"Curry, Robert L." <robert.curry@ncwildlife.org>

04/24/2009 02:53 PM

To Jim Giattina/R4/USEPA/US@EPA

cc Tom Welborn/R4/USEPA/US@EPA, Jennifer Derby/R4/USEPA/US@EPA, Rebecca Fox/R4/USEPA/US@EPA, "Curry, Robert L."

bcc

Subject Request for Review and Comment

History: This message has been forwarded.

Dear Jim:

Attached is our position statement and response to your email message. In addition, the official agency position for this project is clearly articulated in our comments from 1 July 2008. No other information can supplant those comments.

I hope this letter clarifies our position on this project. If you have additional questions please don't hesitate to contact me at (919) 707-0221.

bob Curry

(See attached files: PCS FEIS 7-01-08.pdf and WRC PCS Position to EPA.pdf)

Robert L. Curry, Chief
Division of Inland Fisheries
1721 Mail Service Center
Raleigh, NC 27699-1721
Phone: (919) 707-0221
Fax: (919) 707-0028
Email: robert.curry@ncwildlife.org

-----Original Message-----
From: Giattina.Jim@epamail.epa.gov [mailto:Giattina.Jim@epamail.epa.gov]
Sent: Thursday, April 23, 2009 8:20 AM
To: Curry, Robert L.
Cc: welborn.tom@epa.gov; derby.jennifer@epa.gov; Fox.Rebecca@epamail.epa.gov
Subject: Request for Review and Comment

Bob,

As you know, EPA has elevated the PCS Phosphate permit decision to Assistant Secretary of the Army (Civil Works). As part of that elevation, it is EPA's position that the impacts to the drainage basins for the tidal creeks (including four PNAs) should be further avoided.
The reduction to the drainage basins for the PNAs, with the pending permit decision will be in excess of 70 to 80%. NCWRC has held a strong position throughout this long process that these PNAs will likely be significantly degraded with such a large reduction to the drainage basins, including headwater creeks and wetlands. During this elevation process, EPA has received two documents (Notice of Intent to issue permit and the draft Record of Decision) from the Wilmington District that use information contained in a September 2008 edition of the NCWRC publication of "Wildlife in North Carolina" to support their position that these PNAs will function very well with a significant loss of their drainage basins. We can not share the draft ROD with you because it is not yet a public document but we are attaching the NOI which has the

exact same language (paragraph 1, page 5) that is contained several places in the draft ROD.

We are sharing this information with you because it is our understanding that your agency has strongly opposed the view that these areas can function with significant losses of their drainage basins. We aks that you review this language, as it will likely be in the final ROD as support for the Corps' position on drainage basin reduction for the PNAs, and let us know if it is consistent with the scientific analysis of the NCWRC. A letter from NCWRC on this matter would also help EPA better understand the significance of the impacts to the tidal creek watersheds. Time is of an essence, as the Army is formulating their decision this week and plan to have an internal draft decision by Monday (4-27-09). If you do decide to respond, please do so as soon as possible by email correspondence and I will forward to my staff, EPA and Corps headquarters and the Army.

Thanks for your attention to this matter.

Jim Giattina, Director
Water Protection Division

(See attached file: 404 q COE letter.pdf)

North Carolina Wildlife Resources Commission

MEMORANDUM

TO: Melba McGee, Environmental Coordinator
Office of Legislative and Intergovernmental Affairs
North Carolina Department of Environment and Natural Resources
and
Tom Walker
U.S. Army Corps of Engineers
Wilmington District

FROM: Shannon L. Deaton, Manager
Habitat Conservation Program

DATE: July 1, 2008

SUBJECT: Comments on Final Environmental Impact Statement for the PCS Mine Continuation, Aurora, North Carolina.
OLIA No. 08-0356; Corps Action ID No. 200110096

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) reviewed the final environmental impact statement (FEIS) with regard to impacts of the project on fish and wildlife resources. Our comments are provided in accordance with the North Carolina Environmental Policy Act (G.S. 113A-1 et seq., as amended; 1 NCAC-25), provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Clean Water Act of 1977 (as amended) and the Coastal Area Management Act (G.S. 113A-100 through 113A-128), as amended.

The applicant, PCS Phosphate, Inc., Aurora (PCS) submitted a DEIS with the US Army Corps of Engineers (USACE) on October 20, 2006. This document was reviewed by the NCWRC and formal comments were issued on February 1, 2007. On December 31, 2007 the NCWRC submitted formal comments to a supplement of the DEIS that presented two new alternatives, Alternative L and Alternative M. Descriptions of these alternatives and differences in impact area have been thoroughly described in the DEIS and SDEIS. The USACE posted the FEIS for review on May 23, 2008. The applicant's overall purpose and need is to continue mining its phosphate reserve in an economically viable fashion. More specifically, the applicant's purpose and need is to implement a long-term systematic and cost-effective mine advance within the project area for the ongoing PCS mine operation at Aurora, North Carolina. Although the purpose and need of the applicant has remained the same, PCS is now pursuing Alternative L rather than the Applicant Preferred (AP) and Expanded Applicant Preferred (EAP) boundaries.

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 707-0220 • **Fax:** (919) 707-0028

Alternative L includes areas within the NCPC, Bonnerton, and South of Highway 33 tracts. NCPC is a 3,608 acre area within the Hickory Point peninsula adjacent the Pamlico River and South Creek. Seventy-one percent of this tract is designated wetlands and contains six tidal creeks, including three inland primary nursery areas (PNAs). Bonnerton is a 2,806 acre area adjacent the Pamlico River that is 76% wetlands and contains the headwater drainage to one inland PNA as well as a nationally significant wetland heritage area. South of Highway 33 is an 8,686 acre tract, 20% of which are wetlands. The entire project area is classified nutrient sensitive and is therefore subject to the NC Division of Water Quality's Tar/Pamlico Basin Buffer Rules. Alternative L is briefly described below:

> **Alternative L**
> This boundary utilizes the SCR boundary in the NCPC Tract, avoids the Porter Creek headwaters north of Grey Road, utilizes the AP boundary south of the Grey Road in the Bonnerton Tract, and avoids the South Creek Canal, all wetlands south of the South Creek Canal, and all areas regulated by the NC Division of Coastal Management (NCDCM) as Areas of Environmental Concern (AEC). Total wetland impacts per information from the "Biotic Communities Impacts" figures include 4,135 acres of wetlands and 59 acres of 47% wetlands. It is stated this alternative would provide 37 years of mining with at least 15 years of mining north of Highway 33.

NCWRC has reviewed the information presented within the FEIS, including responses to agency concerns. The additional information provided has not changed our position on proposed project and its impacts to aquatic and wildlife resources. Our February 1, 2007 and December 31, 2007 comments stated and reiterated, *"The NCWRC would like to conclude that we are concerned with the impacts the mine expansion will have on fish and wildlife resources throughout the project area. We are especially concerned with the impacts to the valuable habitat areas within the NCPC tract including wetlands, streams, creeks, and inland PNAs that support the Pamlico estuarine system and provide contiguous habitat areas for terrestrial species. Therefore, the Commission would look more favorably on mine expansion that does not include the NCPC tract."* The NCWRC believes further mining within the NCPC tract would cause significant degradation to fish and wildlife resources within the project site and adjacent Pamlico Sound estuary. Significant measures should be employed to avoid and minimize direct and indirect impacts to important and irreplaceable habitat areas as is directed by NEPA. Alternative L will significantly impact these resources.

