit River Conservancy, and the Riverfront Development Corporation (St. Paul).

The projects that the Joint Board will lead are those directly related to port facilities and recreational boating. These projects are listed in Table 11.

Role of Project Partners

A mix of public and private agencies and organizations, business and property owners, and neighborhood residents will implement many of the recommendations of this plan over a period of many years. Implementation of the Harbor and Waterfront Plan will require coordination and cooperation between the Joint Board and the City of La Crosse, La Crosse County, other waterfront municipalities, the state and federal governments, non-profits, and the private sector.

Projects that will be led by others than the Joint Board are listed in Table 12.

City of La Crosse and La Crosse County

In order to move forward successfully with the phased implementation of this plan's recommendations, it will be critical for the City of La Crosse and La Crosse County to adopt the Harbor and Waterfront Plan into its planning framework. Formal adoption by the City and County will accomplish several important objectives:

- Provide a clear road map to public sector agencies that offers guidance on how public investments should be made along the waterfront.
- Provide vision and certainty to private sector landowners regarding likely future conditions along the waterfront.
- Strengthen the standing of the plan's recommendations and thereby improve the ability to attract outside financial resources.

Achieving the above objectives will be necessary to maximize the long term economic, environmental, and recreational value to the local community.

In addition, the City's and County's roles in implementing recommendations of the plan include:

- Constructing improvements within publicly-owned land along the river and in public street right-of-way.
- Regulating the type and quality of development through design guidelines and regulations.
- Coordinating activities of municipal, county, state and federal agencies.
- Applying to state and federal agencies for grants and loans to implement projects.
- Providing financial assistance on key redevelopment sites to stimulate private sector investment.

Coordination with local municipalities is critical. For example, all land within 300 feet of a river or creek and within 1,000 feet of a lake is subject to the County's shoreland zoning regulations, including land dredging, filling, grading, subdivision of land, trails, parks, roads, utilities and removal of shoreland cover.

State of Wisconsin and Federal Government

The Mississippi River is a state and national resource, and state and federal agencies will continue to implement their own resource plans

Table 12: Projects that Others will Lead

Project	Implementation Lead	Joint Board Role
Pools 7 and 8 Recreational Boating Survey	WI-DNR, US FWS	Encourage additional institutional participation in regular, long-term survey
Water Use Conflict Education Program	US FWS, USACE, WI-DNR	Organize and host outreach "open houses" and traveling river biologist programs
Bainbridge Avenue truck route	Town of Campbell	Encourage maintenance of truck route
Mississippi River multimodal crossing I-90 Corridor	Wisconsin Department of Transportation, Minnesota Department of Transportation, Federal Highway Administration	Encourage inclusion of multiple modes in design of new Interstate 90 river crossings. At minimum, encourage design that will allow multimodal facilities in the future.
Dawson Avenue (CTH B) Interchange	Wisconsin Department of Transportation	Ensure safe and convenient truck access south to port and north to airport
US 53 / STH 35 Interchage	Wisconsin Department of Transportation	Encourage wayfinding and multimodal trail connections
Great River Road	Local municipal planning and public works, Wisconsin Department of Transportation, WI-MN RPC	Encourage improved aesthetics, infill development, connected trail network
Connect Onalaska and French Island Near Spillway	USACE, City of Onalaska, Town of Campbell	Encourage trail connection
Riverside Park Trail Extensions North & South	City of La Crosse Parks and Recreation	Encourage trail extensions
Other Bicycle Network Connections	Local municipal parks and recreation, Bike & Pedestrian Plan 2012 Steering Committee, public works departments	Encourage trail and on-street route connections
Blue Trail Connections	Clubs, LACVB, DNR, hotels, ounty and municipal parks and recreation and public works departments, and advocacy from businesses	Encourage further feasibility planning for connected network, construction of support facilities
Connect US FWS Headquarters to Great River Trail and Lake Onalaska	US FWS, Town of Onalaska	Encourage US FWS trailhead on site, safe bike on-street route
Round Lake Environmental and Recreational Blue Trail Head	Town of Campbell (Pool 8)	Coordinate among town, WisDOT, and Convention and Visitors Bureau
Riverside Park Trailhead	City of La Crosse Parks and Recreation	Encourage inclusion of trailhead signage

Table 12: Projects that Others will Lead (continued)

