

DRAFT SECTION 4(F) EVALUATION

LOWER ST. CROIX NATIONAL SCENIC RIVERWAY

I. DESCRIPTION OF SECTION 4(f) RESOURCE

The Section 4(f) resource discussed in this evaluation is the Lower St. Croix National Scenic Riverway, a federally designated Wild and Scenic River.

A. DETAILED MAP

Figures E-1 and E-2 show the relationship of the Build Alternatives to the St. Croix River and Lower St. Croix National Scenic Riverway, respectively.

B. SIZE AND LOCATION

The Riverway, defined as the river itself and selected adjacent lands, is a narrow corridor that runs for 52 miles along the Minnesota/Wisconsin boundary from Taylors Falls, Minnesota/St. Croix Falls, Wisconsin, to the confluence with the Mississippi River at Point Douglas, Minnesota/Prescott, Wisconsin (Figure E-2). The boundary of the Lower St. Croix National Scenic Riverway encompasses approximately 25,345 acres of land and water.

The St. Croix River begins near the town of Solon Springs in northwestern Wisconsin and flows 164 miles south to join the Mississippi River at Prescott, Wisconsin. The northern limits of the Lower St. Croix Riverway are marked by the hydroelectric dam at Taylors Falls/St. Croix Falls. From this point, the river flows south through moderate-to-difficult rapids until it reaches the St. Croix Dalles. The Dalles is a narrow gorge with high, pine-topped vertical walls and numerous water-carved potholes. Below the Dalles, the river becomes shallower, with several islands, feeder streams, and backwater areas. Development along this portion of the Riverway is fairly sparse, but begins to become more prominent as one moves south. At Stillwater, the river begins to widen and deepen. From Stillwater south to Prescott, there are areas of forested bluff adjacent to the river; however, this area is more developed than the Riverway north of Stillwater. There are numerous permanent and seasonal homes located on this part of the Riverway. Immediately south of Stillwater is a sewage treatment plant, Sunnyside Marina and Condominium complex, and the Xcel Energy King Power Plant which has a highly visible 785-foot smokestack. South of the power plant is the Andersen Corporation's window manufacturing facility. At its closest, the St. Croix flows only about 20 miles from the center of the Twin Cities of Minneapolis and St. Paul, Minnesota. It was the first Wild and Scenic River located close to an urban area and is still one of only a few in urban proximity today. As described in Section I.H, the river's outstandingly remarkable scenic, recreational, and geologic values resulted in its designation as a Wild and Scenic River.

Figure E-1 – Location of Build Alternatives and St. Croix River (8.5x11 – b/w)

Figure E-2 – Lower St. Croix National Scenic Riverway (11x17 – b/w)

BACK

OWNERSHIP AND TYPE

The Lower St. Croix National Scenic River is managed by the Lower St. Croix Management Commission (LSCMC), which was established in 1973 and is comprised of representatives from the National Park Service (NPS), the Minnesota Department of Natural Resources (MnDNR) and the Wisconsin Department of Natural Resources (WisDNR). The Lower St. Croix National Scenic Riverway is split into two management zones. The State zone, administered by the MnDNR and the WisDNR through the LSCMC, extends from the Stillwater Boomsite downstream to the Mississippi River confluence. The Federal zone, administered by the NPS, extends from the Stillwater Boomsite upstream to the dam at Taylor's Falls/St. Croix Falls.

Land along the Lower St. Croix National Scenic Riverway is a mosaic of federal, state, local, and private holdings. In addition to fee ownership of land, the federal government and the states of Minnesota and Wisconsin have purchased scenic easements from private landholders along many areas of the river. In return for a payment, the landowners relinquish certain development and improvement rights. The agreement generally runs with the property; that is, it is passed on to subsequent owners.

C. FUNCTION OF AND/OR AVAILABLE ACTIVITIES

Consistent with its classification under the National Wild and Scenic Rivers System as a "recreational" river, the Lower St. Croix National Scenic Riverway offers a wide array of recreational activities. These include camping, hiking, biking, picnicking, scenic viewing, photography, bird watching, fishing, swimming, snowmobiling, cross-country skiing, boating, and interpretive programs.

The northern portion of the Riverway is considered to be fairly wild with wooded banks and is mostly used by canoeists. Development along this portion of the Riverway is fairly sparse, but begins to become more prominent as one moves south. At Stillwater, the river widens and deepens. From Stillwater south to Prescott, the river is heavily used by recreationalists, especially power boats.

Fishing is an important recreational activity on the Lower St. Croix National Scenic Riverway, both from boats and the banks, and from the river ice in the winter. The wide range of sport fish species includes walleyes, northern pike, smallmouth bass, and catfish. Popular fishing areas include the mouths of tributaries such as the Apple and Kinnickinnic Rivers, the King Power Plant discharge canal, the Hudson narrows, and the confluence with the Mississippi River.

The principal recreational activities along the Riverway involve watercraft of various types. Common watercraft on the Lower St. Croix River include canoes, fishing boats, runabouts, cabin cruisers, and houseboats. Smaller numbers of pontoon boats, sailboats, inflatables, kayaks, and commercial watercraft are also present. Canoe use dominates boat traffic upstream from Stillwater; in fact, canoes account for more than 60 percent of the traffic there. Excursion boats operate public cruises both upstream and downstream from docks at the south end of downtown

Stillwater. Several public boat launches are located near the project area in Hudson, Wisconsin, north of Stillwater on TH 95 and in William O'Brien State Park, and on County Road 21 south of Afton.

