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Hough/DC/USEPA/US
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To Mike_Wicker <Mike_Wicker@fws.gov>, ron.sechler@noaa..gov, Wilber Pace <Pace.Wilber@noaa.gov>, Pete_Benjamin
cc Rebecca Fox/R4/USEPA/US@EPA
bcc

Subject 4-17-09 PCS briefing

Folks:

Here are the materials PCS provided on 4-17-09 during the site visit.

-Palmer


PCS White Paper_Purpose and Need.pdf

4-16-09 Brod memo_review of EPA NPV.pdf

4-16-09 draft forestry report-SNHA_Jim Gregory.pdf

4-17-09 briefing from PCS.pdf

4-17-09 Site Visit participant list.pdf

PCS White Paper_EPA Actions are Untimely.pdf

PCS White Paper_EPA use of Profit.pdf

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Purpose and Need

Public Need

1. PCS is a major employer in the region and the largest employer in the county.

"With over 1,000 permanent employees and an annual payroll of over $60 million, PCS is the area's largest private employer. Approximately $5 million in state and local taxes is paid by PCS annually. Total annual purchases of goods and services by PCS in the state averages over $100 million. In addition, PCS is the largest user of the state port at Morehead City, shipping approximately one million tons of product through that single port at an average annual cost of approximately $11 million. The demand for goods and services created by PCS and its employees generates additional employment throughout the area, especially in service oriented fields. Population, labor force, and employment trends within the four-county area are not expected to be adversely affected by mining continuation activities associated with any mine continuation alternative boundary." FEIS 4.2.1.17, p. 4-38. *See also* FEIS 1.2.1, p. 1-4, and 3.17.5, 3.17.6, and 3.17.7, p. 3-77.

2. Phosphate rock is the only commercial source of the element phosphorous.

"Phosphate rock minerals are the only significant global commercial sources of elemental phosphorous." FEIS 121., p. 1-3.

3. Phosphorous is a basic component of fertilizer, animal feed, and consumer products.

"The largest user of phosphorous is the agricultural sector, which relies on phosphate products for fertilizer and animal feed supplements. Historically, over 90 percent of the phosphate rock produced has been used for agriculture." *Id.* It is also used in a variety of consumer products and in various industrial processes; most recently, it has been demonstrated to be an effective agent for controlling AMD (acid mine drainage), "the most

significant environmental impact from coal mining in the Northern Appalachian Coal Basin." *Id.*

4. National impact of not mining the Aurora deposits.

"As one of the world's largest phosphate producers, the United States is important in meeting worldwide phosphate demand. Approximately 85 percent of the total domestic output is produced in Florida and North Carolina. Rising mining and production costs and ore depletion are expected to reduce Florida contribution to the market." FEIS 1.2.1, p. 1-3. The FEIS (1.2.1) identifies a number of US mines that have closed in recent years and the declining US production of phosphate. "In 2001, phosphate rock production decreased for the fifth consecutive year to reach its lowest point since 1965. . . . Current mining technology does not allow mining the deeper Florida deposits or offshore phosphorites and the most economical, high grade ore deposits in Florida are gradually being depleted." *Id.*

"As discussed above the Aurora Phosphate deposit is one of the few remaining minable deposits in the United States. An estimated one billion tons of phosphate rock concentrate may be found within the study area. Closure of this mine would mean the North Carolina phosphate resource would cease to be recovered and would no longer contribute to the phosphate resources available to US agriculture or the US share of the world market for phosphate products. The potential for substantial phosphate imports and loss of phosphate fertilizer exports may have effects beyond its regional implications. According to US Geological Survey, the United States is a leading consumer and producer of phosphate fertilizers. Halting the recovery of the Aurora phosphate deposit combined with the projected decline in Florida phosphate production would leave the US farm economy largely dependent upon foreign sources of phosphate supply." FEIS 1.2.1.

Applicant's Purpose and Need

" . . . the applicant's purpose and need is to implement a long-term systematic and cost-effective mine advance within the project area for ongoing PCS mine operation at Aurora, North Carolina."

FEIS 1.2.2, p. 1-4.

The PTRF challenged[1] the nearly identical purpose and need statement set forth in the prior EIS[2] developed for a 404 Permit originally applied for in 1988 (the "1988 Permit"). In that challenge, the PTRF argued that PCS should have been required to study importing all or some of its phosphate rock from Morocco. The Corps disagreed:

> First, the Corps considered and rejected the alternative of shutting down the mine, which would force PCS to import phosphate rock from foreign sources (principally Morocco). This alternative was rejected for several reasons: the severe socioeconomic impact it would have on the area FN4, the dependence of both PCS and the U.S. farm economy on foreign sources of phosphate rock and the inability of PCS to continue mining its phosphate reserves.
>
> > FN4. PCS is a major employer in the region. In 1991, the mine employed 598 people, paid $28 million in payroll and benefits, $2.1 million in state and local taxes, $2.7 million to the North Carolina State Ports Authority, and $73 million in the purchase of goods and services from North Carolina vendors. AR 015171.

Id. at 606-07. The PTRF also argued that the purpose and need statement was too narrow in requiring a long-term (approximately 20 years) mining advance, thereby eliminating another mining alternative (mining only uplands). The Corps rejected this alternative "primarily because it only allowed ten years of mining at current production rates; therefore, it was inconsistent with the purpose and need." 329 F.Supp.2d at 607.

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[1] *Pamlico-Tar River Foundation v. U.S. Army Corps of Engrs., et al.*, 329 F.Supp.2d 600 (EDNC 2004).

[2] "a long-term (approximately 20 years) systematic and cost-effective mine advance within the 14,200 acre project area ... for the ongoing [PCS] mine operation at Aurora, North Carolina." *Id.* at 606.

The U.S. District Court for the Eastern District of North Carolina agreed with the Corps on both challenges to the purpose and need statement:

> The Corps' statement of the purpose and need for the project is set forth in detail in Section 2.0 of the FEIS and covers six single-spaced types pages. AR 15167-72. It begins with an explanation of the history of PCS's activities, noting that PCS began acquiring phosphate resources in 1961 and began mining and processing phosphate in 1965. The statement also analyzes the public's need for phosphate rock, noting it is the only significant commercial source of the element phosphorous, which is a basic component of fertilizer, animal feed products, and consumer products such as soft drinks, toothpaste, foods, and flavors. The Corps also notes the economic needs for PCSs's continued mining in the area. As noted above, PCS employs almost 600 people at the Beaufort County mine. In Section 2.2, the Corps turns to the applicant's purpose and need, providing information underlying the reasons for a 20-year mine plan and factors to be considered in determining an economic mine plan. . . .
> As is demonstrated by the thorough discussion of the purpose and need of the project, PCS's purpose was to continue to mine the resources it had been acquiring, not merely to supply the chemical processing plants. While the Corps is not required to blindly accept PCS's statement of purpose, neither can it completely ignore it. . . .
> An agency need only consider alternatives that are reasonable in light of the project's stated purpose. . . . Defendants did a thorough job of defining the project purpose and need in a reasonable manner.

Id. at 614-15.

The FEIS for the current permit application notes the same public and local economic needs, FEIS 1.2.1, pp. 1-3 and 1-4, and the same need for long planning horizons.[3] "Long-term investments of tens or hundreds of millions of dollars in equipment require substantial secured reserves to ensure continuation of mining for the recovery of the investment." *Id.*

When the Corps put forward Alternative L, it expressly recognized that the applicant's legitimate purpose and need requires 15 years of mining north of Route 33, the crossing of which will require a massive (>$90 million) expenditure, and not just 15 years of mining anywhere. The area north of Route 33 is where PCS can reasonably expect to mine in a cost effective manner. Under current market, technological, logistical and cost constraints,

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[3] "The magnitude of the necessary investment in property and personnel requires the phosphate mining industry to develop long-term mining plans based on approximately 20-year horizons. . . . Long-term plans [are required for] pre-operation activities, . . . procurement of mining equipment, . . . develop[ing] the engineering data." FEIS 1.2.2, p. 1-4 -- 1-6.

it is not reasonable to commit now to mining south of Route 33, and a plan that gives less than 15 years of mining (of necessity, north of Route 33) is thus not consistent with the well-established need for a plan that is both long-term and cost effective, as recognized in the Corps' statement of purpose and need. The new NGO alternative provides only 8 years of mining north of Route 33, and hence is inconsistent with the applicant's legitimate purpose and need.

Memorandum

To: George House
From: Dr. Andrew Brod, consulting economist
Subject: EPA's price forecasts
Date: April 16, 2009

Introduction

In its document, "Detailed Comments on Proposed PCS Phosphate Mine Expansion Section 404 Permit," the U.S. Environmental Protection Agency (EPA) asserts that operating profit is the most appropriate criterion to assess the practicability of mining alternatives. In order to apply that criterion to the matter of the PCS Phosphate mine continuation, EPA forecasted the price of phosphate rock from 2008 into the future. In this memorandum, I will review that price forecast and discuss the implication for using operating profit as the determinant of practicability.

EPA's Forecast

Every statistical forecast starts by fitting a model to a time series of observed data. Then the estimated model is used to project future values of the variable of interest. EPA used U.S. Geological Survey data on phosphate-rock prices found in Table 2-7 of the Final Environmental Impact Statement (FEIS). These prices, for the 17 years 1991-2007, are expressed in constant 2005 dollars per short ton at 60 BPL.

The model used by EPA is a linear trend model:

$$p_t = \beta_0 + \beta_1 t + \varepsilon_t$$

where β_0 and β_1 are the intercept and slope coefficients to be estimated, t is the trend variable (= 1, 2, ..., 17), and ε is a random error term. The standard terminology is that price p_t is regressed upon the time trend t. Estimating this regression model fits a straight line to the data when plotted against time. However, as illustrated by the diagram on p. 3 of the Appendix to "Detailed Comments," there is no discernible trend in the price data. This is borne out by EPA's estimate of β_1, which at –0.006 is quite small and implies that rock prices fell by an average of six-tenths of a cent per year during 1991-2007. But more to the point, the estimate is statistically indistinguishable from zero. There is no statistical evidence to refute a claim that the trend line is perfectly flat.[1]

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[1] In fact, it's not even close. Statisticians frequently refer to the "p-value" of an estimate to assess its significance. The p-value is the probability (hence a number between 0 and 1) of having obtained the estimated value by chance if its true value is in fact zero. The smaller the p-value, the less likely the estimate was a fluke and the more likely the statistician will have confidence in it. A typical criterion for the p-value is 0.05, or a 5% significance level. If the p-value is, say, 0.07, then strictly speaking, the coefficient estimate is statistically insignificant, though the statistician may deem that to be sufficiently close to retain the variable in the model. But the p-value for the trend coefficient in EPA's trend regression was not close to 0.05; it was 0.96.

