

19-May-2006

Mr. Scott Hans, Regulatory Branch  
U.S. Army Corps of Engineers, Pittsburgh District  
2200 William S. Moorhead Federal Building  
1000 Liberty Avenue  
Pittsburgh, PA 15222-4186

RE: Freshwater Mollusk Conservation Society position on commercial sand and gravel dredging.

Dear Mr. Hans,

This letter accompanies the written comment of the Freshwater Mollusk Conservation Society (FMCS) on the *Environmental Impact Statement on Commercial Sand and Gravel Dredging Operations in the Allegheny and Ohio Rivers, Pennsylvania* as listed in US Army Corps of Engineers Public Notice No. 06-18. The FMCS supports Alternative 1, and vigorously opposes any alternatives that continue instream sand and gravel mining. The FMCS is committed to the preservation and restoration of aquatic mollusk species, as well as the ecological components necessary to sustain them, even in the heavily human-modified environment that exists in the project area. Without the remaining aquatic habitats in the lower Allegheny and upper Ohio Rivers, these goals will be jeopardized.

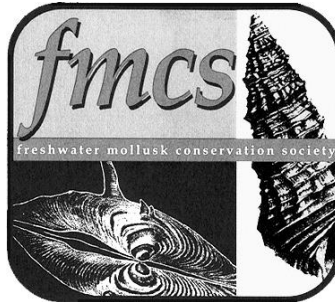
It is our position that this industry, due to the irreversible consequences on aquatic habitats and species, is not compatible with national goals of conservation and recovery of mollusk species that are threatened with extinction. We maintain that even the most stringent buffers and offset areas cannot balance the impacts that additional extraction of mineral resources from the beds of the lower Allegheny and upper Ohio Rivers will have. Because these rivers have been mined for sand and gravel for so long, many areas have been permanently altered.

We hope the US Army Corps of Engineers will give careful and thoughtful consideration to these comments, and would challenge the Corps to engage in active partnership with conservation organizations in Pennsylvania and the United States to help ameliorate the large amount of habitat destruction that has been wrought on these rivers.

Your Truly,

Richard Biggins, Chair,  
FMCS Environmental Quality  
and Affairs Committee

# Freshwater Mollusk Conservation Society



## Comment on Environmental Impact Statement on Commercial Sand and Gravel Dredging Operations in the Allegheny and Ohio Rivers, Pennsylvania.

US Army Corps of Engineers, Pittsburgh District

**May 19, 2006**

## **General Comments**

The Freshwater Mollusk Conservation Society (FMCS) takes the position that there should be complete cessation of instream sand and gravel dredging in the lower Allegheny and upper Ohio Rivers. In the EIS developed by the US Army Corps of Engineers Pittsburgh District (Corps), there are no other acceptable instream mining alternatives presented in this EIS that do not increase loss of potential habitat for aquatic communities, further complicate future restoration initiatives, impact native fisheries, or lessen additional hydrological stresses on the Allegheny and Ohio Rivers. We find the EIS to be insubstantial overall and not an adequate examination of the issues. We do not support the overall decision to support Alternative 3. We suggest that if the Corps is to follow Alternative 3, that it maintains consistent project standards as with other state agencies (PennDot) with mussels. For example, a significant number of the mussels that are in the direct project path of PennDot bridge replacement projects are physically moved to safe locations. This doesn't just apply to federally listed species, but all taxa.

Freshwater mussels are among the most imperiled animal groups in the United States today (Ricciardi and Rasmussen, 1999). Of the 27 species of mussels that are known to be present in the upper Ohio and lower Allegheny Rivers, 16 species are considered to be of some conservation concern in Pennsylvania (Pennsylvania Biological Survey, 2006). The largest cause of this decline is habitat destruction. Habitat destruction and loss of species in our big rivers, brought about by impoundment, is well documented. However, dredging for sand and gravel is destroying the habitat in the few remaining free-flowing areas of big rivers. Not only is this putting continued pressure on critically imperiled species, particularly mollusks, it is hampering recovery efforts for those species. As it stands now, there is such heavy destruction to aquatic habitats in the lower Allegheny River and upper Ohio River due to dredging that we feel that recolonization efforts of rare species known to occur and potential reintroduction of species into historically occupied river reaches are significantly threatened. By allowing destruction of habitat in big rivers, gains that have been made in water quality are being offset.

This EIS fails to make any mention of restoration that should be required of any type of permitted mining activity, mitigation options that can directly support habitat restoration, or recovery efforts that would be needed for aquatic species as a result of the industry. There is no mention or consideration given in this document to discuss habitat reserves for aquatic species that may recolonize in the future. With improvements in water quality, and despite the presence of dams, there remains habitat for freshwater fauna that should be given equal consideration.

The primary argument we see presented to support commercial dredging is that, despite the numerous costs to Pennsylvania's resources compared to other alternatives, this activity will provide the most profit for private companies. From examination of the Corps own analyses of alternatives presented in this EIS, the best balance of society needs and protection of remaining freshwater mussel habitat in our view is to move all sand and gravel operations to land based sources. In the economic analysis that was presented in the EIS, one source of economic activity that wasn't considered was the permanent benefit that is provided when many of the land-based sand and gravel operations are sold off. In several parts of Pennsylvania, old quarries provide new areas of waterfowl and wildlife habitat, new fishery opportunities, and new public lands that provide hunting opportunities. Abandoned land quarries benefit other secondary businesses, such as SCUBA diving operations, by providing new areas to dive in. We do not have an exact estimate for this, but it is undoubtedly considerable and is a permanent benefit economically to Pennsylvania.

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One of the major issues we see that the public isn't largely aware of are the large profits that aggregate companies are making through taxpayer subsidy of waterways and unaccounted costs on aquatic communities. Current practices in sand and gravel dredging contain numerous costs to the public, including reduced fishing opportunities and long-term to permanent destruction of habitats of federally endangered species, which are owned by the citizens of Pennsylvania. We do not see river-based sand and gravel materials as a matter of national defense, a long-term economic supplier with multiple benefits to citizens, or providing single-source type materials that have no other alternative supply. Given the damage this activity causes, there is insufficient reason to continue to treat aquatic habitats as gravel mines. In addition, the EIS fails to produce any quantitative analysis of how much area has already been dredged and a projection of how much these proposed dredge areas would represent of the total amount of habitat that would be affected.