E. DESCRIPTION OF EXISTING AND PLANNED USES

The major public facilities on the Riverway include Interstate Park in Minnesota and Wisconsin near Taylors Falls and St. Croix Falls, William O'Brien State Park near Marine on St. Croix, Minnesota, Afton State Park near Afton, Minnesota, and Kinnickinnic State Park west of River Falls, Wisconsin. Smaller facilities include the St. Croix Boomsite National Historic Landmark, and Mile Long Island. Less developed public areas include Wisconsin's St. Croix Islands Wildlife Area just downstream from Marine on St. Croix, and several game refuges in Minnesota.

Several parks in downtown Stillwater offer a vantage point for viewing the river and its activity. Lowell Park is included in the Stillwater Commercial Historic District and surrounds the entrance to the Lift Bridge. This heavily-used park includes a gazebo, benches, landscaping, and a levee. Stillwater is currently exploring a downtown development plan that includes an expansion of Lowell Park as well as other amenities.¹ Kolliner Park is located across the river from downtown Stillwater. Previously developed and now abandoned and closed, the park consists of a forested river bluff and partially vegetated beach area. The park is not heavily used, with the majority of its users coming from the river. South of Lowell Park along the river is the Stillwater Municipal Barge Facility property, a 17-acre area owned by Stillwater and planned for future use as a city riverfront park. The park would be developed mostly for passive recreation such as picnicking, walking, and bicycling. A 0.4-acre parcel will be donated to Stillwater for a planned park (New Stillwater Park). The planned park is located along the Minnesota river bluff to the south and west of Lowell Park and north and west of the Stillwater Municipal Barge Facility property; the park would be developed mostly for passive recreation. Section 4(f) Evaluations have been prepared for Lowell Park, Kolliner Park, the Stillwater Municipal Barge Facility property, and the New Stillwater Park as part of the SDEIS.

Other state, local, and private facilities such as boat launches, marinas, private campgrounds, youth camps, and wayside rests also provide recreational opportunities along the Riverway. In addition to formal recreation places, undeveloped river islands and shore areas owned by the federal government and other political units support an enormous amount of recreational activity.

F. ACCESS AND USAGE

The St. Croix River is readily accessible to visitors via well-developed road systems in both Minnesota and Wisconsin. Interstate-94, U.S. Routes 8, 10, and 12, Minnesota Trunk Highway (TH) 36, 96, and 97, and Wisconsin State Trunk Highway (STH) 64 are the primary

¹ The Downtown Stillwater "Plan D" is a development plan to increase pedestrian areas, consolidate parking areas, and expand Lowell Park. Potential amenities in Lowell Park could also include an amphitheater and bandshell.

east-west routes that run through the Lower St. Croix region. U.S. Route 61, Minnesota Route 95, and Wisconsin Routes 35 and 65 also provide north-south access to the region. Many local roads throughout the region provide access to the Riverway.

Four highway bridges span the lower 52 miles of the St. Croix River: at Taylors Falls, Minnesota, and St. Croix Falls, Wisconsin; Osceola, Wisconsin; Stillwater, Minnesota, and Houlton, Wisconsin; and Hudson, Wisconsin. The closest crossings to the Lift Bridge are at Osceola and the I-94 bridge at Hudson. These crossings are located approximately 20 highway miles to the north, and 7 highway miles to the south. A number of railroad bridges cross the Riverway as well.

Pedestrian and bicycle access in the vicinity of the St. Croix River within the project study area is provided by the Gateway Trail (from St. Paul to Stillwater) and the Washington County trail system in Minnesota. The Build Alternatives include construction of pedestrian/bicycle trails parallel to the frontage roads along TH 36, west of the TH 36/95 interchange. The Build Alternatives also include trails parallel to TH 95 from the Stillwater Municipal Barge Facility property south to 56th Street/Pickett Avenue (CSAH 21/28), as well as inclusion of a pedestrian/bike trail on the bridge itself, with the exception of Alternative D. St. Croix County, Wisconsin, has trail improvements planned along STH 35 and intends to connect them to the trail provided with the Build Alternatives, thus providing a trail system that is connected to a larger, regional trail system.

State and local park facilities, discussed in Section I.E, provide visitor access for camping, hiking, scenic viewing, etc. Several boat access points near the project area (Hudson, Wisconsin; north of Stillwater; south of Afton, Minnesota) are available along the St. Croix River.

Between Prescott and north of Stillwater, the U.S. Army Corps of Engineers (Corps) is authorized to maintain a 9-foot navigation channel to accommodate large boats². Plans for the channel assume only the Kinnickinnic Narrows, approximately 6 miles north of Prescott, will require dredging within the next 40 years³. A 3-foot navigation channel is authorized between Stillwater and Taylors Falls, but it is not maintained by the Corps, except for snag clearing. The river is narrow and shallow with many islands 1.1 miles north of Stillwater. North of the Arcola sandbar, most of the river is shallow and suitable for use only by canoes and other shallow-draft craft.

