Evaluation and Determination
Section 7(a) of the Wild and Scenic Rivers Act
St. Croix River Crossing Project

National Park Service
United States Department of the Interior
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Purpose of this Document

In 2005, the National Park Service (NPS) provided an evaluation of the proposed St. Croix River Crossing Project to the Federal Highway Administration (FHWA) pursuant to Section 7(a) of the Wild and Scenic Rivers Act (Act). A Court decision of March 11, 2010 found the 2005 Section 7(a) Evaluation arbitrary and capricious because the NPS did not provide an explanation for the Agency's change in position from 1996 to 2005 (Sierra Club North Star Chapter v. LaHood, et al., 0:07-cv-02593-MJD-SRN (D. Minn. March 11, 2010)). Therefore, the Court vacated the 2005 Section 7(a) Evaluation. In addition, the Court decision permanently enjoined the NPS from "authorizing, funding, or otherwise assisting in the construction of the proposed bridge unless and until a new Section 7(a) Evaluation is issued that complies with the dictates of this Memorandum of Law and Order."

By letter of April 6, 2010 the FHWA requested that the NPS prepare a new Section 7(a) Evaluation for the St. Croix River Crossing Project, taking into account the concerns expressed in the Court's decision. Therefore, the purpose of this document is for the NPS to respond to the FHWA's request as a cooperating agency with jurisdiction by law (40 CFR 1501.6).

As directed by the Court and in response to this request, the NPS reviewed the Act and available guidance to ensure that appropriate standards were followed as it took a fresh look at the proposed project and prepared a new evaluation and determination based on a new visual analysis of the proposed bridge. Staff from the NPS Servicewide Wild and Scenic Rivers Program, established in 2007 assisted with this review. The Servicewide program was established to help ensure the NPS is consistent in meeting responsibilities under the Act.

As a result of the review of the Act and available guidance, and in consultation with the Interagency Wild and Scenic Rivers Coordinating Council, the NPS concluded that if it determined that the project has direct and adverse effects on the values for which the river was designated as part of the National Wild and Scenic Rivers System, and those impacts could not be avoided or eliminated, then the NPS cannot consent to the project. The NPS has concluded that compensating for an impact by improving resource conditions elsewhere does not change the existence of the direct and adverse effect. Likewise, minimizing a direct and adverse effect so that it is smaller, but still considered adverse, is not sufficient to allow the project to move forward under the Act. Additional information about our review is included in the enclosed Section 7(a) document.

This document provides a new evaluation of the impact of the proposed new bridge crossing on the values for which the Lower St. Croix National Scenic Riverway was established by Congress. The determination is based on the standard described above.

Executive Summary

The Lower St. Croix National Scenic Riverway (Riverway) was established as a National Wild and Scenic River under the authority of the Wild and Scenic Rivers Act (Public Law 90-542 as amended; 16 U.S.C. 1271-1287; Act). Section 1(b) of the Act contains the Congressional declaration of policy to provide Federal protection for certain of our country's remaining free-flowing rivers, preserving them and their immediate environments for the use and enjoyment of present and future generations and to complement the national policy of dam and other construction at appropriate sections of rivers.

The Saint Croix River Crossing Project proposes to build a highway-grade bridge across the Riverway at Stillwater, MN, to address regional transportation. The project is subject to review by the National Park Service (NPS) under Section 7(a) of the Act. The NPS is responsible for making an evaluation and determination of the effect the proposed project would have on the free-flowing condition, water quality and outstandingly remarkable scenic, recreational, and geologic values for which the Riverway was designated as part of the National Wild and Scenic River System. The NPS cannot consent to any water resources project that is determined to have a direct and adverse effect on these values. The proposed new bridge is considered a water resources project because construction would occur within the bed and bank of the Riverway . Federal assistance in the form of funding from the FHWA and permits from the U.S. Army Corps of Engineers (Corps) and U.S. Coast Guard would also be required.

The agencies responsible for addressing transportation issues in the area have developed numerous proposals for relieving congestion and accommodating future projected traffic volumes. Because the St. Croix River in the project area has been designated under the Act, the NPS has assessed three different bridge proposals and prepared three different Evaluations and Determinations under Section 7(a) of the Act prior to this document; one in 1996, one in 2000, and one in 2005.

In 1996 the NPS Section 7(a) determined that the proposed bridge crossing would have a direct and adverse effect on the scenic and recreational values of the Riverway that could not be adequately mitigated. The 1996 Evaluation indicates that a bridge cutting across the river is fundamentally different in terms of its visual impacts than the impacts of shore and bank development. In 2000, the NPS determined that the proposed bridge would have a direct and adverse effect on scenic and recreational values but that the effects could be adequately offset by any one of three mitigation "alternates." In 2005, the NPS determined that the preferred alternative, when taken along with its mitigation package would not have a direct and adverse effect on scenic and recreational values. The 2005 Section 7(a) Evaluation was challenged in court by the Sierra Club North Star Chapter (Sierra Club North Star Chapter v. LaHood, et al., 0:07-cv-02593-MJD-SRN (D. Minn. March 11, 2010)) and found to be arbitrary and capricious. The court vacated the 2005 Section 7(a) Evaluation and ruled that the NPS could not assist in the construction of the Proposed Bridge until a new Section 7(a) Evaluation is issued that complies with the Memorandum of Law and Order." The FHWA requested that the NPS prepare a new

Section 7(a).

This 2010 Section 7(a) Evaluation reconsiders our responsibilities under the Act and presents a new analysis of scenic impacts using standardized methodologies in response to the Court's order. To develop this document, the NPS considered a) guidance from the Interagency Wild and Scenic Rivers Coordinating Council (Council) Section 7(a) document (Interagency Wild and Scenic Rivers Coordinating Council, 2004); b) NPS informational guidance (Haubert, 2000); c) related U.S. Forest Service regulations (36 CFR 297.5(3)(b)); and d) contrasting language from other environmental statutes that involve feasibility and public interest balancing tests. The guidance consistently derived from these sources is that direct and adverse effects to the values for which the river was designated as part of the National Wild and Scenic River System must be 'eliminated'. There are a number of other pieces of legislation that protect the resources of the Riverway. They include the Endangered Species Act of 1973 and Section 4(f) of the Transportation Act of 1966. The U.S. Fish and Wildlife Service provided a Biological Opinion on the proposed bridge and concluded that the proposed bridge would not likely jeopardize the continued existence of the federally endangered Higgins eye pearlymussel, the federally endangered winged mapleleaf mussel, or the federally threatened bald eagle.

The transportation agencies issued a Supplemental Final Environmental Impact Statement for the St. Croix River Crossing Project" (SFEIS) in 2005 (FHWA et al., 2005). This Section 7(a) evaluation only evaluates the direct impacts of the preferred alternative on the values of the Riverway. A mitigation package to offset the impacts of the proposed new bridge was developed by the transportation agencies in consultation with a Stakeholders Group. Both river and shoreline items are included in the mitigation package. Assurances that the mitigation package would be carried out are built into the FHWA's Record of Decision (ROD) for the St. Croix River Crossing Project (FHWA et al., 2006). The ROD also incorporates by reference the "Riverway Memorandum of Understanding" which identifies all of the mitigation items described in this document.

The NPS has determined the proposed bridge would have direct, but not adverse effects on the free-flowing condition of the Riverway associated with the construction of bridge piers in the river. Despite efforts to eliminate the visual impacts of the project, the proposed bridge would create a strong visual contrast in the existing scenery of the Riverway, therefore, the NPS determined the project would have a permanent direct and adverse effect on the scenic values for which the Riverway was established. Likewise, because of the unavoidable visual intrusion the proposed bridge would impose upon the scenic character of the Riverway and the inherent link between the scenic character and recreational enjoyment of the Riverway, the NPS also determined the project would have a direct and adverse effect on the recreational values for which the Riverway was established. Geologic values are not affected. The NPS cannot consent to the project because of the direct and adverse impacts to scenic and recreational values, despite efforts to minimize them.

While the Riverway mitigation plan does not meet the requirements of the Act, it is critical to

meeting requirements of Section 4(f) of the Department of Transportation Act of 1966. If the project sponsors choose to submit the proposed bridge project to Congress for approval, as allowed under Section 7(a) of the Act, the Riverway mitigation package should remain intact to satisfy Section 4(f).

I. Enabling Legislation and Guidance

A. The Wild and Scenic Rivers Act

The Lower St. Croix National Scenic Riverway (Riverway) was established as a National Wild and Scenic River System under the authority of the Wild and Scenic Rivers Act (Act). The purpose and protections afforded under the Act are described below.

1. Section 1(b): Purpose

Congress passed the Act (Public Law 90-542 as amended; 16 U.S.C. 1271-1287) in 1968. The Act established a method for providing Federal protection for certain of our country's remaining free-flowing rivers, preserving them and their immediate environments for the use and enjoyment of present and future generations. Section 1(b) of the Act contains the Congressional declaration of policy.

Section 1(b) states:

> *"It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes."*

The Act implements this policy by instituting a National Wild and Scenic Rivers System (System), by designating components of that System, and by providing for the protection of the free-flowing condition, water quality, and values of those rivers included in the System.

2. Section 7(a): Protection from Water Resources Projects

The authority for this evaluation is found in Section 7(a) of the Act. Through the language of this section, Congress expressed the clear intent to protect river values from the harmful effects of water resources projects. The Act prohibits Federal agencies from assisting in the construction of any water resources project that would have a direct and adverse effect on the values of a designated river.

Section 7(a) states:

> *"no department or agency of the United States shall assist by loan, grant, license or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration."*

The proposed new bridge is considered a water resources project subject to Section 7(a) of the Act because construction activities would occur within the bed and bank of the Riverway (i.e. bridge piers would be placed in the river). It would require Federal assistance in the form of funding from the FHWA and permits from the U.S. Army Corps of Engineers (Corps) and U.S. Coast Guard. A Federal Court decision of April 13, 1998 dealing with the 1996 Section 7(a) Determination prepared by the NPS for the proposed new St. Croix River Crossing, established that bridges that involve construction in the bed or banks of the river are water resources projects under Section 7(a) (U.S. District Court of Minnesota, 1998).

To implement this provision, the NPS considered a) guidance from the Interagency Wild and Scenic Rivers Coordinating Council (Council) Section 7(a) document (Interagency Wild and Scenic Rivers Coordinating Council, 2004); b) NPS informational guidance (Haubert, 2000); c) related U.S. Forest Service regulations (36 CFR 297.5(3)(b)); and d) contrasting language from other environmental statutes that involve feasibility and public interest balancing tests. The guidance consistently derived from these sources is that direct and adverse effects to the values for which the river was designated as part of the National Wild and Scenic River System must be 'eliminated'.

a. Council Guidance

The Council is made up of the four federal administering agencies of the National Wild and Scenic Rivers System (National Park Service, Bureau of Land Management, and US Fish and Wildlife Service within the Department of Interior, and US Forest Service within the Department of Agriculture). The Council develops technical guidance to help ensure consistency among the Agencies in implementing their wild and scenic rivers responsibilities. Council guidance has been used by many courts in reaching decisions regarding the protection and management of national wild and scenic rivers. USFS regulations are relevant because, lacking Department of Interior regulations, it is a reference that a Court would likely turn to for guidance given that the direction in the Act applies in the same manner to all four federal agencies.

The Council technical paper on Section 7(a) describes standards and an evaluation process to provide context for measuring a proposed project against the specific standard, in this case "direct and adverse effect," rather than a more precise definition. It addresses the issue of mitigation and the need to eliminate adverse effects in the appendix of Frequently Asked Questions, as follows:

"Q. Is the river-administering agency required to develop mitigation measures for a water resources project determined to have an adverse effect?

A. No. The river-administering agency may recommend measures to eliminate adverse effects and the authorizing agency may submit a revised proposal for consideration (36 CFR 297.5(3)(b))." (Interagency Wild and Scenic Rivers Coordinating Council, October 2004 p. 36)

This Council also provides an example of a Section 7(a) review and outcome articulating the need to eliminate impacts:

"**North Umpqua River Highway Project, Oregon** - Early consultation with the ODOT, and the application of the Section 7 procedure by a USFS interdisciplinary team, resulted in significant redesign of the project to protect the river's connection with its floodplain and ORVs. Specifically, the access site redesign eliminated encroachment on bank full channel and lower river terraces in the two- to five-year floodplain. The bridge was widened without modifications or additions to the existing footing and columns (protecting an important anadromous spawning area at the site and immediately downstream), and the gabion wall proposal was eliminated and the site redesigned without additional excavation or embankment construction." (Interagency Wild and Scenic Rivers Coordinating Council, October 2004 p. 19-20)

b. NPS Informational Guidance

Informational guidance to NPS river managers provides the following direction (Haubert, 2000):

(a) "The applicable Wild and Scenic River administering agency will consent to Federal assistance to, or authorization of, a water resources project if it determines, based on the applicable standard below, that:

For Water Resource Projects Within the Designated River Area or Study Area:

When any portion of the project is within the boundaries of such river, the project will not have a *direct and adverse* effect on the values (i. e., free flow, water quality and outstandingly remarkable values) for which the river was designated or authorized for study by Congress,

(b) If the project would adversely affect wild and scenic river values, the applicable Wild and Scenic River administering agency will advise the assisting or authorizing agency that the water resources project may not proceed as proposed. The applicable Wild and Scenic River administering agency may

recommend measures to eliminate adverse effects, and the assisting or authorizing agency may submit revised plans for consideration."

Additional DOI information on mitigation responsibilities and exceptions is as follows (Haubert, 2000):

> "We consider development of mitigation measures to be the responsibility of the project proponent….the river administering agency may recommend measures to eliminate adverse effects. Unlike certain other laws, the Act does not allow projects which unavoidably have adverse effects to proceed. There is, however, an exception provided in the Act for projects requiring authorization/appropriations by Congress. Specifically, the statute allows the proposing agency to notify Congress in writing of its preference to proceed with a project in conflict with the purposes of the Act, as determined by the river administering agency. In such a situation, the Congress will determine if the project is to proceed."

c. U.S. Forest Service Regulations

The Department of Agriculture, USFS, is the only member of the Council that adopted regulations for Section 7(a) of the Act. These regulations have been used by the Council to develop Interagency Council guidance. Specifically, the Forest Service regulations at 36 CFR § 297.5 state:

> (a) The Secretary of Agriculture will consent to the issuance of any Federal license, permit, or other authorization if, as a finding of fact, it is determined that:
>
> (1) The water resources project will not have a direct and adverse effect on the values for which a Wild and Scenic River or Study River was designated when any portion of the project is within the boundaries of said river, or;…
>
> (b) If consent is denied, the Secretary may recommend measures to eliminate adverse effects, and the authorizing agencies may submit revised plans for consideration.

d. Contrasting Language from other Environmental Laws

Unlike the Act, other environmental statutes and regulations involve feasibility and balancing tests. For example, Section 4(f) of the Department of Transportation Act of 1966 allows a project to go forward if there is "no feasible and prudent alternative" and the action includes all possible planning to minimize harm; and Section 404 of the Clean Water Act of 1972 (P.L. 92-500, 86 Stat. 816) has provisions for compensation of

"unavoidable" wetland losses. Implicit in these examples is that Congress empowered the administering agencies of these laws to decide whether the greater public good is served by going ahead with a project despite its impacts. In contrast, Congress did not give river-administering agencies this power. Instead, Congress said in Sec. 1 (b) and 1(c) that the System was created in compensation for the impacts federal projects were having on other rivers, that Wild and Scenic Rivers are to be preserved, and that no federal agency is allowed to assist in constructing a water resources project that is determined to have direct and adverse effects on Wild and Scenic River values.

3. Section 10(a): Management Direction on Non-Degradation and Enhancement

The Act provides management mandates to river-administering agencies. Section 10(a) of the Act states that:

> *Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values."*

The Final Revised Guidelines for Eligibility, Classification and Management of River Areas (Federal Register, 1982) provides further clarification. These guidelines interpret Section 10(a) as a non-degradation and enhancement policy for all designated river areas, regardless of their classification as wild, scenic, or recreational.