The biological data that is presented in this report is virtually entirely paid for by the very industry that this EIS evaluates. We question the overall objectivity of mussel population data that is industry-sponsored. Only qualified, third party malacologists that are approved by Pennsylvania Fish and Boat Commission and US Fish and Wildlife Service (the legal jurisdictional agencies) should be involved in doing this work given the political and environmental ramifications at stake. Further, in cases where data was not available, this should not be an open invitation to say that dredging would have no effect. We also have issue with the lack of what specific methodologies were used to collect the information presented in this document aside from "SCUBA, brailing". This in itself makes verification of information unrepeatable and poor science.

We are surprised at the comment that was left attached to **Page 4-38** in the electronic version of the EIS: "...and should the industry Feb. 21 comments get any play where they question the USFWS's 'professional judgment'". This sort of undertone, even as ambiguous as this is, questions the true objectivity in which this EIS was developed. Additionally, we find the document to be poorly laid out and unnecessarily confusing. Upon reading the document, we found numerous contradictions throughout.

Despite the fact that water quality has improved in much of the project area in Pennsylvania (Anderson *et al*, 2000) and that the majority of the land use in the project area is forested, known and potential physical habitat for freshwater mussels is shrinking within the project area. Unless remaining habitats are preserved and actions occur to restore impacted areas and the connectivity of fragmented populations, the long-term viability of federally listed species is compromised.

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## **Specific Comments**

### **Section 2.2.1 – Current Permitting Process and Permit Conditions**

The EIS states: “*No dredging is allowed within 500' of any bridge, pier, or abutment...No dredging is allowed within 1000' upstream, downstream, or laterally of any public water supply intake.*”

Channel incision from the ‘nickpoint’ can result in deterioration of bed stability downstream. This carries the effects of sedimentation further downstream from where the original dredge cut in the streambed is made. Extensive sedimentation will occur at significant lengths downstream of the original cut, and will migrate further downstream with the progression of the incised channel. The enlargement of dredge pits aren’t really discussed in the document as a threat to habitats or structures outside of the immediate dredging areas.

Significant headcutting and channel incision have been shown in the literature to occur both upstream and downstream of the original dredging cuts in the river channel (Winkley and Harris, 1973; Hartfield, 1993; Meador and Layher, 1999) <sup>1</sup>. The effects of headcutting can even migrate into tributaries that have never been directly mined and been shown to continue until a more resistant geologic form stops it. The buffers that are in place now, due to the scale of alteration that dredging has caused, cannot reasonably be assumed to offer stability and permanence.

Headcutting is a very serious issue with in-stream sand and gravel mining that has the potential to produce fundamental geomorphic effects to streambed habitats. Incised channels can result in the loss of critical aquatic habitat and the widening and shallowing of the remaining streambed, which contributes to streambank erosion and results in warmer water temperatures and damaging changes in water chemistry. The Corps has not produced any adequate studies or even valid conceptual geomorphologic models that substantiate the claims that headcutting or bed movement aren’t occurring or will not occur in the future. We are skeptical of the validity of side-scan sonar information presented in this EIS as being adequate to characterize hydrological profiles.

**Page 2-3:** The EIS states “*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.*”

The model proposed to correct for worst scenario low dissolved oxygen has not been tested, and could even serve as an excuse to extract even more gravel from the rivers in an ostensible attempt to mitigate damage.

**Page 2-4:** The EIS does not adequately investigate the possibility of alternative sources of aggregate material. We believe it is very possible to evaluate the resources in land-based aggregate quarries, the EIS authors simply chose to do a very limited and misleading evaluation. The location of where the customer base is located has nothing to do with evaluating the effects of this activity on the riverine resources and its future. This again underscores the limitations of the EIS market analysis conducted with regard to land-based sources .

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<sup>1</sup> We would like to note that although some of the referred literature herein regards free-flowing systems, the energy of such a large volume of water such as the Allegheny and Ohio Rivers will still have an effect in impounded systems and an invisible one that the public cannot actually see.

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### **Section 3.1.2.3 – Channel Morphology**

**Page 3-7:** The EIS mentions that updated depth data was used from applicants' records, yet data for pools 7 and 8 of the Allegheny River shows only if the river was 6+ feet in depth or not. Where is this information? The information that is stated as being available appears to have been withheld from pools 7 and 8, which doesn't allow for a meaningful total examination within the project area.

### **Section 3.2.2 – Geology**

**Page 3-14:** *“Impoundment structures throughout the watershed (e.g., Figure 3-3, as well as the mainstem navigational dams) impede some sediment transport; however, during high water, tributaries bring in a continuous supply of fines, much of which travels downstream from pool to pool (USACE, 1980).”*

The EIS does not produce any information about a sediment transport budget that has been developed for the project area, nor is there any mention of using such a budget in Alternatives 2 and 3 as a means to calibrate how much sand and gravel could be removed.

**Page 3-28:** The EIS speculates that higher turbidity levels below River Mile 30.5 might be a result of erodible clay-based soils. While this might be the case, we offer speculation this it could a result of dredging. Cross *et al* (1982) found significant shifts from sand/gravel substrate (control sites) to silt in the impounded Kansas River as a result of dredging. At dredged sites, the project reported the proportion of sandy substrate from 46% to 8% (dredge site 1), 44% to 0% at dredge site 2, and 13% to 4% at dredge site 3. Silt and rubble replaced sand, resulting in streambeds that became courser “armored” bars. Dredged sites were also found to slow water velocity as compared to control sites in that study.

### **3.4.2.3 – Freshwater Mussels**

**Page 3-38:** The EIS states *“Previously collected mussel brailing data compiled for this EIS suggested that water depth might be important with both mussel taxa richness and abundance being highest at approximately 12 feet, and declining at depths greater than 30 ft (Tetra Tech, 1997).”*

The Corps then admits that the brailing data missed mussels and was largely ineffective *“Although brailing was thought to be a reasonable qualitative sampling method, recent comparative sampling by PADEP in 1999, has demonstrated that brailing is inefficient, particularly in rockier substrates common in the mid and upper Allegheny River. As a result, mussels were probably under-sampled using brailing and certain species (particularly small or thin-shelled species) may have been undetected. Results from more recent dive sampling, during the development of this EIS, suggest generally a greater number, and wider distribution, of certain species in the study area than previously thought” (Page 3-40).*

Brailing data simply cannot be used as any sort of indicative sampling technique where there is stable sand/cobble/boulder substrate, the dominant substrates in these rivers. In the Allegheny River, it is highly unlikely that brailing would ever detect small species such as the rayed bean, salamander mussel, and clubshell. As it stands, locating these species involves assiduous efforts by experienced divers whom understand which microhabitats to search in.

