

Draft Environmental Impact Statement
Public Review Comments
and
Pittsburgh District Responses

**Public Review Comments
and
Pittsburgh District Responses**

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UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA
Final Feasibility Report

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

Final Feasibility Report

Federal Government/Agencies

US Department of the Interior



IN REPLY REFER TO:

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Custom House, Room 244
200 Chestnut Street
Philadelphia, Pennsylvania 19106-2904



May 30, 2014

9043.1
ER 14/249

Kevin Logan
Project Manager
Upper Ohio River Study Product
U.S. Army Corps of Engineers, Pittsburgh District
1000 Liberty Avenue
Pittsburg, PA 15222

Dear Mr. Logan:

The U. S. Department of the Interior (Department) has no comment on the Draft Feasibility Report and Integrated Environmental Impact Statement (DEIS), for the Upper Ohio Navigation Study, PA.

Thank you for the opportunity to comment.

Sincerely,

Lindy Nelson
Regional Environmental Officer

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

Final Feasibility Report

U.S. Department of the Interior (30 May 2014)

No response required.

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

Final Feasibility Report

US Environmental Protection Agency



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

JUN 02 2014

John N. Peukert
Chief, Planning and Environmental Branch
Department of the Army
Pittsburgh District, Corps of Engineers
William S. Moorhead Federal Building
1000 Liberty Avenue, Room 2200
Pittsburgh, PA 15222-4186

Re: Upper Ohio River Navigation Study, Pennsylvania, Draft Feasibility Report and Integrated Environmental Impact Statement- April 2014 (CEQ # 20140116)

Dear Mr. Peukert:

In accordance with the National Environmental Policy Act (NEPA) of 1969, Section 309 of the Clean Air Act and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508), the U.S. Environmental Protection Agency (EPA) has reviewed the Upper Ohio River Navigation Study, Pennsylvania, Draft Feasibility Report and Integrated Environmental Impact Statement (UONS Study or DEIS).

The UONS is a feasibility-level study to identify the best long-term plan for maintaining safe and reliable navigation on the Upper Ohio River through the analysis period of 2025 - 2074. The study addresses Emsworth, Dashields, and Montgomery Locks and Dams (collectively EDM), originally completed in 1922 to 1936. These facilities provide navigable conditions on the first 31.7 miles of the 981-mile Ohio River and are central in position to the 23 locks and dams on the Allegheny, Monongahela, and Upper Ohio Rivers operated and maintained by the U.S. Army Corps of Engineers (Corps) Pittsburgh District. The Study's feasibility report and integrated DEIS document the formulation and evaluation of plans that address the critical structural condition of the lock walls, lock capacity issues, and ecosystem needs in the study area.

This DEIS evaluates several options for addressing the project needs: Without Project Condition (WOPC) and With Project Condition (WPC). The preferred alternative is LMA 7, consisting of one new 600' river chamber at each site and Reactive Maintenance of the existing land chambers. The new lock chambers will be the same size as the original main chambers (110' wide by 600' long), and will be constructed in the footprint of the original auxiliary



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chambers. The original main chambers will continue to operate during construction and then be retained and maintained with a “reactive maintenance” policy. Formulation of the WPC considered potential ecosystem restoration projects that could be included with the navigation NED plan as a Combined Plan but does not recommend ecosystem restoration. In addition, the EDM project requires additional land of sufficient size to construct and operate a concrete batch plant at each of the three lock sites and provide equipment storage, parking, etc. Construction is scheduled to begin in FY 2019.

USEPA commends several aspects of the DEIS and the proposed project:

- a) Consultation with Federal and state resource agencies prior to installation of large, woody debris as part of the mitigation plan at Montgomery embayment;
- b) The decision to include a five-year monitoring period for construction as well as inclusion of contingency costs under adaptive management to permit total replacement of large, woody debris having an estimated functional life of about 25 years;
- c) Implementing aquatic mitigation in advance of lock construction activities that will cause aquatic impacts, thus avoiding temporal impacts;
- d) The decision to prepare and transmit a written report to appropriate Federal and state resource agencies following each monitoring effort;
- e) Inclusion of mitigation objectives, criteria for success, and monitoring for mitigation activities;
- f) The decision to manage for minimum invasive species (< 5% coverage) at terrestrial habitat mitigation sites;
- g) Inclusion of potential beneficial uses of dredge materials; and
- h) Including U.S. Fish and Wildlife Service recommendations submitted as part of a Planning Aid Report Update for the UONS.

As a result of our review of the DEIS, EPA has concerns that a Combined Plan with an ecosystem restoration component is not included as part of the project. The DEIS documents problems associated with locks and dams impacting fish passage, but analysis for incorporating fish passage into this project is inadequate. Without additional specificity, EPA cannot determine: 1) what exactly is meant by “the focus of the design modifications would be on features to improve fish passage efficiency through normal project operations,” 2) if these design modifications will be effective in reducing or eliminating the longitudinal connectivity cumulative impact to fish species and mussel species, and 3) if final design modifications to improve fish passage will be reviewed and approved by the U.S. Fish and Wildlife Service (USFWS). If USFWS does not agree with proposed final design modifications to improve fish passage, it is unclear what course the Corps would pursue to mitigate for cumulative impacts to fish and mussel species. The proposed plan is inadequate as written as it does not address this long-standing cumulative impact to certain fish species and mussel species, and EPA recommends the project not proceed until suitable mitigation for fish passage be included in the proposed project plans.

In addition, improvements to the Environmental Justice Assessment for this project should be made. The study lacks a comprehensive assessment of the communities of potential



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Environmental Justice (EJ) concern, does not identify at-risk populations or consider the potential impacts of the project on at-risk populations in an objective manner. The study does not provide adequate documentation to support the claims that there are no areas of potential EJ concern in the project area and that there will be no adverse impacts on populations of EJ concern. Please see additional comments attached to this letter.

Other concerns include the failure to address extreme weather conditions related to climate change and the impacts associated with borrow and waste material. A detailed description of these concerns and others is presented in the Technical Comments (enclosed) for your consideration. EPA rated the DEIS an EC-2 (Environmental Concerns/Insufficient Information), which indicates that we have environmental concerns regarding the proposal and that there is insufficient information in the document to fully assess the environmental impacts of this project. A copy of our rating sheet is also enclosed with this letter.

Thank you for the opportunity to review this project. If you have questions regarding these comments, the staff contacts for this project are Barbara Okorn at (215) 814-3330 and Kevin Magerr at (215) 814-5724.

Sincerely,



Barbara Rudnick
NEPA Team Leader
Office of Environmental Programs

Enclosures



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Technical Comments

Purpose and Need

The DEIS relies on the Ohio River Navigation Investment Model (ORNIM) and the Greenmont Energy Model to justify the economic need for the project. It is not clear if these models and assumptions are reflective of the recent shift (in the last five years) in energy use from coal to natural gas as a result of horizontal drilling of shale gas in the region. The most recent information should be used and evaluated in the EIS.

Waste and Borrow Material

According to the DEIS on page 4-66, "Demolition of either or both chambers and construction of new chambers would generate over one million cubic yards of excess material for disposal, consisting of concrete, river sediment and rock." We recommend the EIS discuss whether some or all of the concrete can be re-used for dam construction. If the concrete cannot be re-used, the EIS should evaluate the disposal of waste as an impact related to the proposed project. This analysis should also include emissions from transport and disruption to residents. The DEIS did not discuss disposition of contaminated construction materials, if any, associated with demolition and appropriate disposal. We also recommend this topic be addressed in the Final EIS.

According to the DEIS on page 4-82, "The requirement for borrow material has been anticipated for this project for estimation purposes. Adequate material should be brought in from predetermined sites to use for the cofferdam cell fill berms." We recommend the UONS be revised to discuss potential borrow sites as well as analyze the impacts of removing material from those sites and the impacts of transporting borrow material to the project sites (i.e., transportation impacts via the highway or the waterway system).

Batch Plant and Laydown Areas

A stormwater management plan should be included in the EIS for these areas.

Flow/Floods/ Climate Change

According to the DEIS on page 3-18, data used for natural discharge frequency flows (1855-1972 data) and river flow for less than 10- year flood frequencies (1966-1997 data) is discussed. We recommend the Final EIS incorporate more recent information for all data related to flow, extreme weather events, and climate change. The EIS should also analyze potential impacts from storm events during construction and potential for damage to cofferdams, etc.

