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04/26/2009 12:50 PM

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cc:
Subject: Letter from Enviro to ASA-CW and AAOW re: PCS

Folks:

In case you did not see this, attached is a letter to Army and EPA from five environmental organizations regarding the PCS elevation.

-Palmer

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— Forwarded by Palmer Hough/DC/USEPA/US on 04/26/2009 12:47 PM —

From: Geoff Gisler <ggisler@selcnc.org>
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Date: 04/24/2009 12:48 PM
Subject: FW: PCS Phosphate mine permit elevation - Permit AID 200110096

From: Geoff Gisler
Sent: Friday, April 24, 2009 12:41 PM
To: 'rock.salt@us.army.mil'; 'Shapiro.mike@epa.gov'
Cc: 'Chip.Smith@HQDA.Army.Mil'; 'craig.schmauder@us.army.mil'; 'Patricia.Morris@us.army.mil';
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'derby.jennifer@epa.gov'; 'fox.rebecca@epa.gov'; Derb Carter
Subject: PCS Phosphate mine permit elevation - Permit AID 200110096

Mr. Salt and Mr. Shapiro,
Please accept the attached letter providing comments on the PCS Phosphate's permit

application requesting authorization to expand its phosphate mine near Aurora, North Carolina (Permit AID 20010096). In sum, the letter identifies substantial information within the administrative record that demonstrates that:

- EPA has properly elevated the permit decision;
- EPA's proposed alternative is practicable;
- The Wilmington District's modifications to the practicability analysis in the FEIS are arbitrary;
- Alternative L would result in unacceptable adverse effects on aquatic resources of national importance; and
- PCS's proposed mitigation will not offset the proposed impacts.

We appreciate the opportunity to submit this information for your consideration.

Sincerely,

Geoff Gisler
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04-24-09 PCS Phosphate expansion comment letter.pdf

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April 24, 2009

Terrence C. "Rock" Salt
Principal Deputy Assistant Secretary of the Army
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Washington, D.C. 20310-0108

Michael H. Shapiro
Acting Assistant Administrator
U.S. Environmental Protection Agency
Office of Water (4101M)
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Re: Region 4 Environmental Protection Agency elevation of Wilmington District, COE permit decision on PCS Phosphate Mine in Beaufort County, North Carolina

Dear Mr. Salt and Mr. Shapiro:

Region 4 of the Environmental Protection Agency has elevated to EPA headquarters under the 404(q) MOA a decision by the Wilmington District of the U.S. Army Corps of Engineers to proceed with the issuance of a Section 404 permit to PCS Phosphate, Inc. to mine 3,953 acres of wetlands and approximately five miles of streams adjacent to the Pamlico River and estuary in coastal North Carolina. EPA has concluded that issuance of the permit would result in unacceptable adverse effects to aquatic resources of national importance. EPA is advocating for additional wetland avoidance to prevent significant degradation of aquatic resources and an improved mitigation plan for unavoidable wetland impacts. EPA's proposal would allow uninterrupted mining for at least 29 years. PCS Phosphate has responded to the elevation of the permit decision and to EPA's proposal.

This letter is submitted on behalf of the Pamlico-Tar River Foundation, Environmental Defense Fund, North Carolina Coastal Federation, and Sierra Club in response to PCS's contentions that its proposed mining plan would not result in unacceptable adverse effects to aquatic resources, that additional avoidance of wetlands and streams is not practicable, and certain procedural issues. The response below includes appropriate reference to the permit administrative record, PCS Phosphate documents, and applicable laws and regulations.

In summary, it provides support for the following conclusions:

- The EPA is not required to refer its objections to PCS's unacceptable environmental impacts to the Council on Environmental Quality under Clean Air Act Section 309.
- PCS has delayed the permitting process by insisting that the AP Alternative – an alternative that cannot be permitted under state law – was the only practicable alternative.
- EPA's Proposed Alternative is Practicable Under the Wilmington District's Practicability Analysis in the DEIS, SDEIS, and FEIS.
- The Wilmington District's determination that all practicable alternatives must provide 15 years of mining north of highway 33 is arbitrary and indefensible.
- The Albemarle-Pamlico Sound estuary and associated wetlands are aquatic resources of national importance.
- PCS proposes to mine substantial parts of the watersheds of five fishery nursery areas and impair the functions of these vital, priority habitats and aquatic resources of national significance.
- PCS's proposed mitigation will not offset the unacceptable adverse impacts to aquatic resources of national importance.