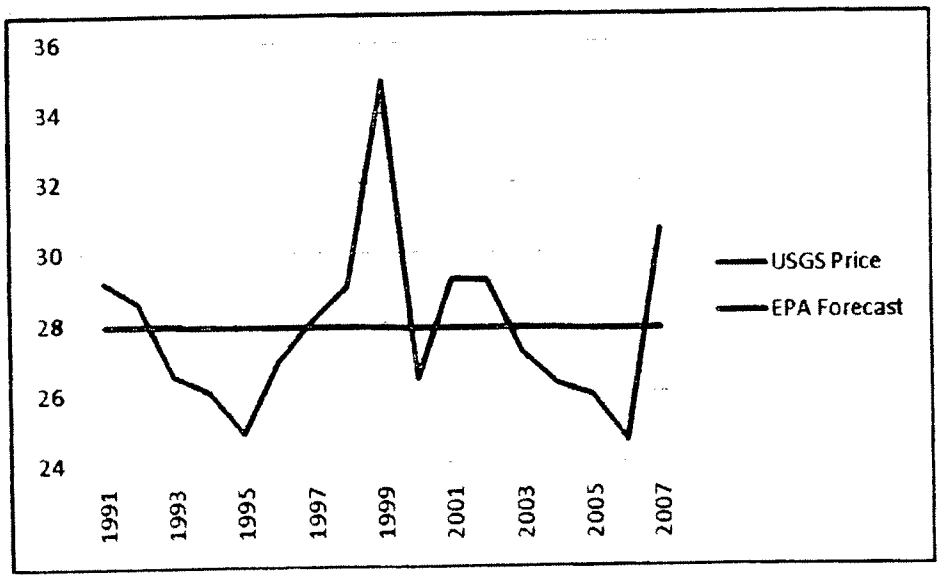
In a situation like this, it is standard practice to do one of two things: either discard the statistically insignificant variable and forecast price p_t without it, in this case as a simple average of the observed prices; or search for a better forecasting model. EPA did neither. For its projected profit calculations, EPA used the statistically insignificant estimate to reduce each successive year's price forecast by six-tenths of a cent.

Goodness of Fit

The "goodness of fit" of a statistical model is the degree to which it captures observed variations in the sample data. If two variables are highly correlated, then when one is regressed upon the other, the fit is likely to be quite good. A poor fit indicates a pronounced lack of correlation.

There are various ways to measures the fit of a model. The most frequently used measure is the R^2 statistic. For EPA's linear trend regression, $R^2 = 0.0002$. This implies that 0.02% of the total variation in price during the time period 1991-2007 is accounted for by the trend regression. One almost never sees an R^2 value that small. That it's effectively zero is consistent with the statistical insignificance of the slope coefficient.

The data graph on p. 3 of the Appendix to "Detailed Comments" actually disguises how badly the EPA model fits the data. The scale of the vertical axis is compressed. A very different picture emerges when a more reasonable scale is used:



As a rule, a decent fit is needed before one can be confident of the forecasts generated by a model. To be sure, in some models there is a trade-off between in-sample fit and out-of-sample forecast performance. One can sometimes improve the latter by sacrificing the former. But there is no such trade-off when $R^2 = 0.0002$. Hence there is no reason to place any confidence on the model's forecasts.

Other Models

Because the fit of the EPA model is so bad, I estimated a series of other pure time-series models of the rock price p_t in order to see if the fit could be improved. (I use the term "pure" here to indicate the absence of any actual data in the model besides price; the time trend t is a dummy, i.e. constructed, variable.) For example, I estimated a model that accounted for the possible autocorrelation of the error term, and one that estimated price as a first-order autoregressive process. When looking at alternative models, comparing values of R^2 is not the ideal approach, but it does provide a rough sense of fit. The largest R^2 I could find was approximately 0.12, or 12%. That is still a remarkably low value.

My provisional conclusion is that no pure time-series model does a good job of fitting this particular sample of price data. As the diagram on the previous page shows, rock prices had two big peaks during the 1991-2007 time period, both of which were brought on by external factors. Moreover, of the pure time-series models I considered, the EPA regression model has the worst fit and is effectively equivalent to doing nothing.

The only serious way to forecast price is to model it in such a way that takes supply, demand, and institutional factors into account, and that might require a multiple-equation model incorporating such data as rock production and fertilizer consumption. To be sure, such a model would require more data (both more variables and more observations per variable) than may be available here. But that's the point. Given the dearth of data, there appears to be no reliable way to forecast phosphate-rock prices. One might as well just take the average price and assume no growth, which is essentially what EPA did, even though it disguised it behind a façade of statistics.

Implications for Assessing Practicability

EPA generated its price forecasts so it could project operating profit for the various mining alternatives years into the future. A fair assessment of those forecasts finds them to be unreliable and highly speculative.

Beyond the specific problems with EPA's price forecasts, there are substantial difficulties in forecasting prices so far into the future. The outlook for global markets for phosphate rock, as well as related markets for such products as fertilizers and acids, is characterized by great uncertainty. Demand has roiled markets unpredictably for all commodities, including phosphate-derived products, most recently in the price run-up that ended in mid-2008. New sources of supply are expected, including a large mine in Saudi Arabia that is projected to come online in 2012. Given these and other factors, forecasting the price of phosphate rock is a highly speculative endeavor. To do it in a reliable manner, one would need a more sophisticated model and better data than were employed by EPA in its "Detailed Comments" document.

In contrast, it appears that we have a pretty good bead on costs. The unpredictable cost elements such as fuel account for a relatively small proportion of overall costs. And all parties in the PCS Phosphate matter have accepted as valid and reasonable the cost models generated by the Marston firm. An alternatives analysis is less likely to be speculative if based on comparisons of cost for a given purpose and need.

WATERSHED HYDROLOGY
CONSULTANTS
WatHydro

Assessing and Advancing Watershed Management

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April 16, 2009

William Cary, Esquire
Brooks, Pierce, McClendon, Humphrey & Leonard, L.L.P.
PO Box 26000
Greensboro, NC 27420

Reference: Rapid Forest Assessment: Nonriverine Wet Hardwood Stands on the Bonnerton Tract, PCS Phosphate Co., Inc.

Dear Mr. Cary:

My detailed report on the referenced assessment is in progress. However, to facilitate discussions with the U. S. Army Corps of Engineers at the scheduled site visit tomorrow, I have prepared a brief summary of my findings and conclusions.

The purpose of the rapid forest assessment reported here is to provide qualitative and limited quantitative description of three wetland mixed hardwood stands located on the Bonnerton Tract owned by PCS Phosphate Co., Inc., Aurora, NC (PCS). The three stands are the focus of ongoing discussions between staff of PCS and staff of the U. S. Environmental Protection Agency (EPA), U. S. Army Corps of Engineers (Corps), and N.C. Division of Water Quality (DWQ) regarding the forest type and the quality of those stands and their fate in the permitting process for expansion of phosphate mining into the Bonnerton Tract.

The three forest stands that are the subject of this report are denoted as vegetation type 7 on the drawing labeled: Modified Alt L – Bonnerton Proposed Impact Boundary 12/31/08 – Biotic Communities Impact. The three stands are also denoted as Significant Natural Heritage Areas on the aerial photo with property boundaries labeled as : Exhibit A, Non-Riverine Wet Hardwood Forest. For reference purposes, the three stands shall be referred to as: (1) eastern stand – easternmost of the three stands that contains the origin of Porter's Creek and consists mostly of the W. M. Gray and W. B. Gray tracts, (2) western stand – westernmost of the three stands at the intersection of NC 306 and SR 1958 and that consists mostly of the B. B. Ross and T. W. Bonner tracts, and (3) northern stand – northernmost of the three stands that lies west of the open field with air strip.

1. General Observations about the forest type "nonriverine wet hardwood forest"
   A. The forested vegetation type, nonriverine wet hardwood forest, was first named and described by Schafale and Weakley (1990) as an element of a classification system for the natural vegetation communities of North Carolina.

B. Many wetland forest stands that have been inventoried by the N.C. Natural Heritage Program (NHP) and labeled as nonriverine wet hardwood forest are not a "natural" area, as defined in NHP or EPA/Corps Guidance but instead are areas previously farmed/harvested/otherwise affected by human activity. In such forest stands, the current stand structure and tree species makeup is strongly influenced by the impacts of the past anthropogenic disturbances.

2. The nonriverine wet hardwood forest type is defined in Schafale and Weakley (1990) as "dominated" by 3 species, swamp white oak, laurel oak, and cherrybark oak in addition to several other tree species.
   A. In other NHP writings, the nonriverine wet hardwood forest type is clearly defined as applying only to stands dominated by the three key indicator species swamp white oak, laurel oak, and cherrybark oak, e.g. Schafale 2008.
   B. NHP does not define "dominated"
   C. In common forestry practice and other guidance documents, "dominated" by a tree species or combination of species typically means the single tree species or the combination of two or more species makes up greater than 50% of basal area of the stand.

3. Nonriverine wet hardwood forest in EPA/Corps guidance is defined as "with vegetation dominated (greater than 50% of basal area per acre) by swamp chestnut oak, cherrybark oak, or laurel oak alone or in combination". That same guidance also states that nonriverine wet hardwood forests are "rare, high quality wet forests, with mature vegetation". "Mature vegetation" is not specifically defined but for hardwood forests, foresters consider mature trees to be those that are at least 75 years old and ≥ 20 in dbh. For nonriverine wet hardwood forests, "high quality" also refers to extent of dominance of the three indicator species, swamp white oak, laurel oak, and cherrybark oak.

4. Nonriverine wet hardwood forests typically occur on poorly drained soils that are on the dry end of the range of wetland hydrology and are adapted to but not dependent on, wet conditions; can generally withstand long dry periods.