Threatened and Endangered Species

We recommend the project team coordinate annually, at minimum, with the appropriate state and Federal agencies regarding state- and Federally-listed species and species of concern. All coordination correspondence regarding threatened and endangered species should be referenced and included in the EIS.



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Invasive species

The EIS should document how this project complies with EO 13112. In addition, we recommend that all areas affected by future construction (i.e., laydown areas) be revegetated with species native to the project area.

Best Management Practices

According to the DEIS on page 4-102, "The use of clean rock fill, upland disposal of excavated materials, and employment of construction best management practices will minimize adverse impacts to adjacent waters." We recommend the document be revised to include a list of BMPs typically associated with this type of activity as well as any other BMPs used. Including such a list will provide reviewers with an idea of the actions that could be taken to reduce impacts to adjacent waters. In particular, we recommend the DEIS be revised to incorporate typical BMPs used for this type of project to protect Sewickley Creek (see page 3-84) if Dashields primary western site adjacent to Little Sewickley Creek will be used for construction.

Biological Studies

According to the DEIS, biological studies were conducted in the Montgomery, Dashields, and Emsworth pools in 2006, 2008, and 2007, respectively. Since construction is not scheduled to begin until FY 2019, it may be beneficial to update the sampling, especially since listed species of fish and mussels were found.

Mussels

According to the DEIS on page 4-103, "There will be no effect on native mussels from construction activities, based on their current status in the project area." We recommend the DEIS be revised to indicate distance between mussel beds and proposed construction. This information should be compared to the distance at which impacts are likely to occur based on coordination with USFWS. This information would substantiate the statement in the DEIS that no effect will occur to native mussels from construction activities. In addition, page 4-103 also states that no new mussel surveys are needed now but does not specify how long they are valid. We recommend coordinating with appropriate state and Federal agencies to determine how long data is valid.

Wetlands

According to the DEIS on page 4-108, "The 2.3-acre pond/wetland area at the Montgomery Secondary work area would not be impacted, as the over site (32.3 acres) is sufficiently large to allow site development to avoid the wetland." We recommend the use of flagging or a more visible barrier to indicate the boundaries of the wetland, and thus the area which must be avoided. We recommend the Final EIS include a commitment to denote the wetland area to ensure it is not accidentally impacted during construction. In addition, reference should be made to the wetland delineation for this project.

Cumulative Impacts to Fish and Mussel Species

According to the DEIS on page 4-147, separable fish passage structures are infeasible; however, strategies could include the operation and design of the navigation facilities themselves. Special



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operations of low-use locks specifically for fish passage have been successful in the Pittsburgh District as well as at other Corps projects. The EIS should speak to success rates of projects in the Pittsburgh District as well as at other Corps projects and whether the same fish species are found in these other locations. The DEIS also indicates that incorporation of environmentally sustainable design concepts into engineered structures is supported by the Corps Environmental Operating Principles. A commitment to pursue both of these strategies in navigation feature design is described in the UONS at Section 4.6.9.8.

The DEIS indicates on page 4-116 that operation of the locks and dams would result in continued impediments to longitudinal connectivity, particularly for those species of fish that do not use the locks to move between pools. This may adversely affect spawning success, mussel recruitment, and possibly genetic diversity, and may reduce viability by restricting access to various important habitats. Fish passage efficiencies are being considered as part of this project that could reduce the impediment of dams on fish movement between pools. The DEIS goes on to say that, subsequent to the creation of Ohio River Valley Water Sanitation Commission (ORSANCO) and enactment of the Clean Water Act, water quality standards led to improved conditions of in the Ohio River. Thus, the current status of fish as evidence by the re-colonization of fish species, including intolerant species, is considered substantial. This statement does not, however, speak to the longitudinal connectivity or the lack therefore, due to locks and dams. As stated in the Ohio River Mainstem System Study (ORMSS), there is a need to reduce the negative cumulative impact from locks and dams to longitudinal connectivity; the proposed reconstruction of these three locks and dams provides the perfect opportunity for the Corps to act to reduce the longitudinal connectivity cumulative impact. We recommend the Final EIS discuss types of passages used elsewhere (i.e., Upper Mississippi River, Pittsburgh District, etc.), including their success rates. This information should be compared to the types of passages suggested by FWS based on the suite of fish species requiring longitudinal connectivity in the Ohio River, and, lastly, the resultant options for fish passage from the above two analyses.

Without additional specificity, USEPA cannot determine: 1) what exactly is meant by “the focus of the design modifications would be on features to improve fish passage efficiency through normal project operations,” 2) if these design modifications will be effective in reducing or eliminating the longitudinal connectivity cumulative impact to fish species and mussel species, and 3) if final design modifications to improve fish passage will be reviewed and approved by USFWS. If USFWS does not agree with proposed final design modifications to improve fish passage, it is unclear what course the Corps would pursue to mitigate for cumulative impacts to fish and mussel species. The proposed plan is inadequate as written as it does not address this long-standing cumulative impact to certain fish species and mussel species, and USEPA recommends the project not proceed until suitable mitigation for fish passage be included in the proposed project plans.

Environmental Justice

The Environmental Justice Assessment for this project is inadequate. It lacks a comprehensive assessment of the communities of potential Environmental Justice concern, fails to comprehensively identify at-risk populations, fails to consider the vast potential impacts of the



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project on at-risk populations in an objective manner, and fails to provide adequate documentation to support the claims that there are no areas of potential EJ concern in the project area and that there will be no adverse impacts on populations of Environmental justice concern. There does not appear to be a comprehensive assessment of low income populations for the Environmental Justice Assessment included in the DEIS.

The assessment should state the percent of low income populations living in the study area and the percentages of low income population in the counties in the study area. The demographic data used in the assessment is from 2008; more recent available information should be used.


No information is provided on populations living in adjacent to the study area at its perimeter. Communities living in adjacent areas may be impacted by the activities being undertaken for this project, and potential impacts should be evaluated in the DEIS. It would be very helpful if maps with greater detail of the study area and adjacent areas was provided for review. Maps showing the proximity of populations to the proposed activities in and adjacent to the work and staging areas would provide greater perspective and detail. In addition, demographic information on low income populations should be included in the document.

The definitions for minority and low income populations are incorrect, vague and confusing. The examples are also misleading. Native American populations do not equate with low income populations, and migrant workers do not equate with minority populations. Please provide clear well documented definitions.

TABLE 3-24: "Census Tracts Affected by this Federal Action", is lacking benchmarking information for the state, as well as complete and comprehensive data on low income populations.

The following quote from the DEIS is of concern: "Due to the fact that there are no minority or low-income populations in the tracts affected, no further action is warranted with respect to EJ. However, the environmental documentation will go through the normal NEPA process and be made available for public review". It should be noted that the Environmental Justice assessment conducted for this project is incomplete, so any findings that there are no areas of Environmental Justice concern in the study area cannot be supported by the old, inadequate and limited data used in the assessment. With such poor information, it is suggested that attempts be made to secure better data and to conduct meaningful and appropriate outreach and community involvement activities.

The following passage is of concern: "There are no effects on socioeconomically disadvantaged communities from any of the lock alternatives or construction support areas. There are no residential areas in the vicinity of the lock sites at Dashields and Montgomery Locks and Dams to be adversely affected by any construction activities. The locks at Emsworth are within a one-mile radius of the communities of Avalon, Ben Avon, and Emsworth. The only potential impact to these communities from lock construction would be noise from impact-generating activities. There is no federal legislation regulating noise control for construction sites. In past instances involving construction at the Emsworth locks and main channel dam, the District has limited

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impact-generating noise to daylight hours to minimize any potential impacts to these communities. This limitation will be continued at Emsworth Locks for any of the lock modernization alternatives." If there are potential noise impacts, there should be attempt made to assess and abate them; the lack of federal regulations for noise should not preclude addressing the concern.

According to the passage that follows, residents may not have use of a park for six years; this appears to be an adverse impact. "There are no effects on socioeconomically disadvantaged communities from any of the lock alternatives or construction support areas. All of the construction support areas, with the exception of the Dashields Secondary Area, are in industrialized or undeveloped areas where normal construction activities would not have adverse impacts on neighboring communities. The Dashields Secondary Area is the present site of a Crescent Township community recreational park. Use of this site would necessitate temporary loss of this recreational resource for the period of construction, anticipated as six years in duration. The District considered this site as a potential construction support area on the basis of proximity to the locks and of federal ownership of a portion of the lands underlying the park, retained from the former lock residences. As a secondary area, the District would consider use of the Crescent Township Park only if the primary area is later found to be unavailable or unsuitable. Should that be the case, the District will work with Crescent Township on acceptable terms for compensation of loss and replacement of park use."

