Record of Decision and Statement of Findings for Department of the Army (DA) Permit Application SAJ-2011-01869

Attachment A – Public Notice Comments and Responses

Section 1: Comments received on the June 1, 2012 public notice, and the Corps' responses

Section 2: Comments received on the January 12, 2018 public notice, and the Corps' responses

Section 3: Mosaic's responses to comments received on the June 1, 2012 public notice

Section 4: Mosaic's responses to comments received on the January 12, 2018 public notice

ATTACHMENT A - SECTION 1 COMMENTS RECEIVED IN RESPONSE TO JUNE 1, 2012, PUBLIC NOTICE		
Commenter/ Organization	Comment	Response
Beverly Griffiths/ Sierra Club Florida Phosphate Committee	I am writing on behalf of the Sierra Club Florida Phosphate Committee to request an extension of time to respond to your notice of permitting for the above-referenced mine until after completion of the Phosphate AEIS which your agency is currently preparing. The permit application requires completion of an environmental impact statement to guide permitting, as your notice recognizes. That AEIS must also be available to the public in order to provide comments on this and future permits. Proceeding with the public input process for this permit before preparation of an EIS is premature and improper and deprives the public of the information necessary to submit comments.	The Corps published public notices for the Ona project and the Draft EIS on 1 June 2012, with an initial 30-day comment period, which was later extended to 60 days. The Notice of Availability for the Final EIS was published in the Federal Register on 3 May 2013. Beginning on 12 July 2013, another 30-day comment period was held on the EIS Addendum. On 22 June2017, the Corps provided a public notice for the Ona Supplemental Environmental Assessment, and provided another 30-day comment period. During the entire time the Ona project has been under review, the Corps has accepted public comments on the proposed project and the Final EIS, and made those comments a part of the public record.
Beverly Griffiths/ Sierra Club Florida Phosphate Committee	You issued four notices of permitting on June 1, for the CF Industries South Pasture Extension and the Mosaic Wingate East, Ona and Desoto mines. We note that all of the notices you have issued are extremely sparse, omitting important information such as the nature of reclamation and the form of mitigation. The need for additional time and information in order to comment is reinforced by the limited nature of the information available.	The Corps prepared the initial public notice for Ona in accordance with 33 C.F.R. § 325.3. The Corps published the 22 June 2017, public notice and accompanying Supplemental

		Environmental Assessment to provide additional information about Ona.
Beverly Griffiths/ Sierra Club Florida Phosphate Committee	Please note additionally that the address for commenting on the Ona mine appears to refer to the Wingate East mine. We assume your reference is incorrect.	Comment acknowledged.
Beverly Griffiths/ Sierra Club Florida Phosphate Committee	It is clear that there is broad public interest in the pending AEIS and the permits which will depend on it. At this time we object to the proposed permit, request an extension of time for comment until a reasonable time after issuance of the pending AEIS, and ask that the Corps conduct a public hearing on this permit to consider the actual mining, reclamation and mitigation involved, and to consider the permit in light of the AEIS.	The Notice of Availability for the Final EIS was published in the Federal Register on 3 May 2013. On 22 June 2017, the Corps provided a second public notice for Ona. During the intervening period, the Corps continued to accept public comments on Ona and the Final EIS, and make those comments a part of the public record. The Corps has provided a separate response to the request for a public hearing.
Beverly Griffiths/ Sierra Club Florida Phosphate Committee	Please acknowledge receipt of this message to bevgriffiths@verizon.net Thank you for your service and your concern for our environment.	Comment acknowledged.
Dr. Helen Jelks King/ Protect Our Watersheds, Inc.	I am writing on behalf of Protect Our Watersheds, Inc. (POW) to request an extension of time to respond to your notice of permitting for the above-referenced mine until after completion of the Phosphate AEIS which your agency is currently preparing. The permit application requires completion of an environmental impact statement to guide permitting, as your notice recognizes. That AEIS must also be available to the public in order to provide comments on this and future permits. Proceeding with the public input process for this permit before preparation of an EIS is premature and improper and deprives the public of the information necessary to submit comments.	The Notice of Availability for the Final EIS was published in the Federal Register on 3 May 2013. On 22 June 2017, the Corps provided a second public notice for Ona. During the intervening period, the Corps continued to accept public comments on Ona and the Final EIS, and make those

		comments a part of the public record.
Dr. Helen Jelks King/ Protect Our Watersheds, Inc.	You issued four notices of permitting on June 1, for the CF Industries South Pasture Extension and the Mosaic Wingate East, Ona and Desoto mines. We note that all of the notices you have issued are extremely sparse, omitting important information such as the nature of reclamation and the form of mitigation. The need for additional time and information in order to comment is reinforced by the limited nature of the information available.	The Corps prepared the initial public notice for Ona in accordance with 33 C.F.R. § 325.3. The Corps published the 22 June 2017, public notice and accompanying Supplemental Environmental Assessment to provide additional information about Ona.
Dr. Helen Jelks King/ Protect Our Watersheds, Inc.	It is clear that there is broad public interest in the pending AEIS and the permits which will depend on it. At this time we object to the proposed permit, request an extension of time for comment until a reasonable time after issuance of the pending AEIS, and ask that the Corps conduct a public hearing on this permit to consider the actual mining, reclamation and mitigation involved, and to consider the permit in light of the AEIS.	The Notice of Availability for the Final EIS was published in the Federal Register on 3 May 2013. On 22 June 2017, the Corps provided a second public notice for Ona. During the intervening period, the Corps continued to accept public comments on Ona and the Final EIS, and make those comments a part of the public record. The Corps has provided a separate response to the request for a public hearing.
Dr. Helen Jelks King/ Protect Our Watersheds, Inc.	Specifically, POW wants to ensure the best possible protections for our water, our environmental systems, the health of Charlotte Harbor and its fisheries during and after mining.	Chapter 4 of the Final EIS addresses the direct and indirect effects of Ona, and the cumulative effects of Ona plus other past, present, and reasonably foreseeable future actions. Sections 7 and 8 of the decision

		document address the 404(b)(1) Guidelines and public interest review, respectively, for Ona.
Dr. Helen Jelks King/ Protect Our Watersheds, Inc.	Thank you for your service and your concern for our environment.	Comment acknowledged.
Dennis Mader/ People for Protecting Peace River, Inc.	1. Pursuant to Section 404 of the Clean Water Act. , People for Protecting Peace River, Inc. (hereinafter, 3PR) formally requests a public hearing concerning Mosaic Fertilizer, LLC Permit Application No. SAJ-2011-01869(IP-JPF)	The Corps has provided a separate response to the request for a public hearing.
Dennis Mader/ People for Protecting Peace River, Inc.	During the permit decision process, the Corps must evaluate the project in relation to the public interest. The public benefits and detriments of all factors relevant to each case are to be carefully evaluated and balanced. Relevant factors may include conservation, economics, esthetics, wetlands, cultural values, fish and wildlife values, water supply, water quality, and any other factors judged important.	Section 8 of the decision document addresses the public interest review for Ona.
Dennis Mader/ People for Protecting Peace River, Inc.	Additionally, 3PR strongly recommends the Army Corps of Engineers (ACOE) ***deny*** Permit Application No. SAJ-2011-01869(IP-JPF) and find the project *Environmentally Unsatisfactory.* The initial ACOE review of the project has identified adverse environmental impacts that are of sufficient magnitude that the proposed action must not proceed as proposed.	The decision document for Ona describes the Corps' consideration of NEPA, the 404(b)(1) Guidelines, the Public Interest Review, and other federal regulations in its review.
Dennis Mader/ People for Protecting Peace River, Inc.	2. 3PR is a public interest environmental protection organization which is a Florida not-for-profit corporation and a citizen of the State of Florida whose address is: 3PR, P.O. Box 155, Wauchula, FL 33873. The corporate purposes of 3PR include the protection and preservation of water quality and wildlife habitat in and around Hardee County, Florida. 3PR is a citizen of the State of Florida pursuant to section 403.412(5), Florida Statutes. 3PR and its members will be substantially and adversely affected by the conditions and activity, which will result if this permit is issued. 3. State of Florida, Department of Environmental Protection (hereinafter, "DEP") is an affected State permitting agency, whose address is: DEP, 8407 Laurel Fair Circle, Tampa, Florida 33610-7355. 4. Department of the Army is an affected federal permitting agency, whose address is: Department of the Army, Jacksonville District Corps of Engineers, Tampa Regulatory Office, 10117 Princess Palm Drive Suite 120, Tampa, Florida 33610-8300.	Comment acknowledged.

	5. The Applicant is Mosaic Fertilizer, LLC, 13830 Circa Crossing Drive, Lithia, FL, 33547 **RECEIPT OF NOTICE** 6. 3PR first received notice of Permit Application No. SAJ-2011-01869 (IP-JPF) by email on June 2, 2012.	
Dennis Mader/ People for Protecting Peace River, Inc.	**GENERAL FACTS** 7. The direct impacts of Applicant's proposed project will result in unpermittable adverse conditions Section 404 of the Clean Water Act and will be contrary to the public's interest.	Sections 7 and 8 of the decision document address the 404(b)(1) Guidelines and public interest review, respectively, for Ona.
Dennis Mader/ People for Protecting Peace River, Inc.	8. There will be significant unpermittable foreseeable adverse cumulative impacts on water quality, and conservation and protection of fish and wildlife resulting from the extraction of phosphate ore.	Section 4.12 of the Final EIS addresses the cumulative effects of Ona plus other past, present, and reasonably foreseeable future actions, including on surface water quality and ecological resources.
Dennis Mader/ People for Protecting Peace River, Inc.	9. There will be unpermittable foreseeable adverse secondary impacts from the proposed extraction of phosphate ore.	Chapter 4 of the Final EIS addresses the direct and indirect effects of Ona. Sections 7 and 8 of the decision document address the 404(b)(1) Guidelines and public interest review, respectively, for Ona, including consideration of indirect or secondary impacts.
Dennis Mader/ People for Protecting Peace River, Inc.	10. The Department of the Army has permitting authority over Applicant's proposed dredging activities pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344).	Comment acknowledged.
Dennis Mader/ People for Protecting Peace River, Inc.	11. The Army Corps of Engineers has initially determined that the proposed project The U.S. Army Corps of Engineers (Corps) has determined the proposed project may affect, the Audubon's crested caracara (Caracara cheriway) and the Florida panther (Puma concolor coryi). Additionally, the Corps has determined the proposal may affect the Eastern indigo snake (Drymarchon couperi), wood stork (Mycteria americana), and the Florida grasshopper sparrow (Ammodramus savannarum floridanus).	As described in the 1 June 2012, public notice for Ona, the Corps made preliminary determinations of 'may affect' for the eastern indigo snake, the wood stork, and the caracara, and

		determinations of 'may affect, not likely to adversely affect' the Florida grasshopper sparrow and the panther. Section 11.1 of the decision document describes how the Corps' review addresses the requirements of the Endangered Species Act.
Dennis Mader/ People for Protecting Peace River, Inc.	12. The mitigation proposed by the Applicant is inadequate and will most likely not be viable for some time after construction activities.	Section 9 of the decision document and the approved compensatory mitigation plan explain how the applicant will compensate for unavoidable impacts to aquatic resources, and how the Corps considered time lag and risk.
Dennis Mader/ People for Protecting Peace River, Inc.	13. 3PR alleges the following disputed issues of law and material fact for determination of Permit Application No. SAJ-2011-01869(IP-JPF**)**	Comment acknowledged.
Dennis Mader/ People for Protecting Peace River, Inc.	(a) Whether Applicant has provided reasonable assurances that the applicable state and federal water quality standards will not be violated as a result of the proposed extraction of phosphate ore; (b) Whether Applicant has provided reasonable assurances that the proposed extraction of phosphate ore is in compliance with EPA approved water quality standards with regard to Section 404 of the Clean Water Act;	Section 4.4 of the Final EIS describes the direct and indirect effects of phosphate mining on water quality. Section 4.12.4 of the Final EIS describes the cumulative effects of phosphate mining on water quality. Discharges from the mine will need to comply with both a Section 401 water quality certification (FDEP Environmental Resource Permit) and a Section 402 NPDES permit or permits

		(also issued by FDEP).
Dennis Mader/ People for Protecting Peace River, Inc.	(c) Whether Applicant has provided reasonable assurances that the proposed activity is not contrary to the public interest as set forth in Section 404(b) of the Clean Water Act	Section 8 of the decision document addresses the public interest review for Ona.
Dennis Mader/ People for Protecting Peace River, Inc.	(d) Whether Applicant has provided reasonable assurances that the cumulative impacts of the proposed project, including applicable past, present and foreseeable cumulative impacts, will not cause violations of any state or federal standard;	Section 11 of the decision document describes how the project will meet local, state, and federal requirements. Section 4.12 of the Final EIS describes the cumulative effects of Ona and other past, present, and reasonably foreseeable future actions.
Dennis Mader/ People for Protecting Peace River, Inc.	(e) Whether Applicant has provided reasonable assurances that the proposed project is consistent with Florida' s Coastal Zone Management Program;	As stated in section 11.6 of the decision document, the FDEP issued a coastal zone management consistency determination on 31 August 2015, as part of the ERP issued for the project.
Dennis Mader/ People for Protecting Peace River, Inc.	(f) Whether Applicant has provided reasonable assurances that permanent impacts associated with the disturbance of 4,593.4 acres wetlands does not violate any state or federal standard;	As described in section 1.4 of the decision document, the applicant currently proposes 3426.1 acres of impact to Corps-jurisdictional wetlands and open water areas such as ditches and cattle ponds. Sections 7 and 8 of the decision document address the 404(b)(1) Guidelines and public interest review, respectively, for Ona. Section 11 of the decision document describes how the project will

		meet local, state, and federal requirements.
Dennis Mader/ People for Protecting Peace River, Inc.	(g) Whether Applicant has provided reasonable assurances that the proposed extraction of phosphate ore is in compliance with Section 7 of the Endangered Species Act for the protection of the Audubon's crested caracara (Caracara cheriway), the Florida panther (Puma concolor coryi), the Eastern indigo snake (Drymarchon couperi), the wood stork (Mycteria americana), and the Florida grasshopper sparrow (Ammodramus savannarum floridanus).	Section 11.1 of the decision document describes how the Corps' review addresses the requirements of the Endangered Species Act.
Dennis Mader/ People for Protecting Peace River, Inc.	**APPLICABLE LAWS AND STATUTES** 14. Federal Laws and Statutes: -Section 404 of the Clean Water Act (33 U.S.C. 1344), -Section 404(b) of the Clean Water Act, -Coastal Zone Management Act and the National Environmental Policy Act., -Section 7 of the Endangered Species Act. 15. Florida Laws and Statutes: -Section 62-302 F.S. - Surface Water Quality Standards, -Section 62-302.530 F.S. - Table: Criteria for Surface Water Quality Classifications, -Sections 62-4.242, 62-4.243, 62-4.244, and 62-4.246 F.S.- antidegradation permitting requirements.	Comment acknowledged.
Dennis Mader/ People for Protecting Peace River, Inc.	**WHEREFORE,** People for Protecting Peace River, Inc., formally requests that ACOE hold a public hearing concerning Mosaic Fertilizers, LLC Permit Application SAJ-2011-01869(IP-JPF) Mosaic Ona Phosphate Strip Mine.	The Corps has provided a separate, written response to the request for a public hearing.
Dr. Paul Backhouse/ Seminole Tribe of Florida Tribal Historic Preservation Office	Thank you for the opportunity to review the above referenced public notice. The Seminole Tribe of Florida's Tribal Historic Preservation Office (STOF-THPO) received the Jacksonville Corps of Engineers correspondence regarding the aforementioned project on June 4, 2012. After an examination of the Florida Master Site File (FMSF), there are several known archaeological sites within the proposed undertaking's APE that the STOF-THPO has concerns about. The STOF-THPO respectfully requests that NRHP eligible site 8HR00880 be avoided by any construction activities. If avoidance is not possible, further consultation with the STOF-THPO is requested. Additionally, site 8HR00005 is potentially eligible for the National Register of Historic Places pending SHPO review. The STOF-THPO recommends that further research on the determination of the eligibility of site 8HR00005 be ascertained before ground disturbing activities begin. For your convenience, please see the attached two (2) maps created by the STOF-THPO from FMSF data which clearly delineate the aforementioned archaeological sites. These maps will be provided to the USACE Regulatory Archaeologist, David Pugh.	Section 11.3 of the decision document describes how the Corps' review addresses the requirements of the National Historic Preservation Act, including the specific issues raised in this comment.

	We appreciate the opportunity to provide comments on this project. Please do not hesitate to contact the STOF-THPO for any questions or concerns.	
Patty Toft	I would like to respectfully request a public hearing about the public notice 20120601-SAJ-2011-01869.pdf. I know that there are a limited amount of people who will be affected (residences). I do not believe they know of what is going on. I have personally spoken with the people in our area and they know nothing. I would like to understand the proposal and its impacts. We live at the head of the Myakka River; the mine on Duette road has drained our river. I did not receive you letter on time because it had the wrong address and was forwarded to me. My contact information is listed above if you have any questions or comments.	The Corps has provided a separate, written response to the request for a public hearing. Section 4 of the decision document describes the public involvement in the review of the Final EIS and of this project.
USEPA/Water Protection Division	The Environmental Protection Agency, Region 4, has reviewed the information found in each of the four public notices' (PNs) and supplemental material in the Draft Area-wide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District (AEIS). The EPA is a cooperating agency with the U.S. Army Corps of Engineers, Jacksonville District (District) to develop an AEIS consistent with the requirements of the National Environmental Policy Act of 1969, as amended. The EPA has been involved in numerous meetings and discussions regarding the four referenced permits and the AEIS going back more than two years. As discussed below, the freshwater forested and herbaceous emergent wetlands and open waters that make up the creeks, rivers, sloughs, seeps, domes and depressions in the area covered by the AEIS are considered aquatic resources of national importance. We appreciate the opportunity to participate in the AEIS process and believe it has been beneficial in adding to the body of knowledge regarding phosphate mining in central Florida.	Comment acknowledged.
USEPA/Water Protection Division	We have three specific interests about these proposed projects both collectively and individually. Some of these concerns are related to the draft status of the AEIS and outstanding comments the EPA has on the draft AEIS. As noted, the AEIS process has made great progress in identifying and reviewing information related to the mining process in this area of Florida and the EPA appreciates all the work that the District, stakeholders and the permit applicants have put into this process. However, certain issues remain. These are the requested permit durations, avoidance of waters of the U.S. considered to be ecologically significant, and the proposed compensatory mitigation.	Comment acknowledged.
USEPA/Water Protection Division	The applicants requested different durations for their various permits, as listed below. CF Industries, South Pasture Mine.	The Corps has provided USEPA a draft permit, which

	Expansion 20 years; Mosaic Fertilizer, Desoto Mine 22 years; Mosaic Fertilizer, Westgate East Mine 34 years and Mosaic Fertilizer, Ona Mine 45 years. Given the difficulty in projecting environmental impacts two decades or more into the future, it would appear to us to be prudent to award a permit for this length of time only if there is a clear ability to monitor progress on mitigation and adaptively manage where appropriate. We believe there are opportunities to lessen this concern and we are prepared to discuss these during efforts to develop permit specific compensatory mitigation plans consistent with the Section 404(b)(l) Guidelines and the 2008 Mitigation Rule (33 C.F.R. Parts 230 and 332; 40 C.F.R. Part 230).	includes permit conditions related to periodic compliance reviews and adaptive management, in accordance with the 404(q) coordination process, along with a compensatory mitigation plan for this project.
USEPA/Water Protection Division	The PNs reference avoidance of some waters of the U.S. These modifications are excellent and reflect historic concerns voiced by the EPA and others related to the uncertainty and risk for created forested and herbaceous emergent aquatic habitats. The EPA believes that additional avoidance is warranted where mature bay swamps, heads and/or seepage slopes exist. There are specific recommendations that can address this interest once the District has approved the federal jurisdictional determinations.	Section 5.4 of the Final AEIS describes the mitigation framework that the Corps, EPA, and FDEP developed to address the concerns about avoidance of specific resource categories. Section 5.3.1 of the decision document describes how the Corps applied that framework in its review of onsite alternatives. Section 5.4 of the decision document describes that onsite alternatives review.
USEPA/Water Protection Division	Additional interests relate to the conceptual nature of the proposed compensatory mitigation. The compensatory mitigation, as discussed in the PNs, proposes one acre created for every one acre to be impacted; and one linear foot of stream will be created for every stream linear foot impacted. These created habitats will be on-site and completed at various times in the future. We would like to see the applicants provisional compensatory mitigation consider ratios beyond an acre for acre/foot for foot due to temporal losses and risk associated with the mitigation time frames and establishing forested aquatic habitats. Therefore, off-site compensatory mitigation should play a larger role in the final plans to account for the temporal losses and uncertainty of successful restoration following phosphate mining. Finally, there is currently insufficient compensatory mitigation information to	Section 9 of the decision document, and the approved compensatory mitigation plan, describe how Mosaic will provide compensatory mitigation for unavoidable impacts to aquatic resources. The Corps considered temporal loss and risk in its evaluation of the mitigation.

	complete our review, as was noted in the draft AEIS3 . The draft AEIS states that the initial permit applications only provided preliminary information because there are no approved federal jurisdictional determinations on the four mine sites and as of the date of the PNs, the applicants had yet to submit federal Section 404 compensatory mitigation plans. We would welcome a collaborative effort with the District and the applicants to address these questions.	
USEPA/Water Protection Division	As summarized above, the information and comments being collected for the AEIS on Phosphate Mining in the Central Florida Phosphate District will be vital for our review and providing project specific comments and recommendations. Therefore, based on the information available, the EPA believes that the projects as currently proposed may not comply with the Section 404(b)(l) Guidelines and may have substantial and unacceptable adverse impacts on aquatic resources of national importance. This letter follows the field-level procedures outlined in the August 1992 Memorandum of Agreement between the EPA and the Department of the Army, Part IV, paragraph 3(a) regarding Section 404(q) of the Clean Water Act.	The Corps has provided a draft decision document and permit to USEPA in accordance with the 404(q) coordination process, along with a compensatory mitigation plan for this project and a 3(c) letter explaining how EPA's concerns have been addressed.
USEPA/Water Protection Division	I want to thank you and your staff for your cooperation and willingness to address our issues. We look forward to working closely with you and the applicant to resolve the concerns outlined above. Ifyou have any questions, please call me at (404) 562-9345 or Duncan Powell of my staff at (404) 562-9258.	Comment acknowledged.
Gwendolyn Keyes Fleming/Regional Administrator USEPA Region 4	This letter follows our previous letter dated July 30, 2012 (enclosed) and the field-level procedures outlined in the August 1992 Memorandum of Agreement between the U.S. Environmental Protection Agency and the Department of the Army, Part IV, paragraph 3(b), regarding Section 404(q) of the Clean Water Act. Our opinion is that the discharges will have a substantial and unacceptable impact on aquatic resources of national importance (ARNI), as currently proposed. The ARNIs and our three specific interests (requested permit durations, avoidance of the ARNIs and the proposed compensatory mitigation) that are the basis of our opinion, were stated in our July 30, 2012, letter and are still currently being discussed among the agencies and the companies. The EPA is confident that these interests will be addressed in the U.S. Army Corps of Engineers Jacksonville District's permitting process and the processes to finalize the Area-wide	The Corps has provided a draft decision document and permit to USEPA in accordance with the 404(q) coordination process, along with a compensatory mitigation plan for this project and a 3(c) letter explaining how EPA's concerns have been addressed.

	Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District. We believe there are solutions to our concerns and see positive steps being taken to address them. I want to thank you and your staff for your cooperation. We look forward to working with you and the applicants to resolve our concerns. If you have any questions, please call Mr. Duncan Powell of my staff at (404) 562-9258.	