According to a Minnesota/Wisconsin Boundary Area Commission (MWBAC)⁴ study, the Lower St. Croix River is one of the most heavily-used recreational boating areas in the Midwest. A 1997 Recreational Boating Study was conducted to identify trends in recreational boating along

² The 9-foot navigation channel was authorized by the Rivers and Harbors Act of 1930, which includes the Upper Mississippi River, and lower navigable portions of the Minnesota River, the St. Croix River, and the Black River.

³ Source: Lower St. Croix River National Scenic Riverway Cooperative Management Plan, National Park Service, Minnesota Department of Natural Resources, Wisconsin Department of Natural Resources, January 2002.

⁴ The MWBAC was a commission created in 1965 by the states of Minnesota and Wisconsin to coordinate studies and management activities along the states' common boundaries (St. Croix and Mississippi rivers). Both states funded the MWBAC equally. The MWBAC was a former member of the Lower St. Croix Management Commission, providing administrative support. Operations for the MWBAC were terminated in 2001.

the St. Croix River over the past 14 years. General trends from the study suggest that peak day boating levels in 1997 were higher than the average of the previous four study years, while weekday boating levels in 1997 were lower than the 1989-1995 study year average. The study estimated that in 1997, a total of 8,644 boats (active and beached) used the river between Memorial Day (May 26) and Labor Day (August 31) for recreational purposes.

Rivers protected under the National Wild and Scenic Rivers Act are classified as wild, scenic, or recreational, based on the level of development along the river and access to the river at the time of designation. These classifications serve as guides to the agencies that manage the rivers. Scenic river areas are defined as rivers with no impoundments, limited development, largely primitive shorelines, and limited accessibility by roads. Recreational river areas are defined as rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past. Based on these three general classifications, the upper 10 miles of the Lower St. Croix National Scenic Riverway are classified as scenic and the lower 42 miles are classified as recreational.

G. RELATIONSHIP TO OTHER SIMILAR RESOURCES

The nearest National Wild and Scenic Rivers to the St. Croix are the Wolf River in northeastern Wisconsin, and the Black and Presque Isle Rivers in northwest Michigan. The Mississippi River from Dayton to Hastings, Minnesota, has been designated as a National River and Recreational Area, with plans for improving the quality of the river for recreation.

The Twin Cities metropolitan area has numerous rivers, streams, and lakes, which offer excellent boating and other water-related opportunities. The Mississippi River flows through the Twin Cities and the Minnesota River flows south of Minneapolis, within the urban area. Lake Minnetonka, west of Minneapolis, is a large lake endowed with islands and bays and extensive shoreline. Dozens of smaller public lakes also offer recreational boating, both powered and paddled.

Farther away but within a day's drive of the Twin Cities are a number of water-related natural and recreational areas, including the Apostle Islands National Lakeshore in Lake Superior and the Boundary Waters Canoe Area Wilderness in northern Minnesota. Literally thousands of publicly-accessible lakes of varying size are present throughout Minnesota and Wisconsin, many within state and local parks.

The Lower St. Croix National Scenic Riverway is located in a region richly endowed with natural resources and outdoor recreational opportunities. Of the many natural environments enjoyed in the region, the St. Croix River, close to the Twin Cities, is among the most widely known and heavily used.

H. APPLICABLE CLAUSES AFFECTING OWNERSHIP

One of the original intents of the Wild and Scenic Rivers Act was to help preserve America's finest free-flowing rivers from the effects of dam construction. In order to qualify for inclusion in the system, a river must possess at least one "outstandingly remarkable value." scenic,

recreational, geologic, fish and wildlife, historic, cultural, or other attributes. The Lower St. Croix River was designated for its outstanding scenic, recreational, and geologic values. These characteristics are summarized in the 2002 Cooperative Management Plan for the Riverway as follows:

- The Riverway is an exceptional combination of high-quality natural and cultural resources, and scenic, aesthetic, and recreational values;
- These resources and values exist in a distinctive river valley setting with a strong regional identity and character; and,
- These resources and values exist within the expanding Twin Cities metropolitan area.

Each river in the National Wild and Scenic Rivers System must be managed to preserve those values which originally qualified it for protection. As stated above, the St. Croix River has been identified as having scenic, recreational, and geologic values. The NPS is responsible for conducting analyses of potential impacts on the Riverway under Section 7(a) of the Wild and Scenic Rivers Act. At the request of FHWA, the NPS has provided an indication of the viability of each of the Build Alternatives considered in this SDEIS under Section 7(a) of the Wild and Scenic Rivers Act. Their preliminary findings are found in Appendix F of this document.

Land along the Lower St. Croix National Scenic Riverway is a mosaic of federal, state, local, and private holdings. In addition to fee ownership of land, the federal government and the states of Minnesota and Wisconsin have purchased scenic easements from private landholders along many areas of the river. In return for a payment, the landowners relinquish certain development and improvement rights. The agreement generally runs with the property; that is, it is passed on to subsequent owners.

I. UNUSUAL CHARACTERISTICS

The Lower St. Croix National Scenic Riverway is an unusually valuable resource because of its natural beauty, good water quality, numerous recreational opportunities, historic interest, and exceptional accessibility by a large urban population. As described in Section I.H, the river's outstandingly remarkable scenic, recreational, and geologic values resulted in its designation as a Wild and Scenic River.

