UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
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15 OCT 2010

Mr. Scott A. Hans, Chief
Regulatory Branch
U.S. Army Corps of Engineers
Pittsburg District
1000 Liberty Avenue, Suite 2100
Pittsburgh, Pennsylvania 15222

RE: CELRP-OP-F 2009-759; Patriot Mining Company, Inc.; New Hill West Surface Mine; Monongalia County, West Virginia

Dear Mr. Hans:

The U.S. Environmental Protection Agency (EPA) has reviewed the Public Notice for Patriot Mining Company, Inc. New Hill West Surface Mine located approximately 0.5 miles east of New Hill, Monongalia County, West Virginia. The project's proposal involves the direct impact to 4,118 linear feet (lf) of Scotts Run and 11 unnamed tributaries to Scotts Run near New Hill, Monongalia County, West Virginia. The project utilizes mine-through methods resulting in impacts to 2,112 lf of intermittent stream, 2,006 lf of ephemeral stream, and 0.064 acres of emergent wetland. There are no valley fills associated with this project. There is one existing side-hill fill that drains a watershed area of approximately 88.5 acres. The applicant's proposed mitigation is the restoration of stream segments impacted by mine through operations, and off-site restoration of Scotts Run. EPA has identified concerns regarding the alternatives analysis, impacts to water quality, cumulative impacts, and mitigation.

The project is located in the Scotts Run-Monongahela sub-watershed (HUC-12) and the Upper Monongahela River Sub-Basin (HUC-8). In 2002, a total maximum daily load (TMDL) for the Scotts Run-Monongahela sub-watershed was approved for total iron, aluminum, and manganese. The sub-watershed has been impacted by historic mining activities. Based on information currently available to EPA through GIS analysis, the land-use within the Scotts Run-Monongahela sub-watershed is approximately 15% surface mining activities. Information provided by the applicant indicates that the streams proposed to be impacted range in specific conductivity from 150-500 µS/cm. No biological data was provided for these tributaries. The water quality in the receiving streams appears to be impacted by perturbations within the watershed, including mining. Conductivity in Scotts Run is less than 500 µS/cm, however, the West Virginia Stream Condition Index is below 55. Data provided by the applicant indicates that the stream is also impacted by Selenium, with three sampling locations within Scotts Run having levels above the 5 µg/L criteria limit. The unnamed tributary draining the eastern portion of the proposed operation and the side hill fill to Scotts Run has specific conductance values greater than 1000 µS/cm likely due to the existing refuse/side hill fill in that drainage.

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EPA's review and comments, herein provided, are based upon the Public Notice for this project, supplemental information provided by the applicant (including an Environmental Information Document and Compensatory Mitigation Plan), and GIS analysis performed by EPA. EPA's review is intended to ensure that the proposed project meets the requirements of the Clean Water Act (CWA). The CWA Section 404(b)(1) Guidelines (40 C.F.R. Part 230) provide the substantive environmental criteria against which this application must be considered. In accordance with these Guidelines, discharge of dredged or fill material is generally disallowed if: (1) it would cause or contribute, after consideration of disposal site dilution and dispersion, to violations of any applicable state water quality standard; (2) a practicable alternative exists that is less damaging to the aquatic environment; or (3) the nation's waters would be significantly degraded.

On April 1, 2010, EPA released interim final guidance to the Regional offices titled: *Guidance on Improving EPA Review of Appalachian Surface Coal Mining Operations under the Clean Water Act, National Environmental Policy Act, and the Environmental Justice Executive Order* (SCM Guidance). The SCM Guidance provides clarification of EPA's roles and expectation under the Clean Water Act for three of EPA's Regional offices, in order to foster more timely consistent, and effective review of applications for discharges associated with Appalachian surface mining projects. At the same time, EPA released two Office of Research and Development (ORD) reports: *The Effects of Mountaintop Mines and Valley Fills on Aquatic Ecosystems of the Central Appalachian Coalfields* and *A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams (Benchmark Conductivity Study).* The ORD reports have been submitted to the EPA Science Advisory Board (SAB) for review and are also publicly available. In the interim, EPA views the reports as providing information, along with published, peer-reviewed scientific literature, that may inform permit reviews.

Alternatives Analysis – 40 CFR 230.10(a)

According to the Section 404(b)(1) Guidelines, the least environmentally damaging practicable alternative (LEDPA) is generally the only one that can be permitted, and to identify the LEDPA, the applicant's alternatives analysis should examine a full range of alternatives that would avoid and minimize impacts to aquatic resources to the maximum extent practicable. The applicant's alternative analysis was provided in the Environmental Information Document (EID), dated June 11, 2010. The alternatives analysis included a no action alternative, a project location alternative, method of mining operation alternatives, and excess material disposal location alternatives. To reduce impacts to jurisdictional waters the applicant proposes an estimated 0.9 million cubic yards of excess material to be permanently placed in a preexisting side-hill fill and backfilling approximately 29,147,553 million yards into the mining area. EPA notes that the applicant has proposed to backfill to achieve the approximate original contour (AOC). In addition, sediment control structures would be built on-bench and not within jurisdictional waters.

EPA commends the applicant for including method of mining operation alternatives and excess material disposal location alternatives within its alternatives analysis. Nevertheless, EPA recommends a more detailed discussion of alternatives that focuses not only on methods of mining and disposal alternatives, but also on-site operational alternatives that could be employed to reduce stream impacts and would be protective of in-stream and downstream water quality to determine the least environmentally damaging practicable alternative. Specifically, EPA

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recommends additional evaluation of the project to identify opportunities through practicable, modern engineering, mining methods, and materials handling that may further reduce direct and secondary stream impacts. Spoil placement throughout the project area should be controlled to reduce drainage through overburden into streams, including the backfill area. The alternatives analysis should discuss cost effective and technologically feasible limits on the quantity of excess spoil being generated per ton of coal extracted and the efficiency of the mining practices to achieve a reduction in stream impacts to the maximum extent practicable.

The alternatives analysis provided in the EID did not discuss alternatives in construction techniques or best management practices to protect water quality and prevent significant degradation of the aquatic ecosystem. The applicant should provide documentation and demonstrate up front, based on proposed mining techniques, best management practices, or other actions, that the project will not cause or contribute to an excursion from applicable water quality standards or to significant degradation.

Compliance with Other Environmental Standards – 40 CFR 230.10(b)/Significant Degradation of the Aquatic Ecosystem – 40 CFR 230.10(c)

40 C.F.R. Section 230.10(b)(1) of the CWA Section 404(b)(1) Guidelines states that "[n]o discharge of dredged or fill material shall be permitted if it . . . [c]auses or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard." The Guidelines, at 40 C.F.R. Section 230.10(c) also generally prohibit any discharge of dredged or fill material that would cause or contribute to significant degradation of the aquatic ecosystem. EPA is concerned that the applicant has not demonstrated that the project as proposed would be consistent with Sections 230.10(b) and (c).

