

## REVIEW PLAN

### ST. CROIX HEADWATERS WATERSHED FEASIBILITY STUDY

April 18, 2008

**1. General.** This review plan was developed in accordance with EC 1105-2-408, "Peer Review of Decision Documents," dated 31 May 2005. The EC establishes procedures to ensure the quality and credibility of Corps decision documents. It applies to all feasibility studies and reports and any other reports that lead to decision documents that require authorization by Congress.

#### **2. Project Description.**

a. The St. Croix Headwaters Watershed Feasibility Study began in October 2007 with the execution of a Feasibility Cost Sharing Agreement between the St. Paul District US Army Corps of Engineers and the Wisconsin Department of Natural Resources (WisDNR). WisDNR will provide 50% of all study costs through non-federal work-in-kind contributions. The Corps of Engineers funds the remaining 50% of study costs. The study is currently estimated to cost \$632,940. The study was recommended in the January 2007 St. Croix River Reconnaissance Study 905(b) Report (approved March 8, 2007) and is authorized by a Resolution of the Committee on Transportation and Infrastructure of the U.S. House of Representatives, September 25, 2002.

"Resolved by the Committee on Transportation and Infrastructure of the United States House of Representatives, That the Secretary of the Army is requested to review the report of the Chief of Engineers on the St Croix River, Wisconsin and Minnesota, published as House Document 462, 71st Congress, 2nd Session, and other pertinent reports to determine whether modifications to the recommendations contained therein are advisable at the present time in the interest of flood damage reduction, environmental restoration and protection, water quality and related purposes to include developing a comprehensive coordinated watershed management plan for the development, conservation, and utilization of water and related land resources in the St Croix River Basin and its tributaries."

b. The objective of the Headwaters study will be to prepare a plan for watershed management and resulting aquatic ecosystem protection and restoration. Federal (Corps of Engineers) interest in the Headwaters Watershed is based on the potential benefits of improved watershed management and aquatic ecosystem restoration in the basin. It also is important for meeting downstream habitat and water quality goals of the St. Croix River.

c. The planning objectives are to provide a programmatic overview of water resource conditions in the St. Croix Headwaters Watershed; and to provide a comprehensive watershed study report. The study area will include the entire St. Croix Headwaters basin upstream of Gordon Dam. This includes about 280 square miles, all of which are in Wisconsin. Although the SCRB above Gordon Dam is generally considered to be of good quality, there is concern that habitat has and

will continue to degrade. Since significant watershed protection has been proposed for the SCRB, it's appropriate that a watershed study should be performed for the headwaters to protect water quality and aquatic habitat in this area, and help ensure that water initially flowing in the SCR is of appropriate quality to meet aquatic habitat objectives at locations further downstream.

d. The study will address a number of aquatic resource issues to facilitate watershed planning in the Headwaters. It's anticipated that primary interests will be environmental in nature. The report will include various analyses and make recommendations for improved water resource management within the basin. This report also will be a feasibility decision document within the Corps planning process. The report will investigate opportunities for potential Corps water resource construction projects. In the event that potential projects are identified, the report will include traditional cost/benefit analyses of project alternatives, as well as appropriate environmental compliance documentation (e.g., NEPA documentation). If no federal construction projects are identified, the report will outline the process of reviewing opportunities, and why no Corps construction projects appear appropriate or justified. Early tasks within the watershed study will include development of key goals and objectives for future watershed protection. Preliminary points of interest include documentation and management of surface and ground water quality; identification and restoration of priority aquatic habitat deficiencies within the Headwaters; and invasive species management. There is also a strong interest to unite local interests in the area, including local, county and State government, to form a single watershed alliance to work out future watershed management issues.

**3. Product Delivery Team (PDT).** The St. Paul District, Corps of Engineers and WisDNR are jointly conducting this study. The Corps' project manager is the primary point of contact for the PDT. A list of PDT members is attached. The team is multidisciplinary and will consist of members from several disciplines. The list of PDT members may expand or contract during the project scoping and the study process to best meet study needs. Coordination between the PDT and the National Ecosystem Restoration Planning Center of Expertise (ECO-PCX) will be coordinated with the PCX POC.