4. Section 2(b): River Classification

Section 2(b) of the Act provides definitions of the three classifications of eligible river areas: wild, scenic, and recreational. These classifications are based on the extent of development and accessibility along each segment of river existing at the time of designation. "Wild" rivers are generally inaccessible except by trail; "Scenic" rivers are largely undeveloped, but are accessible in places by road; and "Recreational" rivers are readily accessible by road. The upper 10.3 miles of the Riverway are classified as "Scenic." The lower 42 miles, including the State-administered section and the location of the proposed St. Croix River Crossing are classified as "Recreational."

Classification establishes a baseline condition and reflects the level of development existing at the time of designation. Classification does not imply that additional development that degrades the original condition of the Riverway is permitted in the future; (Federal Register, 1982) nor does it imply management intent. For instance, a classification as "Recreational" does not mean that the river must be managed or developed specifically for recreational activities. All rivers are managed to protect and enhance the values that caused them to be eligible for inclusion in the System, regardless of their classification. All rivers are afforded equal protection under the Act.

5. Establishment of the Lower St. Croix National Scenic Riverway

The lower 52 miles of the St. Croix River (hereafter referred to geographically as the Lower St. Croix) from the hydroelectric dam at St. Croix Falls to its confluence with the Mississippi was designated as a "study river" with passage of the Act in 1968 in order to determine if the stretch of the river possessed the qualities for eligibility into the System..

To be eligible for inclusion in the System a river area must be relatively free-flowing and, along with its adjacent land area, must possess one or more outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. The U.S. Department of the Interior, Bureau of Outdoor Recreation (now absorbed into the NPS) performed the study of the Lower St. Croix (BOR, 1973).

The study found that the Lower St. Croix was eligible for inclusion in the System based on its outstandingly remarkable scenic, recreational and geologic values (BOR, 1973)

Based on the results of the study and public support, Congress amended the Act on October 25, 1972, to add the Lower St. Croix River to the System and established the Riverway. The amendment provided that the upper 27 miles of the Riverway would be administered by the Secretary of the Interior and that the lower 25 miles would be designated by the Secretary of Interior upon his approval of an application for such designation made by the Governors of the States of Minnesota and Wisconsin under Section 2(a)(ii). Section 2(a)(ii) of the Act grants authority to the Secretary of the Interior to include rivers in the System upon application by the Governor(s) of the State(s) involved. The Governors of Minnesota and Wisconsin applied for designation of the lower 25 miles of the Riverway in early 1976, and the Secretary of the Interior designated the stretch on June 17, 1976.

6. Outstandingly Remarkable Values

The original Master Plan for management of the Riverway and the updated Cooperative Management Plan completed in 2002 confirmed the values identified in the BOR study and identified its outstandingly remarkable values as scenic, recreational, and geologic (U.S. Department of Interior [DOI], 2002). The geologic values for which the Riverway was added are specific to the Dalles of the St. Croix, a steep-walled gorge through which the river flows. The Dalles were formed by melting glaciers at the end of the Ice Age. These basalt rock outcrops are located over 25 miles north of the project area and would not be affected. Therefore, impacts to geologic values are not evaluated in this document. Native mussels are discussed in Section VIII of this document to address a concern of the Court.

The Congressional Record (October 9, 1972) provides additional clarification regarding the outstandingly remarkable values and purpose for designating the Riverway. It states that:

> *"This 52-mile segment of the St. Croix River is a natural resource which will provide present and future generations the opportunity for swimming, boating, fishing and other*

recreational pursuits." (Representative John Saylor)

"I should point out that this is one of the last remaining rivers in the United States which lies within a major metropolitan area and is still relatively unspoiled. The river borders the eastern boundary of the Minneapolis-St. Paul urban area and is within easy access of over 2 million people. Ironically, it is this accessibility which places in jeopardy the features which make this river an outstanding natural resource, and which makes it imperative that the river quickly receive protection under the Wild and Scenic Rivers Act." (Senator Henry Jackson)

"The waters of the St. Croix are of high quality and provide opportunity for fishing, swimming, boating, and other recreational pursuits" (Senator Henry Jackson)

"The river provides recreational and scenic opportunities for sportsmen, boaters, hikers, campers, and those who come simply to enjoy its natural beauty." (Senator Walter Mondale).

7. Managing Agencies for the Lower St. Croix National Scenic Riverway

Rivers added under Section 2(a)(ii) of the Act are generally managed by an agency or political subdivision of the State(s) concerned. These rivers are referred to as "State-administered" rivers. The same standards and level of protection apply to them as to rivers administered by the Federal Government. In the case of the lower 25 miles (State-administered zone) of the Riverway, a management commission was established. The Lower St. Croix Management Commission is currently made up of representatives from the Wisconsin Department of Natural Resources (WDNR), Minnesota Department of Natural Resources (MDNR), and the NPS.

The States of Minnesota and Wisconsin are responsible for acquiring scenic easements, providing recreational facilities, and working with local governments to develop zoning ordinances to protect the river corridor. The NPS is responsible for preparing and updating management plans with the assistance of the States. The original Master Plan for the Riverway was adopted in 1976. Recognizing that the Master Plan was dated, the WDNR, MDNR and the NPS agreed to jointly develop an updated cooperative management plan for the Riverway. The Cooperative Management Plan (CMP) was finalized in January 2002 and provides general direction for managing the Riverway over the next 15-20 years (DOI, 2002).

The NPS has responsibility for protecting State- administered rivers under Section 7(a) of the Act. The proposed new St. Croix River Crossing would be located in the State-administered section of the Riverway. The NPS is responsible for making a determination pursuant to Section 7(a) for the proposed new bridge project. A map of the Riverway showing the boundary between the Federal and State zone as well as the location of the proposed bridge is included in Appendix A, Figure 3.

B. Other Applicable Federal Legislation

There are a number of other pieces of legislation that protect the resources of the Riverway. They include the Endangered Species Act of 1973 and Section 4(f) of the Transportation Act of 1966.

1. Endangered Species Act of 1973

The Endangered Species Act of 1973 was designed to protect critically imperiled species from extinction as a "consequence of economic growth and development untempered by adequate concern and conservation." It is administered by two Federal agencies, the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration.

The USFWS provided their Biological Opinion on the proposed bridge by letter of September 9, 2005. It concludes that the proposed bridge is not likely to jeopardize the continued existence of the federally endangered Higgins eye pearlymussel, the federally endangered winged mapleleaf mussel, or the federally threatened bald eagle.

2. Section 4(f) of the Department of Transportation Act of 1966

Section 4(f) of the Department of Transportation Act of 1966 (48 U.S.C. 1653(f)) states that it is in the national interest to preserve the natural beauty of the countryside, public park and recreation lands, wildlife and waterfowl refuges and historic sites. The law requires that transportation use of such resources can only take place if:

(1) No feasible or prudent alternative to the use of such lands exists and

(2) Such a project includes all possible planning to minimize harm to the Section 4(f) resources resulting from such use.

The FHWA identifies the Riverway as a resource protected under Section 4(f). The Supplemental Final Environmental Impact Statement (SFEIS) includes a Section 4(f) Evaluation for the Riverway to determine the consistency of the St. Croix River Crossing Project with Section 4(f) of the Department of Transportation Act (FHWA, 2006). The Section 4(f) Evaluation found that there are no location or design alternatives that would avoid this Section 4(f) resource, other than the No-Build Alternative. The No-Build alternative is not a feasible and prudent alternative because it would not address the project purpose and need. The 4(f) Evaluation goes on to find that the proposed bridge includes all possible planning to minimize harm because of the location and design measures incorporated into the project design and location (described in part III, E, 2, a- b of this document) and it has the least harm to the Riverway as a Section (4f) resource because of the Riverway mitigation package (described in part III, E, 2, c –n of this document).

The 4(f) Evaluation concludes that there is no feasible and prudent alternative to the use of the Riverway, and the proposed action includes all possible planning to minimize harm to the Riverway. In comments on the Draft SEIS, the Department of Interior (DOI) concurred that under any of the build alternatives there is no feasible and prudent alternative to use of the Riverway for this transportation project. The DOI went on to recommend that a mitigation plan to minimize harm to the Riverway and other 4(f) resources should be developed and included in the Final SEIS (DOI, 2004).

II. Project History

A. Background

A new bridge crossing of the St. Croix River in the vicinity of Stillwater, Minnesota has been under consideration for many years. A lift bridge has served as the river crossing between Houghton, Wisconsin and Stillwater, Minnesota since 1931. When the Stillwater Lift Bridge is in the "up" position to allow the passage of boats underneath, it results in traffic congestion in downtown Stillwater. Transportation studies indicate that traffic congestion will worsen in the coming years. In spring high water, the Lift Bridge sometimes closes for several days until floodwaters recede. This does not occur on an annual basis. The public is also concerned about the structural integrity of the Lift Bridge. Rehabilitation work was done on the bridge in 2005 and 2006. The work included construction of a new 5 3/8-inch-thick, reinforced concrete deck; replacement of the decorative metal sidewalk railing; and repairs to the truss superstructure. Additional work has been recommended (Mn/DOT, 2009).

The agencies responsible for addressing transportation issues in the area have developed numerous proposals for relieving congestion and accommodating future projected traffic volumes. These agencies are the FHWA, the Minnesota Department of Transportation (Mn/DOT), and the Wisconsin Department of Transportation (WDOT); collectively referred to as the "transportation agencies."

Because the St. Croix River in the project area has been designated under the Act (Public Law 90-542 as amended; 16 U.S.C. 1271-1287), the NPS has assessed three different bridge proposals and prepared three different Evaluations and Determinations under Section 7(a) of the Act prior to this document; one in 1996, one in 2000, and one in 2005. Section 7(a) of the Act protects the resource values of designated rivers from the direct and adverse effects of federally-assisted water resources projects. An "Evaluation" is a federal staff-level assessment of the impact of a proposed water resources project on the resource values for which a river was designated under the Act. A "Determination" is a management level decision, based on the staff evaluation.

Each of the three bridge proposals differed in regard to its location, alignment, dimensions, number of piers in the river, bridge type, Riverway mitigation package, and the level of NPS involvement in their development. These differences are described below. In addition, a map showing the differences in location of the three bridge proposals is shown in Appendix A, Figure 1. Visual simulations of each proposed bridge are included in Appendix A, Figures 2a, 2b and 2c. A table summarizing the major differences is located in Appendix B, Table 1.

B. The Three Bridge Proposals Evaluated in 1996, 2000, and 2005/2010

1. 1996 - The North Alignment of the South Corridor

a) Bridge Details

Location:
From the intersection of TH 36 and TH 95: east towards the St. Croix River, then northeast across the river (FHWA, et al.1995).

From the existing Lift Bridge: Minnesota side: 7480 feet south, Wisconsin side: 5465 feet south

Alignment:
Diagonally across river at about 70° to the center of the river. (Note: Alignment is considered important because diagonal crossings increase the perceived length).

Dimensions:

Length: 2925 feet over river (5536 feet total)
Height: 73-140 feet (rising to Wisconsin side
Width: 98 feet (4 lanes)

Number of Piers in the River:
Eight (8)

Type:
Either segmental concrete box bridge or haunched steel girder

b) Mitigation Package

There were no Riverway specific mitigation items.

c) NPS Involvement in the NEPA Process for the Bridge Project

During development of the Final EIS (FHWA et al., 1995) the NPS advocated for Transportation System Management (TSM) strategies to increase the capacity of the existing transportation system. These strategies include more efficient use of transit and taxi services, ride-sharing (park-and-ride and park-and-pool lots), high occupancy vehicle provisions, bicycle/pedestrian travel and others. The transportation agencies studied these strategies and determined that while they would possibly reduce traffic volumes on the Lift Bridge, they would not be sufficient to address the need for transportation system capacity improvements in the project area.

Tunnel alignments on the north end and south end of Stillwater were looked at in the 1990 Draft EIS for the project. The North Tunnel would have cost $129 – 179 million in 1990 including approach roads, but not tunnel support facilities. The South Tunnel would have cost $123-173 million also including approach roads, but not tunnel support facilities (FHWA et al., 1990). The tunnel options were dismissed from consideration for reasons which included excessive cost; serious overall environmental impacts, including construction damage to both the river and the shores; limited usefulness to trucks; and the need for extremely long and steep grades between the tunnel beneath the river and the bluffs on each side of the river (FHWA, 1995).

During the EIS process that resulted in the 1995 bridge proposal, the NPS informed the transportation agencies that Section 7(a) of the Act would apply. The NPS believed that the proposed bridge met the Act's definition of a "water resources project" and that government agencies needed to prevent a proliferation of transportation crossings in order to protect the scenic values the Riverway. If a new bridge was constructed; the existing Lift Bridge should be removed. The transportations agencies, however, did not agree that the proposed bridge was subject to review under Section 7(a) of the Act (FHWA et al., 1995).

In 1995, the transportation agencies released a Record of Decision (ROD) identifying the "north alignment of the South Corridor" as the alternative selected for a bridge crossing of the Riverway. The existing Lift Bridge was to be left in place because it is listed on the National Register of Historic Places and because the new bridge would not physically impact it.

d) Section 7(a) Evaluation and Determination

The NPS prepared a Section 7(a) evaluation and determination in response to public notices issued by U.S. Army Corps of Engineers (Corps) and the U.S. Coast Guard (NPS, 1996). The public notices provided information on the fill that would be placed in the Riverway for construct of the proposed bridge. At the time, this was the point at which the NPS evaluated water resources project under Section 7(a) of the Act. Based on the staff evaluation, the NPS Midwest Regional Director made the following Section 7(a) determination:

"The proposed bridge project would have an adverse effect on the scenic values for which the LSCNSR (Lower St. Croix National Scenic Riverway) was included in the System. The proposed bridge is a massive structure that would adversely affect the existing natural and historic scene. It would change the scenic qualities of this segment of river more than any development since the time of designation."

"There is a direct relationship between scenic values and recreational value. The adverse effect the proposed bridge would have on scenic values would interfere with

recreationists' enjoyment of these values. Therefore, the proposed bridge would also have an adverse effect on the recreational values for which the LSCNSR was included in the System."

These adverse effects on scenic and recreational values would be direct because the proposed bridge project would be located directly on a segment of the LSCNSR; not upstream, downstream or outside the boundaries. The direct and adverse effects the proposed bridge would have on the scenic and recreational values for which the LSCNSR was included in the System cannot be adequately mitigated."

The NPS staff evaluation, on which the Midwest Regional Director's determination was based, included further explanation (NPS, 1996):

"*The proposed bridge would change the scenic qualities of this segment of the river more than any development since its designation…The visual impacts of the existing shoreline development, which interrupts the vegetative cover, is not comparable to visual impacts which would occur if the proposed bridge is constructed… A bridge cutting across the river is fundamentally different in terms of its visual impact than the impacts of shore and bank development…Unlike the smoke stack, and other shore and bank developments, the placement of a visual obstruction horizontally across the river makes the visual impact far more dramatic and disruptive to the viewer…The severity and magnitude of the visual impacts related to the proposed project are so great that they cannot be significantly reduced by the available mitigation measures."*

e) Outcome

As a result, of the direct and adverse effect determination, the Corps and U.S. Coast Guard permits could not be issued for the project. Without these permits, the bridge project could not go forward.

The Mn/DOT, WisDOT, and the City of Stillwater intervened in an ongoing lawsuit brought against the FHWA and the NPS by the Sierra Club. They filed a motion to vacate the NPS 1996 Section 7(a) determination. The Mn/DOT's motion was denied (Montgomery, 1998). This court decision established case-law that bridges are water resources projects subject to review under Section 7(a) of the Act.

2. 2000: Braun C Alternative

a) Bridge Details

Location:
From the intersection of TH 36 and TH 95: east towards the St. Croix River, then northeast across the river (FHWA, et al., 1995).

From the existing Lift Bridge: Minnesota side: 4450 feet south, Wisconsin side: 3635 feet south

Alignment:
Perpendicular across the river at about 90° to the center

Dimensions:
Length: 2000 feet over river (4040 feet total)
Height: 105-150 feet (rising to Wisconsin side)
Width: 98 feet (4 lanes)

Number of Piers in the River:
Five to seven (5–7)

Type:
Deck-tied steel arch

b) Mitigation Package

A mitigation package was developed by a multi-agency integrated work group (Work Group), including the NPS, and proposed by the transportation agencies to offset impacts to the Riverway. It included the following measures:

- Remove the Northern States Power (now Xcel energy) mooring cells and barge off-loading facility at the Allen S. King Plant;
- Remove the Terra Terminal Building;
- Restore Kolliner Park to a more natural condition;
- Place covenants on potential excess properties from the 1995 proposed bridge alignment;
- Regional Land Use Planning: the transportation agencies would assist in the development of a regional infrastructure and land use plan for the St. Croix River Valley between Taylors Falls/St. Croix Falls and Prescott/Point Douglas;
- Provide a public boat access on the Minnesota shore at the former FEIS bridge alignment; and
- Develop a river front park on the former Aiple barge facility property, restore shoreline.