The best information available to the Agency, including published, peer-reviewed studies, indicate the activities proposed by the applicant are strongly related to downstream biological impairment, as indicated by raw taxonomic data, individual metrics that represent important components of the macroinvertebrate assemblage, or when multi-metric indices are considered. These studies show that surface mining impacts on aquatic life are strongly correlated with ionic strength in the Central Appalachian stream networks. Elevated conductivity can impair aquatic life use, is often persistent over time, and is difficult to mitigate after-the-fact or remove from stream channels. Such impairments can rise to a level of significant degradation and/or may result in a violation of West Virginia's narrative water quality standards.

Limited baseline water quality or biological monitoring data was provided in the public notice and the supplemental supporting information for the streams which are proposed to be impacted. The baseline water quality information for the proposed impacted streams was taken in April of 2009 and March of 2010. Downstream water quality sampling results appear to be from 1999-2004. The results indicate that streams on-site have conductivity values ranging from 150-500 µS/cm and the downstream receiving waters have conductivity values ranging from <500 to greater than 2000 µS/cm. The biological assessment and results provided were not conducted on – and do not pertain to – the tributaries that would be directly impacted by the proposed project The WVSCI scores provided are from a sample site located on Scotts Run and sites on neighboring, downstream tributaries on Scotts Run including Guston Run and Wades Run. The WVSCI scores for these sites ranged from 31.8 in Scotts Run to 58.16 in Guston Run both sampled in September of 1999. These scores indicate relatively poor conditions.

Furthermore, the biological data provided is old (1999-2004) and does not appear to represent existing stream conditions in at least one, if not more, of the reference sites. An active surface mine has been in operation on the west side of Guston Run since 2007 and may have affected the baseline conditions as represented from data taken from 1999-2004. Additional biological data, including the raw taxonomic data, and water chemistry baseline data should be provided for waters on the site that are proposed to be impacted as well as downstream receiving waters. Additionally, EPA requests baseline monitoring data and discharge information from the adjacent mine site, New Hill surface mine. This monitoring data may inform an assessment of the potential environmental effects of the proposed operation since the New Hill surface mine is situated very nearby the proposed operation.

Based on the best information available to EPA, projects with predicted conductivity values less than 300 µS/cm generally are not likely to cause water quality violations or significant degradation of the aquatic ecosystem. Discharges with levels of conductivity greater than 500 µS/cm generally are likely to be associated with adverse impacts that could cause or contribute to significant degradation and/or excursions from applicable narrative water quality criteria. EPA recognizes that in certain fact-specific circumstances, instream conductivity levels greater than 500 µS/cm may not cause such adverse impacts to the biological community. To the extent the applicant believes that to be the case with this project, the applicant should supply an analysis of the ionic matrix and whether the discharge is dominated by calcium, magnesium, bicarbonate and sulfate and low in chloride. Where instream background conditions are limestone-dominated, that also should be noted. In addition, the applicant should provide an analysis of whether the native aquatic community is similar to that studied in the *Benchmark Conductivity Study* and in Pond, G.J., M. E. Passmore, F.A. Borsuk, L. Reynolds, and C. J. Rose. 2008, *Downstream effects of mountaintop coal mining: comparing biological conditions using family- and genus-level macroinvertebrate bioassessment tools*, J. N. Am. Benthol. Soc. 27(3):717–737. Any analysis based on differences of the native aquatic community should include a review of taxa (at the genus level) at applicable reference sites within the region.

Minimization and Compensation for Unavoidable Impacts – 230.10(d)

The applicant has proposed a conceptual mitigation plan in the Public Notice and Compensatory Mitigation Plan (CMP), dated May 2010. The proposed impacts to waters of the U.S. include a total of 4,903 lf of stream mitigation. The applicant proposes re-creation of 6,411 linear feet for mine-through areas and historical drainage, off-site enhancement of 2,952 linear feet of Scotts Run, and in-lieu fee payment for permanently impacted wetlands. Current stream functional assessment information, which includes biological, chemical and physical components, was insufficient for the proposed impacted tributaries and should be provided for those streams as well as the enhancement reaches. Without this information, it can not be determined if the applicant's proposed mitigation replaces lost stream functions and values. We do note that the 2008 Mitigation Rule, codified at 40 CFR Part 230, Subpart J, recognizes that streams are "difficult-to-replace" resources and therefore a strong emphasis should be placed on avoiding and minimizing adverse impacts to these resources. In regards to the use of the in-lieu fee program for wetland compensation, EPA currently, is unaware of any identified in-lieu fee projects within the Monongahela Sub-basin, and accordingly the Corps and the applicant should identify any approved in-lieu fee projects within the HUC 8 in consideration of its use as appropriate compensation. If there are no approved in-lieu fee projects within the HUC 8, EPA

recommends that the Corps and applicant explore permittee-responsible mitigation within the 12-digit HUC.

EPA further recommends that the monitoring plan incorporate observable and measurable biological and chemical parameters along with the proposed physical parameters as benchmarks for success, i.e., performance standards, along with a timeframe in which the performance standards would be reasonably expected to occur. EPA recommends a longer monitoring period, of at least ten years, as opposed to the currently proposed period of five years. Finally, an adaptive management plan should also be provided that identifies alternate plans and strategies should the mitigation plan not meet the required performance standards. EPA requests the opportunity to review and provide further comments as this plan is further developed.

Determination of Cumulative Effects on the Aquatic Ecosystem – 230.11(g)

The Section 404(b)(1) Guidelines require consideration of cumulative impacts: "Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems." 40 C.F.R. § 230.11(g). The impacts within the Upper Monongahela River subwatershed (HUC-12) in West Virginia due to historic mining, current mining operations, and the proposed project should be assessed cumulatively.

Given the past, present, and proposed future mining activities within the Upper Monongahela Sub-basin, and the smaller Upper Monongahela River subwatershed, EPA recommends that the Corps conduct a thorough cumulative effects analysis that includes a detailed presentation of past, present, and reasonably foreseeable activities. The analysis should describe the current state of the ecosystem, and consider affects on the human environment including impacts to the subwatershed from filling of streams and potential impacts to private drinking water wells and other drinking water supplies. This analysis should include, at a minimum, the function and habitat, and the effects of the hydrologic modifications to the sub-basin and subwatershed. It should also address the impact of deforestation on water quality, water quantity, and other ecological conditions within the sub-basin and subwatershed. These impacts should be compared to the attributes of healthy watersheds in the ecoregion with a goal towards assuring that the sub-basin and subwatershed within which the project is proposed will not be impacted beyond its current condition. We strongly suggest an approach that would manage and link proposed projects to overall water quality and habitat improvement on a sub-basin and subwatershed basis.