A wide variety of aquatic life occurs in the St. Croix River, from multiple phyla of algal phytoplankton to many invertebrate and fish species. In addition, the St. Croix River supports a diversity of freshwater mussel species, including a federally-listed endangered species and species of state special concern (see Section II.B). The U.S. Fish and Wildlife Service (U.S. FWS) describes the river as being "of pristine character."

At the hydroelectric dam at Taylors Falls/St. Croix Falls, which marks the northern limit of the Lower St. Croix, the river flows through a rapids for a short distance until it reaches the St. Croix Dalles. The Dalles is a narrow stone gorge with high, pine-topped vertical walls and numerous

water-carved potholes. Both the Minnesota and Wisconsin sides of the Riverway are a part of Interstate Park, popular with tourists, rock climbers, canoeists, campers, artists, and photographers. Interstate Park in Wisconsin is part of the Ice Age National Scientific Reserve. Below the Dalles, the river becomes more shallow and enters a heavily-wooded, steep-sided valley marked by limestone and sandstone bluffs, numerous islands, feeder streams, and backwaters. Development is not prominent, but does become more noticeable as the river continues south.

Located adjacent to the river, Stillwater's picturesque character and historic buildings provide a scenic, historically-significant cultural feature along the river. At Stillwater, the head of Lake St. Croix, the river deepens and widens. The river extends about 25 miles to the confluence with the Mississippi River at Prescott. At the site of the B-1 bridge alignment (southernmost Build Alternative alignment), the river channel is approximately 2,800 feet wide. At the site of the Lift Bridge, the river channel is approximately 1,800 feet wide. Below Stillwater, the river features numerous forested bluffs but is far more developed than to the north, especially on the Minnesota side. Oak Park Heights, just downstream from Stillwater, is the site of a marina and condominium complex, a sewage treatment plant, and the King Power Plant with barge facilities and a prominent 785-foot smokestack. South of the power plant, in Bayport, is the Andersen Corporation's extensive window manufacturing facility.

The cultural features of the Lower St. Croix River Valley are important facets of its character and draw many people to the area. Stillwater is one of the oldest European settlements in Minnesota and is known as the "Birthplace of Minnesota". It has preserved much of its architectural heritage, including its well-maintained nineteenth century downtown with numerous shops and restaurants that draw many visitors. Part of the downtown area has been listed as an historic district on the National Register of Historic Places. The Lift Bridge, built across the St. Croix River in 1931, is also listed on the National Register of Historic Places.

Between Stillwater and Hudson, the St. Croix River is located only about 20 miles from the center of the Twin Cities of Minneapolis and St. Paul, a metropolitan area of almost three million people. This proximity of the metropolitan area is notable, as few urban areas have such a nearby resource.

II. IMPACTS ON THE SECTION 4(F) RESOURCE

A. NO-BUILD ALTERNATIVE

Under the No-Build Alternative, no new bridge would be constructed. As a result, this alternative would not result in direct impacts on the river. However, the No-Build Alternative would result in continuing and increasing conflicts between motor vehicles on the Lift Bridge and boat traffic on the river. Currently, vehicle traffic on summer weekends and during weekday peak travel periods can back up for some distance on both the Wisconsin and Minnesota sides of the bridge when the lift is raised to allow large boats to pass beneath.

The current schedule for raising of the lift reflects efforts to minimize bridge openings during peak periods of traffic congestion. Further reducing the frequency of Lift Bridge raising to ease traffic congestion on the bridge and approach roadways would result in further impeding of river navigation. A discussion of traffic congestion on the Lift Bridge can be found in Chapter 4 of the SDEIS.

The No-Build Alternative also would perpetuate existing water quality impacts on the river from the Lift Bridge. Stormwater from the Lift Bridge is currently conveyed directly to the river without prior treatment. Any materials spilled on the bridge are also conveyed directly to the river with runoff from the bridge. Because inadequate space in the existing corridor prevents construction of a detention basin or conveyance system for runoff from the bridge, the water quality of the river would continue to be negatively affected under the No-Build Alternative.

B. BUILD ALTERNATIVES

Descriptions of the Build Alternatives and a reference to the SDEIS chapters which assess potential impacts of the Build Alternatives are found in the introduction to the Draft Section 4(f) evaluations. The following discussion summarizes impacts and mitigation from SDEIS chapters. Readers should refer to the chapters noted in the introduction for full discussions of potential impacts of the Build Alternatives on the Lower St. Croix National Scenic Riverway.

Water Quality and Quantity

The Build Alternatives would increase the percent impervious area of the existing watershed, thus increasing the volume of runoff generated and discharged into the St. Croix River. Due to increased impervious area, the Build Alternatives would create an additional volume of highway stormwater runoff which is expected to introduce occasional short-term quantities of pollutants associated with highway runoff during intermittent storm events; however, the long-term concentrations of these pollutants in the river are not expected to change. The Build Alternatives would include wet detention basins, dry basins, and grass ditches that would provide water quality treatment for the existing drainage area that currently discharges directly to the river and for the additional Build Alternative bridge drainage areas. Detention basins, ditches, and other open space would limit discharge flow rates to the existing flow rates, and energy dissipation measures would be taken to further minimize velocity of water.

