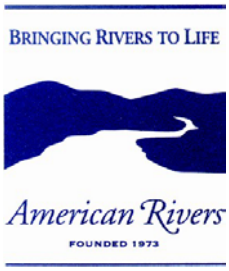

October 13, 2006

Via email daniel.b.wilcox@mvp02.usace.army.mil

Mr. Daniel Wilcox
CEMVP-PM-E
St. Paul District, U.S. Army Corps of Engineers
190 Fifth Street East, Suite 401
St. Paul, MN 55101

Re: Comments on the Draft General Reevaluation Report and Environmental Impact Statement for Lock and Dam 3

Dear Mr. Wilcox:

American Rivers appreciates the opportunity to comment on the Draft General Reevaluation Report and Environmental Impact Statement for Lock and Dam 3, and is submitting the following comments for your consideration. By email dated October 4, 2006, we received an extension to submit comments by Friday, October 13, 2006.

American Rivers is a national conservation organization dedicated to protecting and restoring the nation's rivers and wetlands. American Rivers has more than 40,000 members across the country, including in the states of Minnesota and Wisconsin, and works in partnership with thousands of river and conservation organizations. American Rivers has a long history of working to ensure that Army Corps of Engineers (Corps) civil works projects reflect the highest scientific, economic, and environmental standards. We have extensive experience on Mississippi River issues, and actively participate in improving projects and promoting restoration that affect the Mississippi River.

The Draft General Reevaluation Report and Environmental Impact Statement understates impacts to significant aquatic resources. American Rivers urges the Corps to re-evaluate its impacts assessments. All project impacts should receive appropriate analysis in the final document in order to fulfill the Corps' legal mandate and stated commitment to protect the river environment, and to properly mitigate for any unavoidable impacts caused by project construction, operation, and maintenance. American Rivers also urges the Corps to strengthen its mitigation plan, and ensure that all mitigation for the project is implemented prior to project construction, as required by law.

A. The final EIS must fully account for <u>all</u> project impacts

We believe that the EIS does not fully account for the impacts described below, and urge the Corps to conduct the necessary analyses to accurately assess those impacts:

1) Sections 7.2.6 and 7.2.8 of the main report state that impacts from spillway construction will have minimal impacts to aquatic life and recreational fishing. However, these conclusions contradict existing scientific literature and empirical knowledge about fish habitat uses in the Upper Mississippi River System. Constructing spillways using articulated concrete mat (ACM) will reduce habitat diversity and diminish fishing opportunities. Additionally, creating the 100-foot wide berm for the spillway will require excavating the existing shoreline and will result in dramatic losses of marsh and riparian forest between the river and Marsh Lake. Last, the GRR and EIS must address the loss of 400 feet of natural and riprap shoreline and upstream and downstream overflow sloughs, the effect on the underwater portion of the ACM stream bank, and the loss of a 2,500-foot littoral area comprised of coarse substrates, woody debris, and irregular contours.

2) The Corps has not properly assessed the impacts of the closure dike that ties the guide wall extension to the riverbank shoreline. This component of the project will result in substantial losses of aquatic habitat, which will require mitigation.

3) The location of the staging area and avoidance and minimization measures for construction of upstream spot dikes is not referenced in the draft document.

4) On page 5 of Appendix J, the mitigation plan asserts that "[b]ecause no unavoidable losses of significant resources would result [from navigation improvements], and because the habitat changes associated with the channel modifications would increase production of benthic macroinvertibrates in the area, no compensatory mitigation is proposed for the navigation safety improvement portion of the project." American Rivers strongly disagrees with the assumption that proposed measures for navigation safety improvements will not have any unavoidable losses of significant resources. Central features of the navigation safety measures include dredging to deepen 30 acres of the main channel, filling 17 acres of the lock approach, and filling 1.5 acres of the Minnesota riverbank for a berm. By removing the bottom of rivers, lakes, and other bodies of water that serves as habitat for bottom-dwelling organisms, dredging clearly causes environmental harm. Dredging can also remove or damage aquatic biota, and disrupt sedimentary structures. Furthermore, dredging can re-suspend sediment into water, leading to a number of other consequences, particularly if the dredged sediment is contaminated with toxic substances. The disposal of the dredged material also causes its own set of significant environmental harm.