The Environmental Justice Assessment conducted for this project fails to adequately address the key factors that need to be taken into consideration in an Environmental Justice Assessment. The assessment lacks a comprehensive evaluation of the demographics of the study area, which should be conducted to identify areas of potential Environmental Justice Concern. Information is old, there is little data presented, appropriate benchmarks are missing, detailed maps and diagrams are lacking, no comprehensive evaluation was conducted to look at cumulative impacts. Impacts are not assessed for work in and around the study area, transportation of materials and support equipment through communities, or the work associated with the project on any population that could be reasonably impacted directly or indirectly by this project.

Air Quality

On page 4-107, it is stated that the Corps expects emissions of less than 100 tons per year for fine particulate matter. There should be a demonstration showing how the anticipated fine particulate matter emissions are calculated.



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RATING THE ENVIRONMENTAL IMPACT OF THE ACTION

- **LO (Lack of Objections)** The review has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposed action.
- **EC (Environmental Concerns)** The review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.
- **EO (Environmental Objections)** The review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). The basis for environmental Objections can include situations:
 1. *Where an action might violate or be inconsistent with achievement or maintenance of a national environmental standard;*
 2. *Where the Federal agency violates its own substantive environmental requirements that relate to EPA's areas of jurisdiction or expertise;*
 3. *Where there is a violation of an EPA policy declaration;*
 4. *Where there are no applicable standards or where applicable standards will not be violated but there is potential for significant environmental degradation that could be corrected by project modification or other feasible alternatives; or*
 5. *Where proceeding with the proposed action would set a precedent for future actions that collectively could result in significant environmental impacts.*
- **EU (Environmentally Unsatisfactory)** The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The basis for an environmentally unsatisfactory determination consists of identification of environmentally objectionable impacts as defined above and one or more of the following conditions:
 1. *The potential violation of or inconsistency with a national environmental standard is substantive and/or will occur on a long-term basis;*
 2. *There are no applicable standards but the severity, duration, or geographical scope of the impacts associated with the proposed action warrant special attention; or*
 3. *The potential environmental impacts resulting from the proposed action are of national importance because of the threat to national environmental resources or to environmental policies.*

RATING THE ADEQUACY OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)

- **1 (Adequate)** The draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.
- **2 (Insufficient Information)** The draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the proposal. The identified additional information, data, analyses, or discussion should be included in the final EIS.
- **3 (Inadequate)** The draft EIS does not adequately assess the potentially significant environmental impacts of the proposal, or the reviewer has identified new, reasonably available, alternatives, that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant

environmental impacts. The identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. This rating indicates EPA's belief that the draft EIS does not meet the purposes of NEPA and/or the Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS.

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

Final Feasibility Report

U.S. Environmental Protection Agency (2 June 2014)

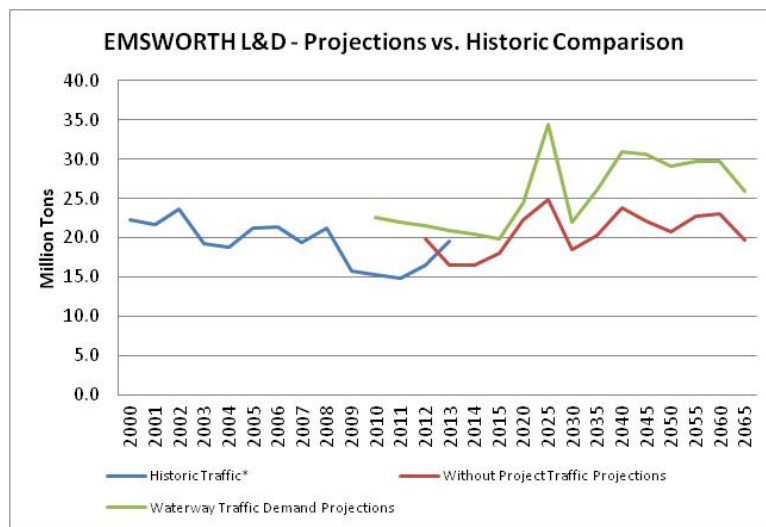
Response to Comments:

Purpose and Need

A number of the assumptions used and data inputs used in estimating waterway traffic demand forecasts have changed in the five years since the feasibility report analysis was conducted. Another look at waterway projections was taken to see if the reliability of these forecasts had been compromised. It was determined that while the operating environment for coal has changed significantly, the traffic projections produced performed well, allowing the team to remain confident in the economic analysis. Key to this is recognizing the important distinction between projected waterway traffic demands and projected waterway traffic. Demands represent potential traffic and are an input to the system model, while traffic is an output and system performance metric.

Forecast waterway demands are key inputs to the economic system model (the Navigation Investment Model, or NIM). This model runs waterway demands through an Ohio River System defined not just by the number of locks and length of waterway reaches, but also by the performance of the locks – their availability for service, and the cost of waterway transportation resources (equipment and fuel). To the extent that traffic levels increase (congestion occurs) and/or locks are closed, delays occur and the price of waterway transit increases. As waterway transportation costs increase, the willingness-to-pay for barge transportation for some tonnages is exceeded. As a result traffic demands are not fully accommodated.

So while issues surrounding the use of coal greatly influence waterway demand forecasts, the ultimate test is examining how projected waterway traffic (as opposed to traffic demand forecasts) compares with actual traffic, remembering that actual traffic faces much the same lock performance as the Without-Project Condition. Actual traffic relative to NIM-projected waterway traffic and to projected waterway traffic demands at Emsworth L/D is shown in the graph and table below. Demands are greater than projected traffic, as they should be. Actual traffic is overcoming the effects of the lengthy recession and appears to be tracking well with projected waterway traffic at Emsworth in a Without-Project navigation system.



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EMSWORTH L&D - Projections vs. Historic Comparison

Year	Historic Traffic*	Without Project Traffic Projections	Waterway Traffic Demand Projections
2000	22.3		
2001	21.7		
2002	23.7		
2003	19.2		
2004	18.8		
2005	21.2		
2006	21.4		
2007	19.4		
2008	21.3		
2009	15.7		
2010	15.3		22.6
2011	14.9		22.1
2012	16.5	19.9	21.5
2013	19.6	16.6	21.0
2014		16.5	20.4
2015		18.0	19.9
2020		22.3	24.5
2025		24.8	34.4
2030		18.5	22.0
2035		20.2	26.1
2040		23.8	31.0
2045		22.1	30.6
2050		20.7	29.1
2055		22.7	29.7
2060		23.1	29.7
2065		19.7	25.9

*Source: Lock Performance Monitoring System

That coal has been buffeted by stricter emission regulation and the advent of competitively priced natural gas (as a result of the exploitation of vast shale gas reserves) is indisputable. Waterway demand forecasts made subsequent to the feasibility report have captured the initial effect on the electric utility sector that indicates greater challenge to the coal industry. An early investigation into the ramifications of cheaper natural gas and the development of shale gas suggested some additional traffic associated with drilling, possibly as a result of new gas processing construction, and additional activity in manufacturing sectors that rely heavily on natural gas, like steel and glass manufacturers. How this all plays out has yet to be revealed, but it is an upside of unknown magnitude.

The table below shows that while electric utilities are a major user of the Upper Ohio, steel companies and others (most notably exporters and industrial users of coal) are nearly equivalent in importance. These firms too were affected by the severe recession, and based upon planned reopening of once closed coking facilities at Monessen (Arcelor Mittal) and Neville Island (Shenango) and improved production at key mining firms (see Platts, *Coal Trader*, for 29 April 2014, which reports CONSOL increased production by 9.4% in the first quarter of 2014), a continued rebound in coal usage is likely.