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Given that brailling data was the largest dataset used to assess mussels in the project region, it is our opinion that PADEP/USACOE does not have an adequate set of data with which to comment/assess the status of freshwater mussel populations in the lower Allegheny/upper Ohio River. Systematic and extensive mussel population data collected using PAFBC and USFWS approved sampling methods, are required is needed in order to develop a sufficient EIS that can effectively evaluate the effects of instream sand and gravel mining.

**Page 3-39:** *“To date, the most reliable means to detect appropriate mussel habitat is to sample the mussels through an effective sampling protocol. Many researchers report that, given no recent disturbances, mussels will indicate, through their presence or absence, those areas that are habitable”.*

To some extent this is true. However, locating very rare mussel species can be an exceedingly difficult task, even for experienced biologists. Furthermore, because habitats of freshwater mussels are difficult to quantify, it is often difficult to assess that a given substrate cannot support mussel colonization in the future. Mussels tend to be patchily distributed in river systems and even within reaches. A sampling scheme is required that is replicable and provides at least a semi-quantitative estimate of abundance.

USFWS (2005, unpublished data) illustrates the patchy nature of mussels and the need for better sampling methods as well as more spatially replicated samples. In 11 transects in the Ohio River, a total of 48 mussels were located, with asterisks indicating the presence of specimens < 40 mm in length, indicating recruitment

	Total #
<i>Quadrula quadrula</i>	19
<i>Potamilus alatus</i> *	23
<i>Leptodea fragilis</i> *	4
<i>Obliquaria reflexa</i> *	2
Total	48

Then, on transect 12 in the same 0.1 mile, 34 mussels were found, which is almost as many as the previous 11 transects combined:

	Total #
<i>Quadrula quadrula</i> *	11
<i>Potamilus alatus</i> *	17
<i>Truncilla donaciformis</i> *	4
<i>Utterbackia imbecillus</i> *	2
Total	34

Based on the current USFWS Ohio River mussel sampling protocol, this area would be considered significant and would be ineligible to be dredged (as there was > 0.5 mussels/sq. m located).

**Page 3-40:** From the EIS: *“It is not known whether the apparent increase in mussel species richness is due to improved water quality, better sampling methods, or both.”*

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According to Ortmann (1909), the Ohio River for about 30 miles and many areas of the lower Allegheny River below Oil City were polluted by industry, causing either depression or total removal of the mussel fauna. Given the species richness of mussels in sections of the Allegheny and Ohio Rivers today, water quality improvements have had an obvious and dramatic influence on the mussel fauna of the project area.

However, more intensive sampling is known to produce better quality data (Metcalf-Smith *et al.*, 2000; Strayer and Smith, 2003) and this is undoubtedly also at play. The USACOE and PA DEP should be requiring a scientifically credible and repeatable protocol that is cost-effective and agreed upon by PAFBC and USFWS, the jurisdictional agencies in Pennsylvania.

Additionally, if a statistical definition is to be used in determining if a mussel population is significant or not based on recruitment, the sampling protocol used by the Corps/PA DEP in recent years is entirely inadequate to determine this. Some form of fixed area sampling (quadrats are typical) is needed to estimate recruitment (Payne *et al.*, 1997), but a model specifically calibrated for the lower Allegheny and upper Ohio Rivers must be used (see Smith *et al.*, 2001 for a good example of this from the middle Allegheny River).

We believe that a poorly designed sampling protocol, an inadequate definition of a 'Significant Mussel Resource', coupled with inexperienced surveyors using inadequate methods, has resulted in the loss of several areas of habitat in the project area that may have once held stable or recovering mussel populations to dredging. For example, a study conducted by USFWS (2004) in pool 8, RM 58.8 to 58.2, located 13 species of mussels totaling 775 individuals, including the salamander mussel, and the federally endangered clubshell and northern riffleshell, species typical of free-flowing areas of the Allegheny River. An industry-funded study just downstream at RM 54.3-54.7 reported a total of just 2 live mussels representing 2 species in areas that contained seemingly suitable substrate (Dinkins Biological Consulting, 2001).

#### **Section 3.4.2.4 - Fishes**

**Pages 3-43 to 3-44:** The EIS states: *In order to characterize the baseline ichthyofaunal resources of the Allegheny and Ohio River study area, contemporary sources of fish assemblage data were tabulated (Section 3.4.2.4). The contemporary survey information indicated the presence of 112 fish species representing 21 families. The majority of the species were in the carp and minnow, sucker, bullhead catfish, sunfish, and perch families. The cumulative catch in the Allegheny River study reach was dominated by emerald shiners, bluntnose minnows, and common carp, collectively comprising 49% of the fish collected. In the Ohio River, gizzard shad, emerald shiners, and channel catfish predominated, accounting for 76% of the total catch.*

The methods used in the fish surveys were not reported, but it is likely that electrofishing and gill netting were the dominant techniques used. These methods are ineffective in capturing information on lithophil guilds such as darters and also miss small fishes such as benthic cyprinids. Information used to assess the impacts of dredging on fishes was not presented; we are concerned about the lack of credible information used to assess fishery impacts, as these should be assessed concurrently with freshwater mussels. We are also curious as to whether all of the data that were gathered were presented, or if the totals presented only represent species that were encountered around dredged areas. Such a representation would suggest a lower quality fishery.

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### **Section 4.1.1 – Alternative 1 Impacts to Hydrology**

**Page 4-3:** In pointing out that closure of the upper locks in pools 8 and 9 would affect pleasure boaters, USACOE fails to examine the other areas of the region that could provide such opportunities to pleasure craft and fishermen, as well as new opportunities for fisheries that could be provided through additional free-flowing reaches. The statement that fishermen would be impacted due to closure of a lock and dam is short-sighted; the physical removal of the riverine habitat that supports the food chain that the game fishes rely upon is a much greater threat to the fishermen.

Further, on **Page 4-19**, the comments point to the obvious – that for the upper 3 locks and dams, the public is subsidizing a single commercial industry, as the gravel industry is providing up to 98% of the commercial traffic, with taxpayers funding upkeep of the navigation system. Contrary to the EIS, restoration and removal of unneeded lock and dam structures would provide numerous new recreational opportunities for fishermen and boaters. It would also eliminate the substantial public subsidy that the aggregate industry currently receives.

### **Section 4.1.3 – Alternative 1 Impacts to Water Quality**

The EIS states *“Under Alternative 1 no further actions would occur in the river systems related to commercial dredging activities; therefore, water quality conditions would be largely the same as they are today in areas of the river where no active dredging is occurring. Because the hydrodynamics of the rivers would remain unchanged over time, areas that may have been anoxic during very warm, dry conditions in the past are likely to continue to be anoxic in the absence of dredging into the future, with little potential for recovery”*.