The EIS and GRR provide no scientific support for the claim that ACM serves as an adequate substitute for natural habitat for benthic macroinvertebrates. The Corps should provide scientific support for this claim. If sufficient scientific support to justify this conclusion does not exist, the Corps must identify the amount of damage caused by these features and propose mitigation to address those damages.

5) On page 5 of Appendix J, the mitigation plan states that the potential placement of excavated material on the meander scrolls in Marsh Lake would contribute to floodplain reforestation, and therefore would not require mitigation. We are unaware of any scientific evidence that could support this claim, and similar attempts at other projects have not yielded satisfactory results.

6) According to table 1 (Appendix J at 5), the E5 plan would impact a total of 87.36 acres of habitat, 65.7 acres of which are forested floodplain. The mitigation plan later states that over 20 acres of habitat will not be mitigated for, "[g]iven the limited effect on other habitat types within the project area and the limited opportunities to provide functional mitigation features for channel border aquatic habitat in a cost effective manner." Appendix J at 8.

The decision not to mitigate for these impacts is unacceptable for three reasons. First, the determination that 20 acres of affected habitat constitutes "limited" impacts is arbitrary and not scientifically sound. Second, underestimating mitigation needs for planning efficiency is contrary to the Corps' stated goal of mitigating for all impacts cause by project construction, operation, and maintenance. Third, mitigation is not to be based on cost-efficiency determinations. Mitigation is required whenever a project will produce more than negligible impacts. 33 U.S.C. § 2283(d). Cost-efficiency is not a factor in that assessment. Moreover, "the benefits attributable to measures included in a project for the purpose of environmental quality, including improvement of the environment and fish and wildlife enhancement, shall be deemed to be at least equal to the costs of such measures." 33 U.S.C. § 2284.

Wetlands and instream habitat provide a host of ecosystem services, including floodwater storage, clean water, and habitat for the majority of species. In order to preserve these vital functions for the benefit of local communities, fish, and wildlife, mitigation plans must fully account for <u>all</u> impacts from project construction, operation, and maintenance.

B. Mitigation Must Be Carried Out Prior To Project Construction

The law is clear that mitigation for civil works projects must be carried out prior to or concurrently with project construction:

> "Steps to be taken prior to or concurrently with construction.
>
> (1) In the case of any water resources project which is authorized to be constructed by the Secretary before, on, or after the date of enactment of this Act [enacted Nov. 17, 1986], construction of which has not commenced as of the date of enactment of this Act [enacted Nov. 17, 1986], and which necessitates the mitigation of fish and wildlife losses, including the acquisition of lands or interests in lands to mitigate losses to fish and wildlife, as a result of such project, such mitigation, including acquisition of the lands or interests--
>
> (A) shall be undertaken or acquired before any construction of the project (other than such acquisition) commences, or

> (B) shall be undertaken or acquired concurrently with lands and interests in lands for project purposes (other than mitigation of fish and wildlife losses),
>
> whichever the Secretary determines is appropriate, except that any physical construction required for the purposes of mitigation may be undertaken concurrently with the physical construction of such project."

33 U.S.C. § 2283 (a). Because lands and interests in lands needed for the project must be acquired before project construction can begin (approximately 395 acres of land exclusive of the mitigation lands must be purchased for the project), mitigation lands for the project also must be purchased before project construction begins. The mitigation plan also must be implemented before construction begins.

The Corps should clearly state that it will implement mitigation for this project before construction begins in any final Record of Decision for the project. The Corps should also ensure that specific mitigation lands and any actions needed to acquire those lands are identified in its mitigation plan for the project.

C. The Proposed Mitigation Plan Must Be Strengthened

As currently written, the proposed mitigation plan calls for restoring 313 acres of former floodplain forest that had been converted to agricultural land to mitigate for unavoidable impacts to significant resources caused by strengthening the Wisconsin embankments. Appendix J at 12-13. The Corps acknowledges that no mitigation is included for impacts to habitat types other than bottomland hardwood forest that lie within the construction disturbance footprint. Appendix J at 8. Mitigation must be undertaken to account for all project impacts, and we urge the Corps to ensure that all impacts are accurately identified (see discussion above).