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Year	coking coal			utility coal			all other		
	down	upbound	total	down	upbound	total	down	upbound	total
2003	-	6,104,197	6,104,197	5,603,288	1,199,609	6,802,897	2,655,117	1,599,610	4,254,727
2004	-	5,847,532	5,847,532	5,303,326	924,974	6,228,300	1,575,130	2,036,858	3,611,988
2005	76,381	6,676,435	6,752,816	8,154,763	1,175,579	9,330,342	1,890,181	1,253,107	3,143,288
2006	-	6,604,826	6,604,826	7,063,496	2,038,270	9,101,766	1,561,568	501,660	2,063,228
2007	39,858	5,322,659	5,362,517	6,909,111	2,133,189	9,042,300	767,510	1,323,283	2,090,793
2008	96,143	4,679,217	4,775,360	8,081,246	2,919,088	11,000,334	672,287	2,551,523	3,223,810
2009	107,970	3,173,758	3,281,728	6,290,406	2,052,745	8,343,151	634,489	1,947,925	2,582,414
2010	336,668	3,594,727	3,931,395	4,696,792	2,542,516	7,239,308	832,898	2,036,001	2,868,899
2011	394,293	3,369,337	3,763,630	3,208,811	2,455,159	5,663,970	1,018,136	2,026,715	3,044,851
2012	235,714	3,167,048	3,402,762	3,303,310	3,600,125	6,903,435	1,379,419	1,377,435	2,756,854

Based upon the performance of waterway traffic projection performance, it is not necessary to develop updated forecasts in order to improve confidence in the With-Project recommendation. It does, however, indicate that the Corps' policy of completing economic updates after every three-year interval prior to a decision to construct is warranted and needs to include waterway demand forecasts that reflect the business and government climate at that time and expected to exist in the near future.

It is true that the transportation rate data is five years older now than when the feasibility report was compiled. This raises reasonable questions regarding possible changes in the relative cost structures of the modes, which would in turn affect rates savings. Discussions with rate specialists in response to this comment lead the team to believe that the rate savings and relative cost position of the modes is unchanged and the results of the rate analysis reliable for estimating waterway benefits.

Nothing in trade publications has suggested that there have been any changes in transportation technologies that would advantage one mode over another from a productive standpoint. This suggests that the relative differences between rates are likely unchanged in any significant way. This was confirmed by transportation experts from the University of Tennessee's Center for Transportation Analysis (UT). They indicated that if anything, there has been a slight increase in transportation cost differentials (transportation rate savings) as a result of improved towing fuel efficiency (barging tends to pass savings on to shippers) and an improved empty return ratio. While the study team agrees that more current rates would be reassuring, updated rates would not change the team's confidence in the with-project recommendation. The Corps follows a process of periodic economic updates prior to a decision to construct that would include current transportation rates reflecting the market conditions at that time.

Waste and Borrow Material

The Draft Feasibility Study assumed for both cost estimating and environmental impact purposes that disposal of material would be at properly permitted, commercially available disposal facilities. In so doing, it is acknowledged that there are opportunities for alternative uses or disposal of the materials that could reduce disposal costs and be environmentally beneficial. The District has committed to a future evaluation of various alternatives for disposal/beneficial use of materials (Section 5.1.4.3). This evaluation is best addressed at a time closer to construction start to consider options that may not be available at present, and to avoid a present commitment to an alternative that may not be available later should there be a deferred construction start due to funding limitations or other reasons. Section 5.1.4.3 lists a few alternatives that may be considered, but leaves an opening for other uses/sites that may not be available at present.

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

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Concrete rubble typically cannot be reused in new construction, but may have potential for in-river disposal as a cost-savings/habitat improvement measure. The District has prior experience with this, having disposed of a volume of unreinforced concrete rubble from Monongahela Dam 2 in 2004 at a nearby in-river site.

Detailed review of borrow material sites is also deferred to the future. Deferral of disposal and borrow site selection anticipates the requirement for supplemental NEPA review to consider alternatives and environmental impacts in greater detail.

Batch Plant and Laydown Areas

The District prepares stormwater management plans after project authorization in the detailed design and construction permit phase. Planning will involve additional Phase II hazardous, toxic, and radiological waste studies to satisfy All Appropriate Inquiry requirements (see Main Report Section 3.3.3.5) prior to acquisition and permitting.

Flow/Floods/Climate Change

A discussion of climate change has been added to the final document (Section 3.3.1.4). Analysis of potential impacts from storm damage and flood events on construction is typically taken into consideration in the design of the work areas and coffering systems. Analysis is based on all available historic and recent flow data. Any forthcoming agency guidance on climate change design adaptations will be addressed in the detailed design phase.

Threatened and Endangered Species

We requested an update on federally threatened and endangered species from the USFWS Pennsylvania Field Office for notice in the Final EIS. Updates in advance of construction will be requested.

Invasive Species

In compliance with E.O. 13112, the District considered invasive species in project planning. To minimize spread of invasive species in construction, the District's construction contracts require washing of equipment being brought on site. The "wildlife habitat herbaceous mix" proposed for work area reseeding was intended to convey a native species mix. The Final Environmental Impact Statement specifically mentions "native species" in the description.

The fish passage strategies study recognized that improving upstream passage for targeted native species would likely also improve passage conditions for undesired invasive species. The upriver spread of Asian carp towards Pennsylvania is a present concern for the Pennsylvania Fish and Boat Commission, as well as states lower on the Ohio River. During the study, the District hosted and participated in the January 2012 Ohio River Asian Carp Forum, and also consulted with the Pennsylvania Invasive Species Council on issues of concern associated with any future actions to improve native fish passage. The District's commitment to consider navigation lock design modifications to improve fish passage as an environmentally sustainable design measure was made with the goal of improving passage for targeted native species. However, the concerns of federal and state natural resource agencies with invasive species relative to future fish passage studies will continue to be addressed through consultation. In consideration of these actions, the District has determined that the recommended plan would not cause or promote the introduction or spread of invasive species.

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

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Best Management Practices

The Final Environmental Impact Statement has been supplemented with a listing and description of best management practices and the general requirements of contractor-prepared Environmental Protection Plans. These supplements may be found in Section 4.6.9.2.2 “Water Quality” relative to in-river impacts, and in Section 4.6.9.3.3 Water Quality relative to upland impacts.

Biological Studies

The need for any future sampling will be determined through consideration of available updated information on the affected areas and through agency consultation. Updating the project area status of endangered and threatened species is anticipated. Survey for native mussels in the construction areas is also anticipated.

Mussels

The 2009 mussel survey, reported in the Environmental Appendix, was a screening-level effort that gave a qualitative look at the present status of mussels in the overall project area. High potential sites were scoped and surveyed without a particular focus on the immediate construction areas. No mussel beds or concentrations were found anywhere in the project area, and no federally threatened or endangered species. The DEIS commits to consultation with resource agencies in advance of construction for the need of additional surveys. This consultation would consider the age of the previous survey and any other available information.

Wetlands

The comment references treatment of the wetland situated in the Montgomery secondary work area. The recommended plan anticipates use of only the Montgomery Primary Laydown Area. Should this change and use of the secondary area is reconsidered, the District will take the recommended precaution to avoid impacting the wetland area.

Cumulative Impacts to Fish and Mussel Species

This review comment concludes with “The proposed plan is inadequate as written as it does not address this long-standing cumulative impact to certain fish species and mussel species, and the USEPA recommends the project not proceed until suitable mitigation for fish passage be included in the proposed project plans.”

The Upper Ohio Navigation Study addressed the long-standing cumulative impact to certain fish and mussel species by evaluating fish passage strategies in three primary ways based on the scope and extent of existing authorities: (1) ecosystem restoration, (2) mitigation, and (3) environmentally sustainable design. The Corps Ohio River Mainstem System Study Record of Decision (July 2011) specifically committed the Upper Ohio Study to evaluate, and if feasible construct “native fish passage strategies at each lock and dam....” The District’s evaluation of fish passage strategies, assisted by the US Fish and Wildlife Service and Upper Ohio Interagency Working Group, is described in the Feasibility Study Main Report, Section 4.6.9.8. Various separable fish passage structures were considered (ladders, lifts, rock ramps, etc.) in addition to non-structural, assisted lockages. Rock ramps were identified as the preferred alternative having the best benefit to cost ratio among the structural alternatives. A

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

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District engineering evaluation of the concept-level rock ramp designs subsequently determined these conceptual designs to be infeasible due to structural and hydraulic issues.

Although separable fish passage structures were found infeasible, the District has committed to considering navigation lock design modifications to improve fish passage as an environmentally sustainable design measure. The goal is to improve passage for targeted native species. The attendant risk of improving passage for undesired invasive species is a significant concern of federal and state natural resource agencies. These issues will continue to be addressed through consultation during the detailed design phase of the project.