5. Initial Assessment
   A. There are three relatively distinct forested tracts on the Bonnerton Tract that have been labeled by NHP as nonriverine wet hardwood forest: Eastern, Western and Northern
   B. Cherrybark oak is conspicuously absent in all three tracts; this absence alone prevents characterizing the tracts as among the best nonriverine wet hardwood forests.

6. Eastern Tract
   A. best quality of the three
   B. approx. 22% of basal area in two of the indicator species, swamp white oak and laurel oak
   C. Many of the swamp white oak and laurel oak trees are relatively large, approx. 12"; some 18-20"; a few >20"
   D. no distinct 2 or 3 layer canopy

7. Western Tract
   A. poor quality
   B. approx. 5% of basal area in two of the indicator species, swamp white oak and laurel oak., very patchy distribution of the older trees with a second canopy layer of younger trees, the result of selective harvesting, likely about 30 years ago
   C. This stand also contains a number of relatively large southern red oaks, a tree adapted to well drained soils that typically does not occur in wetlands

8. Northern Tract
   A. very poor quality
   B. approximately 20% of basal area in two of the indicator species, swamp white oak and laurel oak
   C. high density harvest in very recent past
   D. large openings among the few older (often low quality) trees filling in with young, mostly "undesirable" species

9. Soils
   A. generally Tomotley fine sandy loam
   B. one area of higher and drier soils in Western Tract
   C. one depressional area in Western Tract that has evidence of long duration ponding; soils have higher organic carbon content in the surface zone that elsewhere on the tract
   D. all boreholes had positive hydric soil indicator, though on drier end of wetland hydrology and relatively low organic carbon content in the A horizon

10. Hydrology
   A. lower than expected water table (not yet recovered from drought)
   B. no saturated zone in upper 30" until proximate to Suffolk Scarp (lateral or upward hydraulic head of groundwater discharge from uplands to the west)
   C. depressional area in Western Tract had extensive areas of ponded water
   D. except for depressional area, no evidence of surface inundation in any of the three Tracts

11. Conclusions and Opinions
   A. Conclusion: the forest stands in none of the three Tracts meet the definitions of nonriverine wet hardwood forest in Schafale and Weakley (1990) and in EPA/Corps guidance.
   B. Opinion: regardless of the label, the three Tracts (singly) and the three Tracts collectively are not "significant" examples of the nonriverine wet hardwood forest type as contemplated by NHP. While portions of the Eastern Tract are good to very good quality, none of the Tracts are "exemplary," "unique," or "outstanding."
   C. Opinion: The bifurcation of the Western and Eastern Tracts by the proposed mining corridor should not negatively affect either Tract.

Literature Cited

Schafale, M. P. and A. S. Weakley. 1990. Classification of the natural communities of North Carolina. Third approximation. North Carolina Natural Heritage Program, N.C. Department of Environment, Health, and Natural Resources, Raleigh, NC.

Schafale, M. P. 2008. Nonriverine wet hardwood forests in North Carolina: Status and Trends. Unpublished report. North Carolina Natural Heritage Program, N.C. Department of Environment and Natural Resources, Raleigh, NC.

Cordially,

James D. Gregory

James D. Gregory

PCS Presentation to ASA and COE Re: EPA Detailed Comments

April 17, 2009

PotashCorp

PotashCorp.com

PCS Presentation to ASA and COE
Re: EPA Detailed Comments

- Review of EPA Analysis of Unacceptable Adverse Effects on Aquatic Resources of National Importance
- Review of Project Purpose and Need
- Review of EPA Financial Analysis
  - Brod Critique of EPA Financial Analysis
  - Improper Consideration of "Profit' rather than "Cost"
  - Comparison of Alternative Ore Recovery and Impacts
  - Comparison of Alternative costs at 15 years and 20 years
  - Calculation of Ore Value Lost
- Review of EPA Failure to Comply with Required Review Procedures
  - Late Alternative
  - Failure to refer to Council on Environmental Quality

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CWA 404(q) MOA

...the elevation of individual permit cases should be limited to those cases where the net loss (i.e., after considering mitigation) from the project (i.e., within the scope of impacts being evaluated by the Corps), will result in unacceptable adverse effects to aquatic resources of national importance. Part IV.1

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CWA 404(q) MOA

The Regional Administrator's opinion that elevation is warranted "should explain how the agency determination was made, should be based on **site specific information** and relate directly to matters within EPA's authority and expertise."

Part IV.3(b)(emphasis added)

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Modified Alternative L

Should not have been elevated because site specific information shows that net loss (after considering mitigation) will **not** result in:

- unacceptable adverse effects ("UAEs") to
- aquatic resources of national importance ("ARNIs")

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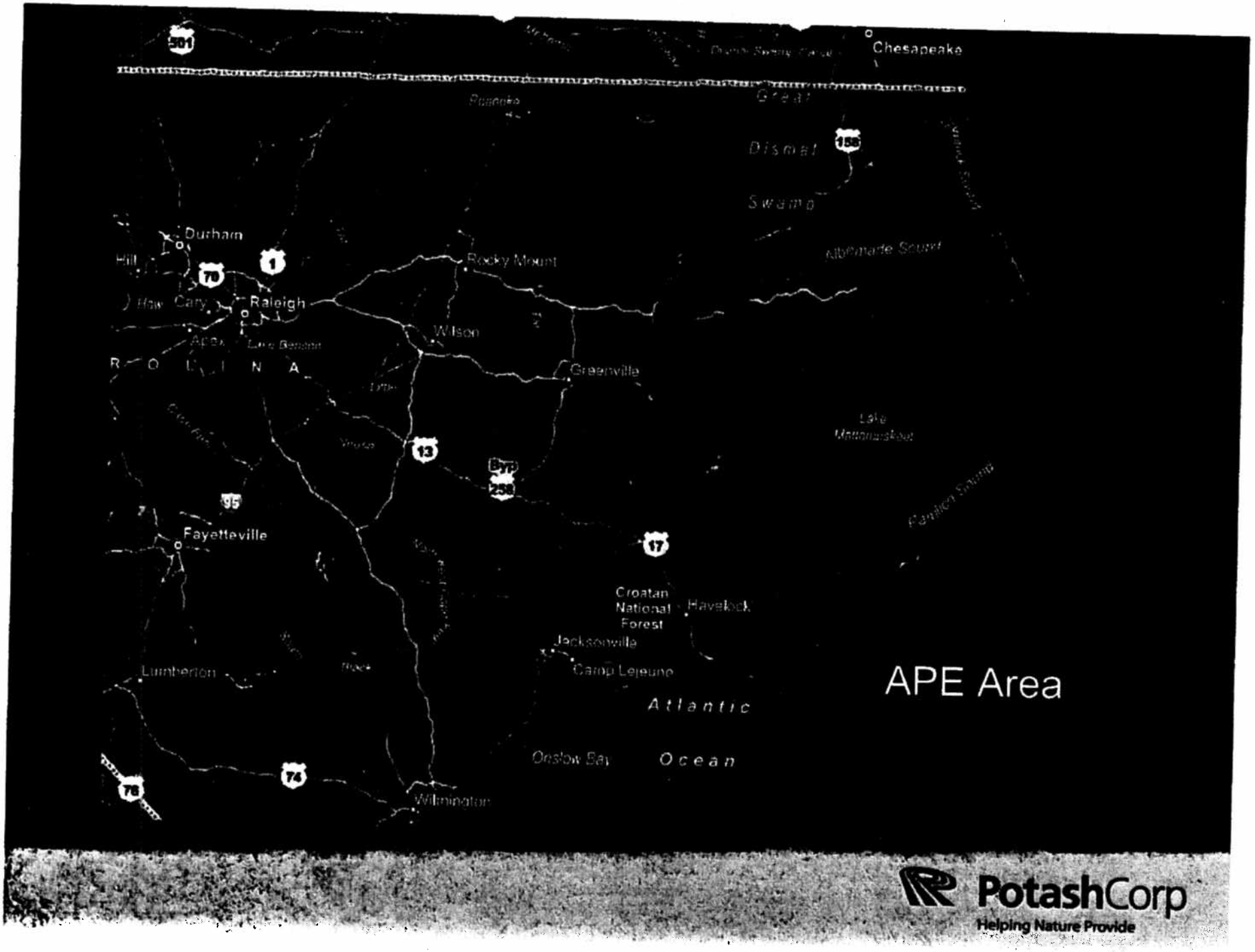
EPA - Identified ARNI

- Albemarle Pamlico Estuary ("APE")
- Tidal creeks (wind tides)
- PNAs
- Bonnerton hardwoods (271-acre tract)


Chesapeake
Great
Dismal
Swamp
Albemarle Sound
Durham
Hill
Rocky Mount
Raleigh
Cary
Wilson
Greenville
Lake Mattamuskeet
Fayetteville
Croatan National Forest
Havelock
Jacksonville
Camp Lejeune
Lumberton
Atlantic
Ocean
Wilmington
APE Area
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No UAEs to APE, Tidal Creeks, or PNAs

- Direct effects - total avoidance
  - No direct effects after (or even before) mitigation
- Indirect effects -
  - Site-specific studies do not indicate significant indirect effects

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APE, Tidal Creeks, PNAs:

- EPA Comment:
  - Wetlands that surround or serve as headwaters for estuarine creeks are essential for the creeks to serve as Primary Nursery Areas.
  - Significantly reducing the drainage areas will significantly impact the tidal creeks and impair their function as PNAs.
  - We believe the potential effect of DBR on the production of marine fisheries resources is significant.

- Response
  - EPA comments not supported by site specific information

APE, Tidal Creeks, PNAs: Site Specific Information

- ENTRIX report
  - ***Site-specific*** analysis
  - Assesses indirect effects
  - Compiles and analyzes site-specific data from multiple sources spanning a period of more than 20 years
  - No significant indirect effects

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APE, Tidal Creeks, PNAs: Site Specific Information

The available data:

- provided few indications of discernable changes that demonstrated an effect indicative of drainage basin reduction. . . . Indeed, overall there was no discernable effect based on the water quality parameters, fish assemblages or general benthic assemblage and condition, as indicated by species richness, expected dominance of certain taxonomic groupings, presence of sensitive or tolerant species, and other biotic indices used for assessing the health and integrity of estuarine tidal creeks. Entrix Report ¶ 5.1.1.

APE, Tidal Creeks, PNAs:

- EPA Comment: EPA does not believe it is valid to use the West study (on Project Area II) to make these inferences "of broad scale functional equivalency of PA II to local tidal creeks".