We appreciate the opportunity to submit this information for your consideration.

Sincerely,



Derb S. Carter, Jr.
Senior Attorney-NC/SC Office Director
Southern Environmental Law Center



Geoffrey R. Gisler
Staff Attorney
Southern Environmental Law Center

EPA PROPERLY ELEVATED PCS'S PERMIT APPLICATION

The EPA is not required to refer its objections to PCS's unacceptable environmental impacts to the Council on Environmental Quality under Clean Air Act Section 309.

- PCS's contention that EPA "has not complied with requirements to refer any 'unsatisfactory' environmental effects to CEQ" has no merit because the 309 referral process is not relevant to the Section 404 Clean Water Act permit application elevation.
- The Memorandum of Agreement between the EPA and Corps establishes the procedure for proceedings under Clean Water Act Section 404(q) and PCS does not contest that the EPA has not complied with that procedure.
- Section 309 of the Clean Air Act, 42 U.S.C. §7609, may impose requirements on EPA during review of Clean Air Act permits, but does not require the EPA to refer objections to Clean Water Act projects to the Council on Environmental Quality. Regulations promulgated under Clean Air Act Section 309, i.e. 40 C.F.R. § 1504.3, are irrelevant to the Section 404(q) process.

PCS has delayed the permitting process by insisting that the AP Alternative – an alternative that cannot be permitted under state law – was the only practicable alternative.

- PCS and the Wilmington District have consistently compared all potentially practicable alternatives to the AP Alternative, a 15-year alternative that would illegally mine salt marsh.
- The state announced early in the permitting process that it could not and would not issue a permit for the AP Alternative:
 - "Mr. Dorney [from the N.C. Division of Water Quality] stated that mining of the creeks will never be permitted, and that proposing such an action as a 'straw man' is a waste of time." Meeting Notes from 28 February 2001, DEIS Appx. A-5.
- PCS objected, insisting on pursuing the AP Alternative:
 - "Mr. Smith [PCS Environmental Affairs Manager] reminded the group that the current proposal is appropriate to PCS Phosphate's stakeholders, considering the high value of the ore body on the NCPC Tract." *Id.*
- Rather than altering the mine plan, PCS sued the State of North Carolina to defend the illegal mining. See Meeting Notes from 26 February 2003, DEIS Appx. A-72. That case did not settle until October 2006, delaying the permitting process for years.
- Even after the lawsuit, PCS continued to push for the AP Alternative in spite of the Division of Water Quality's refusal to issue a permit for it:
 - "[T]he applicant preferred alternative is not acceptable to DWQ since (as outlined in our September 14, 2006 letter to PCS Phosphate and repeated at several meetings with

the company), this alternative proposes to mine through about 34 acres of salt marsh." 31 January 2007 comments of North Carolina Division of Water Quality, FEIS J-IV.A.4.

- "[W]e strongly urge the company to present an applicant preferred alternative which is permittable by the Division of Water Quality in order to move this important project forward." *Id.*
- The Wilmington District continued to ignore the state permitting agency's comments rejecting the AP Alternative as not permittable under state law, delaying the permitting process by postponing serious consideration of reasonable alternatives:
 - "[T]o the Corps' knowledge, neither the NCDWQ nor the NCDWM have formally refused to process or denied any permit or certification." Wilmington District's response to comments, FEIS J.II-22.
- PCS insisted that Alternative L was impracticable as recently as December 19, 2007, delaying consideration of reasonable alternatives to Alternative L. PCS comments on SDEIS, FEIS J-VII.B.1.
- PCS modified its permit application on April 25, 2008 – less than one year ago – to request the 37-year Alternative L as its preferred alternative in place of the 15-year AP Alternative that it insisted on, and sued to defend, for the first 7.5 years of the permitting process.
- Yet PCS still uses the clearly unlawful AP Alternative to compare its claimed "concessions" on reducing wetland impact.