Restoration

The purpose of the Corps ecosystem restoration activities is to restore significant ecosystem function, structure, and dynamic processes that have been degraded. The following ecosystem restoration authorities were identified as potentially supporting fish passage strategies for the Upper Ohio Navigation Study (UONS): Section 1135, Water Resources Development Act (WRDA) of 1986 (Project Modifications for Improvement of the Environment); and Section 101, WRDA 2000 (Ohio River Ecosystem Restoration). The District concluded that Section 1135 was unable to support fish passage strategies because the costs of conceptual fish passage structures far exceed statutory limit, and because there was no forthcoming non-federal sponsor. The District concluded that Section 101 was unable to support fish passage strategies because the Ohio River Ecosystem Restoration program has no appropriated funding. Accordingly, fish passage strategies are not incorporated into the project recommendation as ecosystem restoration at this time.

Mitigation

Corps mitigation policy states that damages to all significant ecological resources, both terrestrial and aquatic, be avoided and minimized to the extent practicable, and that any remaining unavoidable damages be compensated to the extent possible. Damages are defined in terms of differences in habitat values between future without-project and with-project conditions. Mitigation must be cost effective and incrementally justified with other potential mitigation alternatives to ensure that the recommended project will not have more than negligible adverse impacts on ecological resources. Additionally, the mitigation policy addresses future impacts of proposed projects, not historic or ongoing impacts of existing projects. Since the UONS recommended plan is essentially an in-kind lock replacement at existing facilities, the future difference between without-project and with-project connectivity is *de minimis*. Consequently, there are no connectivity impacts associated with the recommended plan that warrant mitigation.

Environmentally Sustainable Design.

The Corps Environmental Operating Principles instruct the agency to foster sustainability as a way of life and accept accountability under the law for its activities. In view of the unabated continuation of the connectivity impediment without justifiable fish passage structures as mitigation or restoration, the District explored other potential options for pursuing fish passage strategies to satisfy the ORMSS commitment and Environmental Operating Principles.

A literature investigation and consultation with Corps research experts led us to suggest that there is potential in exploring lock design modifications to increase their utility for targeted

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native fish passage while not compromising their authorized commercial navigation purpose (see Technical Note: Planning Guide for Fish Passage at Pittsburgh District Dams, David L. Smith and John M. Nestler, 2012, in **Environmental Appendix, Fish Passage Study**).

Under the concept of “environmentally sustainable design,” the District may elect to pursue design modifications, but only to the extent that they do not increase project costs. Focus of design modifications would likely be on filling and emptying systems and gate sill design, dependent upon targeted fish behavioral characteristics. Under elective design modifications that would not increase project costs, any fish passage improvements would have to function within normal project operations. No additional funds would be available for monitoring to evaluate effectiveness.

The Corps’ ability to mitigate for historic connectivity impacts utilizing its existing restoration and mitigation authorities is limited. While the District’s commitment to consider environmentally sustainable lock design modification carries with it no requirement for or certainty of implementation, the District is committed to implementing environmentally sustainable design to the extent possible.

It is our intent with any consideration of design modifications in the locks’ detailed design phase to involve the USFWS and Pennsylvania resource agencies to the extent they are able to participate. The Nature Conservancy has also expressed an interest in consulting on fish passage initiatives. Whether design modifications are considered and pursued will be tempered by any future agency initiatives and authorities for deterring range expansion of Asian carp or other invasive species up the Ohio River.

Environmental Justice

The Environmental Justice assessment has been completely redone to address this comment. The revised assessment is included part of the Environmental Appendix, and is summarized as revised text in the Main Report. Updated information from the 2010 census, appropriate benchmarks, updated maps are presented.

The redone assessment concludes that community characteristics have been identified and analyzed in conformance with EO 12898 and its relevant federal implementation guidance. Four of the communities within one mile of the navigation facilities were characterized as EJ communities under one or both of the EJ criteria (minority, low-income). We determined that project impacts to these EJ community populations would not be significant, nor disproportionately high and/or adverse on human health or the environment.

Air Quality

The District conducted a Clean Air Act Conformity Applicability Evaluation that documents the anticipated total of direct and indirect emissions to be below the emissions levels requiring a conformity determination. The Final Environmental Impact Statement includes a discussion of this Conformity Applicability Evaluation and include the evaluation report in the Environmental Appendix.

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State Government/Agencies

Pennsylvania Dept. of Environmental Protection, Bureau of Air Quality



May 23, 2014

John N. Peukert, Chief
Department of the Army
Pittsburgh District, Corps of Engineers
William S. Moorhead Federal Building
1000 Liberty Avenue, Room 2200
Pittsburgh, PA 15222-4186

Re: Request for Additional Information on the Upper Ohio Navigation Study, Pennsylvania
Draft Feasibility Report and Integrated Environmental Impact Statement (April 2014)

Dear Mr. Peukert:

The Pennsylvania Department of Environmental Protection (DEP) would like to thank the United States Army Corps of Engineers (Corps) for providing an opportunity to comment on the Upper Ohio Navigation Draft Feasibility Report and Integrated Environmental Impact Statement (EIS).

The DEP has reviewed the Corps General Conformity Analysis required under Section 176 of the Clean Air Act and 40 CFR Part 93, Subpart B (relating to determining conformity of general Federal actions to state or Federal implementation plans). The federal Subpart B requirements are adopted and incorporated by reference in 25 *Pa. Code Chapter 127*, Subchapter J (relating to general conformity). However, the General Conformity Analysis provided by the Corps does not contain sufficient information to demonstrate that the project is below de minimis thresholds and, therefore, exempt from General Conformity.

In order to complete the General Conformity Analysis, the Corps should provide expeditiously all the information required by the General Conformity regulation (40 CFR Part 93, Subpart B) so that DEP may make a determination. To this end, the data that DEP will need to make a determination includes the following: (1) make/model/year of all construction equipment; (2) total hours of equipment operation; (3) load factors and deterioration factors for the equipment; (4) emissions estimates for the equipment; and (5) construction employee vehicle emissions information. An air quality analysis that includes supporting documentation needs to be prepared that estimates total emissions of relevant criteria pollutants that will be emitted each calendar year.

Should you have questions or need additional information, please contact me. You may also contact Carrie Eastman by e-mail at careastman@pa.gov or by telephone at 717.787.1454.

Sincerely,


Joyce E. Epps
Director

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**Pennsylvania Department of Environmental Protection, Bureau of Air Quality
(23 May 2014)**

Response to Comments:

In order to comply with section 176 of the Clean Air Act and to demonstrate *de minimis* thresholds under 40 C.F.R. §93.150(b), the Pittsburgh District completed emission calculations for relevant criteria pollutants in a report titled "*Upper Ohio Navigation Study, Pennsylvania, Clean Air Act Conformity Applicability Evaluation*". This report is included in the Final Environmental Impact Statement Environmental Appendix.

The emissions were calculated using best available data for construction activities as well as the operation of central mix concrete batch plants using established USEPA methods and data on type of construction equipment, annual concrete production, and annual hours of operation. This evaluation demonstrated that the federal action does not exceed the emission levels in 40 CFR 93.153 (b).

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Pennsylvania Department of Conservation and Natural Resources



BUREAU OF FORESTRY

14 May 2014

PNDI Number: 22325

John N. Peukert

Department of the Army

Email: OhioRiverNFS@usace.army.mil (hard copy will not follow)

Re: Ohio River NFS, EIS

Emsworth, Dashields, and Montgomery Locks and Dams, Beaver County, PA

Dear Mr. Peukert,

This responds to your request about a Pennsylvania Natural Diversity Inventory (PNDI) ER Tool "Potential Impact" or an impact review for threatened, endangered or special concern species. We screened this project for potential impacts to species and resources of special concern under the Department of Conservation and Natural Resources' responsibility, which includes plants, natural communities, terrestrial invertebrates and geologic features only.

PNDI records indicate that plant species of special concern under DCNR's jurisdiction are known to occur in the vicinity of the above-mentioned project. Please see the attached list for species found in the requested project area.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. For PNDI project updates, please see the PNHP website at www.naturalheritage.state.pa.us for guidance. As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Su Ann Shupp, Ecological Information Specialist, by phone (717-783-7990) or via email (c-sushupp@pa.gov).

Sincerely,

A handwritten signature in black ink that reads "Rebecca H. Bowen".