As importantly, we urge the Corps to revise its mitigation plan to include the five items discussed in detail below. These changes are needed to improve the likelihood of mitigation success in light of the difficulties associated with successfully mitigating damages to wetlands and other aquatic habitats.

An extensive body of scientific literature demonstrates that wetlands mitigation is extremely difficult, and often fails. For example, one 1996 study published in *Ecological Applications* concludes that "[b]ased on over a decade of survey results, the cumulative record of past mitigation projects remains undeniably poor overall, with disappointingly few examples of success."[1] The "sober reality [is] that under present mitigation policies and practices 'losses are likely to be uncompensated for and that what we call mitigation has a high chance of failure.'"[2]

Mitigation for bottomland hardwood forests is no exception. The National Research Council reports that:

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[1] Margaret S. Race and Mark S. Fonesca, *Fixing Compensatory Mitigation: What Will It Take*, Ecological Applications (1996) pp. 94-101 at 97.
[2] *Id.*

> Attempts to restore forested wetlands of the Southeast (e.g., bottomland hardwoods and cypress swamps) have encountered difficulties related to the time required to replace mature trees, the lack of material to transplant, the lack of knowledge of how and when to carry out seeding or transplantation, (Clewell and Lea, 1989) and altered hydrology (drainage for conversion to agriculture) of the wetland area.[3]

Because lost wetland functions are so difficult to re-establish, it is essential that the mitigation plan include each of the following key elements that will maximize the chance of successfully replacing lost the habitat values and functions as a result of the project.

(1) The Plan Must Fully Describe The Types And Amount Of Restoration Activities To Be Conducted And The Resource Functions And Values That Will Result From Those Activities

The plan should fully describe the amount and type of restoration activities that will be carried out. For example, while the plan mentions the need to restore the hydrologic regime of the mitigation site, the plan provides virtually no details on how this will happen or what resource values will be addressed by the hydrologic modifications.[4] Of the 13 plan details provided, 10 address only reforestation efforts (these include directions for the types of seedlings to be used, herbicide applications, tree density, and monitoring for tree survival). Even these details, however, provide little, if any, assurance that the plan will produce a mature and fully functioning bottomland hardwood wetland in 50 years.

The mitigation plan should identify lands that are available for carrying out the mitigation, and outline a plan that specifically addresses the necessary steps to restore the hydrologic functions of those lands. Hydrological modification is a critical component of successful wetlands restoration efforts. The plan also needs to identify any steps that will be needed to ensure that the restored site will achieve the appropriate level of species diversity. As the National Research Council has concluded, correct hydrology and species diversity are critical elements in restoring wetlands:

> Natural forested wetlands may support hundreds of plant species, many of which thrive in the understory (91 percent of 409 species in one riverine forest were understory species). Old-growth forests are dominated by trees that gradually achieve a dominant role in the canopy and that are self-sustaining through their ability to reproduce in their own shade. It is not clear that such climax species can be successfully established in open sites, or whether their introduction must await development of seral (intermediate successional stage) plant communities. . . . In many cases, restoration of suitable hydrologic conditions will be necessary.[5]

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[3] National Research Council, *Restoration of Aquatic Ecosystems*, (National Academy Press 1992) at 311.

[4] We recognize that without having identified mitigation sites, developing a plan for restoring the hydrological regime is impossible. This is another reason why mitigation lands must be identified – and purchased – before project construction.

[5] *Restoration of Aquatic Ecosystems* at 311.

Appendix J states that the "floodplain forest in the affected area has mature native trees, including silver maple, green ash, black willow, and cottonwood. Some swamp white and red oaks are on the highest floodplain ground." Appendix J at 6. While the plan calls for planting some of each of these species, there is no final ecological goal for species diversity, and no plan elements that will assure the appropriate diversity. Moreover, there will be no way to tell if the appropriate diversity is being (or has been) achieved since the mitigation will be monitored for only 5 years. What happens, for example, if the seedlings are wiped out in year 6?