ATTACHMENT A - SECTION 2
COMMENTS RECEIVED IN RESPONSE TO JUNE 22, 2017, PUBLIC NOTICE

Commenter/ Organization	Comment	Response
Jaclyn Lopez Center for Biological Diversity	On behalf of the staff and members of the Center for Biological Diversity, we respectfully submit the following comments to the U.S. Army Corps of Engineers (Corps) regarding the January 12, 2018 Public Notice for SAJ-2011-01869 (IP-JPF) also known as Ona Mine, in Hardee County, Florida (Project). We submit these comments on behalf of our members, including our thousands of members and supporters who recreate and live in Hardee, and nearby counties. We have reviewed the Public Notices, Areawide Environmental Impact Statement (AEIS), Supplemental Environmental Assessment, Draft Clean Water Act Section 404(b)(1) Guidelines Analysis, and Draft Public Interest Review and conclude the Project is not in the public interest, will have significant environmental impacts on wetlands, and will likely harm endangered species and their habitats. For these reasons, we respectfully request the Corps deny the permit application.	Sections 7 and 8 of the decision document address the 404(b)(1) Guidelines and public interest review, respectively, for Ona, including the project's effects on wetlands and listed species. Section 11.1 of the decision document describes how the Corps' review addresses the requirements of the Endangered Species Act.
Jaclyn Lopez Center for Biological Diversity	Also, given the substantial interest in holding a hearing and public opposition to Ona Mine, we request a public meeting to help ensure informed and transparent environmental decisionmaking.	The Corps has provided a separate, written response to the request for a public hearing. Section 4 of the decision document describes the public involvement in the review of the Final EIS and of this project.
Jaclyn Lopez Center for Biological Diversity	On May 3, 2013, the Corps published a notice of availability for the Final Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District (FAEIS). On July 13, 2013, the Corps released an Addendum to the FAEIS that corrected its surface water hydrology analysis, included public comments received during the comment period for the Draft AEIS but not responded to in the FAEIS, and included a Spanish language translation of the Executive Summary. On January 12, 2018, the Corps released a Supplemental Environmental Assessment, draft public interest review, and draft Clean Water Act 404(b)(1) Guidelines analysis for Ona Mine (collectively Supplemental Environmental Assessment or EA).	Comment acknowledged.

Jaclyn Lopez Center for Biological Diversity	Ona Mine would impact 22,483 acres of wetlands of the Myakka River Watershed and Peace River Watershed by mining phosphate ore from 16,842 acres over 30 years.	The total acreage for the Ona Mine parcel is 22,483 acres; approximately 300 acres is within the Myakka River watershed and the remainder is within the Peace River watershed. Mosaic proposes to impact a total of 3426.1 acres of Corps-jurisdictional wetlands, with 38.54 acres of impacts within the Myakka RIver watershed and the remainder in the Peace River watershed. That acreage does not include 100,766.8 linear feet of stream impacts, all within the Peace River watershed. Mosaic proposes 16,842 acres of mining over a 24-year period, with six additional years of reclamation and mitigation completion.
Jaclyn Lopez Center for Biological Diversity	In enacting the Clean Water Act in 1972, Congress sought "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The statute provides that "the discharge of any pollutant by any person shall be unlawful" absent a permit. A section 404 permit must satisfy regulations promulgated by the Corps and the Environmental Protection Agency (EPA). Notably, a permit will not be granted if contrary to public interest. The regulations under section 404(b)(1) of the Clean Water Act further provide that adverse impacts to wetlands must be avoided to the extent that practicable alternatives are available which will result in less adverse impacts. A "practicable" alternative is one that is "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." The 404(b)(1) Guidelines establish a presumption that all practicable alternatives that do not involve a discharge into wetlands have less adverse impact on the environment "unless clearly demonstrated otherwise."	Comment acknowledged.

	To determine whether a practicable alternative exists, the Corps must undertake a multi-step analysis. The Corps must first determine whether the project is water dependent. A water dependent project is one that "requires access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose." If the Corps determines that the project is not water-dependent, it then must presume that practicable alternatives not involving wetlands exist. The Corps may not grant a permit unless the presumption is rebutted by a clear contrary demonstration by the Project applicant. Where no practicable alternative sites exist that would avoid filling or have a less adverse impact on wetlands, the Corps must consider whether "appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem." Corps regulations require the Corps to evaluate the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest weighing foreseeable benefits against foreseeable detriments using all factors that may be relevant. Relevant factors are numerous and include wetlands impacts, fish and wildlife habitat values, and recreational, aesthetic, and economic values.	
Jaclyn Lopez Center for Biological Diversity	The Corps must deny the Clean Water Act 404 permit as contrary to the public interest and because it is not the least environmentally damaging alternative available and does not adequately compensate to damage to waters of the United States.	Sections 5, 8, and 9.2 of the decision document describe the alternatives analysis, public interest review, and the compensatory mitigation plan, respectively.
Jaclyn Lopez Center for Biological Diversity	First, Ona Mine is contrary to the public interest, as evidenced by the widespread opposition to phosphate mining in the region, which is based on the perceptions and opinions of the impacted communities, the science and observations offered by experts, and the economic analysis provided by the public.	Section 8 of the decision document describes the public interest review. The Corps considered the public's input provided during the scoping period, during preparation of the Draft and Final EIS, and in response to the two public notices for the Ona project. In addition, the Corps considered public input received during its review of applications for other phosphate mines, including South Pasture Extension

		and Wingate East. The Corps provided responses to comments in attachments to the Final EIS and the decision documents for South Pasture Extension and Wingate East.
Jaclyn Lopez Center for Biological Diversity	It is beyond dispute that Ona Mine's supposed public benefits do not outweigh the damage that will be done to the water resources the Clean Water Act is intended to protect.	Sections 7 and 8 of the decision document describe the Corps' 404(b)(1) Guidelines and public interest reviews, including direct, indirect, and cumulative impacts to surface water and groundwater quality and hydrology, and to aquatic resources including wetlands and streams.
Jaclyn Lopez Center for Biological Diversity	It is also undisputable that Ona Mine is not water dependent, and that the Corps and applicant have not overcome the presumption that a practicable alternative that does not involve a discharge into wetlands exists.	As stated in Section 1.7.2 of the decision document, the Corps agrees that the project is not water dependent. Section 5 of the decision document describes the alternatives analysis for the Ona Mine.
Jaclyn Lopez Center for Biological Diversity	Even if the Corps could conclude that practicable alternatives that meet the overall purpose of the project do not exist, it cannot ignore the comments by expert agencies and individuals – and the paucity of information provided by the applicant – that indicates that phosphate mine reclamation does not deliver the promised mitigation or compensation.	Section 8 of the decision document describes the public interest review. The Corps considered the public's input provided during the scoping period, during preparation of the Draft and Final EIS, and in response to the two public notices for the Ona project. In addition, the Corps considered public

		input received during its review of applications for other phosphate mines, including South Pasture Extension and Wingate East. The Corps provided responses to comments in attachments to the Final EIS and the decision documents for South Pasture Extension and Wingate East. The final compensatory mitigation plan for Ona is attachment B to the decision document. The public record for Ona includes documentation of the Corps' review of the proposed compensatory mitigation since the 29 June 2011, receipt of the application for the project. The DA permit for the Ona Mine has special conditions for the required mitigation, including performance criteria, monitoring and maintenance, and adaptive management.
Jaclyn Lopez Center for Biological Diversity	When evaluating a permit application, the Corps shall evaluate the probable impacts of the proposed activity on the public interest. This public interest review requires weighing all relevant factors in a general balancing process. These factors include conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, energy needs, safety, and the broader "needs and welfare of the people." The Corps must deny a permit application if it is "contrary to the public interest." In order to perform this public interest review, the permit application must	Comment acknowledged.

contain a complete description of the proposed activity, including information on the location, purpose, and need for the activity. This description must be thorough enough to provide public notice.

An agency must exercise independent judgment in defining the purpose and need of a project and cannot rely exclusively on the statements and opinions of the applicant. Additionally, the Corps may not put forward a purpose and need statement that is so narrow as to "define competing 'reasonable alternatives' out of consideration."

The Corps' regulations state "the unnecessary alteration or destruction of [wetlands] should be discouraged as contrary to the public interest." Wetlands considered to perform functions important to the public interest include:

- Wetlands which serve significant natural biological functions, including food chain production, general habitat and nesting, spawning, rearing and resting sites for aquatic or land species;
- Wetlands set aside for study of the aquatic environment or as sanctuaries or refuges;
- Wetlands the destruction of alteration of which would affect detrimentally natural drainage characteristics, sedimentation patterns, salinity distribution, flushing characteristics, current patterns, or other environmental characteristics;
- Wetlands which are significant in shielding other areas from wave action, erosion, or storm damage. Such wetlands are often associated with barrier beaches, islands, reefs and bars;
- Wetlands which serve as valuable storage areas for storm and flood waters;
- Wetlands which are ground water discharge areas that maintain minimum baseflows important to aquatic resources and those which are prime natural recharge areas;
- Wetlands which serve significant water purification functions; and
- Wetlands which are unique in nature or scarce in quantity to the region or local area.

The regulations further provide that "[n]o permit will be granted which involves the alteration of wetlands identified as important by paragraph (b)(2) of this section . . . unless the district engineer concludes, on the basis of the analysis required in paragraph (a) of this section, that the benefits of the proposed alteration outweigh the damage to the wetlands

	resource." Courts have upheld permit denials based on findings that wetlands were important within the meaning of 33 C.F.R. § 320.4(b)(2). In considering whether a project is in the public's interest, the Corps must refer back to purpose and need for the project.	
Jaclyn Lopez Center for Biological Diversity	In this instance neither the EA nor the FEIS state a *public* need for mining phosphate in wetlands.	Section 1.2.1 of the Final EIS describes the public need for phosphate. The consideration of a project's location – within aquatic resources vs. 'uplands' – is part of the determination of water dependency and the alternatives analysis, not purpose and need. As stated in Section 1.7.2 of the decision document, the Corps agrees that the project is not water dependent. Section 5 of the decision document describes the alternatives analysis for the Ona Mine.
Jaclyn Lopez Center for Biological Diversity	To begin with, the supposed economic benefit of fertilizer production and the phosphate industry more broadly is disputed. A review of the Corps' economic analysis by Richard Weiskoff in 2012 found that the AEIS economic analysis uses an inappropriate model and fails to take into account the full cost of displacing the dynamic and growing agricultural sectors, especially agricultural services, and their linkages. (Weiskoff 2012). In addition, it found that the quality and productiveness of the reclaimed land cannot be determined.	Appendix A of the Final EIS includes the Corps' responses to Dr. Weiskoff's analysis.
Jaclyn Lopez Center for Biological Diversity	Therefore, the real cost to the region is the loss of farm land, depletion of the aquifer, the accumulation of toxic waste, and the potential destruction of the downstream water supply.	Sections 7 and 8 of the decision document describe the Corps' 404(b)(1) Guidelines and public interest reviews, including direct, indirect, and cumulative impacts to surface water and groundwater quality and hydrology, and

		economics. Sections 4.1.8.8 and 4.1.8.9 of the Final EIS describe how the Corps considered the issues of waste management and land use, respectively.
Jaclyn Lopez Center for Biological Diversity	Next, if the public need were truly for fertilizer, as opposed to just phosphate ore, then the EA or the FAEIS should have also evaluated the impacts of the growth or addition of phosphogypsum stacks that would result from approval of the Ona Mine. However, in its 2013 AEIS, the Corps stated that "the four proposed phosphate mines have independent utility from the existing fertilizer plants and that the mining operations are single and complete projects" and that the Corps does not consider the phosphogypsum stacks to be a component of the direct and indirect effects of the four proposed mines. Aside from the Corps' failure to evaluate this indirect impact, it is difficult to believe the applicant would invest in a mine expansion for the stated purpose of obtaining phosphate ore for phosphate fertilizer production if it could not also rely on its ability to expand its phosphogypsum management system. The dredge and fill activities of the Ona Mine are inextricably related to any future phosphogypsum stack management expansion. Phosphogypsum is a byproduct of the process that converts mined phosphate rock into the compounds used in fertilizer. The desired phosphorous content of the mined phosphate rock is in the form of calcium phosphate which is not readably *[sic]* useable as fertilizer because it does not dissolve in water and cannot be metabolized by crops. In order to create its ultimate sellable product, the applicant separates phosphoric acid in a slurry using sulfuric acid, the slurry is then stored in open-air storage stacks known as phosphogypsum stacks or gypstacks which are often created on unused or mined-out land on the processing site. Phosphogypsum is radioactive, containing uranium, radium-226, and thorium. It may also contain high levels of cadmium, plus any chemicals used in the slurry. Numerous commenters provided information on phosphogypsum stacks that should have been included in the AEIS, noting that: Phosphogypsum stacks are located in the study area and their number and extent are directly a result of past and future phosphate mining. The proposed mines will increase the need for such facilities and add to the recently observed impacts/costs of stack closures. They have not only environmental impacts on water quality, but also potential economic impacts for existing/future public utilities using surface water supplies downstream of mining in the [Central Florida Phosphate District]	Section 1.2.1 of the Final EIS describes the public's need. As explained in Section 1.3.1 of the Final EIS, phosphogypsum stacks are associated with fertilizer production. The Corps considered the four phosphate mines reviewed under the EIS to have independent utility from the fertilizer plants. Impacts associated with the fertilizer plants and associated phosphogypsum stacks were included as part of considered as part of the Corps' cumulative impact analysis. Determination of compliance with the terms of EPA's RCRA settlement is outside the scope of the Corps' authority. The Final ElS considered the potential for sinkhole formation in the study area, EIS at 3-63 to 3-64, and analyzed the cumulative effects of the four proposed

	The Corps dismissed the comments, stating "[p]hosphogypsum stacks are not specifically address [sic] in the Final AEIS except as an industrial aspect of the cumulative impacts." According to the Corps "[a]lthough they are not included as part of the Proposed Action, they are included in the scope of the cumulative impacts analysis" and that the Final AEIS "took into account the impacts of phosphogypsum stacks – as it does other past, present, and reasonably foreseeable actions in addition to the Applicants' Preferred Alternatives – in determining cumulative impacts of the Proposed Action and other reasonably foreseeable actions." The Corps concluded that "the mineral processing plants that produce phosphogypsum as a byproduct, and the phosphogypsum stacks associated with those facilities, are considered by the USACE to have independent utility from the phosphate mining activity." The stacks are not in the public interest as they are radioactive and there's no long term solution for what will be done with the 1 billion tons (and growing) of radioactive waste generated by the process. Indeed, the EPA's 2015 settlement agreement with Mosaic, calling for $2 billion to remedy violations with respect to existing phosphogypsum stacks calls into question whether the applicant is fit to continue to put entire communities at risk with its waste production. The consent decree that resulted from the settlement agreement also calls for a Resource Conservation and Recovery Act (RCRA) hazardous waste determination for eight phosphogypsum stacks. If any of the phosphate mined from Ona Mine would contribute to one of those stacks, operations must not begin until a RCRA plan is in place. The threats these phosphogypsum stacks create for local communities is imminent. On September 15, 2016, news broke that a sinkhole had opened up below and in a phosphogypsum stack at Mosaic's New Wales plant. The sinkhole had allowed at least 215 million gallons of water to pour into the Floridan aquifer. It appears Mosaic knew about the spill and sinkhole for three weeks before the media broke the story (Bernard 2016). This is not the first time a sinkhole has opened up the stacks at this location, with sink holes occurring in 2013, 2004, and 1994. The New Wales phosphogypsum stack is the destination site of the radioactive phosphogypsum that will be generated by the proposed Project. Beyond New Wales, in 2009 a sinkhole at the PCS White Springs facility released more than 90 million gallons of hazardous wastewaters into the Floridan aquifer. To further show how dangerous phosphogypsum stacks are, a leading global specialty minerals and specialty chemicals company, Israel Chemicals Ltd., reported on June 30, 2017 that a dike partially collapsed that is used for the accumulation of phosphogypsum water, a byproduct of phosphate fertilizer production processes conducted at the plant. The	actions on sinkholes, EIS at 4-289. As described in Section 4.5 of the decision document, FDEP and the USEPA both directly regulate the fertilizer plants and phosphogypsum stacks.

	environmental damage is still yet to be determined while the company is continuing its efforts to remedy the immediate environmental effect and damages resulting from the phosphogypsum water spill. The Corps must take these threats to the region seriously and evaluate them as indirect impacts of authorizing phosphate mining in the region.	
Jaclyn Lopez Center for Biological Diversity	Under the Clean Water Act the Corps has the responsibility of evaluating permit applications for the discharge of fill into waters of the U. S. The Clean Water Act gave the EPA the task of developing the 404 (b)(1) Guidelines (Guidelines) with the specific goal of providing the environmental criteria and framework by which the Corps evaluates dredge and fill applications. 40 CFR Part 230 - Section 404 (b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, Subpart A - General, Section 230.1 Purpose and policy states: (a) The purpose of these Guidelines is to restore and maintain the chemical, physical, and biological integrity of waters of the United States through the control of discharges of dredged or fill material. . . . (c) Fundamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern. (d) From a national perspective, the degradation or destruction of special aquatic sites, such as filling operations in wetlands, is considered to be among the most severe environmental impacts covered by these Guidelines. The guiding principle should be that degradation or destruction of special sites may represent an irreversible loss of valuable aquatic resources. Nichols et. al. (2008) succinctly describe the role of the Guidelines in framing the Corps' review of permit applications for discharges of fill in wetlands: Central to the Guidelines is the fundamental requirement for an alternatives analysis. " . . . [N]o discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the environment, so long as the alternative does not have other significant adverse environmental consequences . . . .[T]he application is required in every case (irrespective of whether the discharge site is a special aquatic site or whether the activity associated with the discharge is water dependent) to evaluate opportunities for the use of non-aquatic areas and other aquatic sites that would result in less adverse impact on the aquatic ecosystem." Thus, applicants must demonstrate that for any discharge or fill activity there is no practicable alternative site for the proposed activity that will have less adverse environmental impacts.	Section 5 of the decision document describes the first two steps of the mitigation sequencing for this project, including the offsite and onsite alternatives considered, and the measures that Mosaic has taken to minimize the project's impacts. Section 9 describes the third step, the compensatory mitigation plan.

	For special aquatic sites such as wetlands, however, the Guidelines propose a more difficult test for avoidance with two presumptions. For proposed discharges to special aquatic sites there is a presumption that an alternative site that is not a special aquatic site exists and a presumption that such a site will result in less adverse environmental impacts on the aquatic ecosystem. These rebuttable presumptions clarify how to determine if discharges proposed for special aquatic sites meet the requirement that the practicable alternatives have less significant adverse impact on the environment and do not have other significant environmental impacts. Furthermore, the Clean Water Act and EPA's Guidelines make mitigation a requirement of the Section 404 program through standards set at 40 CFR §§ 230.10 (a)-(d). The Memorandum of Agreement between EPA and the Corps concerning mitigation under the Clean Water Act 404 (b)(1) Guidelines (Mitigation MOA) defines the three steps of mitigation - the first two being avoidance and minimization of impacts: 1. Section 230.10(a) allows permit issuance for only the least environmentally damaging practicable alternative. The thrust of this section on alternatives is *avoidance of impacts*. Section 230.10(a)(1) requires that to be permittable, an alternative must be the least environmentally damaging practicable alternative *(LEDPA)*. In addition, Section 230.10(a)(3) sets forth rebuttable presumptions that 1) alternatives for non-water dependent activities that do not involve special aquatic sites are available… 2. Minimization. Section 230.10(d) states that appropriate and practicable steps to *minimize* the adverse impacts will be required through project modifications and permit conditions. Sequencing requires the applicant must first demonstrate impacts to wetlands have been *avoided*. Next the applicant must demonstrate any remaining unavoidable impacts have been *minimized*. Lastly, and only after avoidance and minimization of impacts has occurred, the applicant must compensate for any remaining impacts [i.e. compensatory mitigation]. Nichols et. al. provides an excellent description of the avoidance requirement: Avoidance is the first step in the sequencing process by which the Corps determines whether or not the proposed project is the least environmentally damaging practicable alternative (LEDPA). The LEDPA is identified by an evaluation of the direct, secondary, and cumulative impacts on the aquatic ecosystem and "other ecosystems" of each alternative under consideration. The Guidelines state: . . . *no discharge of dredged or fill material shall be permitted* if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem so long as the alternative does not have other significant adverse environmental consequences.	

	The universality of the requirement to evaluate opportunities for use of non-aquatic areas and other aquatic sites that would result in less adverse impact on the aquatic ecosystem was reiterated in a EPA and Army guidance memo in 1993. The Corps formalized the requirement for sequencing in its regulations regarding Compensatory Mitigation for Losses of Aquatic Resources, 33 CFR § 332.1: (2) Pursuant to these requirements, the district engineer will issue an individual section 404 permit only upon a determination that the proposed discharge complies with applicable provisions of 40 CFR part 230, including those which require the permit applicant to take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States. Practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines. (3) Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines. During the 404(b)(1) Guidelines compliance analysis, the district engineer may determine that a DA permit for the proposed activity cannot be issued because of the lack of appropriate and practicable compensatory mitigation options. Therefore, based on the detailed description of the Clean Water Act's requirements, the 404 (b)(1) Guidelines, the mitigation sequencing requirement, and the least environmentally damaging practicable alternative are fundamental to the federal review of permit applications for the discharge of fill into wetlands.	
Jaclyn Lopez Center for Biological Diversity	Here, the Corps does not discuss the public's need to mine phosphate ore or the public's need for the applicant to have a mine in close proximity to its existing beneficiation plant infrastructure, nor does it explain the public's interest in the applicant meeting its desired production output. Since the purpose of the proposed action informs the alternatives analysis, and since the purpose and need statement are not in the public's interest, proper consideration has not been given to alternatives that were not the applicant's preferred alternative, especially the No Action Alternative. The Corps should independently address the purpose and need of the proposed project in its EA to better inform its alternatives analysis.	Section 1.2 of the Final EIS describes how the Corps considers purpose and need under NEPA and the 404(b)(1) Guidelines. Section 4.a of the decision document describes the basic and overall purpose for this project, the public's need, the applicant's overall and project-specific need, and how the Corps determined the purpose and need.

Jaclyn Lopez Center for Biological Diversity	The Clean Water Act, as well as the National Environmental Policy Act, require the Corps to analyze the alternatives to the proposed project. The regulations provide that adverse impacts to wetlands must be avoided to the extent that practicable alternatives are available which will result in less adverse impacts. A “practicable” alternative is one that is “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.” Guidelines establish a presumption that all practicable alternatives that do not involve a discharge into wetlands have less adverse impact on the environment “unless clearly demonstrated otherwise.” The applicant has failed to demonstrate that the proposed project is in fact needed, much less that there are no practicable alternatives.	Section 1.2 of the Final EIS describes how the Corps considers purpose and need under NEPA and the 404(b)(1) Guidelines. Section 4.a of the decision document describes the basic and overall purpose for this project, the public’s need, the applicant’s overall and project-specific need, and how the Corps determined the purpose and need. Section 5 of the decision document describes the alternatives analysis for the Ona Mine.
Jaclyn Lopez Center for Biological Diversity	Alternatives explore other ways of meeting the purpose and need. Proposing alternatives that are actually projects slated for another time or have already been approved - like the Wingate East, Pioneer Tract, and Site W-2 - circumvents the purpose of an alternatives analysis, which is to consider other actions. Particularly since the Corps has already approved the Wingate East Mine application.	At the time the Corps prepared the Supplemental EA for Ona, and as stated in that document, Wingate East was an available alternative. As explained in the decision document, Wingate East is no longer an alternative for Ona. Site W-2 is not “slated for another time” nor has it “already been approved”. Section 5.2 of the decision document explains why the Corps eliminated W-2 from further consideration as an alternative. Pioneer Tract is a reasonably foreseeable future mine for Mosaic, however as explained in Section 5.2.2(iii) of the decision

		document, that was not a factor in the Corps' elimination of Pioneer Tract from further consideration as an alternative.
Jaclyn Lopez Center for Biological Diversity	The Corps should consider other alternatives that would satisfy the project need, like importing the phosphate ore or using less fertilizer in general. There is consensus that the world's phosphate rock supply is finite and that in order to meet global demand for the agricultural sector, greater recycling of and sustainable use of phosphorus will be necessary (Cordell and White 2013).	Section 2.2.6 of the Final EIS describes how the Corps considered functional alternatives to the proposed activity. Section 5.1 of the decision document references that section of the Final EIS in explaining how the Corps considered functional alternatives in its project-specific review of Ona.
Jaclyn Lopez Center for Biological Diversity	Proposals that look at non-phosphate rock supply could be examined if the purpose of the Project were more broadly drawn.	Section 2.2.6.2 of the Final EIS explains why avoiding the use of phosphate fertilizers does not meet the project purpose and need. Section 1.7 of the decision document describes the purpose and need for the project. Section 5 of the decision document explains how the Corps considered purpose and need in its alternatives analysis.
Jaclyn Lopez Center for Biological Diversity	The Clean Water Act requires applicants to first avoid wetlands through a practicable alternative. If all efforts have been made to avoid impacts, the Act requires the applicant to minimize impacts through project modifications. If and only if all efforts have been made to avoid and minimize impacts, may the applicant compensate for the loss through mitigation. As explained above there are numerous practicable alternatives to the proposed project that would avoid significantly impacting these important resources. Further, there is no evidence that the applicant has minimized impacting these resources through project modifications.	Section 5 of the decision document describes the alternatives analysis for the Ona Mine. That analysis describes how the applicant avoided and minimized impacts to waters of the United States.