EPA'S PROPOSED ALTERNATIVE IS PRACTICABLE

EPA's Proposed Alternative Is Practicable Under the Wilmington District's Practicability Analysis in the DEIS, SDEIS, and FEIS.

- The DEIS and SDEIS found that the SCRB Alternative is practicable. DEIS 2-19, *see* SDEIS at 2-3 (stating no change in economic analysis).
- "The . . . SCRB . . . alternative[] provide[s] for approximately 15 years of mining at operating costs similar to the current national averages and PCS's historic mine operating costs." DEIS 2-19, *see* SDEIS at 2-3, FEIS at 2-30.
- The SCRB Alternative provides approximately 7.5 years of mining north of Hwy 33 before requiring relocation to the South of Hwy 33 ("S33") tract. FEIS Appendix D. The EPA Alternative provides 8 years of mining north of Hwy 33 before requiring relocation to the S33 tract.
- The EPA Alternative provides more mining north of Hwy 33 than SCRB and allows more expansive mining than SCRB in the S33 Tract. Therefore it is practicable under the DEIS and SDEIS economic practicability analysis.

- The Wilmington District stated in response to comments in the FEIS that "[t]he Corps has not altered the economic analysis." Wilmington District's response to comments, FEIS J-V.B.2(R71). To clarify, the Wilmington District confirmed that "[t]he Corps has continued to use the DEIS approach in the FEIS." *Id.*
- Thus, any alternative that was practicable in the DEIS and SDEIS must be practicable under the analysis in the FEIS since the "[t]he Corps has not altered the economic analysis." *Id.*
- Since the EPA Alternative is practicable under the DEIS analysis and is practicable under the SDEIS analysis and "the Corps' approach to determining practicability have remained consistent throughout the DEIS, the SDEIS and the FEIS," the EPA Alternative must be practicable under the FEIS's practicability analysis. Wilmington District's response to comments of Dr. Douglas Wakeman, FEIS J-V.B.2 Exh.F(R1).

The Wilmington District's determination that all practicable alternatives must provide 15 years of mining north of highway 33 is arbitrary and indefensible.

-
- As discussed above, based on the economic practicability analysis in the DEIS, SDEIS, and FEIS, the Wilmington District concluded that 7.5 years of mining north of NC Highway 33 during the initial 15 years of mining is practicable. In the FEIS, however, the Wilmington District introduced an arbitrary and indefensible requirement that alternatives must – in addition to providing 15 years of mining within PCS's historical operating cost – include at least 15 years of mining north of NC Highway 33 to be considered practicable. This requirement was not introduced or discussed in any of the discussions of the Review Team or in the DEIS or SDEIS.
 - The decision to require 15 years of mining north of Hwy 33 is critical to the assessment of impacts on the aquatic ecosystem. Not only is the area north of Hwy 33 adjacent to the tidal creeks, primary nursery areas, a secondary nursery area, and the Pamlico River estuary, it includes more than 3,400 of the 3,953 acres of wetlands that PCS proposes to mine.
 - The 15-year requirement added to the economic analysis in the FEIS is erroneously and arbitrarily based on the applicant's decision to initially apply for a 15 year permit.
 - The purpose and need only requires a long-term mine expansion, the Wilmington District has failed to explain why less than 15 years is not long-term.
 - The FEIS states that "the applicant demonstrated that . . . 15 years presents an adequate planning horizon," but does not demonstrate that less than 15 years is not an adequate planning horizon. FEIS 2-31.
 - PCS's current permit was issued in 1997 and the company has stated it will exhaust all ore under that plan in 2009. This conclusively demonstrates that the company can operate on a 12-year planning horizon.