- Response:
  - West (2000) **(and Rulifson (1991))** both support functional equivalency based on *site-specific information*
  - In contrast, EPA relies on non-site-specific information and, in some cases applies information from dissimilar, non-estuarine, freshwater systems.

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PA II – man-made, no drainage basin, year 1

PA II – man-made, no drainage basin, year 25

APE, Tidal Creeks, PNAs:

- EPA Comment: SAV populations have recently declined by as much as 50%, possibly because of anthropogenic impacts.

- Response
  - No such decline in project area. Area creeks are densely populated by SAVs. FEIS 3.6.1.

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APE, Tidal Creeks, PNAs:

- EPA Comment: Most of the drainage basin wetlands that would be subject to impacts are wet forests... subject to repeated periods of inundation and desiccation ... resulting in episodic exports of dissolved organic materials to the estuary.

- Response
  - The only "wet forests" that are subjected to repeated periods of inundation and desiccation would be 15 acres of bottomland hardwood, thus the existing episodic exports are minimal and their loss would be insignificant.

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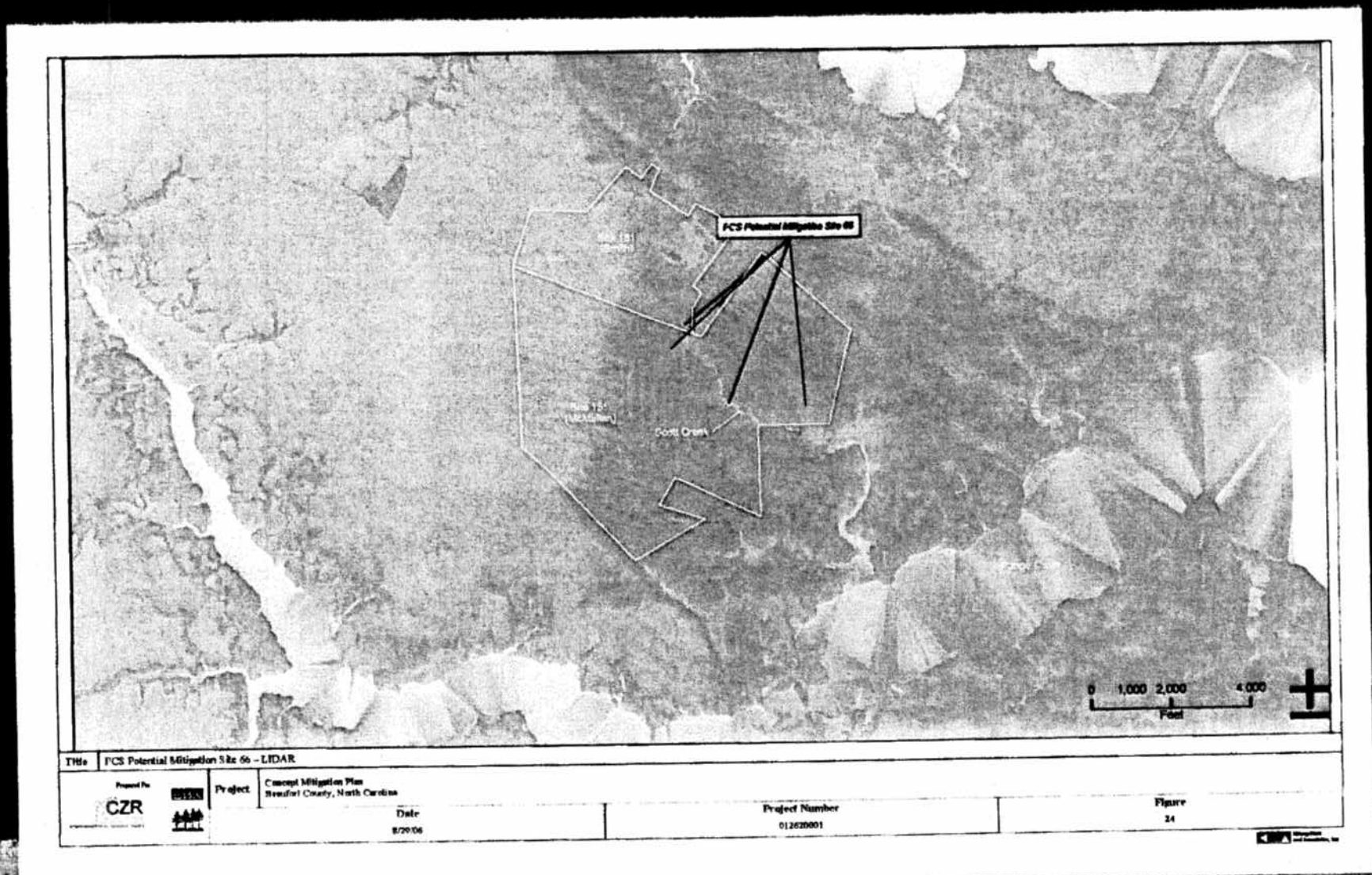
Mitigation

- Mitigation will not only offset direct impacts, but will provide and enhance functions that support APE, tidal creeks, and PNAs
- Wetlands mitigation plan involves over 11,500 acres of wetlands restoration, enhancement, and preservation
  - Wetlands restoration ratio alone is 2:1
  - The 2:1 ratio does not include preservation and enhancement
- Stream mitigation plan involves more than 70,000 feet of restoration and preservation
  - Stream restoration ratio alone is 1.8:1
  - The 1.8:1 ratio does not include preservation
- No net loss
- Net resource gain
- Higher ratios are unnecessary and inappropriate

Hell Swamp/Scott Creek Mitigation Site



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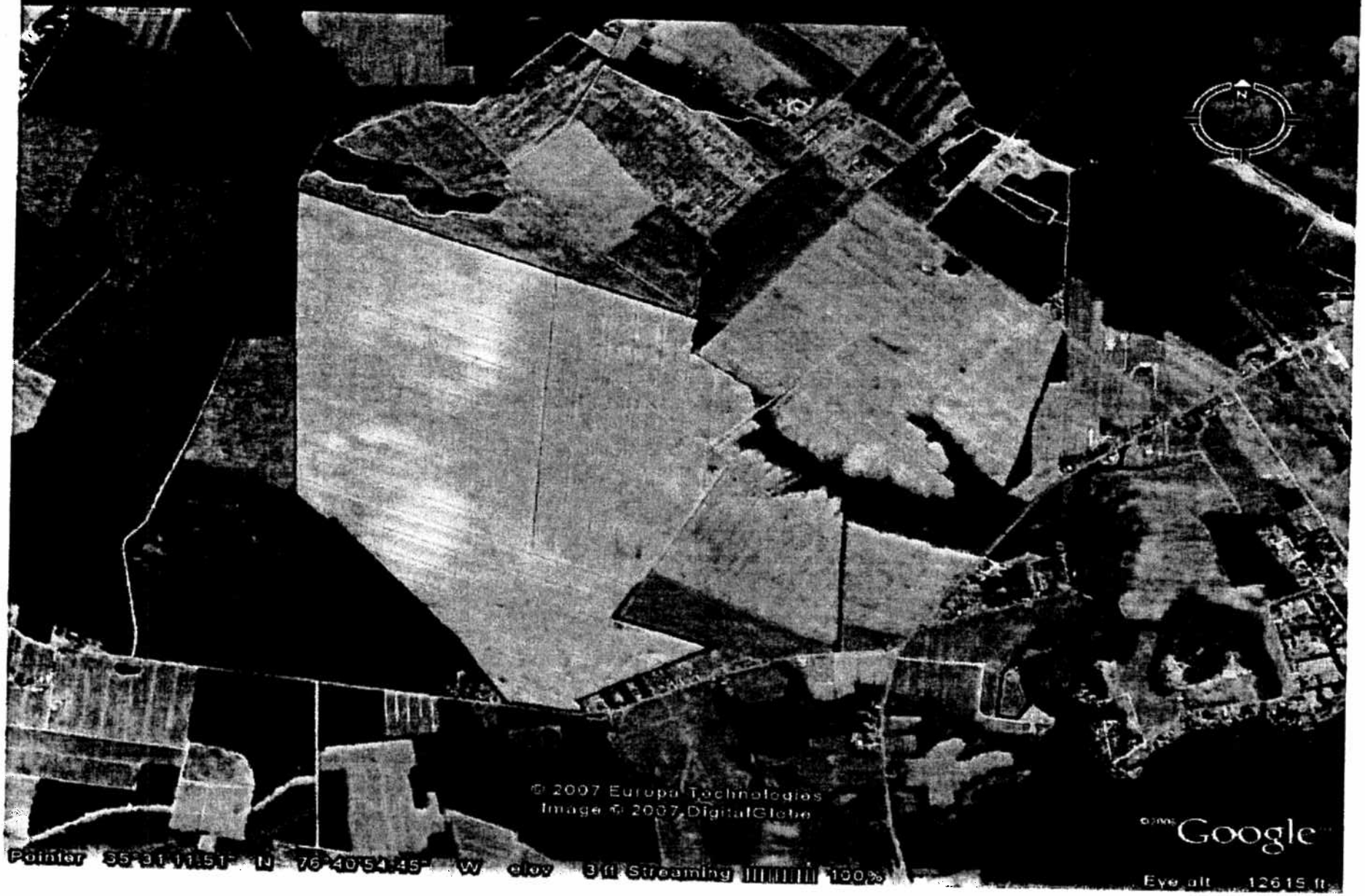
Hell Swamp/Scott Creek Mitigation Site



Hell Swamp/Scott Creek Mitigation Site

APE, Tidal Creeks, PNAs

Conclusion

- Total avoidance; zero direct effects
- No net loss
  - Findings of the best available site specific studies show no significant indirect effects
- Net resource gain
  - Mitigation will provide/enhance functions that support APE, tidal creeks, and PNAs
- No reasonable basis for finding UAEs on APE, tidal creeks or PNAs

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271-acre tract

"NATIONALLY SIGNIFICANT NATURAL HERITAGE AREA"

- **NOT** an official State classification or designation.

- An informal **listing** first published less than six months ago
  - Unilaterally, without notice, hearing or opportunity for meaningful outside expert input
  - not pursuant to any regulatory system
  - not reviewed by the statutorily created Advisory Committee
  - without ANY due process protections for the landowner

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271-acre tract

- EPA Comment
  - The proposed project would directly impact 97 acres of this ecologically valuable and rare wetland system.