Rebecca H. Bowen, Section Chief
Bureau of Forestry, Ecological Services Section
Pennsylvania Natural Heritage Program

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SpeciesName	ComonName	Survey Period	Habitat	GENDESC	LASTOBS
Desmodium glabellum	Tall Tick-trefoil	fl. June-Aug	wooded roadside banks and open woods	ALONG S SIDE OF OHIO RIVER. ALONG TRANSMISSION CORRIDOR.	9/24/1974
Dicentra eximia	Wild Bleeding-hearts	fl. June-july	rich woods and cliffs	2002-11-13: Below high tension power line, wooded NE slope upper end of ravine (U05MOR01).	11/13/2002
Meehania cordata	Heartleaf Meehania	flowers May-July	banks and wooded slopes	RAVINE WITH MATURE BEECH & SUGAR MAPLE, ELM SPP. & BLACK BIRCH CANOPY & ASSOCIATED PLANT SPECIES. FERNS: POLYSTICHUM ACROSTICHOIDES, WOOD FERN SPP., SMILACINA RACEMOSA, TRILLIUM GRANDIFLORUM, VIOLA SPP (WHITE), GLECHOMIA HEDERACEA, COLLINSONIA CANADENSIS, (SEE ATTACHED SHEET).	6/18/1992
Scutellaria saxatilis	Rock Skullcap	Flower July-Aug.	low woods, rocky stream banks and roadsides	1ST & 3RD COLONIES: ASSOCIATED PLANT SPECIES INCLUDE ACER SACCHARUM, ACER RUBRUM, ULMUS AMERICANA, BETULA LENTA, STAPHYLEA TRIFOLIA, COMMELINA COMMUNIS, RUBUS ALLEGHENIENSIS, WOOD FERN SPP, GRASS SPP, MOSS SPP. 2ND COLONY: QUERCUS RUBRA, FRAXINUS AMERICANA, TILIA AMERICANA, BETULA LENTA, RHUS RADIAN, GRASS SPP, MOSS SPP, WOOD FERN SPP. DICENTRA EXIMIA FOUND AT ALL 3 COLONIES BUT BELIEVED INTRODUCED.	6/4/1992

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

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Pennsylvania Department of Conservation and Natural Resources (14 May 2014)

Response to Comments:

The District incorporated the updated Pennsylvania Natural Diversity Index information into the Final Environmental Impact Statement. We understand that this data is valid for a two-year period and will have to be revisited in advance of construction.

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

Final Feasibility Report

Pennsylvania Fish and Boat Commission



Pennsylvania Fish & Boat Commission

Division of Environmental Services

450 Robinson Lane

Bellefonte, PA 16823

Phone: 814-359-5228

Email: tshervinsk@pa.gov

May 27, 2014

John N. Peukert
Chief, Planning and Environmental Branch
Pittsburgh District, Corps of Engineers
William S. Moorhead Federal Building
1000 Liberty Avenue, Room 2200
Pittsburgh, PA 15222-4186

Re: Upper Ohio Navigation Study, Pennsylvania
Draft Feasibility Report and Integrated Environmental Impact Statement

Dear Mr. Peukert:

The Pennsylvania Fish and Boat Commission (PFBC) appreciates the opportunity to comment on the Upper Ohio Navigation Study, Pennsylvania, Draft Feasibility Report and Integrated Environmental Impact Statement. The report addresses safe and reliable navigation on the upper Ohio River at the Emsworth, Dashields, and Montgomery (EDM) Locks and Dams. The USACE indicates that the purpose of the study is to address problems and opportunities related to the structural reliability and capacity of EDM Locks and Dams.

The Draft Feasibility Report and Integrated Environmental Impact Statement states water quality and habitat in the Ohio River has improved over the past several decades. As a result of these improvements, aquatic organism diversity in the river, including fishes, has increased. These aquatic ecosystem improvements have been documented by the PFBC as conditions in the river continue to improve. However, the PFBC also agrees with the statement by the USACE that "The Upper Ohio River is highly modified from a natural, unregulated river system due to the presence of the navigation system and historic effects of intensive industrial and municipal development. These man-made features have led to degraded ecosystem functions and values of water quality, sediment quality, reduced riparian and riverine habitat diversity, and reduced diversity of riverine flora and fauna."

Within the Draft Feasibility Report and Integrated Environmental Impact Statement, the USACE discussed several important hydromorphological considerations of the proposed lock chamber construction on the aquatic resources in the upper Ohio River corridor. The USACE also discussed the economic impacts and justifications of navigation improvements at the EDM lock chambers. Final recommendations in the report include a new river lock with dimensions of 110' x 600' at each of Emsworth, Dashields, and Montgomery Locks and Dams. The study also includes the recommendation for appropriate mitigation for impacts to the upper Ohio River resources.

Lock and dams on the Ohio River have significantly altered the riverine ecosystem by changing flows regimes from lotic to lentic. Consequently, only specific areas of the river contain lotic type habitat, and these areas are typically situated immediately downstream of existing lock and dams. These areas contain

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Upper Ohio Navigation Study
May 27, 2014
Page 2

critical habitat for various riverine adapted aquatic organisms, such as suitable substrate material (i.e., gravel and boulders) and adequate flow regimes. The PFBC does not believe that the Montgomery Slough Option 1" as a preferred option for mitigation will replace the riverine habitat impacted by lock chamber expansion. In addition to the Montgomery Slough Option, the PFBC suggests additional mitigation for biological and physical loss of aquatic resources from the proposed construction of new lock chambers in the Ohio River. Conceptually, the PFBC agrees with the use of foreshore dikes as described in the report, however, placement of the dikes is critical to replacing in-kind riverine habitat that will be lost due to the proposed lock chamber expansion. Foreshore dikes installed within lock and dam tailwaters, opposite of the lock chambers, and parallel to the river shoreline would provide beneficial riverine habitat. We recommend the use of large boulder-size material in construction of the foreshore dikes. It is imperative that the dikes are installed as close as allowable to the dam tailwaters; the combination of large boulders in the midst of high-velocity flows is attractive and beneficial to a number of riverine fish species as well as mussels. Furthermore, it is our understanding that tailwater sites are not subject to any constraints related to commercial sand and gravel dredging, rights-of-entry, or private property.

Impediments to fish passage at existing lock and dams have been a topic of debate. The PFBC continues to maintain that fish passage at lock and dams is critical to the recovery of the Ohio River. To that end, the PFBC recommends that "assisted fish lockage" be incorporated into the operation schedule of the proposed locks as a low-cost, low-maintenance alternative to structural fish ways. The PFBC is willing to discuss modifications to the lock structures in order to facilitate fish passage at the proposed locks.

Sediment transport patterns in the Ohio River have been altered through lock and dam placement and dredging, which have ultimately reduced the quantity and quality of aquatic habitat in the river for various organisms. The PFBC agrees with the use of in-river disposal sites as a means of improving habitat within the river, so long as this proposed action is completed in accordance with federal and Commonwealth regulations, and disposal material is suitable for aquatic organism habitat (i.e., boulders, cobbles or gravel). Disposal of material from construction or future maintenance activities could be potentially be used to complete this activity.

Please note that some fish species listed in the report are no longer listed as threatened or endangered, i.e., Smallmouth Buffalo, Longnose Gar, Mooneye, River Redhorse, Silver Chub, and Skipjack Herring under 58 Pennsylvania Code Chapter 75.

It is the ultimate goal of the PFBC to maintain and improve the Ohio River ecosystem in order to facilitate the recovery of the present fisheries by providing constructive recommendations for the renovations of the three lock and dams. Thank you again for the opportunity to provide comments.

Sincerely,



Tom Shervinskie, Chief
Watershed Analysis Section

c: PFBC - Young, Schaeffer, Spotts

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

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Pennsylvania Fish and Boat Commission (27 May 2014)

Response to Comments:

The Commission suggests foreshore dikes rather than work in the Montgomery Slough as more appropriate to in-kind replacement of riverine habitat impacted by lock construction. The District investigated foreshore dikes and determined they were not a cost-effective option for addressing the project's aquatic impact. The recommended project includes future consideration of in-river disposal of suitable demolition material for aquatic habitat improvement. This consideration is a project environmental commitment to evaluate options to the planned upland commercial landfill disposal. The District has prior experience with in-river disposal of suitable concrete rubble from Monongahela Dam 2 demolition in 2004 as an aquatic habitat improvement measure. The appropriate time to evaluate these beneficial disposal options would be in the post-authorization detailed design phase.

The Commission recommends that "assisted fish lockages" be incorporated into the operation schedule of the proposed locks. Our prior experience with assisted fish lockages has targeted our lower use navigation facilities on the Allegheny and Monongahela rivers rather than high use facilities like on the Ohio River. We are willing to discuss this more specifically with the Commission to clarify goals for improving native passage and impeding invasive passage, and to determine the level of effort involved.