Finally, consistent with Executive Order 12898 entitled "Federal Actions to Address Environmental Justice In Minority Populations and Low-income Populations" and the accompanying Presidential Memorandum, EPA recommends that the Corps' Section 404(b)(1) Guidelines and NEPA reviews analyze the potential for disproportionately high and adverse effects on low-income or minority populations in the area of New Hill West Surface Mine. Specifically, a characterization of the economic status of residents near the site and the conditions they face including any effects relating to the proximity of the blasting zone, locations of discharges of fill material, truck traffic, noise, fugitive dust, and habitat loss should be conducted. Additional information concerning sources of drinking water for the effected populations (including municipal water supplies and private sources of drinking water including

streams and/or wells) would also be helpful. The proposed New Hill West Surface Mine is located in a census block group where 27% of the residents live below the poverty lines when compared to national and state average per capita income and average family income. EPA also recommends the applicant take steps to ensure meaningful engagement of affected communities, and consider the cultural impacts by the proposed project.

Conclusion

In conclusion, EPA believes that the project as currently proposed may not comply with the Section 404(b)(1) Guidelines, and that the project may adversely affect water quality and result in significant degradation to the aquatic ecosystem. Additional monitoring data should be conducted and provided for the impacted tributaries and adjacent mines. This information should be considered to help ensure that the project will not cause or contribute to significant degradation. Biological and chemical parameters should be incorporated into the mitigation plan, and the mitigation plan should be carefully reviewed to ensure that it will effectively mitigate for impacts. It is important that the project be protective of water quality and does not cause or contribute to significant degradation of the aquatic resources.

Thank you for the opportunity to provide comments on the proposed New Hill West Surface Mine. Should you have any questions please feel free to contact Mr. Greg Gies, Physical Scientist, of my staff at 215-814-2764 or by email at gies.gregory@epa.gov.

Sincerely,

Jessica L Martinsen

for Jeffrey D. Lapp, Associate Director
Office of Environmental Programs

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RECORD OF DECISION
U.S. ARMY CORPS OF ENGINEERS, PITTSBURGH DISTRICT
FINAL ENVIRONMENTAL IMPACT STATEMENT
COMMERCIAL SAND AND GRAVEL DREDGING OPERATIONS
ALLEGHENY RIVER (MILE 0.0 - 69.5) AND OHIO RIVER
(MILE 0.0 - 40.0)PENNSYLVANIA

I. INTRODUCTION

The United States Army Corps of Engineers (hereinafter referred to as the USACE or the Corps) previously completed an Environmental Impact Statement (EIS) for Commercial Sand and Gravel Dredging Operations in the Allegheny River in June of 1980 and the Ohio River in September of 1981. Permits issued under these documents began to expire and in 1996 based on the potential for significant environmental effects, the USACE determined it was necessary to re-evaluate the effects of issuing commercial sand and gravel permits. The USACE began scoping the environmental issues related to such activities in June of 1996. Extensive agency and interested party coordination was conducted in compliance with the National Environmental Policy Act (NEPA), and the USACE, Pittsburgh District completed a Draft Environmental Impact Statement (DEIS) on Commercial Sand and Gravel Dredging Operations in the Allegheny and Ohio Rivers, Pennsylvania in June 2002. In July of 2002, the USACE received applications for renewal of Commercial Sand and Gravel Dredging Permits from three applicants. In conjunction with the evaluation of the proposed permit request the DEIS was circulated for comment to Federal, state, and local agencies, public interest organizations, and the general public on July 26, 2002, with a request that comments be submitted by November 7, 2002. On September 4, 2002, a Public Hearing on the DEIS and the Department of the Army permit applications for sand and gravel dredging was held by the Pittsburgh District.

A Final Environmental Impact Statement (FEIS) was circulated for review on April 21, 2006, with a closing date for review on May 22, 2006. A copy of the FEIS was filed with the U.S. Environmental Protection Agency on April 13, 2006.

The Commercial Sand and Gravel dredging industry has been determined to provide an important source of aggregate materials for construction activities, including highway projects within the region. The need for such materials

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regardless of their source is recognized throughout society.

II. DECISION

The selected alternative associated with the request by applicants for Department of the Army Permits to continue sand and gravel dredging in the Allegheny River (Mile 0.0 - 69.5) and Ohio River (Mile 0.0 - 40.0) is Alternative 3. This alternative, as described in the FEIS on Commercial Sand and Gravel Dredging in the Allegheny and Ohio Rivers, Pennsylvania, dated April 2006, provides for the issuance of new Department of the Army permits to the applicants with added restrictions (outlined in Section VIII. SPECIAL CONDITIONS) and initiation of an adaptive management process, which will further assist in avoiding or mitigating identified or potential adverse environmental impacts associated with the dredging activities, and provide for identification of areas with limited environmental concern.

In reference to sand and gravel dredging, an adaptive management process is defined as an ongoing effort to develop improved and scientifically valid permit conditions or restrictions that are required to enhance protection of aquatic and associated littoral and terrestrial biota and habitat, and establish zones of lesser concern. Such biota includes threatened and endangered species which will be avoided by dredging activities and potential mussel concentration area(s) identified by survey results. This process relies on regular interagency coordination between the Corps, U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (USEPA), Pennsylvania Department of Environmental Protection (PADEP), Pennsylvania Fish and Boat Commission (PFBC), and the dredging industry in a proactive and candid manner. Such coordination can be initiated by any of the above agencies, which are the key regulatory and environmental agencies for commercial sand and gravel dredging in Pennsylvania, or the dredging industry.

Under Alternative 3, the USACE, Pittsburgh District would grant and extend Department of the Army Permits under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, to commercial sand and gravel companies for the removal of sand and gravel between river

miles 0 - 69.5 on the Allegheny River and between river miles 0 - 40 on the Ohio River.

Under the proposed alternative, the life cycle of the industry may be expected to last 10 to 20 years depending on how adaptive management is applied.

The conditions to which the permit applications must adhere are described in Alternative 3 in the FEIS, with the final condition language set forth in permit conditions listed in detail, in Section VIII. As discussed in this Record of Decision, because of the implementation of adaptive management measures and process, the final permit conditions set forth in the permits differ from some of the original language set forth in Alternative 3, in the following particulars:

A. Dredging will be prohibited in any surveyed area where there is a finding of Threatened and/or Endangered Species as the result of the required surveys.

B. In accordance with the USFWS Guidelines for Mussel Surveys in the Navigable Ohio and Allegheny Rivers, dated December 2005, if Threatened and/or Endangered Species are not found during the initial survey, but Table 2 Species or candidate species are located, dredging is not automatically prohibited, but instead the companies must look harder for evidence of the presence of Threatened and/or Endangered Species, using the Smith or other approved protocol.

C. These "look harder" surveys will be further evaluated by the Adaptive Management Group in order to determine if other significant resources, including mussel concentrations, exist that should be protected, and what specific standards must be implemented to accomplish that end.

D. Candidate species would not be afforded the same protection as Threatened and/or Endangered Species.

E. The term "mussel concentration" is an undefined term and therefore the top priority of the Adaptive Management Group is to establish a definition for this term.