Jaclyn Lopez Center for Biological Diversity	Minkin and Ladd conducted a study of the effectiveness of compensatory mitigation projects (creation and restoration) required for permitted impacts in New England and to determine what programmatic improvements might be necessary. Their study found “Forty of the mitigation projects (67%) were determined to meet permit conditions and would be considered successful by that standard. However, only 10 (17%) were considered to be adequate functional replacements for the impacted wetlands.” They attribute the failure of mitigation projects to compensate for wetlands losses in part to “ . . . inadequate mitigation amounts for permitted impacts and also for inappropriate functional replacements, e.g., replacing forested wetlands with open water, emergent, and/or scrub-shrub systems.” They also raised the issue of whether created or restored wetlands could replace those of natural systems and concluded that 1:1 mitigation ratios were inadequate. The study also seems to indicate that insufficient compensatory mitigation has been required to offset project impacts. With impacts to 352.31 acres of wetlands and proposed compensatory mitigation of 324.12, of which no more than 317.65 became wetland, there would be an overall net loss in acreage of wetlands. Since there was considerable out-of-kind mitigation, there were increased losses in the more complex wetland types. The general replacement of forested wetlands with open water and emergent systems has resulted in considerable loss of function, particularly forested wildlife habitat and water quality functions such as denitrification, which occur best in seasonally saturated wetlands. They also considered the results of other studies in reaching a conclusion that greater mitigation ratios are required: He [Whigham] questioned whether there is any scientific justification for the underlying assumption of mitigation, that restored and created wetlands function similarly to natural wetlands with regard to biodiversity and nutrient cycling. He also noted that concentrating on replacing lost acreage amounts fails to account for the wetland degradation and functional loss resulting from creation and restoration of mitigation wetlands of lower functional value. In this regard, *greater compensatory mitigation acreage is required to replace the lost functions of impacted systems, i.e., mitigation to impact ratio must be greater than 1:1*. Minkin and Ladd concluded that there is a need for higher mitigation ratios if preservation and enhancement are proposed as compensatory mitigation: An examination of enhancement and preservation, included in the overall mitigation proposals for several of the study projects was not reviewed in this study. Although preservation and enhancement can be important parts of a mitigation proposal, they do not prevent a net loss in wetland acreage and may not prevent a net loss in wetland function.	Comment acknowledged.

	Mitigation banks might do no better in providing compensation for lost wetland functions and values. Kihslinger10 reported that: A recent more comprehensive review of 12 mitigation bank sites in Ohio found that *25% of the bank areas studied did not meet the definition of wetlands* (Mack and Micacchion 2006*). Of the actual wetland acreage, 25% was considered in poor condition, 58% was fair*, and 18% was good quality in terms of vegetation as compared to natural reference wetlands. *The study also found that amphibian community composition and quality was significantly lower at banks than at natural forest, shrub, or emergent wetlands and that pondbreeding salamanders and forest-dependent frogs were virtually absent from the bank sites*. A recent study from Florida found that of the 29 banks evaluated, 70% fell within the moderate to optimal range of function. Although the baseline conditions of most sites were in the high functional range, most of the projects relied upon enhancement, rather than restoration, as the mitigation method (Reiss et al 2007). It must be noted that while the findings of the Florida study are more encouraging, these banks employed enhancement, rather than restoration, and that raises the concern that wetlands functions and values continue to be lost. Brown and Lant conducted a survey of 68 mitigation banks within the United States as of January 1996 were achieving no-net-loss of wetland acreage nationally and regionally. Their review revealed that: Although 74% of the individual banks achieve no-net-loss by acreage, *overall, wetland mitigation banks are projected to result in a net loss of 21,328 acres of wetlands nationally*, 52% of the acreage in banks, as already credited *wetland acreages are converted to other uses*. While most wetland mitigation banks are using appropriate compensation methods and ratios, *several of the largest banks use preservation or enhancement, instead of restoration or creation*. *Most of these preservation/enhancement banks use minimum mitigation ratios of 1:1, which is much lower than ratios given in current guidelines*. Assuming that mitigation occurs in these banks as preservation at the minimum allowable ratio, ten of these banks, concentrated in the western Gulf Coast region, will account for over 99% of projected net wetland acreage loss associated with banks.	
Jaclyn Lopez Center for Biological Diversity	Sufficient evidence exists to demonstrate the general failure of compensatory mitigation in replacing lost wetlands functions and values.	Section 9 of the decision document and the approved compensatory mitigation plan explain how the applicant will compensate for unavoidable impacts to aquatic resources. The compensatory

		mitigation plan complies with the 2008 Compensatory Mitigation Rule, which considers much of the earlier research on unsuccessful mitigation cited in the comments. The DA permit for the Ona Mine has special conditions for the required mitigation, including performance criteria, monitoring and maintenance, and adaptive management.
Jaclyn Lopez Center for Biological Diversity	For this reason, an emphasis should be placed upon avoidance and minimization of impacts to waters of the state.	Section 5 of the decision document describes how the applicant avoided and minimized impacts to waters of the United States.
Jaclyn Lopez Center for Biological Diversity	Beyond so-called “white papers” provided by the applicant which appear to be little more than propaganda for the applicant, the AEIS and EA present no information that past reclamation has produced adequate compensation or that future mitigation or reclamation will be adequate to compensate for impacts to wetlands and species’ habitats. However, information to the contrary has been provided by several expert agencies and individuals.	The compensatory mitigation plan complies with the 2008 Compensatory Mitigation Rule, which considers much of the earlier research on unsuccessful mitigation cited in the comments. The DA permit for the Ona Mine has special conditions for the required mitigation, including performance criteria, monitoring and maintenance, and adaptive management.
Jaclyn Lopez Center for Biological Diversity	For example, USGS critiques the DAEIS for not basing its assumptions about surface and groundwater impacts in logic or science.	Appendix A of the Final EIS provides responses to all comments received on the Draft EIS. Section 4.2 of the

		Final EIS describes the direct and indirect effects of phosphate mining on surface water hydrology. Section 4.3 of the Final EIS describes the direct and indirect effects of phosphate mining on groundwater. Section 4.12.2 of the Final EIS describes the cumulative effects of phosphate mining on surface water hydrology. Section 4.12.3 of the Final EIS describes the cumulative effects of phosphate mining on groundwater.
Jaclyn Lopez Center for Biological Diversity	Likewise, the Florida Association of Mitigation Bankers found that "predicting the post-reclamation hydrology has been a challenge historically"; that "the risk of unsuccessful mitigation on mined site is understated in the Draft AEIS"; and that the analysis "should reflect the issues that have plagued the industry's post-reclamation (on-site) mitigation in the past, rather than optimistic speculation about the ability of new technology to resolve these issues."	Appendix A of the Final EIS provides responses to all comments received on the Draft EIS. Section 1.5 of the compensatory mitigation plan describes how the functional analyses considered risk. The DA permit for the Ona Mine has special conditions for the required mitigation, including performance criteria, monitoring and maintenance, and adaptive management.
Jaclyn Lopez Center for Biological Diversity	Experts on behalf of the Sarasota County Board of Commissioners informed the Corps that: the discussion of mitigation gives a conclusory assertion of an 'evolution' in technology, but does not explain how this evolution took place, and gives no empirical data which demonstrates that the post-reclamation wetlands and streams resemble native habitats in soil type, soil pH, dominant vegetative species composition, species richness or diversity, use by wetland dependent species, microtopography, or hydroperiods. Despite assertions by the industry that	Appendix A of the Final EIS provides responses to all comments received on the Draft EIS. Section 9 of the decision document and the approved compensatory mitigation plan explain

	undesirable vegetative species in restored wetlands will inevitably die out and give way to desired species, some of the oldest reclamation sites are still dominated by wax myrtle. Given the doubts expressed again and again about the efficacy of past reclamation and restoration technologies...the Draft AEIS should provide an in depth discussion as to the reasons why it is believed that current technology will correct past failures.	how the applicant will compensate for unavoidable impacts to aquatic resources. The DA permit for the Ona Mine has special conditions for the required mitigation, including performance criteria, monitoring and maintenance, and adaptive management.
Jaclyn Lopez Center for Biological Diversity	Brian Winchester, President and Technical Director of Winchester Environmental Associates, Inc., with more than 40 years as professional Florida ecologist specializing in wetlands ecology with emphasis on wetland creation and restoration cautioned that "over the last two decades there have been thousands of wetland acres released by agencies as being successfully reclaimed that in fact never demonstrated the type and function characteristics comparable to the native wetland systems they were intended to replace."	Appendix A of the Final EIS provides responses to all comments received on the Draft EIS. Section 9 of the decision document and the approved compensatory mitigation plan explain how the applicant will compensate for unavoidable impacts to aquatic resources.
Jaclyn Lopez Center for Biological Diversity	Furthermore, while the EA states that the applicant will implement a monitoring program, it does not provide details about that program, other than that the applicant itself will monitor and periodically report to the Corps, allowing the fox to guard the henhouse.	The DA permit for Ona includes conditions requiring monitoring and reporting on the status of the compensatory mitigation and the overall project status, including details on timing, duration, and report content.
Jaclyn Lopez Center for Biological Diversity	The Corps must seriously consider the concerns of these expert agencies and individuals. It cannot accept the applicant's promises of doing reclamation better in the future than it has done in the past as scientific evidence that promised mitigation in the form of state-mandated reclamation will rise to the task of compensating for the wetlands that will be lost to phosphate mining.	The DA permit includes a permit condition requiring Mosaic to provide yearly compliance reports on the status of the authorized activities, the FDEP-required reclamation, and the Corps-required mitigation. The permit also includes a condition

		requiring a comprehensive compliance review every five years. As described in the approved compensatory mitigation plan for Ona, implementation financial assurance covers all compensatory mitigation areas that have not yet achieved their performance standards for as long as it may take to do so.
Jaclyn Lopez Center for Biological Diversity	Congress provided a broad environmental purpose in the National Environmental Policy Act (NEPA): [t]o declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation…. [I]t is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans. In that regard, NEPA is America's "basic national charter for protection of the environment." NEPA ensures that federal agencies "will have available, and will carefully consider, detailed information concerning significant environmental impacts" and that such information "will be made available to the larger [public] audience." To this end, NEPA requires federal agencies to prepare a detailed EIS for any "major Federal actions significantly affecting the quality of the human environment." The issuance of a Section 404 by the Corps is a "federal action" to which NEPA applies. To determine whether the environmental impact of a proposed project is significant enough to warrant the preparation of an Environmental Impact Statement (EIS), the agency may prepare an Environmental Assessment (EA). An EA is "a concise public document that briefly provides	Comment acknowledged.

	evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact." When an EA is performed on a project, the Corps must take a "hard look" and "must make a convincing case" for a Finding of No Significant Impact (FONSI) and decision not to perform an EIS. The fundamental objective of NEPA is to ensure that an "agency will not act on incomplete information only to regret its decision after it is too late to correct." Therefore, if "substantial questions as to whether a project . . . may cause significant degradation of some human environmental factor," an EIS must be prepared. The Council on Environmental Quality (CEQ) has promulgated regulations to guide agencies in determining whether a proposed project will have "significant" impacts to the environment. Whether an action will have a "significant" impact on the environment, thus warranting the preparation of an EIS, requires considerations of both "context" and "intensity." "Context" means that the significance of an action must be analyzed in several different contexts (i.e. national, regional, and local significance of the action). "Intensity" refers to the severity of the impact. The CEQ regulations set forth several factors for the Corps to consider when evaluating intensity, including, but not limited to: • The degree to which the proposed action affects public health or safety. • Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. • The degree to which the effects on the quality of the human environment are likely to be highly controversial. • The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks. • The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration. • Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts. • The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act. Courts have held that a plaintiff need not show that significant effects will in fact occur, but if a plaintiff raises substantial	

	questions whether a project *may* have a significant effect, an EIS must be prepared. Completing an EIS is important as in it, the Corps must go beyond the analysis of an EA and describe (1) the "environmental impact of the proposed action," (2) any "adverse environmental effects which cannot be avoided should the proposal be implemented," (3) alternatives to the proposed action, (4) "the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity," and (5) any "irreversible or irretrievable commitment of resources which would be involved in the proposed action should it be implemented." As part of the EIS, each federal agency must "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." An agency must "rigorously explore and objectively evaluate all reasonable alternatives."66 In addition, an agency "shall state how alternatives . . . will or will not achieve the requirements of section 101 and 102(1) of the Act" which requires agencies to "use all practicable means" to "assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings" and to "preserve important historic, cultural, and natural aspects of national heritage" as well as how alternatives "will or will not achieve the requirements of . . . other environmental laws and policies." Until an agency issues a Record of Decision (ROD) pursuant to NEPA, no action concerning a proposal may be taken that would have an adverse environmental impact, or limit the choice of reasonable alternatives. NEPA requires the consideration of reasonably foreseeable, direct, indirect, and cumulative impacts to the natural and physical environment. Cumulative impacts are impacts that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Federal agencies have a continuing obligation to gather and evaluate new information relevant to the environmental impact of its actions. "An agency that has prepared an EIS cannot simply rest on the original document. The agency must be alert to new information that may alter the results of its original environmental analysis, and continue to take a 'hard look' at the environmental effects of [its] planned action, even after a proposal has received initial approval.	
Jaclyn Lopez Center for Biological Diversity	Here, the Corps has clearly predetermined the outcome of its NEPA review. In its EA for Ona Mine, the Corps states that despite the fact that the draft analysis "does not include any of the final determinations" required by the Clean Water Act –	The Corps completed a site-specific EIS (the Final EIS) as well as a site-specific

	because “the Corps cannot make such determination until the conclusion of the permit application review process” that those conclusions will be published in the record of decision and statement of findings (RODSOF) (as opposed to a FONSI or determination that an EIS is needed), and that the Corps plans to adopt the Final EIS and this EA in the RODSOF. Instead, the Corps must complete a site-specific evaluation of the Project and must evaluate the significant impacts will have on the human environment.	Supplemental EA for the Ona project. As stated in Section 6.0 of the decision document, the Final EIS considered the direct, indirect, and cumulative effects of the Ona project, and updated analyses as necessary for the final review. The decision document is the Record of Decision for Ona, in compliance with NEPA.
Jaclyn Lopez Center for Biological Diversity	The FAEIS does not alone satisfy NEPA requirements for individual projects within its scope. CEQ regulations indicate when tiering from a broader environmental impact statement to a subsequent narrower statement is appropriate, and specifically give the example of a regional or basin wide program statement and the ultimate site-specific statements.	The decision document describes how the Corps' review of the application for Ona complied with all relevant federal laws, including NEPA and its implementing regulations.
Jaclyn Lopez Center for Biological Diversity	Manifesting this intent, the EA incorporates by reference the FAEIS and provides no further discussion of the Ona Mine’s impacts.	Section 6.0 of the decision document describes updates of the analyses of the direct, indirect, and cumulative effects of Ona. Sections 7 and 8 of the decision document describe the Corps’ 404(b)(1) Guidelines and public interest reviews, including direct, indirect, and cumulative impacts for several resource categories including but not limited to surface water and groundwater quality and hydrology, and to aquatic resources including wetlands and streams.
Jaclyn Lopez	Regarding the 1975 Florida law requiring that all lands mined for phosphate after July 1, 1975 be reclaimed; it has been	Comment acknowledged.

Center for Biological Diversity	estimated that there are 200,000-300,000 acres of lands yet to be reclaimed. It is important to note the meaning of the word "reclaimed," especially in the context of "restored." Restored lands are ones that assist in the reestablishment of natural communities, habitat, species, or other ecological attributes that have been eliminated or greatly reduced by phosphate mining. In contrast, reclaimed lands are lands disturbed by phosphate mining that are rebuilt to provide some beneficial land use. Reclamation has not been proven to provide the same ecosystem benefits as restoration. At least one author has compared the restoration of phosphate mined lands to Everglades restoration, saying that "the restoration of phosphate mined lands may be a far greater challenge".	
Jaclyn Lopez Center for Biological Diversity	A 1993 study comparing non-mined river basins with reclaimed river basins in west central Florida found the following (Lewelling 1993): • Peak runoff rates from the reclaimed basins generally were higher than those from the unmined basins during intense, short-duration storms; • Reclaimed basins backfilled with clay sustained no base flow to streams; • The depth to the water table in the surficial aquifer in the three reclaimed basins was greater than the unmined basins; and • Recharge from the surficial aquifer to the underlying aquifer was greatly reduced. Other studies have found impacts to water quality. FIPR (2001) explains that the major reagents used in phosphate beneficiation include fatty acid (to collect the phosphate), amine (to collect the sand), fuel oil (as an extender), sodium silicate (to depress sand), soda ash or ammonia (to modify pH), and sulfuric acid (for washing away the collector on the rough concentrate). Multiple pounds of each of the above additives are used per each ton of phosphate, and since phosphate operations produce millions of tons annually, millions of pounds of the reagents are used annually. It is estimated that 30 percent of the reagents are unaccounted for and may be released into the environment. This same study detected fuel oil in groundwater samples of surficial aquifer and intermediate aquifer wells that had been installed in active and inactive sand tailing areas (FIPR 2001). Zhang (2012) found that "[c]lay-settling areas (CSAs) are one of the most conspicuous and development-limiting landforms remaining after phosphate mining" (Zhang 2012). The claylined bottom of the CSA limit their recharge capacity, evaporating instead of recharging the groundwater system, which is a loss of water from the upper Peace River basin that did not occur before mining operations began (Metz 2009). This Project calls for the construction of clay settling areas.	Section 4.2 of the Final EIS describes the direct and indirect effects of phosphate mining on surface water hydrology. Section 4.3 of the Final EIS describes the direct and indirect effects of phosphate mining on groundwater. Section 4.4 of the Final EIS describes the direct and indirect effects of phosphate mining on water quality. Section 4.12.2 of the Final EIS describes the cumulative effects of phosphate mining on surface water hydrology. Section 4.12.3 of the Final EIS describes the cumulative effects of phosphate mining on groundwater. Section 4.12.4 of the Final EIS describes the cumulative effects of phosphate mining on water quality.

Jaclyn Lopez Center for Biological Diversity	The land has characteristics that are unique, including wetlands, particularly riparian forests. Riparian forests have been found to reduce delivery of nonpoint-source pollution to streams and lakes in many types of watersheds (Vellidis 2002, Vellidis 2003, Lowrance 1984, Lu 1985). Riparian forest ecosystems are excellent nutrient and herbicide sinks that reduce the pollutant discharge from surrounding agroecosystems (Peterjohn 1984). For example, studies from coastal plain agricultural watersheds reveal that riparian forest ecosystems are excellent nutrient sinksand buffer the discharge from surrounding agroecosystems (Lowrance 1984). Riparian buffers are especially important on small streams where intense interaction between terrestrial and aquatic ecosystems occurs (Vellidis 2003), because first- and second-order streams comprise nearly three-quarters of the total stream length in the U.S. (Leopold 1964).	Section 5.6(iii) of the decision document describes the applicant's use of buffers along preserved wetlands and streams as an additional measure to minimize impacts. The compensatory mitigation plan describes the applicant's use of buffers along mitigation wetlands and streams.
Jaclyn Lopez Center for Biological Diversity	During the Planning Commission meeting August 18, 2016, a representative of the applicant, Shannon Gonzalez of Flatwoods Consulting Group hired by Mosaic, stated that there was peer reviewed scientific information indicating that reclaimed lands provide the ecosystem benefits promised. This individual referenced, but did not offer into evidence, an unnamed 2008 report by the Florida Institute of Phosphate Research (FIPR). The 2008 study co-authored by Shannon Gonzalez, commissioned by FIPR, reviewed 62 mined lands comprised of 24 upland, 18 wetland, and 20 mixed sites and found five classes of vertebrates, including 299 individual species (BRA 2008). The report did not however, rate how well the reclaimed areas faired using any metric.	Comment acknowledged.
Jaclyn Lopez Center for Biological Diversity	Neither Chapter 4 of the FEIS, nor the EA by incorporating the FEIS, specifically discuss site-specific secondary effects caused by the Ona Mine. The purpose of an areawide impact statement is to facilitate the evaluation of cumulative impacts, and should not be a shortcut designed to eliminate in-depth, site-specific scientific evaluation of direct and secondary impacts for each permitted project.	The Corps completed a site-specific EIS (the Final EIS) as well as a site-specific Supplemental EA for the Ona project. Chapter 4 of the Final EIS, and Sections 7 and 8 of the decision document, describe the direct, indirect, and cumulative effects associated with the Ona Mine. Chapter 4 of the Final EIS, along with several of the appendices to the Final EIS, provide details of the analyses performed to identify those effects.

Jaclyn Lopez Center for Biological Diversity	The Project meets several of the significance factors warranting an EIS.	As described in Section 1.1.1 of the Final EIS, the Corps determined that Ona should be evaluated in an EIS. The Corps prepared the Final EIS as a site-specific analysis for Ona and three similar proposed projects, in compliance with NEPA.
Jaclyn Lopez Center for Biological Diversity	Phosphate mining in Florida is open pit strip mining where a company strips approximately 10 meters of so-called overburden and removes the matrix below which contains the phosphoric ore. Beneficiation of the matrix separates the phosphoric ore from the sand and the clay. The sand tailings are set aside for use in recontouring the land once mining is completed. The clay is returned to the empty pits and stored in elevated clay settling ponds (the clay is now swollen with water and chemicals used in beneficiation) where they wait to drain. These clay settling areas occupy about 40 percent of post-mining lands. The phosphoric ore is treated with sulfuric acid to produce phosphoric acid (which is used in fertilizer). This process creates phosphogypsum, a radioactive byproduct for which the Environmental Protection Agency requires that it be stored in stacks indefinitely because of its radioactivity. It is radioactive due to the presence of naturally occurring, but artificially concentrated and released, uranium, radium-226, and thorium. It may also contain high levels of cadmium.	Comment acknowledged.
Jaclyn Lopez Center for Biological Diversity	In 2003, Judge Johnston, in adjudicating a case regarding phosphate mining in neighboring Charlotte County found that " . . . phosphate mining in this area is accomplished through utter destruction of the local natural environment from ground surface down to a depth of approximately 50 feet." Unfortunately, that is true wherever phosphate is mined in Florida. The Peace and Myakka river basins have been substantially altered by open pit mining for phosphate, changes in land use for mining, and groundwater use for phosphate mining. It is beyond dispute that phosphate mining has forever altered the natural landscape, including streams and drainage. For example, in some areas of the upper Peace River basin, the surficial aquifer does not even exist because phosphate mining has removed the surface sediments. In addition to scarring the landscape, groundwater pumping for phosphate mining has been implicated in the creation of sinkholes in the upper Peace River, and storage of the acidic, radioactive waste generated by the process has also caused sinkholes.	Chapter 4 of the Final EIS describes the anticipated direct, indirect, and cumulative effects of the four proposed actions, their alternatives, and reasonably foreseeable future actions.