- Alternative L is not the "least environmentally damaging practicable alternative" because the company can – at a minimum – operate on a 12-year planning horizon and has not demonstrated that less than 12 years is not sufficiently long term to meet the purpose and need.
- The 15-year requirement introduced in the FEIS is erroneously and arbitrarily based on the "cash cost model" that was specifically rejected by the Wilmington District in responses to comments in the FEIS.
 - Following the DEIS, PCS submitted a new "cash cost" model that "eliminates the amortization of [costs]" and posts those costs in "the actual years of expenditures." PCS comments on DEIS, FEIS J-VII.A.1.
 - The Wilmington District incorporated the "cash cost" model's findings into the FEIS's practicability analysis, adopting the applicant's contention that "an alternative must not involve the incurring of costs that are not recouped [within the first 15 years]." FEIS 2-30. To further clarify, the FEIS states "[t]he key factors that make AP practicable are that all costs associated with mining the 15-year period are recouped within the same 15 years and that the 15 years does not involve mining at unreasonable costs." FEIS 2-29.
 - The Wilmington District clearly used the "cash cost" model as the basis for Alternative L: "Alternative L was developed to . . . provide 15 years of mining with no substantial capital and/or development costs that was not recovered in the same period." Wilmington District's response to comments, FEIS J-V.B.2(R51).
 - In response to comments criticizing the "cash cost" model, the Wilmington District denounced the model as inappropriate and uninformative, but then admitted using it. The response states "the Corps determined that the [cash cost model] was not informative or appropriate; however, some information was relevant in the Corps approach to practicability . . . this information was used in the Corps approach to determining practicability." Wilmington District's response to comments, FEIS J-V.B.2(R71).
 - The Wilmington District repeatedly rejected the "cash cost" model that formed the basis for the 15-year requirement in the FEIS, stating:
 - "The Corps agrees that there is no rationale or benefit in adopting the 'Cash Cost' model." Wilmington District's response to comments J-V.B.3(R12).
 - "The Corps agrees that the 'cash cost' analysis further complicates the economic analysis of alternatives. The Corps has not used the cash cost analysis in its approach to determining alternative practicability." Wilmington District's response to comments, FEIS J-V.B.2(R50).
 - "After fully considering the appropriateness and relevance of the cash cost model data . . . the Corps finds that . . . the results are, at best uninformative in

determining the practicability of alternatives." Wilmington District's response to comments of Dr. Douglas Wakeman, FEIS J-V.B.2 Exh.F(R1).

- "The Corps finds the use of the "cash-cost" model data to be, at best, uninformative in determining alternative practicability." Wilmington District's response to comments of Dr. Douglas Wakeman, FEIS J-V.B.2 Exh.F(R5).
- "The Corps has not used the cash cost analysis in its approach to determining alternative practicability therefore, we do not attempt to justify, clarify or defend its use." Wilmington District's response to comments of Dr. Douglas Wakeman, FEIS J-V.B.2 Exh.F(R1).
- The Wilmington District's FEIS analysis ultimately relies on an indefensible, arbitrary finding that "there is no rationale or benefit in adopting the 'Cash Cost' model" yet that "some information" from that model "was relevant" and "was used in the Corps approach to determining practicability." This internally contradictory treatment of the "cash cost" model cannot be supported.
- Further, the Wilmington District refused to respond to substantive comments on the economic practicability analysis used in the DEIS and SDEIS based on the premise that it had not altered the analysis:
 - "This comment letter contains several manipulations of cost data using cash cost and discounting techniques. The Corps has not used the cash cost analysis in its approach to determining alternative practicability therefore, we do not attempt to justify, clarify or defend its use. Comments relevant to the overall approach and NEPA/CWA are addressed." Wilmington District's response to comments of Dr. Douglas Wakeman, FEIS J-V.B.2 Exh.F(R1).
- The 15-year requirement introduced in the FEIS is erroneously and arbitrarily based on the Wilmington District's contradictory treatment of the practicability of mining in the S33 tract.
 - Mining in S33 was included in the development of alternatives because PCS contends that mining there will be practicable in the future.
 - "The applicant has also indicated that it believes the market will eventually become favorable [for mining in S33]; a reasonable position based on USGS information regarding the rate of depletion of domestic production capacity and the applicant's future shift to higher margin products. The Corps has determined that it is therefore appropriate to include [S33] in the evaluation." FEIS 2-26.
 - "The applicant has made clear its desire to mine the entire project area if suitable market conditions exist. The applicant has developed a master plan which details their preferred sequential progression for the accomplishment of this goal. The applicant has also made clear that, if granted a permit for the AP Alternative, it would then seek a permit to mine Bonnerton and S33." FEIS 2-9.