In addition to these items, the 2000 mitigation package included three different options for the disposition of the existing Lift Bridge. These options were developed due to differences of opinion in the Work Group about the value of the Lift Bridge and because of the uncertainty of obtaining needed funding and finding a future owner for the Lift Bridge**.** The three options combine differing futures for the Lift Bridge and differing

amounts of funding for land protection.

Alternate 1: Lift Bridge Removed/No Land Conservation Fund

The existing Stillwater Lift Bridge would be converted to a pedestrian/bicycle bridge for the remainder of its useful life or for 10 years following completion of the new bridge, whichever was shorter. Useful life was defined as up until that point in time when the bridge would require extraordinary maintenance measures such as replacing the lift mechanism. Once it had lived out its useful life or 10 years had passed, the bridge would be documented according to HABS/HAER standards and removed. (Note: HABS/HAER standards define the products acceptable for inclusion in the Heritage Documentation Programs collections in the Library of Congress as measured drawings, large-format black and white photographs, and written studies. They require that the documentation captures the significance of the site or structure; is accurate and verifiable; has archival stability; and is clear and concise.)

No money would be provided to establish a conservation fund for the purchase of lands or interests in land.

Alternate 2: Lift Bridge Converted to a Pier / $10 million Land Conservation Fund

Within one year of the opening of the new bridge, the existing Lift Bridge would be converted to a pier and the roadway removed on the Wisconsin side.

Approximately $10 million would be provided for a land conservation fund in lieu of removing the entire bridge. Lands or interests in lands would be purchased from willing sellers to protect them from development. Acquisition would focus on three areas: 1) the river's shoreline, 2) the viewshed of the river, and 3) the river's watershed.

Alternate 3: Bridge/Causeway used as a Pedestrian/Bicycle Bridge / $13.5 million Land Conservation Fund

The Stillwater Lift Bridge and causeway would remain for their viable life as a pedestrian/bicycle bridge. Viable life is defined as the time when the conditions of the Coast Guard permit are no longer met (lift mechanism no longer functions or the bridge no longer serves a transportation use). The Wisconsin bluff would be partially restored to a more natural state and would include a bicycle/pedestrian connection to the top of the bluff. The entire causeway would remain in place.

Approximately $13,500,000 would be provided for a land conservation fund.

c) NPS Involvement in the NEPA Process for the Bridge Project

In 1998, after discussions with legislators and other interested parties, the transportation agencies decided to revisit the issue of a river crossing near Stillwater. Richard P. Braun, a retired Mn/DOT commissioner, facilitated a consensus building process for a new bridge crossing of the Riverway. The NPS was asked to participate in the process. The NPS participated in the process under the requirements of NEPA as a cooperating agency with jurisdiction by law. A cooperating agency under NEPA means any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a major Federal action significantly affecting the quality of the human environment (40 CFR 1501.6). The NPS has jurisdiction by law under Section 7(a) of the Act. Cooperating agency status under NEPA implies neither support for nor opposition to a project. The NPS retained its Section 7(a) authority.

The "Braun Process" developed three alternative bridge alignments located between the 1995 Final EIS preferred alternative and the Stillwater Lift Bridge. The preferred alternative was the "Braun C."

An integrated work group was formed with the goal of developing a mitigation package that would meet the requirements of Section 106 of the Historic Preservation Act, Section 7(a) of the Wild and Scenic Rivers Act, and Section 4(f) of the Department of Transportation Act. The Work Group included representatives from FHWA, WisDOT, Mn/DOT, NPS, Minnesota and Wisconsin Department of Natural Resources, Advisory Council on Historic Preservation, Minnesota and Wisconsin State Historic Preservation Office, and the City of Stillwater.

d) Section 7(a) Evaluation and Determination

In 2000, the transportation agencies released a Draft EIS for Cooperating Agency review (FHWA et al, 2000). Upon review of that document, NPS staff prepared a Draft Section 7(a) Evaluation. The Draft Section 7(a) Evaluation (NPS, 2000) was delivered to the transportation agencies, per a new NPS Midwest Region policy, to be included in their Draft EIS when it was released for public review.

The 2000 Draft Section 7(a) Determination was recommended by the Midwest Regional Director and signed by then-Secretary of the Interior Bruce Babbitt. It stated that:

> *"The Draft Section 7(a) Evaluation represents the NPS analysis of the proposed project on the values for which the Lower St. Croix NSR was established. We recommend that determination be one of no direct and adverse effect when the project is taken along with its mitigation package. We believe the adverse effects of the project to be adequately offset by the mitigation package regardless of whether Mitigation Alternate 1, 2, or 3 is selected."*

(Note: the "Mitigation Alternates" relate to the future disposition of the Lift Bridge)

e) Outcome

In January 2001, Mn/DOT announced that the agency was suspending work on the project for the following reasons 1) insufficient federal funding for mitigation alternatives; 2) inability of federal, state, and local agencies to reach consensus; and 3) failure to obtain municipal approval.

The 2000 Cooperating Agency Draft EIS was not further developed or issued for public review, and there was no Record of Decision from the FHWA. Because there was no final FHWA agency decision, the environmental process, including the 2000 NPS Section 7(a) was never ripe for court review. The NPS did, however, make the Draft Section 7(a) Evaluation available to interested parties upon request.

3. 2005 – Alternative B-1

a) Bridge Details

Location:
From the existing Lift Bridge: Minnesota side: 7550 feet south, Wisconsin side: 6435 feet south

Alignment:
Slightly diagonal across the river at about 80-90° to the center of the river

Dimensions:
Length: 2840 feet over the river (4953 feet total)
Height: 113-159 feet (rising to Wisconsin side)
Width: 98 feet for deck, additional 20 feet for cable tie-in areas

Number of Piers in the River:
Six (6)

Type:
Extradosed (frequently described as a cross between a girder bridge and a cable-stayed bridge)

b) Mitigation Package

Many of the items included in the mitigation package for the 2000 bridge proposal were carried over to the 2005 proposal. The package to mitigate impacts to the Riverway is

described in detail in Section III, of this document.

c) NPS Involvement in the NEPA process for the Bridge Project

In 2001, FHWA retained the U.S. Institute for Environmental Conflict Resolution (the Institute) to conduct a "conflict assessment" of the controversy over a proposed new bridge over the St. Croix River near Stillwater and the related issue over what should be done with the Lift Bridge. The Institute's Report recommended moving the Lift bridge issues on to a separate but coordinated track and move forward with a Draft Supplementary EIS for the new bridge (U.S. Institute for Environmental Conflict Resolution [IECR], 2001).

In 2002, the transportation agencies again re-initiated the St. Croix River Crossing EIS process. The facilitation firm "RESOLVE" was selected to proceed with the crossing project through mediation using the Institute's recommendations as a guide. RESOLVE developed a dispute resolution process that centered on a "Stakeholders Group," made up of 28 representatives of diverse interests who would provide input to the transportation agencies in their decision-making process.

As in 2000, the NPS became a cooperating agency in development of the EIS and was included in the Stakeholders Group. The NPS has jurisdiction by law under Section 7(a) of the Act. Cooperating agency status under NEPA implies neither support for nor opposition to a project. As a member of the Stakeholders Group, the NPS did not give up its decision-making authority under Section 7(a) of the Act.

The Supplemental Draft EIS (2004) looked at four different bridge alignments and several bridge types. The bridge alignments included Alternatives B-1, C, D and E. Alternative B-1 is similar to the 1996 alignment. Alternative C was the same as Braun C from 2000, Alternative D was a 4-lane bridge that was between the Lift Bridge and the bridge described in Alternative C on the Minnesota side and then crossed diagonally over the river to touch down on the Wisconsin side 160 feet south of the existing Lift Bridge (which would be converted to a pedestrian/bicycle bridge). Alternative E was a two lane bridge on the same alignment as Alternative D; the Lift Bridge would remain open to vehicular traffic, to provide 2 lanes of traffic in either direction. Alternative B-1, with an extradosed bridge type was chosen as the preferred alternative.

d) Section 7(a) Evaluation and Determination

The NPS prepared a Section 7(a) Evaluation on the preferred alternative. The SFEIS (2006) included the Draft Section 7(a) Evaluation (NPS, 2005) of the project as Appendix F. The Draft Section 7(a) determination states that:

"…the preferred crossing, when taken along with its mitigation package would not have a direct and adverse effect on the scenic and recreational values for which the

*Riverway was included in the System **provided** that the measures as identified Section VII and IIX of this document [measures to mitigate for impacts to scenic and recreational values] are incorporated into the project to insure that the mitigation package remains intact in perpetuity."*

e) Outcome

In 2006, the FHWA issued a ROD to construct the bridge. In 2007, the Sierra Club filed a complaint in the U.S. District Court of Minnesota against the Secretary of Transportation and the FHWA Administrator, as well as the Secretary of the Interior and the Director of the NPS. The Sierra Club alleged violations of the NEPA, Section 4(f) of the Transportation Act, Wild and Scenic Rivers Act, Organic Act, and General Authorities Act.

The U.S. District Court of Minnesota issued its decision in the matter on March 11, 2010. The counts pertaining to FHWA actions were dismissed. Three of the four counts pertaining to NPS actions were dismissed. However, the NPS's 2005 Section 7(a) Evaluation was found to be "arbitrary and capricious" and was, therefore, vacated (Sierra Club North Star Chapter v. LaHood, et al., 0:07-cv-02593-MJD-SRN (D. Minn. March 11, 2010))

The Court's rationale was that the 2005 Section 7(a) Evaluation failed to explain how combining a group of shoreline actions could create an effective mitigation package, when, in 1996, the NPS concluded that no available mitigation measures could significantly reduce the negative impacts of a similar bridge on scenic values. The Court decision states:

> *"Therefore, NPS cannot simply ignore its prior policy in issuing the 2005 Section 7 Evaluation.* A*lthough it did not need to provide better or stronger reasons for its new position than for its 1996 position, it was required to acknowledge its previous position and provide a reasoned explanation for its change."*

The court ruling also placed a permanent injunction on the NPS stating that:

> *"Defendants Ken Salazar, Secretary of the Interior, and Jonathan B. Jarvis, Director of the National Park Service, are permanently enjoined from authorizing, funding, or otherwise assisting in the construction of the Proposed Bridge unless and until a new Section 7 Evaluation is issued that complies with the dictates of this Memorandum of Law and Order."*

C. Summary of NPS Section 7(a) Evaluations

This is the fourth Section 7(a) evaluation completed by the NPS for a proposed bridge crossing of the Riverway near Stillwater, Minnesota. The NPS also has participated in the EIS processes as a cooperating agency for three bridge proposals, as required by NEPA (40 CFR 1501.6) and evaluated each of the bridge crossing projects as required by Section 7(a) of the Act.

In 1996 the NPS Section 7(a) determined that the proposed bridge crossing would have a direct and adverse effect on the scenic and recreational values of the Riverway that could not be adequately mitigated. The 1996 Evaluation indicates that a bridge cutting across the river is fundamentally different in terms of its visual impacts than the impacts of shore and bank development. In 2000, the NPS determined that the proposed bridge would have a direct and adverse effect on scenic and recreational values but that the effects could be adequately offset by any one of three mitigation "alternates." The FHWA suspended work on the bridge project evaluated in 2000 and never made a final agency decision, so the 2000 NPS Section 7(a) was never tested in court. In 2005, the NPS determined that the preferred alternative, when taken along with its mitigation package would not have a direct and adverse effect on scenic and recreational values.

The 2005 Section 7(a) Evaluation was challenged in court by the Sierra Club North Star Chapter (Sierra Club North Star Chapter v. LaHood, et al., 0:07-cv-02593-MJD-SRN (D. Minn. March 11, 2010)) and found to be arbitrary and capricious. The court vacated the 2005 Section 7(a) Evaluation and ruled that the NPS was "permanently enjoined from authorizing, funding, or otherwise assisting in the construction of the Proposed Bridge unless and until a new Section 7 Evaluation is issued that complies with the dictates of this Memorandum of Law and Order." One of the court's primary concerns was that the NPS "fails to explain how combining a group of apparently ineffective measures, all of which relate to shoreline actions, can create an effective mitigation package when, in 1996, it concluded that no available mitigation measures could significantly reduce the negative visual impact of a similar bridge."

This Section 7(a) Evaluation has been prepared in response to the court's direction. The 2010 Section 7(a) Evaluation reconsiders our responsibilities under the Act and presents a new analysis of scenic impacts using standardized methodologies.

III. Description of the Proposed Water Resources Project

The transportation agencies issued a Supplemental Final Environmental Impact Statement for the St. Croix River Crossing Project" (SFEIS) in 2005 (FHWA et al., 2005). The SFEIS has a complete description of the crossing alternatives and their environmental impacts. This Section 7(a) evaluation repeats only the information pertinent to determining the direct impacts of the preferred alternative on the values of the Riverway.

A. Project Sponsors

The Mn/DOT and the WisDOT are proposing the crossing of the Riverway with funding assistance from the FHWA.

B. Purpose of the project

The purpose of this project is described in Chapter 2 of the 2005 SFEIS. To briefly restate, the purpose of the St. Croix River Crossing Project is to improve Trunk Highway (TH) 36 and State Trunk Highway (STH) 64 between TH 5 in Stillwater, Minnesota and 150th Avenue in the Town of St. Joseph, Wisconsin. It is to provide a safe, reliable, and efficient transportation corridor by reducing congestion, improving roadway safety, and providing an adequate level of service for forecasted 2030 traffic volumes. More specifically, the purpose of the project is to address a number of operational issues including traffic congestion in downtown Stillwater, especially when the Lift Bridge is in the "up" position to allow boats to pass underneath; high pedestrian volumes in downtown that affect traffic; substantial traffic queues on collector streets and arterial routes as motorists seek to avoid delays downtown; to reduce higher than average crash rates; to improve incident management and emergency response currently compromised by constrained geometrics and congested peak period traffic conditions. Appendix A, Figure 4 provides an aerial view of the context in which the proposed bridge would be located. It includes a visual simulation of the proposed bridge.

C. Location of the project

The location of this project is described in Chapter 3 of the SFEIS. The bridge location evaluated in this document is identified as Alternative B-1 in the SFEIS. Only the portion of the project that crosses the Riverway (the bridge) is described in this document.

The proposed bridge would be located between TH 36 in the cities of Stillwater and Oak Park Heights, (Washington County) Minnesota and STH 64 in the Town of St. Joseph, (St. Croix County) Wisconsin. It would be 7550 feet or 1.4 miles south (downstream) of the existing historic Stillwater Lift Bridge (Lift Bridge) on the Minnesota side and 6435 feet downstream of the Lift Bridge on the Wisconsin side. This location is about 6 miles north (upstream) of the Interstate 94 bridge across the Riverway. The bridge would cross the river approximately 80-90º to the center of the river. It would create a crossing in a new corridor.

D. Proposed Bridge

The proposed bridge was developed in consultation with a "Stakeholders Group" representing 28 different parties. In addition to the transportation agencies, the Stakeholders Group included the NPS, the Corps, U.S. Coast Guard, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service (USFWS), Advisory Council on Historic Preservation (ACHP), National Trust for Historic Preservation, Minnesota and Wisconsin State Historic Preservation Offices (SHPOs), MDNR, WDNR, City of Stillwater, City of Oak Park Heights, Town of St. Joseph, Preservation Alliance of Minnesota, Stillwater Heritage Preservation Commission, St. Croix River Association, Friends of the St. Croix, Stillwater Area Chamber of Commerce, Sierra Club [terminated participation], St. Croix Alliance for an Interstate Bridge, St. Croix County Transportation Committee, Stillwater Lift Bridge Association, Western Wisconsin Realtors Association, New St. Croix Bridge Coalition, and the Minnesota Center for Environmental Advocacy.