Alternatives B-1 and C, pending disposition of the Lift Bridge, and Alternative E also would perpetuate existing water quality impacts on the river from the Lift Bridge because the Lift Bridge could be converted to a facility for local traffic (Alternatives B-1 and C) or used for two lanes of one-way westbound traffic. Stormwater from the Lift Bridge is currently conveyed directly to the river without prior treatment. Any materials spilled on the bridge are also conveyed directly to the river with runoff from the bridge. The likelihood of materials being spilled on the Lift Bridge is increased with Alternative E with the Lift Bridge continuing to accommodate vehicular traffic. The likelihood of materials being spilled on the Lift Bridge is somewhat reduced with Alternatives B-1 and C, relative to the No-Build Alternative and Alternative E, but is still present. Because inadequate space in the existing corridor prevents

construction of a detention basin or conveyance system for runoff from the bridge, the water quality of the river as a result of runoff from the Lift Bridge would continue to be negatively affected by these Build Alternatives. Where the Lift Bridge is converted to a pedestrian/bicycle facility, stormwater will still be directly conveyed to the river, however, potential for spills would be substantially reduced as would use of chemicals (e.g., salts) in maintaining the bridge.

Floodplains

The Build Alternatives would result in encroachment into the floodplain; however, these encroachments are not expected to negatively affect the floodplain profile, as the flood profile for this reach of the St. Croix River is governed by hydraulic structures on the Mississippi River. Floodplain encroachment would be limited to bridge pier placement (pending resolution of the bridge type analysis), filling for TH 36/95 construction, filling for retaining walls, and minor filling for construction of stormwater detention basins. Bridge piers would be designed, to the extent possible, to minimize hydraulic impacts on the river and measures would be taken to the greatest extent practical to protect the aquatic life during design and construction of the bridge piers. These measures would include preventing construction debris from entering the river and providing river corridors to maintain boat traffic during construction.

Groundwater

The Build Alternatives are not expected to affect the quality, quantity, and elevation of groundwater in the project area. While the increased area of impermeability and the filling of some wetlands may decrease the groundwater recharge in the immediate area of the highway and road activities, the changes are not expected to alter the amount of recharge occurring in the entire project area. The impervious surface would remain a relatively low percentage of the project area contributing to groundwater recharge reaching the St. Croix River.

Wetlands

A wetland compensation plan for replacement of the affected wetland areas would be developed for the proposed project. The plan would reassess the exact areas of wetland impacts (and mitigation) based on selection of a Preferred Alternative, final design plans, and the current and applicable wetland mitigation guidelines and regulations in effect at that time. The intent of the proposed wetland compensation plan would be to replace affected wetland resources with wetlands of greater or equal public value. The mitigation activities may or may not occur within the Riverway; current potential wetland mitigation areas are not located in the Riverway.

Potential impacts on water resources (water quantity, water quality, floodplains, groundwater, and wetlands) are discussed further in Chapter 10 of the SDEIS.

Wisconsin Bluff Impacts

An area of trees and associated understory vegetation on the Wisconsin shore and bluff would be removed to allow for construction of the bridge and approach roadway for the Build Alternatives. Some permanent vegetative loss would occur, particularly near the bridge abutment. Field survey results from previous environmental analyses concluded that remaining

trees in this area are expected to respond relatively well to construction activities if appropriate measures are taken to protect them during construction. Vegetative impacts would be managed through implementation of landscaping and revegetation guidelines developed as part of final project design.

The terrain of the Wisconsin shore and bluff would be altered by the construction of the Build Alternative bridges and roadways. Estimates of the amounts of cubic yards of sand and gravel that would be permanently removed (cut) from the bluff to allow for the bridge and abutment of the Build Alternatives is noted in Chapter 9 of the SDEIS. Additional impacts on the bluff would occur during construction to allow for temporary construction haul roads and work areas. This impact and the measures that would be taken to minimize it are discussed further in Chapter 12.

Impacts on the Wisconsin bluff would be less for Alternatives B-1 and C compared to Alternatives D and E because the bridge abutment is at a higher elevation. The higher bridge abutment would allow for bluff impacts to be located further back in the defined bluff area and would reduce impacts on the bluff face. The bridge abutment for Alternatives D and E is located at the Wisconsin shoreline. The approach roadway and associated retaining walls must cross a greater length of the bluff, as defined by the Lower St. Croix National Scenic Riverway Cooperative Management Plan, from shoreline to bluffline.

Freshwater Mussels

Implementation of the Build Alternatives could affect freshwater mussels both directly and indirectly. Direct impacts on mussels could result from bridge and bridge pier construction and barge fleeting and docking activities along the shoreline. In addition, sedimentation could result from the construction of any access roads on the Wisconsin side of the river and from the placement of bridge piers in the river. This sedimentation would have minor impacts on mussel beds located downstream of the project site. (Construction activities and impacts are discussed further in Chapter 12.) Indirect impacts on mussels could also occur through erosion and sedimentation associated with removal of the excess pavement on the Wisconsin approach to the Lift Bridge proposed with conversion of the Lift Bridge to a bicycle/pedestrian facility (Alternatives B-1, C, D) or construction of a new STH 64 roadway (Alternatives D and E). Several positive impacts on mussels could also result indirectly from implementation of the Build Alternatives such as construction of stormwater ponds to treat runoff before the runoff enters the St. Croix River. Refer to Chapter 9 of the SDEIS for a detailed discussion of the potential direct and indirect impacts to freshwater mussels in the St. Croix River.