Three inland PNAs exist within the NCPC tract and one within the Bonnerton tract. All would be further impacted by any mine advance, especially those within NCPC. Jack's, Jacob's, and Tooley's creeks within NCPC and Porter's Creek within Bonnerton are all designated inland PNAs by the NC Wildlife Resources Commission. PNAs are defined as those areas inhabited by the embryonic, larval or juvenile life stages of marine or estuarine fish or crustacean species due to favorable physical, chemical or biological factors. The purpose of inland PNAs are to establish and protect those fragile inland waters which support embryonic, larval or juvenile populations of marine or estuarine fish or crustacean species. The critical input to and function of PNAs are not contained just with public trust waters, but includes the headwater drainages. Biologists with NCWRC conducted a site visit on November 1, 2006 to determine the species present within Jack's, Jacob's, and South Creeks. Although collected fish included red drum and American eel, data collected showed a high contribution of inland species relative to estuarine species. In terms of numerical catch and biomass, the data we collected does not support that fish production originates from downstream estuarine environments. The ENTRIX report provided by PCS in January 2008 did not adequately address freshwater species nor did it establish a linkage between biota and previous mining impacts in the area, including watershed reduction and ground water draw-down from mining operations. Therefore, the ability to predict further watershed reduction impacts based on the report alone was negated. The report used data

collected after Jack's Creek watershed had already been diminished by almost 20% as "pre-data". Small reductions in watershed area, less than 10%, may have large biotic impacts and therefore is problematic when comparing watershed reduction and biota in the South Creek system if "pre-data" includes significantly impacted areas.

Removal of headwater streams and drainage areas would directly alter flow from ground water and stormwater runoff, therefore decreasing fresh water input, increasing salinity through estuarine tidal influences, impact filtration of nutrients and other contaminants from decreased wetlands, increase sedimentation, and reduce the input of organic materials. The disruption of these functions in the drainage basin will significantly impact the ability of these systems to function as an inland PNA. The value of a PNA cannot be measured in fisheries catch per unit effort alone.

Special conditions for the Department of the Army Permit No. 198899449 and DWQ issued Water Quality Certification #3092 included three conditions stating PCS must perform appropriate studies to assess whether there are water quality impacts or hydrologic impacts of the tributaries of South Creek and the Pamlico River due to the removal of drainage area from these tributaries. PCS requested CZR Incorporated (CZR) and Dr. Wayne Skaggs to prepare a stream monitoring plan. This plan, "NCPC Tract Stream Monitoring Program", has been implemented and reported to state and federal agencies for six years. Included in this plan were the monitoring and data comparison of Huddles Cut, Tooley, and Jacks creeks. As a result of the issued permit, the drainage basins for these streams were significantly altered. The drainage area for Huddles Cut was reduced from 872 acres to 651 acres (25.3%); Jacks Creek was reduced from 528 acres to 331 acres (37.3%), and Tooley Creek from 498 acres to 431 acres (13.5%). Review of these data has shown elevated levels of cadmium (Cd) within Huddles Cut and Jacks Creek as compared to background levels of Cd in the open areas of the Pamlico River estuary. Cd is a priority pollutant with no known biological function and a host of known adverse effects, including mutagenicity, teratogenicity and suspected carcinogenicity. The "NCPC Tract Stream Monitoring Program" reports state, "*We may predict, within the limits of established guidelines, that Cd concentrations in sediments from Jacks Creek may occasionally cause adverse biological effects*". These results were found in only six years of study, with 37.3% of the total drainage area reduced. Therefore, it can be concluded that the predicted long term effects would be greater when the drainage area is significantly reduced again. One explanation of the increased levels of Cd within the sediment of Huddles Cut was that the sediment is rich in fine grained, clay material. This result may be due to recent deposition or part of an overall patchy distribution of sediment in the area. A reduction of wetlands adjacent to surface waters would once again greatly reduce the opportunity for removal of these sediments prior to reaching the creeks and river.

The FEIS states drainage area impacts are considered temporary for those areas where mine configuration allows drainage areas to be restored throughout the approximate 15-year land reclamation process. However, due to the importance of these systems and lack of examples and references on reconstructing functional drainage basins especially on reclaimed mines containing high levels of nutrients and contaminants we feel the impacts will likely be much more far reaching and these systems may never recover. The FEIS states the area impacted will be reclaimed, not restored. Therefore essential components such as headwater drainages, riparian wetlands, and transitional areas that lead to coastal marshes that support the highly productive Pamlico estuarine system will be directly impacted and permanently removed, indirectly impacting the entire South Creek and Pamlico River systems.

Alternative L has less impact than AP / EAP, but still significantly impacts wetlands and watersheds with the meandering path between creeks and watersheds. We do not concur that appropriate avoidance and minimization has been conducted prior to consideration of mitigation. Reduction of impacts to these valuable systems would allow mitigation to be considered appropriate and adequate. We understand the

applicant does not have to demonstrate "no impact", but we feel impacts within the current proposal will be significant and could not be adequately offset even with compensatory mitigation.

The FEIS contains a section that provides information on several proposed mitigation sites located near the South Creek area and within the Tar / Pamlico River Basin. The NCWRC appreciates the effort PCS has put forth to show commitment in moving forward to mitigate impacts that cannot be avoided and minimized. However, we believe impacts could be reduced significantly and are concerned with the ability to mitigate for the loss of wetlands, streams, stream buffers, and the biological and chemical functions of the systems within Alternative L. The mitigation strategy proposed in the FEIS does not appropriately compensate for the proposed impacts to submerged aquatic vegetation (SAV), shallow water habitat, essential fish habitat (EFH), riparian wetlands, coastal marsh, inland PNAs, and the role of drainage basin areas to these important inland and estuarine systems immediately adjacent the Pamlico River system in the NCPC tract. Direct removal of some of these resources may not occur with the proposed actions, but the indirect, secondary, and cumulative impacts with the removal and degradation of the system leads to the impacts and the potential functional removal of these resources. The FEIS states impacts to jurisdictional areas under Alternative L within the NCPC and Bonnerton tracts would be mitigated at approximately a 1.8:1 ratio. This ratio is used to help calculate the cost models and therefore the expense of mitigation for each alternative and was obtained by giving 1:1 to poor-fair valued systems, 2:1 to good systems, and 3:1 to excellent systems. NCWRC has reviewed the provided information and does not agree that the proposed 1.8:1 ratio is adequate for the impacts the project will have on the ecosystem.

The potential mitigation sites at Bay City Farm, Hell Swamp, and Scott Creek may be good wetland enhancement or restoration sites for the wetlands and streams they once were, but may not replace the valuable wetland and aquatic habitats and functions lost within the NCPC and Bonnerton tracts. We still do not believe the FEIS adequately addresses the differences in complexity and function between ecosystems within the NCPC tract and the proposed mitigation areas. Replacement of lost functions is a critical consideration as well as general availability of lands in the area appropriate for wetland, stream, and buffer mitigation. Due to the inability of the applicant to find adequate area to mitigate and restore mined buffers, PCS is proposing to present "flexible buffer mitigation" before the Environmental Management Commission. We do not support this proposal especially for the proposed area of impact versus conventional buffer mitigation. This discrepancy could be resolved by avoiding and minimizing impacts to these areas.

The FEIS states continued mining of the NCPC tract would have temporary impacts that would be mitigatable. However, due to the importance of these systems, NCWRC disagrees. The FEIS states the area impacted will be reclaimed, not restored. Therefore, essential components such as headwater drainages, riparian wetlands, and transitional areas that lead to coastal marshes that support the highly productive Pamlico estuarine system will be directly impacted and permanently removed, indirectly impacting the entire South Creek and Pamlico River systems. We continue to question how the functional loss of three inland PNAs would be mitigated.

The NCWRC has reviewed the compensatory mitigation section contained within the FEIS. At this time, we are not providing detailed comments about these proposals. These options are being pursued with the understanding from the applicant that they may not be accepted as adequate mitigation for the proposed mining plan. We will provide more detailed comments on the individual mitigation sites during the 401(b)(1) review process of the NC Division of Water Quality. Concerns and comments for overall proposed mitigation as well as individual sites would include inability to mitigate the complexity and function of areas in the South Creek estuary with proposed mitigation areas, inability to mitigate the

functional loss of PNAs, restoration versus enhancement, insuring restored mitigation areas are not limited in their function by downstream constraints, grading, planting, and site specific construction conditions.

Due to the afore mentioned concerns, we cannot concur that Alternative L is an appropriate mining option on the NCPC tract because of significant degradation of fish and wildlife resources and the uncertainty in providing adequate, functional compensatory mitigation. We have made this statement for alternatives AP, EAP, SCR, SJA, and Alternative M on the NCPC tract as well. This concern also extends to the significant wetland areas on Bonnerton.