F. The Adaptive Management Group will work together to develop clarification of the Phase 2 survey protocol to

modify or replace the Smith Protocol, which many group members agree may not be the best methodology for locating Threatened and/or Endangered Species.

Related to these modifications, on December 15, 2006 the USFWS issued a concurrence letter concerning the issuance of the Department of the Army permits.

III. ALTERNATIVES CONSIDERED

The FEIS evaluated four alternatives that are summarized as follows:

Alternative 1: This alternative is the complete cessation of commercial river dredging within the study area following expiration of existing permits held by the applicants, and denial of permit extensions. This action would result in a moratorium on future commercial dredging activities (other than for navigational purposes) on the entire navigable Allegheny River and between river miles 0 to 40 on the Ohio River. This alternative, which is considered the "no action" alternative, consisted of an evaluation of the effects of cessation of river dredging relative to baseline conditions (i.e., current conditions) within the study area.

Alternative 2: This alternative consists of obtaining sand and gravel from the Allegheny and Ohio Rivers through commercial dredging as currently permitted. Alternative 2 allows for the granting and extending of Department of the Army permits to commercial sand and gravel companies for the removal of sand and gravel between river miles 0 - 69.5 on the Allegheny River and between river miles 0 - 40 on the Ohio River. Under existing permits, the applicants are granted site-specific permission to dredge within specified river miles on the Ohio or Allegheny Rivers. These site-specific permits contain written conditions and mitigation requirements under which the applicants must operate. These operating requirements are defined in the FEIS. This alternative represents the action proposed by the applicants to USACE.

Alternative 3: As described above, this alternative incorporates additional site-specific and generalized permit conditions that are coupled with, or revisions of, the current permit conditions discussed under

Alternative 2. A significant new condition entails the implementation of an adaptive management process to modify the permit conditions to better avoid or mitigate potential impacts at a given location.

Alternative 4: This alternative consists of using land-based operations, recycled materials, or importation of sand and gravel from other locations to meet the regional need for this material. This also includes the complete cessation of commercial river dredging (other than for navigational purposes) and denial to extend existing permits held by the applicants.

IV. SUMMARY OF EFFECTS RELATED TO THE ALTERNATIVES

Under Alternative 1, cessation of future sand and gravel dredging would leave the rivers generally unchanged relative to current baseline conditions (with the exception that some natural recovery processes will continue to occur over time for certain resources). Therefore, there would be no direct or indirect effects to many of the resource areas within the Allegheny and Ohio Rivers study area relative to current baseline conditions from implementing Alternative 1.

With respect to resources within the entire region, implementation of Alternative 1 would result in induced secondary effects as a result of increases in production at existing land-based quarries within the region, as well as creation of new land-based quarries near the Pittsburgh area. Potentially significant adverse effects on public safety, including child protection, were identified for Alternative 1 as a result of induced impacts associated with increased land-based quarry operations.

Implementation of Alternative 1 may have a beneficial effect on mussels, macroinvertebrates, and fish relative to the current baseline to the extent that those habitats not currently restricted from dredging might be suitable for future colonization by these fauna, and therefore these aquatic species, such as the endangered clubshell and northern riffleshell mussels, might increase in abundance.

The potential adverse economic impacts of Alternative 1 would be both short-term and long-term as well as direct and indirect. Denial of permits for river dredging would prohibit the existing three companies from conducting their

core business functions, which would adversely affect the regional and state economy by: (1) reducing employment and income due to downsizing or closing of businesses associated with river-based sand and gravel production and (2) increasing the cost of commercial and public infrastructure projects that currently use river-based sand and gravel primarily in concrete and asphalt.

Under Alternative 2, the removal of sand and gravel, a non-renewable resource, would permanently change the contours of the river bottom. Approximately 0.8 percent (estimated 100 acres) of additional river bottom would be disturbed by dredging each year. This translates to an annual production of four million tons of sand and gravel material. Much or all of this dredging activity would occur in previously dredged areas. At this rate, it is estimated that the geologic resources of the Allegheny and Ohio Rivers may provide up to 35 years of aggregate material at current demand levels, and under current permit restrictions.

Site-specific conditions, such as proximity to the thalweg, orientation with respect to dams, or the physical configuration of the dredged area, may determine whether a particular dredged area will temporarily contain silt accumulations. This may affect the turbidity created by dredging and possible re-suspension of contaminants; however, given the type of sediment in the rivers, contaminants are not likely to accumulate and/or be released by dredging.

With the exception of low flow conditions, turbidity and suspended solids generated by dredging would not adversely impact ambient river water quality. Localized dissolved oxygen deficiencies may occur in certain deeper dredge holes under extreme low flow conditions (at times when river temperatures are high and re-aeration mechanisms are lacking).

Localized adverse impacts to mussels in the study area would be expected from implementing Alternative 2 in most areas currently permitted for dredging. To the extent that mussels are capable of colonizing certain habitats, but do not occur there now, significant adverse impacts may occur, particularly in shallower, undredged areas (less than/equal to 10-15 feet deep) where the types and arrangement of bottom substrate more closely match natural unimpounded

conditions. Potential impacts of dredging on endangered mussel resources have been mitigated through the implementation of mussel surveys prior to dredging new areas, as part of USACE and state permit requirements.

No short-term or long-term economic effects would be expected from implementing Alternative 2 relative to baseline conditions. Under this alternative, the existing dredging permits would be renewed and current operations would continue at baseline levels. Employment, revenues, and income directly and indirectly generated by the applicants would remain unaffected by the implementation of Alternative 2. Secondary economic activity generated by the river dredging sector would also remain unchanged. Accordingly, there would be no change to economic activity in either the region of influence (ROI) or the State economy.

With regard to Alternative 3, adaptive management measures, as described above, would result in approximately 25 percent less dredgeable area as compared to that projected under Alternative 2. On average, less than 10 percent of the shallow habitat theoretically available under Alternative 2 would be considered for dredging under Alternative 3. Out of a total of more than 5,600 acres of riverine habitat less than 15 feet deep in the project area, 73 acres (1.3 percent) would be theoretically available for dredging under Alternative 3. Significant mussel resources in these remaining shallow areas, as determined through required mussel surveys, could further diminish the amount of shallow area that is dredgeable. Thus, a significant additional portion of the study area would be restricted from dredging using Alternative 3, largely based on protecting aquatic life resources.

Under Alternative 3, adaptive management procedures would result in restrictions as to where dredging could be conducted. The primary effect of these restrictions is that some aggregate material would not be available for extracting. In short, the remaining reserves would be somewhat diminished and the life cycle of the dredging operations would be shortened. These restrictions are not expected to significantly affect the level of activities carried out by the dredgers on a daily basis. Hence, annual production and workforce and income levels would be similar to Alternative 2 over the next 10 years. Accordingly, the economic impacts from Alternative 3 would

not pose irreparable harm to the industry in the shorter term and over the longer term, adverse impacts to the industry would be lessened as a gradual conversion to other sources of aggregates is accomplished.