Mussel surveys of all areas with the potential to be disturbed were conducted as part of the 1999/2001 studies and SDEIS process before the project was suspended in 2001. Survey results indicated that potential mussel impacts would occur mostly near the Wisconsin shoreline, but also near the Minnesota shoreline. Based on information reviewed and input from the reviewing agencies, it was agreed to assume that any of the Build Alternatives would affect protected mussels.

Relocating freshwater mussels, associated with the Build Alternatives, is also discussed in Chapter 9 of the SDEIS. Procedures would be developed and implemented as part of any of the Build Alternatives to ensure the safe relocation of *L. higginsii* and any other state- or federally-listed endangered mussels in areas identified for removal and relocation. Common species would be relocated as well. Mussel relocation sites would be identified and delineated before beginning the relocation effort. The area along the Minnesota shoreline is generally not suitable for mussel relocation because of the poor river substrate; the Wisconsin shoreline is more suitable. It is likely that a suitable relocation site would be found near the Wisconsin shore downstream from the Build Alternatives. Mussels would be relocated from identified construction areas on the shoreline and where temporary docking facilities and work boats and barges would be located.

Other Protected Species

Several protected species are located adjacent to the St. Croix River in the project area. The St. Croix River and its adjacent forest cover provide the necessary habitat conditions to allow the nesting of bald eagles (*Haliaeetus leucocephalus*). An active bald eagle nest has since moved several times in the area near the TH 36/95 interchange in Oak Park Heights. No other eagle nests have been identified in the study area. An active peregrine falcon (*Falco Peregrinus*) nest is located on the exhaust stack of the King Power Plant in Bayport, Minnesota, and an active osprey (*Pandion haliaetus*) nest is located on the barge off-loading facility on the bank of the St. Croix River at the King Power Plant in Bayport.

Measures to mitigate impacts of the Build Alternatives on the bald eagle nest near the TH 36/95 interchange are described in Chapter 9 of the SDEIS. The Build Alternatives would not adversely affect the identified peregrine falcon nesting area or the osprey nest, and construction activity is not expected to adversely disturb either species in general. Protected species are discussed further in Chapter 9 of the SDEIS.

The Lift Bridge provides habitat for nesting swallows, a species of bird protected by the federal Migratory Bird Treaty Act. Construction of the Build Alternatives would not adversely affect any potentially nesting swallows. The Lift Bridge would be investigated prior to the letting of any contracts for maintenance and/or repairs associated with this project for evidence of recent nesting activity. If nesting activity is found, maintenance and/or repairs would be conducted outside of the swallow nesting season to avoid any possible impacts on nesting swallow populations, or cost-effective means of deterring nesting on the bridge would be employed, such as the installation of netting on the underside of the bridge structure.

Fish and the Aquatic Community

Impacts on fish and aquatic life could result from construction of the Build Alternatives and associated mitigation items that disturb habitat, water quality, or bottom sediment. Water quality impacts are expected to be temporary, and in general, effects on fish and aquatic life are expected to be minimal. Disturbed areas would be concentrated around the piers of the Build Alternative bridges and the Lift Bridge and causeway. Fish would be likely to move away from

these areas during construction, thus minimizing impacts. Some temporary or possibly permanent effects on bottom-dwelling (benthic) organisms could occur in construction areas. In addition, some temporary secondary effects on fish could occur due to disruption of benthic food sources.

Construction of the Build Alternatives could have indirect, positive long-term impacts on fish and the aquatic community as a result of positive impacts on water quality in the river. These include positive impacts on water quality from restoration of the Wisconsin approach to the existing bridge; closing the Lift Bridge to traffic with Alternatives B-1, C, and D, removing the potential for spills due to accidents, and eliminating the use of salt on the Lift Bridge; construction of stormwater treatment facilities to treat stormwater from the Build Alternative bridges and approach roadways before it enters the St. Croix River; and providing stormwater detention basins for spill protection on the new bridge.

Although the bridge type has yet to be determined, possible negative effects on aquatic life could be reduced by minimizing the number of bridge piers that would be located in the river. Efforts to reduce impacts on freshwater mussels described above also would decrease impacts on fish and other aquatic life. Construction-related debris would be kept out of the river to the greatest extent possible and all appropriate erosion control measures would be followed during construction to protect water quality. Potential impacts on aquatic life are discussed further in Chapter 9 of the SDEIS.

Navigation and Recreational Boating

The Build Alternatives would provide a new river crossing that would not impede river traffic. However, the piers placed in the water for the Build Alternative bridges would create additional obstructions around which boaters would need to navigate.

Construction of the Build Alternatives would result in temporary navigational impacts, including restricted open space on the river in the vicinity of the construction due to the presence of work barges, cofferdams, and other equipment in the river, and working overhead. The construction period is anticipated to extend over three years (2007-2010). Congestion of recreational boating traffic could occur during the construction period, particularly in the peak summer season.

Impacts on navigation during construction would be minimized by maintaining an open channel for boat traffic at all times during the river traffic season, in coordination with the U.S. Coast Guard and any other affected agencies. Construction equipment in the river and other potential impediments to navigation would be equipped with required safety markings (e.g., lights, etc.).