Project	Implementation Lead	Joint Board Role
City of La Crosse Waterfront Park Improvements	City of La Crosse Parks and Recreation	Support & encourage projects
Manage Human and Pet Waste	Municipal parks departments	Encourage construction of toilets at marinas and waterfront parks and pet waste depositories
Great River Landing	City of Onalaska	Support & encourage the project
Mobil Oil Site Redevelopment	City of La Crosse Redevelopment Authority	Participate in redevelopment charrette. Encourage inclusion of transient dock, public waterfront uses, and connected trail network.
Barron Island Redevelopment	City of La Crosse Redevelopment Authority, La Crosse County, and other City Departments	Encourage redevelopment that is water-dependent and that maximizes public access and use.
Isle La Plume Redevelopment/Preserve Fleeting	City of La Crosse Public Works, Police Department, Fire Department, Parks & Recreation	Encourage reassessment of non-water-dependent uses, preserve fleeting site, participate in Isle La Plume recreational planning, and prepare for Isle La Plume relocation master plan.
Preserve existing marina facilities	City of La Crosse Public Works, municipal parks departments, and applicable businesses	Support municipalities and businesses

and coordinate and partner with local municipalities.

State and federal agencies are far more than controlling regulators. They can provide at least partial funding for the majority of recommended public improvements. Equally critical is the role the state and federal governments can play in providing incentives for private investment. WisDNR, for example, has multiple funding sources that will support recommended projects.

- Aquatic Invasive Species Control: Provides 75% cost share for projects to research, develop and implement plans for control of aquatic invasives.
- Federal Aid in Sportfish Restoration: Provides typically a 50% cost share for projects to develop boating facilities and accessible shorefishing structures serving sportfish anglers.
- Federal Clean Vessel Act: Provides up to 100% funding for marine septic pump-out systems in public and private marinas.
- Knowles-Nelson Stewardship program: Provides 50% cost share for acquisition and development of lands for public recreational use under a number of sub-programs including urban rivers, urban green space, acquisition and development of local parks, etc.
- Recreational Boating Facilities: Provides up to 80% cost share for development of boating facilities serving motorized craft.
- Recreational Trails: Provides cost-share on projects to develop and rehabilitate recreational trails for motorized, non-motorized and diversified uses.

Continuous public sector coordination among the municipal, county, state, and federal governments is critical for plan implementation. The Port of La

Crosse Joint Board of Harbor Commissioners and its staff will be the primary conduit for public sector coordination.

Private Port Operators

The Port of La Crosse is not a public port, but rather a loose collaboration of private port operators. While the Port of La Crosse Joint Board of Harbor Commissioners can lead projects and investments that provide for the common good, it is ultimately the private port operators that will determine the success of the port. Each operator makes his or her business and investment decisions to maximize his or her own profit, yet these decisions should also consider the potential impact on the greater port. The Port of La Crosse competes with larger and more organized ports along the Mississippi River, and coordination among private operators will be necessary to maintain competitiveness. The Port of La Crosse Joint Board of Harbor Commissioners should lead these voluntary coordination and collaboration efforts.

Economic Development Organizations

The Joint Board should partner with La Crosse Area Development Corporation (LADCO), Xcel Energy, Wisconsin Department of Commerce (transitioning to a private economic development entity at the time of this writing), and the City and County of La Crosse to support industrial development and promotion. The Commission should ensure that the Port of La Crosse and the availability and benefits of water transportation are emphasized by these groups.

Non-Profit Sector Involvement

Non-profit sector involvement includes participation of private donors, which can include individuals, service clubs, and foundations. A municipality or a non-profit group can lead general fundraising programs for specific waterfront projects. For example, in times of declining municipal park budgets, service clubs and other non-profits can lead park improvements. La Crosse area service clubs and other non-profits can lead projects such as open space amenities, biking facilities improvements and maintenance, hunting and bird watching facilities, and environmental education. Non-profits can also partner with the business community to program river-oriented events.

A volunteer non-profit organization, such as a "Friends of the Mississippi River," can focus on public fundraising and volunteer development to help in the coordination and implementation of projects and programs outlined in this plan. A foundation can assist in private fundraising and establishing corporate partnerships.

A more organized non-profit partner could be a new organization that is focused on supporting and leading the environmental, economic and cultural vitality of the Mississippi River and its waterfront. An example organization is River Action in the Quad Cities' region, which has a staff of four people, a board of directors, and organizes a wide range of activities from extreme sports competitions to the annual Upper Mississippi River Conference.

Private Sector Developers

The key to full implementation of the plan with respect to the priority redevelopment sites is new investment by the private sector.