- The Wilmington District even added areas adjacent to S33 to alternatives because mining in S33 was presumed to be practicable: "The Corps, the Review Team and the applicant agreed that it was reasonable to include these areas since they were readily accessible from the S33 area and they increased the minable area without a significant increase in environmental or socioeconomic impact." FEIS 2-9.
- The Wilmington District's FEIS analysis rejects the very assumption that justified including mining in S33 in any alternative – that mining in S33 will be practicable – and arbitrarily concludes that future mining in S33 is impracticable. Although previously describing that assumption as "a reasonable" position – and relying on it to include S33 in Alternative L – the Wilmington District eliminated less environmentally damaging practicable alternatives based on an arbitrary, contradictory finding.
 - "[T]he lower cost depicted for the initial 6-7 years of mining in the S33 Tract are only realized if the entire alternative boundary within the S33 Tract is mined." FEIS 2-30. That finding should not limit the practicable alternatives analysis since the "applicant has also indicated" it will be able to mine the entire S33 Tract.
 - "The Corps finds that SCRA, SCRB, and SJAB are not practicable alternatives due to the required commitment to higher mining costs . . . without the expectation of fully recovering these development costs." FEIS 2-30.
 - "Alternatives that relocate into the S33 Tract within 15 years confront the applicant with a commitment to several years of mining at a cost not currently considered practicable. Therefore, alternatives that involve relocation to the S33 Tract within the initial 15 years are not practicable." FEIS 2-31.
- The Wilmington District arbitrarily contradicts itself in the practicability analysis, finding that mining in S33 is practicable for the purpose of including that tract in mine plans, but impracticable for purposes of the practicability determination. It is the same land, mined through the same process, during the same time period, thus its practicability must be the same throughout the analysis.

**PCS'S PROPOSED MINE EXPANSION WOULD CAUSE UNACCEPTABLE
ADVERSE HARM TO AQUATIC RESOURCES OF NATIONAL SIGNIFICANCE**

The Albemarle-Pamlico Sound estuary and associated wetlands are aquatic resources of national importance.

- In the Water Quality Act of 1987, Congress directed that the Administrator of EPA give priority consideration to designation of Albemarle Sound as an estuary of national significance and to convene a management conference to develop a comprehensive management plan to

recommend priority actions to restore and maintain water quality, fish and shellfish resources, wildlife, and recreational uses of the estuary. 33 U.S.C. 1330(a).

- In October 1987, the State of North Carolina and Environmental Protection Agency designated Albemarle and Pamlico Sounds as an estuary of national significance and convened a management conference to assess trends in water quality and natural resources, determine the causes of changes, and develop a comprehensive management plan with recommendations for priority actions. *State/EPA Conference Agreement for National Estuary Program Designation Under the Water Quality Act of 1987 (NEP Designation)*.
- Justifications for designation of Albemarle-Pamlico Sounds as an estuary of national significance include the following:
 - Declines in fisheries productivity including major declines in commercial fisheries. *NEP Designation at 5.*
 - Eutrophication from excessive nutrient inputs. *NEP Designation at 5-6.*
 - Habitat losses which "have greatly affected ecosystem functions of estuarine habitats and tightly-linked wetlands habitats. *NEP Designation at 6.*
- The Albemarle-Pamlico Sound management conference issued its comprehensive conservation and management plan in 1994. *Environmental and Economic Stewardship in the Albemarle-Pamlico Region – A Comprehensive Conservation and Management Plan 1994 (NEP Plan)*. The Plan identifies goals and priority actions including the following:
 - Conserve and protect vital fish and wildlife habitats and maintain the natural heritage of the Albemarle-Pamlico Region. *NEP Plan at 23.* Identified vital habitats include rare natural communities, wetlands and primary nursery areas for fisheries. *NEP Plan at 24-25.* Protection rare natural communities "is vital to the survival of species and to the maintenance of the region's natural heritage. *NEP Plan at 24.* "North Carolina has lost more than 50 percent of its original 10 to 11 million wetland acres." *NEP Plan at 24.*
 - Promote the protection and conservation of valuable natural areas in the APES region. *NEP Plan at 28.*
 - Maintain, restore and enhance vital habitat functions to ensure the survival of wildlife and fisheries. *NEP Plan at 29.*
 - Enhance the ability of state and federal agencies to enforce existing wetlands regulations. *NEP Plan at 29.*

- Strengthen regulatory programs to protect vital fisheries habitats. *NEP Plan at 29.*

PCS proposes to mine substantial parts of the watersheds of five fishery nursery areas and impair the functions of these vital, priority habitats and aquatic resources of national significance.