#### **4. Methodology and Model Certification.**

a. EC 1105-2-407 provides the following definition of a planning model:

*“any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision-making.”*

b. Although still under development, changes to habitat and water quality will be assessed at different scales using a number of different models. These could include Soil and Water Assessment Tool (SWAT); BATHTUB (Lake Eutrophication Model); WiLMS (Wisconsin Lake Modeling Suite, Lake Eutrophication Model); and Habitat Evaluation Procedures (HEP, U.S. Fish and Wildlife Service).

c. The models listed here are commonly used across the region, if not the nation, to evaluate potential changes to aquatic habitat and water quality. However, these models, or others that may be considered, may not have been certified by the appropriate Corps Center of Expertise. Once specific models are identified, we will coordinate with the Ecosystem Restoration Planning Center of Expertise (ECO-PCX), and other Centers of Expertise as appropriate to determine if the models have been certified; or if certification is warranted.

d. If potential federal projects are identified, cost effectiveness and incremental cost analyses will be performed and based upon the IWR PLAN program and other standard methods of analysis.

## **5. Review and Quality Control.**

a. Independent Technical Review (ITR) is the primary method of quality control. ITR is a critical examination by a qualified person or team that was not involved in the day-to-day technical work that supports the decision document. ITR is intended to confirm that such work was accomplished in accordance with clearly established professional principles, practices, codes, and criteria, and that recommendations are in compliance with laws and policy.

b. ITR will be ongoing throughout product development, rather than a cumulative review performed at the end of the investigation. The ITR will be coordinated with the Ecosystem Restoration Planning Center of Expertise (ECO-PCX). The ECO-PCX will be contacted and requested to set up the ITR team. If construction projects are identified and formal cost estimates are produced, then the Walla Walla District Cost Estimating Directory of Expertise also will be coordinated with. The expertise and technical backgrounds of the ITR team members will qualify them to provide a comprehensive technical review of the product. The ITR team members have not yet been identified. Once initial project scoping is completed and all necessary disciplines are identified, these disciplines will be provided to the ECO-PCX to facilitate constructing the ITR team. In coordination with the PCX, names of ITR members and an ITR team lead will be determined in the future. Given that the ITR is currently scheduled for December of 2010 it is not pertinent to select a team at this time. Disciplines, office symbols, and org codes are identified in the following table as potential ITR members, with Rock Island District identified as the possible source for ITR team members. It is assumed that the ITR team leader will be someone outside of Mississippi Valley Division. The ITR team leader also will be identified by the ECO-PCX.

<b>Discipline</b>	<b>Office Symbol</b>	<b>Org Code</b>
Recreation planning	CEMVR-PM-A	B5H4500
Real Estate	CEMVR-RE-P	B5N0200
Cultural resources	CEMVR-PM-A	B5H4500
Economics	CEMVR-PM-A	B5L1450
Environmental engineering/NEPA	CEMVR-PM-A	B5H4500
Cost/value engineering	CEMVR-EC-DE	B5L1440
Plan formulation/team lead	Outside MVD	Unknown
Environmental/NEPA	CEMVR-PM-A	B5H4500
Hydrology and hydraulics/water control	CEMVR-EC-HH	B5L1210
Structural engineer	CEMVR-EC-DS	B5L1430
Geotechnical	CEMVR-EC-G	B5L1300

c. ITR comments and responses will be recorded in the online DRChecks system ([www.projnet.org](http://www.projnet.org)). Documentation of the independent technical review will be included with the submission of the reports to Mississippi Valley Division and HQUSACE. All comments resulting from the independent technical review will be resolved prior to forwarding the feasibility study to higher authority and local interests. The report will be accompanied by a certification, indicating that the independent technical review process has been completed and that all technical issues have been resolved.