1. Bridge Design

The design for the proposed bridge has been further refined since the 2005 Section 7(a) Evaluation. In 2005, it was known that the bridge would be an extradosed box girder type. A Visual Quality Manual (VQM) (MnDOT et al., 2007) was developed after publication of the ROD by the Visual Quality Advisory Committee (VQAC), a subset of the Stakeholders group. The VQAC included the transportation agencies, the NPS, Minnesota SHPO, MDNR, WDNR, City of Stillwater, City of Oak Park Heights, Town of St. Joseph, Stillwater Heritage Preservation Commission, Friends of the St. Croix, St. Croix County Board of Supervisors, St. Croix County Transportation Committee, Western Wisconsin Realtors Association, and the Minnesota Center for Environmental Advocacy. The VQAC chose the "Organic" concept as the architectural treatment for the proposed new bridge. The Organic concept is characterized by curved planes, tapered forms, smooth surfaces, and expressed joints between parts ((MnDOT et al, 2007). This design is different from the 3,390 foot long, 123 foot high haunched-steel girder type proposed in 1995 (NPS, 1996). A visual simulation showing the design for the proposed new bridge is included in Appendix A, Figure 2c.

2. Bridge Height and Length

The bridge deck would be about 113 feet above the normal stage of the river at the Minnesota shore, rising at a 1.7% grade to about 159 feet above the stage elevation at the Wisconsin shore. The bridge would be 4,953 feet long from abutment to abutment. The bridge length over the river would be 2,840 feet. Project length within the Riverway boundary is approximately 5,000 feet.

3. Bridge Width

The bridge would include two 12-foot through-traffic lanes in each direction separated by a center median, with 6-foot inside shoulders and 10-foot outside shoulders on each side of the travel lanes. A 12-foot wide pedestrian/bicycle path would be located on the north side of the bridge. The total width of the bridge would be 98 feet for the deck, plus an additional 20 feet for the cable tie-in areas for the extradosed bridge type (frequently described as a cross between a girder bridge and a cable-stayed bridge).

4. Bridge Lighting

The roadway surface of the bridge and sidewalk would be illuminated to provide a safe river crossing for bicyclists, pedestrians, and motorists. Shielded roadway lighting fixtures would be used to direct lighting at the roadway area and minimize spillover lighting onto the Riverway. Roadway lighting would be located in the median over the full length of the bridge and approach spans (MnDOT et al., 2007). A metal halide light source would be used to complement the colors and textures of the bridge. Low level, low voltage systems would be used to provide adequate lighting levels for the safe passage of trail users while minimizing spillover into areas around the bridge. The U.S. Coast Guard requires illumination of the piers as a matter of safety. Luminaires, fixture locations, and light levels would be selected to wash the surface at the end of the piers with a subtle glow.

5. Bridge Piers

There would be six bridge piers in the river, one on the Minnesota shoreline, and one on the Wisconsin bluff. Additional piers would cross the wetland on the Minnesota side between the riverbank and the bridge abutment for the TH 36/95 interchange ramps. The bridge piers would be comprised of two columns that would rise above the bridge deck to support the cables on the spans of the bridge that cross the river (Parsons Brinckerhoff, 2009).

6. Project Duration

Construction of the proposed new bridge is scheduled to begin in 2013. Once constructed, the bridge would remain in place indefinitely.

E. Proposed Riverway Mitigation Package

a. Background

A mitigation package to offset the impacts of the proposed new bridge was developed by the transportation agencies in consultation with a 28 member Stakeholders Group. Both river and shoreline items are included in the mitigation package to protect or enhance the outstandingly remarkable values of the Riverway. The package was put forward by the transportation agencies

as part of the 2006 Supplemental Final EIS to minimize and offset the impacts of the proposed bridge project on Riverway values. In Chapter 7 of the SFEIS, Mn/DOT classifies the project as Level of Impact A -..."high level of visual impact on an existing setting that exhibits unique or sensitive features" and Project Type Category I - "major construction"....making it eligible for additional funding for visual enhancements, above the maximum limit under the Mn/DOT cost participation policy.

Assurances that the mitigation package would be carried out are built into the FHWA's ROD for the St. Croix River Crossing Project (FHWA et al., 2006). The ROD states:

> *"The Mn/DOT, WisDOT and FHWA each acknowledge that 'pursuant to generally recognized principals of administrative law, agencies will be held accountable for preparing Records of Decision that conform to the decision actually made and for carrying out the actions set forth in the Records of Decision…Thus the terms of a Record of Decision can be used to compel compliance with or execution of the mitigation measures identified therein' (Question 34d, Forty Most Asked Questions about NEPA, 46 Federal Register 18026 (March 23, 1981))"*

The ROD also incorporates by reference the "Riverway Memorandum of Understanding" which identifies all of the mitigation items described in number below.

2. Riverway Mitigation

Although there are no measures that completely avoid direct and adverse impacts to the Riverway's values, in an effort to meet the requirements of Section 7(a) of the Act and Section 4(f) of the Transportation Act, the project sponsors proposed measures to minimize the impacts to the Riverway and mitigate for unavoidable impacts. A summary table of the Riverway mitigation package is included as Appendix B to this document. A general discussion of the proposed measures is below.

a. The location selected for the proposed new bridge is just upstream of the Xcel Energy's Allen S. King Plant, along a stretch of the Riverway where there are existing intrusions to the natural scene on the Minnesota side of the river. Similarly, the preferred bridge placement is the furthest from the Lift Bridge, the Stillwater Commercial Historic District, and the Stillwater Cultural Landscape District, all of which are listed on the National Register of Historic Places, in order to reduce the impact of the bridge project on the cultural resources.

b. The proposed new bridge alignment, mostly perpendicular (rather than diagonal) to the river is intended to reduce the bridge's length over the river. The Wisconsin abutment is located in an existing bluff cut in an effort to minimize bridge length and impacts to the Wisconsin bluff. The preferred location and alignment were chosen to reduce the footprint and scenic intrusion of the bridge. An extradosed-type (a cross between girder and cable-stayed) bridge design would minimize the number of piers in the river. The extradosed design , considered a more aesthetic bridge type, could lend itself to the use of materials that may further

minimize impacts to the scene. The VQAC selected an aesthetic architectural treatment called "Organic," characterized by curved planes, tapered forms, smooth surfaces, and expressed joints between parts ((MnDOT et al., 2007) in an attempt to reduce the visual impacts of the bridge. Each river pier would consist of two supporting columns rather than three in earlier designs (Parsons Brinckerhoff, 2009).

c. The Xcel Energy barge unloading facility at the Allen S. King Plant consists of 19 mooring cells and 5 additional foundation cells that support a large coal barge unloading facility (See Appendix A, Figure 5). The mooring cells, located in the river parallel to the Minnesota shore would be removed. They span a distance of approximately 2,500 feet. A conveyor system between the structure and the Minnesota shore would also be removed. The pivot cell, which is the one nearest to shore beneath the conveyor, would remain to accommodate potential future mooring needs. The steel sheeting from each of the mooring cells would be removed, either by pulling it off or by cutting it off near the river bottom. The stone fill in each cell would be spread out near each cell and left in-place as aquatic habitat. This means of removal was developed with input from the MDNR, WDNR, USFWS and the NPS. Coal spillage which already exists on river bottom near the structure would be left in-place to minimize riverbed disturbance. A Memorandum of Understanding (MOU) between Mn/DOT and Xcel Energy was signed in December 2005. The MOU outlines the terms for executing this mitigation item. The barge unloading facility would be used for staging during bridge construction. It would be removed one year after bridge construction is complete.

d. The Terra Terminal Building was an abandoned fertilizer warehouse owned by the City of Stillwater on property just south of downtown, between TH 95 and the St. Croix River (see Appendix A, Figure 7). The building has already been removed. Construction debris that was placed on the shoreline for bank stabilization long ago will also be removed. To naturalize the shoreline, invasive vegetation, abandoned concrete structures, and all concrete debris will be removed. Angular rock rip-rap will replace the concrete debris and structures. The new rip-rapped shoreline area will then be grouted with compost and hydro-seeded (Collaborative Design Groups et al., 2010). The seed mix will include an annual cover crop and native grasses, sedges, and forbs. The goal for naturalization is for the shoreline at the Terra Terminal to look like the shoreline upstream and downstream. The total length of shoreline that would be naturalized is 360 feet. The City of Stillwater will also be moving two buildings to the Terra Terminal site that are eligible for the National Register of Historic Places; the Bergstein Shoddy Mill and Warehouse. These buildings must be removed from their current site to allow space for the Minnesota interchange to the proposed new bridge. The transportation agencies considered relocation of these buildings as mitigation for impacts to historic resources as preferable to their demolition. The mill is a small stone building approximately 28 feet long, 21 feet wide and 15 feet high. The warehouse is a larger building approximately 61 feet long, 29 feet wide and 28 feet high (see Appendix A, Figures 7a and 7b).

e. The warehouse would be placed about 40 feet, and the Shoddy Mill about 60 feet, from the

ordinary high water mark of the St. Croix River. The elevation of the buildings would need to be raised to 693 feet (one foot above the 100 year floodplain elevation) in order to comply with zoning regulations. This would likely be accomplished by adding fill 2 to 3 feet deep at the building relocation site. The buildings are planned as public use elements of a proposed pedestrian/bicycle loop trail. The warehouse may be used as a hostel facility. The buildings would be a much smaller presence on the site than was the Terra Terminal building and would be screened by vegetation from view of the river. The site assessment and concept plan can be viewed at http://www.dot.state.mn.us/metro/projects/stcroix/documents_mill.html

f. The "BUCKHORN" sign is located on the Wisconsin bluff approximately 200 feet above the river and approximately 1850 feet north of the proposed bridge location. It consists of block-style, capital letters that spell out "BUCKHORN" in the style of the "Hollywood" sign. The letters span a distance of approximately 115 feet. Each letter is approximately 10 feet high (see Appendix A, Figure 8). The sign is located on private property and shrubs have grown up around it. A MOU between WisDOT and the landowner was signed in December 2005, outlining the terms of its removal. The sign would be removed during bridge construction to improve the natural aesthetics of the bluff.

g. The existing approach roads to the Lift Bridge would be removed and replaced with a bicycle/pedestrian trail. This would include STH 64 from the Lift Bridge east to STH 35 and County Trunk Highway (CTH) E from STH 64 east to State Street in Houghton. Vegetation would be planted within the trail (see Appendix A, Figure 9; and VQM (2007). The existing Lift Bridge would be closed to all motorized vehicular traffic except for emergency and maintenance vehicles and converted to bicycle/pedestrian use. An Amended Section 106 MOU was signed by the transportation agencies and many of the Stakeholders in Spring 2006. It states that once the new St. Croix River Crossing is completed and open to traffic, Mn/DOT will remove the Lift Bridge from the State Trunk Highway system and close it to all vehicular traffic. Mn/DOT will continue to retain ownership of the Lift Bridge. If Mn/DOT decides to transfer ownership of the bridge, they would do so only after consultation with the NPS, SHPOs, ACHP, City of Stillwater, and others.

h. Kolliner Park is a 49- to 58-acre park (depending on river level) owned by the City of Stillwater, Minnesota but located in Wisconsin. It is across from downtown Stillwater and is bisected by the approach roads to the Lift Bridge. The park has been closed to the public since 1979. The non-historic elements at the park (existing driveway, parking area, retaining walls, and other miscellaneous structures) will be removed from the property. Minor re-grading and plantings may be required. Once work is completed, the site would be allowed to revert to a more natural state. The restoration work would take place during bridge construction.

i. The transportation agencies would provide $4.5 million (in 2005 dollars) to purchase and protect undeveloped bluff lands or to purchase and restore developed bluff lands in Wisconsin in order to limit future development or restore bluff lands that have already been

developed. Based on the fair market values reported in the St. Croix County database, in 2005 developed land along the Wisconsin bluff was valued at approximately $125,200/acre. Undeveloped land was valued at approximately $31,300/acre. Therefore about 16 acres of developed land or about 64 acres of undeveloped land could be purchased at 2005 land prices.

Acquisition of land or an interest in land would require a willing seller. According to WisDOT, purchases would need to be within ¼ mile of the project corridor (including new approach roads) to comply with Wisconsin State Statute 86.255. See Appendix A, Figure 10 for the eligible area (within the ¼ mile of the project). It has not been determined whether there are any willing sellers within ¼ mile of the project corridor. Therefore, specific locations for land purchase have not yet been identified. Following FHWA authorization of funding and before construction begins, Mn/DOT would execute a $2,000,000 agreement with WDNR and a $2,500,000 agreement with St. Croix County. The purchase of lands or interest in lands would occur during bridge construction.

Additionally, the WisDOT would place protective covenants on excess properties in the project area before they are sold. The covenants would be consistent with the CMP guidance for land use regulation guidelines (e.g., bluff setback, structure height). The total amount of land protected in this way would be 46.6 acres. See Appendix A, Figure 10 for the location of the excess properties. The excess properties with covenants would be sold once bridge construction is complete.

j. As part of the St. Croix River Crossing Project, Mn/DOT would provide funding in the amount of $100,000 to the NPS to work with contractors or consultants to develop a River Defense Network for spill response. The risk of traffic related spills within the St. Croix Basin will increase as population grows and traffic levels are expected to increase in St. Croix County, Wisconsin, and Washington County, Minnesota. A comprehensive spill response plan would help improve the ability of federal, state, regional and local governments to respond to such spills, and minimize the potential adverse impacts to surface waters, groundwater, and aquatic and terrestrial wildlife populations and habitats. This effort will include mapping spill entry routes and determining time of travel for various flow regimes and spill locations. It will also include arrangements for spill contractors and equipment storage at various locations along the river for rapid deployment. This mitigation measure would be accomplished through an agreement between the NPS and Mn/DOT that would provide $100,000 to fund development of the plan. The agreement would be executed following FHWA authorization of bridge funding and before construction begins.

k. Project sponsors have also proposed several items as compensation for the impacts of the proposed new bridge. These include Kiosks for interpretation, public boat access, a pedestrian/bicycle loop trail, and other financial assistance in support of recreation, education, and restoration activities. The transportation agencies would provide $300,000 to Riverway managers to develop interpretive kiosks highlighting the natural and cultural resources of the Riverway. The location of the interpretive kiosks would be determined by

the NPS, MDNR and WDNR. A $300,000 agreement between the NPS and Mn/DOT would be executed following FHWA authorization of bridge funding and before construction begins.

l. The MDNR would construct a public boat launch in the State-administered zone consistent with municipal regulations. The boat ramp would help meet a need identified by the MDNR for more public access to this stretch of the Riverway. Presently most access is through private marinas. The design of the boat ramp is not known at this time, but would likely include an access road, paved parking area, boat launching ramp, and docks. The boat ramp would be managed by the MDNR. A location has not yet been selected. It is expected to be close to the preferred crossing. A $1,200,000 agreement between the MnDNR and Mn/DOT would be executed following FHWA authorization of funding for the new bridge.

m. A loop trail system approximately 5 miles long would be created connecting Minnesota and Wisconsin. Starting from the proposed new bridge on the Minnesota shore the trail would be routed as follows:

- north through the Terra Terminal and Stillwater Municipal Barge Facility property to Lowell Park;
- across the Riverway on the Lift Bridge which would be converted to a pedestrian/bicycle facility only;
- east up the Wisconsin bluff along the restored STH 64 alignment to existing STH 35 in Houlton (a parking area for ~ 43 vehicles may be provided at the top of the bluff just west of STH 35);
- share the roadway or paved shoulders along existing CTH E to the new STH 64;
- paved trail along the new STH 64 from the STH 64/STH 35/CTH E interchange south to the new river crossing; and
- across the Riverway on a pedestrian/bicycle path to be provided on the north side of the new bridge.

Long-term ownership and maintenance agreements for the loop trail have not yet been determined. However, WisDOT would own and maintain the trail until such time as a new owner can be found. The item would also include grading of the Stillwater Municipal Barge Facility property during bridge construction. The grading would be conducted in coordination with the City of Stillwater to ensure consistency with the City's plans to develop the property as a riverfront park. The Stillwater Municipal Barge property is disturbed deciduous floodplain forest along the Riverway. The area is approximately 1-mile long and 17 acres in size. Construction of the loop trail would begin during construction of the proposed new bridge. It would be completed once the new bridge is open to traffic. The Lift Bridge would be converted to bicycle/pedestrian use only, and the Wisconsin approach road to the Lift Bridge will be converted to a trail (about 1 year after bridge construction is complete).

n. The transportation agencies would provide $250,000 to the NPS for use in conducting

archeological surveys, historical research, and to provide restroom facilities. A $250,000 agreement between Mn/DOT and the NPS would be executed following FHWA authorization of funding for the new bridge.