Jaclyn Lopez Center for Biological Diversity	The proposed action may affect public health or safety. Phosphate rock mining leads to reallocation and exposure of several heavy metals and radionuclides that become airborne or enter waterbodies. Some of this information is described above in the public interest section regarding phosphogypsum stacks, which has grave health effects; however, in addition, several studies have indicated that phosphate mining poses human health risks. Yang (2014) found elevated levels of lead, manganese, and mercury in house dust, attributable to nearby phosphate mines. Abdalla (2011) found wells downstream of phosphate mining activities had high concentrations of heavy metals, such as lead, cadmium, zinc, and nickel, when compared with upstream wells. In general, the release of these heavy metals can have serious health implications (Al-Hwaiti 2013).	Section 4.1.8 of the Final EIS addresses several of the issues related to community health, safety, and quality of life, with consideration of federal, state and local requirements. The cited study by Yang et al. involves mining in China, the cited study by Abdalla et al. involves mining in Egypt, and the cited study by Al-Hwaiti et al. involves phosphate deposits in Jordan. As described in the Final EIS, the proposed Ona Mine and its associated activities will have to comply with federal (United States), state (Florida), and local (Hardee County) environmental regulations, including regulations for air and water quality.
Jaclyn Lopez Center for Biological Diversity	Also submitted to the Corps via public comments on its DEIS, members of the public adjacent to mine sites cite loss of springs and ecosystem benefits of wetlands that were destroyed and/or moved by mining practices. Likewise, neighboring property owners have complained of fugitive dust. In addition, once the land has been used for phosphate mining, the land can no longer be used for economic development such as agriculture, commercial or residential uses. For example, John Jerue, a resident of South Lakeland, who filed a suit against developer Drummond Co., seeking damages suffered as a result of the contamination to his, and several other residents' properties by the phosphate mining and reclamation activities of Drummond and its real estate division. After reclaiming the land, Drummond developed the land into residential properties and sold it without warning of, or disclosing to the buyers that the hazardous radiation and substances it knew emanated from the contaminated property. Reclaimed phosphate land has dangerously high levels of radiation that drastically raise the risk of many cancers. In 2003, EPA officials considered that land so radioactive that it	Appendix A of the Final EIS provides responses to all comments received on the Draft EIS. Chapter 4 of the Final EIS describes the anticipated direct, indirect, and cumulative effects of the four proposed actions, their alternatives, and reasonably foreseeable future actions. Section 8 of the decision document addresses the public interest review for Ona.

	was a candidate for emergency cleanup action, but local politics intervened and EPA never moved forward. Such serious health and environmental concerns are clearly contrary to the public interest.	
Jaclyn Lopez Center for Biological Diversity	Phosphate ores are comprised of fluorapatite, goethite, quartz, Al-phosphates, anatase, magnetite, monazite, barite, cadmium, nickel (and other heavy metals and trace elements), uranium, thorium, and radium. Phosphogypsum is a waste by-product of processing phosphate ore by "wet acid method." Phosphogypsum is largely comprised of gypsum, but may also contain phosphoric acid, monocalcium phosphate, dicalcium phosphate, calcium phosphate, residual acids, flourides, sulphate ions, trace metals (arsenic, silver, barium, cadmium , chromium, lead, mercury, and selenium, and organic matter. The wet processing also concentrates naturally occurring radium, uranium, polonium, and thorium. Depending on the phosphoric ore, processed phosphogypsum can have 60 times the radioactivity as the level found prior to processing. Radium and lead are the major radionuclides with activity concentrations high compared to recommended normal levels (Afifi 2009). In a 2009 review of literature on the environmental impact and management of phosphogypsum, Tayibi et al. found that radon from Ra-226 decay is a significant environmental problem, as is exposure to local gamma radiation levels many times more than normal, background rates. It also found stack solutions and wells monitoring surface waters had elevated uranium and radium. Bolivar (2000) likewise identified estuary contamination of polonium, uranium, barium, zinc, nickel, copper, cadmium, and strontium from near phosphogypsum stacks. Wang (2014) found uranium in river sediments near phosphate mines. Duenas (2007) found significant radon exhalation from phosphogypsum stacks and nearby lands. For every one ton of phosphoric acid produced, five tons of phosphogypsum are produced. The phosphate industry in Florida produces about 30 million tons of phosphogypsum each year. Approximately 15 percent of phosphogypsum worldwide is recycled as building materials, fertilizer, or soil stabilizers, the remaining 85 percent are stored untreated in stacks. There are 25 gypstacks scattered around Florida, and just one stack can cover 500 acres wide and 240 feet tall. These gypstacks contain about 1 billion tons of radioactive phosphogypsum. That's enough to give every man, woman and child in Indonesia, Brazil and Pakistan, one ton of phosphogypsum each. Sahu et al. (2014) found that phosphate ore processing and disposal of phosphogypsum contributes to enhanced levels of natural radionuclides and heavy metals in the environment, and that the resulting environmental impact should be considered carefully to ensure safety. They found that gypstacks can cause serious environmental contamination of soils, water, and the atmosphere through gypstack erosion	As explained in Section 1.3.1 of the Final EIS, phosphogypsum stacks are associated with fertilizer production. The Corps considered the four phosphate mines reviewed under the EIS to have independent utility from the fertilizer plants. Impacts associated with the fertilizer plants and associated phosphogypsum stacks were included as part of considered as part of the Corps' cumulative impact analysis.

	and the release of heavy metals, sulphates, fluorosilicates, hydrogen fluorides, phosphorus, cadmium and radium-226. Borylo et al. (2012) found elevated levels of metals in plants nearby phosphogypsum stacks, some higher than permissible levels in food. They calculated that the factor contamination for the plants were 2.1 for Pb, 3.7 for Zn, 2.8 for Ni, and 3.2 for Fe for green parts, to 11.8 for Pb, 12.2 for Zn, 9.4 for Ni, and 5.5 for Fe in root times higher in comparison to non-contaminated plants. They concluded that the subject gypstack may pose a health risk to the local population through consumption of the vegetables. Borylo et al. (2013) found elevated levels of Po and Pb in soil near a phosphogypsum stack. They theorized that heavy rainfall for a long time may cause infiltration of radionuclides from phosphogypsum stacks to nearby soils and waterways. Al Attar et al. (2011) found elevated levels of fluoride in air and soil sampling near phosphogypsum stacks. Da Silva (2010) found that phosphate mining and processing (where phosphogypsum was created) enriched cadmium was enriched 105-208 times and uranium was enriched 18-44 times. It also found a general trend of an increase in heavy metals content with decreasing particle size. There are 25 gypsum stacks in the region, including the New Wales stack that recently caused at least 215 million gallons of radioactive hazardous waste to spill into the Floridan aquifer. This is not the first time a sinkhole has opened up below a radioactive phosphogypsum stack, it's not even the first time a sinkhole has opened up at this site. In 1994, a sinkhole formed under the north stack, and in 2004 and 2013, two other "anomalies" were remediated. Furthermore, in 2009 a sinkhole at the PCS White Springs facility released more than 90 million gallons of hazardous wastewaters into the Floridan aquifer. In October 2015, the EPA and Mosaic settled a lawsuit regarding a series of alleged violations of how Mosaic handles and stores its hazardous waste. The Southwest Florida Water Management District believes that sinkholes may form when "industrial phosphate run-off and materials settlement storage ponds are created….. The substantial weight of the new material can trigger an underground collapse of supporting material, thus creating a sinkhole."	
Jaclyn Lopez Center for Biological Diversity	The land has unique characteristics such as proximity to wetlands. The land has characteristics that are unique, including wetlands, particularly riparian forests. The proposed alternative will impact over 553 acres of Corps' wetlands.	Comment acknowledged. As described in Section 1.4 of the decision document, the applicant proposes approximately 3426.1 acres of impact to Corps-jurisdictional wetlands and open

		water areas such as ditches and cattle ponds.
Jaclyn Lopez Center for Biological Diversity	The wetlands and adjacent lands support a host of imperiled and iconic species including wood stork, eastern indigo snake, crested caracara, Florida scrub jay, bald eagle, gopher tortoise, Florida pine snake, gopher frog, Florida sandhill crane, Sherman's fox squirrel, Florida burrowing owl, southeastern American kestrel, Florida mouse, snowy egret, little blue heron, tricolor heron, white ibis, and American alligator.	Comment acknowledged.
Jaclyn Lopez Center for Biological Diversity	Haag (2010) found wetlands are a dominant feature in Florida's landscape and represent a greater percentage of the land surface in Florida than in any other state in the conterminous United States. There are an estimated 11.4 million acres of wetlands, occupying 29% of the area of the State.	Comment acknowledged.
Jaclyn Lopez Center for Biological Diversity	As Semlitsch and Bodie (1999) argue, small wetlands are crucial for maintaining regional biodiversity in a number of plant, invertebrate, and vertebrate taxa (e.g. amphibians). A consequence of losing these wetlands lies in potential changes to the metapopulation dynamics of the remaining wetlands. The consequences could be a reduction in the number or density of individuals dispersing and an increase in dispersal distances among wetlands. A reduction in wetland density can decrease the probability that a population can be "rescued" from extinction by a neighboring source population because of lower numbers of available recruits and greater distances between wetlands. Remaining wetlands could face increased probabilities of population extinctions.	Section 9 of the decision document, and the compensatory mitigation plan, describe how Mosaic will provide compensatory mitigation for unavoidable impacts to aquatic resources. As detailed in the mitigation plan, the applicant proposes preservation, enhancement, and establishment of aquatic resources across a wide range of sizes and hydroperiods.
Jaclyn Lopez Center for Biological Diversity	While wetlands provide numerous services to human society, perhaps one of the easiest to quantify is flood protection. A Washington State Department of Ecology evaluation of the economic worth of this single function produced values ranging from $8,000 to $51,000 per acre (Leschine 1997). The study points out that "policies which permit wetlands to disappear that are presently contributing little to stem flood protection, but which have the potential to do so in the future, could lead to rapidly rising values for the remaining wetlands for flood protection, as increasingly marginal wetlands are called into service. At some point the 'next best' alternatives to enhanced flood protection will not involve wetlands at all, and the purely engineered systems that might have to be built could prove very expensive indeed." Of course any analysis	Comment acknowledged.

	that included economic values of the full range of wetland functions including pollutant removal, flood protection, recreation, species protection, groundwater recharge, and others would obviously derive much higher values.	
Jaclyn Lopez Center for Biological Diversity	The effects on the quality of the human environment are likely to be highly controversial. The Corps has already received thousands of comment letters from concerned and impacted citizens of Florida. Furthermore, the byproduct of the process the Corps is considering permitting is radioactive, with no real solution for permanent storage. These two factors alone warrant an Environmental Impact Statement and make a FONSI a factual and legal impossibility.	The Corps has addressed comments received during the reviews of the Final EIS and Ona in accordance with NEPA requirements. As explained in Section 1.3.1 of the Final EIS, phosphogypsum stacks are associated with fertilizer production, not mining. The Corps considered the four phosphate mines reviewed under the EIS to have independent utility from the fertilizer plants. Impacts associated with the fertilizer plants and associated phosphogypsum stacks were included as part of considered as part of the Corps' cumulative impact analysis. As described in Section 1.1.1 of the Final EIS, the Corps determined that Ona should be evaluated in an EIS. The Corps prepared the Final EIS as a site-specific analysis for Ona and three similar proposed projects, in compliance with NEPA.
Jaclyn Lopez Center for Biological Diversity	The possible effects on the human environment are highly uncertain or involve unique or unknown risks.	Chapter 4 of the Final EIS describes the direct,

	This topic is covered in the public interest and public health and safety sections above.	secondary/indirect, and cumulative effects of phosphate mining, including Ona. Sections 7 and 8 of the decision document address the 404(b)(1) Guidelines and public interest review, respectively.
Jaclyn Lopez Center for Biological Diversity	The action is related to other actions with individually insignificant but cumulatively significant impacts. The FEIS details, and the Corps is currently considering, associated projects that cumulatively have significant impacts.	As described in Section 1.1.1 of the Final EIS, the Corps determined that Ona should be evaluated in an EIS. The Corps prepared the Final EIS as a site-specific analysis for Ona and three similar proposed projects, in compliance with NEPA.
Jaclyn Lopez Center for Biological Diversity	The action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act This topic is covered in the following section.	Section 11.1 of the decision document describes the Corps' final determinations for Ona pursuant to Section 7 of the Endangered Species Act.
Jaclyn Lopez Center for Biological Diversity	The Corps and U.S. Fish and Wildlife Service must comply with the Endangered Species Act. Congress enacted the ESA to provide a “means whereby the ecosystems upon which endangered species and threatened species depend may be conserved . . . [and to implement] a program for the conservation of such endangered species and threatened species.” At its core, the ESA prohibits any person from taking any species listed as endangered, and empowers the Service to promulgate regulations prohibiting the taking of any species listed as threatened. “Take” is defined broadly to include all manner of harm or harassment to protected species, including both direct injury or mortality and also acts and omissions which disrupt or impair significant behavioral patterns. Similarly, federal agencies are required to “carry[] out programs for the conservation of endangered species and threatened species,” and to “insure that any action authorized, funded, or carried out by such agency…is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the adverse modification of [the critical] habitat of such species.”	The decision document describes how the Corps' review of the application for Ona complied with all relevant federal regulations, including Section 7 of the Endangered Species Act. Section 11.1 of the decision document describes the Corps’ final determinations for Ona pursuant to Section 7 of the Endangered Species Act.

	Section 7 consultation is required for "any action [that] may affect listed species or critical habitat." If the action agency determines its action "may affect" a listed species, the agency must initiate formal consultation with an expert agency (in this case, the Service). Once the action agency has initiated formal consultation, the Service is required to complete a biological opinion (BiOp) for that proposed action. The BiOp summarizes the Service's findings and determines whether the proposed agency action will jeopardize the continued existence of any species or result in adverse modification of critical habitat. If the Service determines the agency action is likely to jeopardize the continued existence of a listed species or result in adverse modification, the BiOp impacts such that the agency action may avoid jeopardizing listed species. Pervading the Section 7 consultation process is the mandate for "each agency [to] use the best scientific and commercial data available." Importantly, each federal agency has an independent duty to "use the best scientific and commercial data available" to ensure any action it authorizes "is not likely to jeopardize the continued existence…or result in the destruction or adverse modification of [the critical] habitat" of any listed species. Section 7(a)(1) of the ESA requires the Corps, in consultation with and with the assistance of the Service, to utilize its authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of endangered and threatened species. Federal agencies have an independent and substantive obligation to insure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify critical habitat. Indeed, a "no jeopardy" BiOp from the Fisheries Service does not absolve the action agency of its duty to insure that its actions comply with the ESA.	
Jaclyn Lopez Center for Biological Diversity	On June 1, 2012, the Corps issued a public notice for a permit application for dredging and filling activities at the Ona Mine. Ona Mine would extend mining south from historic mining areas and the approved Wingate East Mine, giving Mosaic approximately 45 years to mine phosphate from 22,320 acres in Hardee County and conduct reclamation activities.	As described in Section 1.4 of the decision document, for Ona, the applicant proposes 16,842 acres of mining over 24 years, with six additional years of reclamation.
Jaclyn Lopez Center for Biological Diversity	Ona Mine is in the Peace River watershed and the Horse Creek floodplain. Horse Creek and the West Fork of Horse Creek flow directly through the Ona Mine site. Ona Mine contains 2,696 acres of herbaceous wetlands, 1,186 acres of forested wetlands, 6,339 acres of upland forests, 2,859 acres of native rangeland. Ona Mine is bordered to the north by the proposed SPE Mine and historical and ongoing mining areas, to the west by the approved Wingate East Mine, and to the south by the Pine Level/Keys Tract, an alternative considered in the FAEIS and still under consideration for future mining.	Comment acknowledged. The Corps approved the South Pasture Extension Mine (SPE) in November 2016, and the name of the reasonably foreseeable future project which borders

		Ona to the south is Pioneer Tract.
Jaclyn Lopez Center for Biological Diversity	Mosaic's April 2015 biological assessment for Ona Mine does not discuss or otherwise mention manatees. Likewise, on August 1, 2012, the Corps submitted a request for formal consultation on the Ona Mine for eastern indigo snake, northern crested caracara, and wood stork, as well as a concurrence with its determination that Ona Mine may affect but is not likely to adversely affect the Florida panther, Florida scrub-jay, or Florida grasshopper sparrow.	As described in Section 11.1 of the decision document, the Corps prepared a memorandum for the record (MFR) to document and support a determination of 'no effect' for the manatee, and provided a copy of that MFR to the USFWS.
Jaclyn Lopez Center for Biological Diversity	Ona Mine will impact at least 16,000 acres of habitat for listed species, including the wood stork, eastern indigo snake, crested caracara, Florida scrub jay, bald eagle, gopher tortoise, Florida sandhill crane, gopher frog, Sherman's fox squirrel, Florida burrowing owl, southeastern American kestrel, Florida mouse, snowy egret, little blue heron, tricolor heron, white ibis, American alligator, Florida panther, and Florida manatee.	Comment acknowledged. Neither Florida panthers nor manatees have officially been documented within the boundaries of the Ona project, including within the areas proposed for disturbance.
Jaclyn Lopez Center for Biological Diversity	In addition to Ona Mine, the applicant is mining or in tends to mine an addition 30,000 acres of nearby land at Desoto, Wingate East, and South Pasture Mine. The Service must consider the cumulative effect of these mines on the species and their habitat at Ona Mine.	The total acreage of impact, including mining, for the proposed Desoto Mine and the approved South Pasture Extension Mine as described in the FDEP ERPs for the two projects is 22,599 acres. The total acreage of impact, including mining, for Wingate East, as described in the Corps decision document for that project, is 3137 acres. Section 11.1 of the decision document describes the Corps' final determinations for Ona pursuant to

		Section 7 of the Endangered Species Act.
Jaclyn Lopez Center for Biological Diversity	The leading cause of extinction is habitat loss (Harris 1984, Meffe 1997), and native habitats in Florida are rapidly disappearing (Kautz 2001 at 56). This has resulted in the extirpation or extinction of 13 vertebrates over the last 150 years (Kautz 2001 at 56). Habitat loss and fragmentation, coupled with human encroachment, have resulted in populations of species that are increasingly isolated from each other (Dobey 2002 at 68). Large mammalian carnivores, like the Florida panther, are particularly vulnerable to habitat loss and fragmentation because of their relatively low numbers, large home ranges, and interactions with humans (Noss 1996 entire, Woodroffe 1998 entire). Their low fecundity and long generation times result in reduced levels of genetic variation (Roekle 1993 entire, Lu 2001 entire). Habitat loss and fragmentation can lead to increased mortality (Jules 1998 entire); reduced abundance (Flather 2002 at 40-56); disruption of the social structure of populations (Ims 1999 at 839-849, Cale 2003 entire); reduced population viability (Harrison 1999 at 225-230, Srikwan 2000 entire, Cale 2003 entire, Lindenmayer 2006); isolated populations with reduced population sizes and decreased genetic variation (Frankham 1996 entire). Loss of genetic variation may reduce the ability of individuals to adapt to a changing environment; cause inbreeding depression (Ebert 2002 entire); reduce survival and reproduction (Frankham 1995 entire, Reed 2003 entire); and increase the probability of extinction (Saacheri 1998 entire, Westmeier 1998, Kramer-Schadt 2004 entire, Letcher 2007 entire, Ruiz-Gutierrez 2008 entire, Sherwin 2000). A 2009 study concluded the anthropogenic influences—primarily road density and vehicular traffic—can substantially affect the population dynamics of large carnivores with large home ranges, like the Florida panther (Hostetler 2009 entire). Habitat fragmentation and anthropogenic barriers to movement have limited the dispersal capability of species, reducing gene flow among populations and resulting in genetically distinct populations (Dixon 2007 at 455-464). Large carnivores may be much more susceptible to losses in genetic variation due to habitat fragmentation because of their large home ranges, low population densities, and long generation times (Paetkau 1994 entire, Johnson 2001). Isolation is reinforced when travel between subpopulations is limited due to significant barriers, such as high-volume roads (Paetkau 1997 entire, Mader 1984 entire, Brody 1989, Proctor 2002 entire, Voss 2001 entire, Keller 2003 entire, Gerlach 2000 entire, Trombulak 2000 entire, Coffin 2007 at 396-403). Thus roads and other anthropogenic obstacles cans substantially reduce gene flow among populations (Dixon 2007 at 455-464, Kyle 2001 at 343-346, Walker 2001 entire, Ernest 2004).	Comment acknowledged.

Jaclyn Lopez Center for Biological Diversity	The applicant must provide with sufficient specificity what effect the permanent loss of the original habitat will have, or the effect the modified (so-called "reclaimed") land will have after it is finally "reclaimed" many years after it is destroyed.	Section 10.1 of the decision document describes the Corps' final determinations for Ona pursuant to Section 7 of the Endangered Species Act. Section 3 3 6.1 of the Final EIS cites studies that looked at the habitat value of reclaimed vs. unmined lands for a variety of species.
Jaclyn Lopez Center for Biological Diversity	***Florida panther*** The Service originally listed the Florida panther as an endangered species in 1967. To this day the panther remains, "the most endangered mammal in the eastern [United States] . . . [with] only 120-180 left, all in South Florida." While the Project does not currently support a Florida panther population, Florida panthers have been observed in the area and it could serve as important dispersal habitat and wildlife corridor connecting habitat farther north (Pinnell 2015). As recently as 2012, the Florida Fish and Wildlife Conservation Commission was considering relocating Florida panthers to Duette Park to help support the population (Morelli 2012). A Florida panther was spotted near Myakka State Park in 2010, and there is no doubt that panthers are in Sarasota and Polk counties and will continue to move from south Florida northward across the Caloosahatchee River (Spinner 2012). Indeed, as recent as March 2017, wildlife biologists announced that they have verified the presence of at least two Florida panther kittens north of Caloosahatchee. Just not too long before the kittens were spotted, Florida Fish and Wildlife Conservation Commission (FWC) announced on November 14, 2016, that a female Florida panther has crossed the Caloosahatchee river. In addition, the FWC reported on February 28, 2017 that a 3-year-old male Florida panther's body was found on a rural road in DeSoto County, east of Arcadia. Florida panther sightings have increased as the continued destruction of their habitat occurs. Panthers have been seen in Sarasota and Polk counties, and are likely moving through Manatee County. Panthers have faced an uphill battle after their numbers declined to as few as 20-30 individuals. Despite the relative success of a genetic restoration project, only "a single wild population in south Florida" exists and it is "all that remains of [the] species." Development in south Florida has significantly increased in the area of suitable panther habitat and has led to increased panther mortalities from vehicle collisions, inbreeding, increased competition for food, and territorial disputes (Staletovich 2014). For example, it is estimated that	Section 11.1 of the decision document describes the Corps' final determinations for Ona pursuant to Section 7 of the Endangered Species Act.

male panthers travel and patrol a territory of several hundred square miles (Tingley 2015). The panther's large territory-needs and limited habitat has led to intraspecific aggression, which was responsible for approximately 42% of panther mortalities between 1990 and 2004.

The biggest threat to the panther's existence is habitat destruction, thus any proposed conservation plan must be consistent with the panther's recovery plan to ensure that the action undertaken does not undermine the species' chances of recovery. The recovery plan sets forth a goal to "maintain, restore, and expand the panther population and its habitat in south Florida and expand the breeding . . . population in south Florida . . . ." The Project will negatively impact the recovery of the panther, whose greatest threats are habitat destruction and fragmentation.

The Service's analysis of the environmental baseline will need to: 1) take into account the fact that there is currently not enough habitat available to support the existing panther population; and

2) analyze the impact of other projects in the area.

Wood stork

The Service listed the wood stork under the ESA as an endangered species in 1984, and it is the only species of stork "regularly occurring in the United States." In 2014, the Service upgraded the status of the species to "threatened" largely due to successful recovery efforts in Georgia. Although wood storks have seen some improvements in their numbers overall, the species is still in decline, as evidenced by its numbers in Corkscrew Swamp, which until recently was considered "the most productive colony in the nation." Wood storks are found primarily in Florida, Georgia, and parts of South Carolina; however, there have been occasional sightings in North Carolina and as far west as Mississippi. It is suspected that the species migrates and spends its winters in south Florida, as there is an influx of storks during winter months. Wood storks can be observed in south Florida all year. Historically, the central and northern Everglades are among the areas where this population surge is most evident. Some years, the Everglades system has been documented to support approximately 55% of the entire U.S. population of the species. Unfortunately, south Florida colonies have been plagued with multi-year nest failures in recent years.

The wetlands and flow-way located on the project site support downstream regional wetland systems. In Southwest Florida, Lauritsen (2010) examined the importance of seasonal, shorthydroperiod wetlands to foraging federally threatened wood storks, which supply most of the food energy for initiating reproduction and suggested that the loss of these wetlands are not being appropriately mitigated for under State wetlands permitting law. The impacts of the loss of these wetlands may result in no nesting or abandonment of nesting attempts by wood storks at sites such as Corkscrew Swamp Sanctuary.