The degree to which the rivers are impaired due to dredging necessitates that restoration occur if the physical habitat is not to potentially become worse. The Corps presents no useful information that will show that hydrological damage will not occur in the future.

### **Section 4.1.9.3 – Alternative 1 Impacts to Socioeconomic Conditions**

**Page 4-14:** By questioning the trucking capacity to bring aggregate in from outside sources, the EIS is obviously being slanted to suit the claims of the industry. Even if there were a lack of capacity, vehicle producers and trucking operations would certainly fill the niche, and any interruption to the supply economy would be short-term in nature. On **Page 4-18**, the EIS then contradicts these statements by admitting that there would likely be an increase in trucking activity with a truck-based transportation system. Doesn't this mean 'new jobs would be created'? Also the associated economic industries of trucking (tire makers, vehicle makers, parts suppliers) were not accounted for in new job creation, as well as new jobs given to contractors for increased road repairs due to increased trucking.

**Page 4-19:** Maintaining a lock and dam system for 2 specific pleasure boats is an exorbitant and wasteful use of taxpayer's money. The EIS also doesn't mention that removal of a lock and dam would still provide pleasure boat access and would even open the potential for canoeing outfitters to become established with free-flowing conditions.

**Page 4-20:** The document concedes that most of the points mentioned in the EIS as economic losses would be short-term in nature, plus elimination of the upper 3 lock and dams would save valuable taxpayer dollars for other uses. If the upper lock and dam system is being maintained largely for economic benefits to the sand and gravel industry, this is a wasteful use of taxpayer

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dollars and is another example of 'corporate welfare' in America. If the cost-benefit ratio doesn't largely benefit the public, as the current balance clearly does not, there is no good reason to maintain the lock and dam system. As it stands now, the dams in place cannot control flooding (that is done by Kinzua Dam in Warren County), so that can't be claimed as a benefit to the public by the Corps.

#### **Section 4.2.2 – Alternative 2 Impacts to Geology and Hydrology**

**Page 4-24:** 'Riffle' type areas do indeed occur within the project area, contrary to the claims in the EIS. The EIS then mentions variability in flows that dredger funded divers notice in terms of current velocity on **Page 4-33**. While it is true that the dams have altered the rivers in the project area, island areas, influx of tributaries, and tailwaters below dams actually have strong to heavy current in many areas (observed by several USFWS and PA Natural Heritage Program divers) that can often be reasonably expected to extend hydrologically (in the case of island areas) below offset areas and into areas where dredging has occurred.

According to the general statements of the EIS, the rivers appear to be somewhat 'sediment starved' due to the dams influence (which is a common condition in impounded rivers; see Kondolf, 1997) further underscores how destructive this practice truly is. Because the dams have impeded natural sediment movement, the damage that the dredging is causing is truly irreparable from natural stream processes given the current managed nature of the river. The fact that the EIS shows little to no substrate recovery from dredging, and that sediment flows aren't sufficient, coupled with no cobble stabilization, are major problems that aren't addressed in this EIS. We find it surprising that the lack of sediment movement in the project area is acknowledged in the EIS, yet the alternative supported is to continue dredging.

Further, no studies have been done to look at the background sediment movement amounts that would be needed to sufficiently recover these practices before issuing previous dredging permits. Extracting only as much material as a river can put back naturally has been discussed by Langer (2003) and Lopez (2004).

**Page 4-28:** The claim that there would be no impact to groundwater supplies by dredging is another speculative, unsupported statement. The EIS makes no mention of how groundwater levels would be impacted by continuing dredging. In a review of the impacts of instream sand and gravel mining, Langer (2003) states that instream mining below the water table generally is more harmful than limiting extraction to a certain reference above the water table, and that mining below the thalweg is also damages the hydrology.

**Page 4-29, Table 4-3:** One cannot make a valid comparison of a dredged area to a 'relatively undredged area', as this violates independence of treatments and can lead to a situation where you say there is no effect when in fact there is an effect (Type I error). Also, the fact that divers placed the Ponar samples, rather than using a randomized design, further violates independence of samples.

During dive surveys conducted in pool 6 in 2005, PA Natural Heritage Program divers experienced strong flows in many areas of the pool, except for areas just above the next lower dams (impounded pool area) and natural deep pool areas (R. Evans, personal observation). In a few cases, flow was extremely intense, pushing divers around the river bottom.

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#### **4.2.3 – Alternative 2 Impacts on water quality**

**Page 4-32: Table 4-2:** The ‘Suspended Solids’ figure is completely irrelevant, as a Box and Whisker plot should represent lower and upper quartiles with the dividing line representing the median (Sokal and Rohlf, 1995), not mean, standard error, and standard deviation. In the second figure (‘Thaddus Carr Suspended Solids’) there is not enough data in this table to be useful at all – the standard deviations are far too large, suggesting some extreme variability due to outliers or too small of a sample size, which can lead to no significant differences being seen between datasets. The number of samples in the dataset was also not reported, which isn’t the way that this sort of data should be presented. These things suggest subjective data manipulation.

**Page 4-33:** The suggestion that barge traffic could serve to re-aerate the water column is highly speculative and a poor mechanism to establish adequate dissolved oxygen levels. Barge traffic actually stirs up a tremendous amount of sediment in the river, and mussel beds in impounded rivers have been observed to be severely depressed in channel areas exposed to barge traffic (J. Garner, ADNR, personal communication)

#### **4.2.4 – Alternative 2 Impacts on Aquatic Life**

**Page 4-39:** Where is Exhibit B in the document – diver data taken from pool 6? In comparing pool 5 to pool 6 mussel fauna, what sampling protocol was used?

We strongly disagree with the species richness comparisons made between heavily dredged areas of pool 5 and margin areas of pool 6. Pool 6 margins, according to our observations, are outside of the channel current and fairly silty, so the EIS is attempting to compare a dredged area to an area that doesn’t represent undredged channel habitat. This is a misleading type of comparison. If the EIS had properly compared the dredged pool 5 data to undredged channel habitat data of pool 6, the data would show differences in species.

**Page 4-40:** There has been no study to examine how much habitat, regardless of its permitting status, offsets, etc. is needed to maintain and promote fish host diversity, health, and habitat for rare mussel species. Also, the EIS fails to make any mention of the effects of habitat fragmentation as dredging relates to reducing or eliminating gene exchange for fishes, especially sensitive fish hosts such as the bluebreast darter. FMCS would recommend that no future considerations be given to permits until USFWS is able to examine requirements of these species, as part of fulfilling provisions of the Endangered Species Act. This step (consultation) must be done in accordance with ESA under Section 7. Until this step is taken, the industry is in continual threat of violating Section 9 of the ESA (take provision).