The concerns we have with the impacts of mining important ecosystems adjacent the South Creek, Durham Creek, and Pamlico River systems and the inability to adequately mitigate those impacts could be addressed with more intense avoidance and minimization. Once avoidance and minimization has been satisfied, a detailed mitigation plan for unavoidable impacts should be submitted detailing the ability to mitigate for the loss of important wetland habitat areas as well as water quality functions. The mitigation plan should include specific details for any areas impacted including potential SAV, shallow water habitat, EFH, inland PNAs, perennial streams, intermittent streams, coastal marsh, riparian wetlands, and riparian buffers. All impacts should be considered when developing such a plan, including direct, indirect, secondary, and cumulative impacts.

We appreciate the opportunity to participate in the commenting process and review of the FEIS. We also look forward to any additional information, response, and discussion of our comments during this process. If you have further questions or comments, please contact Maria Dunn at (252) 948-3916.

cc: Lekson, D. – US Army Corps of Engineers
Wicker, M. – US Fish and Wildlife Service
Fox, B. – US Environmental Protection Agency
Sechler, R. – National Marine Fisheries Service
Moye, D. – NC Division of Coastal Management
Rynas, S. – NC Division of Coastal Management
Peed, R. – NC Division of Land Resources
McKenna, S. – NC Division of Marine Fisheries
Dorney, J. – NC Division of Water Quality
Barnes, K. – NC Division of Water Quality
Emmerling, D. – Pamlico-Tar River Foundation
McNaught, D. – Environmental Defense
Cooper, S. – CZR, Inc - Wilmington
Furness, J. – PCS Phosphate Co.

Rebecca Fox /R4/USEPA/US
04/24/2009 03:11 PM

To Ron Sechler <ron.sechler@noaa.gov>
cc
bcc
Subject Re: Fw: Information requested by Stan for PCS Phosphate trip to NC on Monday, April 27th

I believe Palmer already sent it to you all. b

Becky Fox
Wetland Regulatory Section
USEPA
Phone: 828-497-3531
Email: fox.rebecca@epa.gov
Ron Sechler <ron.sechler@noaa.gov>

Ron Sechler
<ron.sechler@noaa.gov>
04/24/2009 02:39 PM

To Rebecca Fox/R4/USEPA/US@EPA
cc
Subject Re: Fw: Information requested by Stan for PCS Phosphate trip to NC on Monday, April 27th

Becky,
Would like to have PCS presentation if you can send w/o to much trouble.
Ron.

Fox.Rebecca@epamail.epa.gov wrote:
> Hey FWS/NMFS,
>
> Look forward to seeing you on Monday! Just forwarding on some counter
> points I made to the ppt given by PCS at the 4-17-09 mtg. It is a piece
> of work... Don't remember if we sent it to you. If not and you would
> like to see it, let me know and we will send it your way. I presume
> they will give something like this again on Mon... We also just
> received a response from SELC that was sent to AA and ASA that I will
> forward to you. Talk to you later, b see attachment at end of email
> chain.
>
> Becky Fox
> Wetland Regulatory Section
> USEPA
> Phone: 828-497-3531
> Email: fox.rebecca@epa.gov
> ----- Forwarded by Rebecca Fox/R4/USEPA/US on 04/24/2009 01:24 PM -----
>
> Jennifer
> Derby/R4/USEPA/U
> S
>
> To
> 04/24/2009 12:35 Rebecca Fox/R4/USEPA/US@EPA,
> PM Rebecca Cover/R4/USEPA/US@EPA,
> Stan Meiburg/R4/USEPA/US@EPA
>
> cc

Jim Giattina/R4/USEPA/US@EPA, Palmer Hough/DC/USEPA/US@EPA, Tom Welborn/R4/USEPA/US@EPA

Subject

Re: Information requested by Stan for PCS Phosphate trip to NC on Monday, April 27th(Document link: Rebecca Fox)

> Thanks for this timely information, Becky (Fox).
>
> Becky Cover - please provide this information to Stan asap as it is
> background for his Monday trip to PCS Phosphate mine in NC.
>
> Thank you,
> Jennifer
>
> Jennifer Derby
> EPA Region 4 Water Division
> 61 Forsyth Street
> Atlanta, GA 30303
> phone - 404-562-9401
> fax - 404-562-9343
> email - derby.jennifer@epa.gov

Rebecca Fox/R4/USEPA/US

04/24/2009 11:39 AM

To

Tom Welborn/R4/USEPA/US@EPA, Jennifer Derby/R4/USEPA/US@EPA, Palmer Hough/DC/USEPA/US@EPA, Jim Giattina/R4/USEPA/US@EPA

cc

Subject

Information requested by Stan

> Hi everyone,
>
> I put together a short paper (2.5 pages of mainly bullets) for Stan with
> information he requested on the arguments being used by PCS and COE
> against our indirect impacts to drainage basins position. I also
> countered some other points from the PCS ppt of 4-17-09, including the

> latest info I have from NHP on SNHA. That ppt is full of half truths
> and misrepresentations and I just tried to hit some of the most
> egregious... I didn't get into the economics -- thought I'd leave that
> to Palmer if he thinks we need to send anything to Stan on that since he
> has been discussing with Matt. Please forward on to Stan as soon as
> possible so he can have a chance to review and ask any questions he may
> have before the Monday mtg. Thanks! b
>
> (See attached file: RA paper -- PCS issues for 4-27 mtg.doc)
>
> Becky Fox
> Wetland Regulatory Section
> USEPA
> Phone: 828-497-3531
> Email: fox.rebecca@epa.gov

Rebecca Fox /R4/USEPA/US
04/24/2009 03:16 PM

To Palmer Hough/DC/USEPA/US@EPA
cc
bcc
Subject Fw: Request for Review and Comment from WRC

Palmer,

Here is WRC response. Do you want to forward it on to master list? If so, should just do attachments and not the email correspondence below which requests their response. b

Becky Fox
Wetland Regulatory Section
USEPA
Phone: 828-497-3531
Email: fox.rebecca@epa.gov
---- Forwarded by Rebecca Fox/R4/USEPA/US on 04/24/2009 03:14 PM ----

"Curry, Robert L."
<robert.curry@ncwildlife.org>

04/24/2009 02:53 PM

To Jim Giattina/R4/USEPA/US@EPA
cc Tom Welborn/R4/USEPA/US@EPA, Jennifer Derby/R4/USEPA/US@EPA, Rebecca Fox/R4/USEPA/US@EPA, "Curry, Robert L." <robert.curry@ncwildlife.org>
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bob Curry

(See attached files: PCS FEIS 7-01-08.pdf and WRC PCS Position to EPA.pdf)

Robert L. Curry, Chief
Division of Inland Fisheries
1721 Mail Service Center
Raleigh, NC 27699-1721
Phone: (919) 707-0221
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-----Original Message-----

From: Giattina.Jim@epamail.epa.gov [mailto:Giattina.Jim@epamail.epa.gov]
Sent: Thursday, April 23, 2009 8:20 AM
To: Curry, Robert L.
Cc: welborn.tom@epa.gov; derby.jennifer@epa.gov; Fox.Rebecca@epamail.epa.gov
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Jim Giattina, Director
Water Protection Division

(See attached file: 404 q COE letter.pdf)


PCS_FEIS 7-01-08.pdf


WRC PCS Position to EPA.pdf

North Carolina Wildlife Resources Commission

MEMORANDUM

TO: Melba McGee, Environmental Coordinator
Office of Legislative and Intergovernmental Affairs
North Carolina Department of Environment and Natural Resources
and
Tom Walker
U.S. Army Corps of Engineers
Wilmington District

FROM: Shannon L. Deaton, Manager
Habitat Conservation Program

DATE: July 1, 2008

SUBJECT: Comments on Final Environmental Impact Statement for the PCS Mine Continuation, Aurora, North Carolina.
OLIA No. 08-0356; Corps Action ID No. 200110096

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Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 707-0220 • **Fax:** (919) 707-0028

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> This boundary utilizes the SCR boundary in the NCPC Tract, avoids the Porter Creek headwaters north of Grey Road, utilizes the AP boundary south of the Grey Road in the Bonnerton Tract, and avoids the South Creek Canal, all wetlands south of the South Creek Canal, and all areas regulated by the NC Division of Coastal Management (NCDCM) as Areas of Environmental Concern (AEC). Total wetland impacts per information from the "Biotic Communities Impacts" figures include 4,135 acres of wetlands and 59 acres of 47% wetlands. It is stated this alternative would provide 37 years of mining with at least 15 years of mining north of Highway 33.