The Commission agrees with use of in-river disposal sites for habitat improvement, provided the material is suitable and the proposed action complies with all federal and Commonwealth regulations. The report describes in-river disposal as one potential environmentally beneficial alternative to upland commercial landfill disposal as to be investigated in the future. The District appreciates the Commission's expression of support for in-river disposal of suitable materials. The appropriate time for further discussion of this option will be closer to project construction than at present.

The Commission provided updated information on the Commonwealth's threatened or endangered species status of formerly listed species. This updated information is incorporated into the Final Environmental Impact Statement.

Organizations/Individuals

The Nature Conservancy



The Nature Conservancy in Ohio
6375 Riverside Drive, Suite 100
Dublin, OH 43017-5045

Tel (614) 717-2770
Fax (614) 717-2777

nature.org/ohio

June 2, 2014

Mr. John N. Peukert
Chief, Planning and Environmental Department
Pittsburgh District, Corps of Engineers
William S. Moorhead Federal Building
1000 Liberty Avenue, Room 2200
Pittsburgh, PA 15222-4186

RE: Comments on Upper Ohio Navigation Study

Dear Mr. Peukert:

The Nature Conservancy (TNC) thanks you for the opportunity to comment on the Upper Ohio Navigation Study, Pennsylvania Draft Feasibility Report and Integrated Environmental Impact Statement. We are submitting these comments on behalf of our state chapters in Pennsylvania and Ohio. We appreciate the opportunity that was provided for TNC staff member John Stark, to participate in the Interagency Workgroup that provided input on the environmental aspects of the study methodology. We are also appreciative of the Corps efforts to improve the functioning of these navigation structures for native fish and freshwater mussels identified as valued environmental components in the 2011 Ohio River Mainstem System Study (ORMSS).

The ORMSS documented that the Corps high-lift Ohio River navigation dams are an impediment to the long-distance movement of native fishes. Specifically a U.S. Geological Survey report commissioned for the ORMSS noted that the "inability of some species to complete their life cycle because required habitats are separated by generally impassable dams [particularly Pittsburgh District dams] has undoubtedly affected abundance and distribution of these fishes in the Ohio River." Freshwater mussels, one of the most threatened aquatic faunal groups, are also dependent on the movement of fish to for their distribution and reproduction. We, therefore, support the current report's recommendation of an environmentally sustainable design feature involving the evaluation and implementation of navigation structure design or operational modifications to improve native fish passage efficiency through normal project operation at each of the Emsworth, Dashields, and Montgomery Navigation Projects.

As noted in the current report, the Ohio River Navigation Projects as currently operated are not an effective barrier to the spread of Asian carp. Therefore, TNC also supports structural or operational changes to the navigation structures that would limit the movement of Asian carp and other aquatic invasive species.

Although we are supportive overall of the recommendations found in this report, we are concerned about the dismissal of structures that would help sturgeon enter into the lock chambers of these projects. Rock ramps could be designed to gradually build up the stream bottom profile in such a way that benthic-oriented fish such as sturgeon follow it up to the lip of the project sill and into the lock

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

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chamber rather than obstructing gates on the dam face. Although we understand that many factors determine the feasibility of rock ramps, we believe that statements that dismiss the potential benefit and focus on limitations are speculative in at least some cases.

We are particularly concerned with the wording on page 4-147 that these and other structures “would necessarily involve significant additional costs without any increase in benefits to connectivity.” The U.S. Army Corps of Engineers (USACE) Civil Works Ecosystem Restoration Gateway and similar technical sites administered by the National Oceanographic and Atmospheric Administration state that sturgeon movement is facilitated by rock ramps and a number of fish (including sturgeon) have been known to spawn on these structures as well. These types of structures provide a benefit for connectivity and reproduction. While there may be challenges at present, we recommend that the report acknowledge that passage of sturgeon and other benthic-oriented fish is likely to continue to be problematic without the installation of rock ramps or other structures. Therefore, we strongly urge the USACE to consider rock ramps among the structural options that could improve passage as additional replacement opportunities and refinements in structural engineering occur in the future.

Regarding the present study report, we also recommend that some of the demolition rubble be used to construct point bars in the portion of the tailraces not used in the navigation approach to the lock chambers. This would be another low-cost option for disposal and would recreate some of the valuable spawning and rearing habitat for Great River fish species lost during the conversion of the Ohio River to navigational use.

We are pleased that mitigation related to the recommended project renovations will include the acquisition and restoration of the Montgomery Point/Slough area, one of the few significant backwater habitats in the Upper Ohio River. With fish passage connectivity and restoration, it will serve as vitally needed paddlefish nursery habitat and provide important sport fishery benefits.

Overall, TNC supports the recommendations in the Upper Ohio Navigation Study. We request that you seriously consider several of our recommendations, and ask that TNC staff be included in future lock chamber design discussions as appropriate. We believe that future lock renovations have the potential to provide for increased reliability and efficiency of navigation traffic in tandem with important fishery and biodiversity improvements.

Sincerely,

Josh Knights
Executive Director, Ohio

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

Final Feasibility Report

The Nature Conservancy (2 June 2014)

Response to Comments:

We acknowledge the TNC's recommendations, and welcome their interest in participating in future lock chamber design discussions.

Regarding use of rock ramps to orient sturgeon movements and the wording cited on page 4-147 ("significant additional costs without any increase to benefits to connectivity"), the point intended was that there would be a further increase in construction costs without a proportionate increase in the rock ramps' connectivity benefits. Stated another way, the connectivity benefits assigned to a rock ramp would remain unchanged, while the concept-level construction costs would need to increase to fully address engineering issues. Another important factor to consider should a structural fish passage design be pursued in the future is the offset of benefits to native species passage by undesired invasive passage through a structure.

The recommendation to use demolition rubble to construct point bars is something we will consider with other disposal options closer to construction. We will look to the USFWS, Pennsylvania resource agencies, and the TNC for input on this and other aquatic habitat improvement options using disposal materials.

A correction regarding the comment on the proposed Montgomery Slough mitigation site is needed. Our proposed mitigation for aquatic impacts from lock construction does not include any land acquisition. Fish habitat improvement in the embayment will be performed without any land requirement. Our initial ecosystem restoration plan and mitigation plan at Montgomery Slough had included a land acquisition and riparian native vegetation restoration component, but these land-based activities were later dropped from the recommended mitigation plan.

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

Final Feasibility Report

Port of Pittsburgh Commission

From: James R. McCarville [<mailto:jim@port.pittsburgh.pa.us>]
Sent: Tuesday, June 03, 2014 8:02 PM
To: Ohio River NFS LRP
Cc: Fritz, Steve R LRP; Stephaich, Peter LRP; Susie Shipley; 'Dave McQuiston'; 'Rex Woodward'; Bucci, Mary Ann LRP
Subject: [EXTERNAL] UONS

Mr. Fritz,

I am happy to respond to the Upper Ohio Navigation Study (UNOS) Report. The mission of the Port of Pittsburgh Commission "is to promote the commercial use and development of the inland waterway transportation system and to integrate that system into the environmental, recreational, economic and intermodal life of southwestern Pennsylvania". We are very concerned that the decisions reached regarding the replacement of the navigation facilities at Emsworth, Dashields and Montgomery (EDM) address the needs both of today and tomorrow. As such we have some concerns with the conclusions of the Upper Ohio Navigation Study (UNOS).

First, the existing conditions at EDM are not considered reliable. It is imperative that they be expeditiously replaced. The infrastructure is so severely declined that the locks at Dashields had to have struts installed simply to safely dewater the lock chamber. The lock gates at Montgomery are in such bad shape that Corps officials feared a "sunny day failure". Even more, we fear a failure at every occasion of ice, floods or breakaway barges.

The benefits of expanding and improving the locks are understated. There was no mention of the Marcellus Shale nor of the growth in Liquid Natural Gas (LNG) related cargoes, including the shipment of fracking sand, pipe and the potential shipment of LNG as a cargo and LNG downstream product cargoes. Moreover, the near term potential that LNG fueled towboats will reduce the cost of moving all types of cargo through EDM that it will likely spur significant increases in new cargo shipments is not at all reflected in this study. Also not reflected is the likelihood that LNG fueled towboats will spur cargo shifts, reduce pollutant emissions and related accidents that would result should this cargo be moved by trucks.

In addition, the report uses antiquated National Economic Development (NED) criteria that does not consider the land side economic investment. Multi-billion dollars of planned investments are projected to take place in the near future related to LNG facilities. Shell, for instance, is considering a \$5 billion riverfront investment within the footprint of the UONS area. I refer to this criteria as antiquated because it is only for navigation that USACE does not consider real estate values even as it does allow so for flood control justifications.