- Response
  - Site specific information shows that:
    - The acreage to be impacted:
      - Is not rare or especially valuable. *See* Gregory report.
      - Includes two "connection areas" that are pine plantation and shrub-scrub.
    - Modified Alternative L will even avoid substantial areas of the tract that are not rare or especially valuable

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271-acre tract

- Initial Site Assessment
  - James D. Gregory
    - Ph.D. – Forest Hydrology & Soils
    - Professor Emeritus (NCSU) – Forestry, Watershed & Wetlands Hydrology
  - Site Inspection – April 9, 2009
  - Average basal area/acre estimate - April 13, 2009 (Seth Ward, Sr. Forester, Environmental Services, Inc.)

- Final Gregory Report – in preparation. Available during week of April 20, 2009

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271-acre tract
Dr. Gregory's findings:

- Tract is not NRWHF as defined by NHP
  - Not "dominated" by indicator species [swamp white oak, laurel oak, cherrybark oak]
  - Absence of cherrybark oak precludes characterization as among the best examples
  - All 3 parcels < 25% indicator species
  - Not "high quality" (age, size)
- Eastern portion (best of the three) is "good" or "very good," but not outstanding, exemplary or unique
- Western portion is poor
- Northern portion is very poor
- Hydrology
  - Eastern and Western portions not interdependent
    - Eastern is related to Porter's Creek headwaters
    - Western is related to Suffolk Scarp
  - NRWHFs are adapted to, but not dependent on, wet conditions
  - Except for a few wet depressions in the Western portion, no evidence of inundation

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271-acre tract
Dr. Gregory's Opinions

- Tract does not merit NHP Designation of National Significance

- Tract will not be adversely affected by mining corridor
  - eastern and western portions are not interdependent

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271-acre tract
EPA/Corps Guidance*

- EPA/Corps Guidance provides insight about NRWHFs
- EPA/Corps Guidance requires permitting for mechanical silvicultural site preparation if an area is of "rare, high quality wet forests, with mature vegetation."
- 271-acre tract not rare; not high quality. *See* Gregory
- EPA/Corps Guidance says high quality if:
  - "undisturbed forest stands, whose character is not significantly affected by human activities (e.g., forest management)."
- "Its current condition can be **attributed to** past logging. . ." Michael Schafale (NC NHP), July 15, 2008 (emphasis added).

* EPA/Corps Memorandum, November 28, 1995, "Application of Best Management Practices to Mechanical Silvicultural Site Preparation Activities for the Establishment of Pine Plantations in the Southeast."

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271-acre tract

- EPA Comment: In light of the very unique and rare qualities of this area, it is not clear that its attributes could be replaced by compensatory mitigation, raising concerns regarding significant degradation.

- Response:
  - Site specific information shows that the area is not unique or rare. Impacts would be to lowest quality areas.
  - PCS mitigation sites provide over 1,000 acres of restored NRWHF that are planted in a variety of wetland oaks and other wetland species on soil types identified by NCNHP as NRWHF soil types, and in similar geographic position as Bonnerton.
  - A 34-acre tract of NRWHF is also being preserved contiguous with a mitigation site.

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Gum Run: NRWHF Mitigation Site (Planted in 1992)

271-acre tract
Conclusion

- No ARNI
  - Not nationally important
  - Not rare or especially valuable

- No UAEs
  - Only 97 acres of replaceable shrub-scrub, pine plantation and other forest would be impacted
  - Impacts are mitigatable
  - No net loss
  - Net resource gain

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Upfront mitigation

- All mitigation projects will be constructed and sufficient prior to impacts

Reclamation

- All mined areas will be reclaimed consistent with regulatory requirements
- Approximate drainage basins will be restored

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Overall Conclusions

- APE, tidal creeks and PNAs
  - Total avoidance
    - No direct impact
  - Indirect impact is insignificant
    - EPA comments are not supported by best available site-specific science

- 271-acre tract
  - Not an ARNI
  - Impacts mitigatable

- Substantial upfront mitigation; reclamation; no net loss; net resource gain

- No UAEs to ARNIs

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Purpose and Need
Public Need

- PCS is a major employer in the region and the largest employer in the county
- Phosphate rock is the only commercial source of the element phosphorous
- Phosphorous is a basic component of fertilizer, animal feed, and consumer products
- ". . . [T]he Aurora Phosphate deposit is one of the few remaining minable deposits in the United States." FEIS 1.2.1
- "Halting the recovery of the Aurora phosphate deposit combined with the projected decline in Florida phosphate production would leave the US farm economy largely dependent upon foreign sources of phosphate supply." *Id.*

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Purpose and Need
Applicant's Need

- " . . . the applicant's purpose and need is to implement a **long-term** systematic and **cost-effective** mine advance within the project area for ongoing PCS mine operation at Aurora, North Carolina." FEIS 1.2.2, p. 1-4.
- This is the same statement of Purpose and Need as was used in the prior 404 permitting process:
- "a long-term (approximately 20 years) systematic and cost-effective mine advance within the 14,200 acre project area ... for the ongoing [PCS] mine operation at Aurora, North Carolina." *Pamlico-Tar River Foundation v. U.S. Army Corps of Engrs., et al.*, 329 F.Supp.2d 600, 606 (EDNC 2004).
- That statement of Purpose and Need has been approved by the Court:
- "Defendants did a thorough job of defining the project purpose and need in a reasonable manner." *Id.* at 614-15.

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NGO Alternative Does not Meet Purpose and Need

- The Purpose and Need statement recognizes that the mining plan must be BOTH long-term and cost effective.
- Mining south of Route 33 is not cost-effective in the foreseeable future.
- The Corps has recognized that this Purpose and Need statement means that PCS needs 15 years mining north of Route 33.
- The new NGO alternative provides only 8 years of mining north of Route 33, and hence is inconsistent with the applicant's legitimate purpose and need.

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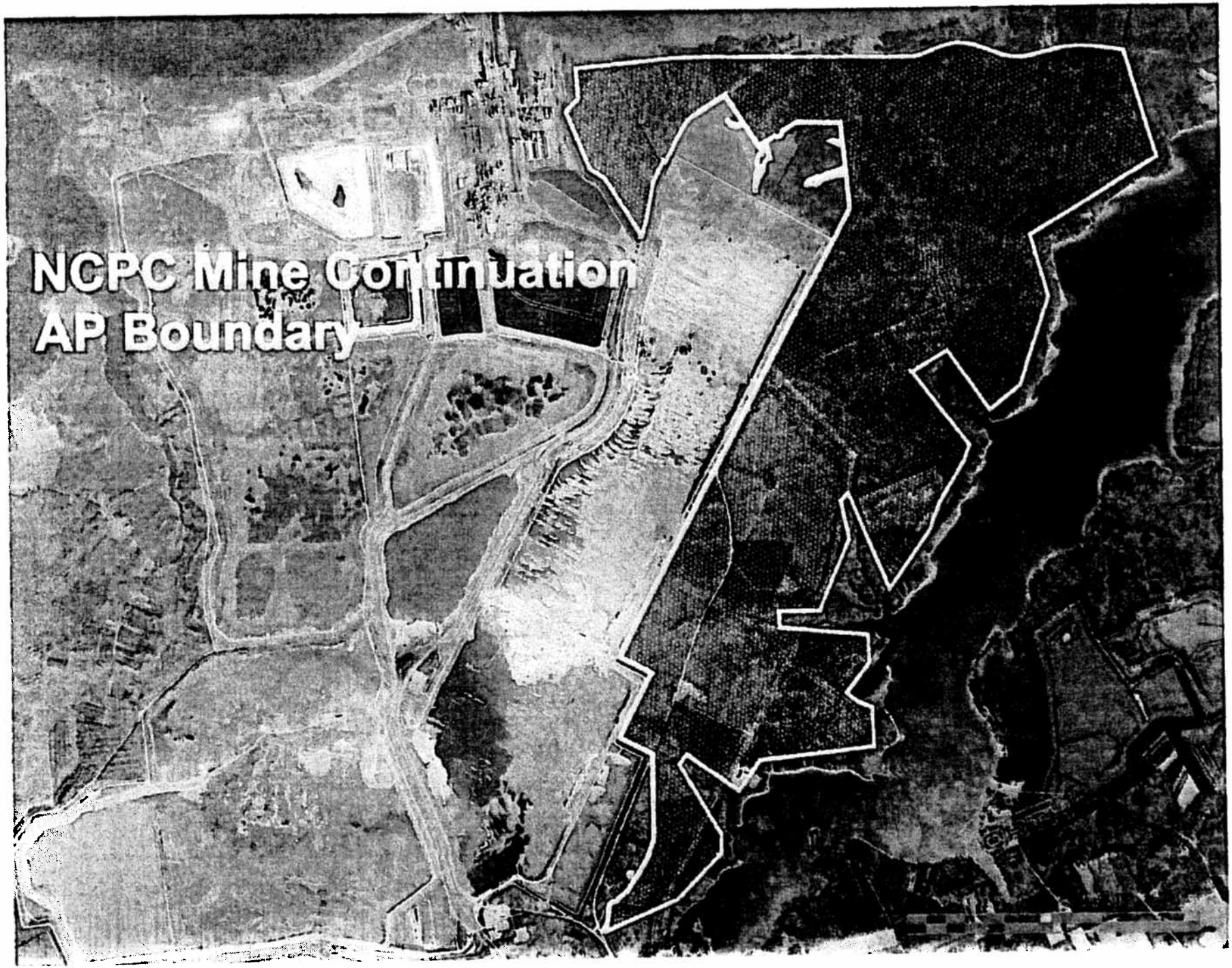
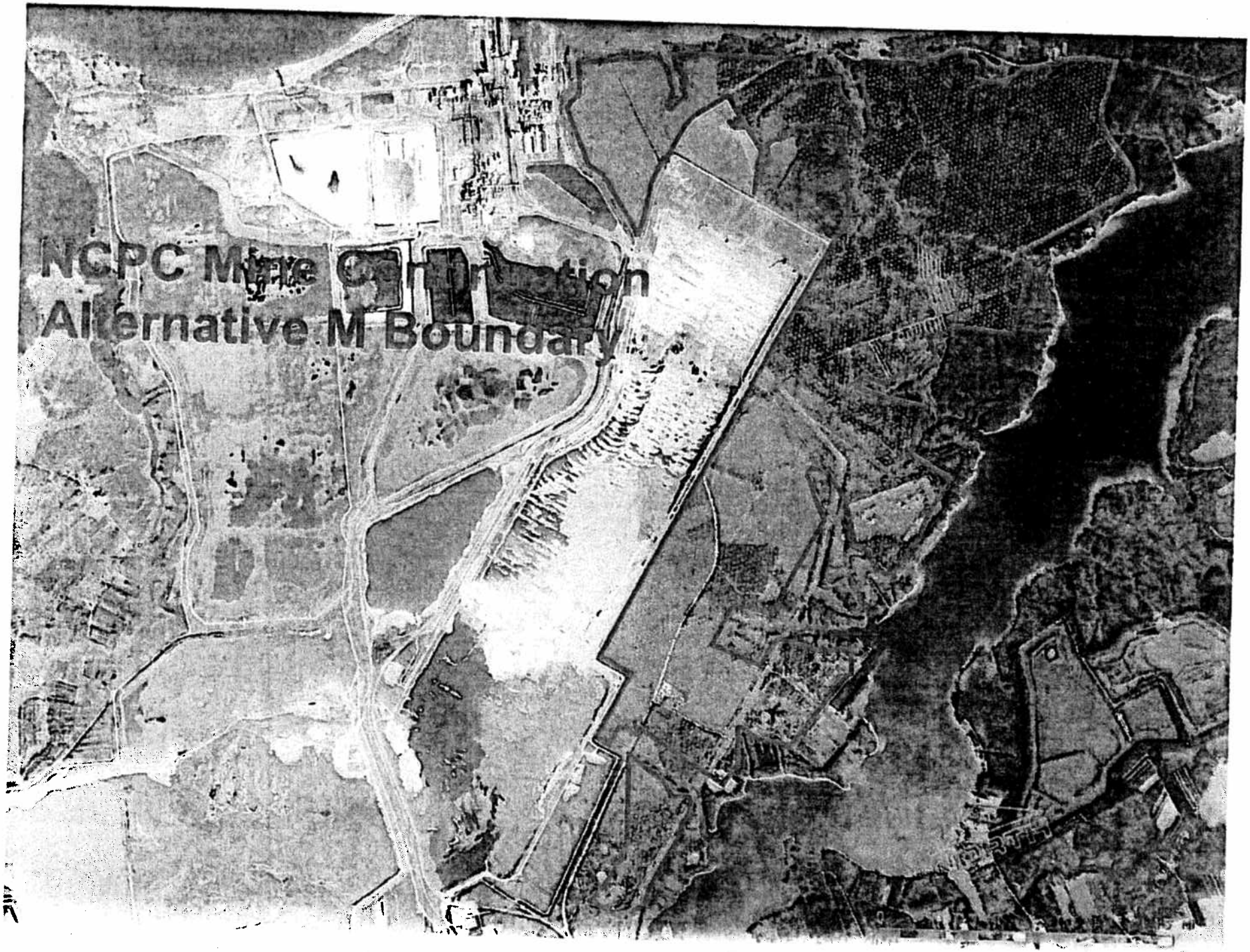