The EIS claims that dredging won’t impact the forage base to the river are completely and entirely unfounded. Again, the claim is made that macroinvertebrates such as stoneflies, mayflies, and caddisflies (EPTs) are absent because the river is impounded is preposterous. The impounded Allegheny River continues to support a rich fish fauna in non-dredged areas, and these fish must have a largely intact food chain to support state rare species (gravel chubs, bluebreast darters, etc).

**Page 4-41:** It is outright wrong and presumptive to suggest that only the upper part of pool 9 has riverine conditions. The fact that northern riffleshells and clubshells (federally-protected species) are in pool 8 (each having sensitive fish hosts) and rayed beans (Tippecanoe darter fish host) occur as low as RM 45.2 in pool 6 (almost 30 miles below the end of free flowing conditions in the Allegheny) clearly illustrate how totally off-base this claim is. Rheophilic (riffle loving)

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fishes and mussels clearly exist in the navigational pools as well as conditions similar enough to the free-flowing Allegheny River that these species occurrences cannot be considered 'waifs' and obviously have important habitat in the proposed areas where dredging could occur.

**Page 4-42:** We have strong issues with way the Canonical Correspondence Analysis was presented to assign fish communities. It was cited from another report (Normandeau Associates, 1997), yet none of the relevant information that is typically associated with reporting on results of ordination (distance measures used, final solution axis stress, axes chosen) were mentioned. Further, if sample data was collected and analyzed from near an area that was dredged, it will certainly show a shift from intolerant fish guilds to hardier generalists.

Further, the manner in which a single fish species was chosen to represent guild groups appears to be heavily biased and not in keeping with currently applied statistical methods in community ecology (such as developing true communities with an initial test such as Nonmetric Multidimensional Scaling and then using another test such as Indicator Species Analysis or Multi-response Permutation Procedure to test the strength of the grouping). Also, to correctly assign environmental variables (such as habitat) to groups, a test of spatial autocorrelation should be run (i.e. Mantel test). If these sorts of major issues were addressed, they should have been mentioned in the EIS, at least in an Appendix summary.

#### **Section 4.2.6 – Alternative 2 Impacts to State and Federally-Listed Threatened and Endangered Species**

**Page 4-48:** The EIS again claims that the shallow water areas are the only ones that support rare species; in a study that compared similar depths of dredged and undredged sites in a deep impounded river in Tennessee, Hubbs *et al.* (2003) found lower diversity of mussels at dredged versus undredged sites. Again, this is cited from a study where depth conditions were similar across site treatments and in an impounded river environment.

#### **Section 4.3.4: Alternative 3- Impacts to Aquatic Life**

**Page 4-60:** While we are pleased that an improved protocol is being suggested, the methodology will only be as effective as the personnel executing it. We would recommend that only third-party malacologists be involved in conducting mussel surveys that aren't directly employed by the industry.

**Page 4-61:** *“ Data collected for this EIS also indicated that undredged areas > 15-20 ft deep (e.g., areas with submerged pipelines that have been restricted to dredging) do not harbor significant mussel populations”.*

Contrary to the EIS, in pool 6 PA Natural Heritage Program researchers (2005, unpublished data) located some of the highest species richness values (ranging from 9-11 species) in transects with depths of 15-16 feet. Simply limiting dredging to areas greater than 9 feet doesn't in itself offer any additional protection for sensitive aquatic species. A majority of the data on freshwater mussel that has been collected by reputable biologists is generally in depths greater than 8 feet.

**Page 4-62:** Simply changing the fees being charged by the industry to conduct this activity doesn't mitigate habitat loss or replace the species that once lived there. We are curious as to the sort of 'enhancement' projects to which the EIS alludes to. To our knowledge, there is no evidence that you can really restore a dredged habitat to what it once was.

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### **Section 4.3.6 – Impacts to State and Federally-Listed Threatened and Endangered Species**

**Pages 4-64 to 4-65:** Again, the overall position of FMCS is that even an adaptive management approach places federally threatened mussel species in jeopardy. We maintain that this activity cannot be permitted to continue given the large amount of habitat that has been forever destroyed in the project area.

We find it interesting that the EIS considers the economic impacts from both Alternatives 2 and 3 to be the same and the same profit to be made on either alternative over the next 10 years. This is despite the fact that the EIS suggests that there would be less dredging and more offsets with the adaptive management approach of Alternative 3. We cannot understand the logic in this section.

#### **Comments on Appendices**

**G-8:** This turbidity analysis fails to mention the temporal scale in which it was collected, and we would question if other data sources such as ORSANCO were consulted for turbidity information. Also, methodology of where (River Mile) and how the samples were collected. Monitoring at various depths and in various proximities to dredged areas would make this sort of table more informative and instructive.

**Q-1:** Some of the control data were improperly handled, which suggests that other data shown here may lack proper quality control and quality assurance measures. This significantly weakens the applicability of this data. In addition, how were the data collected and were the samples truly randomized?

**Q-2:** Recent data collected by the Pennsylvania Natural Heritage Program (PNHP) in pool 4, at RM 26.6, showed an average of 2.3 individuals per transect, including collection of 2 individuals of the longsolid (*Fusconaia subrotunda*), a species listed as endangered by the Pennsylvania Biological Survey and Critically Imperiled in the Commonwealth by PA Natural Heritage Program. These data were collected after the reach had been cleared for dredging, so there were dredging impacts of the site (dredge holes and heavy silt). The location of the longsolid, which was not reported in previous surveys of the area using the PA DEP protocol and with more inexperienced mussel surveyors, suggests that the reach might have actually held a more substantial fauna prior to dredging. Furthermore in segment 27.3 in the same river reach, an average of 3.5 mussels per transect were collected.

**Q-7:** Using qualitative transect data from dredged versus undredged areas in pools 5 and 6 in order to compare size classes reflects a poorly designed sampling scheme; qualitative sampling tends to favor larger, easier to find mussels and not a truly reliable estimate. A quantitative sampling method is generally required to accurately determine recruitment patterns and characterize population demography in freshwater mussels (Miller and Payne, 1988). In a very detailed study of the mussels of the middle Allegheny River, small buried species were missed during timed qualitative searches and the largest percentage of species found were large conspicuous mussels (Smith *et al.*, 2001).

#### **Appendix S – Biological Assessment (BA) document**

As a general point, we have concern that the setbacks listed in the BA might not be sufficient protection of shorelines and island areas given the looming threat from geomorphologic shifts that can reasonably be expected to occur and in fact are occurring or expected to occur (see Attachments 1 and 2).