This collection of actions is an integral component of the proposed bridge project to meet the requirements of Section 4(f) of the Transportation Act and, to the extent possible, the Act. It represents the considerations made by the project sponsors, in collaboration with others, to minimize the impacts of the proposed bridge on the Riverway. Further analysis in this document will determine the extent to which these essential actions can eliminate the effects of the proposed bridge project on the values of the Riverway.

IV. The Free-flowing Character of the Lower St. Croix National Scenic Riverway

"As used in this Act, the term free-flowing as applied to any river or section of a river means existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modifications of the waterway." Section 16(b) of the Wild and Scenic Rivers Act.

A. Hydrology of the St. Croix River in the Project Area

The St. Croix River resembles a long, winding lake from the Stillwater area downstream to the confluence with the Mississippi River at Prescott, Wisconsin (approximately 20 miles). In fact, many refer to this stretch as "Lake St. Croix." This lake-like condition is influenced primarily by an alluvial deposit at Point Douglas, which is at the confluence with the Mississippi River, and by an alluvial fan further downstream on the Mississippi at its confluence with the Chippewa River, which forms Lake Pepin. Both of these alluvial fans were the result of changing flow conditions at the end of the last glacial episode (Troelstrup, et al., 1993).

The lock and dam system at Redwing, Minnesota is often cited as having a profound influence on the water level in the St. Croix. That dam was built to maintain a pool level in Pool 3 (including Lake St. Croix) of 675.0 feet above mean sea level. At this pool level, the river is three to five feet above its pre-dam water level. However, the influence of the lock and dam on the St. Croix becomes incrementally less as water levels rise above 675.0 feet.

Despite the river's lake-like appearance below Stillwater, the lower St. Croix is indeed a free-flowing river, transporting a large volume of water to the Mississippi River. Congress recognized this when it included this stretch of river in the System. The U.S. Geological Survey (USGS, 1996a) reports that the St. Croix River as it enters the Mississippi accounts for 26 percent of the mean annual discharge of the Mississippi at Prescott. The mean annual discharge of the Mississippi at that location is 18,600 cubic feet per second (USGS, 1996a), or 8.34 million gallons per minute. Because of the relatively wide and deep nature of the river at the proposed bridge corridor, water moves slowly through this segment, with an average velocity of around 0.1 feet per second or 0.068 miles per hour. Temporary and permanent effects of bridge construction activities on the free-flowing condition of the St. Croix River are discussed below.

B. Temporary Effects of Bridge Construction

Construction of the proposed bridge would require temporary instream structures, including barge docking areas and cofferdams for each of the bridge piers. Minor excavation and fill may be required at each site to level moored barges with the shoreline. Temporary cofferdams would be constructed around each pier location to isolate the river from construction activities. Construction sites and barge docking facilities are to be determined when the final staging plans

are developed.

1. Temporary Construction Sites

Wisconsin

The Wisconsin shoreline work area would be located within the new bridge alignment and is expected to include the construction of a temporary 30,000 square foot (75-feet wide by 400-feet long) docking facility for use by work boats, tugboats, and construction barges.

Minnesota

No new barge docking facility is needed in Minnesota. The plan is to use existing barge docking facilities at the Stillwater Municipal Barge Facility and at the Xcel Energy Unloading Facility as temporary facilities during bridge construction. The Stillwater Municipal Barge Facility is owned by the City of Stillwater and leased to a barge repair business. The City of Stillwater has offered use of the facility for construction of the new river crossing. The Xcel Energy facility will be used as a temporary docking facility and then removed after bridge construction is completed.

2. Impact of Temporary Facilities on Free-flowing Character

The construction of a new 30,000 square foot docking facility in Wisconsin and between 9-11 bridge pier coffer dams in the river and its 100-year floodplain will modify the existing flow conditions in the St. Croix River. The impacts will be short term in nature but directly affect the channel area available to transport flows. The loss of channel area may impede flows, change velocity profiles around docking facilities and coffer dams, slightly raise water levels and potentially cause the river to adjust depending upon the staging of construction and the level of flows occurring while the bridge is completed. These short-term impacts are not considered adverse.

C. Permanent Effects of Bridge Construction

1. Permanent Changes

The following actions would occur within the normal pool elevation of 675 feet above mean sea level:

- Construction of 6 bridge piers within the river. Each pier would likely consist of pilings or caissons driven or drilled down to bedrock. Each pier would also have a concrete foundation constructed above the piling or caisson groups near the elevation of the riverbed.

- Construction of stormwater outlets from the bridge on the Minnesota and Wisconsin sides of

the river. Final plans for the outlets would be developed during the final design of the bridge. These will be defined during detail design.

- Removal of the Xcel Energy barge unloading facility and all but one mooring cell.

- Shoreline restoration activities along the Terra Terminal Building. This includes removal of construction debris (concrete and asphalt) currently used for bank stabilization and introduction of rip rap.

- Construction of a public boat access on the Minnesota shoreline at a yet to be determined location.

2. Estimate of the Maximum Amount of Excavation and Fill

Appendix B, Table 2 shows estimates provided by Mn/DOT for the maximum amount of excavation and fill that would be placed in or removed from the St. Croix River for construction of the bridge and related activities. The estimates were completed for the proposed new crossing to a planning level analysis. Actual numbers may vary depending upon final construction plans. The following assumptions were used to estimate excavation and fill:

a) The approach bridge in Minnesota requires 3 to 5 bridge piers to be placed in the 100-year floodplain from the floodplain boundary east to the first extradosed bridge pier.

b) Six piers for the extradosed bridge would be located in the river, one of which is near the Minnesota shoreline.

c) No piers would be placed in the 100-year floodplain along the Wisconsin shoreline.

3. Permanent Effect of Proposed Bridge on Free-flowing Character

The construction of 9-11 bridge piers in the river and its 100-year floodplain would directly modify the existing flow conditions in the St. Croix River. It is estimated that 5,000 cubic yards of excavation and 34, 600 yards of fill would occur in the River. In addition, it is estimated that 48,700 yards of excavation and between 16,310-16,510 yards of fill will occur within the 100-year floodplain, resulting in 29,600 yards of material being deposited in the River and 32,390-32,590 yards of material being deposited in the 100-year floodplain. The impacts will be long-term in nature reducing the channel area by approximately 5+% (Memo from Brett Danner, SRF Consulting Group, January 18, 2005). This would reduce the capacity of the St. Croix River to carry annual and flood flows. The construction of bridge piers in the channel would permanently reduce channel area; change local velocity profiles, scour and fill patterns around the bridge piers; and slightly raise water levels. These impacts would be localized and small and are not considered adverse.

D. Conclusion

The proposed new bridge would directly affect the free-flowing character of the Riverway. The construction of bridge piers is a modification of the waterway that would permanently impact the flow conditions on the St. Croix River. The construction would change localized velocity profiles, scour and fill patterns around the bridge piers and slightly raise water levels. Although these effects would be permanent and direct, none are considered to be adverse to the free-flowing condition of the Riverway.

In consideration of the current hydrology of the Riverway in the project area and the minor effects the project would have on its free-flowing condition, the NPS finds on behalf of the Secretary of Interior that the project as proposed would not have a direct and adverse effect on the free-flowing condition for which the Riverway was established.

V. Water Quality of the Lower St. Croix National Scenic Riverway

"The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes." (Section 1(b) of the Wild and Scenic Rivers Act)

A. Existing Water Quality

The St. Croix River has long been noted for its exceptional water quality, especially considering the river's proximity to a major metropolitan area. High water quality and opportunities for fishing, swimming, boating, and other recreational pursuits were an important factor in the river being designated under the Act. The exceptional water quality also supports a diversity of aquatic biota, including the native mussel populations, which are of particular importance.

To protect this exceptional water quality, the State of Minnesota classified the St. Croix River as an Outstanding Resource Value Waters-Restricted (ORVW-R) for its entire length. Under the ORVW-R classification, any new or increased point source discharge, such as a municipal wastewater treatment plant, would not be allowed unless there is no "prudent and feasible alternative." The state of Wisconsin (WDNR, 1994) classified the River in the proposed bridge location as an Outstanding Resource Water (ORW). Under the ORW classification, a new or increased point source discharge must meet the background water quality of the river.

Water quality data collected near the proposed bridge corridor over the last thirty years were retrieved using the Environmental Protection Agency's (EPA) water quality data storage and retrieval system (STORET) (NPS, 1995). Sampling stations at Stillwater and Hudson have been monitored the most extensively. Using EPA's water quality criteria for freshwater aquatic organisms as an evaluation tool, data show very few pollutants that exceeded EPA's criteria. There were occasional exceptions for metals such as copper or lead. Fecal coliform concentrations were also occasionally above the criteria limits. St. Croix water is highly colored but usually low in turbidity. Secchi disk readings were usually in the 3 to 5 foot (1 to 1.5 meter) range.

Troelstrup, et. al, 1993b, conducted an analysis of the existing water quality data for the lower St. Croix. They concluded that water quality within the lower St. Croix is high relative to other large river systems within the region. However, they expressed concern for deteriorating conditions in some reaches of the Riverway due to non-point source pollution and extensive development and use along the river corridor. Construction and use of the new bridge crossing may contribute to these concerns. The St. Croix Basin Water Resources Planning Team (Basin Team) identified nutrient loading to the St. Croix as a major water quality issue. In 2004, they issued a goal calling for a twenty percent reduction in the human-caused phosphorus going into the river. The Basin Team is concerned about local and distant sources of non-point pollution

contributing to the phosphorus loading of the river.

In 2008, the Minnesota Pollution Control Agency added Lake St. Croix, the last 20 miles of the Riverway and the location of the proposed bridge, to the state's 2008 Impaired Waters List. The listing indicates that this last part of the St. Croix River does not meet water quality standards, in accordance with the Clean Water Act. Lake St. Croix was listed because total phosphorous and algal biomass exceeds standards, affecting recreation and aquatic life.

The proposed bridge project would increase impervious surface area within the impacted zone and, consequently, models indicate that the quantity of pollutants associated with stormwater runoff also would increase. However, the drainage design incorporates detention ponds, infiltration basins, and engineered conveyances to effectively reduce stormwater output and improve associated water quality. Therefore, overall, the bridge project would actually result in a net decrease in phosphorous of 20% in MN and 17% in WI (FHWA et al., 2006.) This is a significant reduction in phosphorous loading; however, it still does not meet phosphorous goals established by the Basin Team. The project proponents have developed a Memorandum of Understanding to work with water quality management agencies in Minnesota and Wisconsin and the Basin Team to further reduce phosphorus loading.

B. Bottom Sediments

The surface water quality of the St. Croix River upstream of Lake St. Croix is good. However, there is concern among regulatory agencies about the release of trace metals and compounds currently bound to bottom sediments.

As part of the National Water Quality Assessment (NAWQA) program, the USGS sampled sediments in the river bed near Hudson, Wisconsin for analysis of trace metals and trace hydrophobic (attached to sediment) organic compounds. Although the sampling site is downstream of the proposed new bridge, it does provide the best and most recent data for discussion. Trace metals were detected in the sediments. Copper concentrations (80 micrograms per gram (ug/g)), were among the highest detected at all of the sites analyzed in the Upper Mississippi River Basin. Other trace metal concentrations included chromium (74.0 ug/g), lead (110.0 ug/g), and zinc (15.0 ug/g). There were also traces of hydrophobic organic compounds. The compounds detected were generally polycyclic aromatic hydrocarbons such as benzo(a) pyrene, indeno-123CD pyrene, and benzo(b) fluoranthrene, which were detected at concentrations of 51 milligrams per kilogram (mg/kg), 72 mg/kg, and 66 mg/kg respectively. The pesticide endosulfan I and the internal combustion engine combustion byproduct p-cresol were detected at concentrations of 2.2 mg/kg and 350 mg/kg, respectively (data from USGS, 1996).

Bridge construction may re-suspend bottom sediments and release trace metals and compounds back into the water column, at least until the sediments settled out again or are transported downstream by river currents.

C. Temporary Impacts of Bridge Construction

Construction of the proposed new bridge has the potential to impact water quality. Threats are related to construction activities within the river and construction activities on the shore and bluffs above the river. Water quality impacts to the river could occur from one or more of the following: installation of coffer dams, dewatering of coffer dams, construction of piers, construction of the bridge deck, and hydraulic or fuel spills from work barges and construction equipment. Water quality impacts on the shoreline and river bluffs include those that arise from erosion of exposed soils and hydraulic or fuel spills from construction equipment.

1. River Impacts

Installation of coffer dams and construction of pier supports

Bridge pier would be constructed using either caissons or H-piles. Caissons require the drilling of shafts that are filled with a caisson tube and then filled with concrete. The other method would be to drive H-piles into the underlying bedrock. With either method, a concrete cap would be installed to create bridge pier footings. Cofferdams would be used to dewater the construction area and enable the pouring of concrete. These activities would result in agitation of the sediments on the riverbed.

Installation of cofferdams would involve driving interlocking sheet piling into several meters of fine sediments found on the river bed. This process would agitate fine sediments on the riverbed, causing their re-suspension. Re-suspended fine sediments would remain in the water column for a period of time, depending upon the size and density of the particles. Finer particles could remain suspended for longer periods and currents would slowly transport them downstream. Thus a "plume" of fine sediment would likely be transported downstream during the construction of each pier. Plumes could impact fish inhabiting this zone both physically, by limiting visibility or covering food sources, or biologically by interfering with gill respiration. There could also be chemical impacts due to the re-suspension of heavy metals, pesticides, and other compounds as discussed above. When the fine sediments eventually settled out, there may be off-site impacts to bottom dwelling aquatic organisms, including mussels, aquatic insects, and fish spawns areas.

Coffer dam dewatering

Pumping sediment-laden water out of the cofferdams would require filtration prior to discharging it back to the river. Because the St. Croix River is protected as an outstanding resource value water in both Minnesota and Wisconsin, discharged water must meet or exceed the baseline quality standards for the river. Filtered sediment would have to be transported to shore and properly disposed of at an approved site. Mn/DOT has indicated that they would filter to protect the water quality of the Riverway (memo from Brett Danner, SRF

Consulting Group, January 18, 2005). In a worst case scenario, filter system failure could result in the release of large volumes of suspended sediment. As discussed above, some of the fine sediments could remain in suspension for a long period of time, thus potentially impacting a large section of the river. The physical, biological, and chemical impacts of such a failure are the same as those listed above in the section on installation of cofferdams and construction of piers.

Bridge deck construction

Water quality impacts from the construction of the bridge deck could occur from the accidental loss of materials, including concrete, into the river. Much of this potentially introduced material would be relatively benign to water quality. Water used to rinse concrete conveyance equipment could also be accidentally discharged to the river. Because Best Management Practices (BMP's) would be required and enforced by the states of Minnesota and Wisconsin, the possibility of such occurrences is low.

Hydraulic and fuel spills

Bridge construction requires extensive use of large barges, cranes, pile driving equipment, pumps, conveyance devices, all of which use fuel and hydraulic fluids. As with any machinery, the potential for a spill of fuel, lubricating oils or hydraulic fluids is always present. A spill contingency plan will be developed to deal with any emergency spills. The impacts of a spill are related to the volume of material lost and the chemical characteristics of the fluid. In most instances, the fluids would probably be lighter than water and would consequently float on the river's surface in calm conditions. If captured before they can be emulsified, these fluids pose limited dangers to aquatic life. However, if a spill is not contained quickly, and is subject to turbulent conditions such as those created by storms or storm runoff flowing down steep slopes, the fluids could be emulsified and expose aquatic biota and recreationists.

Removal of Xcel Energy barge mooring cells

During the removal of the barge mooring cells fine sediments contained in the cells may be released into the St. Croix River. Implementation of BMP's as required and enforced by the states would minimize the risk. BMP's could include floating turbidity barriers and erosion control measures on the causeway.