d. Value Engineering Plan. Value Engineering (VE) evaluations provide another method for ensuring quality. The goal of VE on this project is to ensure that a full array of alternatives is considered in order to maximize cost effectiveness. Until Federal construction projects are identified within this feasibility study, no formal Value Engineer Study will be planned. If and when Federal construction projects appear likely during study development, a Value Engineering Study will be considered if project costs and complexities warrant. The PMP and cost estimate would be revised at that time to reflect the peer review, with concurrence from Sponsor on PMP revisions.

e. Quality control will also be monitored via internal/District functional element reviews, and Higher Authority/vertical team conferences and reviews. The Sponsor will be responsible for quality control over deliverables provided as in-kind contributions. The Corps will verify that such contributions meet negotiated requirements and standards before granting cost-sharing credit for those contributions.

f. External Peer Review. External Peer Review is the process of using external expertise to review and improve Corps plans, projects and programs. Corps EC 1105-2-408, as well as a 30 March 2007 Memorandum from the Director of Civil Works (subject: Peer Review Process), provide guidance on the Peer Review process.

The watershed study outlined here will have flexibility to consider a range of water resource issues. The study will include a thorough scoping of problems and opportunities at its initiation. At this time, the likelihood of future Federal (Corps) construction projects resulting from this study is unknown.

Until Federal construction projects are identified within this feasibility study, no formal external peer review will be planned. If and when Federal construction projects appear likely during study development, an External Peer Review plan would be implemented, in consultation with the ECO-PCX, to ensure study integrity. The PMP and cost estimate would be revised at that time to reflect the external peer review, with concurrence from Sponsor on PMP revisions. This approach to external peer review has been coordinated with Mississippi Valley Division through their review and approval of this PRP.

g. Public Review. The St. Croix Reconnaissance Study and subsequent St. Croix Headwaters Watershed Feasibility Study has conducted extensive public involvement activities between 2005 and 2008. This study will incorporate public input and provide additional opportunities for public involvement. The draft feasibility report and environmental assessment will be available for public review. If any formal construction projects are recommended, a formal NEPA review process will be pursued. Any NEPA review process would be scheduled after the Alternative Formulation Briefing and before submitting the report to the Civil Works Review Board.

**6. Schedule.** The schedule for study tasks related to review and public input are shown in the following table. The schedule is subject to the availability of funds and further development of the study. As such start and completion dates are to be determined, with most of the activities occurring in FY2010.

A number of schedule items are contingent upon the feasibility report including recommendations for a Corps construction project. If no recommendations are made for Corps construction (i.e., a negative report) then a number of typical schedule milestones (e.g., Feasibility Scoping Meeting, AFB, CWRB) would not be required. If it's determined a negative report will be produced the PRP would be updated to reflect a more accurate schedule.

ID	Task Name	Duration	Start Date	Finish Date
1	<b>Start Project (Sign FCSA)</b>	<b>0 days</b>	<b>December-07</b>	<b>December-07</b>
2	ITR	4 wks	TBD	TBD
3	Feasibility Scoping Meeting	4 wks	TBD	TBD
4	ITR	4 wks	TBD	TBD
5	Alt. Formulation Briefing (if needed)	4 wks	TBD	TBD
6	HQ/MVD/public review	6 wks	TBD	TBD
7	Public meeting (local)	1 day	TBD	TBD
8	Division Engineer transmit to HQ	<b>0 days</b>	TBD	TBD
9	HQUSACE policy review	4 wks	TBD	TBD
10	CWRB briefing	1 day	TBD	TBD
11	Write Draft Chief's report	1 wk	TBD	TBD
12	Agency and Public Review	6 wks	TBD	TBD

\* A second ITR may be performed if significant public comments result in substantial changes to the feasibility report. The need for this second ITR would be coordinated with the ECOPCX.

## Project Delivery Team Members

<b>Project Management/Environmental</b>	
<b>H&amp;H</b>	
<b>Water Quality/Modeling</b>	
<b>GeoTech</b>	
<b>GIS</b>	
<b>Social/Econ</b>	
<b>Program Support</b>	

**\*other PDT members may be added as warranted**

**\*\*The study sponsor is also actively participating on the PDT and providing study work products.**