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We find it interesting that every mussel species listed in the BA still known to occur in Pennsylvania (clubshell, northern riffleshell, rayed bean, sheepnose) or could occur in the project area appears to have been “scrubbed” out of the historical distribution for Pennsylvania. We address this further in the following comment section.

*From page 12: Restricting initial dredging to certain minimum depths - Restricting initial dredging in shallow areas (e.g., less than 9 feet deep) at the point of excavation, may 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 would also preserve undredged or sparsely dredged areas, regardless of where they occur in the project area.*

Comment: As stated previously, restricting activity to greater than 9 foot depths doesn't protect many of the mussel populations, which are typically found at depths greater than 10 feet in the project area according to datasets collected by experienced biologists.

*From Page 12: Reserve areas for aquatic life habitat and aesthetic protection shall include the Emsworth Pool in the Ohio River and Emsworth Pool, 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.*

Comment: Although we are encouraged by the creation of habitat reserves, it is evident that no sort of analysis was done to determine how much habitat would be needed to maintain or restore population of mussels and sensitive fishes. This is largely due to the fact that there is insufficient mussel and fish survey data that provides statistical estimates of population viability.

*From Page 12: In addition, no dredging shall occur...within buffer areas (1500 feet upstream and 500 feet downstream) around Mile 58.85 in Pool 8 of the Allegheny River due to the known presence of Federally-listed mussel species at that location.*

Comment: First of all, the buffer suggested here is based on research that was largely done conducted in Vicksburg, Mississippi, which may not be applicable to the much different systems in Pennsylvania. Additionally, we have doubts that the buffers will be sufficient over time given the threats from headcutting to degrade or possibly eliminate many of them.

*From Page 13: Under the proposed alternative, the life cycle of the industry may be expected 10 to 15 years depending on how adaptive management is applied.*

Comment: As we have stated previously, the time has come for Pennsylvania to become consistent with other US states in the mid Atlantic and end instream sand and gravel mining. The industry has had over 100 years of profiting from the river's mineral resources, and we would challenge the Corps and PA DEP to become forward thinking at this point, given that the aggregate industry will eventually be forced to move to land-based sources anyway.

Comments on Page 15: The BA failed to account for a clubshell population (*Pleurobema clava*) that is still present in the Shenango River in Mercer County, PA. This information is housed within the PNDI database that was available for information to construct this EIS. Also, Table 1 did not list *Pleurobema clava* from RM 58.28 in the Allegheny River, Armstrong Co., where it was located in 2004 (USFWS, 2004).

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Comments on Page 18: Why was Pennsylvania not included in the historical range for the northern riffleshell (*Epioblasma torulosa rangiana*)? Was Ortmann (1919) not consulted during the BA preparation?

From Page 20: *Within the project area on the upper reaches of the Allegheny River, the northern riffleshell is found with a broken distribution and depressed reproduction vigor (USFWS 1994). With improving water quality, the numbers and distribution are expected to increase.*

Comment: The BA assumes that water quality is the primary driver for northern riffleshell occurrence. Where is any mention of the habitat that the species requires? The water quality for the species could be as pristine as pre-European colonization, but if the habitat is being destroyed by dredging, the species cannot persist and water quality becomes almost a moot issue.

Comment on Page 25: Why was Pennsylvania not listed as a state in the historical range for the rayed bean (*Villosa fabalis*)? A cursory examination of Ortmann (1919) would have shown this to be the case. *Villosa fabalis* historically occurred in the Beaver River, Mahoning River, the Shenango River, Pymatuning Creek, Allegheny River, Crooked Creek, French Creek, and Conewango Creek in Pennsylvania. It still exists in the lower Allegheny River in Pool 6, in addition to Pools 8 and 9 mentioned in the BA. If dredging had not removed most of the habitat, it likely occurred in recent times in Pool 5 and 7 of the Allegheny River as well.

Comment on Page 26: The sheepnose (*Plethobasus cyphus*), a federal candidate species, historically occurred in the Allegheny River in what are now Pools 5 and 8, as well as the Monongahela River, Beaver River, and the Ohio River in Pennsylvania.

Comment on Page 28: The PennDot (2004) reference listed in the BA is not in the Literature Cited section.

From Page 29: *Because the Allegheny and upper Ohio rivers are headwater, hard-bottomed streams, silt and other fines are usually swept from the sand and gravel substrate at least yearly by high flows. The suspension of sediments in these headwater areas is evidenced by frequent limited-depth Secchi disk measurements of surface light penetration by USACE.*

Comment: Although we agree with the literature cited regarding the effects of siltation on freshwater mussels, we question the generalizations made here. Dredging results in the proliferation of a great amount of silt, which is stored in dredge holes and has been observed to spread into adjacent and downstream areas. We would like to see some sort of credible study (agreed to by the Pennsylvania jurisdictional agencies) that shows that silt is cleaned out entirely in these areas and isn't causing sublethal effects on mussels particularly vulnerable to dredging silts, for example federally-listed mussels occurring in a buffer zone adjacent to dredging operation. These effects can become even more compounded when female mussels are gravid and have less energy reserves to deal with clearing higher sediment rates.

From Page 29: *While both the clubshell and northern riffleshell have been collected in a very limited area of Pool 8, there is no evidence collected to date suggesting that either species is as abundant in navigation pools as they are in non-navigable areas of western Pennsylvania (e.g., French Creek, the non-navigable part of Pool 9, and upstream).*

Comment: We see this sort of language being a very clear and direct violation of Section 7 (a)(2) of the US Endangered Species Act (Act), which states that actions should be avoided by a federal agency that could jeopardize the existence of a listed species; the Act does not specify just 'the

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best populations'; it is legally inclusive for *all* remaining populations. There has not been a single study produced that would support the claims of the BA. If the Corps believes that allowing permitting would affect these 'waif' populations, they are still required again by Section 7 of the ESA to enter formal consultation with the US Fish and Wildlife Service.

The BA and EIS should not be setting this sort of tone given that the Corps has a binding legal responsibility to be looking out for federally protected species, not suggesting that they be summarily written off.

*From Page 29: Complete removal of the sand and gravel substrate will limit re-colonization of the area after commercial dredging is completed (Cummings et al. 1992). However, in the project area, the Applicants have been required to leave at least 5 feet of sand and gravel armoring over bedrock so that complete removal will not occur.*

Comment: The BA contends that there is as at least theoretical habitat being left for mussels. These areas that are left behind are almost always covered with deep silt deposits and existing in such a configuration that bed movement and slumping would cause future disruption of colonization potential. The substrate that is mentioned here isn't readily accessible, given that the silt covering does not provide the same rich sand and gravel habitat for mussels or macroinvertebrates. To support this, we cite **Table Q-1** in this EIS, which shows a shift to more tolerant macroinvertebrate taxa (% Oligochaeta) as a result of dredging. These aren't macroinvertebrate communities of 'vital importance' as claimed in the BA, but instead are reflecting habitat impairment.