Terra Terminal Shoreline Naturalization

The removal of debris from the shoreline at the Terra Terminal Building may create short-term sedimentation impacts until the site has been re-vegetated. Implementation of BMP's as required and enforced by the states would minimize impacts. Long-term water quality impacts from the project would likely be negligible, assuming the shoreline is properly re-vegetated.

2. Impacts from the Shoreline and Bluffs

Water quality impacts from bridge construction could originate from the shoreline and bluffs adjacent to the river and may include the erosion of exposed soils on the bluffs and shoreline surrounding the river, and the potential spill of fuels, lubricating oils, hydraulic fluids, or other chemicals.

Erosion from shoreline and bluffs

Construction of the approaches to the bridge would require extensive soil disturbance on both sides of the river. The approach on the Wisconsin side would be the most vulnerable to erosion because of the steep of the slope. For this reason, the transportation agencies seek to minimize impacts to the Wisconsin bluff, to the extent feasible. According to the FSEIS, "it is anticipated that haul roads and work areas will not be constructed along the bluff face (i.e. area between the bridge abutment at the top of the bluff and the shoreline) (FHWA, et al., 2006). The bridge abutment is anticipated to be constructed from the top of the bluff and the bridge pier nearest the Wisconsin shoreline is anticipated to be constructed from barges on the river." A drainage pipe that would be constructed from stormwater basins on top of the bluff to a small energy dissipation basin near the 100-year floodplain would result in some disturbance to the bluff face. Disturbance on the bluff would be minimized by using less invasive techniques (e.g., construction of the drainage structure by hand; use of small machines/equipment). Nonetheless, preventing sediment from reaching the river would require diligent implementation of best management practices, constant maintenance, and frequent assessment of the effectiveness of sediment control measures. Much of the potentially eroded material is sand that can be controlled more easily than finer materials.

Slopes on the Minnesota side of the river are more conducive to controlling erosion and trapping sediment. A series of drainage ways and settling basins would be utilized on temporary and permanent bases. Until those control devices are in place, there is still an opportunity for sediment to reach the river during construction activities, especially following a severe storm.

The effects of sediment have been discussed above. Sediment delivered to the river on the Wisconsin shoreline could affect mussel habitat found in that section of the river.

Fuel, lubricating oils, and hydraulic fluid spills

Best management practices are to be implemented during bridge construction on the shoreline and bluff to control accidental spills of fuel, lubricating oils and hydraulic fluids. BMP's enforced by the states of Minnesota and Wisconsin would minimize impacts to the St. Croix River. A spill contingency plan is to be developed to deal with any emergency spills.

D. Long Term Impacts of the Proposed Bridge

Potential threats to water quality once the bridge has been built relate to sedimentation from erosion of the Wisconsin slope, introduction of materials deposited on the bridge deck, introduction of materials from the storm runoff control system, introduction of bridge maintenance materials, and indirect impacts associated with induced development in the watershed.

1. Sedimentation

As described above, the Wisconsin bluff is steep and potentially vulnerable to erosion. The transportation agencies have indicated that they would re-vegetate all exposed surfaces. However, this may prove very difficult under the shadow of the bridge. Therefore, a chance remains that sediment could reach the river during as well as after bridge construction is complete.

2. Materials from the Bridge Deck

Potential pollutants including gas, oil, tire and brake particles, litter, non-airborne exhaust particles, dust, salt, sand, and gravel from normal traffic use, and other hazardous materials from catastrophic spills on the bridge or its approaches could reach the river. The bridge's drainage system would is designed to drain water into a retention basin system within the 100-year floodplain on the Minnesota side. Materials deposited on the bridge would be entrained in these drainage systems. In the event of a flood, material in the pond could be flushed out by the floodwaters. There is a 1% chance of a 100-year flood occurring in any given year. The existing Lift Bridge does not have such a drainage system.

Best management practices would be implemented by the transportation agencies responsible for bridge operation and maintenance. The effectiveness of the drainage system depends on adequate storage, retention time, regular maintenance (sediment removal) and treatment of the potential pollutants. In a worst case scenario, a catastrophic spill in combination with a major precipitation event might lead to direct runoff into the river. A spill contingency plan will be developed to deal with any emergency spills.

3. Materials from the Storm Runoff Control System

The same materials that were listed as potential pollutants from the bridge deck could also be deposited on the road surface and ditches of the highway as it approaches the bridge. Storm water would be routed through a series of ditches and retention ponds. As stated above, the effectiveness of the detention ponds assumes adequate storage, retention time, and treatment of the full range of potential pollutants. Best management practices would be implemented by the highway departments responsible for bridge operation and maintenance. A spill contingency plan will be developed to deal with any emergency spills.

4. Bridge Maintenance Materials

This category includes paints and chemicals used to prolong the life of the concrete or metal on the bridge. Best management practices would be implemented to control the drift of paint and chemicals and prevent them from being introduced into the river.

5. Indirect Impacts

The NPS recognized the potential indirect impacts to water quality due to bridge construction and urged the FHWA to expand and refine the indirect impacts section of the SDEIS (FHWA et al., 2004). The indirect impacts would be related to development in western Wisconsin, including conversion of land to residential and related commercial uses, with subsequent increases in impervious surfaces, additional individual and community waste water treatment systems, use of lawn and garden chemicals, increased runoff, and increased erosion, among other impacts. Section 7(a) of the Act directs the administering official to evaluate the "direct and adverse impacts" of a water resource project. It does not authorize the administering official to examine indirect impacts. The NPS has commented on those indirect impacts through the NEPA process, and does not focus on them in this Section 7(a) evaluation.

E. Mitigation

The water quality impacts of the proposed bridge would be mitigated through regulatory programs administered by the states of Minnesota and Wisconsin. The bridge project requires Water Quality Certification under Section 401 of the Clean Water Act as well as National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) permits. In order to acquire these approvals, the transportation agencies must submit plans, including a description of the Best Management Practices (BMP's) that are to be used to the Minnesota Pollution Control Agency and the WDNR. These state agencies conduct inspections and enforce the conditions of the approvals to assure that the requirements are met in their respective states.

F. Conclusion

The proposed bridge construction may have temporary negative impacts on water quality, most of which would be associated with construction and/or high rainfall and runoff events. Long-term impacts would be associated primarily with accidental spills and heavy rainfall/runoff events. Water quality impacts could occur from the failure of stormwater run-off systems or flushing of retention/detention basins during flood events. Most water quality impacts could be avoided and/or reduced by the implementation and maintenance of BMP's by the transportation agencies and enforcement by the states of Minnesota and Wisconsin as part of their storm water permitting requirements. Removing non-emergency vehicular traffic from the Lift Bridge, which is not equipped with a drainage system should reduce the amount of petro-chemical and other pollutants that enter the river from its deck. .

In consideration of the manageable effects the bridge project would have on the water quality of the Riverway and assuming the implementation and enforcement of BMP's for storm water and erosion control by the responsible parties, the NPS finds on behalf of the Secretary of Interior that the project as proposed would not have a permanent direct and adverse effect on the water quality for which the Riverway was established.

VI. Scenic Values of the Riverway

According to the Bureau of Outdoor Recreation study prior to designation, the scenic value of the lower St. Croix was one of the outstandingly remarkable values that made the river eligible for inclusion in the National Wild and Scenic River System (BOR, 1973). Contributing elements to the scenic value of the Riverway include the landforms and terrain such as the river bluffs and islands, vegetation, wildlife, and historic river towns. All elements play a part in creating beautiful views. Because it is one of the outstandingly remarkable values for which the Riverway was designated, protecting the scenic values of the river from the impacts of the proposed bridge crossing is of utmost importance.

A. Scenic Resources and Values of the Lower St. Croix

The Riverway was designated by Congress for its outstandingly remarkable scenic, recreational and geologic values. This designation was a direct result of the recognition that the unparalleled scenery that exists along the lower St. Croix should be preserved in perpetuity for the benefit of present and future generations. The scenic qualities and recreational opportunities that exist along the Riverway continue to make it a primary tourist destination.

The Riverway is within one hour of the adjacent Twin Cities region of St. Paul and Minneapolis, Minnesota. Thus far, the scenic qualities of this river have been maintained since designation despite constant development pressures from this major metropolitan region.

1. Management Plan Guidance

The planning principles and desired conditions for the Riverway have been established through a collaborative agency and public involvement process and are outlined in the 2002 Cooperative Management Plan (CMP). In Summary,

> *"The plan emphasizes maintaining and enhancing the riverway's diverse character. Long stretches of the lower riverway's natural and rural landscape will be maintained, while allowing limited, planned development in communities that is consistent with the historic character of the communities. Limited new development could occur within existing municipalities along the river, although maintenance of the overall character of the municipalities will be emphasized. Outside of the municipalities landowners will be encouraged to maintain the natural character of the landscape, particularly the bluff lines, as seen from the water. Protection of natural resources, including the valley's important biological diversity, will be enhanced. Riverway users will continue to find opportunities to engage in a wide range of recreational experiences. The emphasis will be on maintaining and enhancing the diverse landscape character and diverse water-based recreational opportunities." (NPS 2002)*

Is important to emphasize the purposes for which the river was set aside as a component of the

System, the significance of this specific river, and the exceptional resources and values that further elaborate this river's significance. The Purpose, Significance and Exceptional Resources and Values of the Riverway are based on enabling legislation, legislative history, agency management policies, and public input and have been ratified with the publication of the 2002 CMP. The scenic and aesthetic resources of this river are integral to the purposes for which it was established. Of the four published purpose statements, three statements that directly address scenic resources have been bolded below:

- **Preserve and protect (and restore and enhance where appropriate) for present and future generations the lower riverway's** ecological integrity, its natural and **scenic resources**, and its significant cultural resources.
- **Accommodate a diverse range of recreational opportunities that do not detract from the exceptional** natural, cultural, **scenic and aesthetic resources.**
- Provide an environment that allows the opportunity for peace and solitude.
- **Provide an opportunity for the education and study of the** geologic, cultural, ecological, and **aesthetic values to further enhance stewardship of the river**.

Additional information from the 2002 CMP related to Scenic values is included in Appendix C.

The 2002 CMP specifically addresses the issue of new river crossings. It states

> *"...Proposals to build or expand highway or railroad bridges can significantly impact the riverway's scenic quality. ...A lack of coordination among the companies and agencies proposing the projects, regulatory agencies, and river-way managing agencies also encourages crossings to proliferate and compounds the potential for impacts."*

River crossings are further outlined in the Management section of the 2002 CMP. This section specifically states:

> *"The long term goal will be to reduce the number and size of visible river crossings. The managing agencies will encourage safe, compatible, multiple uses of existing corridors and structures that cross the riverway. All proposed changes to river crossings or corridors will require site-specific environmental evaluations and approval from applicable local, state, and federal agencies. The impacts of each proposal will be analyzed and documented before the managing agencies permit any change in a river crossing or corridor.*
>
> *There will be no net increase in the number of transportation corridors. In general, transportation corridors will be replaced in or adjacent to the existing corridor. Existing transportation corridors will be relocated only if all of the following are true: 1) the need for the project is clearly justified, 2) the project is consistent with state and regional transportation plans, 3) there is no feasible and*

prudent alternative to relocating the corridor, and 4) all built elements of the existing corridor are removed, and the corridor is restored to natural conditions. Existing corridors are defined as being roughly equivalent to the existing approach rights-of-way. Existing bridges may be replaced with new bridges provided the existing structures are removed.

Increased capacity within an existing transportation corridor may be expanded by widening an existing bridge or by constructing a parallel structure to an existing bridge so long as items 1 and 2 above are true.

Any new bridge or alteration of an existing bridge must be of a scale and character that [is consistent with the values for which] the area was designated under the National Wild and Scenic Rivers Act (scenic, recreational, geologic). Construction projects must include appropriate mitigation to compensate for any impact on these values.

If any river crossing project requires construction below the ordinary high water mark, the National Park Service will review the project, including the mitigation plan, pursuant to Section 7 of the Wild and Scenic Rivers Act. The National Park Service will determine whether the project will or will not have a direct and adverse effect on the values for which the river was designated. If the National Park Service finds that the project will result in a direct and adverse effect, no federal funding, licenses, or permits will be issued for its construction."

The 2010 Court decision, Sierra Club North Star Chapter v. LaHood, et al., 0:07-cv-02593-MJD-SRN (D. Minn. March 11, 2010), found that the CMP does not provide a mandatory duty to avoid increasing the number of crossing. However, it does express a "long-term goal" to reduce the number of crossings. The Court also held, consistent with the NPS reasoning, that the Lift Bridge would no longer meet the definition of 'transportation corridor' when it is converted to recreational pedestrian and bicycle use only. While the Lift Bridge would remain a river "crossing," as that term is defined, the absence of motorized use would eliminate the Lift Bridge as a 'transportation corridor' consistent with the terms of the CMP.

1. Setting

The lower St. Croix River valley lies within the Central Lowland Physiographic Province which is a relatively low and level plain in the central United States. This Province is further subdivided and this section of river lies at the junction of the Western Lake section, the Dissected Till Plains section and the Wisconsin Driftless section. The immediate landscape surrounding the Riverway was most recently and dramatically shaped by glacial advances 10,000-25,000 years ago and today consists of low, rolling plains of only moderate relief, the surface of which is primarily comprised of glacial outwash. As a tributary river to the Mississippi, the St. Croix was not directly covered by the last glacial ice sheet and remains a relatively deeply entrenched river

valley that stands out as a remarkable and unique landform compared to the surrounding plains topography.

The landform of the Riverway in the Lake Saint Croix area is heavily influenced by the underlying sedimentary bedrock of limestone and sandstone creating relatively flat-topped bluffs with steep slopes that plunge down to the river. In the stretch between the Boom Site in north Stillwater, Minnesota to North Hudson, Wisconsin, the Wisconsin side of the river generally exhibits steeper and more continuous bluffs than the Minnesota side of the river. The river valley is generally dominated by Eastern Deciduous Forest vegetation interspersed with limited amounts of Prairie and Northern Coniferous Forest vegetation. Within the river valley, the Wisconsin side of the river is largely forested; occasional single family homes, mostly earth-toned in color, are interspersed within the natural landscape. On the Minnesota side of the river, the historic city of Stillwater is situated on the riverbank and development is considerably more prominent with a concentration of buildings within the town and other single family homes scattered along the hillside and riverside downstream. The most prominent development on the Minnesota side of the river is the Allen S. King coal-fired power plant. This plant is located between the city of Oak Park Heights and Bayport, three miles south of Stillwater. Immediately outside of the river valley on the Wisconsin side of the river, with the exception of the community of Houlton and the small town of North Hudson, the land use is primarily rural agricultural. Immediately outside of the river valley on the Minnesota side of the river, land use is rural agricultural mixed with rapidly expanding suburban development.

2. Landscape Characteristics of the Study Area –Existing Conditions

The landforms, water and vegetation make up the characteristic landscape and the visual diversity can be defined in terms of form, line, color and texture. As a result of the steep slopes that create long continuous walls along the Riverway, the landscape type can be characterized as "enclosed" from a river level vantage. Viewed from higher elevations along the bluff walls where more expansive vistas exist, the enclosed nature of the landscape opens to feature some panoramic landscape characteristics. From the water, and especially in the open expanse of Lake Saint Croix, some panoramic characteristics may be present, but generally remain enclosed due to the steep banks on either side of the river.

The steep, vegetated hillsides on both sides of the river create a long, axial view up and down river that is further strengthened by the contrasting nature of the water surface and sky. Because of the relatively uniform height of the bluffs and the highly reflective qualities of the water surface, these features create walls that form borders around the view much like the frame of a picture. This framing of the scene further strengthens the axial nature of these linear views up and down river by drawing the viewers' eyes in those directions. In short, this landscape is an enclosed landscape, with strong axial views up and down river and includes some limited panoramic characteristics.

3. Land and Water

The landform is dominated by bluffs that rise above the river on both sides. The Wisconsin side exhibits steeper gradients and generally higher bluff tops closer to the river. On the Minnesota side, the bluff is set back and a low floodplain area exists close to the river. The water surface is broad and expansive and depending on weather conditions may be smooth and glassy under calm conditions or choppy under moderate to heavy wind or storm events.

The dominant lines in this landscape are created by the slightly undulating horizon line between the nearly continuous forest canopy at the crest of the bluffs and the sky, and by the sweeping curves where land and water meet. Subtle, soft rolling diagonal lines are created by the hill slope and numerous ravines when viewing the landscape up and down river.