- Primary fishery nursery areas "are of critical important to the propagation of over 75 species of fish and shellfish [in Albemarle-Pamlico Sound]. The functions of these nurseries can be impaired by freshwater drainage, land use changes, and excessive algal growth. Nursery areas are most threatened by nonpoint sources of pollution and by development on nearby lands." *NEP Plan at 25.*
- PCS proposes to mine substantial parts of the watersheds of four tidal creeks designated by the State of North Carolina as primary fishery nursery areas:
 - Porter Creek: 71% drainage basin reduction
 - Jacks Creek: 84% drainage basin reduction
 - Jacobs Creek: 75% drainage basin reduction
 - Tooleys Creek: 55% drainage basin reduction
- Primary nursery areas are "areas inhabited by embryonic, larval, or juvenile life stages of marine or estuarine fish or crustacean species due to favorable physical, chemical or biological factors." 15A NCAC 10C.0502.
- The EPA is not alone in determining that the proposed mine expansion will have unacceptable adverse effects on aquatic resources of national importance. State and federal agencies alike have opposed impacts like those proposed under Alternative L throughout the permitting process.
 - "Such large-scale wetland impacts located directly adjacent to the Pamlico River . . . will act to exacerbate the impacts of eutrophication while altering local food web stability; both of which have important implications for estuarine productivity." U.S. Fish and Wildlife Service comments on DEIS and SDEIS, FEIS J-III.A.4.
 - "Both Alternative L and Alternative M . . . would indirectly impact estuarine habitats associated with South Creek, Pamlico River, Durham Creek, and Porter Creek." Therefore, "[m]ining activities within the NCPC and Bonneron tracts shall not be authorized." National Marine Fisheries Service comments on SDEIS, FEIS J-III.B.3.
 - "Overall, the Division of Coastal Management has serious concerns regarding the two new alternatives described in the SDEIS as well as the prior alternatives in the DEIS

because of their significant adverse impacts to the environment." North Carolina Division of Coastal Management comments on SDEIS, FEIS J-IV.B.3.

- "All the examined alternatives [in the SDEIS] would have significant adverse impacts on water quality, estuarine resources, wetlands, and public trust waters." North Carolina Division of Marine Fisheries comments on SDEIS, FEIS J-IV.B.7.
 - "[W]e recommend that neither the AP, EPA, SCR, or SJA alternatives be considered as appropriate mining options on the NCPC tract because of significant degradation of fish and wildlife resources and the inability to provide adequate compensatory mitigation." North Carolina Wildlife Resources Commission comments on DEIS, FEIS J-IV.A.10.
 - "Losses of these non-coastal wetlands and waters will affect downstream coastal waters and public trust resources under the jurisdiction of the [Marine Fisheries Commission]. . . The additional proposed loss of headwaters wetlands would add to the significance of habitat losses that affect coastal fisheries production." North Carolina Marine Fisheries Commission comments on DEIS, FEIS J-IV.A.11.
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- PCS contends that a report by its consultant ENTRIX establishes that mining the headwaters and dramatically reducing the drainage basins of tidal creeks and primary nursery areas will have "no significant indirect effects" on the downstream waters and aquatic ecosystem. While generally attempting to diminish the importance of headwaters to downstream waters in advocating for mining these areas, PCS proposes to do all its proposed compensatory mitigation in headwaters areas of watersheds significantly inland from the estuary.
 - The Pamlico-Tar River Foundation and other agencies have submitted comments to the Wilmington District explaining why the conclusions in the ENTRIX report are misplaced. Key shortcomings of the report include:
 - A fundamental shortcoming of the ENTRIX report is that it selects data from studies not designed to assess the effects of drainage basin reduction to draw conclusions about the effects of drainage basin reductions and support unsubstantiated claims that mining through headwaters of estuarine creeks will have no discernable effects on the function of those creeks as primary nursery areas. *See, e.g., Rulifson 1991 (study of finfish utilization of man-initiated and natural wetlands); West (2000) (study comparing created marshes to natural marshes).*
 - In assessing the potential impacts of drainage basin reductions, the ENTRIX report fails to examine or evaluate the full range of potential effects of substantial drainage basin reductions on downstream estuarine systems, including organic carbon export, fishery productivity, biogeochemical processes, and overall ecological integrity, which are important factors which must be assessed to determine significant degradation under the 404(b)(1) guidelines.