Comment on Page 33: We maintain our position in supporting Alternative 1, which is the complete cessation of instream sand and gravel dredging and shift the industry to land-based operations. We contend that the river system has sustained far too much damage to be able to sustain any additional extraction activity.

*From Page 33: The five-foot depth of aggregate was determined by USACE to provide stable, persistent armoring over the underlying bedrock, which would be unsuitable for colonization by macrobenthos. This provision may also conserve potential mussel habitat.*

Comment: Where is this research cited? There has been no evidence presented in this EIS to support this claim. And again, as stated above, there is no evidence that mussels will ever recolonize these dredged areas to any substantial degree.

Comment on Table 4, Page 34: We find it *very* troubling that the industry proposed to shift the majority of extraction activity into Pool 8, where known occurrences of federally-endangered mussels are located. The Corps is walking a very thin line in terms of the Endangered Species Act, except now not only is the preferred alternative (Alternative 3) jeopardizing violation of Section 7, because this pool is known to hold federally-endangered mussels, there is now risk of allowing violation of Section 9 (take provision) by the industry. Even if a northern riffleshell or clubshell weren't to be directly removed by a dredge scoop, widespread alteration of habitat is a significant threat that could indirectly degrade or depopulate habitat. This alternative is suggesting that even more geomorphologic stress be introduced into an important pool for federally endangered species.

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*From Page 35: The sediment released during dredging will occur during the specific event and will not pose a long-term impact.*

Comment: We strongly disagree with this claim, as FMCS members have reported heavy silting of areas adjacent to dredged areas and we have cited numerous sources in these comments that support our position.

*From Page 43: PennDOT is demolishing the existing East Brady Bridge and constructing a new bridge to carry State Route 68 over the Allegheny River. Construction will begin in 2005. PennDOT submitted a biological assessment to the USFWS in May 2002. PennDOT is incorporating minimization and conservation measures into their proposed action to protect the endangered mussel populations and habitat.*

*The U.S. Forest Service's Forest Plan for the Allegheny National Forest would impact the Allegheny River north of the dredging area. The Forest Plan standards and guidelines ensure that incidental take of threatened and endangered species will be minimized. Recreational boaters will continue to be provided zebra mussel screening and decontamination procedures designed to protect populations of native mussels. The Forest Plan is subject to periodic modification by agreement with the USFWS.*

Comment: These sorts of activities are nowhere comparable to the effects dredging will have in the project area. In the case of a bridge replacement on the middle Allegheny River, there are large mussel relocation events by USFWS that physically move animals that could be affected out of the direct project impact. This sort of action is not required with dredging permitting.

*From Pages 46 and 47: Under the Adaptive Management Alternative with the proposed permit conditions and mussel survey protocol, the proposed continuation of dredging is not likely to adversely affect the nine Federally-designated and Candidate mussel species.*

Comment: We contend that the 'Adaptive Management' approach being proposed in this BA, as well as Alternatives 2 and 3 in the EIS, will threaten the persistence and viability of the said mussels in the future and places the Corps in jeopardy of violating Section 7 and Section 9 of the US Endangered Species Act.

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## **Attachments**

**Attachment 1. Letter of dredging violations sent to PA DEP, August 2005**

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United States Department of the Interior

**FISH AND WILDLIFE SERVICE**

Ohio River Islands National Wildlife Refuge

P. O. Box 1811

Parkersburg, WV 26102-1811

304-422-0752 (Phone)

304-422-0754 (Fax)



August 1, 2005

Mr. Chris Kriley, Chief  
Soils and Waterways Section  
Pennsylvania DEP  
400 Waterfront Drive  
Pittsburgh, PA 15222

Dear Mr. Kriley:

I am writing to inform you of existing and potential State permit violations we observed on July 18<sup>th</sup> and 19<sup>th</sup>, 2005, in the upper Ohio River in Beaver County, PA. Our office manages islands within the Ohio River Islands National Wildlife Refuge, which includes two islands in PA, Phillis and Georgetown Islands. We had discussed this matter with Nancy Rackham of your staff and she advised she would notify the local DEP enforcement inspector. It is our intent to seek better current and future protections of these public lands through the permitting agencies, including the DEP and U. S. Army Corps of Engineers, as well as pursue possible remedies for past damages.

On the dates referenced above, Tri State River Materials was operating a sand and gravel dredge near Phillis Island, Ohio River mile 35 to 36. The permittee had set up buoys which we believe mark the nearshore edge of the intended dredge zone. Those buoys were within 150 feet of the shoreline edge. When we then inspected the shorelines at Georgetown Island, river mile 38, we discovered a dredged trench over 40 feet in depth within 90 feet of the shoreline. We have photographs of the same company dredging at Georgetown Island in 2002, and had reported their position back then. We understand that the current permit condition is "no dredging within 150 feet of the 6 foot depth contour." Both of these operations appear to be in violation of that condition.

These two refuge islands represent the only public lands within the PA portion of the Ohio River. I am concerned about a combination of impacts of this dredging activity on these public lands, including increased erosion causing loss of the island land base, loss of documented archaeological sites, loss of mussel habitat, loss of public access to the islands, safety of our refuge visitors, visual and noise impacts causing loss of enjoyment by the public, and disturbance of wildlife. I am concerned that many of these effects may not have been adequately addressed when the permit applications were evaluated.

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Expert hydrologists from the Huntington Corps of Engineers and our Service have expressed their opinions that a 150 foot buffer next to these islands is not sufficient to protect them from increased erosion forces due to dredging. Sand and gravel dredging permit conditions in the Huntington District (within the states of WV and KY) require a 2000 foot buffer around all islands which prohibits dredging adjacent to the side of any island. In addition, the presence and operation of the dredge so close to these public lands is not compatible with the wildlife and public use values of the refuge. The refuge encourages fishing, hunting, wildlife observation, photography, and wildlife interpretation activities on these islands. The noise and visual impacts of the dredging operation seriously detract from public enjoyment of these lands. In addition, the close proximity of the dredge boat and associated adjacent barges actually restricts access to the refuge islands since there is a safety concern with boating between the dredge (and its associated moored barges alongside) and the island (< 150 feet clearance from the clamshell). There is an additional safety concern with dredging deep trenches with steep drop offs so close to the island shorelines, as our public users who fish or swim on the shallow benches nearshore may wade or fall off abruptly into very deep water.