Furthermore, the benefits of expanded locks cannot be based on past trends of smaller locks.

All that being said, the locks must be fixed quickly and permanently, preferably with at least one if not two larger sized locks of 1200 feet. This would make EDM consistent with all of the rest of the Ohio River locks.

Jim McCarville
Executive Director
Port of Pittsburgh Commission

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

Final Feasibility Report

Campbell Transportation Company, Inc.

From: Peter Stephaich [<mailto:PStephaich@barges.us>]
Sent: Thursday, June 05, 2014 8:42 AM
To: Fritz, Steve R LRP; Ohio River NFS LRP
Cc: Michael J. Monahan; Richard Kreider; Peter Stephaich
Subject: [EXTERNAL] Campbell Transportation Comments on UONS

Mr. Fritz,

We appreciate the opportunity to comment on the Upper Ohio Navigation Study (UONS) and we appreciate the tremendous amount of effort that went into this study. Campbell Transportation is a fully integrated marine company based in the Pittsburgh region. We rely on the Upper Ohio Navigation infrastructure not only for our marine business but more importantly to deliver the 20 million tons of cargo for our many customers. We currently operate 500+ barges and 35+ towboats on the entire Ohio River system with a concentrated area of operation on the Upper Ohio portion of the River. From this perspective, we are very concerned with the current status and more importantly the future of our lock and dam system on the Upper Ohio. We strongly support a solution that provides the users of Emsworth, Dashields and Montgomery locks (EMD) with a safe and reliable system and support an approach that allows us to accomplish this in a timely manner.

First, the existing conditions at EDM are not considered safe or reliable. It is imperative that these conditions be expeditiously upgraded. The infrastructure is so severely deteriorated that the locks at Dashields had to have struts installed simply to safely dewater the lock chamber. The lock gates at Montgomery are in such bad shape that Corps officials feared a "sunny day failure". Scouring issues below the #1 gate at Emsworth have long posed a risk for failure at the facility. We fear a failure on any given day but even more, we fear a failure at every occasion of ice, floods or breakaway barges.

We believe the study looks only at historic volumes and investments with no consideration whatsoever of future volumes on the river, which include Marcellus Shale related cargoes or other potential areas of economic development in the region. The area is already seeing an increase in the shipment of crude oil, fracking sand, pipe and the potential shipment of LNG as a cargo and LNG downstream product cargoes. We fear the failure to provide a safe and reliable system, in a timely manner will surely deter the investments and development needed in this region to sustain the economy and the overall system.

More specifically, Shell has publicly announced their intent to build a large, multi-billion "cracker" above Montgomery lock and dam. Other large petro chemical facilities will be built on the rivers of Southwestern Pennsylvania, as the industry develops over the next decade. Having antiquated and unreliable navigation structures in the area will deter these large capital investments.

Historically, Campbell Transportation and the barge industry have lobbied for a series of three new 1200' chambers to replace the current 600' lock chambers. In reviewing the study, and

considering the lack of funding and current political environment, we are willing to concede re the construction of new 1200' chambers based on the costs as presented. With that said, we are very concerned the proposed option (LMA7) may not fully ensure the reliability as the land chamber would be under a reactive maintenance program ("fix-to-fail"). We feel that a reliable and safe new 600' chamber is the best alternative to ensure a safe and reliable system that it will promote investment, growth and the ability for the current shippers to continue to operate reliably in this region. While we are prepared to strongly support LMA7, we would ask that consideration be given to increasing the reliability of the remaining old (land) chamber to ensure the reactive maintenance program does not create additional reliability or safety concerns. A significant reason for us supporting the lower cost option (LMA7) is with the hope of getting the project authorized quickly and then built and completed in an expedited fashion.

The combination of a new 600' river chamber and a reliable auxiliary 600' land chamber would give shippers the confidence to continue to operate in the region and encourage future investment and jobs in the region.

Thank you for your consideration and please do not hesitate to let us know if you have question regarding our position.

Peter H. Stephaich
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Campbell Transportation Company, Inc.

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UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA

Final Feasibility Report

Murray American Transportation, Inc.

From: Somaes, Mike [<mailto:MikeSomaes@coalsource.com>]
Sent: Sunday, June 08, 2014 2:54 PM
To: Fritz, Steve R LRP
Subject: Upper Ohio River Study

Mr. Fritz

I deeply appreciate the opportunity to comment on the Upper Ohio River navigation Study. As a lifelong River man, I have spent my entire 38 year career in the Pittsburgh district. I am intimately familiar with all the Lock's and Dam's in the district. As you may or may not know I spent 22 years working aboard towboats serving in all capacities from Deckhand to Captain. It always was mystery to me why the infrastructure inside Pennsylvania seemed to languish while outside this state, our close neighbors West Virginia and Ohio and other states further South and West received Capital Dollars for new river infrastructure. It seems to me that the entire main stem Ohio River system has been updated to 1200 ft. chambers with the exception of Emsworth, Dasheids and Montgomery. The lack of infrastructure dollars spent to update, rehabilitate or replace these uppermost three locks on the Locks on the Ohio River has now come home to roost. I fear that the locks (EDM) have been ignored and pushed back for so long that they are no longer safe or reliable. Any path we embark on we must be expeditious as a failure at one of these facilities would be catastrophic to many of the industries that rely heavily the river.

For many years the industry has lobbied for new 1200 ft. lock chambers. After reading the study and carefully considering what is at stake I concur with LMA7 recommending new 600 ft. chambers at these locks. However we must also maintain the current 600 ft. chambers as auxiliary chambers. The current 360' X 56' chambers being used for auxiliary chambers are a glaring example of inefficient sizing dating back to an earlier time that cannot keep up with the demands of today's large tow's. We must have 2 reliable 600 ft. chambers if we are to count on this system.

After many years in decline the Pittsburgh industrial market is growing again. The entire U.S is watching as we in Pennsylvania, Northern West Virginia and Eastern Ohio develop the gas fields that will power our nation for many years to come. We are already seeing inbound cargoes such as frack sand and pipe to support the drilling industry. We are also seeing emerging markets for the transportation of liquids (oil) as a byproduct of gas drilling. I cannot stress enough that we need to maintain a strong dependable Lock & Dam System if this region is to participate in the economic expansion fueled by energy development.

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Combined response to Port of Pittsburgh Commission (3 June 2014), Campbell Transportation, Inc. (5 June 2014), and Murray American Transportation, Inc. (8 June 2014):

The Feasibility Study supports the view that the EDM locks are not structurally reliable and that expeditious replacement is needed. The Recommended Plan (Lock Modernization Plan 7) would dramatically increase the assurance that 110' x 600' locks will be operating at all three facilities at all times. These new reliable locks would support economic expansion related to energy development and other uses. In fact, the Study documents that the only way to avoid major impacts to navigation is through construction of a new main lock chamber riverward of the existing land chambers, which would remain operational during construction.

Replacement of main (land) chamber lock walls at all three facilities is economically justified at the beginning of the planning period (2019). Support for the Recommended Plan anticipates Congressional authorization, but the timing of construction is dependent upon provision of funds through subsequent Congressional appropriations. Following authorization, the Pittsburgh District will prepare budget requests that support efficient construction of the authorized plan.

Traffic forecasts used for the study rely on commodities with a proven track record and that are supported by Department of Energy projections of energy use. However, traffic forecasts are updated after project authorization, and new traffic trends will be accounted for, including any new commodity movements related to Marcellus shale and LNG. Any adjustments to accepted National Economic Development criteria are beyond the scope of this study.

The study's Federal objective is to maximize contributions to nation's economy. Justifiable lock capacity at EDM is not necessarily linked to past investments in the Ohio River system which resulted in 1200' chambers, or constrained to retaining the historically smaller EDM lock sizes. Benefits of alternative lock sizes are evaluated based on future traffic forecasts and costs, not on past trends.

Carrier and shipper confidence in the reliability of old main chambers retained as auxiliary chambers in a Reactive Maintenance mode is questioned. Construction of new river chambers will drastically reduce the need for industry to use the old main chambers, which would be used as auxiliaries. Proactive maintenance of these old chambers alongside the new main river chamber was evaluated but was not economically justifiable. Under a Reactive Maintenance strategy, the District will maintain the existing main chambers as auxiliaries to the best of its ability with a goal to keeping them open with minimal disruptions. Future actions taken to replace components after failure events would be subject to conditions at the time, giving consideration to operations and maintenance priorities and impacts to existing and foreseeable traffic.