The land color is generally comprised of browns and tans where earth or rock is exposed. Otherwise, the ground is mostly covered with leaf litter giving the ground plane a rich orange color. The ground color is especially evident during the leaf off period when the viewer can see through the vegetation to the ground plane. The color of the water is much more variable and is almost completely dependent on weather, atmospheric, and lighting conditions. Under calm conditions, the water surface reflects the sky with an added slight silver tone. The water may appear blue, blue green, dark to light grey or even multicolored if reflecting sunrise or sunset conditions. Under choppy conditions, the color may appear mottled from light grey to dark grey if white caps are present.

The texture of the landform is relatively smooth and undulating as it rolls on the steep slope in and out of small ravines. The texture of the water is generally smooth and glassy with minor ripples under calm conditions and more choppy under windy or storm conditions.

4. Vegetation

Because the primary vegetation type is deciduous forest, the basic elements of vegetation are highly variable by season in this location. The vegetation forms are dominated by deciduous trees whose forms are structured as branching fans with rounded crowns during the leaf off season and a collection of rounded canopy crowns during leaf on season. This is intermixed with occasional evergreen conifers whose forms remain static year round. A floodplain forest exists on the Minnesota side. On the Wisconsin side, a transitional stratification of various plant species occurs from bank to hilltop. On the Wisconsin side of the river, the forest creates a nearly continuous mat of vegetation whose form is complexly skeletal during leaf off season, but during leaf season forms a continuous canopy of rounded crowns. The vegetation cover on the Minnesota side is generally comprised of the same vegetation forms but is more broken as sections of forest are discontinuous and mixed with landscape plantings.

Lines created by vegetation generally relate directly to the plant structures and topography. The irregular and repetitive sequencing of vertical trunks mixed with the branching network of limbs and branches creates a complex mass of fine scale lines in the foreground. Collectively, these create a wide undulating band from bank to bluff top as the vegetated hillsides transition into the distance up and down river. The rounded crowns during leaf off and especially during leaf on

condition, creates a complex mix of soft, rounded, almost scalloped lines that appear to run slightly diagonally following the slope of the bluffs, accentuated at ravines. On the Minnesota side, lines in vegetation are more jagged and irregular due to influences by development and banding occurs in some locations between roads that create abrupt breaks in the vegetative cover. Vegetation color is highly variable by season due to the deciduous nature of the forest. Trunks and branches are dominated by a full range of grays and browns. Leaf colors cover a full range of values and hues of greens during leaf on season to yellows, oranges, reds and browns during fall. Conifers provide a consistent deep green year round. Buds and blossoms create even further variation in the palette of colors created by vegetation with pinks, purples, pale greens and yellows more prominently featured. Grasses and ground covers provide limited additional colors interspersed with larger vegetation.

The texture of the vegetative cover is moderately coarse due to the highly crenulated canopy with the greatest coarseness occurring in the foreground. The texture is continuous on the Wisconsin side providing little contrast due to the regularity of the unbroken canopy. The texture of the vegetation on the Minnesota side is equally coarse although more blocky as the canopy is more broken than continuous.

5. Structures and the Existing Built Environment of the Study Area

The form of the built environment depends on the side of the river in view and includes multiple scales. Most buildings are boxy and single family homes represent the greatest number of buildings in the view shed. Structures on the Wisconsin side of the river are primarily small scale boxy single family homes set into a forested landscape Some small private docks are present along the river's edge. Other industrial buildings and condominium complexes represent larger scale buildings within the viewshed on the Minnesota side of the river. Multiple buildings of differing scales are concentrated within the City of Stillwater, Minnesota. These gradually transition into an intermixed composition of boxy built forms with natural and planted vegetation further from the downtown riverfront. While some buildings in Stillwater are large, the overall scale of structures in the town and surrounding hillsides is subordinate to the scale of the landform and vegetation of the surrounding landscape. One notable exception to the previous description of the built environment on the Minnesota side of the river relates to the form, size and scale of the coal-fired power plant, south of Stillwater. The giant boxy form of the plant with its cylindrical smokestack punctuates the skyline and completely dominates the view on this side of the river. Other built forms within the viewshed include docks and marinas of varying scales, paved pads and roadways, the Lift Bridge, power line towers and power lines.

A variety of lines created by structures are present within the viewshed. Small scale horizontal and vertical lines outlining the edges of buildings as well as matching diagonal lines from various roof tops are present throughout the scene. Roadway lines are also present within the scene. Power lines create thin, sweeping centenary curves where these structures exist. The lattice structure of the power line towers and the Lift Bridge are apparent when viewed in the foreground. The sharp edge of the coal-fired power plant building and the strong vertical line created by the smokestack are dominant lines in the scene.

Structure colors range from muted brick reds, tans, browns and grays on many of the buildings to more striking whites on trim outlining windows and doors, the bold buff color of the power plant, yellow and white awnings at a marina, metallic silver/grey of street lamp poles and railings, to almost black on various other structures.

The texture on most structures is smooth and blocky when compared to the surrounding landscape. The larger the size and scale of these structures, the greater the smoothness appears, as with the power plant. In some cases, the coarse texture of a lattice structure actually renders the structure partially transparent making the structure blend into the environment better than the stark smooth surfaces of most structures. Overall, with the exception of a few large scale and/or highly contrasting constructed elements, the built environment transitions well into the texture of the surrounding landscape.

B. Temporary Visual Effect of the Bridge Construction

Construction of the proposed bridge would require numerous temporary instream structures as well as the use of construction machinery, cranes, and other mechanized equipment associated with bridge construction. Landscape disturbance and phased construction activities that include the erection of the bridge components will reduce the scenic quality of the area for a prolonged period of time.

The instream structures would include barge docking areas and cofferdams for each of the bridge piers. Some minor excavation and fill may be required at each site to level moored barges with the shoreline. Temporary cofferdams would be constructed around each pier location to isolate the river water from construction activity. The structures will form a visual obstruction and constitute a temporary intrusion to the scenic values of the area.

Construction staging sites and barge docking facilities are to be determined with the final construction staging plans. The following discussion describes the areas along the river proposed for use as barge docking facilities. The use of these sites would be temporary (i.e., during construction of the river crossing).

Wisconsin

The Wisconsin shoreline work area is expected to include temporary docking facilities for use by work boats, tugboats, and construction barges. An area of 30,000 square feet is proposed to be constructed for a barge docking facility. The facility would be rectangular in shape, 75-feet wide by 400-feet long along the shoreline and be located within the new bridge alignment.

Minnesota

In Minnesota, there are several existing barge docking facilities that could serve as temporary

facilities to be used during bridge construction; therefore, construction of temporary barge docking facilities on the Minnesota side is not anticipated. The existing facilities include the Stillwater Municipal Barge Facility Property and the Xcel Energy barge unloading facility and mooring cells.

The Xcel Energy barge unloading facility and mooring cells would be removed as mitigation for the visual impacts of the Project. Prior to their removal, the mooring cells would be used for construction of the new bridge. The use of the Xcel facility would avoid the placement of a temporary barge docking facility that would otherwise have to be constructed on the Minnesota side.

Collectively, activities associated with the construction of the bridge and staging practices would negatively impact the scenic values of the area on a temporary basis.

C. Permanent Visual Effect of the Bridge Construction

Compared with the existing structures in the landscape, the bridge would introduce a new form that in size, shape and scale would dominate the landscape and would be in direct contrast to all other structures within the viewshed. Even when contrasted to the coal-fired power plant with its large buildings and tall smokestack, the proposed bridge would dwarf these structures due to its massive nature. Because of the enclosed characteristic of this landscape type with its strong axial view up and down stream created by the valley walls and bluffs, the new bridge, crossing the river would completely disrupt and alter the expansive nature of the landforms and block views up and down river. The massive scale of this bridge would make it visible for many miles up and down river. The addition of movement with passenger vehicles and large trucks across the top of the bridge would also draw the viewer's attention towards this new form.

Where the bridge contacts the bluff line edge, changes in the landform due to cut and fill and the construction of a bridge abutment and wing wall would disrupt the relatively smooth, undulating landform. It would also break the continuous forest canopy that exists on the Wisconsin side of the river and introduce grassy banks in the immediate road cut. The width of disturbance during construction would likely be considerably wider than the bridge width itself. While trees are proposed to be planted following construction activities, "the size of which to be determined by budgetary considerations," the newly planted trees would inevitably be smaller than the trees that make up the existing forest canopy. Thus, a disjointed vegetative form would be created by introducing a new age class of trees and altering the forest density. These same changes to the landform and vegetation would also occur on the Minnesota side of the river. Minnesota impacts would likely not create as dramatic a contrast due to the lower slope, the distance from the river and the previously disturbed nature of the landform and vegetative cover.

The smooth reflective surface of the water would also be disrupted with the addition of this new bridge form. Not only would the piers create small eddies in the water surface as is similarly demonstrated by the Interstate 94 highway bridge 4.5 miles downstream, but the new bridge

would break the reflective quality of the water that currently mirrors the sky across the broad expanse of this portion of the river. The reflective quality would not only create a new double line by reflecting the horizontal deck, but would accentuate the vertical lines by making them appear double in length. The color of the bridge elements would also be reflected, as will the shadow created on the underside of the bridge deck creating a dramatic contrast.

The proposed bridge would introduce new straight lines and colors to the landscape. These new lines would not match the more subtle lines created by the natural landscape or the scale or orientation of lines created by cultural elements in the landscape. The evenly spaced columns, towers and bridge lighting poles would create repetitive linear elements not found in the surrounding landscape and create a strong contrast. Because the towers would be considerably higher than the deck of the bridge, even when viewing the bridge from the surrounding hilltops, the towers would punctuate the horizon creating new, bold, repetitive vertical lines into the skyline. While the deck is roughly horizontal, being on a slope, it is not parallel with the water surface which would create a disharmonious line.

Additionally, because the deck is elevated so high above the water surface, the deck line would be more noticeable, especially when viewing the bridge from a direct angle or from below as it would be silhouetted against the sky. The cut in the vegetation and associated earthwork would add a new, broad line with a butt edge contrasting the existing forest cover. The new exposed gap, depending on the viewing angle, would be diagonal to nearly vertical against the hillsides.

The color of the exposed concrete of the new bridge would be off-white to light grey. Compared to the darker, more complex colors in the surrounding environment these new colors would create a dramatic contrast. Because of the relative lightness of the bridge, the color would appear to advance and stand out against the surrounding landscape colors and would dominate the scene. The exposed stainless steel and galvanized steel would also create a light contrasting color that may add an additional metallic reflective quality to the environment unlike the more glassy reflective quality of the water surface. When the water surface reflects the colors of the sky, the bridge would create a darker streak due to the shadow effects under the bridge that would add an additional bold contrasting color in the reflection. At night, the use of metal halide lights to illuminate the deck surface, trail lighting, bridge accent lighting to illuminate the bridge structure itself and standard aviation obstruction lighting to meet FAA regulations would all bring new colors to the night time scene and create further bold contrasts to the muted night time colors. The accent lighting would also introduce bold and dramatic colors into the viewshed as multicolor, changing lights are proposed. Natural night sky viewing would be impeded through the addition of unnatural light.

The assortment and complex combination of multiple colors in the vegetation would be starkly broken. While new trees would be planted, the relative small scale of these new trees, combined with the fact that they would be surrounded by a grassy hill slope, would interrupt the existing forest color scheme. Due to the overall smaller volume of forest colors, the different hues of leaf color in the newer trees and the grass color would create a strong contrasting color shift in vegetation from what currently exists in the forested canopy. The constructed hill slope and

crushed stone rip rap beneath the bridge would further contrast the color scheme of the landform as the hill slope is presently covered with leaves and debris generated by the vegetation over time.

The texture of the bridge with its metal-formed concrete would be extremely smooth when compared to most of the existing textural elements in the landscape. The segmented pattern of the structure would modify the smooth texture somewhat at the larger scale while the cable anchors would create a very regular jagged texture against the smooth deck surface when viewed in closer proximity. The bridge abutments would be veneered with stone or concrete poured and formed to simulate a limestone wall. These abutments would contrast the natural smooth surface of the hillside. The continuous forested canopy that is dense and moderately coarse would be broken and new texture changes would be introduced. Smaller trees would change both the color mottling and textural grain. The addition of grass in the exposed hill cuts and interspaces between new trees would be smooth compared to the forested texture. If rip rap is used an additional contrasting texture would be added to the relatively smooth landform.

D. Visual Mitigation Measures

The proposed project includes several measures to mitigate or offset the visual impacts of the bridge, as described below.

Removing the twenty-one mooring cells, within-river structures, would improve the scenic condition of the Riverway. The cells currently protrude through the plane of the water surface intruding on the river-based viewscape. Appendix A Figures 13a – 13d depicts the river at this location both with and without these cells in place. Removal of these structures would improve views of the Minnesota shoreline and eliminate contrasting colors and angular forms. Removal of the mooring cells mitigates for the visual impacts of the bridge but does not eliminate the adverse effect of the proposed bridge to scenic values.

Removing the Terra Terminal building improves the scenic value of this segment of the shoreline and floodplain. Placement of the historic Shoddy Mill and Warehouse as planned would diminish the riparian benefits that could be gained, but would be appropriate for the scene prescribed in the CMP for this “River Town” Land Management Area.

The “BUCKHORN” sign is a man-made scenic intrusion currently within the Riverway. Its removal will improve the aesthetics of the bluff face at this location. Because, the sign is largely covered by vegetation, it is not easily visible from the river. Nonetheless, its removal would improve the natural scenic values of the Riverway, but would not eliminate the adverse impacts of the bridge.

The pavement on the approach to the Lift Bridge would be removed and roads converted to a bicycle/pedestrian trail. These changes would improve the scenic qualities along the approach by partially restoring a portion of the Wisconsin bluff. Likewise, removing pavement and other

man-made structures at Kolliner Park would encourage the park area to revert to a natural floodplain and riparian state within a park-like setting. This would improve scenic values and the functionality of a portion of the floodplain. Since the Wisconsin shoreline and bluff are less developed than Minnesota, allowing this segment to revert to a natural riparian environment provides greater habitat value due to connectivity with intact systems. Beyond restoration to a more natural environment, human alterations to this section should remain minimal in order to perpetuate these improvements to the scene and the riparian ecosystem. The purchase and protection of undeveloped bluff lands would help to maintain the existing scenic value. Purchase and natural restoration of developed bluff lands could mitigate the impacts of the proposed bridge to a degree.

E. Conclusion

The NPS conducted a visual assessment and developed a visual contrast rating comparing the proposed bridge with the existing landscape character and determined that the proposed bridge would not repeat the forms, lines, colors or textures of the natural or cultural landscape (see Appendix C). The bridge would create a strong visual contrast in the existing scenery of the Lower St. Croix National Scenic Riverway. To further exacerbate visual impacts, the proposed bridge would be visible from most locations along this section of the river due to its massive size and scale. The strong axial sightlines created by the open water in a landscape that is enclosed by steep bluffs that draw the viewer's attention up and down river compound this effect. The visual contrast would extend into the night as well due to the proposed lighting scheme. The proposed bridge would not meet the goal of reducing river crossings or land management area standards outlined in the Cooperative Management Plan.

The proposed extradosed bridge type and "Organic" concept design is intended to be "light on the landscape." However, relative to existing conditions, the overall form of the proposed bridge is massive and heavy in terms of overall size, scale and appearance. As indicated by the visual contrast ratings the NPS has concluded that while the design may be an expressive, aesthetically pleasing sculptural structure, the proposed bridge is not a structure that would be sensitive to the context of a component of the System. The proposed bridge contrasts dramatically with the surrounding environment. Appendix A, Figures 12a and 12b depict before and after views from upstream and downstream of the proposed bridge.

Although several of the proposed mitigation measures included in the project mitigates visual impacts to some extent, no one action or collection of actions would completely eliminate the adverse visual impact of the proposed bridge. In consideration of the unavoidable visual intrusion the proposed bridge would impose upon the scenic character of the Riverway, the NPS finds on behalf of the Secretary of Interior that the proposed bridge project would have a permanent direct and adverse effect on the scenic values for which the Riverway was established.