Alternative 4 evaluates the short-term and long-term, direct and indirect effects, associated with obtaining sand and gravel from land-based quarries, recycled aggregate materials, and other sources within the region. Alternative 4 is effectively the result of selecting the "no-action" alternative (Alternative 1). This alternative is not the Federal action being evaluated but is rather an outcome of a decision regarding commercial dredging permits, and is not within the regulatory jurisdiction of USACE to select or implement such an alternative.

In the short-term, it is estimated that approximately 50 existing quarries would need to increase production by 30 percent in order to make up for the immediate loss of three to four million tons annually of river-based aggregate. It appears in the long-term, that land-based sand and gravel resources of Pennsylvania could be developed to supply the needs of the applicant's customers, so long as environmental permits are issued and local land use approvals are obtained for the expansion and/or creation of new quarries in the region. It is estimated that about 20 new local quarries would be needed over the longer term to offset the demand for sand and gravel products in the market. Due to the capital investment required and probable public opposition to new land-based operations, it is uncertain whether the existing 50 quarries would increase production or whether new quarries would be added.

On February 15, 2005, in compliance with the Endangered Species Act, the USACE, Pittsburgh District completed a final Biological Assessment (BA) at the programmatic level to evaluate the impact of the proposed action on Federally-designated Endangered and Threatened species, as well as Candidate species for Federal designation. On December 16, 2005, the USFWS issued a letter to the Corps indicating the following in response to a review of the BA and DEIS: *"Provided these permits are consistent with Alternative 3 and avoid direct and indirect effects on federally listed species, as outlined above, the Corps would be justified in reaching a "not likely to adversely affect" determination on their issuance".*

As noted above, on December 15, 2006, the USFWS issued a follow-up concurrence letter which modified this December 16, 2005 letter.

V. ENVIRONMENTALLY PREFERABLE ALTERNATIVE

Environmentally preferable is defined as "the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (Forty Most Asked Questions Concerning Council on Environmental Quality's National Environmental Policy Act Regulations, 1981).

The goals characterizing the environmentally preferable condition are described in Section 101 of the NEPA. Section 101 states that "…it is the continuing responsibility of the Federal Government to … (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice; (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources". The environmentally preferable alternative for the Commercial Sand and Gravel Dredging option is based on these national environmental policy goals.

ALH The Environmentally Preferred Alternative is Alternative 3. The FEIS provides a detailed analysis of the impacts to the physical and biological environment and the overall benefits of the selected alternative outweigh the potentially negative impacts.

Section 404(b)(1) of the Clean Water Act requires the USACE to issue permits based on the Least Environmentally Damaging Practicable Alternative (LEDPA) to aquatic resources. Based on the information contained in the FEIS and the 404(b)(1) analysis completed by the USACE, Alternative 3 is also the LEDPA.

Alternatively, we could also say that although Alternative 1 is the Environmentally Preferred Alternative, it has not been chosen because it is not a practicable alternative to implement based on economics.

VI. IMPACT MINIMIZATION MEASURES

Numerous measures have been incorporated into Alternative 3, to eliminate or minimize the adverse impacts on the aquatic ecosystem. These include revised permit conditions (specifically listed in Section VIII) and the continued commitment to an adaptive management process.

This combination of permit conditions and adaptive management measures was determined to pose a minimized impact to threatened and/or endangered species in areas of proposed dredging to a level of not likely to adversely affect. The USFWS has concurred with this position by letter dated December 15, 2006.

In summary, if threatened and/or endangered species are found, the area will be excluded from dredging. If certain densities or species compositions are found, additional surveys will be required to determine presence or absence of threatened and/or endangered species. Such survey results will be evaluated by the Adaptive Management Group to determine potential additional minimization or mitigation measures on a site specific basis.

Potential direct or secondary impacts resulting from turbidity are also addressed in the permit conditions and further site specific control plans may be required as appropriate.

Contingency plans will be developed for the rapid response or remediation of impacts from unexpected events in the dredging area (i.e., floods, fuel spills, siltation) which may extend beyond the defined impact areas. Contingency plans will be developed and, as required by the appropriate rule and/or regulation, maintained and/or submitted for

approval to the appropriate governmental agency with jurisdiction over the specific plan or program. Such measures will include, but not be limited to, Spill Prevention, Control and Countermeasure (SPCC) Plan, Fuel Transfer Procedure, Facilities Operations Guide, and an Emergency Response Plan.

The new Department of the Army Permits will be issued for broad segments of the rivers; however, prior to commencement of dredging, specific areas must be cleared through a mussel survey process. As additional specific areas are cleared and adaptive management evaluated, the permits will be amended.

There were no additional practicable means to avoid or minimize environmental harm in Alternative 3 that were not adopted. Avoidance and minimization measures are incorporated in the permit conditions listed below and summarized in the FEIS.

VII. MITIGATION MEASURES

Implementation of avoidance and minimization measures will not result in a significant impact to the environment. If site specific conditions warrant mitigation, it will be negotiated on a site-specific basis for each of the areas proposed to be dredged. Using the Adaptive Management procedures, mitigation will be proposed and negotiated with all the relevant parties on an as-needed basis.

At the Programmatic Level, Murphy's Bottom is proposed for restoration by the State of Pennsylvania through issuance of their Chapter 105 permit. The applicant and the State have negotiated an agreement for funding, and implementation will further reduce impacts below significant.

VIII. SPECIAL CONDITIONS

The conditions to which the permit applicants must adhere are covered in the FEIS under Alternative 3 and have been further modified to include the following:

A. The dredging permits will identify several permit conditions under which the applicants must operate at any location. Mandatory Special Conditions to be applied at all locations are:

1. Islands and Shores

a. No dredging is allowed within 150 feet of the six-foot river depth contours, as measured at normal pool water elevation, or closer to the six-foot river depth contour than twice the dredging depth (on average, this represents a 225-foot off-set from all shorelines). Buoys marking the six-foot contour must be placed in the field adjacent to the dredging operation. Additionally, no dredging may occur in water depths of less than nine feet as measured at normal pool elevation.

b. No dredging is allowed on the back-channel side of any island, or within 1,000 feet upstream and 300 feet downstream of any island.

c. Ohio River Islands National Wildlife Refuge (applies to Georgetown and Phillis Islands in Pennsylvania): the buffers around these islands have been extended to prohibit dredging within 1,500 feet upstream and 1,000 feet downstream; no dredging in the back channel; and no dredging between the islands and the edge of the navigation channel including all lateral areas within the upstream and downstream buffers. These limits may be identified in the field as a distance 500 feet from right descending bank opposite of Phillis Island and 500 feet from the left descending bank opposite of Georgetown Island.

2. Dams - No dredging is allowed within 1,000 feet of the upstream or downstream face of any navigable dam or lock without specific permission from the USACE.