NCWRC has reviewed the information presented within the FEIS, including responses to agency concerns. The additional information provided has not changed our position on proposed project and its impacts to aquatic and wildlife resources. Our February 1, 2007 and December 31, 2007 comments stated and reiterated, *"The NCWRC would like to conclude that we are concerned with the impacts the mine expansion will have on fish and wildlife resources throughout the project area. We are especially concerned with the impacts to the valuable habitat areas within the NCPC tract including wetlands, streams, creeks, and inland PNAs that support the Pamlico estuarine system and provide contiguous habitat areas for terrestrial species. Therefore, the Commission would look more favorably on mine expansion that does not include the NCPC tract."* The NCWRC believes further mining within the NCPC tract would cause significant degradation to fish and wildlife resources within the project site and adjacent Pamlico Sound estuary. Significant measures should be employed to avoid and minimize direct and indirect impacts to important and irreplaceable habitat areas as is directed by NEPA. Alternative L will significantly impact these resources.

Three inland PNAs exist within the NCPC tract and one within the Bonnerton tract. All would be further impacted by any mine advance, especially those within NCPC. Jack's, Jacob's, and Tooley's creeks within NCPC and Porter's Creek within Bonnerton are all designated inland PNAs by the NC Wildlife Resources Commission. PNAs are defined as those areas inhabited by the embryonic, larval or juvenile life stages of marine or estuarine fish or crustacean species due to favorable physical, chemical or biological factors. The purpose of inland PNAs are to establish and protect those fragile inland waters which support embryonic, larval or juvenile populations of marine or estuarine fish or crustacean species. The critical input to and function of PNAs are not contained just with public trust waters, but includes the headwater drainages. Biologists with NCWRC conducted a site visit on November 1, 2006 to determine the species present within Jack's, Jacob's, and South Creeks. Although collected fish included red drum and American eel, data collected showed a high contribution of inland species relative to estuarine species. In terms of numerical catch and biomass, the data we collected does not support that fish production originates from downstream estuarine environments. The ENTRIX report provided by PCS in January 2008 did not adequately address freshwater species nor did it establish a linkage between biota and previous mining impacts in the area, including watershed reduction and ground water draw-down from mining operations. Therefore, the ability to predict further watershed reduction impacts based on the report alone was negated. The report used data

collected after Jack's Creek watershed had already been diminished by almost 20% as "pre-data". Small reductions in watershed area, less than 10%, may have large biotic impacts and therefore is problematic when comparing watershed reduction and biota in the South Creek system if "pre-data" includes significantly impacted areas.

Removal of headwater streams and drainage areas would directly alter flow from ground water and stormwater runoff, therefore decreasing fresh water input, increasing salinity through estuarine tidal influences, impact filtration of nutrients and other contaminants from decreased wetlands, increase sedimentation, and reduce the input of organic materials. The disruption of these functions in the drainage basin will significantly impact the ability of these systems to function as an inland PNA. The value of a PNA cannot be measured in fisheries catch per unit effort alone.

Special conditions for the Department of the Army Permit No. 198899449 and DWQ issued Water Quality Certification #3092 included three conditions stating PCS must perform appropriate studies to assess whether there are water quality impacts or hydrologic impacts of the tributaries of South Creek and the Pamlico River due to the removal of drainage area from these tributaries. PCS requested CZR Incorporated (CZR) and Dr. Wayne Skaggs to prepare a stream monitoring plan. This plan, "NCPC Tract Stream Monitoring Program", has been implemented and reported to state and federal agencies for six years. Included in this plan were the monitoring and data comparison of Huddles Cut, Tooley, and Jacks creeks. As a result of the issued permit, the drainage basins for these streams were significantly altered. The drainage area for Huddles Cut was reduced from 872 acres to 651 acres (25.3%); Jacks Creek was reduced from 528 acres to 331 acres (37.3%), and Tooley Creek from 498 acres to 431 acres (13.5%). Review of these data has shown elevated levels of cadmium (Cd) within Huddles Cut and Jacks Creek as compared to background levels of Cd in the open areas of the Pamlico River estuary. Cd is a priority pollutant with no known biological function and a host of known adverse effects, including mutagenicity, teratogenicity and suspected carcinogenicity. The "NCPC Tract Stream Monitoring Program" reports state, "*We may predict, within the limits of established guidelines, that Cd concentrations in sediments from Jacks Creek may occasionally cause adverse biological effects*". These results were found in only six years of study, with 37.3% of the total drainage area reduced. Therefore, it can be concluded that the predicted long term effects would be greater when the drainage area is significantly reduced again. One explanation of the increased levels of Cd within the sediment of Huddles Cut was that the sediment is rich in fine grained, clay material. This result may be due to recent deposition or part of an overall patchy distribution of sediment in the area. A reduction of wetlands adjacent to surface waters would once again greatly reduce the opportunity for removal of these sediments prior to reaching the creeks and river.

The FEIS states drainage area impacts are considered temporary for those areas where mine configuration allows drainage areas to be restored throughout the approximate 15-year land reclamation process. However, due to the importance of these systems and lack of examples and references on reconstructing functional drainage basins especially on reclaimed mines containing high levels of nutrients and contaminants we feel the impacts will likely be much more far reaching and these systems may never recover. The FEIS states the area impacted will be reclaimed, not restored. Therefore essential components such as headwater drainages, riparian wetlands, and transitional areas that lead to coastal marshes that support the highly productive Pamlico estuarine system will be directly impacted and permanently removed, indirectly impacting the entire South Creek and Pamlico River systems.

Alternative L has less impact than AP / EAP, but still significantly impacts wetlands and watersheds with the meandering path between creeks and watersheds. We do not concur that appropriate avoidance and minimization has been conducted prior to consideration of mitigation. Reduction of impacts to these valuable systems would allow mitigation to be considered appropriate and adequate. We understand the

applicant does not have to demonstrate "no impact", but we feel impacts within the current proposal will be significant and could not be adequately offset even with compensatory mitigation.

The FEIS contains a section that provides information on several proposed mitigation sites located near the South Creek area and within the Tar / Pamlico River Basin. The NCWRC appreciates the effort PCS has put forth to show commitment in moving forward to mitigate impacts that cannot be avoided and minimized. However, we believe impacts could be reduced significantly and are concerned with the ability to mitigate for the loss of wetlands, streams, stream buffers, and the biological and chemical functions of the systems within Alternative L. The mitigation strategy proposed in the FEIS does not appropriately compensate for the proposed impacts to submerged aquatic vegetation (SAV), shallow water habitat, essential fish habitat (EFH), riparian wetlands, coastal marsh, inland PNAs, and the role of drainage basin areas to these important inland and estuarine systems immediately adjacent the Pamlico River system in the NCPC tract. Direct removal of some of these resources may not occur with the proposed actions, but the indirect, secondary, and cumulative impacts with the removal and degradation of the system leads to the impacts and the potential functional removal of these resources. The FEIS states impacts to jurisdictional areas under Alternative L within the NCPC and Bonnerton tracts would be mitigated at approximately a 1.8:1 ratio. This ratio is used to help calculate the cost models and therefore the expense of mitigation for each alternative and was obtained by giving 1:1 to poor-fair valued systems, 2:1 to good systems, and 3:1 to excellent systems. NCWRC has reviewed the provided information and does not agree that the proposed 1.8:1 ratio is adequate for the impacts the project will have on the ecosystem.

The potential mitigation sites at Bay City Farm, Hell Swamp, and Scott Creek may be good wetland enhancement or restoration sites for the wetlands and streams they once were, but may not replace the valuable wetland and aquatic habitats and functions lost within the NCPC and Bonnerton tracts. We still do not believe the FEIS adequately addresses the differences in complexity and function between ecosystems within the NCPC tract and the proposed mitigation areas. Replacement of lost functions is a critical consideration as well as general availability of lands in the area appropriate for wetland, stream, and buffer mitigation. Due to the inability of the applicant to find adequate area to mitigate and restore mined buffers, PCS is proposing to present "flexible buffer mitigation" before the Environmental Management Commission. We do not support this proposal especially for the proposed area of impact versus conventional buffer mitigation. This discrepancy could be resolved by avoiding and minimizing impacts to these areas.