Visual Impacts

As the Lower St. Croix National Scenic Riverway was designated as a National Wild and Scenic River, in part, for its scenic values, considerable attention was paid to the visual impacts on the Riverway and mitigation of those impacts. Impacts on the visual quality of the St. Croix River and the river valley would result from the construction of the Build Alternatives that would disturb the natural harmony, cultural order, or design quality of the existing setting. In general,

impacts would be related to the scale and extent of the Build Alternative bridges and approach roadways, and to the personal preference of the viewer. Refer to Chapter 7 of the SDEIS for detailed discussion of the visual impacts of the Build Alternatives.

Traffic Noise

The Build Alternatives would provide a new crossing over the St. Croix River, introducing a new noise source to the Riverway. With the Build Alternatives, peak-traffic-hour noise levels from each bridge would meet or exceed federal noise abatement criteria (L_{10} of 70 dB(A) for parks) on the river directly below the river bridge and for a distance of 100 feet north and south of the river bridge centerline on the river. Noise levels from the Lift Bridge would be eliminated with Alternatives B-1, C, or D if the Lift Bridge is closed to vehicular traffic and converted to a pedestrian/bicycle facility. Noise levels from the Lift Bridge would also likely decrease from existing levels if the Lift Bridge is operated for local traffic only under Alternatives B-1 or C. Noise levels from the Lift Bridge would also meet federal noise abatement criteria for Alternative E with two lanes of one-way westbound traffic. The new Alternative E bridge (for two lanes of eastbound traffic) would also introduce a new noise source adjacent to the Lift Bridge, contributing to Alternative E noise levels. During construction, barges, equipment, and machinery used for road and bridge construction would result in some temporary increases in noise on the Riverway.

Mitigation of noise impacts on the Riverway through the installation of noise walls or other structures to block noise could negatively affect the visual appearance of the Riverway. No mitigation through noise walls or other structures of noise impacts on water-based receptors is currently required or planned. However, there may be land-based receptors where mitigation could be required. The need for mitigation through noise walls or other structures will be analyzed with the selection of a Preferred Alternative, presented in a technical memorandum and summarized in the Supplemental Final EIS. Traffic noise is discussed further in Chapter 8 of the SDEIS.

Air Quality

An assessment of project impacts on air quality at the intersections in the project area with the highest levels of congestion, i.e., worst-case scenarios indicated that the carbon monoxide (CO) emissions in this area, generally, would not be substantially different for the Build Alternatives compared to the No-Build Alternative. However, even where the carbon monoxide emissions would be greater for the Build Alternatives (e.g., Alternative B-1_b in downtown Stillwater and at the existing STH 64/County Trunk Highway (CTH) E intersection in Wisconsin; Alternative D at the TH 36/95 interchange in Oak Park Heights), results indicate that CO concentrations would be below both Minnesota and Wisconsin state standards with construction of any of the Build Alternatives. Air quality is discussed further in Chapter 8 of the SDEIS.

Construction Impacts

The Build Alternatives would include the construction of a new crossing over the St. Croix River. The construction activities necessary to complete the project would have temporary impacts on the Riverway, including decreases in air quality (increased vehicle emissions and

particulates), and increases in noise, vibrations, and visual impacts resulting from the presence and operation of construction equipment both on the river and on the adjacent land portions of the Riverway. Grading and vegetation removal would also occur adjacent to the river. Temporary river navigational impacts would occur near work areas while barge and crane operations take place to maintain safe work areas and to reduce impacts on boaters or other recreational river users. Temporary impacts on the river substrate and riverine habitats would result, such as disturbance of substrates for the placement of bridge supports.

Mitigation of construction impacts on the land adjacent to the river would include standard construction practices (wetting exposed soils to limit dust; limiting vehicle operation on unpaved surfaces; limiting the extent and duration of areas of removed vegetation). Impacts on mussels and the river substrate would be minimized by relocating identified mussels from the area of impact prior to the initiation of construction. Construction equipment would be decontaminated using U.S. FWS protocol to reduce the potential for transmitting zebra mussels into the Riverway.

Potential impacts on natural resources from construction of the Build Alternatives, and mitigation of those impacts, are discussed elsewhere in this document and in Chapter 9 of the SDEIS. Construction impacts are discussed further in Chapter 12 of the SDEIS.

C. POTENTIAL MITIGATION ITEMS

Beyond the specific mitigation items discussed above in Section II.B, potential mitigation items applicable to all Build Alternatives are summarized in the introduction to the Section 4(f) evaluations and described in Chapter 14 of the SDEIS. Upon identification of a Preferred Alternative, a mitigation package, appropriate to the level of impacts, will be identified from the list of potential mitigation items, as well as any additional items identified by agencies or the public during the SDEIS comment period. Additional potential impacts associated with the mitigation package items for the Preferred Alternative will be presented in the Supplemental Final EIS.

III. AVOIDANCE ALTERNATIVES

There are no location or design alternatives that would avoid this Section 4(f) resource, other than the No-Build Alternative. A bridge across the Riverway is an essential component to address the purpose and need of the project. As described in detail in Chapter 2 of the SDEIS, a new St. Croix River crossing near Stillwater is needed to meet existing and future transportation needs in the area. A project that did not include a new crossing of the St. Croix River would not meet these needs. A bridge design that would not affect the Riverway physically or visually is not feasible. In the absence of any alternatives that would avoid impacts on the river, each alternative was developed to reduce impacts on the Riverway (see Section IV) as much as possible.