NCPC Mine Continuation
AP Boundary


NCPC Map Configuration
Alternative M Boundary


NCPC Mi
Modified Alte
ve L Bo
ndary


NCRC Mine Continuation
EPA Boundary

Alternatives Comparison Summary
(Tons x 1,000,000)

	TONS	YEARS	WETLANDS	STREAMS
Alt EAPA	244	49	5,668	89,150
Alt M	204	41	4,592	36,999
Alt L	185	37	4,135	29,288
Modified Alt L (401 WQC)	176	35	3,977	25,727
Alt EPA/NGO (03/24/09)	147	29		

Reductions vs EAPA

	TONS	YEARS	WETLANDS	STREAMS
Alt EAPA	-	-	-	-
Alt M	(40)	(8)	(1,076)	(52,151)
Alt L	(59)	(12)	(1,533)	(59,862)
Modified Alt L (401 WQC)	(68)	(14)	(1,691)	(63,423)
Alt EPA/NGO (03/24/09)	(97)	(20)		

Reductions vs EAPA

	TONS	YEARS	WETLANDS	STREAMS
Alt EAPA	-	-	-	-
Alt M	-16%	-16%	-19%	-58%
Alt L	-24%	-24%	-27%	-67%
Modified Alt L (401 WQC)	-28%	-28%	-30%	-71%
Alt EPA/NGO (03/24/09)	-40%	-41%		

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[4 Robert Ng 33]

Financial Analysis

- Economist Dr. Andrew Brod reviewed models EPA used to forecast profitability and determined: "there is no reason to place any confidence on the model's forecasts."
- "Profitability" is the wrong factor to be considered in determining "Practicability". The words in Guidelines are "taking into consideration cost, existing technology, and logistics in light of the overall project purpose". 40 C.F.R. § 230.10(a)(2).
- "It is important to emphasize . . . that it is not a particular applicant's financial standing that is the primary consideration for determining practicability, but rather the characteristics of the project and what constitutes a reasonable expense for these projects that are most relevant to practicability determinations." EPA Memorandum To The Field, at 5 (August 1993)

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Alternatives Comparison Summary
Total Cash Cost Commitment for EAPA
Additional Cash Cost Commitment vs EAPA
($ x 1,000,000)

	15 YEARS	29 YEARS
Alt EAPA	1,678	3,354
Alt M	(21)	72
Alt L	7	183
Modified Alt L (401 WQC)	8	214
Alt EPA/NGO (03/24/09)	118	327

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Value of Ore Lost Due to Permanent Easement

Lost Tons (in millions of short tons)

	NCPC	Bonnerton	Total
EAP	76	43	119
EPA/NGO	15	27	42
Lost Tons	61	16	77

Approach #1: "All at once"

Value of Lost Ore	NCPC	Bonnerton	Total
Avg. USGS price, 1991-2007	27.84	27.84	
Cost per ton	21.72	23.53	
Margin ($/ton)	6.12	4.32	
Profit ($ million)	373.57	69.11	442.68

Approach #2: Mined over 16 years

Year (ordinal)	1	2	3	4	5	6	7	8
Year (actual)	2009	2010	2011	2012	2013	2014	2015	2016
EPA price forecast	27.78	27.77	27.77	27.76	27.76	27.75	27.74	27.74
Cost per ton	21.72	21.72	21.72	21.72	21.72	21.72	21.72	21.72
Margin ($/ton)	6.06	6.05	6.05	6.04	6.04	6.03	6.02	6.02
Tons (millions)	5	5	5	5	5	5	5	5
Profit/year ($ million)	30.31	30.27	30.24	30.21	30.18	30.15	30.12	30.09
Present Value @ 3%	30.31	29.39	28.51	27.65	26.81	26.01	25.22	24.46
Present Value @ 7%	30.31	28.29	26.42	24.66	23.02	21.50	20.07	18.74

Year (ordinal)	9	10	11	12	13	14	15	16	Total
Year (actual)	2017	2018	2019	2020	2021	2022	2023	2024	
EPA price forecast	27.73	27.72	27.72	27.71	27.71	27.70	27.69	27.69	
Cost per ton	21.72	21.72	21.72	21.72	23.18	23.53	23.53	23.53	
Margin ($/ton)	6.01	6.00	6.00	5.99	4.54	4.17	4.17	4.16	
Tons (millions)	5	5	5	5	5	5	5	2	77
Profit/year ($ million)	30.05	30.02	29.99	29.96	22.71	20.87	20.84	8.32	434.33
Present Value @ 3%	23.72	23.01	22.32	21.64	15.93	14.21	13.78	5.34	358.31
Present Value @ 7%	17.49	16.33	15.25	14.23	10.08	8.66	8.08	3.02	286.14

Sources:

- *Aggregate tons: PCS Phosphate*
- *USGS adjusted prices: FEIS Table 2-7*
- *Cost per ton: FEIS p. 2-25*
- *EPA price forecast: Appendix to Detailed Comments p. 8*

All dollar values expressed in constant 2005 dollars

Notes:

- *Cost per ton for Bonnerton calculated as the average of costs under EAPA and EAPB.*
- *Cost per ton in year 13 calculated as the weighted average of costs in NCPC and Bonnerton.*

EPA Has Not Complied With Established Project Review Procedures

- 1. The Corps cannot consider alternatives that were not reasonably studied in the FEIS.
- EPA was an "active participant" in nearly 20 Review Team meetings addressing alternative selection for 9 years.
- EPA specifically requested discussions that led to Alternative L being studied in the SDEIS
- EPA did not present its NGO Alternative until one year after comments closed on the FEIS
- Under the law of the US Supreme Court, the Corps has no obligation under NEPA or the 404(q) MOA to consider alternatives not raised in the EIS process. *Department of Transp. V. Public Citizen, 541 U.S. 752, 764-5 (2004)*
- As the Supreme Court stated: "Indeed, administrative proceedings should not be a game or a forum to engage in unjustified obstructionism by making *554 cryptic and obscure reference to matters that 'ought to be' considered and then, after failing to do more to bring the matter to the agency's attention, seeking to have that agency determination vacated on the ground that the agency failed to consider matters 'forcefully presented.'" *Vermont Yankee v. NRDC, 98 S. Ct. 1197, at 1217 (1978)*
- PCS is substantially prejudiced by EPA's untimely actions.