	The Service will need to calculate the loss of wetlands and other surface waters (jurisdictional and non-jurisdictional) that will result from the project and the effect that will have on the wood stork. Both freshwater and estuarine wetland ecosystems may serve as suitable wood stork habitat. Storks tend to nest in a variety of different trees depending on what is available within the habitat, including: cypress, black gum, southern willow, red mangroves, prickly pear cactus, Brazilian pepper, and Australian pine. Wood storks require nesting sites located in standing water throughout the nesting season to protect the nest from predators. For foraging, it is critical that the storks have access to shallow, open water. The species forages using tactilocation, a process where it wades through the water with its beak submerged and clamps down on prey, usually small fish, when they come in contact with its beak. Storks require shallow waters to wade in and fairly dense stocks of fish to support a colony's feeding habits. Storks' needs are somewhat less specific when it comes to roosting trees; although they look for similar sites as those used for nesting, they will roost in a greater variety of trees depending on the availability of food. The greatest threats to the wood stork's existence are the loss of adequate habitat for feeding, changes in water levels and hydrology (habitat modification), lack of nesting habitat, "human disturbance," and loss resulting from the adverse effects of pesticide and chemical contamination. As wetlands are drained and filled—primarily for development and agriculture—the stork's habitat is irreversibly destroyed. Because of the stork's specific foraging and nesting needs, changes in hydrology resulting from developmental impacts, both direct and indirect, can have a major effect on the species' ability to survive in a given area. The Project would impact 533 acres of Corps jurisdictional wetlands that likely provide foraging habitat for the wood stork. Nothing in the 2012 statement indicates that a temporary loss is not a take under the ESA. Furthermore, nothing in the 2012 statement demonstrates that the land will be reclaimed adequately and prey base restored, by for example, comparing to other reclaimed lands. The 2012 statement does not look at take from vehicle collision over the course of the Project, or the loss or reduction of foraging habitat. The Service and Corps must consider all of these factors during Section 7 consultation. ***Audubon's crested caracara*** The Service listed the Audubon (or Northern) crested caracara as a threatened species under the ESA in 1987. The species historically was found throughout peninsular south Florida in wet and dry prairie habitats featuring interspersed cabbage palm trees. Now, the caracara has somewhat adapted to land use changes, using pasturelands and in some cases citrus	

	and other agricultural lands in place of its natural habitat. Still, caracaras nest almost exclusively in cabbage palms, and ideal habitat conditions for the species consists of these palms "surrounded by open habitats with low ground cover and low density of tall or shrubby vegetation." The species is an opportunistic hunter, seeking out prey "on the wing, from perches, and on the ground." The primary threat to the species is habitat loss. The majority of the caracara's habitat loss is attributable to agricultural and residential development. In addition to habitat destruction, the species has suffered from direct human impacts, including mortalities from vehicular collisions, traps, and intentional killings resulting from misplaced fear that the species preys on livestock. The Service's recovery plan for the northern crested caracara outlines specific measures that should be taken to protect the caracara including, efforts to "create, restore, or expand occupied habitat wherever possible." The plan further states that conservation goals may be met through the expansion of habitat in areas with individuals present, as well as restoration of habitat in vacant areas. The 2012 statement does not evaluate the direct effects from the Project including mortality from vehicular traffic, harassment, and missed foraging and breeding opportunities; and that the indirect effects include post-construction maintenance. The Service and Corps will need to consider these impacts during Section 7 consultation.	
Jaclyn Lopez Center for Biological Diversity	***The Project will harm amphibians and reptiles in particular*** Reptiles and amphibians (herpetofauna) are in the midst of a global extinction crisis. In 2013, over 200 scientists published a study that found nearly one in five reptilian species are threatened with extinction globally, with the highest proportion of threatened reptile species living in freshwater environments (Bohm et al. 2014, Gibbons et al. 2000). Amphibians are also declining in the United States and globally (Adams et al. 2013, Gratwicke et al. 2012). These classes are particularly sensitive to changes in ecosystems because of their unique biology and life-history traits. The state of Florida is blessed with a rich diversity of herpetofauna. According to Manatee County Mining Ordinance 04-039, 21 native amphibians and 49 native reptiles are known or suspected to occur in Manatee County on existing or future phosphate-mined lands. Several of these species are rare and receive either state or federal protection. The proposed mine extension will affect many of the unique and sensitive reptiles and amphibians on the mining site and in the surrounding areas. The Project will destroy important habitats and microhabitat features, degrade and fragment the mining site and surrounding land, and disrupt essential species behaviors. Several rare and imperiled species have ranges that overlap with the proposed mine extension and will be harmed by mining activities. The proposed mine extension will detrimentally and irreparably harm the native herpetofauna	Section 3.3.6.1 of the Final EIS cites studies that looked at the habitat value of reclaimed vs. unmined lands for a variety of species. Section 4.5.3 of the Final EIS describes how the Corps considered direct and secondary impacts to wildlife habitat in the Final EIS. Section 4.5.3.3 of the Final EIS describes the specific evaluation of wildlife habitat impacts associated with Ona conducted for the Final EIS. Section 11.1 of the decision document describes the Corps' final determinations for Ona pursuant to

	by destroying their natural habitat during the mining process, degrading and fragmenting surrounding habitat, and disturbing the species' essential feeding, breeding, and sheltering behaviors. For reptiles and amphibians, which are tremendously sensitive to environmental change due to their biology and natural history traits, these changes can be devastating. During the mining process, the loud noise and vibrations caused by the mining activities will likely interrupt essential amphibian and reptilian behaviors at the Project site and for great distances in the surrounding areas. For example, many frog species rely on "calling" or "chorusing" to successfully mate, and loud noises can interrupt their mating behaviors by causing physiological stress, altering the tone and sound of the frog's call (which can cause it to sound less attractive to prospective mates), or causing the frog to go silent (Tennessen et al. 2014; Parris et al. 2009; Thierry 2008; Bee & Swanson 2007). Likewise, vibrations and sounds may frighten or harass nearby reptiles and amphibians, causing them to travel out of their way to avoid the Project area, and thus disrupting their normal movement patterns as they seek out food and mates. Because the eastern indigo snake and Florida pine snake are wide-ranging species (USFWS 1999, Miller et al. 2009), it is possible the activities could even affect snakes that do not live on the site but instead use it as a travel corridor. The Project will also destroy, degrade, and fragment suitable habitat the native herpetofauna relies on for survival. Phosphate mining completely alters Florida's natural landscape, which is an irreplaceable product of the slow, steady interactions of geology, biology, and hydrology over thousands of years (Allen and Main 2005). Phosphate mining companies use heavy machinery to remove all native vegetation and dig deep into the ground, manipulating the natural topography and soil composition, compacting the earth, and forcing native species from their habitat. It is likely that smaller, slower amphibians and reptiles will be unable to avoid the mining activities, causing them to be buried or crushed in the process. Those that avoid the activity will be forced from their homes for decades and potentially displaced into areas that lack the microhabitat they need to survive. Habitat loss is especially harmful to reptiles and amphibians because many species have very particular and interrelated habitat needs. For example, the gopher tortoise requires well-drained, sandy soil in areas with longleaf pine, wiregrass, and herbaceous plants to eat (FWC, undated b; FWS 2016). Gopher tortoises require these particular habitat conditions to dig their burrows. In turn, gopher tortoise burrows are their own important microhabitats, providing refuge to over 300 other species. If mining were to be permitted in suitable, occupied gopher tortoise habitat, the tortoises would be protected and relocated under Florida law; however, many of	Section 7 of the Endangered Species Act.

	the over 300 other species that depend on their burrows would be displaced and without the burrow associates they rely on to excavate protective refuges. Those species include the imperiled eastern indigo snake, gopher frog, Florida pine snake, and eastern diamondback rattlesnake. Reptiles and amphibians that are able to migrate from the mining site will be left vulnerable as they search for new habitat to suit their needs. Importantly, ectothermic reptiles and amphibians need cool microhabitats (thermal resources) they can use to regulate their body temperatures (thermoregulate) (Sears et al. 2016). The costs of seeking out these microhabitats include energy loss, risk of being eaten by predators, and missed opportunities to feed and breed (Sears et al. 2016). These opportunity costs greatly increase when species must travel farther to reach thermal resources. Thus, far-traveled reptiles and amphibians are more likely to be spotted by predators and more likely to be in a weakened state and vulnerable to capture when they are spotted. Reptiles' and amphibians' very abilities to regulate and maintain their body temperatures will be compromised when they are forced out of their natural habitat by mining activity. Reptiles and amphibians are ectotherms that depend on their surrounding environments to keep their bodies at stable, healthy temperatures. In a recent study, Sears et al. (2016) studied lizards' abilities to regulate their body temperatures in environments with small, evenly dispersed shaded areas against environments with large, irregularly distributed shaded areas. They found that the lizards were able to more accurately regulate their temperature using less energy in areas with evenly dispersed shaded areas (Sears et al. 2016). Because the phosphate mining operations will completely destroy any thermal resources on the Ona site, native reptiles and amphibians that are not buried or killed on site will have to travel great distances and expend enormous energy to seek out new thermal resources. This will disrupt their mating behaviors and subject them to increased predation as they travel in the open. It is also possible that smaller, slower, and weaker species will die from overheating or starvation before they find new habitat. Even after mining activity is complete and the land is "reclaimed," the new landscape likely will not meet the needs of the varied herpetofauna that rely on it. Reclamation is not the same as habitat restoration, and there is no guarantee that the reclaimed land will have the same attributes it had before mining activity commenced, many of which are necessary to the viability of native reptiles and amphibians in the area. Large-scale soil disturbance can cause ecological succession and encourage invasion of exotic species, which in turn lead to an entirely different vegetative structure than the previously sustained on a site (D'Antonio & Meyerson 2002, Davis et al. 2000, Sher & Hyatt 1999). For many species, native vegetation is key to their survival, and changes in vegetative	

	structure will render the reclaimed site uninhabitable. For instance, gopher tortoises require specific sandy soils for digging burrows and herbaceous groundcover to eat (FWC, undated b; FWS 2016). Florida pine snakes can tolerate degraded habitats (to some degree) but may not use habitats where succession has led to closed canopy forests (FWC 2013b). Moreover, phosphate mining companies have not demonstrated post-mining reclamation techniques that successfully restore the wide range of habitats, vegetation, and ecological functions needed to sustain the diverse range of species that once inhabited the site before mining activities began. This is particularly true for amphibians, which often have very particular and often diverse aquatic habitat requirements to maintain amphibian species composition, richness, and abundance (Brown et al. 2014). For example, some species prefer a long hydroperiod, which allows for longer breeding periods, while other species will not use wetlands with long hydroperiods because of the potential for predatory fish to colonize them (Brown et al. 2014). Brown et al. (2014) reviewed 37 peer-reviewed studies of amphibian use of created and restored wetlands, within and outside the United States, which were produced to mitigate wetland habitat loss due to development or degradation. They found that species richness or abundance for some or all species was greater at created or restored sites (compared to reference sites) in 54% of studies, similar in 35% and lower in 11% (Brown et al. 2014). The scientists found that created and restored wetlands were typically larger, deeper, and had longer hydroperiods than natural wetlands, which generally resulted in greater species richness (Brown et al. 2014). However, the study also acknowledged that the rarest and most imperiled amphibian species are typically habitat specialists that are “unable to adapt to human-influenced terrestrial or aquatic habitat changes” and that “need and preferences of target species should be a major consideration in wetland creation and restoration” (Brown et al. 2014). Additionally, the scientists expressed concern that nearly every study in the literature review replaced seasonal wetlands with more permanent wetlands, noting that it “appear[ed] to be a common outcome of wetland creation projects” (Brown et al. 2014). For species like the gopher frog, which require temporary, fishless wetlands, this reclamation trend is troubling. Brown et al. (2014) also noted that in at least one study, these permanent wetlands created in mine tailing ponds at a California site provided ideal habitat for an invasive bullfrog. Moreover, the fact that the majority of wetland restoration and reclamation projects resulted in a single type of wetland (permanent) indicates that reclamation techniques have not yet demonstrated the ability to integrate diverse or specialized ecological attributes (such as ephemeral wetlands or longleaf pine uplands) (Brown et al. 2014).	

Even studies conducted by FIPR have reflected the insufficiency of reclamation measures when it comes to restoring wildlife diversity. Mushinsky and McCoy (2001) compared vertebrate wildlife species found on reclaimed phosphate mined land (reclaimed land) with vertebrate wildlife species found on unmined land (reference land) in central Florida. They identified several species that were more commonly found at reference sites than at reclaimed sites, including the oak toad (*Bufo quercicus*), southern five-lined skink (*Eumeces inexpectatus*), pine woods treefrog (*Hyla femoralis*) (Mushinsky & McCoy 2001). However, this study did not analyze the difference in distribution at reference and reclaimed sites for the gopher frog, gopher tortoise, eastern indigo snake because they were too rare at the reference sites to determine a difference in distribution (Mushinsky & McCoy 2001, p. 67). They also found that although species of lizards and turtles were similarly represented at reference and reclaimed sites, species of amphibians and snakes that were widespread among reference sites were found at only a few reclaimed sites (Mushinsky & McCoy 2001). Likewise, species of amphibians and snakes found in relatively large numbers at reference sites were found in only small numbers at reclaimed sites (Mushinsky & McCoy 2001).

Though the study does show some similarities in species and prevalence between reference and reclaimed sites, it also clearly demonstrates that reclamation efforts do not fully restore the herpetofaunal diversity of comparable unmined lands. Furthermore, because it excluded rare species, the study has no bearing on the suitability of reclaimed lands for the most sensitive reptiles and amphibians. The scientists concluded that specific preferences for breeding sites and vegetation structure distinguished the species that were more commonly found at reference sites and made recommendations for future reclamation efforts incorporate more varied habitat types (Mushinsky & McCoy 2001). However, no matter how hopeful the recommendations are, they do not demonstrate the phosphate mining industry's ability to restore wildlife diversity at reclaimed sites.

The site of the proposed mine expansion overlaps with the ranges of several protected reptile and amphibian species including the eastern indigo snake, Florida pine snake, gopher tortoise, and gopher frog (see Figures 1 and 2, below). It also overlaps with the range of the eastern diamondback rattlesnake, which may be seen throughout the state and is currently under consideration for federal Endangered Species Act protection. The site may also fall within the range of the Suwannee cooter, which is a state species of special concern whose known range has been extended farther south by recent studies.

Gopher tortoise

In Florida, the gopher tortoise is a federal candidate species under the ESA and a highly valuable "keystone species" that

benefits and ensures the survival of other species in its ecosystem. This tortoise is known to benefit over 300 different species, including eastern indigo snakes, foxes, skunks, and lizards, which use gopher tortoise burrows for shelter and for various parts of their lifecycles. The gopher tortoise is generally found in longleaf pine or oak sandhill ecosystems, but it may also be found in other dry, upland habitats within its historic range.

The greatest threat to the gopher tortoise is habitat destruction, including habitat fragmentation and degradation, caused by urban development, agricultural conversion, forestry, and mining. Habitat fragmentation can lead to reproductive isolation, increased predation due to exposed habitat edges, and mortality resulting from vehicular collisions. Intraservice consultation and conference must consider effects on listed, proposed, and candidate species. “Candidate species are treated as if they are proposed for listing for purposes of during consultation.

Gopher frog

The gopher frog is under review by the Service to be listed under the ESA. The gopher frog is a relatively large, brown-spotted frog that can grow to be between 2.5 and 4.4 inches long (FWC 2013). Their tadpoles are greenish gold with dark spots scattered over the body and tail (FWC 2013). Gopher frogs typically live in dry, well-drained upland habitats that are occupied by gopher tortoises and close to shallow, temporary, fishless breeding wetlands (FWC 2013). They have been found in a variety of habitats including sandhills, upland pine forests, scrub, flatwoods, dry prairies, pastures, and various other disturbed habitats that still host gopher tortoises (FWC 2013). Gopher frogs spend the majority of the year in the dry uplands, where they shelter in gopher tortoise burrows and hunt insects and small frogs (FWC 2013).

Gopher frogs have very specific habitat needs for breeding. They generally breed in the summer in central and south Florida, though they can breed any time of the year with heavy rains (FWC 2013). Male frogs attract females to the breeding pools by calling, and females deposit a fistsized mass of 500-5,000 eggs, which the male then fertilizes (FWC 2013). The eggs hatch in 4–5 days and develop as tadpoles for 3–7 months (FWC 2013). Newly metamorphosed frogs then migrate back into the uplands where they shelter in burrows (FWC 2013).

Even with the appropriate habitat conditions, successful reproduction—and thus population viability— can be difficult. Gopher frog longevity in the wild is unknown, though tadpoles face many predators, ranging from water snakes to predatory fish to insects, as they develop (FWC 2013). One study found that nearly 75% of froglets leaving a pond were killed by snakes or mammals (FWC 2013). Adult frogs are preyed upon by water snakes and possibly turtles (FWC 2013). Thus,

	having accessible, suitable wetland habitat for breeding and upland habitat for feeding and shelter is imperative to the gopher frog's survival. Unfortunately, the gopher frog has experienced drastic population declines because of habitat loss and degradation, and the species now occurs only in scattered populations in the southern United States (Humphries & Sisson 2012). Populations in the Florida peninsula are relatively secure, but the species is declining in other parts of its range and in some parts of Florida (FWC 2013). Surdick (2013) studied gopher frogs in the Big Bend Wildlife Management Area on the Gulf Coast of Florida and remarked that the frog is "of conservation concern because most populations have gone locally extinct across the geographic distribution." Likewise, the gopher frog's range in North Carolina has contracted dramatically (Humphries 2012), and sparse records of the gopher frog exist in Tennessee (TWRA, undated). Habitat loss leads to isolated populations, which itself is another threat to the survival of the gopher frog. Greenberg (2001) studied influences on success of juvenile recruitment for gopher frogs, and he found that the condition of longleaf pine-wiregrass sandhills surrounding ponds may influence levels of juvenile recruitment. Greenberg's study illustrates the role of multiple ponds in sustaining gopher frog populations. This finding is important, as roads often fragment essential amphibian habitats and can lead to road mortality. Cosentino et al. (2014) found that "road disturbance was almost universally important in that it constrained total species richness and the distribution of most species" of amphibians they studied. Though not specifically covered in scientific literature, the excavation of a mining pit and clay settling pond could easily create similar impacts to a gopher frog's ability to access and use suitable breeding and sheltering habitat. Aside from destroying the utility of any habitat at the Project site itself, mining activities would also create a barrier between suitable isolated wetlands on adjacent land. It could also physically separate members of a gopher frog population, genetically isolating them. Climate change is and will continue to be a major threat to the gopher frog, impacting availability of water and altering the frog's behavior. For amphibians, water availability is a key resource that affects survival, reproduction, activity levels, and dispersal, while temperature can affect timing of breeding, hibernation, and the ability to find food (Corn 2005; Blaustein et al. 2010, Lawler et al. 2010). Climate change is driving greater variability in precipitation, increasing the frequency of extreme weather events, and increasing surface water temperatures (Melillo et al. 2014). As a result, climate-change-related changes in hydrological regimes (i.e., alterations in stream flow, lake depth, amount and duration and winter snow pack, pond hydroperiods, soil moisture) and warming temperatures are predicted to have largely negative effects on	

amphibian breeding success and survival, dispersal, and habitat suitability (Blaustein et al. 2010, Walls et al. 2013). Gopher frogs will likely experience a number of other behavioral shifts which could lead to climate-change induced population declines. Numerous studies have documented climate associated shifts in amphibian phenology, range, and pathogen-host interactions (Corn 2005; Blaustein et al. 2010; Li et al. 2013), with emerging evidence for climate change-related declines (Lowe 2012, Rohr & Palmer 2013). Li et al. (2013) reported the results of 14 long-term studies of the effects of climate change on amphibian timing of breeding in the temperate zone of the U.S. and Europe. This meta-analysis indicated that more than half of studied populations (28 of 44 populations of 31 species) showed earlier breeding dates, while 13 showed no change, and 3 populations showed later breeding dates, where spring-breeding species tended to breed earlier and autumn-breeding species tended to breed later. Several studies indicate that shifts in timing of breeding can have fitness and population-level consequences. For example, amphibians that emerge earlier in the spring can be vulnerable to winter freeze events or dessication if they arrive at breeding sites prior to spring rains (Li et al. 2013).

In addition, global climate change poses a serious threat to terrestrial ectotherms like the gopher frog simply because they rely on the external environment to regulate and stabilize their body temperatures. Although Florida's climate is predicted to warm less than other regions in North America, a climate inventory over the past 35 to 108 years indicated Florida is experiencing greater climate extremes, with trends of increased summer and fall maximum temperatures and decreased winter and spring minimum temperatures (Reece et al. 2013). Because gopher frogs rely on the external environment to regulate and maintain their body temperatures (thermoregulate), they will have difficulty surviving as temperatures rise (Reece et al. 2013). This threat will only be compounded by habitat destruction and fragmentation, which will force gopher frogs to travel farther distances to concentrated areas of habitat with the appropriate microclimate to thermoregulate (Sears et al. 2016).