The FEIS states continued mining of the NCPC tract would have temporary impacts that would be mitigatable. However, due to the importance of these systems, NCWRC disagrees. The FEIS states the area impacted will be reclaimed, not restored. Therefore, essential components such as headwater drainages, riparian wetlands, and transitional areas that lead to coastal marshes that support the highly productive Pamlico estuarine system will be directly impacted and permanently removed, indirectly impacting the entire South Creek and Pamlico River systems. We continue to question how the functional loss of three inland PNAs would be mitigated.

The NCWRC has reviewed the compensatory mitigation section contained within the FEIS. At this time, we are not providing detailed comments about these proposals. These options are being pursued with the understanding from the applicant that they may not be accepted as adequate mitigation for the proposed mining plan. We will provide more detailed comments on the individual mitigation sites during the 401(b)(1) review process of the NC Division of Water Quality. Concerns and comments for overall proposed mitigation as well as individual sites would include inability to mitigate the complexity and function of areas in the South Creek estuary with proposed mitigation areas, inability to mitigate the

functional loss of PNAs, restoration versus enhancement, insuring restored mitigation areas are not limited in their function by downstream constraints, grading, planting, and site specific construction conditions.

Due to the afore mentioned concerns, we cannot concur that Alternative L is an appropriate mining option on the NCPC tract because of significant degradation of fish and wildlife resources and the uncertainty in providing adequate, functional compensatory mitigation. We have made this statement for alternatives AP, EAP, SCR, SJA, and Alternative M on the NCPC tract as well. This concern also extends to the significant wetland areas on Bonnerton.

The concerns we have with the impacts of mining important ecosystems adjacent the South Creek, Durham Creek, and Pamlico River systems and the inability to adequately mitigate those impacts could be addressed with more intense avoidance and minimization. Once avoidance and minimization has been satisfied, a detailed mitigation plan for unavoidable impacts should be submitted detailing the ability to mitigate for the loss of important wetland habitat areas as well as water quality functions. The mitigation plan should include specific details for any areas impacted including potential SAV, shallow water habitat, EFH, inland PNAs, perennial streams, intermittent streams, coastal marsh, riparian wetlands, and riparian buffers. All impacts should be considered when developing such a plan, including direct, indirect, secondary, and cumulative impacts.

We appreciate the opportunity to participate in the commenting process and review of the FEIS. We also look forward to any additional information, response, and discussion of our comments during this process. If you have further questions or comments, please contact Maria Dunn at (252) 948-3916.

cc: Lekson, D. – US Army Corps of Engineers
Wicker, M. – US Fish and Wildlife Service
Fox, B. – US Environmental Protection Agency
Sechler, R. – National Marine Fisheries Service
Moye, D. – NC Division of Coastal Management
Rynas, S. – NC Division of Coastal Management
Peed, R. – NC Division of Land Resources
McKenna, S. – NC Division of Marine Fisheries
Dorney, J. – NC Division of Water Quality
Barnes, K. – NC Division of Water Quality
Emmerling, D. – Pamlico-Tar River Foundation
McNaught, D. – Environmental Defense
Cooper, S. – CZR, Inc - Wilmington
Furness, J. – PCS Phosphate Co.

North Carolina Wildlife Resources Commission

Gordon Myers, Executive Director

April 24, 2009

Jim Giattina, Director
Water Protection Division
United States Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Dear Mr. Giattina,

I am responding to your email message and request for comments on the letter from Colonel Jefferson M. Ryscavage of 24 February 2009 regarding AID 200110096. This letter was provided to me in your e-mail message dated April 23, 2009.

The North Carolina Wildlife Resources Commission (NCWRC) has reviewed and formally commented on the Final Environmental Impact Statement for the PCS Mine Continuation AID 200110096. Our staff visited the project site to evaluate the fish and wildlife resources found in the project area. Our attached comments of 1 July 2008 are based on those site evaluations. These comments remain applicable and stand as the official position of the NCWRC. We do not concur with the findings of the FEIS for this project, partially based on our concerns with impacts to the headwaters of Jacks, Tooleys, and Drinkwater creeks. All three of these creeks are designated Inland Primary Nursery Areas. As stated in our comments:

> *.....The critical input to and function of PNAs are not contained just with public trust waters, but includes the headwater drainages. Biologists with NCWRC conducted a site visit on November 1, 2006 to determine the species present within Jack's, Jacob's, and South Creeks. Although collected fish included red drum and American eel, data collected showed a high contribution of inland species relative to estuarine species. In terms of numerical catch and biomass, the data we collected does not support that fish production originates from downstream estuarine environments. The ENTRIX report provided by PCS in January 2008 did not adequately address freshwater species nor did it establish a linkage between biota and previous mining impacts in the area, including watershed reduction and ground water draw-down from mining operations. Therefore, the ability to predict further watershed reduction impacts based on the report alone was negated. The report used data collected after Jack's Creek watershed had already been diminished by almost 20% as "pre-data". Small reductions in watershed area, less than 10%,*

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may have large biotic impacts and therefore is problematic when comparing watershed reduction and biota in the South Creek system if "pre-data" includes significantly impacted areas.

Further:

Removal of headwater streams and drainage areas would directly alter flow from ground water and stormwater runoff, therefore decreasing fresh water input, increasing salinity through estuarine tidal influences, impact filtration of nutrients and other contaminants from decreased wetlands, increase sedimentation, and reduce the input of organic materials. The disruption of these functions in the drainage basin will significantly impact the ability of these systems to function as an inland PNA. The value of a PNA cannot be measured in fisheries catch per unit effort alone.

Maintenance of intact watershed areas surrounding coastal rivers and creeks is a basic and widely accepted tenet to protecting water quality and habitat for aquatic organisms. The degree and extent to which riparian areas are protected is directly related to the degree and extent to which creeks and rivers maintain their ecological functions. The North Carolina General Assembly acknowledged the importance of maintaining ecological functions in public waters when they passed legislation in 1996 to create the Clean Water Management Trust Fund (CWMTF). Since then, grants from the CWMTF have protected nearly half-million acres and 4,859 miles of riparian buffers in North Carolina. The NCWRC has received millions of dollars of grant monies from the CWMTF and other sources for acquiring coastal wetlands with the specific goal of protecting water quality and fish and wildlife habitat through perpetual protection of riparian zones.

The official agency position for this project is clearly articulated in our comments from 1 July 2008. No other information can supplant those comments. I hope this letter clarifies our position on this project. If you have additional questions please don't hesitate to contact me at (919) 707-0221.

Sincerely,

Robert L. Curry

Robert L. Curry, Chief
Division of Inland Fisheries

attachment

Palmer
Hough/DC/USEPA/US
04/26/2009 12:50 PM

To Ann Campbell/DC/USEPA/US@EPA, Brian Frazer/DC/USEPA/US@EPA, Chris Hoberg/R4/USEPA/US@EPA, Dawn
cc
bcc
Subject Letter from Enviros 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

Palmer F. Hough
US Environmental Protection Agency
Wetlands Division
Room 7231, Mail Code 4502T
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Washington, DC 20460
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Cell: 202-657-3114
FAX: 202-566-1375
E-mail: hough.palmer@epa.gov

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Palmer Hough
EPA West -- Room 7231-L
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1301 Constitution Avenue, NW
Washington, DC 20460

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

From: Geoff Gisler <ggisler@selcnc.org>
To: Palmer Hough/DC/USEPA/US@EPA, '"william.L.James@usace.army.mil" <william.L.James@usace.army.mil>, Dawn Messier/DC/USEPA/US@EPA
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'; 'Suzanne.L.Chubb@us.army.mil'; 'Meg.E.Gaffney-Smith@usace.army.mil'; 'William.L.James@usace.army.mil.'; 'Jennifer.A.Moyer@usace.army.mil'; 'Garrett.L.Dorsey@usace.army.mil'; 'Michael.Pfenning@us.army.mil'; 'John.Hurley@us.army.mil'; 'Lance.D.Wood@usace.army.mil'; 'Meiburg.stan@epa.gov'; 'Giattina.jim@epa.gov'; 'Peck.gregory@epa.gov'; 'Schwartz.suzanne@epa.gov'; 'Hough.Palmer@epa.gov.'; 'welborn.tom@epa.gov'; 'evans.david@epa.gov'; 'wood.robert@epa.gov'; 'messier.dawn@epa.gov.'; '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
Staff Attorney
Southern Environmental Law Center
200 W. Franklin St. Suite 330
Chapel Hill, NC 27516
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Fax: (919) 929-9421
www.southernenvironment.org

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
108 Army Pentagon
Room 3E446
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 NCDCM 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 Bonnerton 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.