3. Bridges and Piers - No dredging is allowed within 500 feet of any bridge, pier, or abutment. When dredging occurs within 1,000 feet of such structure, the highway department or appropriate agency must be notified and coordinated with on a site specific basis to protect stability of the structure.

4. Navigation Channels - No dredging is allowed within 150 feet (125 feet on the Allegheny) of the centerline of the navigable channel unless authorized by USACE. There will be no unreasonable interference with the free discharge of the river or stream or navigation during dredging. If it is determined that water obstruction or

encroachment causes unreasonable obstruction to the free passage of floodwaters or navigation, the licensee, upon notification, will remove or alter the water obstruction or encroachment at their expense.

5. Public Water Supply Intakes - No dredging is allowed within 1,000 feet upstream, downstream, or laterally of any public water supply intake. Permitting agencies may impose additional setbacks from public water supply intakes, if in the opinion of the permitting agency, it is necessary to further protect the intake from impacts created by the nearby dredging operation. PADEP also reserves the right to establish a setback laterally or upstream of any industrial, commercial or public surface water intake.

6. Public Water Supply Well - No dredging within the capture zone, presumed to be a 1,000-foot radius, of any public water supply well is allowed, unless the operator can demonstrate to the satisfaction of PADEP that a lesser distance will maintain a groundwater travel time of 90 days or greater.

7. Underwater Structures/Existing Features - No dredging within 300 feet of submerged pipelines and/or submarine cables, and within 300 feet of active commercial or industrial docks, or public launching areas. These buffers may be waived or reduced with written consent of the responsible party(ies) for such structures and notification must be provided to the USACE.

8. Water Quality - Sampling and analysis for total suspended solids, as per PADEP Water Quality Management Permits must be conducted. PADEP requires that total suspended solids (TSS) levels at any sampling point 1,000 feet downstream of the dredging unit cannot exceed 25 mg/l above TSS levels measured 100 feet upstream of the dredging unit. Bilge, ballast, or washwater pumped from barges will not be discharged to the river without removal of oil or toxic compounds. No refuse, sludge, oils, or petroleum products shall be discharged to the river. For on-board processing, USACE and PADEP require that the discharge be delivered through a deep-water diffuser and conveyed to the dredge trench. Use of non-toxic flocculants is required by PADEP for dredges with on-board processing.

9. River Bottom Substrate

a. All construction debris and excavated refuse incidental to the activity shall be removed from the river and placed on shore above water influence, or at such dumping grounds as may be approved by PADEP (excluding incidental fall back).

b. As specified by PADEP, dredged rock material that is larger than that which Licensee's equipment can process may be returned to the river at the bottom of the trench from which it was dredged.

c. A minimum of five feet of sand and gravel substrate must be preserved on the bottom of all dredge holes, above any limiting rock layers, to preserve habitat.

10. Mussel Sampling - Prior to a decision on site-specific permit authorizations for dredging, all applicants must conduct mussel surveys (using a qualified surveyor with a valid PFBC Scientific Collectors Permit and special permit for the collection of Threatened and Endangered species) in accordance with the currently approved protocol. The current protocol to be used until further notice is the "Draft Protocol for Mussel Surveys in the Ohio River Where Dredging/Disposal/Development Activity Is Proposed, Ohio River Valley Ecosystem Mollusk Subgroup (clarified April 2004)" (Attachment A of the permits, hereinafter referred to as the Ohio River Protocol), as further clarified by "Guidelines for Mussel Surveys in the Navigable Ohio and Allegheny Rivers", USFWS, December 2005 (Attachment B of the permits hereinafter referred to as the USFWS December 2005 Guidelines). For a listing of recommended qualified surveyors, the applicants are advised to contact the USFWS State College, Pennsylvania Field Office or the PFBC. Dredging will not be authorized under these permits if threatened or endangered mussel species are found. If greater than one mussel per square meter (0.5 actually collected) or greater than 0.6 mussels per square meter (0.3 actually collected) including species listed in Table 1 and Table 2 of the USFWS December 2005 Guidelines (collectively hereinafter referred to as mussel concentration standards) are collected from any sampling segment along a transect, the applicant will have the option to either buffer such areas as identified in the Ohio River Protocol or conduct a Phase 2 survey. Phase 2 surveys will consist of additional qualitative sampling

effort in line with the qualitative measures of the Smith et al. 2001 protocol (Referenced at Attachment C of the permits) to further search for the presence of threatened and/or endangered mussels. It is highly recommended that the applicants coordinate the details of such Phase 2 surveys with the USFWS and the Adaptive Management Group, before conducting such search efforts, and it is required that any deviations from the standards identified in the Smith protocol must be approved prior to the survey by the adaptive management group.

If threatened and/or endangered mussel species are identified at any time, the USFWS will be notified and no dredging will be authorized within these areas without completion of formal consultation, and the buffers identified within the Ohio River protocol will be required to protect such resources. If threatened and/or endangered mussel species are not found, the dredging applicant will obtain a revised Water Obstruction and Encroachment Permit (by a permit amendment) from PADEP that specifies the "authorized areas" in spreadsheet form. The USACE will provide a permit amendment stating that the USACE approves commercial dredging in that area. Mussel survey findings will remain in effect for five years, unless new information warrants reconsideration.

Attachments A, B, and C of the permits are intended to describe the methods for conducting required mussel surveys and are intended to be a guideline for when and how such surveys are to be conducted. The mussel concentration standards established in Attachments A and B are thresholds to trigger the need for additional survey requirements to determine presence or absence of threatened and/or endangered species. The threshold for mussel concentrations of non-threatened and/or non-endangered species that warrant protection will be developed through the adaptive management process and may vary based on site specific conditions.

11. Threatened and/or Endangered Species - All dredging must cease and regulatory authorities must be notified if fauna or flora on the Federal or State registers of threatened or endangered species, or habitat critical to their survival, are encountered. In accordance with the Endangered Species Act, consultation with the USFWS will be required if dredging activities have the

potential to harm either threatened or endangered species or designated critical habitat or any combination of these.

a. There are eight endangered mussel species that presently or formerly inhabit(ed) the proposed dredging area - the clubshell (*Pleurobema clava*), the northern riffleshell (*Epioblasma torulosa rangiana*), the cracking pearlymussel (*Hemistena lata*), the pink mucket (*Lampsilis abrupta*), the rough pigtoe (*Pleurobema plenum*), the orange-foot pimpleback (*Plethobasus cooperianus*), the ring-pink (*Obovaria retusa*), and fanshell (*Cyprogenia stegaria*). Additionally, two mussel species are listed as Federal candidates for protection under the Endangered Species Act: the rayed bean (*Villosa fabalis*) and sheep nose (*Plethobasus cyphyus*). While the latter two species are not yet afforded protection under the Endangered Species Act, they have been determined to meet the criteria for listing and they may become listed in the near future.