The gopher frog is also threatened by sea-level rise, which will cause human populations to move into previously unaltered habitats to escape coastal areas (Cameron Devitt et al. 2012; Mellilo et al. 2014; Karl et al. 2009; FWC, undated a). Because of declining gopher frog populations and the many threats they face, the gopher frog is listed as a Florida State Species of Special Concern (FWC 2013); however, it is proposed for delisting in Florida's Imperiled Species Management Plan as FWC intends to phase out the "Species of Special Concern" listing status by the end of 2017 (FWC 2016). In 2012, the Center for Biological Diversity and partners petitioned the U.S. Fish and Wildlife Service (FWS) to have the gopher frog listed under the federal Endangered Species Act (CBD et al. 2012),

	and it received a positive 90-day finding on July 1, 2015, indicating listing may be warranted. Intraservice consultation and conference must consider effects on listed, proposed, and candidate species. Therefore, the Service must consider impacts to the gopher frog during consultation. The Service should consider the effects of habitat destruction, degradation, and fragmentation on the gopher frog when considering the impacts of the Project. Specifically, it should consider how mining activities will destroy existing wetland and upland habitat, degrade surrounding habitat, and prevent movement between isolated habitat fragments surrounding the Project area. Likewise, the Service should take microhabitat into account—specifically, the need for shallow, fishless, ephemeral wetlands for mating, as well as dry, sandy gopher tortoise burrows in the uplands for shelter. The Service should also consider how the Project's impacts will exacerbate the effects of climate change on the gopher frog. The applicant must provide substantial and competent evidence proving that the Project is not incompatible with the gopher frog or its habitat needs. ***Eastern diamondback rattlesnake*** The eastern diamondback rattlesnake is currently under consideration for federal ESA listing after receiving a positive 90-day finding on May 10, 2012. Though the eastern diamondback rattlesnake's range once encompassed the Coastal Plain of the southeastern United States from North Carolina to south Florida, and west to Mississippi and the Florida parishes of Louisiana; its area of occupancy, number of subpopulations, and population sizes are declining throughout its range. This contraction in the snake's range is largely attributable to loss of its native longleaf pine ecosystems to agriculture, silviculture, urbanization, and plant succession resulting from fire suppression (Timmerman 2003). Florida encompasses half of the eastern diamondback rattlesnake's current range, which makes habitat preservation in this state critical to the species' survival. The eastern diamondback rattlesnake's survival is also crucially linked to the presence and welfare of the gopher tortoise, whose burrows provide essential microhabitat for the snake to use for shelter. Today the most significant threats to the eastern diamondback rattlesnake are habitat destruction and human exploitation. The species has sustained a 97% reduction in its native, longleaf-pine forest habitat, on which it relies for feeding, breeding, and sheltering (Van Lear 2005). This loss of longleaf pine ecosystems is the single most important factor affecting the survival of the eastern diamondback rattlesnake. Fragmentation of remaining suitable habitat also leads to road mortality, population isolation, and reduced genetic diversity, which is detrimental to the species' long-term viability (Andrews and Gibbons 2005 at 779). Rattlesnakes are particularly vulnerable to vehicle strikes because of their	

	morphology and behavior. A study conducted by Andrews and Gibbons (2005) shows that venomous, heavy-bodied snakes like the eastern diamondback rattlesnake experience detrimentally high mortality levels even at medium traffic densities because, unlike other species of snake, they move at slow speeds and immobilize when confronted with vehicles. Eastern diamondback rattlesnakes are also threatened by human exploitation. Thousands of snakes are killed each year for meat, skin, and venom, with no limits on annual harvest (Means 2009). “Rattlesnake roundups,” annual events that offer hunters prizes for capturing snakes, which are displayed and then killed, boost snake kills and foster negative attitudes that venomous reptiles like the rattlesnake are repugnant and must be removed from nature (Andrews and Gibbons 2005). Means (2009) collected data from these roundups, analyzed trends, and concluded that declining maximum size of snakes collected during roundups reflects possible age-class truncation. This troubling trend could lead to negative impacts on annual recruitment of young rattlesnakes, which in turn undermines the snake’s ability to maintain viable populations (Means 2009). Because of negative attitudes toward rattlesnakes, the eastern diamondback is also at risk from isolated killings, independent of roundups, when snakes enter urban or suburban areas. Existing regulations are inadequate to address these significant threats to the eastern diamondback rattlesnake, so they are constantly at risk of human-caused mortality and may be taken in unlimited numbers. Intraservice consultation and conference must consider effects on listed, proposed, and candidate species. Therefore, the Service must consider impacts to the eastern diamondback rattlesnake during consultation. The Service should closely study the Project’s potential impacts on the eastern diamondback rattlesnake, precisely estimate take associated with the project, and carefully consider more robust conservation measures than currently proposed in the plan, favoring use of avoidance measures over minimization or mitigation.	
Jaclyn Lopez Center for Biological Diversity	***American alligator*** The Service listed the American alligator as an endangered species in 1967. The alligator gained status as an endangered species in response to a massive decline in individuals, most of which was attributed to hunting and habitat destruction. In 1987, the Service determined that the species was recovered and removed it from the endangered species list; however, the alligator is still protected under the ESA as “threatened due to similarity of appearance,” to the American crocodile. Due to its status as a threatened species, the Service continues to regulate the hunting, trade, and any goods made from the species. Within its ecosystem, alligators are greatly valuable to other animals that share its ecosystem. They create “gator holes,”	The Corps' consultation requirements under Section 7 of the ESA do not apply to the alligator.

	depressions in the marsh that retain water in the dry season. Other species, including snakes, birds, and fish, use the gator holes as a source of water during the dry season or times of drought. American alligators also play an important role in the native food webs as both predators and prey, linking aquatic and terrestrial food webs. Adult alligators are opportunistic feeders that prey on a wide range of species throughout their lives, including insects, mollusks, crustaceans, fish, amphibians, reptiles, birds, and mammals. Small alligators serve as prey for many species, including the northern crested caracara and the eastern indigo snake. The Service and Corps must evaluate the effect the clay pits and loss of habitat will have on alligators.	
Jaclyn Lopez Center for Biological Diversity	***Florida manatee*** On August 20, 2017, Denise and Larry Wheeler observed three Florida manatees in Horse Creek, which is within the Peace River watershed, as it runs through their property at 4550 Solomon Road in Ona, Florida 338650-9801. The Wheelers are willing to be contacted by the Service and/or Corps regarding their observations. The location of the observation is just south of the proposed SPE, Ona, and Wingate East mines, and in between the planned Pine Level/Keys Tract and DeSoto East mines. As it relates to the SPE Mine, the Service's biological opinion does not address manatees, and the Corps' biological assessment indicates that informal consultation resulted in a no effect determination, evaluating only whether the SPE Mine would impact manatees in Charlotte Harbor, 40 miles south. Specifically, the biological assessment states: Please note that we do not individually address in this assessment the eight Federally listed marine/estuarine species known or expected to occur downstream from the SPE project in Charlotte Harbor (four species of sea turtles [Kemp's Ridley, leatherback, loggerhead and green turtle], gulf sturgeon, small tooth sawfish, West Indian manatee and piping plover). The SPE is located inland approximately 40 miles (65 km) upstream from the mouth of the Peace River with Charlotte Harbor. No significant impacts to downstream hydrology, flow regime or water quality are anticipated from the proposed activities on SPE (see September 2011 ACOE permit application). For these reasons, federally listed marine or estuarine species are not anticipated to have any direct, indirect or cumulative adverse effects. For purposes of drafting the Biological Opinion, CF requests that an interagency informal Section 7 consultation with NOAA/NMFS and USFWS take place in order to obtain concurrence that marine and estuarine species are not expected to be adversely affected by the SPE project. Consultation documents for Wingate East Mine, Ona Mine, and DeSoto Mine also fail to mention or discuss impacts to manatees in any manner. The FAEIS likewise fails to address	As described in Section 11.1 of the decision document, the Corps prepared a memorandum for the record (MFR) to document and support a determination of 'no effect' for the manatee, and provided a copy of that MFR to the USFWS.

	impacts to manatees. In its discussion of Charlotte Harbor, the Corps acknowledges that Florida manatees occur in the estuary but does not discuss impacts to manatees specifically.	
Jaclyn Lopez Center for Biological Diversity	***The Corps and Service must evaluate population growth and other nearby development.*** A leading cause of habitat loss is human population growth and corresponding land uses. A 2000 analysis of potential ecological connectivity in Florida found that only about half the land identified for habitat connectivity was publically owned and managed (Hoctor 2000 at 984-999). Meanwhile, *Florida 2060: A Population Distribution Scenario for the State of Florida* predicts Florida's population will grow by 49 percent by 2060. The FWC's *Wildlife 2060: What's at stake for Florida?* estimates that such population increases could result in the conversion of 7 million acres from rural and natural to urban uses (Cerulean 2008 at 2). It predicts that nearly 3 million acres of existing agricultural lands and 2.7 million acres of native habitat will be claimed by roads, shopping malls and subdivisions; 1.6 million acres of woodland habitat may be lost; wetland habitat may become more isolated and degraded; 2 million acres of lands bears depend on may disappear; and gopher tortoises may lose a fifth of their existing range (Cerulean 2008 at 4). While Florida is projected to increase its population statewide by 50% by 2060, Hardee County is projected to grow from 31,242 residents in 2015 to 43,922 in 2060. Hardee is projected to have at least 14 times more urban development in 2060 than it does presently, making it one of the fastest growing counties. The Corps must consider the synergistic and cumulative effects of these planned nearby projects, along with all past land use projects. The Ona Mine is only one of several phosphate mines in the region that will impact listed species. The EA fails to consider the DeSoto, South Pasture Extension, and other alternative mines' impacts on species at the Ona Mine site. For example the South Pasture Extension Mine will impact 1,218 acres of wetlands, the Ona Mine will impact 7,615 acres of wetlands, and the DeSoto mine will impact 3,253 acres of wetlands. The Corps must consider the cumulative impacts from all four mines on the environment.	Section 4.12 of the Final EIS describes the cumulative effects of phosphate mining, with consideration of past, present, and reasonably foreseeable future actions, including non-mining actions. Section 11.1 of the decision document describes the Corps' final determinations for Ona pursuant to Section 7 of the Endangered Species Act. The DA permit for South Pasture Extension authorizes 1218 acres of wetland impact. As described in the decision document, the final mine plan for Ona includes approximately 3426.1 acres of impacts to jurisdictional wetlands and open water areas such as ditches and cattle ponds. The Corps has not issued a decision on the permit application for the Desoto Mine. .
Jaclyn Lopez Center for Biological Diversity	***The Corps and Service must evaluate climate change*** Climate change in south Florida could exacerbate current land management challenges involving habitat fragmentation and other threats, it refuses to attempt to analyze the specific impact it will have on the species and habitat impacted by this Project. The Service must consider all available climate change science in evaluating the effects of the Project. Climate models project continued warming in all seasons across the southeast United States and an increase in the rate of warming (Karl 2009 at 111-113). The warming of air and water temperatures projected for the southeast will create	Section 4.1.8.3 of the Final EIS describes the Corps' evaluation of the effects of phosphate mining on climate and sea level rise. Section 10.1 of the decision document describes the Corps' final determinations for

	heat-related stress for fish and wildlife. Climate change will alter the distribution of native plants and animals and will lead to the local loss of imperiled species and the displacement of native species by invasive species (Karl 2009 at 113). Concerning the effects climate change is expected to have on southeastern environments, Karl (2009 at 115) states, "[e]cological thresholds are expected to be crossed throughout the region, causing major disruptions to ecosystems and to the benefits they provide to people." Climate change will increase the incidence and severity of both drought and major storm events in the southeast (Karl 2009 at 111-116). The percentage of the southeast region experiencing moderate to severe drought has already increased over the past three decades. Since the mid-1970s, the area of moderate to severe spring and summer drought has increased by 12 percent and 14 percent, respectively. Fall precipitation tended to increase in most of the southeast, but the extent of region-wide drought still increased by nine percent (Karl 2009 at 111). Both drought and severe storms could threaten the Florida black bear with habitat alteration, altered vegetation, and altered prey base and food availability (Seager 2009 entire). The warming climate will likely cause ecological zones to shift upward in latitude and altitude and species' persistence will depend upon, among other factors, their ability to disperse to suitable habitat (Peters 1985 entire). Because of some of the species' already limited range and the high degree of development in the surrounding area, there is likely no suitable habitat where the species could disperse, making climate change a dire threat to its survival. Global average sea level rose by roughly eight inches over the past century, and sea level rise is accelerating in pace (Melillo 2014 at 373). As summarized by the Third National Climate Assessment, "Since the late 1800s, tide gauges throughout the world have shown that global sea level has risen by about 8 inches. A new data set shows that this recent rise is much greater than at any time in at least the past 2000 years. Since 1992, the rate of global sea level rise measured by satellites has been roughly twice the rate observed over the last century, providing evidence of additional acceleration" (Melillo 2014 at 44). Many areas of the Southeast Atlantic and Gulf of Mexico coasts have experienced significantly higher rates of relative sea-level rise than the global average during the past 50 years (Karl 2009 at 37). Large regions of Florida have elevations at or below 3 to 6 feet, making these areas particularly vulnerable to sea-level rise and flooding (Weiss 2011 entire, Strauss 2012 at 3-4). According to the Third National Climate Assessment, global sea level is projected to rise another 1 to 4 feet by 2100, with sea-level rise of 6.6 feet possible (Melillo 2014 at 589). Sea level rise could increase by another 6 inches in just the next decade (Melillo 2014 at 400). In its 2012 sea-level rise	Ona pursuant to Section 7 of the Endangered Species Act.

	assessment, the National Research Council similarly estimated global sea-level rise at 8 to 23 cm by 2030, 18 to 48 cm by 2050, and 0.5 m to 1.4 m by 2100 (NRCNA 2012 at 4). The effects of sea-level rise will be long-lived. Scientists estimate that we lock in 8 feet of sea-level rise over the long term for every degree Celsius (1.8 degrees Fahrenheit) of warming (Levermann 2013 at 13746). Regional projections for Florida also indicate that sea level rise of three to four feet or more is highly likely within this century. The Southeast Florida Regional Climate Change Compact Counties—Monroe, Miami-Dade, Broward, and Palm Beach counties—released the Southeast Florida Regional Climate Change Action Plan in October 2012, which included a detailed "Unified Sea Level Rise Projection" for south Florida. The sea level rise projections for south Florida are similar what has been estimated globally by the National Research Council: 8 to 18 cm (3 to 7 inches) by 2030, 23 to 61 cm (9 to 24 inches) by 2060, and 48 cm to 1.45 m (19 to 57 inches) by 2100 (SFRCCC 2011 at 9-10). Increasingly intense storms and storm surge pose additional climate threats to coastal wildlife species in Florida. Studies have found that the frequency of high-severity hurricanes is increasing in the Atlantic (Elsner 2008 at 92-94, Bender 2010 at 454-458, Kishtawal 2012 at 1-6), along with an increased frequency of hurricane-generated large surge events and wave heights (Grinsted 2012 at 19601-19604, Komar 2008 entire). The risk of extreme storm surges has already doubled as the planet warms, and these events could become 10 times more frequent in the coming decades (Grinsted 2012 entire). High winds, waves, and surge from storms can cause significant damage to coastal habitat. When storm surges coincide with high tides, the chances for damage are greatly heightened (Cayan 2008 at 557). As sea levels rise, storm surge will be riding on a higher sea surface, which will push water further inland and create more flooding of coastal habitats (Tebaldi 2012 entire). For example, one study estimated that hurricane flood elevations along the Texas coast will rise by an average of 0.3 meters by the 2030s and 0.8 meters by the 2080s, with severe flood events reaching 0.5 meters and 1.8 meters by the 2030s and 2080s, respectively (Mousavi 2011 entire). Coastal species face significant risks from coastal squeeze that occurs when habitat is pressed between rising sea levels and coastal development that prevents landward movement (Scavia 2002 at 17-18, Fitzgerald 2008 at 601-634, Defeo 2009 at 6-7, LeDee 2010 entire, Menon 2010 entire, Noss 2011 entire). Human responses to sea-level rise including coastal armoring and landward migration pose significant risks to the ability of species threatened by sea-level rise to move landward, if other suitable habitats were even available (Defeo 2009 at 1-9). Projected human population growth and	

	development in Florida may thus threaten the species with coastal squeeze (Zwick 2006 entire). The Corps and Service must consider the loss of habitat sea-level rise and climate change will cause and the pressure that will place on human and non-human populations and habitat, and how that will be effected by the Project.	
Jaclyn Lopez Center for Biological Diversity	Thank you for the opportunity to comment on the Ona Mine proposal. Given the largescale impacts of the Project, we request a public hearing to present public comments that further demonstrate that this Project is not in the public interest. We respectfully request that the Corps deny the permit application for the Ona Mine. Please keep us informed about the progress of these permit applications, including any future notices, announcements, EAs, EISs, or decision notices, and do not hesitate to contact us with any questions about this letter.	The Corps has provided a separate, written response to the request for a public hearing.
USEPA/Region 4	Pursuant to Section 309 of the Clean Air Act (CAA) and Section 102(2)(C) of the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) Region 4 reviewed the Jacksonville District, USACE's Supplemental Draft Environmental Assessment (SEA) and Draft Public Interest Review (PIR) for the DA Permit Application SAJ-2011-01869 (Ona Mine). The SEA supplements the Final Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District (Final AEIS) that was published on May 3, 2013, and on July 12, 2013, the USACE published an addendum to the Final AEIS. The EPA was a cooperating agency and provided extensive technical assistance and collaboration with the USACE throughout the development of the Draft and Final AEIS. The EPA also provided comments on the Draft AEIS on July 30, 2012 and comments on the Final AEIS on June 20, 2013. In accordance with the USACE and EPA 404(q) Memorandum of Agreement (MOA), the EPA sent letters for the Ona Phosphate Mine on July 30, 2012, and August 23, 2012. The EPA supports the USACE's decision to conduct a SEA and thinks it is an appropriate mechanism to inform and disclose information to the public and stakeholders.	Comment acknowledged.
USEPA/Region 4	In the Public Notice, the USACE states the purpose for developing the SEA as *The Final EIS states, "A draft of the Section 404(b)(1) and public interest review analysis for each project will be made available for public review and comment" …Furthermore, pursuant to 40 C.F.R. §§ 1501.3(b) and 1502.9(c)(2), the Corps is also exercising its discretion to prepare an environmental assessment (EA) on DA Permit Application SAJ-2011-01869 in order to assist with the permit decision and further the purposes of NEPA.* The EPA notes that the USACE states in the SEA (page 3, 2(d)) that between the June 1, 2012 Public Notice and Final AEIS and the current SEA/public notice that the applicant has	Comment acknowledged.

	avoided impacts to an additional 2250 acres overall, reduced the impacts of jurisdictional wetlands from 4615 to 3426.1 (avoidance of an additional 1189 acres) and reduced impacts to jurisdictionalstreams from 136,731 linear feet to 100,766.8 (avoidance of an additional 35,964.2 linear feet). The EPA appreciates the collaborative approach of both the USACE and the applicant toward further reducing impacts. The EPA sent 3(a) and 3(b) letters for the Ona Phosphate Mine on July 30, 2012, and August 23, 2012, respectfully. EPA had three specific interests outlined in these letters (requested permit durations, avoidance of the ARNIs and the proposed compensatory mitigation plan). The Draft Analysis adequately addressed EPA's concern regarding avoidance. There was excellent discussion on how the Final AEIS Chapter 5 Framework was used to advance the avoidance of Aquatic Resources of National Interest (ARNIs).	
USEPA/Region 4	However, there is no final compensatory mitigation plan so the Draft Analysis is lacking in this area. The EPA recommends the Final Permit and SEA include the compensatory mitigation plan.	The final, approved compensatory mitigation plan will be an attachment to both the DA permit and the decision document for Ona.
USEPA/Region 4	Finally, it is EPA's understanding that the requested permit duration interest will most likely be addressed in the Draft Permit that will be provided EPA at a later date. Both South Pasture Extension (SAJ-1993-01395) and Wingate East (SAJ-2009-03221) had special permit conditions in their Draft Permits provided EPA in the District's 3(c) response that is expected to be replicated in the Ona Draft Permit.	The Corps addressed EPA's concern about permit duration with permit conditions, and provided a copy of the draft permit to EPA in its 3(c) response.
USEPA/Region 4	Overall, the EPA has been satisfied with the outcomes produced through the SEA/Draft Permit process. We look forward to continuing collaboration with the USACE on future developments associated with the AEIS.	Comment acknowledged.
Glenn Compton/ ManaSota-88	ManaSota-88, Inc. (hereinafter, "ManaSota-88"), is a public interest conservation and environmental protection organization, which is a Florida not-for-profit corporation and a citizen of the State of Florida. The corporate purposes of ManaSota-88 include the protection and preservation of water quality and wildlife habitat in Manatee and Sarasota Counties and, therefore, commenting on the Supplemental Environmental Assessment for the Mosaic – Ona Phosphate Mine is within ManaSota-88's general scope of interest and activity.	Comment acknowledged.
Glenn Compton/ ManaSota-88	The Mosaic – Ona Phosphate Mine is one of the most significant reviews that the ACOE can perform for the protection of Florida's water supply, air quality and the general wellbeing and health of Florida's citizens. It is far better to err on overprotecting the public and the environment rather than the reverse.	Section 8 of the decision document addresses the public interest review for Ona.

Glenn Compton/ ManaSota-88	Phosphate is a non-renewable natural resource. The United States is a net exporter of phosphate. Because of this, ManaSota-88 is concerned about the rapid depletion of the phosphate supplies remaining in the United States. As a matter of national policy, it seems strategically reckless to continue to deplete our nation's very limited phosphate resources.	National policy about resource reserves is outside the scope of the Corps' authority.
Glenn Compton/ ManaSota-88	To encourage the continued, rapid depletion of this essential non-renewable resource will not only result in serious economic and national security problems for the United States, it will leave Florida with perhaps centuries of costly water, air and land clean-up ahead of it that will far exceed whatever short-term profits and other indirect economic benefits of the industry there might be. ManaSota-88 and its members will be substantially and adversely affected by issuance of this permit as the conditions and activity which will result if the permit is approved, including by water pollution (such as from mining water run-off, unreclaimed or untreated wastewater, mining byproducts and chemicals used therein), air pollution (from the dirtying and fouling of air from large mining and earthmoving heavy equipment and fumes), noise pollution (from noise by large mining and earthmoving equipment, including at late and very early hours), degradation of the water quality of surface and ground waters, long-term degradation or destruction of natural habitat for wildlife which members of ManaSota-88 enjoy and value observing, and by those consequences and others will have a substantial and adverse effect on the property values of ManaSota-88 and its members and on the quality of life of its members. The permit approval being sought will have the effect of impairing, polluting, or otherwise injuring the air, water or other natural resources of the State of Florida, directly, and cumulatively, by degrading the water quality of surface and ground waters, adversely affecting wildlife habitat, and otherwise. The direct impacts of Mosaic Fertilizer, LLC. (Applicant) proposed phosphate mining and associated activities will result in unpermittable adverse impacts which will violate water quality standards and will be contrary to the public interest. Such direct impacts include but are not limited to alterations in the primary productivity and organic matter processing within the downstream areas of the Peace and Myakka Rivers that will temporarily and permanently affect the food chain within the Peace and Myakka Rivers, will likely result in significant levels of pollution to the Peace and Myakka Rivers; water quality within the Peace and Myakka Rivers will be degraded and the project site will suffer a loss of complex, diverse and unique wetland, forested and marsh ecosystems that Applicant will be unable to successfully restore.	Chapter 4 of the Final EIS addresses the direct and indirect effects of Ona, and the cumulative effects of Ona plus other past, present, and reasonably foreseeable future actions. Sections 7 and 8 of the decision document address the 404(b)(1) Guidelines and public interest review, respectively, for Ona.

Glenn Compton/ ManaSota-88	There will be significant unpermittable foreseeable adverse cumulative impacts affecting fish, wildlife, listed species and their habitats, hydrologic conditions, uniqueness, location, fish and wildlife utilization, water quality, conservation and protection of fish and wildlife, including waterfowl and their habitat, water flow, fishing and recreational values and the permanence of the proposed mining activities and associated impacts of adjacent and upstream mining activities in the Peace and Myakka Rivers watershed transform the functions and value of the headwaters and stream channels of the Peace and Myakka Rivers.	Section 4.12 of the Final EIS describes the cumulative effects of Ona and other past, present, and reasonably foreseeable future actions.
Glenn Compton/ ManaSota-88	***Phosphate Mining, Phosphogypsum Waste Disposal, and the Operation of Fertilizer Manufacturing Plants Must be Linked for Cumulative Impact Analysis.*** The Supplemental Environmental Assessment needs to address the effects of highly radioactive and toxic clay settling areas (toxic slime ponds), the health effects associated with the transportation of phosphate ore and gypsum, the public health and environmental impacts associated with phosphogypsum waste disposal, reagents used in mining and processing ores, and other phosphate waste disposal problems. The Supplemental Environmental Assessment needs to be expanded to include a review of all aspects of the phosphate industry.	Section 4.1.8.8 of the Final EIS describes how the Corps considered the issue of waste management. As explained in Section 1.3.1 of the Final EIS, phosphogypsum stacks are associated with fertilizer production. The Corps considered the four phosphate mines reviewed under the EIS to have independent utility from the fertilizer plants. Impacts associated with the fertilizer plants and associated phosphogypsum stacks were included as part of considered as part of the Corps' cumulative impact analysis.
Glenn Compton/ ManaSota-88	The health impacts of supporting activities such as electricity generation and phosphate ore transportation that will lead to a further deterioration of Florida's air quality must also be addressed.	Sections 4.1.8.1 and 6.5 of the Final EIS, and Section 13.1 of the decision document, describe how the Corps considered the issue of air quality in its review of Ona.

Glenn Compton/ ManaSota-88	Damage from the phosphate industry is not limited to Florida and other states mining and processing phosphate. Fertilizers and phosphates are a major culprit in water pollution nationwide.	Comment acknowledged.
Glenn Compton/ ManaSota-88	***Cumulative Impact Air Quality Study is Needed*** As part of the Supplemental Environmental Assessment, air quality Title V Permits need to be evaluated, this evaluation should include all air permits issued to phosphate related facilities, as well as any existing compliance plans, schedules of compliance, and compliance certifications. A review of any and all enforcement actions taken against any phosphate industry facility should be included in the Supplemental Environmental Assessment. Ambient state and federal air-quality standards are standards that do not protect our health but rather are standards designating the maximum tolerable concentrations in the ambient air of substances identified as pollutants. These national standards are minimum guidelines designed to be applicable to all areas in the state or country and reflect the nation's most congested, industrialized and polluted urban areas. Because air pollutants often disperse over a wider geographical area than other types of contamination, it is possible that a relatively larger population may be exposed to any one of the pollutants released by the phosphate industry. Sulfur dioxide and fluoride emissions from chemical processing plants and dust emissions from mining and clearing should be analyzed and included in the Supplemental Environmental Assessment. Emission and air quality standards need to be developed to enhance habitat quality beyond the minimum standards of maintaining state and federal air quality levels.	Sections 4.1.8.1 and 6.5 of the Final EIS, and Section 13.1 of the decision document, describe how the Corps considered the issue of air quality in its review of Ona. Establishment of new air quality standards is beyond the scope of the Corps' authority.
Glenn Compton/ ManaSota-88	***Phosphate Industry Energy Consumption Rates Need to be Evaluated*** The industry receives significant subsidies, which enable them to continue their massive pollution. The industry receives cheap water and preferential power rates.	The issue of subsidies is beyond the scope of the Corps' authority. Chapter 4 of the Final EIS addresses the direct and indirect effects of Ona, and the cumulative effects of Ona plus other past, present, and reasonably foreseeable future actions. Sections 7 and 8 of the decision document address the 404(b)(1) Guidelines and public interest review, respectively, for Ona.