- 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 is 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 Designtion 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 Bonnerton 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 Bonnerton 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.

"Robert K. Peet"
<uniola@email.unc.edu>
04/26/2009 10:05 PM

To Palmer Hough/DC/USEPA/US@EPA
cc Mike Shapiro/DC/USEPA/US@EPA, Stan Meiburg/R4/USEPA/US@EPA, Jim Giattina/R4/USEPA/US@EPA, Gregory
bcc
Subject Letter pertaining to PCS Phosphate permit

I attach a signed letter, the text of which follows

April 26, 2009

US Army Corps of Engineers
Terrence C. Salt
Principal Deputy Assistant Secretary of the Army (Civil Works)

Dear Sir:

It is our understanding that the US Army Corps of Engineers and the US Environmental Protection Agency are considering whether PCS Phosphate should be permitted to mine a tract of Nonriverine Wet Hardwood Forest (Schafale & Weakley 1990; 198-199) in Beaufort County, North Carolina. We are botanists and ecologists who focus much of our work on the natural communities of North Carolina. We have reviewed materials prepared by the North Carolina Natural Heritage Program on the Nonriverine Wet Hardwood Forest community and the tract of Nonriverine Wet Hardwood Forest proposed for mining. We have individually worked with the North Carolina Natural Heritage Program for many years and consider the program to be the most authoritative, scientific and unbiased source of information in North Carolina on rare or endangered plants, animals and natural communities. Based on this information, and our individual knowledge of this natural community type, we strongly encourage the responsible federal agency to provide the maximum protection afforded by applicable laws and regulations to all remaining significant examples of Nonriverine Wet Hardwood Forests.

Nonriverine Wet Hardwood Forests are wetland communities occurring on poorly drained mineral soils in broad inter-stream flats more generally associated with peat-lands on the Atlantic Coastal Plain. These distinctive natural communities have a climax canopy with oak species (Quercus michauxii, Q. laurifolia, Q. pagoda) typically associated with bottomland hardwoods and an understory and herb layer consisting of plants more associated with pocosin wetlands (e.g., Persea palustris, Clethra alnifolia) (Schafale and Weakley 1990 Classification of the natural communities of North Carolina. NC Natural Heritage Program , Rheinhardt and Rheinhardt 2000 J. Torrey Bot. Soc 127:33). The hydrology of these wetland systems is driven by seasonal fluctuations in the water table, with the plant community adapted to seasonally high water table conditions. Because Nonriverine Wet Hardwood Forests occur on mineral soils suitable for agricultural, silvicultural and other uses, this distinctive wetland community has been much reduced in extent through hydrological modification and conversion to other land uses. In 1897, Ashe and Pinchot reported that this community type was common. In 1982, Peacock and Lynch reported that it was one of the most threatened community types on the NC Coastal Plain. Between 1998 and 2006, 42% of the remaining acreage of this community type was destroyed (M. Schafale, personal communication). The North Carolina Natural Heritage Program is

aware of only a few scattered remaining tracts of Nonriverine Wet Hardwood Forests, all in North Carolina and Virginia. Only five of these sites in NC comprise 200 acres or more. The PCS Bonnerton Road site is one of those five.

NatureServe classifies Nonriverine Wet Hardwood Forests as a G2 or globally imperiled natural community, meaning that there are between 5 and 20 viable sites left, and all of these are considered threatened. Clearly, this is one of the most imperiled wetland types in the United States, and all efforts should be made to protect the remaining significant examples by management on public lands, acquisition, and/or regulatory means.

The remaining significant Nonriverine Wet Hardwood Forest sites are important for preservation of our natural biodiversity as well as scientific research and education. We are not aware of any successful efforts to restore a Nonriverine Wet Hardwood Forest that has been converted to another more intensive land use. While restoration efforts may be attempted in the future, loss of the few remaining significant sites jeopardizes even having adequate reference and study sites to guide future restoration efforts.

In summary, Nonriverine Wet Hardwood Forests are an exceedingly rare natural community unique to NC and adjacent VA. They are globally imperiled as a result of hydrologic modification and conversion to other more intensive land uses. We strongly encourage the federal agencies responsible for insuring protection of the nation's wetlands and aquatic ecosystems to provide the maximum protection the law affords to preservation of this imperiled natural community.

We appreciate the opportunity to provide these comments.

Robert K. Peet
Professor of Biology, University of North Carolina at Chapel Hill
President, International Association for Vegetation Science

Alan S. Weakley,
Curator Univ. North Carolina Herbarium, North Carolina Botanical Garden
[former] Chief Ecologist, The Nature Conservancy
[former] Chief Ecologist, NatureServe

Peter S. White
Director, North Carolina Botanical Garden
Professor of Biology, University of North Carolina at Chapel Hill

Norman L. Christensen
Professor of Ecology (and formerly Dean), Nicholas School of the
Past President, Ecological Society of America

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April 26, 2009

Palmer F. Hough
US Environmental Protection Agency, Wetlands Division

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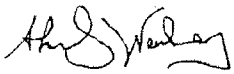
President, International Association for Vegetation Science



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Norman L. Christensen
Professor of Ecology (and formerly Dean), Nicholas School of the Environment, Duke University
Past President, Ecological Society of America

Rebecca Fox /R4/USEPA/US
04/30/2009 04:24 PM

To "Heather" <riverkeeper@ptrf.org>
cc
bcc
Subject Re: support letters from fws and nmfs on elevation

Here you go. bf

NMFS_PCSPhosphateCorp_200110096_3(d).pdf FWS_20090416_3f1_withdraw_no_attachments.pdf

Becky Fox
Wetland Regulatory Section
USEPA
Phone: 828-497-3531
Email: fox.rebecca@epa.gov
"Heather" <riverkeeper@ptrf.org>

"Heather"
<riverkeeper@ptrf.org>
04/30/2009 02:13 PM

To Rebecca Fox/R4/USEPA/US@EPA
cc
Subject support letters from fws and nmfs on elevation

Becky,

Do you have copies that you could forward on the letters sent from FWS and NMFS in support of EPA's elevation?

Thanks.

Heather Jacobs Deck
Pamlico-Tar Riverkeeper
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Phone: (252) 946-7211
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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
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APR 17 2009

Colonel Jefferson Ryscavage
District Engineer, Wilmington District
Department of the Army, Corps of Engineers
Regulatory Division
P. O. Box 1890
Wilmington, North Carolina 28402-1890

Attention: Tom Walker

Dear Colonel Ryscavage:

NOAA's National Marine Fisheries Service (NMFS) reviewed the letter dated March 30, 2009, from the Corps of Engineers, Wilmington District (COE) which NMFS received April 2, 2009, concerning the COE's Final Environmental Impact Statement (FEIS) "*Potash Company of Saskatchewan, Inc. (PCS) Phosphate Mine Continuation at Aurora in Beaufort County, North Carolina*" (Action ID No. 200110096). The COE's letter, which included a draft Record of Decision and draft permit conditions, indicates that the COE concludes that issuance of a permit for the modified Alternative L alignment would not result in substantial and unacceptable impacts to aquatic resources of national importance, and based on the compensatory mitigation that would be required by the permit, adverse impacts to essential fish habitat (EFH) would not occur from the project. The letter was provided to NMFS in accordance with Part IV, Section 3(c)(2) of the 1992 Memorandum of Agreement between the Departments of Commerce and Defense regarding Clean Water Act section 404(q) and in accordance with 50 CFR Part 600, which describes how federal agencies will coordinate to protect, conserve, and enhance EFH. The comments below summarize NMFS' principal concerns, including areas where NMFS continues to differ with the COE regarding the impacts expected to result from the project. However, in light of factors described below as well as constraints on staff time, NMFS will not appeal the COE's decision under the terms of the 1992 Memorandum of Agreement. This letter therefore constitutes NMFS' response to the COE in accordance with Part IV, Section 3(d)(1) of the Memorandum of Agreement that NMFS will not request higher level review.