b. The threatened bald eagle (*Haliaeetus leucocephalus*): Bald eagles may nest in the project area in the future. Screening methods, including consultation with the Pennsylvania Game Commission (PGC) and the Audubon Society, will be undertaken by the applicants prior to approval by USACE of proposed dredging sites. As recommended by the USFWS, the following will be adopted as a special permit condition: *To avoid adverse effects on bald eagles, projects will be screened for the presence of this species using the Pennsylvania Natural Heritage Program's online environmental review database (www.naturalheritage.state.pa.us) prior to commencing dredging in an area or by contacting the USFWS. If a bald eagle nest occurs in the vicinity of a proposed dredging area, no dredging will occur within 0.5 mile of the nest during the nesting season (January 1 to July 31)* without undergoing separate site specific consultation with the USFWS. Such buffers are required since this is a water based activity and the dredging activities may adversely affect foraging of the species. If bald eagles begin to nest in the vicinity (0.5 mile) of ongoing dredging activities the USFWS will be notified and appropriate mitigative measures will be identified.

c. Endangered indiana bat (*Myotis sodalis*) is also found in the proposed dredging area but is not likely to be affected by the proposed activities.

12. Cultural Resources - All dredging must cease and the USACE and Pennsylvania Bureau for Historic Preservation must be notified in the event that previously unidentified historical or archaeological sites are encountered.

13. Restricting Initial Dredging to Minimum Depths - Restricting initial dredging from shallow areas (e.g., less than nine feet deep) at the point of excavation, will conserve valuable fish spawning and rearing habitat. This habitat, which includes perennial tributary deltas, may be necessary for reproduction and development of some fish species that are hosts for the glochidia of endangered and threatened mussels. This condition also preserves undredged or sparsely dredged areas, regardless of where they occur in the project area, excluding the navigation channel.

14. Reserve Areas and Pools - Reserve areas for aquatic life habitat and aesthetic protection shall include the Emsworth Pool in the Ohio River and Allegheny River, Pool 2 up to river mile 13.3, all of Pool 6, and Pool 9 above Redbank Creek at river mile 64.0 in the Allegheny River. In addition, no dredging shall occur in island back channels or within buffer areas (1,500 feet upstream and 500 feet downstream) around Mile 58.85 and 58.3 in Pool 8 of the Allegheny River due to the known presence of Federally-listed mussel species at these locations.

Additionally, it should be recognized that all of the shallow water habitat of less than nine feet in depth outside of the navigation channel will not be dredged within the entire project area. Reserve areas will also include areas adjacent to bridges, dams, underground utilities, drinking water intakes and well fields, and back channels.

B. In order to better address the impacts at specifically authorized areas, evaluate the cumulative impacts of dredging, and improve sampling methodologies and threshold criteria, an adaptive management process will be implemented. The adaptive management process will be implemented with the site specific environmental reviews and may result in additional General and/or Special Permit conditions. The following entities will routinely be involved in the adaptive management process: USACE, Pittsburgh District, PADEP, PFBC, USFWS, USEPA, and the dredging companies. Other parties may be involved on a

site specific basis at the discretion of the USACE and PADEP. An additional outline of the adaptive management process is included as Attachment D of the permits.

Examples of the adaptive management measures are identified below, but not limited to:

1. Additional Site-Specific Analyses or Surveys Prior to Dredging - Based on review of mussel surveys, bottom conditions as identified by side-scan sonar or bathymetry mapping, and fish sampling results, additional site specific analysis may be required, or areas where there is no need for mussel surveys may be identified.

2. The baseline sampling requirements and threshold standards may be adjusted to protect the aquatic resources through the adaptive management process.

3. Limiting Dredging to Certain Areas - Through review of information submitted to USACE and PADEP by the dredging companies and consultation with the USFWS and PFBC, certain areas may be identified as off limits for dredging. This may include protecting threatened or endangered species, sensitive habitats, reserve areas and potential recovery areas. Conversely, areas previously disturbed and not likely to recover may be authorized for dredging without additional studies or surveys.

4. Altering the Bathymetry or Configuration of Dredged Areas - Altering the three dimensional configuration of a dredged area can significantly change the flushing rate and circulation within the hole, thereby altering the dissolved oxygen (DO) levels. New dredge holes must be sloped to improve flushing capabilities and specific slope dimensions may be required as water quality data indicates. In areas where deep, isolated pockets already exist, approving additional dredging in these areas may increase the size of the dredged hole (i.e., creating a channel, rather than isolated deep pockets), thereby increasing flushing rates and DO levels.

5. Additional Measures to Mitigate Noise - Under certain conditions, noise levels from dredging units may impact sensitive terrestrial species and habitats

(such as roosting or nesting sites) or populated areas that are in close proximity to the river. Noise monitoring may be necessary to ensure that excessive noise levels do not occur. In the event of noise problems, several site-specific mitigation measures can be applied including: moving the dredging unit, reorienting the dredging unit so that the "quieter side" is facing the sensitive area, limiting night-time operations, enhanced dredge sound proofing and engineering controls, and/or noise monitoring.

6. Compensatory Mitigation and/or Restoration Measures - Dependent on individual and cumulative project impacts, mitigation and/or restoration measures may be required to minimize or offset adverse environmental impacts. Such measures may be designed and developed through the adaptive management process and include such things as channel restoration, embayments, riparian improvements, wetland creation, mussel relocations, etc. The Murphy's Bottom project outlined in the State Chapter 105 authorization appears to be a suitable baseline mitigation effort. Based on site specific impacts, additional area specific measures may be required. It is ultimately the applicant's responsibility to identify appropriate mitigation measures subject to the USACE's approval.

The above additional restrictions are baseline in nature and subject to expansion within the context of the adaptive management process. A particular restriction may or may not be formulated as a "universal" permit condition that is implemented at all locations in the project area. Following review of site-specific mussel survey data and supporting information, regulatory agencies, with input from other resource organizations, including the USFWS, may require additional restrictions as needed to avoid or minimize potential impacts in a given location requested for dredging.

The adaptive management process also includes the preparation of an annual summary of locations approved or not approved for dredging, mussel survey results and other relevant information collected for each area requested, and final depths of the areas, if dredged. Each company will be required to complete a spreadsheet database for their

operations that is submitted to PADEP annually. PADEP will house a centralized database containing all dredging information that will be updated annually, and this information is available to the public upon request. The process for requiring additional restrictions, and the particular restrictions applied, is assumed to be dynamic over time: as more monitoring information is obtained, changes in restrictions or permit conditions could evolve as necessary to further avoid or minimize potential impacts.

ALH

IX. COMMENTS RECEIVED

In response to circulation of the FEIS the following comments were received and considered in preparation of the Record of Decision, and the Department of the Army Permits being reissued to the applicants.

A. The Pennsylvania Department of Transportation commented on potential impact to their structures and the permit conditions have been modified to include coordination with the appropriate entity when impacts will occur in proximity to such structures. The Department of Transportation is also one of the primary users of the aggregate produced and they support the implementation of Alternative 3.