IV. MEASURES TO MINIMIZE HARM

A number of measures to minimize or mitigate harm from potential impacts of the Build Alternatives on the riverway are described above for each potential impact area. As described elsewhere in this SDEIS, a number of mitigation measures are proposed to further minimize and mitigate impacts of the Build Alternatives on the riverway. These minimization and potential mitigation measures are summarized below.

Minimization

The design of the Build Alternative alignments and potential bridge types under study reflects intentional efforts to avoid or minimize visual effects to the project area, particularly in regard to the Lower St. Croix National Scenic Riverway, and also represent a geographical range of river crossing locations relative to the Lift Bridge. The design of the bridge, pending resolution of the bridge type analysis, will be dependant on the Build Alternative selected as the Preferred Alternative. The bridge type selected will attempt to provide a complementary fit with the surrounding landscape and visual setting of the Stillwater area. The design will also attempt to maintain a link to the historic character of downtown Stillwater and the natural features of the St. Croix Valley. Other measures to minimize impacts include:

- The Alternatives B-1 and C alignments are mostly perpendicular to the river; the Build Alternatives are located in a relatively narrow section of the river, thus minimizing river bridge length.
- Minimizing impacts on the river bluffs, particularly on the Wisconsin side. Impacts on the Wisconsin bluff would be minimized with Alternatives B-1 and C by using an elevated bridge approach and by using an existing ravine for the bridge approach location. Alternatives D and E use an existing roadway cut, and impacts would be minimized to the extent possible by including retaining walls to limit cut and fill activities.
- Minimizing the number of piers and the apparent mass of the structural components of the new crossing to decrease adverse visual impacts on the Lower St. Croix National Scenic Riverway, to the extent feasible, depending upon the bridge type selected for the Preferred Alternative. The potential bridge types evaluated for the Build Alternatives (see Chapter 3 and Chapter 7 of the SDEIS) reflect an attempt to minimize the number of piers in the river. The number of piers that would be placed in the river is unknown at this time for all Build Alternatives, pending resolution of the bridge type analysis, but will be presented with the selection of a bridge type with the Preferred Alternative in the Supplemental Final EIS.
- Evaluation of signature style bridge designs (see Chapter 3 and Chapter 7 of the SDEIS) to increase compatibility with the river valley and historic downtown Stillwater.

Other impacts resulting from the Build Alternatives have been minimized to the extent possible as discussed above in Section II. B.

Mitigation

Potential mitigation items applicable to all Build Alternatives have been identified to address impacts, including visual impacts, on the Lower St. Croix National Scenic Riverway, historic resources and parklands (see Chapter 14). The potential mitigation items identified to address impacts to the Lower St. Croix National Scenic Riverway include:

- Bridge type selection
- Removal of Xcel barge unloading facility and mooring cells
- Purchase of offsetting blufflands, including potential restoration of previously developed land
- Bluffland restoration (e.g., removal of the Buckhorn sign, restoration of the Wisconsin approach to the Lift Bridge)
- Riverway interpretation items
- Recreation amenities (i.e., sanitation facilities)
- Provision of a public boat access
- Development of a pedestrian/bicycle loop trail system
- Assistance with the acquisition of the Aiple Property north of downtown Stillwater
- Participation with the City of Stillwater in the development of the Stillwater Municipal Barge Facility Property
- Support for master plans of affected parks
- Restoration of Kolliner Park lands
- Covenants on excess property owned by Mn/DOT and Wis/DOT within the riverway
- Land use items (e.g., land use planning support, funding for local planning assistance, regional infrastructure planning support, educational programs)
- Land conservation items – primarily focused on western Wisconsin (e.g., protection of sensitive areas vulnerable to development, contribution to a prairie restoration program, contribution to wetland protection areas, purchase of conservation easements)

In addition to providing mitigation for impacts to the Lower St. Croix National Scenic River, these items also provide mitigation for other types of impacts associated with the proposed river crossing (see Table 14-4 in Chapter 14).

As noted in Section II.C, a mitigation package to address impacts, including visual impacts, on the Lower St. Croix National Scenic Riverway, as well as historical resources and parklands, will be identified with the selection of a Preferred Alternative and presented in the Supplemental Final EIS. The mitigation package, appropriate to the level of impacts, will be selected by the

lead agencies from the list of mitigation items above and in Chapter 14, as well as additional mitigation items identified by agencies or the public during the SDEIS comment period.

VI. COORDINATION

Extensive agency coordination has occurred throughout the project history including this SDEIS process, as described in the Introduction to the Draft Section 4(f) Evaluations. Coordination related to discussion of impacts and proposed mitigation items has occurred with federal, state, and local government agencies and non-government groups as part of the Stakeholder Resolution Process. In addition, coordination has occurred with the National Park Service which has responsibilities under Section 7(a) of the Wild and Scenic Rivers Act as part of the Stakeholder Group discussions. As previously noted, FHWA has asked the NPS for a preliminary indication of the viability of each Build Alternative under Section 7(a) of the Wild and Scenic Rivers Act. A copy of this correspondence is included in Appendix F. Additional coordination will occur with regulatory agencies and the Stakeholder Group with the selection of a Preferred Alternative.