- The ENTRIX report's reliance on a created marsh system with a limited drainage basin to draw conclusions about the effects of substantial drainage basin reductions on a natural creek and marsh system is inappropriate. Moreover, this study postulated that a primary factor in the faunal characteristics of the created system was that it was surrounded by aquatic systems it was intended to mimic, thereby providing sources of infaunal recruits. There is no assessment of the cumulative effects of substantial drainage basin reductions of all the creeks and primary nursery areas on the western shore of South Creek, as proposed by PCS.

PCS proposes to mine 3,953 acres of wetlands adjacent and linked to primary fishery nursery areas and other waters of the Pamlico estuary, including nonriverine hardwood forests designated by the State of North Carolina to be of national ecological significance.

- The Albemarle-Pamlico Sound designation identifies loss of wetlands as a priority environmental concern and enhancing protection of remaining wetlands as a priority action. *NEP Designation at 6 and NEP Plan at 29.*
- The PCS proposal to mine and destroy 3,953 acres of wetlands, if authorized, would constitute the largest permitted destruction of wetlands in the Albemarle-Pamlico watershed and in the State of North Carolina.
- PCS proposes to mine parts of the Bonneron nonriverine wet hardwood forest.
- NatureServe ranks nonriverine wet hardwood forests as a G2 or globally imperiled natural community, meaning there are between only 5 and 20 viable sites remaining. See www.NatureServe.org/Explorer (Ecological System ID: CES203.304, *Quercus michauxii* - *Quercus pagoda* / *Clethra alnifolia* - *Leucothoe axillaris* Forest). The remaining nonriverine wet hardwood forests are among the most scarce and endangered wetland systems in the United States and an aquatic resource of national importance.
- The North Carolina Natural Heritage Program was established by the North Carolina General Assembly to "include classification of natural heritage resources, an inventory of their locations, and a data bank for that information." "Information from the natural heritage data bank may be made available to public agencies and private persons for environmental assessment and land management purposes." NCGS 113A-164.4.
- The North Carolina Natural Heritage Program has designated the Bonneron nonriverine wet hardwood forests as a natural community of national significance as one of the five best remaining examples of this type of wetland in the world. *Schafale, Nonriverine Wet Hardwood Forests in North Carolina – Status and Trends, January 2008.*

- The North Carolina Division of Water Quality has designated the Bonnerton nonriverine wet hardwood forests as a wetland of state or national ecological significance under wetland water quality standards. *401 Certification; 15A NCAC 2H.0506(e)*. Activities that would alter wetlands of state or national ecological significance may only be authorized if the activities are for a public purpose. *15A NCAC 2H.0506(e)*.
- The primary conclusion of PCS's consultant Dr. James Gregory, in his "rapid forest assessment," is that Dr. Schafale's determination that the Bonnerton tract is a nonriverine wet hardwood forest is incorrect. Dr. Schafale conducted a detailed examination of the site. Dr. Schafale also co-authored the accepted scientific report defining the nonriverine wet hardwood forest natural community (cited by Dr. Gregory). *See Schafale and Weakley, Classification of the Natural Communities of North Carolina 1990*. In sum, Dr. Gregory, a watershed hydrology consultant, contends Dr. Schafale, the Plant Community Ecologist with the North Carolina Natural Heritage Program who wrote the accepted definition and description of a nonriverine wet hardwood forest, did not, after carefully examining the Bonnerton tract, correctly determine it is a nonriverine wet hardwood forest. Not only did Dr. Schafale correctly determine the tract is a nonriverine wet hardwood forest, he concluded it is one of the best five remaining examples of the imperiled natural community remaining.
- To support his contentions, Dr. Gregory cites the definition of nonriverine wet hardwood forest in the EPA/Corps guidance on silvicultural activities but overlooks, or fails to note, footnote 7 which clearly states that the definition used for this forest type in the guidance is "a subset of those described in Schafale and Weakley, 1990." There is no requirement in Schafale and Weakley that a nonriverine wet hardwood forest have a greater than 50% basal area per acre of oak species. *EPA and Corps, Application of Best Management Practices to Mechanical Silvicultural Site Preparation Activities for the Establishment of Pine Plantations in the Southeast 1995*.