Previous letters from NMFS and the Wilmington District describe the project, list project authorities, review consultation history, and identify the expected impacts to EFH and

fishery species. Throughout the review process, NMFS consistently focused on the project's likelihood of degrading the nationally significant fish and wildlife resources of the Albemarle-Pamlico Estuary Complex (APEC) within which the proposed mine expansion is located. The review process identified at least 11 action alternatives for consideration; the COE has concluded that Modified Alternative L represents the least environmentally damaging practicable alternative (LEDPA) for PCS to expand its mine. This alternative includes mining within three tracts referred to as NCPC, Bonnerton, and S33. Modified Alternative L would impact 11,909 acres, including approximately 3953 acres of jurisdictional wetlands and 25,727 feet of streams. In comparison to other alternatives, Modified Alternative L would avoid direct impacts to 141 acres of EFH that includes wetlands associated with South Creek within the NCPC tract and Porter Creek within the Bonnerton tract. NMFS' comments are divided into three sections: (1) identification of EFH; (2) sequential mitigation; and (3) monitoring and adaptive management.

Identification of EFH

The Bonnerton and NCPC tracts include tidally influenced forested wetlands, creeks, and salt marsh designated as EFH by the South Atlantic Fishery Management Council and Mid Atlantic Fishery Management Council for federally managed fishery species, including penaeid shrimp, gray snapper, summer flounder, and bluefish. A subset of the areas designated as EFH is recognized by the North Carolina Wildlife Resources Commission (NCWRC) as inland Primary Nursery Areas (PNAs). Pursuant to the designations of EFH by the Councils, PNAs are also designated as Habitat Area of Particular Concern (HAPC), the subset of EFH that warrants the highest protection under the Magnuson-Stevens Act. The PNAs within the project area are Porter Creek, Tooley Creek, Jacobs Creek, and Jacks Creek. The latter three creeks empty into South Creek, which is designated a Special Secondary Nursery Area by the State of North Carolina and is also designated as an HAPC.

As acknowledged in past correspondence from both of our offices, the upper limits of PNAs has not been delineated in the field. In the absence of this delineation, the COE referenced the North Carolina state statute that defines PNAs, and the COE concluded the upper limit of the PNAs equates to the boundary between perennial and intermittent flows within the creeks named as PNAs. The Modified Alternative L for the proposed mine expansion avoids direct impacts to PNAs under this definition. While NMFS believes that substantial ecological services are provided to fishery resources from the portions of the creeks that have intermittent flows and from their headwater wetlands, NMFS accepts the COE's interpretation of the relevant North Carolina state statute as reasonable. As a result of close coordination among the applicant, resource agencies, and the COE, NMFS has determined direct impacts to HAPCs are no longer likely.

Sequential Mitigation

Avoidance and Minimization of Impacts

The LEDPA must be identified before evaluating compensatory mitigation. The US Environmental Protection Agency (EPA) contends in its comments on the EIS and subsequently submitted materials that Alternative L/Modified Alternative L is not the

LEDPA because there are less environmentally damaging alternatives. The COE contends that the less environmentally damaging alternatives are not practicable, and that Alternative L (according to the FEIS) and Modified Alternative L (according to the ROD) is the LEDPA. Both agencies maintain their economic analysis is thorough and appropriately peer reviewed within their respective agency. Given the significant differences in the outcomes of these analyses and that the COE is proposing to authorize the largest wetland destruction within North Carolina under the Clean Water Act, an external peer review is clearly needed to provide the public with assurance that the laws and programs put in place to protect public trust resources, such as APEC, were rigorously followed. NMFS recommends the COE conduct this review even if it is done after a final decision on the application from PCS is rendered, because the different approaches that EPA and the Wilmington District took in their respective analysis will likely trigger substantive disagreements on future projects.

Relative to alternatives earlier promoted by the applicant, Modified Alternative L reflects avoidance and minimization of direct impacts to wetlands that NMFS believes represent the higher value to fishery species. While these steps are noteworthy, additional avoidance and minimization appear practicable. On March 30, EPA, NMFS, and the US Fish and Wildlife Service proposed to the COE and applicant an alternative boundary for the mine. In addition to reducing impacts to habitats that support nursery areas, this alternative would provide opportunities for on-site compensatory mitigation to be pursued within PNAs. NMFS believes this alternative would benefit fishery resources within South Creek as well as the larger APEC. The applicant expressed a desire to review the new alternative and noted that its evaluation could take a month or longer. NMFS recommends the COE withhold its final determination on the application until the applicant's review is complete and vetted through resource agencies and stakeholders. At the very least, NMFS continues to recommend exclusion from the mine seven areas totaling approximately 50 acres that serve as headwaters of tidally influenced creeks which NMFS believes are significant nursery areas for fishery species.

Functional Assessment of the Compensatory Mitigation

The mitigation plan (FEIS Appendix I) involves multiple sites and strategies to compensate for the ecosystem services lost over the life of the project. The proposed restoration efforts primarily focus on croplands and drained forested wetlands underlain by hydric soils which, therefore, are expected to be good candidates for wetland restoration. The proposed mitigation would occur at sites south of the Pamlico River (primarily south, east, and west of the S33 tract) and at sites north of the Pamlico River. Under the plan, 7968, 756, and 2472 acres of wetlands would be restored, enhanced, and preserved, respectively. To guide their evaluation of the proposed compensatory mitigation, replacement-to-loss ratios used by the COE are 2:1 for restoration, 3:1 for enhancement, and 8:1 to 10:1 for preservation. The replacement ratio used for determining stream replacement is 1.8:1. In this regard, it is important to note that 71 percent of the NCPC tract, 76 percent of the Bonnerton tract, and 20 percent of the S33 tract are wetlands. By 2011, the applicant plans to complete construction of all the compensatory mitigation projects needed to offset the losses from mining the NCPC and Bonnerton tracts. To implement this schedule, the applicant has expended considerable

effort to identify, acquire, and develop off-site mitigation through restoration of previously impacted waters and wetlands.

The applicant's proposal to provide mitigation up front and on an ambitious schedule is commendable. While tallies summarizing the overall mitigation are persuasive, NMFS believes a quantitative, functional assessment, using a habitat equivalency analysis or a similar method, should be performed. Decisions relying mostly upon best professional judgment should be avoided for a project of this scale and significance of potential impacts. While a formal, functional assessment would also rely upon best professional judgment, it would do so in a manner that greatly increases precision (in the sense of repeatability) and transparency, identifies and quantifies uncertainties and assumptions, facilitates sensitivity analyses, includes benefits from reclamation, and establishes key milestones for use in an adaptive management program that ultimately focuses on whether the compensatory mitigation yields ecological services to South Creek, Durham Creek, and Pamlico River on a scale commensurate with the losses at Jack, Jacob, Tooley, Porter, and other creeks within the NCPC and Bonnerton tracts. A formal functional assessment would also clarify whether wetlands within the subset of the Bonnerton tract, which is a nationally significant Natural Heritage Area, can be mitigated and, if so, at what relative cost.

Monitoring and Adaptive Management

Monitoring

NMFS remains concerned about the loss of headwater wetlands associated with PNAs under the Modified Alternative L alignment. Based on input regarding the designation of these areas as HAPCs, PCS agreed to avoid direct impacts to these creeks. However, as noted by the COE, resource agencies, and NOAA's Center for Coastal Fisheries and Habitat Research (Beaufort Laboratory), substantial indirect impacts to PNAs and other tidal creeks would result from the proposed loss of headwater wetlands and intermittent streams on the NCPC and Bonnerton tracts. To address this concern, NMFS recommended that prior to initiation of land clearing activities in the headwater wetlands of state-designated nursery areas located along the NCPC shoreline of South Creek, PCS develop a plan of study to address the effects of a reduction in headwater wetlands on the utilization of these nursery areas by resident fish and invertebrates. In these systems, resident fish and invertebrates are important prey for estuarine-dependent species that seasonally frequent estuarine creeks during sub-adult development stages. Monitoring changes in these populations should prove a reasonable indicator of the effect of losses of headwater wetland on changes in resident species that support the nursery area function of these creeks. NMFS is pleased to see that the draft permit conditions require, within six months of permit issuance, development of a detailed plan for such a monitoring program. NMFS offers to continue to work with the COE, PCS, and other interested parties to further refine these conditions into a detailed plan.