VII. Recreational Values of the Riverway

A. Description of Recreation Resource and Activities

The Riverway was established as a component of the System because of its outstandingly remarkable recreational value. The eligibility study indicates that the Lower St. Croix is an outstanding recreational resource due to its exceptional water quality suitable for outdoor recreation pursuits, including whole body contact; its highly scenic course; its close proximity to the Minneapolis-St. Paul area, and its capacity to provide outdoor recreation opportunities to an urban population (BOR, 1973).

1. Water- based recreation

Most of the Riverway is inaccessible by roads and is primarily accessed by water. Many private marinas are found along Riverway, including those located near Stillwater, Bayport, Hudson, Afton, and Prescott. Private boat ramps are also located in Stillwater, Bayport, Hudson, Lakeland, and Afton. Public boat ramps can be found at Boomsite Park north of Stillwater, Bayport, Hudson, and Afton. The Riverway is one of the most popular motor boating areas in Minnesota and Wisconsin (NPS et al., 1999). The widest portions of Riverway, just above and just below Hudson, are very popular for sail boating.

In addition to boating, camping and fishing are popular water-based recreation activities. Camping occurs upstream of the project area from Boomsite landing to the Soo Line High Bridge and downstream on the Hudson Islands across from the City of Hudson. Both boat and bank fishing is common. Game fish species include walleye, smallmouth bass, and northern pike.

The CMP for the Riverway classifies the affected portion (defined as the viewshed of the proposed bridge) as an "Active Social Recreation" Water Management Area. During peak times, river users often encounter large numbers of people and watercraft and opportunities for solitude are low. During non-peak times, users encounter moderate numbers of people and boats, providing enhanced opportunities for solitude.

2. Land-based recreation

There is no source of comprehensive data on land-based recreation in the project area. However, walking and sight-seeing along the river, particularly in the vicinity of Lowell Park in downtown Stillwater, is popular.

B. Impacts on Recreational Values

The proposed bridge would degrade recreational experiences on the Riverway in two ways; by creating a visual intrusion on the natural scene and by generating noise.

1. Impacts to scenery

The impacts of the proposed bridge on scenic values are considered in detail in Section VI above. The negative visual impacts would adversely affect recreationists' enjoyment of the natural and historic scene.

2. Noise Impacts

Noise impacts would occur from construction and use of the proposed bridge. Traffic and construction noise would negatively impact recreational use and enjoyment of the Riverway. Noise impacts of the proposed bridge are considered in detail in Part 8.2 of the SDEIS. The preferred crossing would increase noise by 1-14 dBA (decibel weighting network) over existing levels. (Note: Weighting networks are used as an attempt to duplicate the sensitivity of the human ear). The greatest increase is at Receptor W-1 on the Wisconsin side just south of the preferred crossing location. At this receptor noise would increase from 52 dBA to 66 dBA. This would be comparable to going from typical noise level of "Quiet Urban Daytime" (or a dishwasher in the next room) to a "Commercial Area" (or normal speech at 3 feet). No noise receptors were located on the St. Croix River, so the noise level that boaters may experience has not been evaluated.

3. Recreational Mitigation Measures

Scenic improvements, including the removal of existing the mooring cells within the Riverway, and the provision of new recreational opportunities proposed in the Supplemental EIS would mitigate impacts to recreation. The mitigation items identified to offset visual impacts would also mitigate impacts to recreation by removing visual intrusions and protecting views from future development.

New interpretive displays would provide visitors with new opportunities to learn about the significance of the Riverway. Removing vehicular traffic from Lift Bridge would reduce the noise level in the vicinity of the Lift Bridge, making that area more pleasant for recreational activities.

New restroom facilities would provide badly needed visitor services and diminish potential water quality impacts of dispersed recreational use. Funding provided for archeological surveys would also provide funds for work often needed to develop new recreational facilities, such as primitive campsites. Completing the pedestrian/bicycle loop trail would provide a new recreational activity in the affected area and offer diverse viewing opportunities that are not currently available. The trail with interpretive signs could significantly enhance visitor understanding of the Riverway. A new public boat launch would also facilitate public access for river recreation.

C. Conclusion

Despite the proposed recreational enhancements included in the mitigation package, the proposed bridge crossing would have a direct and adverse effect on recreational values by degrading the scenic values currently enjoyed by visitors. Although several proposed mitigation measures included in the project may mitigate the impacts to recreational values, no one action or collection of actions would completely eliminate the adverse visual impact of the proposed bridge. In consideration of the unavoidable visual intrusion the proposed bridge would impose upon the scenic character of the Riverway and the inherent link between the scenic character and recreational enjoyment of the Riverway, the NPS finds on behalf of the Secretary of Interior that the project as proposed would have a permanent direct and adverse effect on the recreational values for which the Riverway was established.

VIII. Geologic Value

The outstandingly remarkable geologic values for which the Riverway was included in the System refer to the Dalles formation of the St. Croix River. The Dalles are a deep basalt gorge with glacial potholes and other rock formations. The Dalles are located approximately 25 miles upstream from the proposed bridge and would not be affected by the proposed bridge.

In consideration of the distant location of the Dalles in relation to the project location, the NPS finds on behalf of the Secretary of Interior that the project as proposed would not have a direct and adverse effect on the geologic values for which the Riverway was established.

IX. Native Mussel Values

In their lawsuit, the Sierra Club asserted that the 2005 Section 7(a) Evaluation was arbitrary and capricious because it failed to assess the impact of the proposed bridge on the Riverway's mussel population. The 1996 Evaluation included an in-depth chapter on mussels while the 2005 Evaluation mentions them only briefly. The Court acknowledges that mussels were not among the values for which the Riverway was established. Therefore, the NPS is under no obligation to evaluate the effects of the proposed bridge on mussels. However, the Court did require an explanation for the change in position from 1996 to 2005 (Sierra Club North Star Chapter v. LaHood, et al., 0:07-cv-02593-MJD-SRN (D. Minn. March 11, 2010)). The discussion below represents that explanation.

A. Background

The St. Croix River provides the best mussel habitat in the Upper Mississippi River watershed and, with such diversity, represents one of the premier mussel assemblages in the world. The Riverway supports at least 38 species of native mussels. This includes two federally-listed endangered species, the Higgins' eye pearly mussel (*Lampsilis higginsi*) and the winged mapleleaf mussel (*Quadrulafragosa*) (Code of Federal Regulations 1993). In addition, there are 17 species listed by the states of Wisconsin and/or Minnesota as threatened or endangered. Because of their longevity (some species live more than 50 years), immobility, and sensitivity to water pollution, the presence and abundance of mussels is a reflection of a river's water quality, habitat condition and ecological integrity. The Riverway contains the only population of Higgins' eye mussels not infested with reproducing populations of invasive zebra mussels and the only known reproducing population of winged mapleleaf mussel.

The federally-listed mussels of the Riverway are protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 a' seq). The state-listed species are protected under statutes adopted by the States of Minnesota and Wisconsin. The transportation agencies entered into consultation with the U.S. Fish and Wildlife Service (USFWS) on the proposal to construct a bridge over the lower St. Croix. In 1996, the USFWS issued a "jeopardy opinion" for the 1995 proposed crossing project because of its potential to create a zebra mussel infestation in the St. Croix River. Zebra mussels compete with native mussels for habitat and food and can encrust and suffocate native mussels. A zebra mussel infestation could jeopardize the continued existence of both the federally-endangered Higgins' eye pearly mussel and the federally-endangered winged mapleleaf mussel (USFWS, 1996).

In 2005, the USFWS concluded that the proposed new bridge is "not likely to jeopardize" the continued existence of the Higgins eye pearlymussel or the winged mapleleaf, as long as protective strategies described in the 2005 bridge proposal are strictly adhered to. These protective strategies included the relocation of Higgins eye mussels and decontamination procedures to prevent the spread of invasive mussel species. The 2005 opinion from USFWS assumes an incidental take of up to two Higgins eye pearly mussels (USFWS, 2005). The

proposed bridge design spans a shelf on the Wisconsin side of the St. Croix known to be inhabited by mussels, thereby avoiding disturbance of that population.

B. Conclusion

Even though the NPS and states are under no obligation to evaluate mussels because they were not originally included in the enabling legislation as an outstandingly remarkable value, the native mussels of the Riverway are protected from the adverse effects of this bridge project by another statute, the Endangered Species Act. The Endangered Species Act requires the transportation agencies to consult with the USFWS. As stated above, the USFWS found that the proposed new bridge is "not likely to jeopardize" the continued existence of the Higgins eye pearlymussel or the winged mapleleaf, federally-listed species that occur as part of larger native mussel communities in the Riverway.

Because the language of Section 7(a) of the Act is very specific and because native mussels are protected under another statute, the NPS will not discuss mussels in depth in this document. The NPS expects that *all* 'Terms and Conditions' set forth by the USFWS to protect wildlife in the current bridge proposal would be strictly enforced by the USFWS and the states of Minnesota and Wisconsin. If the bridge is constructed, the NPS encourages scientifically-based assessments of the efficacy of these efforts through monitoring before and after project implementation and completion.

X. Section 7(a) Determination

The purpose of designating a river under the Wild and Scenic Rivers Act is to preserve certain rivers and their immediate environments; to maintain their free-flowing character; to protect water quality; and to protect the outstandingly remarkable values for future generations.

Section 7(a) protects rivers designated under the Act from the direct and adverse effects of Federally-assisted water resource projects and states:

> *"no department or agency of the United States shall assist by loan, grant, license or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration."*

A. Summary of Effect of Proposed Bridge on the Riverway Values

The Riverway was established to protect its free-flowing condition, water quality, and outstandingly remarkable scenic, recreational and geologic values. As described in the foregoing Section 7(a) evaluation, the National Park Service has arrived at the following conclusions:

1. Free-flow

As described in Part IV, C the proposed new bridge would have direct affects on the free-flowing condition of the Riverway. The construction of bridge piers is a modification of the waterway that would permanently impact the flow conditions on the St. Croix River. The construction would change localized velocity profiles, scour and fill patterns around the bridge piers and slightly raise water levels.

In consideration of the current hydrology of the Riverway in the project area and the minor effects the project would have on its free-flowing condition, the NPS has determined, on behalf of the Secretary of Interior that the project as proposed would not have a direct and adverse effect on the free-flowing condition for which the Riverway was established.

2. Water Quality:

As described in Part V the proposed bridge construction may have temporary negative impacts on water quality, most of which would be associated with construction and/or high rainfall and runoff events. Water quality impacts could occur from the failure of stormwater run-off systems or flushing of retention/detention basins during flood events. Most water quality impacts could be avoided and/or reduced by the implementation and maintenance of BMP's by the transportation agencies and enforcement by the states of Minnesota and Wisconsin as part of their storm water permitting requirements.

In consideration of the manageable effects the bridge project would have on the water quality of the Riverway and assuming the implementation and enforcement of BMP's for storm water and erosion control by the responsible parties, the NPS has determined, on behalf of the Secretary of Interior, that the project would not have a permanent direct and adverse effect on the water quality for which the Riverway was established.

3. Scenic Value:

As described in Part VI, the proposed bridge would not repeat the forms, lines, colors or textures of the natural or cultural landscape. It would create a strong visual contrast in the existing scenery of the Lower St. Croix National Scenic Riverway. The strong axial sightlines created by the open water in a landscape that is enclosed by steep bluffs that draw the viewer's attention up and down river compound this effect. Relative to existing conditions, the overall form of the proposed bridge is massive and heavy in terms of overall size, scale and appearance. The proposed bridge contrasts dramatically with the surrounding environment. Several of the proposed mitigation measures included in the project mitigates the visual impact to some extent. However, no one action or collection of actions would completely eliminate the adverse visual impact of the proposed bridge.

In consideration of the unavoidable visual intrusion the proposed bridge would impose upon the scenic character of the Riverway, the NPS has determined, on behalf of the Secretary of Interior that the proposed bridge project would have a permanent direct and adverse effect on the scenic values for which the Riverway was established.

4. Recreational Value:

As described in Part VII, the proposed bridge crossing would have a direct and adverse effect on recreational values by degrading the scenic values currently enjoyed by visitors. Although several proposed mitigation measures included in the project may mitigate the impacts to recreational values, no one action or collection of actions would completely eliminate the adverse visual impact of the proposed bridge.

In consideration of the unavoidable visual intrusion the proposed bridge would impose upon the scenic character of the Riverway and the inherent link between the scenic character and recreational enjoyment of the Riverway, the NPS has determined, on behalf of the Secretary of Interior, that the project would have a direct and adverse effect on the recreational values for which the Riverway was established.

5. Geologic Value

As explained in Part VIII, the outstandingly remarkable geologic values for which the Riverway was included in the System refer to the Dalles formation of the St. Croix, a deep basalt gorge with glacial potholes and other rock formations. The Dalles are located approximately 25 miles upstream of the proposed bridge and would not be affected by the

proposed bridge. Therefore, the NPS has determined, on behalf of the Secretary of Interior, that the proposed bridge would not have a direct and adverse effect on the geologic values of the Riverway.

B. Determination

Pursuant to Section 7(a) of the Wild and Scenic Rivers Act, the National Park Service has determined that the proposed bridge project would have a direct and adverse effect on the scenic and recreational values for which the Riverway was included in the National Wild and Scenic Rivers System. The mitigation measures incorporated into the bridge crossing project by the project sponsors cannot eliminate the direct and adverse impacts on the outstandingly remarkable values of the Riverway. Consistent with guidance available from the Interagency Wild and Scenic Rivers Coordinating Council, informational guidance within the Department of Interior, and regulations of the U.S. Forest Service, adverse impacts must be eliminated, rather than partially offset to result in the river administering agency's consent to the project.

C. Consistency Statement

This determination is consistent with the one made in 1996, but is not consistent with the Court vacated determination from 2005. The reason for the disparity is that NPS took a fresh look at the requirements of the Act and available guidance. Much of the guidance that formed the basis for this conclusion was not available or widely disseminated when these earlier determinations were made. Although NPS distributed informational guidance in 2000, and Council guidance on Section 7(a) was not published until 2004, NPS did not establish a Servicewide program for Wild and Scenic Rivers until 2007 and begin to establish a more formalized network for promoting consistency in implementing the Act.

Although NPS was an active participant in efforts to develop mitigation measures for this project, it did not relinquish its responsibility for determining whether the preferred project alternative (including mitigation) would have a direct and adverse effect under Section 7(a) of the Act. The new visual assessment conducted as part of this evaluation, confirmed to the NPS, that the proposed project will have direct and adverse impacts on river values.

D. Measures to Meet the Requirements of Section 4(f) of the Department of Transportation Act

As explained in Part II, Section 4(f) of the Department of Transportation Act of 1966 (48 U.S.C. 1653(f)) states that it is in the national interest to preserve the natural beauty of the countryside, public park and recreation lands, wildlife and waterfowl refuges and historic sites. The law requires that transportation use of public park and recreation resources can only take place if 1) no feasible or prudent alternative to their use exists and 2) the project includes all possible planning to minimize harm to the Section 4(f) resources resulting from such use.

The FHWA identifies the Riverway as a resource protected under Section 4(f). The Section 4(f) Evaluation prepared for the bridge project determined that 1) there is no feasible and prudent alternative to transportation use of the Riverway and 2) the bridge project includes all possible planning to minimize harm because of the its design and location and the Riverway mitigation package.

Therefore, while the Riverway mitigation plan does not meet the requirements of the Act, it is critical to meeting the requirements of Section 4(f) of the Department of Transportation Act. If the project sponsors choose to submit the proposed bridge project to Congress for approval, as allowed under Section 7(a) of the Act, the Riverway mitigation package should remain intact to satisfy Section 4(f) of the Department of Transportation Act of 1966.

Christopher E. Stein — 10/15/2010

Recommended By — Date

Ernest Quintana — 10/15/2010

Approved By — Date

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XII. Preparers:

Alan C. Ellsworth, Acting Chief of Resource Management, National Park Service, St. Croix National Scenic Riverway (Northeast Regional Hydrologist)

Bill Hansen, Wild and Scenic Rivers Program Co-Lead, National Park Service, Washington, D.C.

Joan Harn, Wild and Scenic Rivers Program Co-Lead, National Park Service, Washington, D.C.

Jill Medland, Resource Management Specialist, National Park Service, St. Croix National Scenic Riverway

Hector Santiago, Rivers Coordinator, National Park Service, Midwest Regional Office

Ian Shanklin, Landscape Architect, National Park Service, Midwest Regional Office