Glenn Compton/ ManaSota-88	The impacts of supporting phosphate activities such as electricity generation and transportation will permit further deterioration of the region's air quality.	Sections 4.1.8.1 and 6.5 of the Final EIS, and Section 13.1 of the decision document, describe how the Corps considered the issue of air quality in its review of Ona.
Glenn Compton/ ManaSota-88	***The Overall Economic Impacts of the Phosphate Industry Need to be Assessed*** The costs of pollution, loss of wetlands and other natural resources, and the contamination of surface waters have never been computed. If the latter were accomplished, the negative economic impact of phosphate mining would be even more apparent. The phosphate industry cites the important advantages it brings to the state in taxes and employment, yet the long-term beneficial effect of mining on our economy will be slight. Mining has not played a significant role in the state's economy since before 1960. Mining employs half the number it did 20 years ago, and now accounts for less than 0.5% of Florida's Gross State Product. Whatever taxes are realized is small when compared to the costs of the damage the industry creates. If the present extraction of phosphate is permitted, Florida will have centuries of costly water, air and land cleanups ahead of it that will exceed any short-term profits and economic benefits of the industry. The phosphate industry is creating an economic and environmental burden for the taxpayers of Florida in the form of increased air pollution, destruction of roads, depletion and degradation of drinking water supplies, loss of non-renewable mineral resources, and increased health costs. A proper economic assessment can only be made when the following are considered: Costs for irretrievable use of fossil fuels to generate the electrical needs of the industry, the irretrievable commitment of chemicals used in processing, the hazards associated with redistribution of uranium resources and increased national security costs, the costs of contamination of surface waters, the costs of changes in hydrology, and costs of loss and disturbance of wetlands and other natural resources. The actual influence of phosphate on the state economy is minor when compared to the tourism, retirement and related support service industries, which are largely dependent upon a healthy environment and safe drinking water supplies. Clearly the net economic advantages of insuring a safe source of potable water far outweigh the modest economic gains that may be realized by phosphate mining.	Chapter 4 of the Final EIS addresses the direct and indirect effects of Ona, and the cumulative effects of Ona plus other past, present, and reasonably foreseeable future actions, including effects on water quality and quantity. Section 4.6.3 of the Final EIS describes the direct and indirect economic effects of the Ona Mine. Section 4.12.6 of the Final EIS describes the cumulative economic effects of Ona plus other past, present and reasonably foreseeable future actions. Sections 7 and 8 of the decision document address the 404(b)(1) Guidelines and public interest review, respectively, for Ona.

Glenn Compton/ ManaSota-88	***The EPA Toxic Release Inventory (TRI) Data for Phosphate Facilities Need to be Included in the Supplemental Environmental Assessment*** The EPA Toxics Release Inventory (TRI) Program recently released the publication of the 2016 TRI National Analysis. EPA and Florida are required to annually collect data on toxic chemical releases and make the data available to the public in the TRI.	Section 4.1.8.8 of the Final EIS describes how the Corps considered the issue of waste management. Section 6.8 of the Final EIS describes how EPA regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA).
Glenn Compton/ ManaSota-88	***The Impact of Increased Mining Activity on the Tourist and Recreational Industry Needs to be Quantified*** According to a study prepared for the Charlotte Harbor Estuary Program, tourism and recreation in the Peace River watershed provide us $4.5 billion in sales. Commercial fishing adds $38 million to the economy and agriculture adds another $1.8 billion. Phosphate mining contributes a value of $530 million. More than one million people are employed in the fishing, tourism and recreation and agriculture industries while phosphate strip mining has fewer than 10,000 jobs statewide (3,100 promised in the Peace River watershed). The bottom line: the Peace River watershed has an economic value that approaches $5 billion. These dollars come from the wetlands, meandering creeks, endangered and protected species, the Peace River and its tributaries.	Chapter 4 of the Final EIS addresses the direct and indirect effects of Ona, and the cumulative effects of Ona plus other past, present, and reasonably foreseeable future actions, including effects on water quality and quantity. Section 4.6.3 of the Final EIS describes the direct and indirect economic effects of the Ona Mine. Section 4.12.6 of the Final EIS describes the cumulative economic effects of Ona plus other past, present and reasonably foreseeable future actions.
Glenn Compton/ ManaSota-88	***Radiation Standards for Post Reclamation Mined Lands Need to be Strengthened*** Post - reclamation lands must not be permitted to exceed pre-mining, unenhanced natural background soil radium and gamma levels. Radiation risks are not evenly distributed. Proximity to the mine site, wind direction, and other factors subject some too much higher risks than others. It has been known for decades that land mined for phosphate exhibits higher radioactivity at the surface than it did before mining. The elevated levels of radiation pose a considerable threat to human health and the environment. Elevated	Section 3.3.7.7 provides information about existing radiation levels in the study area and how mining operations, including clay settling areas and reclamation activities, may affect those levels. Section 4.8.2 of the Final EIS describes the direct and indirect effects of

	concentrations of radium-226 and other radionuclides are known to occur in phosphate ores and mining wastes. A goal of the Supplemental Environmental Assessment should be to reduce or eliminate the radioactive materials at gyp piles at the chemical processing plants, clay settling areas from beneficiation and the leach zone overlying the phosphate rock matrix that is redistributed by mining and reclamation areas. Phosphate industry representatives frequently try to downplay the radiation risk associated with phosphate mining by comparing it with the risk of natural terrestrial and cosmic radiation. Terrestrial and cosmic radiation is unavoidable and extremely harmful. Such unavoidable natural radiation can never justify avoidable man-induced radiation exposure. The mining of phosphate creates an avoidable radiation risk from which the exposed public receives no benefit. Best Possible Technologies can reclaim mined land to pre-mining soil radium and gamma levels. Since the future land uses of the reclaimed lands are not known, all potential radiation exposures should be avoided. Since it is both economically and technically feasible, the ACOE should require that radiation levels after mining not exceed those that existed before mining. Additional regulations are needed to address those instances when post-reclamation lands exceed pre-mining radioactive concentrations. The ACOE and state regulations pertaining to phosphate mining need to be written to include a non-degradation clause that will require lands be returned to essentially the same radiation levels that existed before mining. Even if the industry had no recourse and could not return lands to pre-mining radiation levels, ManaSota-88 would not recommend the phosphate industry be permitted to increase radiation levels.	mining Ona and the other alternatives on radiation levels. Regulation of radiation levels, including establishment of new standards, is beyond the scope of the Corps' authority.
Glenn Compton/ ManaSota-88	***Clay Settling Areas (CSA) Must Be Eliminated*** Clay Settling Areas are one of the significant environmental and public health threats associated with phosphate mining. Radioactive wastes from these ponds threaten surface and groundwater; the hazard of slime spills is a constant menace to essential public water supplies and natural systems. Elevated levels of fluorides, chromium, cadmium, arsenic and other toxins are commonly found in clay settling areas. The possibility of a slime pond dam break cannot be ruled out. When a pond ruptures their earthen impoundment's, the highly acidic, highly radioactive slime effluents completely annihilate all aquatic life in the receiving waters. The highly acidic slime ponds also emit fluoride and radon gases, which are harmful to humans, plants and animal tissues. Nearly half of the slime ponds constructed in Florida remain as remnants of the environmental disaster that phosphate mining	Chapter 4 of the Final EIS addresses the direct and indirect effects of Ona, and the cumulative effects of Ona plus other past, present, and reasonably foreseeable future actions, including potential effects of clay settling areas on surface water and groundwater quality and quantity.

	has had on the native landscape. Under the procedures practiced by the mining industry today, few of the slime ponds are fully reclaimed until mining operations are relocated or the mine closes. The phosphate industry is asking us to risk the health and well-being of future drinking water supplies, it only takes one slime pond failure to ruin a drinking water supply forever.	
Glenn Compton/ ManaSota-88	Cumulative impacts of mining operations on both water quantity and quality needs to be quantified. The long-term increased costs to area residents of procuring safe water to drink will be enormous. Additionally, over the long term, the trade-off of a good, reasonably priced water source in exchange for a relatively few phosphate mine tax dollars are going to pose a substantial threat to future residential growth.	Sections 4.12.2, 4.12.3, and 4.12.4 of the Final EIS describe the cumulative effects of Ona plus other past, present, and reasonably foreseeable future actions on surface water hydrology, groundwater hydrology, and surface water quality, respectively, including consideration of potential effects on drinking water supplies.
Glenn Compton/ ManaSota-88	***Mining Activities Must Not Degrade Ground Water Quality*** Strip mining destroys the surficial aquifer. The reduction of this base flow has a critical impact on the ability to provide drinking water. The loss of water from the surficial aquifer diverts water that normally seeps into the aquifer. Although groundwater itself moves slowly, often only ten or twenty feet a year, the contaminants move in unpredictable plumes, the behavior and flow rate of which are difficult and costly to measure. Moreover, once the contamination is detected few remedies are available, and these are often economically or technically unfeasible. Additional monitoring requirements for phosphate mining is needed. Groundwater lacks the self-cleaning properties provided surface water by dilution, circulation and degradation by sunlight and can remain contaminated for centuries. Water quality protection won't be accomplished by permitting thousands of tons of toxic and radioactive sandy slimes to be deposited in mine cuts which cut through to the surficial aquifer and beyond or permitting sandy slimes to be dumped in surface impoundment's.	Section 4.4.4 of the Final EIS describes the direct and indirect effects of Ona on surface water and groundwater quality. Section 4.12.1.1 describes how the Corps determined that Ona, plus other past, present, and reasonably foreseeable future actions, would not have a significant cumulative effect on groundwater quality.
Glenn Compton/ ManaSota-88	***Future Land Uses on Reclaimed Lands Need to be Identified*** Agricultural land activities on reclaimed phosphate lands can concentrate radioactive contaminants in drinking water, citrus, vegetable foods and in the dairy products and the beef grown on mined-out lands.	Section 3.3.7.7 provides information about existing radiation levels in the study area and how mining operations,

	The grazing of cattle and the resulting soil compaction reduces the air space between soil particles, reducing the amount of water the soil can absorb, and thus increases water runoff and soil erosion. Radioactive contaminants from the reclaimed lands will likely spread to those areas previously not having elevated radioactive levels The type of agricultural uses permitted on reclaimed phosphate lands need to be closely regulated. Livestock and crops grown on reclaimed lands will likely exhibit an uptake of radioactive contaminates from the land.	including clay settling areas and reclamation activities, may affect those levels. Section 4.8.2 of the Final EIS describes the direct and indirect effects of mining Ona and the other alternatives on radiation levels. Regulation of future land uses is beyond the scope of the Corps' authority.
Glenn Compton/ ManaSota-88	***The Myakka River is an Outstanding Florida Water (OFW) and Must Not Be Polluted*** In 1985, the Legislature of Florida adopted the Myakka River Wild and Scenic Designation and Preservation Act (Section 258.501, Florida Statutes), which designated a 34-mile segment of the Myakka River within Sarasota County as a "Florida wild and scenic" river. These designations are intended to provide additional protection to special waters recognized for their ecological significance, by providing the highest degree of protection under the State of Florida permitting policies. ManaSota-88 is concerned that future phosphate mine discharges will degrade the Myakka River, generate low dissolved oxygen levels and significantly increase pollutant levels. Phosphate mining activities have the potential to adversely impact downstream waters. Additional requirements are necessary to study the direct and indirect impacts on: surface waters; ground waters; upland, wetland, aquatic, and estuarine habitats; listed species; and other natural system features in the Myakka River Basin. All mining activities that degrade the OFW of the Myakka River must be prohibited. Because of the potential adverse impacts associated with phosphate mining, it is important that the ACOE have a clear understanding of the potential adverse impacts to the Myakka River before additional mining begins.	Chapter 4 of the Final EIS addresses the direct and indirect effects of Ona, and the cumulative effects of Ona plus other past, present, and reasonably foreseeable future actions, including potential effects on the Myakka River watershed.
Glenn Compton/ ManaSota-88	***Phosphogypsum Generation and Waste Disposal Issues Need to be Included in the Supplemental Environmental Assessment*** There are additional environmental and health impacts associated with the processing of phosphate after it has been mined. Fertilizer plants generate large piles of radioactive phosphogypsum and significant amounts of corrosive hazardous acidic waste as a by-product of processing phosphate. The cumulative health effects of the radioactive exposures associated with phosphate mining, processing the phosphate ore, and storage of the radioactive phosphogypsum waste need to be assessed.	As explained in Section 1.3.1 of the Final EIS, phosphogypsum stacks are associated with fertilizer production. The Corps considered the four phosphate mines reviewed under the EIS to have independent utility from the fertilizer

	More stringent environmental regulation is needed to control the adverse impacts of phosphogypsum. Phosphate rock for central Florida has some of the highest levels of radiation in the United States. Allowing for the widespread distribution of phosphogypsum should be prohibited as this would lead to less oversight of a dangerous waste product. Phosphogypsum has a high radium content. The lifetime cancer risk for adults resulting from exposure to this waste is one excess fatal cancer per 10,000 people. The risk for children is significantly higher. Radium can leach from gypsum stacks into subsurface aquifers, it can also be found in phosphogypsum used as a soil conditioner for agricultural purposes, it can be absorbed by plants and consumed by livestock and wildlife. Radium's 1630-year half-life from phosphogypsum stacks will likely remain a public health risk for generations to come. As additional phosphate mining occurs within the Peace River Basin, what will be the ultimate fate of the phosphogypsum waste produced from additional phosphate extraction? Phosphate mining operations and phosphogypsum waste disposal analysis are not required in any federal, state or local permit. Cumulative impact analysis of phosphate extraction cannot possibly occur without linking mining operations to phosphogypsum waste disposal. Gypsum ponds have been found to have cadmium, chromium and other heavy metals in excess of federal and state standards. It is not unusual to find gypsum pond pH levels as low as 1.5. Seepage from slimes can contain high levels of radionuclides and other toxins. Levels of radium as high as 2000 picocuries per liter are not unusual. The highly acidic gypsum ponds also emit fluoride and radon gases, which are harmful to humans, plants and animal tissues. Issues Associated with Phosphogypsum include: 1. High Radionuclide Levels. Phosphate rock for Central Florida has some of the highest levels in the United States. Phosphogypsum waste resulting from the processing of phosphate rock contains an average of 30 pico curies per gram of radium 226. The use of central Florida phosphogypsum will unnecessarily expose workers, the environment, and the general public to otherwise avoidable radon and gamma radiation exposure. 2. Increased Health Risks. All uses of phosphogypsum can cause significant health risks. Allowing phosphogypsum to be used for construction or agricultural purposes will put the general public at an unacceptable risk, as the phosphogypsum will become widespread in its distribution. The radioactive decay of this material will emit particles that can cause increased cancer risks and unacceptable radiation levels in areas normally not having such problems. 3. Increased Groundwater Contamination. The Florida Department of Environmental Protection (DEP) has documented significant groundwater pollution contamination	plants. Impacts associated with the fertilizer plants and associated phosphogypsum stacks were included as part of considered as part of the Corps' cumulative impact analysis.

	from phosphogypsum disposal. In addition to high radium 226 levels, central Florida phosphogypsum also contains significant amounts of sulfur and various heavy metals such as arsenic, barium, cadmium, and lead. Contaminated water and dissolved materials containing these toxins have the potential to seep from phosphogypsum used for construction or agricultural purposes and pollute the underlying aquifer. 4. Lack of State Regulatory Oversight. More stringent environmental regulation to control the adverse impacts of phosphogypsum is needed. Allowing for the widespread distribution of phosphogypsum will lead to less oversight of a dangerous waste product. The DEP lacks adequate regulations needed to protect the public and the environment from hazards associated with gypsum stacks and dispersal of phosphogypsum. Proper regulations requiring phosphate companies to make final disposition of gypsum wastes in an environmentally acceptable manner do not exist.	
Glenn Compton/ ManaSota-88	***Post-mining Land Reclamation Requirements Need to be Strengthened*** Reclamation is not the same as restoration and this distinction clearly needs to be made. For all tributaries of the Myakka and Peace River, restoration should be performed, not just reclamation or mitigation. Restoration requirements for all lands within the 100-year flood plain and all tributaries should be included in the Supplemental Environmental Assessment. No mining should occur within 1,000 feet of any river, stream or creek. Conservation easements should be required for all rivers, streams, creeks and wetlands. Hardwood wetlands should not be mined, as the technology does not exist to restore hardwood wetlands. Clay settling areas have low infiltration, high surface runoff, and little base flow. There is clear and convincing evidence that phosphate mining has had a significant impact on the Peace River. Past phosphate mines have left behind a legacy of toxic slime ponds with soils that are less previous because of their clay content. Phosphate mining can and has impacted the Peace River base flow. Ground water recharge and movement through a clay settling area is significantly less than in natural conditions. As early as 1993, it was known that water levels in clay settling areas respond more slowing to rainfall recharge. Much of the mined-out land is reclaimed as lakes. While the industry has touted these lakes as good fishing areas and wildlife habitats, mining and subsequent reclamation reduce plant and animal diversity of community structures in the mining region. The number of plants and animals in an area is directly related to the number of vegetation types. The same factors that affect the habitat quality of reclaimed land areas also affect the habitat quality of adjacent and nearby wetlands that are not mined.	Section 5.7 of the Final EIS describes reclamation as required by the state of Florida. The compensatory mitigation plan describes the proposed preservation of existing wetlands and stream segments, and the proposed enhancement and restoration/ establishment of wetlands and streams, on the Ona site. Sections 4.2.3 and 4.3.3 of the Final EIS describe the direct and indirect effects of Ona on surface water and groundwater resources, including consideration of the effects of clay settling areas. Section 4.5.3.3 of the Final EIS describes the direct and indirect effects of Ona on wildlife habitat. The FDEP conceptual reclamation permit

		describes the proposed final land uses following completion of mining and reclamation.
Glenn Compton/ ManaSota-88	***Additional Studies are Needed*** The Environmental Protection Agency (EPA) and the ACOE should conduct additional studies to determine the long-term health effects of exposure to toxic and hazardous substances associated with current and former phosphate mining and processing sites located in Florida. Additional studies needed to be done during the Supplemental Environmental Assessment include: 1. Conduct a comprehensive health risk analysis on all Florida phosphate reclaimed mine sites. 14 reclaimed phosphate lands are currently in use by the public as recreational areas throughout the state. Additional testing is needed to determine the extent and source of pollution at these reclaimed mine sites. 2. Conduct inorganic and radiochemical surface water and fish tissue sampling in an on-going monitoring process at all former phosphate sites currently accessible to the public for fishing. The contaminated sites may, adversely impact several endangered or threatened species, as well as anyone consuming fish caught at the former phosphate mines. 3. Conduct an ecological risk assessment at the former phosphate mine sites. Radium-226 and radium-228 have been identified at levels above the EPA cancer risk screening concentration of 0.16 and 0.19 pCi/L in the on-site at the Tenoroc Fish Management Area (TFMA). Land mined for phosphate exhibits higher radioactivity at the surface than it did before mining. Phosphate mining exposes radioactive materials and can increase surface and ground water radiation levels. The elevated levels of radiation identified at TFMA poses a considerable threat to human health and the environment. 4. Conduct measurements for the purpose of determining employee exposure to toxic and hazardous substances, and the potential for long-term health effects of living or working on-site at TFMA and other former phosphate mine sites. EPA should determine if TMFA is in compliance with the Occupational Safety and Health Act of 1970 and OSHA Regulations (Standards - 29 CFR). 5. The elimination of clay settling areas should be an achievable goal of the Supplemental Environmental Assessment. Studies paid for by the phosphate industry should investigate changes in processing procedures and reclamation procedures to eliminate CSA's. 6. Radiological impact assessment on the public and the environmental as a result of changes in the radioactive content	Chapter 4 of the Final EIS addresses the direct and indirect effects of Ona, and the cumulative effects of Ona plus other past, present, and reasonably foreseeable future actions, including potential effects on radiation levels, surface water quality, and groundwater quality. As stated in Section 7.8 of the decision document, the Corps has determined that the project will not contribute to significant degradation of "waters of the US" through adverse impacts to human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife and special aquatic sites.

	of water resources should be done. The redistribution of Uranium 238, radium - 226 and radon - 222 needs to be analyzed. Radium - 226 can be ingested through drinking water, Radon - 222 can be breathed in associated with dust from mining operations. 7. The long-term effects of low radiation doses resulting from future mining activities needs to be studied. 8. Remediation standards for soils or structures identified as having unacceptable radiation or radon levels need to be assessed. 9. Cancer mortality rates in the Central Florida Phosphate region for the bone valley region need to be included in the Supplemental Environmental Assessment.	
Dr. Timothy Parsons/ Florida State Historic Preservation Officer	The Florida State Historic Preservation Officer reviewed the referenced project for possible effects on historic properties listed, or eligible for listing, on the *National Register of Historic Places.* The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties.* It is the opinion of this office that the proposed project is unlikely to affect historic properties. However, the permit, if issued, should include the following special condition regarding unexpected discoveries: • If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The applicant shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section at (850)-245-6333. Project activities shall not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, *Florida Statutes*. If you have any questions, please contact Eric Griffis, Historic Sites Specialist, by email at *Eric.Griffis@dos.myflorida.com*, or by telephone at 850.245.6366 or 800.847.7278.	Section 11.3 of the decision document describes how the Corps' review addresses the requirements of the National Historic Preservation Act, including the specific issues raised in this comment. As stated there, the DA permit for Ona includes a special condition requiring protection of previously unidentified archaeological/cultural materials and notification of appropriate authorities including the SHPO and THPO.
Dr. Lisa Beever/ Charlotte Harbor National Estuary Program	Thank you for the opportunity to review and comment on Permit Application No SAJ-2011-01869 (IPJPF), Mosaic Ona Mine. The Charlotte Harbor National Estuary Program (CHNEP) was created in 1995 pursuant to Section 320 of the Clean Water Act and is guided by our	Comment acknowledged.

	Comprehensive Conservation and Management Plan (CCMP) as required by the Act. This letter documents the interest of CHNEP regarding this permit. The letter was developed according to our adopted Advocacy and Review Procedures, which serve to implement Executive Order 12372, dated September 17, 1983. This letter primarily implements CCMP Action SG-P: Incorporate into federal, state and local permits and public works improved standard practices that better protect estuaries and watersheds. We thank Mosaic for participating in our Management Conference as a partner.	
Dr. Lisa Beever/ Charlotte Harbor National Estuary Program	Desirable Outcomes In our comments concerning the May 2012 Draft Areawide Environmental Impact Statement (DAEIS), CHNEP outlined desirable outcomes that apply to this permit. These desirable outcomes will help to implement the CCMP and include: • Improve downstream ambient water quality. Parameters include dissolved oxygen, chlorophyll a, total dissolved solids, pH, sulfate, iron, phosphorus, nitrogen and fecal coliform. We anticipate that one or more of these parameters may improve based on the land use change. If those can be improved and other more challenging parameters are not degraded in the ambient environment, a desirable outcome is met. • Establish a more natural seasonal variation in freshwater flows for the Peace and Myakka Rivers. Peace River Integrated Modeling Project. Southwest Florida Water Management District Minimum Flows and Levels documentation for the Lower Myakka and Lower Peace can be used to identify natural seasonal variations. • Improve historic watershed boundaries. CHNEP contracted to develop geographic information systems data to identify historic watershed boundaries. Restoring watershed boundaries can be a component of mitigation. • Improve to more natural historic conditions, waterbodies that are affected by artificially created structures. This outcome can be completed by minimizing containment in the mining landscape. In addition, mitigation options include removal of artificial structures and restoring old mining containment areas to return flows to natural waterbodies. • Protect and restore habitats freshwater wetlands, as well as native upland communities vital to the ecological function of the system. This outcome can be implemented with avoidance within the mines with special reference to the Critical Land and Water Identification Project (CLIP) priority 1 and priority 2 areas, as well as the Integrated Habitat Network.	Section 5 of the decision document describes how the applicant avoided and minimized impacts to aquatic resources and other native habitat. Sections 7 and 8 of the decision document address the 404(b)(1) Guidelines and public interest review, respectively, for Ona, including the project's effects on water quality and surface water flows. Section 9 and the attached compensatory mitigation plan describe how the proposed mitigation preserves and restores riparian systems, including upland buffers.