Adaptive Management

The scales of the proposed mine and compensatory mitigation are large and the impacts and benefits that would actually accrue from these actions (as opposed to predicted to

accrue) are subject to variables that can only generally be forecasted at the time of a permit decision. Proper and timely execution of the monitoring programs followed by responsive adjustments of mining and mitigation plans would be essential to ensure expansion of the PCS mine under Modified Alternative L is done in a manner that is in the public interest. Requiring the applicant to adhere to a process that allows the COE and resource agencies to substantively engage in the oversight of the project, and in adjustments to project design, is necessary for NMFS to have reasonable assurance that impacts to NOAA trust resources would be adequately compensated.

NMFS is pleased to see that the draft permit conditions require the applicant to establish an independent panel of scientists and engineers to annually review the project and determine if direct and indirect impacts and benefits are accruing at the rates forecasted at the time of a project authorization. Data and reports should be placed in a publicly accessible location, such as a website, and be freely available. The panel will also annually provide the COE and applicant with recommended changes to the mining and mitigation that are necessary to bring the project into alignment with expectations. NMFS offers to continue to work with the COE, PCS, and other interested parties to further refine and implement the adaptive management plan, should a permit be issued.

Thank you for the opportunity to provide these comments. Related questions or comments should be directed to the attention of Mr. Ronald Sechler at our Beaufort Field Office, 101 Pivers Island Road, Beaufort, North Carolina 28516-9722, or at (252) 728-5090.

Sincerely,

Roy E. Crabtree, Ph.D.
Regional Administrator

cc:

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In Reply Refer To:
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APR 16 2009

Colonel Jefferson M. Ryscavage
District Engineer, Wilmington District
U.S. Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403-1343

RE: Department of Army Permit AID 200110096, Potash Corporation of Saskatchewan Phosphate Division, Aurora Operation (PCS) Mine Continuation

Dear Colonel Ryscavage:

This letter is provided under Part IV, paragraph 3(f)(1), of the 1992 Memorandum of Agreement (MOA) between the Department of the Interior and the Department of Army, under Clean Water Act (CWA) Section 404(q). The Fish and Wildlife Service (Service) has decided not to seek higher level review of the proposed decision by the Army Corps of Engineers' Wilmington District to issue a CWA Section 404 permit to the Potash Corporation of Saskatchewan, Phosphate Division, Aurora Operation. Nonetheless, the Service has substantial unresolved concerns regarding the proposed project and our decision to not seek higher level review is not an indication that these concerns have been resolved. The Service fully concurs with and supports the concerns expressed by the U.S. Environmental Protection Agency in their letter to the Assistant Secretary of the Army (Civil Works)(ASA (CW)) dated April 3, 2009.

The Wilmington District (District) issued a Notice of Intent to Proceed letter regarding this permit under paragraph 3(c)(3) of the MOA on March 2, 2009; this letter was received by our Southeast Regional Office on March 5, 2009. The proposed project is an expansion of the mine's 1997 CWA permit. The expansion, as currently proposed, will impact 3,953 acres of wetlands and 25,727 linear feet of streams, including a portion of a Significant Natural Heritage Area designated as "nationally significant." In addition, the project is adjacent to the Pamlico River and will result in a loss of approximately 70 percent of the watersheds of the project area streams which drain to the Albemarle-Pamlico Estuary Complex.

The March 2, 2009, Notice of Intent to Proceed letter included some provisions intended to minimize impacts through project footprint reduction and increase compensatory mitigation. The Wilmington District concluded that these provisions would adequately address our concerns for the project. Both the Service's Raleigh, North Carolina Field Office and Southeast Regional Office staff carefully considered these measures, and responded on March 20, 2009, pursuant to

Part IV, paragraph 3(d)(2) of the 1992 MOA. That response stated that the Service does not concur that our concerns have been adequately addressed.

Pursuant to Part IV, paragraph 3(f) of the 1992 MOA, the Department of the Interior had until April 9, 2009, to notify the ASA (CW) that the Department of the Interior was requesting higher level review. On April 3, 2009, the District provided the Service with an 80-page draft Record of Decision containing information not previously reviewed by the Service. In response the Service requested, via a letter dated April 8, 2009, an extension of the MOA timeframe in order to allow a review of the new information. The Corps denied that request, and the Service was unable to complete its review within the timeframe prescribed by the MOA.

In our continuing effort to assist the Corps in making a timely decision in this matter, we have completed an expedited review of the draft Record of Decision. We note the draft Record of Decision contains the same flaws the Service previously noted in the Final Environmental Impact Statement (FEIS). Specifically, it is our opinion that the Corps has consistently drawn inappropriate conclusions from limited data that are contrary to, and not supported by, the vast body of knowledge regarding the functioning of estuarine systems.

The FEIS, the March 2, 2009, Notice of Intent to Proceed letter, and the draft Record of Decision rely heavily on monitoring data and studies of local estuaries to support the conclusion that project-related reductions of approximately 70 percent of the watersheds of project area streams would not substantially impair the functioning of those stream or their associated estuaries. The Service has consistently noted the limitations of these analyses.

To summarize, it has been pointed out by the Service and others that these studies are of insufficient scope, duration, and design to provide a basis for determining the effects of project-related drainage basin reduction on the creeks and estuaries of the project area. The Corps appears to acknowledge this in the FEIS with statements such as those appearing on page 4-14 of the FEIS: "...although a definitive conclusion cannot be made because the pre-drainage basin reduction monitoring data on flow and salinity for this creek covers less than a year." The FEIS further states (page 4-16) "it is difficult to draw any definite conclusions because there was no control site for Stanley's 1990 statistical study and there was only one year of baseline water quality and flow data for Jacks Creek." Also in Appendix J.II-7 of the FEIS it is stated in reference (in part) to a report by Entrix: "Although the Corps does not endorse or agree with all of the conclusions and statements found in either of these reports, both have been included in Appendix F in their entirety and the relevant information from these reports has been used as appropriate in the discussion of potential impacts found in Section 4.0 of the FEIS. Additionally, the Entrix report was supplied to the Review Team and their comments have been considered." We note that this is apparently in response (at least in part) to a critique of the Entrix study provided by NMFS following the February 12, 2008, interagency meeting (see enclosed). We concur completely with the NMFS comments, and note that although the Corps states that these comments were "considered" we can find no specific evidence of such consideration in the FEIS or draft Record of Decision.

Despite acknowledgement of the limitations of these studies, the Corps consistently overlooks these limitations and draws definitive conclusions that the project will not result in substantial adverse impacts to the Albemarle-Pamlico Estuary. We view this as an inappropriate use of the available information. We point again to the comments submitted throughout the process by the state and Federal agencies responsible for the management and conservation of the Albemarle-Pamlico Estuary including the Service, NMFS, EPA, NC Wildlife Resources Commission, and NC Division of Marine Fisheries (see enclosed comments of the NC WRC and NC DMF) that have noted the limitations of these studies, and drawing on their accumulated expertise and the vast body of available scientific information have concluded that one cannot deprive a waterbody of 70 percent of its watershed and expect it to function normally.

We remain committed to working with the Corps to effectively address our concerns. We are hopeful that a reasonable outcome can be achieved that satisfies the economic interests of the applicant while sustaining the ecologically and economically vital resources of the Albemarle-Pamlico Estuary.

Thank you for your consideration in this matter. Should you have any questions regarding these comments or wish to discuss this matter further, please contact Pete Benjamin, Supervisor of the Raleigh Field Office, at (919) 856-4520 extension 11.

Sincerely yours,

Sam D. Hamilton
Regional Director

Enclosures