Appendix J also states that the "floodplain forest in the project area produces considerable leaf litter and woody debris, which contributes particulate organic matter to the aquatic ecosystem." Appendix J at 6. This woody debris provides important habitat as do the larger trees in the project area. It is not at all clear, however, how the proposed plan will result in the replacement of these lost functions. And there clearly is no way to tell if these functions will be replaced with only a 5 year monitoring plan.

In addition to addressing these issues, the plan should describe the wetland habitat and functional values that will be replaced through the mitigation, and the actions needed to achieve replacement of those lost functions and values. For example, the plan should describe how it will replace the short-term water storage, long-term water storage, water velocity reduction, sediment detention, onsite erosion control, nutrient and dissolved substance removal, and organic carbon export values of the destroyed wetlands.

Without having more details – including details on steps that will be needed to reestablish the necessary hydrologic regime – there is no way to determine whether the necessary steps will be taken to ensure successful mitigation. There is also no way to determine the likelihood of success of the proposed mitigation efforts.

(2) The Plan Must Establish Specific Ecological Success Criteria Beyond Tree Density Against Which Mitigation Success Will Be Measured

Scientists have long known that when monitoring to assess the success of mitigation is based on a relatively simple set of criteria, those criteria may or may not accurately reflect wetland function.[6] The proposed plan does not even propose a simple set of criteria for evaluating success. Instead it proposes only a single criterion – attaining a target average of 108 trees per acre over planted area 10 years after the initial planting. Moreover, there will be no way to determine whether even this goal has been achieved since mitigation monitoring will last for only 5 years. Appendix J at 19.

This single criterion is completely inadequate as an indicator of whether the mitigation plan has successfully mitigated a mature bottomland hardwood wetland forest. To mitigate for lost wetlands, the Corps must create, restore, or enhance wetland acres, functions and values. Attainment of a certain tree density does nothing to ensure replacement of lost wetland functions and values, which include short-term water storage, long-term water storage, water velocity

[6] William J. Mitsch and Renee F. Wilson, *Improving the Success of Wetland Creation and Restoration With Know-How, Time, and Self-Design*, Ecological Applications (1996) pp. 77-83 at 77.

reduction, sediment detention, onsite erosion control, nutrient and dissolved substance removal, and organic carbon export. The mitigation plan should include specific ecological success criteria in addition to tree density that will be measured to determine whether the lost functions and values of the destroyed wetlands are being replaced.

While the "mitigation area objectives" in Appendix J could provide some additional success criteria, these objectives are not included in the actual mitigation plan. *Compare* Appendix J "mitigation area objectives" at pages page 12-13 to Appendix J "restoration plan for the mitigation site(s)" at pages 18-19. And even if the "mitigation area objectives" were included as specific plan elements, they would not ensure replacement of the lost wetland functions and values discussed above.

Other criteria that could be used to determine ecological success include, but should not be limited to: species diversity, such as the diversity of bird communities; the establishment of undergrowth vegetation; indicators of plant health; and water quality measurements, including pH, alkalinity, dissolved oxygen, nitrogen, phosphorus, turbidity, suspended solids, the presence of heavy metals, and salinity, among others.[7]

(3) The Plan Must Require Monitoring Until Mitigation Success Is Established And Must Clearly Identify The Entity Responsible For Monitoring

The Corps is legally obligated to implement all the mitigation committed to in a Record of Decision. E.g., 40 C.F.R. § 1505.3; 33 C.F.R § 230.15. To help ensure such implementation, both the Council on Environmental Quality and Corps regulations require the Corps to monitor its mitigation requirements to ensure that they are properly carried out. 40 C.F.R. §§ 1505.2, 1505.3; 33 C.F.R. §230.15. Indeed, the Corps' regulations define monitoring as "that level of oversight activity necessary to ensure that the decision, including required mitigation measures, is implemented." 33 C.F.R. § 230.15.

The Corps has recognized that mitigation monitoring will typically require more than five years, particularly for mitigation that takes longer to develop and reach a level of stability. Regulatory Guidance Letter No. 06-03 (Aug. 3, 2006) ("The monitoring period must be sufficient to demonstrate that the compensatory mitigation project has met performance standards, but not less than five years….Increased monitoring timeframes are usually needed for mitigation sites that take longer to develop and reach a level of stability.")