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EPA Has Not Complied With Established Project Review Procedures

- 2. EPA has not complied with requirements to refer any "unsatisfactory" environmental effects to CEQ (309 referral).
  - "In the event the Administrator determines that any such . . . action . . . is unsatisfactory from the standpoint of public health or welfare or environmental quality, he shall publish his determination and the matter shall be referred to the Council on Environmental Quality." 42 U.S.C.A. § 7609 (emphasis added).
  - "The referring agency shall deliver its referral to the Council not later than twenty-five (25) days after the final environmental impact statement has been made available . . . . " 40 CFR 1504.3
  - EPA made no referral to CEQ – timely or otherwise
  - EPA either failed to comply with the statute and regulations or concluded the impacts were not "unsatisfactory"

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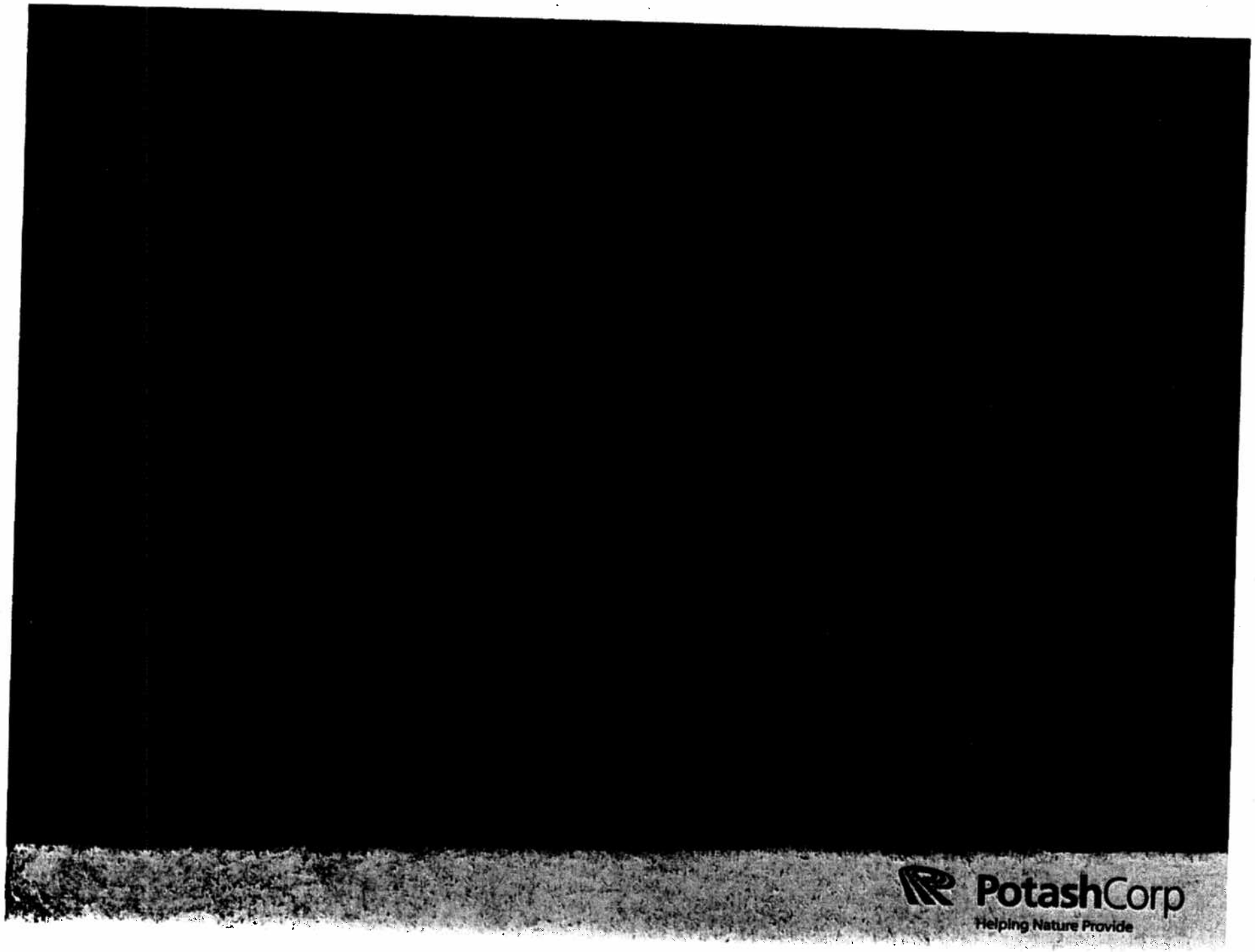
EPA Has Not Complied With Established Project Review Procedures

- 3. In this case, the 404(q) request is based on the same facts and issues as should have been raised in the 309 referral analysis.
  - Both tests require EPA to evaluate for national importance
    - Section 404(q) MOA Part IV.1: "The elevation of specific individual permit cases will be limited to those cases that involve aquatic resources of national importance"
    - 40 C.F.R. § 1504.3(c)(2)(iv): requiring a referral to CEQ to include a finding by EPA "whether the issue raised is of national importance"
  - Section 309 regulations require EPA to consider:
    - Possible violations of national environmental standards, severity, scope, duration, importance as precedent and environmentally preferable alternatives
  - EPA's current elevation position relies solely on known issues that EPA was required to consider when making its referral decision.
  - EPA did not find these facts sufficient to justify a 309 referral.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PCS Presentation to ASA and COE Re: EPA Detailed Comments

April 17, 2009

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PCS Presentation to ASA and COE
Re: EPA Detailed Comments

- Review of EPA Analysis of Unacceptable Adverse Effects on Aquatic Resources of National Importance
- Review of Project Purpose and Need
- Review of EPA Financial Analysis
  - Brod Critique of EPA Financial Analysis
  - Improper Consideration of "Profit' rather than "Cost"
  - Comparison of Alternative Ore Recovery and Impacts
  - Comparison of Alternative costs at 15 years and 29 years.
  - Calculation of Ore Value Lost
- Review of EPA Failure to Comply with Required Review Procedures
  - Late Alternative
  - Failure to refer to Council on Environmental Quality

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4/17/09 EPA, USACE 404Q - PCS Phosphate

Name	Group
Tom Walker	USACE - SAW
Arch Middleton	USACE - SAD
Robert Wood	USEPA - HQ - Wetlands, Oceans, Watersheds
Jennifer Derby	USEPA - Region 4 Wetlands
Palmer Hough	EPA - HQ - WD
Garrett Dorsey	USACE - HQ detail assignment
Brooke Lawson	USACE - SAW
Ken Jolly	USACE - SAW
Jennifer Moyer	HQ USACE
Jeff Ryscavage	USACE - Wilmington
Chip Smith	ASA - Civil Works
Steve Becker	PCS Phosphate
Suzanne Chubb	ASA - Civil Works
Jerry Waters	PCS Phosphate
Randy Tinsley	BPMHC for PCS
George House	BPMHC for PCS
Bill Cary	"
Paul M. Mannato	Pentrix, Inc.
Laney Liebesman	Holland + Knight for PCS
Ross Smith	PCS Phosphate
Jeff Furness	PCS Phosphate
Julia K. Berger	CZR Incorporated
David Lekson	USACE

EPA's Actions are Untimely and Prejudicial

A. EPA's new Alternative is Untimely.

The new "NGO" Alternative was suggested by the EPA for the first time at a meeting on March 24, 2009, ten months after publication of the FEIS and two months after NC DENR had completed its 401 review and issued its certification. It is, as demonstrated earlier, both inconsistent with the FEIS's statement of purpose and need and not practicable. In addition, it comes too late.

CEQ's NEPA regulations prohibit consideration of a new alternative at this stage: "A decisionmaker must not consider alternatives beyond the range of alternatives discussed in the relevant environmental documents."[1] The reason is plain: "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken." 40 C.F.R. § 1500.1 (emphasis added). Accordingly, Federal agencies are required to adopt procedures to ensure that decisions are made in accordance with the policies and purposes of NEPA, including "[r]equiring that the alternatives considered by the decisionmaker are encompassed by the range of alternatives discussed in the relevant environmental documents. . . ." 40 C.F.R. 1505.1(e). For nearly 25 years, EPA's own policies have required it to suggest alternatives at the draft comment stage. EPA "Policy & Procedures for the Review of Federal Actions Impacting the Environment," Oct. 3, 1984.

The United States Supreme Court has held that under NEPA, commenters who fail to raise practicable alternatives during the EIS process forfeit their rights to raise objections with the proposed action. *Department of Transp. v. Public Citizen*, 541 U.S. 752, 764-65 (2004). As one district court has concluded, "[t]he question thus becomes whether the challenging party has placed the agency on notice as to the specific alternative it favors." *High Sierra Hikers Ass'n v. U.S. Forest Service*, 436 F.Supp.2d 1117, 1148 (E.D. Cal. 2006) (emphasis added); *accord Biodiversity Conservation*

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[1] "CEQ's Forty Most Frequently Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 F.R. 18036 (Mar. 23, 1981) as amended by 51 F.R. 15618 (Apr. 25, 1986) (emphasis added).

Alliance v. U.S. Bureau of Land Management, 404 F.Supp.2d 212, 219 (D.D.C. 2005) ("The plaintiffs failed to urge the BLM to consider this alternative in their comments to the proposed action and, therefore, they have forfeited their opportunity to challenge the EA on this basis at this time."). When NEPA regulations were being debated, it was suggested that Federal commenting agencies should not be held to the same standard as other commenters, but that suggestion was rejected:

> "*Comments on § 1503.2: Duty to comment.* Section 1503.2 set forth the requirements of federal agencies to comment on environmental impact statements. Several commenters suggested reinforcing the requirement that Federal agencies are subject to the same time limits as those outside the Federal government in order to avoid delays. The Council concurred in this suggestion and amended the provision accordingly."

43 F.R. 55978, 55985 (Nov. 29, 1978) (emphasis added).

Here, the record reflects no attempt by EPA to raise the NGO Alternative at any time before the Corps finalized the EIS and was prepared to issue a 404 Permit. It is not as though EPA did not have an opportunity to suggest a new alternative in a more timely fashion: EPA participated actively on the interdisciplinary Review Team that met more than twenty times throughout the EIS process to identify and refine alternatives. Indeed, EPA requested discussions (see Review Team Minutes of 1 September 2006 Meeting) that appear to have culminated in the Corps developing and considering Alternative L in a supplemental DEIS.

EPA has presented neither a legal basis nor a factual basis that would justify the Corps' reconsideration of its conclusion that Alternative L is the Least Environmentally Damaging Practicable Alternative.

EPA and all parties have been aware for four or more years of the fact that PCS will run out of land permitted for mining impacts by May of 2009. EPA actions place PCS under duress. It must either curtail operations by laying off workers and contractors involved in pre-stripping or accept a permit alternative which is clearly not practicable. After 9 years of participation, EPA should not be rewarded for its dalliance.

B. EPA's obligation to review the Project and refer disputes to CEQ.

EPA is required by law to review the Project[2] for "the environmental impact of any matter relating to [EPA's] duties and responsibilities." 42 USC §7609(a). "In the event the Administrator determines that any such . . . action . . . is unsatisfactory from the standpoint of . . . environmental quality, he shall publish his determination and the matter shall be referred to the Council on Environmental Quality." 42 USC §7609(b)(emphasis added). Notice of the referral should be given to the lead agency [here, the Corps] "at the earliest possible time," 40 CFR §1504.3(a)(1), and the referral to CEQ must be made within 25 days after the FEIS is made available to EPA. *Id.*, §1504.3(b). The purpose of the statute and regulatory scheme is to assure "early resolution of [interagency] disagreements." 40 CFR §1504.1(a).