PCS's proposed mitigation will not offset the unacceptable adverse impacts to aquatic resources of national importance.

- Unacceptable adverse effects means impact on an aquatic or wetland ecosystem which is likely to result in significant degradation of ... or significant loss of or damage to fisheries, shellfishing, or wildlife habitat or recreational areas. In evaluating the unacceptability of such impacts, consideration should be given to the relevant portions of the section 404(b)(1) guidelines. 40 C.F.R. § 231.2(e).
- Under the 404(b)(1) guidelines, compensatory mitigation is only appropriate for unavoidable wetland impacts. 40 C.F.R. § 230.10(a). Practicable alternatives exist that would avoid wetlands and impacts to primary nursery areas and Bonnerton nonriverine wet hardwood forests.

- Under the 404(b)(1) guidelines, even if no practicable alternative exists, no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of waters of the United States. 40 C.F.R. § 230.10(c). In addition, no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem. 40 C.F.R. § 230.10(d).
- Significant adverse impacts to the tidal creeks and primary nursery areas include significantly adverse effects on fish, wildlife and special aquatic sites; significantly adverse effects on life stages of aquatic life and wildlife dependent on aquatic ecosystems; significantly adverse effects on aquatic ecosystem diversity, productivity and stability; and significantly adverse effects on recreational and economic values. 40 C.F.R. § 230.10(c).
- None of the proposed compensatory mitigation for any of the adverse effects to the tidal creeks and primary nursery areas will be conducted within the immediate watersheds of these tidal creeks and primary nursery areas, resulting in unmitigated significant degradation of these aquatic resources of national importance.
- PCS Inappropriately relies on proposed compensatory mitigation in the headwaters far removed from the estuary to mitigate the significant adverse effects of its mining operations on the tidal creeks and primary nursery areas and connected wetlands in the immediate watersheds that will be destroyed and severely degraded by its proposed mine plan.
- Destruction of the Bonnerton nonriverine wet hardwood forest will result in significantly adverse effects on a special aquatic site; adverse effects on aquatic ecosystem diversity, productivity and stability; and unmitigated significant degradation of an aquatic resource of national importance.
- Federal and state agencies agree that PCS has not provided adequately detailed mitigation plans and the mitigation it has proposed will not offset the proposed impacts:
 - "[T]he proposed compensatory mitigation is insufficient to offset adverse impacts to the aquatic environment except in the area south of Hwy 33." U.S. Fish and Wildlife Service comments on DEIS, FEIS J-III.A.4.
 - "The applicant's historical performance to ensure that adequate mitigation occurs for past mining efforts precludes NMFS from having reasonable assurance at this time that impacts from mining the NCPC tract will be satisfactorily mitigated." National Marine Fisheries Service comments on DEIS, FEIS J-III.A.6
 - "[T]he applicant has not developed a compensatory mitigation plan and, instead, continues to offer only a general strategy . . . we do not believe that the applicant has

demonstrated that sufficient mitigation will be provided in a timely manner for the proposed project." National Marine Fisheries Service Comments on SDEIS, FEIS J-III.B.3.

- "Detailed mitigation plans must be provided in the final EIS, with adequate opportunity for thorough review." North Carolina Division of Marine Fisheries comments on DEIS, FEIS J-IV.A.8
- "Detailed mitigation plans need[] to be provide[d] in the final EIS." North Carolina Division of Marine Fisheries comments on SDEIS, FEIS J-IV.B.7.
- "[W]e conclude adequate mitigation in NCPC and Bonnerton has not been proposed." North Carolina Wildlife Resources Commission comments on DEIS, FEIS J-IV.A.10.
- "A detailed mitigation plan for permittable impacts has not been addressed." North Carolina Wildlife Resources Commission comments on DEIS, FEIS J-IV.B.11.