The National Research Council has also concluded that limited time periods for mitigation monitoring prevent an assessment of whether or not lost functions have been replaced: the "short time period within which forest restoration attempts have been monitored precludes an

[7] See Mississippi State University's Department of Wildlife and Fisheries Research webpage at http://www.cfr.msstate.edu/fwrc/wildlife/bird.htm. U.S. Geological Survey, *A Guide to Bottomland Hardwood Reforestation*, Information and Technology Report USGS/BRD-2001-0011 (Revised 2004) at 67-69 at 67, 78-85.

evaluation of their functional equivalency with natural reference systems."[8] As a result, "mitigation efforts cannot yet claim to have duplicated lost wetland functional values."[9]

Moreover, as noted above, monitoring for 5 years is not sufficient even to meet the single success criterion established by the plan. It is impossible to determine whether a particular tree density has been reached 10 years after original planting if monitoring stops after 5 years. Five years of monitoring is certainly not sufficient to ensure that the plan will produce a fully functioning floodplain forest that the report acknowledges will take at least 50 years to attain. As the U.S. Geological Survey points out, "several years will pass before the planted trees can provide the shade that many forest undergrowth plants [the presence of which is one indicator of successful bottomland hardwood reforestation] require for their survival."[10]

The plan should require mitigation monitoring until that monitoring establishes that an appropriate range of ecological success criteria have been met.

(4) The Plan Must Identify Specific Mitigation Lands And The Basis For The Corps' Determination That The Land And Interests Are Available For Acquisition – As Required By Law The Mitigation Lands Must Be Purchased Before Project Construction Begins

The plan requires purchase of 313 acres of floodplain agricultural land that has been cleared of trees. The lands must be adjacent to and hydraulically connected by seasonal surface flow to a river. Appendix J at 12. We understand that both the Minnesota and Wisconsin Departments of Natural Resources believe that identifying willing sellers of such lands will be difficult.

The entire mitigation plan rests on the Corps' ability to purchase the lands needed to carry out the mitigation from willing sellers. If the Corps cannot purchase the necessary lands, the mitigation obviously will not be successful. It also is not possible to develop a detailed mitigation plan without knowing the current condition of the lands that will be used for mitigation.

To provide any reasonable basis for being able to determine whether the proposed mitigation plan is likely to succeed, the Corps must identify specific mitigation lands and provide a reasonable basis for the Corps' determination that the lands will be available for acquisition.

As discussed above, the mitigation lands must be purchased and the mitigation plan must be implemented before construction begins.

To meaningfully replace lost functions and values, mitigation should occur as close to the area impacted as possible. While the project will impact lands in both Wisconsin and Minnesota, the mitigation plan currently will target areas only in Wisconsin that are far from the impacted site ("Mitigation parcels will be in Pierce County, on or near a river or creek….Preference will be

[8] *Restoration of Aquatic Ecosystems* at 311-312.
[9] *Fixing Compensatory Mitigation: What Will It Take* at 95 (summarizing findings in *Restoration of Aquatic Ecosystems).*
[10] *A Guide to Bottomland Hardwood Reforestation*, 67-69 at 68.

given to areas near Wisconsin DNR managed lands or US FWS managed lands.") Compensatory mitigation measures should be focused more directly within the Mississippi River floodplain of the project area.

(5) The Plan Must Include A Contingency Plan For Taking Corrective Actions In Cases In Which Monitoring Demonstrates That Mitigation Measures Are Not Achieving Ecological Success

The difficulties associated with successfully mitigating for impacts to forested wetlands requires contingency planning. The mitigation plan should establish a contingency plan for taking corrective actions in cases where monitoring shows that the original mitigation measures are not working. Contingency planning should establish contingencies for failure of any element of the original mitigation plan. For example, the mitigation plan offers no pro-active solutions to protect the restoration site from continued human impacts.

Once again, we appreciate the opportunity to comment on this project. We believe that it is imperative that the final EIS fully account for all project impacts associated with its construction and that the Corps modify the current mitigation plan to include necessary steps to maximize the chance of mitigation success.

If you have any questions regarding these comments, please feel free to contact me at (415) 482-8150 or Joyce Wu at (202) 347-7550.

Sincerely,

Melissa Samet
Senior Director, Water Resources
American Rivers