Based on field work conducted in 1997, we have documentation of two prehistoric Native American sites on the channel side of Phillis Island. One site is potentially eligible for the National Register, which would be afforded protection under Section 106 of the National Historic Preservation Act. In addition, our refuge biological staff documented 11 species of native mussels in the backchannel of the island, and habitat appears suitable for mussels in the area about to be dredged. In fact, we collected three species of fresh dead native mussel shells along the shorelines during the recent site visit. We are concerned that the imminent dredging will permanently eliminate this habitat, and the loss of aquatic habitat will ultimately affect the overall habitat around the refuge for wildlife dependent upon it (e.g., mussels, fish, snails, aquatic mammals, and birds).

In the interest of preventing irreparable harm to these lands and resources, I request that the current dredging permit be re-evaluated on an emergency basis and no dredging be permitted within at least 1000 feet of the refuge islands. Over the longer term, I hope we can work together to get adequate consideration of the above issues in any upcoming permit renewal applications. I welcome the opportunity to discuss this matter with you further.

Sincerely,

Dean Rhine, Manager  
Ohio River Islands NWR

cc: USFWS, State College Field Office  
USFWS, Region 5, John Stasko  
U. S. Army Corps of Engineers, Pittsburgh District  
PA Fish and Boat Commission

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**Attachment 2. Letter sent to USACOE from USFWS State College regarding channel erosion from dredging.**

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Pennsylvania Field Office  
Suite 322, 315 South Allen Street  
State College, Pennsylvania 16801

August 12, 2005

Colonel Stephen L. Hill, District Engineer  
U.S. Army Corps of Engineers,  
Pittsburgh District  
William S. Moorhead Federal Building  
1000 Liberty Avenue  
Pittsburgh, PA 15222-4186

Dear Colonel Hill:

On July 19, 2005, at our request, Scott Hans of your staff met with Larry Brannaka and Cindy Tibbott of my staff, and Dean Rhine and Patty Morrison from the Ohio River Islands National Wildlife Refuge, to view a serious erosion situation along Phillis and Georgetown Islands in the Ohio River (New Cumberland Pool) in Beaver County, Pennsylvania. The staff at the Refuge is alarmed at the rapid rate of erosion, which is destroying wildlife habitat and threatening important archaeological sites within units of the National Wildlife Refuge System. Based on our past history with this matter, and our observations on July 19, we suspect that river sand and gravel dredging operations, as authorized by the Corps of Engineers, may be contributing to the loss of public land and resources.

During our tour of the islands, we observed active erosion along the channelward banks of both islands. The island banks are steep and undercut along much of their shorelines, and large trees have fallen into the river (see Figures 1, 2, and 3). The problem is more severe on Georgetown Island, and an examination of aerial photos reveals that the island shrank from 8.4 acres in 1994 to 5.0 acres in 2004 (Figure 4), with most of the loss occurring at the upstream end and along the south shore. If this rate of loss continues, the island will soon disappear.

Special conditions in the Corps permit issued to Tri-State River Products, Inc., prohibit dredging any closer to the islands than 125 feet, or twice the depth of dredging, whichever is greater. During our tour of the islands on July 19, we identified a 40-foot trench less than 90 feet from the south shore of Georgetown Island, in the vicinity of where Refuge staff observed (and photographed) a Tri-State dredge operating in 2002. These observations raise the possibility that dredging may have occurred that is not in compliance with Corps permit conditions, and further investigation by the Corps Regulatory Branch is warranted.

Apart from compliance issues, we believe that the island buffers specified in the Pittsburgh District's sand and gravel dredging permits are probably not adequate. They are also inconsistent with conditions found in the Huntington District's permits, which require a 2,000-foot buffer around all islands to maintain island integrity. Our hydrologist, Dr. Brannaka, surmises that the creation of deep dredging holes close to the islands may be moving the channel thalweg closer to the islands, resulting in higher erosive forces on the channelward shoreline during flood flows.

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During the July 19 visit, Mr. Hans seemed inclined to await completion of the Pittsburgh District's final environmental impact statement on commercial sand and gravel dredging operations before considering any action on the island erosion problem. As we explained to Mr. Hans, the draft EIS provided only a superficial treatment of the potential for dredging to affect shorelines. Based not on field evidence, but on a cursory literature review of instream mining in free-flowing streams, the document concluded (page 4-25) that permit conditions regarding riverbank set-backs (150 feet riverward of the 6-foot depth contour) should minimize the probability of downcutting along riverbanks. Therefore, completion of the final EIS will have no bearing on any decisions made regarding conditions of, or compliance with, the permits in question here.

Given the seriousness of the erosion situation, which is destroying public trust property protected by the National Wildlife Refuge Administration Act of 1966, as amended by the National Wildlife Refuge Improvement Act of 1997, it would seem prudent to further restrict dredging around both islands. To accomplish this, the Huntington District's 2,000-foot buffer should be applied unless demonstrated inappropriate through actual data-gathering and analysis. Your regulations at 33 CFR 325.7 allow for the modification of permits as necessary to protect the public interest, considering such factors as whether or not circumstances have changed since the permit was issued or extended, and the continuing adequacy of the permit conditions. We believe that the public interest is not served by risking further damage to public lands and significant archaeological resources; that erosion of these islands was not known or considered in the Corps' issuance and subsequent extensions of this permit; and that the adequacy of permit conditions regarding island buffers is in serious doubt.

Dredging is continuing along Phillis Island as you read this letter, and now, nearly four weeks after our field meeting, Mr. Hans has indicated that no decision has been made regarding requiring Tri-State to move its dredge away from the island (August 12, 2005, phone conversation between Mr. Hans and Cindy Tibbott of my staff). If an appropriate resolution is not found, we may seek higher level review of this issue under Part III (Elevation of Policy Issues) of the 1992 Memorandum of Agreement between the Departments of the Interior and Army. In the meantime, considering the urgency of the situation, Refuge Manager Rhine and I request the opportunity to meet with you at your earliest convenience.

Please contact me or Cindy Tibbott of my staff at 814-234-4090 if you have any questions or need additional information regarding this matter.

Sincerely,

David Densmore  
Supervisor

Enclosures

cc:

DEP – Chris Kriley (Pittsburgh)

PFBC – Arway

PGC – Capouillez

PHMC – Doug McLearn (PA Historical and Museum Commission, Commonwealth Keystone Building, 2<sup>nd</sup> Floor, 400 North Street, Harrisburg 17120)

ES: PAFO:CTibbott/clt:tp:8/12/05

Filename: Ohio NWR

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