One of the major purposes of public sector investment in waterfront planning infrastructure is to stimulate private sector investment in both new commercial and new residential development. Continued public improvements of the waterfront are expected to yield increased private investment in sites near the river.

In general, the level of public assistance given to redevelopment is characterized as "gap financing," which is defined as the minimum level of financial assistance needed to make a project feasible in the market place. The primary tool used by municipalities to finance redevelopment is Tax Increment Financing (TIF). Potential TIF projects need to yield sufficient tax revenues to the City to finance the public assistance and retire any borrowing done to support the project.

The development assistance programs of the municipal, county, state, and federal governments should aim to increase private sector investment on key redevelopment sites. The public sector should continue to ensure that use of development assistance requires private capital investment that results in an expanded tax base to support the assistance.

Project Prioritization

Redevelopment of the port and waterfront is a long-term process. Some elements will start in the next year, while some recommended improvements are not likely for more than a decade. In an era of constrained public budgets at all levels and depressed real estate markets, public improvements and private redevelopment will be a slow but steady process.

This plan does not include a strict phasing schedule for projects. In challenging economic times and competitive granting environments, project phasing is directed by the availability of funding and implementation partners. At worst, a strict phasing schedule means that implementation partners will miss opportunistic funding sources for projects that are listed as "long term."

Project phasing should follow the existing pattern. The Port of La Crosse Joint Board of Harbor Commissioners should prioritize port and waterfront initiatives and work directly with the City of La Crosse and La Crosse County to promote the Harbor and Waterfront Plan, create close working relationships with granting agencies and potential partners. As opportunities arise for any portion of any priority project, the opportunity should be pursued.

Cost Budgets for Port Facilities

To assist in implementing and phasing the plan's recommendations, JJR has developed opinions of probable construction costs for the short-term public investments recommended for the Port of La Crosse. These costs provide general, level-of-magnitude projections for recommended public investments. The cost opinions will be refined during the conceptual/schematic design phase for each element based on topographic surveys, geotechnical reports, and the specific design refinements. These costs do not include property acquisition.

This opinion does not reflect all probable construction costs. Specifically excluded are projects that will be driven by the private sector and projects that require more study to satisfactorily address, such as environmental remediation. Throughout the opinion, we have included our assumptions.

All costs are given in 2011 dollars and can be anticipated to increase at approximately three to five percent annually. All costs include a 30

Table 13: Cost Budgets for Short-Term Port of La Crosse Projects to be led by the Joint Board of Harbor Commissioners

Recommended Project	Direct*	Soft Costs**	Total	Assumptions
Expand Harold E. Craig Fleeting Site	$130,000	$70,000	$200,000	Mooring tripod and 200 feet of shoreline protection
Expand Xcel Energy French Slough Fleeting Site	$840,000	$160,000	$1,000,000	1 cell (2) tripod/barge, 3x3=9 barges, dredge 20,000 yards
Improve Municipal Boat Harbor	$750,000	$80,000	$830,000	30 slips @ $25,000 each

* 2011 estimate. ** includes investigations, design, and permitting.

percent contingency, common at conceptual level cost budgets. The contingency includes 15 percent for cost variability and 15 percent for soft costs (survey, permitting, design).

These costs assume that construction is completed through the public bid process. Using appropriate volunteer labor or other partnering opportunities may reduce project costs and may be considered by funding agencies as in-kind match for grant money. Invasive species removal, for example, is one task that is often performed with volunteer labor.

Short-Term Port of La Crosse Projects

Table 13 lists the approximate cost budgets and associated assumptions for three short-term port-related projects: expand Harold E. Craig fleeting; expand Xcel Energy French Slough fleeting, and improve Municipal Boat Harbor.

Putting the Opinion of Probable Construction Costs in Perspective

The cost budgets for public improvements may seem overwhelming. While the improvements to Port of La Crosse and the greater La Crosse waterfront will require a public investment, the full cost of public improvements will not come solely from municipal and county general funds. The municipal and county contributions should be matched by outside funding sources such as grants, loans, public/private partnerships, and municipal financing mechanisms like tax increment financing. Likely funding partners have been collaborators on this plan, and they include Wisconsin Waterways, US FWS, WisDNR Stewardship, USACE, Wisconsin Economic Development Corporation, EPA, Housing and Urban Development, non-governmental organizations, and private donations.

Additionally, this Harbor and Waterfront Plan is a long-term plan, and not all public costs must occur early or simultaneously. The public improvements will be spread out to accommodate the financial and institutional capacity of the municipality, county, and outside support and funding sources.