The EPA recognizes the legal requirement of early resolution of interagency disputes. Consistent with the NEPA regulations, EPA guidance calls for resolving interagency disputes before the last minute.

> It is not the Agency's intention to hold back and then suddenly spring a veto action at the last minute. The fact that 404(c) may be regarded as a tool of last resort implies that EPA will first employ its tool for "first resort," e.g. comment and consultation with the permitting authority at all appropriate stages of the permit process.

44 F.R. 58076, 58080 (Oct. 9, 1979) (emphasis added).

C. EPA failed to act under CEQ requirements.

The FEIS was published and distributed on May 22, 2008. EPA did not, at *any* time thereafter:

- publish a determination that the Project was "unsatisfactory;"
- notify the Corps that a referral to CEQ would be made;

[2] As used herein, "Project" is shorthand for the proposed action, as described in the EIS and proposed permit.

- refer the matter to CEQ; or
- seek an extension of time for such a referral.

These facts are not in dispute.

D. Reconciling EPA's failure to act with its 404(q) request.

There are two possible explanations for the EPA's invocation of 404(q) [and its threatened use of 404(c)] after failing to act in a timely manner during the NEPA process:

1. EPA found the Project to be unsatisfactory, but decided not to publish that finding or refer the matter to CEQ. If EPA believes this project is environmentally unsatisfactory, its failure to make that finding and refer it to CEQ would be a clear violation of federal law. *See, e.g., Sierra Club v. Morton*, 379 F. Supp. 1254, 1260 (D. Colo. 1974) (finding Section 309 "places a mandatory duty upon the Administrator" to refer in the event that he determines the action is "unsatisfactory"). We should not presume that EPA intentionally chose this course.
2. EPA did not find the Project unsatisfactory in May of 2008, but believes the facts have now changed such that the Project has become environmentally unsatisfactory in April of 2009. However, the facts have not changed: the only difference between the FEIS and the 404 permit the EPA now calls "unacceptable" is the protection of 196 additional acres of the Bonnerton Tract, which the Project as described in the FEIS would have allowed PCS to mine.

E. There is no difference between the standards for EPA review.

When the FEIS was published, EPA was required to evaluate the following aspects of potential impacts when deciding whether to refer the matter to CEQ:

(a) Possible violation of national environmental standards or policies.
(b) Severity.
(c) Geographical scope.

(d) Duration.
(e) Importance as precedents.
(f) Availability of environmentally preferable alternatives.

40 CFR §1504.2. CEQ's regulations require a referral to include a finding by EPA "whether the issue raised is of national importance because of the threat to national environmental resources or policies or for some other reason." *Id.* § 1504.3(c)(2)(iv).

By comparison, the Section 404(q) MOA requires EPA to conclude that the Project "will result in unacceptable adverse effects to aquatic resources of national importance." EPA's April 3, 2009 letter requesting elevation summarizes the impacts of this project, which EPA finds "unacceptable," as follows: "In summary, EPA believes the impacts to ecological functions at the scale associated with this project, as described above, would cause or contribute to significant degradation [40 CFR 230.10(c)] of the Nation's waters."

There is no substantive difference in this case between the standards for CEQ referral determinations and those for 404(q) elevation requests. If the EPA believes the Project will result in unacceptable adverse effects to resources of national importance," how could EPA *not* conclude that the Project is *un*satisfactory? Stated differently, under what scenario is it satisfactory to do that which is unacceptable?

EPA had more than enough time and information to decide whether the Project was unsatisfactory from the standpoint of environmental quality. EPA was actively involved in the permit review from 2000 until the deadline for its determination and CEQ referral in June of 2008. If EPA had identified any unsatisfactory impacts to the environment by that time, it was required by federal law to forward the matter to CEQ. It did not make such a referral, so it can only be concluded that, at that time, EPA did <u>not</u> determine that the Project, albeit flawed (in EPA's eyes), raised issues "of national importance because of the threat to national environmental resources."

In neither its 404(q) elevation request letter nor its subsequent "Detailed Comments on Proposed PCS Phosphate Mine Expansion Section 404 Permit" does EPA attempt to reconcile how the current permit is unacceptable in early 2009, but the Project as described in the FEIS in May 2008 was not unsatisfactory.

EPA's failure to seek timely resolution in this case through referral to CEQ has not only violated PCS's rights under federal law, but has

consequently threatened PCS's ability to continue mining without costly interruption.

EPA USE OF PROFIT AS DETERMINATIVE OF PRACTICABILITY

EPA's Detailed Comments improperly focuses on potential profitability as a determinant of practicability. This is inconsistent with EPA's own guidelines and established case law.

EPA Guidelines:

The EPA has established guidelines for evaluating compliance with § 404, at 40 C.F.R. Part 230 (the "Guidelines"). With respect to a practicable alternatives analysis, the Guidelines state that "[a]n alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." 40 C.F.R. § 230.10(a)(2).

As an initial matter, the stated project purpose is a significant component of the alternatives analysis, *infra*, and it is therefore difficult (and illogical) to segregate considerations of cost in a practicable alternatives analysis from the project purpose itself. The Purpose and Need statement for the PCS Aurora mine expansion states that "the applicant's purpose and need is to implement a long term systematic and cost-effective mine advance within the project area for ongoing PCS mine operation at Aurora, North Carolina." FEIS ¶ 1.2.2.

Cost is a critical factor, profit is not a factor. As the preamble to the final rule adopting the Guidelines explains:

> [T]he Guidelines explicitly include the concept of "practicability" in connection with both alternatives and steps to minimize impacts. *If an alleged alternative is unreasonably expensive to the applicant, the alternative is not "practicable."*

45 Fed. Reg. 85336, 85343 (December 24, 1980) (emphasis added). The preamble clarifies that the Guidelines adhere to the term "cost" as a factor. The proposed term "economic" was rejected because "the term 'economic' might be construed to include consideration of the applicant's financial standing, or investment, or market share." 45 Fed. Reg. at 85339. The stated intent "is to consider those alternatives which are reasonable in terms of the overall scope/cost of the proposed project." *Id.*

An EPA Memorandum to the Field, relying heavily on the preamble, confirms that, rather than a more nebulous "economic" or "profitability" analysis, cost in light of the project type is the driving factor:

> It is important to emphasize . . . that it is not a particular applicant's financial standing that is the primary consideration for determining practicability, *but rather characteristics of the project and what constitutes a reasonable expense for these projects that are most relevant to practicability determinations.*

EPA MEMORANDUM TO THE FIELD, Appropriate Level of Analysis Required for Evaluating Compliance with the Section 404(b)(1) Guidelines Alternatives Requirements, at 5 (August 1993) (emphasis added). The Memorandum assents to the preamble's statement that an unreasonably expensive alternative is not practicable. *Id.* at 4. In determining what constitutes an unreasonable expense, the Corps "should generally consider whether the projected cost is substantially greater than the costs normally associated with the particular type of project." Here, the normal costs are demonstrated by Alternative EAPA and the variants result from different levels of impacts.

In their application of the Guidelines, courts have consistently approved considerations of cost and logistics, in light of project purpose. For instance, the Court in *Friends of the Earth v. Hintz*, 800 F.2d 822 (9th Cir. 1986), examined the Corps' evaluation of four alternatives, finding that the "Corps rationally concluded that . . . two were too costly for the applicant, and two were logistically unfeasible in light of [the applicant's] legitimate purposes." *Id.* at 833–34. The Ninth Circuit has reaffirmed that "the Corps may legitimately consider such facts as cost to the applicant and logistics." *Sylvester v. U.S. Army Corps of Eng'rs*, 882 F.2d 407, 409 (9th Cir. 1989) (citation omitted).

Similarly, in *Sierra Club v. U.S. Army Corps of Eng'rs*, 935 F.Supp. 1556 (S.D. Ala. 1996), challenged the Corps' failure to consider a parking deck as an alternative to a standard lot in the construction of a baseball stadium. The applicant presented evidence that the cost of the deck alone would exceed the total project budget, and that building the deck would lead to substantial delay in construction. *Id.* at 1575. The Court therefore determined "that construction of a parking deck on the stadium site was not practicable on the basis of both cost and logistics." *Id.* at 1576; *see also D'Olive Bay Restoration & Preservation Comm. v. U.S. Army Corps of Eng'rs*, 513 F.Supp.2d 1261, 1281, 1298 (S.D. Ala. 2007) (Corps determined that proposed alternative was impracticable based on increased cost and impediment to project purpose; the Corps' analysis and findings were "rational and well-reasoned.").

Project Purpose is relevant to the inquiry, as "the Corps has a duty to take into account the objectives of the applicant's project. Indeed, it would be bizarre if the Corps were to ignore the purpose for which the applicant seeks a permit and to substitute a purpose it deems more suitable." *Louisiana Wildlife Fed'n v. York*, 761 F.2d 1044, 1048 (5th Cir. 1985) (per curiam) (footnote omitted). The applicant's purpose must be "legitimate," but in determining whether an alternative is practicable "the Corps is not entitled to reject [the applicant's] genuine and legitimate conclusion" that its desired project is economically advantageous. *Sylvester*, 882 F.2d at 409. Further, "[t]he Corps is not a business consulting firm. It is in no position to conduct a feasibility study of alternative sites . . . that would have

it [] evaluate [the applicant's] business needs . . . ." *River Rd. Alliance v. U.S. Army Corps of Eng'rs*, 764 F.2d 445, 453 (7th Cir. 1985).

Thus, assuming the legitimacy of the Purpose and Need statement, the appropriate alternatives analysis as to PCS should consider those alternatives that allow for a long-term cost effective mine advance within the project area. Economic feasibility is not an appropriate consideration in determining practicable alternatives. Rather, the inquiry should focus on costs and logistic and technological feasibility in light of project purpose. Unreasonable costs—those that substantially exceed the costs normally associated with this sort of project—result in impracticable alternatives.

As discussed previously, the Purpose and Need for this mine continuation has been previously approved by the U.S. District for Eastern District of North Carolina.