B. The Ohio River Foundation commented on the adverse impacts to the rivers, environmental versus. economic factors, dredging techniques, the lack of adequate data and other impacts. All such comments are addressed in the FEIS and this final decision is based on best available data. As the Adaptive Management process evolves, better data will lead to adjustments throughout the permit cycle.

C. The United States Department of Agriculture, Natural Resource Conservation Service commented that the proposed Alternative would not impact prime farmland or additional farmland of statewide importance. The Corps believes though that a switch to more land based sources may lead to such future impacts.

D. The Freshwater Mollusk Conservation Society commented that continued dredging is contrary to their goal of conservation and recovery of mollusk species. They recommend the complete cessation of in-stream sand and gravel dredging. Their specific comments focused on

economics, channel morphology, geology, hydrology, water quality, mussel habitat and sampling requirements and impacts to other aquatic life. All of the items noted have been considered in the FEIS and our final decisions are based on the overall public interest and best available data.

E. The USEPA concurred with the selection of Alternative 3 as the preferred alternative. They noted concerns about the adaptive management process and requested to participate in its development. The conditions they recommended have been considered throughout the FEIS document and have been incorporated to the level that the Corps believes is practical from an overall public interest perspective.

F. The USFWS commented on the adequacy of the FEIS, endangered species, and the National Wildlife Refuges. The FEIS and final permit decisions are based on best available data as required by the NEPA process, and the adaptive management process allows for adjustments as the knowledge database improves. The endangered species protections indicated in the Biological Assessment and in the USFWS concurrence are being fully implemented in the new permits. Lastly, the refuge islands are being provided greater protections than any other structure, shoreline or facility in the entire study area. It would be entirely inappropriate to provide any greater buffers, as the erosional forces impacting the islands are much more significant from storm events, and other activities, than the potential impacts from commercial dredging.

G. The PFBC supports additional protective measures for the aquatic resources. They requested more restrictive language which has been incorporated where appropriate. As part of the adaptive management process some latitude is necessary as site specific measures dictate. They have also indicated support and commitment to the adaptive management process.

H. The Western Pennsylvania Conservancy commented on the importance of the Upper Ohio and Allegheny River systems, the lack of information in the FEIS, and they expressed disagreement with some of its conclusions. Generally they believe the continued permitting does not do enough to protect, conserve, and restore the aquatic resources. Their specific comments relate to channel morphology,

sediment transport, economics, water quality, hydrology and biological resources. The concerns raised by the Conservancy are considered in the FEIS. The final permit decisions have been based on the best available data, in consideration of the overall public interest factors. Their concerns and these actions will continue to be evaluated throughout the adaptive management process.

I. The Township of Neville requested that dredging be restricted between 9 P.M. and 7 A.M. because of proximity to residences at Miles 8, 9, and 10. This will be considered as an adaptive management condition when authorization in such specific areas is requested.

J. The Seneca Nation of Indians requested coordination on the FEIS indicating they had not been consulted. Review of the mailing list indicates that they were notified during the DEIS process. The Nation has been provided the information they requested and afforded time throughout the finalization of this Record of Decision. Primarily the study and impact areas have been clarified to them and no further comments have been received.

K. Phyllis Framwel commented on noise and aesthetic impacts to the people that live in and use the area, and the impacts to the aquatic resources. These factors have been considered and will continue to be evaluated in the adaptive management process.

L. Chatham College and the Rachel Carson Institute commented on safety considerations, aesthetics, economics, downstream impacts, and shoreline stability. All such factors have been considered.

M. Jody Risinger commented on the protection of children and recreational users of rivers. All such factors have been considered.

N. George M. Dimeling commented on impacts to recreational users, aesthetics, and shoreline stability. All such factors have been considered.

O. Robert Ball commented on bank stability and impacts to recreational boating. All such factors have been considered.

P. The Sylvan Canoe Club commented on disturbance of pollutants, impacts to recreational boaters and the adjacent public, bank slumping and noise. All such factors have been considered.

Q. Tetra Tech, the consultant that compiled the environmental document prior to the Corps' formulating of the DEIS and FEIS, commented on the final outcome of selecting Alternative 3 and the permit conditions imposed from the results of the Biological Assessment. They indicate the results of that option are too restrictive and therefore not practical to the applicants. The Corps does not support the assumptions of Tetra Tech in preparing the draft documents, as these assumptions would have short circuited the NEPA process. While the Corps agrees that some of the standards established are conservative, such levels are necessary to insure Endangered Species Act compliance. The adaptive management process does allow for adjustments to such standards as data is collected and site specific occurrences arise.

R. Comments were received from the University of Pittsburgh, School of Law, Environmental Law Clinic, on behalf of Clean Water Action. They object to the FEIS because they believe it does not place enough environmental value on the sand and gravel, it does not recognize the adverse impacts of dredging, the adaptive management process is not well enough defined, they allege bias in the report and believe that land based options are available. The Corps does not agree with these issues as all of these comments have received thorough consideration in the extensive EIS process. These commenters indicate additional alternatives should have been considered and that Section 404 of the Clean Water Act has not been complied with. The Corps disagrees with this position as the USEPA has indicated that with the inclusion of conditions, the selected alternative complies with the 404(b)(1) Guidelines. In addition, the water quality claims made by the Law Clinic are clearly not supported by the data.

S. Thomas C. Reed of Dinsmore and Shohl LLP, submitted comments on behalf of the industry. Their concerns are focused on the use of the Ohio River Protocol, the approval/denial criteria, and the economic burden on the industry. The Ohio River Protocol has been used in many cases and is the standard used immediately downstream

within Huntington District. It has been developed by a group of experts, and was incorporated into the Biological Assessment. The Corps/PADEP protocol that has been required for the last several years has never been accepted by the USFWS. The Corps recognizes that there are flaws and benefits to both sampling approaches and through the adaptive management process such sampling measures can be refined; however, to maintain concurrence with the "not likely to adversely affect determination", the Ohio River Protocol (ORP) must be required at this time. The Approval/Denial criteria are also comparable to standards utilized in other Districts. While the Corps agrees that these numbers are low, they are such because of the very limited sample area. The percentage of the area potentially impacted that will be surveyed by the transects under the ORP is only 1-2 percent. The significant mussel resource density is utilized in other districts and based on USFWS data is comparative to communities that are found to contain endangered species. Such population densities are proposed as triggers for searching harder for threatened and/or endangered species under the final proposed permits as part of the adaptive management process. The additional economic burden on the industry is also recognized and will continue to be evaluated along with the protocols and criteria throughout the adaptive management process.

X. CONCLUSION

Based on the analysis and evaluation contained in the FEIS, including consideration of relevant environmental, economic, and social factors, it is my determination that the public interest and aquatic resources are best served by adoption of Alternative 3 of the FEIS.

//SIGNED//

Date: 13 January 2007

Stephen L. Hill
Colonel, Corps of Engineers
District Engineer