	• Create landscape level habitat connections. These connections include major and minor riparian corridors such as the Myakka River, Peace River, Horse Creek, West Fork Horse Creek, Brushy Creek, Lettis Creek, Oak Creek, Hickory Creek, Buzzards Roost Branch, Brandy Branch and other tributary systems. Riparian corridors include riparian wetlands as well as associated uplands such as oak scrub. • Increase Conservation Lands within the Peace and Myakka River basins. In the past conservation areas were protected under deed restrictions, which have little public enforceability. In recent permits, FDEP has required transfer of easement or title. This applies to avoidance areas, restoration areas and off-site mitigation areas.	
Dr. Lisa Beever/ Charlotte Harbor National Estuary Program	Though Mosaic would not provide a shapefile of the proposed "no mine" areas, the company did provide an encrypted PDF, which cannot be added to the body of this letter, but will be forwarded with the mine permit review letter(s) as a separate exhibit. For use as a graphic in this letter, we prepared a map that shows the relationship between • Mine boundaries; and • the named waterbodies from the National Hydrologic Database (NHD), • Integrated Habitat Network (IHN), and • CLIP Priority 1 and 2 areas.	Comment acknowledged.
Dr. Lisa Beever/ Charlotte Harbor National Estuary Program	CHNEP is concerned regarding the level of protection for the Brushy Creek, Oak Creek, Horse Creek, the West Fork of Horse Creek and Hickory Creek. CHNEP requests additional "No Mine" areas be identified to avoid and minimize impacts to wetlands. These areas should include IHN surrounding Oak Creek as well as the contiguous CLIP Priority 1 area, abutting to the City of Bowling Green, an Environmental Justice community. CHNEP requests that additional "No Mine" areas be defined in the IHN surrounding Brushy Creek. Only the northern and southern parts within the project boundaries are currently identified. CHNEP requests that that additional "No Mine" areas be defined in the IHN surrounding Horse Creek and the West Fork of Horse Creek, within consideration for adjacent CLIP priority 1 and 2 areas.	As described in Section 1.4.1 of the decision document, since the June 1, 2012 public notice for Ona the applicant reduced the area of impacts, including to wetlands and streams.
Dr. Lisa Beever/ Charlotte Harbor National Estuary Program	CHNEP may submit additional comments concerning this permit. If you have any questions or need additional information, please do not hesitate to contact me.	Comment acknowledged.

Record of Decision and Statement of Findings for Department of the Army (DA) Permit Application SAJ-2011-01869

Attachment A – Public Notice Comments and Responses

Section 3: Mosaic's Responses to Comments Received on June 1, 2012 Public Notice

SECTION 7.0

Response to Public Comments

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The Army Corps of Engineers (USACE) issued a Public Notice soliciting comments from the public regarding Mosaic's Ona Mine application on June 1, 2012. Subsequently, the USACE received comments from the following:

- Peace River Manasota Regional Water Supply Authority (PRMRWSA)
- Charlotte Harbor National Estuary Program (CHNEP)
- Seminole Tribe of Florida
- The Sierra Club
- People for Protecting the Peace River (3PR)
- Manasota 88
- Protect Our Watersheds (POW)
- Friends of Horse Creek

Copies of the public comment letters forwarded to Mosaic by USACE are contained in Appendix 1-5. The purpose of this Section is to respond to these public comments. As part of the Final Area-wide Environmental Impact Statement (FAEIS) process, the project purpose was revised and the FAEIS has been finalized. Due to the analysis provided by the FAEIS, many of the public response questions were answered by USACE during that process. As a result of the FAEIS and discussions with USACE, The U.S. Environmental Protection Agency (EPA), and the Florida Department of Environmental Protection (FDEP), Mosaic has revised its proposed action. It is our understanding that USACE plans to re-notice the revised proposed action. This will provide additional opportunities for public comment that Mosaic will respond to if requested by USACE.

7.1 PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

Comment No. 1: ***"Quantity & Timing of River Flow - A major issue relative to the Authority's regional drinking water supply operations on the Peace River relates directly to how potential reductions in stream flows were assessed in AEIS. Flow-related impacts affecting Peace River Facility withdrawals and the Authority's drinking water system reliability will be masked by use of techniques that consider the annual average changes in flow impacts from mining. Annual averaging tends to mask impacts on water supply availability during dry weather by averaging dry-season flows with the high volume wet-season flows. The "average" condition typically provides adequate flow to meet water supply needs, however, conditions are rarely average, and in the past 12 years have tended to be very dry for extended periods. Analysis of mine related impacts on river flow should include evaluation of all potential mine-related impacts over a full range of actual historical river flows so that impacts to permitted water supply facilities such as ours can be discerned. Reduced supply availability and water system reliability could necessitate any or all of the following costly actions: Installation for more pumping capacity on the river, Construction of more water storage capacity, Implementation of alternative treatment methods (such as membranes) and/or, Development of new sources."***

Appendices G (Surface Water Impact Analysis) and J (Impact Evaluation Methods) of the FAEIS evaluate flow differences between seasons for both individual and cumulative impacts. Additional sensitivity analyses were included on the potential effect of the capture area and flow conditions after reclamation. An estimation of the potential for mining effects to influence the number of low flow days relevant to water supply intake operations was added to cumulative impacts analysis. The FAEIS also includes an expanded discussion of how the ditch and berm system is used to maintain base flow /moisture to adjacent wetlands in the vicinity of the active mining operations and reclamation. The Minimum Flow and Level (MFL) studies are prepared by Southwest Florida Water Management District (SWFWMD) pursuant to its responsibilities and the Ona Mine as well as other proposed mines and mine extensions will be operated in accordance with established associated requirements.

Comment No. 2: "Surface Water Quality - The Peace River Water Treatment Plant is a conventional surface water treatment facility using aluminum sulfate as a coagulant primarily for color removal. The treatment facility does not (and cannot) reduce dissolved solids (such as sulfate, chloride, sodium, etc.), which are regulated drinking water parameters in Florida. Although average water quality data from mine discharges (presented in the Draft AEIS) are somewhat informative, they don't tell much about potential worse case impacts, which are caused by specific events and not averages. The evaluation should consider what the maximum observed parameter/constituent values were, the number of observations available, and the number that were above water quality standards to aid in assessment of impacts to drinking water supplies."

Mines tend to discharge in the wet season when the surface water is plentiful and the applicable mine's surface water management system capacity is exceeded. To address the water quality related questions, box and whisker plots and other statistical metrics are presented in Appendix D of the FAEIS and the water quality section of Chapter 4 of the FAEIS. The available data remain limited; over the last 60 months, the mines normally discharged only about 30 percent of the time. The FAEIS review is based on data adequate to assess the potential compliance with standards. For example, FDEP requirement for planning list assessment (FAC 62-303) is a minimum of 10 values within last 10 years. Regarding new criteria, the numerical nutrient criteria are evolving and the discussion in the FAEIS was updated to include the latest information in Chapter 3. As described in Section 5.3.21.3, in the FAEIS analysis of potential cumulative effects on surface water quality, USACE concludes with mitigation, no cumulative impacts would occur (FAEIS pages 4-297 and 4-298).

Comment No. 3: "Are processing plants and phosphogypsum stacks proposed to support these mine operations? Where would such facilities be located, when would they be constructed and ultimately closed, and what are the projected impacts of these facilities current surface water quality in the Peace Basin?"

No processing plants and phosphogypsum stacks are proposed to support these mine operations (FAEIS Section 1.3.1).

7.2 CHARLOTTE HARBOR NATIONAL ESTUARY PROGRAM

Comment No. 1: "Improve downstream ambient water quality. Parameters include dissolved oxygen, chlorophyll a, total dissolved solids, pH, sulfate, iron, phosphorus, nitrogen and fecal coliform. We anticipate that one or more of these parameters may improve based on the land use change. If those can be improved and other more challenging parameters are not degraded in the ambient environment, a desirable outcome is met."

The FAEIS projects the Ona Mine would have no measurable effects on the concentrations of chlorophyll a and nitrogen, and a beneficial increase in dissolved oxygen. While pH, total dissolved solids, and sulfate would increase, exceedances of water quality standards are not projected and the concentrations releases through outfalls on the Ona Mine would be lower than currently measured at the downstream stations in Horse Creek. Phosphorous levels would be controlled by the numeric nutrient criteria.

It is important to recognize the 2005-2010 time horizon included the drought years of 2006 through 2009, when flows in Horse Creek were well below average (FAEIS Figure 3-16). During droughts, the concentration of minerals in the mine water recirculation systems increase due to higher levels of evaporation that is offset by additions from wells drawing water from the mineralized Floridan aquifer. Total dissolved solids, sulfate, iron, and phosphorus concentrations would be countercyclical to rainfall, resulting in increases during droughts when National Pollutant Discharge Elimination System (NPDES) discharges would be infrequent and decreases during wet periods when NPDES discharges would be frequent. In summary, Mosaic's offsite discharges are highly regulated and monitored. Mosaic will comply with all state and federal water quality regulations.

Comment No. 2: "Establish a more natural seasonal variation in freshwater flows for the Peace and Myakka Rivers. Peace River Integrated Modeling Project. Southwest Florida Water Management District Minimum Flows and Levels documentation for the Lower Myakka and Lower Peace can be used to identify natural seasonal variations."

Less than 300 acres of the Ona Mine lie within the Myakka River watershed. Page 3-23 in the FAEIS documents the Myakka River watershed encompasses approximately 600 square miles, or 384,000 acres. Therefore, the Ona mine occupies less than 0.08 percent of the Myakka River watershed. Due to this small percentage, USACE concluded any effects on stream flows in the Myakka River from Mosaic's Proposed Action would be insubstantial (FAEIS Page 4-38). For the same reason, any potential effects from Mosaic's Proposed Action would fall within natural seasonal variations measured and modeled by SWFWMD in the Lower Myakka River some 30 miles downstream, which flows are controlled by Down's Dam at Lower Myakka Lake. Downstream of the dam, flows are tidally influenced.[1]

[1] SWFWMD. 2004. Myakka River Comprehensive Watershed Management Plan

In the FAEIS, USACE projects flow volumes in the Peace River would increase under any mine development scenario, including the Ona Mine, either individually or cumulatively (FAEIS tables 4-23 through 4-26 and 4-117 through 4-120). As noted in the FAEIS on page 4-265, and as explained in Appendix G, conversion of native habitats and agriculture lands to urban uses is projected to increase by over 60,000 acres between now and 2060 (FAEIS Figure 18 in Appendix G). The increased total runoff rates and changed flow patterns caused by urban development would outweigh any effects from mining activities within Mosaic's DeSoto, Ona and Wingate East Mines and CF's South Pasture Mine Extension (Applicants' Mines).

The Applicants' Mines would be required to conform with SWFWMD's Minimum Flows and Levels (MFLs) Rules published in Chapter 40D-8, F.A.C. Enforcement mechanisms would be specific conditions in the Applicants' Water Use Permit (WUP) or Environmental Resource Permit (ERP). Based upon MFLs already adopted, SWFWMD has a demonstrated track record of thoroughly evaluating the natural seasonal requirements of the aquatic resources and establishing MFLs that are protective of those resources. MFLs will be established for all streams in the Myakka and Peace River watersheds prior to when Mosaic would initiate mining at the DeSoto or Ona Mines, including in Horse Creek. Therefore, Mosaic's Ona Revised Proposed Action would be protective of natural seasonal flow patterns in Horse Creek and the Peace River through conformance with the MFLs established for each.

As described in Section 4.0, the mitigation plan includes the re-establishment of headwater reaches of Payne Creek in Polk County where historic mining practices converted stream segments into a canal. Approximately 14,755 linear feet of channel would be re-established by employing state-of-the art natural channel design principles to create a system of stream channels and flow-through herbaceous wetlands. Restoration of Payne Creek is proposed to support and advance CHNEP's Objective HA-1 to identify and establish a more natural seasonal variation in flows in the Peace River and its tributaries by implementing Priority Action HA-C to work with phosphate facilities to restore, among others, Payne Creek in Polk County.

Comment No. 3: "Improve historic watershed boundaries. CHNEP contracted to develop geographic information systems data to identify historic watershed boundaries. Restoring watershed boundaries can be a component of mitigation."

Map 4-6 illustrates the proposed drainage patterns and sub-basins on the reclaimed Ona Mine site. Upon completion of reclamation, the Ona Mine site will continue to drain to the Hickory, Oak, Brushy, Horse Creek, West Fork Horse Creek, and the Myakka River. The acreage draining to each of these streams will approximate pre-mining conditions.

Comment No. 4: "Improve to more natural historic conditions, waterbodies that are affected by artificially created structures. This outcome can be completed by minimizing containment in the mining landscape. In addition, mitigation options include removal of artificial structures and restoring old mining containment areas to return flows to natural waterbodies."

Ona was historically impacted by ditching. Mosaic's mitigation and reclamation plan will restore the hydrology returning flows to natural historic conditions. Mosaic does not propose to create any artificial structures. In the mitigation plan Mosaic may propose to restore old mining containment areas located offsite to return flows to natural waterbodies. Mosaic's mitigation proposed in conjunction with the Ona Revised Proposed Action includes the re-establishment of headwater reaches of Payne Creek in Polk County where historic mining practices converted stream segments into a canal, as discussed above in response to Comment No. 2 beginning on page 7-3.

Comment No. 5: "Protect and restore habitats freshwater wetlands, as well as native upland communities vital to the ecological function of the system. This outcome can be implemented with avoidance within the mines with special reference to the Critical Land and Water Identification Project (CLIP) priority 1 and priority 2 areas, as well as the Integrated Habitat Network."

The Integrated Habitat Network (IHN) was originally developed by the FDEP Bureau of Mine Reclamation (BOMR) as a planning tool to link corridors of un-mined lands with reclaimed lands. The primary purpose is to encourage mine operators to develop landscape scale reclamation plans that tie together the wildlife corridors in an integrated fashion. The Critical Land and Water Identification Project (CLIP) was designed as a GIS database with a very broad range of natural resource indicators at a landscape level. CLIP's utility is, however, not as accurate as the site specific mapping and habitat evaluations that have been performed at the Ona site.

The proposed avoidance plan is consistent with the intent of the IHN and CLIP. The Plan C avoidance plan offered in response to the framework, (a prioritized list of aquatic resources for avoidance in the FAEIS) provides distinct preservation corridors running in a west northwesterly direction from the south Brushy Creek area up to the homestead outparcel, then continues in a north northwesterly direction from the homestead outparcel to the Horse Creek preservation. The Horse Creek preservation provides a complete corridor from the south property boundary to the north property boundary in the western third of the project. In addition, post mining mitigation will provide an extensive stream and floodplain north-south corridor through the central portion of the Ona property. Preservation and mitigation will thus provide ample wildlife habitat and corridors through the property as contemplated by the IHN and CLIP planning guides.

Comment No. 6: "Create landscape level habitat connections. These connections include major and minor riparian corridors such as the Myakka River, Peace River, Horse Creek, West Fork Horse Creek, Brushy Creek, Lettis Creek, Oak Creek, Hickory Creek, Buzzards Roost Branch, Brandy Branch and other tributary systems. Riparian corridors include riparian wetlands as well as associated uplands such as oak scrub."

Mosaic's post reclamation plan will support the riparian corridors of Horse Creek, West Fork Horse Creek, Brushy Creek, Lettis Creek, Oak Creek and Hickory Creek as well as associated uplands.

Comment No. 7: "Increase Conservation Lands within the Peace and Myakka River basins. In the past conservation areas were protected under deed restrictions, which have little public enforceability. In recent permits, FDEP has required transfer of easement or title. This applies to avoidance areas, restoration areas and off-site mitigation areas."

Mosaic will place preservation and mitigation parcels under the more restrictive Conservation Easements as required under the Federal Mitigation rule and specific permit conditions.

Comment No. 8: "CHNEP is concerned regarding the level of protection for the Brushy Creek, Oak Creek, and Hickory Creek. CHNEP requests additional "No Mine" areas be identified to avoid and minimize impacts to wetlands. These areas should include IHN surrounding Oak Creek as well as the contiguous CLIP Priority 1 area, abutting City of Bowling Green, an Environmental Justice Community."

As discussed in detail in Section 3.3 under avoidance and minimization Plan C, developed for this application revision, the following areas relating to Comment No. 8 are proposed for avoidance:

North Brushy Creek – Intermittent Streams, Adjacent Forested Wetlands, & Adjacent High Quality Herbaceous Wetlands, IHN & CLIP (1 & 2).

Although the northern portion of Brushy Creek has been impacted by historical agricultural activities and is ditched, it still provides higher quality native habitat consisting of forested wetlands and high quality herbaceous wetlands adjacent to intermittent streams. This area will be avoided. Enhancements to eliminate the ditches have been proposed as mitigation to improve the functional capacity of the streams and adjacent wetlands.

South Brushy Creek – Intermittent Streams, Adjacent Forested Wetlands, High Quality Herbaceous Wetlands & CLIP (2)

The southernmost portion of Brushy Creek will be avoided. Much of the area has been converted to pasture with the exception of a few forested wetlands (including a bay swamp) and high quality herbaceous wetlands. Similar to the proposed mitigation within the Horse Creek floodplain, the areas converted to pasture will be restored to native cover/communities as mitigation.

Homestead Adjacent Preservation – Intermittent Streams, Forested Wetlands, High Quality Herbaceous Wetlands & CLIP (2)

The proposed preservation area immediately east of the Smith/Carlton homestead outparcel located east of Horse Creek, is a large contiguous system of headwater and intermittent streams, forested wetlands (including bay swamps), high quality herbaceous wetlands, and native upland habitat. No other contiguous parcel within the Horse Creek watershed contains such diversity of native communities, which in this area include xeric sand live oak, pine flatwoods and palmetto prairies, bay swamps and mixed wetland

hardwood forests, freshwater and shrub marshes and wet prairies. This area supports future connectivity between Horse Creek corridor and the Brushy Creek corridor as broadly contemplated under IHN developed as a reclamation planning guide and the CLIP program.

Oak Creek Headwaters – Intermittent Streams, Forested Wetlands, High Quality Herbaceous Wetlands, IHN & CLIP (1 & 2)

This proposed preservation area is a large system of intermittent streams, forested wetlands (including a large ~100 acre forested wetland), and high quality herbaceous wetlands interspersed within contiguous palmetto prairie and pine flatwoods habitat, and other native upland habitat. Further expansion of this preservation boundary is limited by the adjacency to the future plant site and railroad. The current boundary is logically located in the proximity of an existing sub-basin divide.

Oak Creek East – Forested Wetlands, High Quality Herbaceous Wetlands & CLIP (2)

The "three-lobe" forested wetland in this area will be avoided due to its importance under the framework as a headwater feature of the now preserved Oak Creek area, including headwater stream channels and palmetto prairie and pine flatwoods habitat and associated high quality herbaceous wetlands. This area drains through a culvert under CR 663 into the preserved Oak Creek Headwaters.

Mosaic's Revised Proposed Action avoids high priority streams and wetlands in compliance with the FAEIS avoidance and minimization framework.

Comment No. 9: "CHNEP requests that additional "No Mine" areas be defined in the IHN surrounding Brushy Creek. Only the northern and southern parts within the project boundaries are currently identified."

The proposed Ona Mine revision avoids where practicable, aquatic resources such as: perennial and intermittent streams, forested wetlands, herbaceous wetlands that are of high quality and the adjacent uplands where aquatic resource preservation renders uplands mining impracticable. The FAEIS analysis was considered and implemented where practicable and additional avoidance was implemented in this revision of the Ona 404 application.

The EPA provided a letter dated June 7, 2013 that offers the opinion that the Revised Proposed Action is consistent with the mitigation sequencing avoidance requirement as defined in the 2008 Compensatory Mitigation Rile (33 CFR Part 332).

Please refer to the response to CHNEP Comment No.8 above and Appendix 2-5-A-i for the Ona Mine – AEIS Framework Consistency Letter. Specifically the following areas relating to Comment No. 9 are proposed for avoidance in Plan C:

North Brushy Creek – Intermittent Streams, Adjacent Forested Wetlands, & Adjacent High Quality Herbaceous Wetlands, IHN & CLIP (1 & 2)

Although the northern portion of Brushy Creek has been impacted by historical agricultural activities and is ditched, it still provides higher quality native habitat consisting of forested wetlands and high quality herbaceous wetlands adjacent to intermittent streams. This area will be avoided. Enhancements to eliminate the ditches have been proposed as mitigation to improve the functional capacity of the streams and adjacent wetlands.

South Brushy Creek – Intermittent Streams, Adjacent Forested Wetlands, High Quality Herbaceous Wetlands & CLIP (2)

The southernmost portion of Brushy Creek will be avoided. Much of the area has been converted to pasture with the exception of a few forested wetlands (including a bay swamp) and high quality herbaceous wetlands. Similar to the proposed mitigation within the Horse Creek floodplain, the areas converted to pasture will be restored to native cover/communities as mitigation.

Comment No. 10: "CHNEP requests that additional "No Mine areas be defined in the IHN surrounding Horse Creek and the West Fork of Horse Creek, within consideration for adjacent CLIP priority 1 and 2 areas."

The proposed Ona Mine revision avoids the aquatic resources in accordance with the avoidance and minimization framework developed for the FAEIS as guidance for additional consideration for higher value aquatic resources. The following hierarchy is considered when analyzing avoidance options: perennial and intermittent streams, forested wetlands, herbaceous wetlands that are of high quality and the landscapes where these systems are contiguous.

The EPA, in a letter dated June 7, 2013 stated their agreement with Mosaic's current Plan C and their belief that the proposed additional avoidance and minimization is consistent with the framework as well as with the mitigation sequencing avoidance requirement as defined in the 2008 Compensatory Mitigation Rile (33 CFR Part 332).
Please refer to Appendix 2-5-A-i for the Ona Mine – AEIS Framework Consistency Letter. Specifically, the following areas relating to Comment No. 10 are proposed for avoidance in Plan C:

Horse Creek – Perennial Stream & Adjacent Forested Wetlands, IHN, CLIP (1 & 2) & 100-Year Floodplain

Horse Creek is a significant drainage feature within the watershed, and therefore the 100 year floodplain and the forested riparian habitat will be avoided. The floodplain consists of forested wetlands, forested uplands, pasture and woodland pastures. Proposed as mitigation in the 404 application, several of the existing pastures will be restored to native cover/communities for enhanced wildlife habitat corridors and to improve the physical, biological and chemical conditions of Horse Creek.
Also, several forested wetlands (including bay swamps) adjacent to Horse Creek on the north side will be avoided.

West Fork Horse Creek – Intermittent Stream 7 Adjacent Forested Wetlands, IHN, CLIP (2) & 100-Year Floodplain

The West Fork of Horse Creek is a significant drainage feature within the watershed, and therefore the 100 year floodplain and the forested riparian habitat will be avoided.

7.3 SEMINOLE TRIBE OF FLORIDA

Comment No. 1: "The STOF-THPO respectfully requests that NRHP eligible site 8HR00880 be avoided by any construction activities. If avoidance is not possible, further consultation with the STOF-THPO is requested."

The State Historic Preservation Officer (SHPO) concluded that there are no potentially significant cultural resource sites on the Ona Mine Tract and that no additional testing is required. No minimization or mitigation measures are required; however, in the event resources are uncovered during the mining process, minimization and mitigation would consist of ceasing mining operations and assessing and mitigating the resources to the satisfaction of the SHPO. On May 6, 2013, Mosaic submitted a copy of the August 22, 2012 letter from the Florida Division of Historical Resources stating that SHPO agreed that enough data had been gathered to sufficiently mitigate the impacts to site 8HR880. Please refer to Appendix 2-10 for Mosaic's Response to the Seminole Tribe Comments.

Comment No. 2: "Additionally, site 8HR00005 is potentially eligible for the National Register of Historic Places pending SHPO review. The STOF-THPO recommends that further research on the determination of the eligibility of site 8HR00005 be ascertained before ground disturbing activities begin."

The SHPO concluded that there are no potentially significant cultural resource sites on the Ona Mine Tract and that no additional testing is required. No minimization or mitigation measures are required; however, in the event resources are uncovered during the mining process, minimization and mitigation would consist of ceasing mining operations and assessing and mitigating the resources to the satisfaction of the SHPO. On May 6, 2013, Mosaic submitted a copy of the May 15, 2000 letter from the Florida Division of Historical Resources stating that SHPO agreed that the excavations at site 8HR5 recovered a sufficient sample of the data of scientific importance and that the cultural resource was significantly mitigated. Please refer to Appendix 2-10 for Mosaic's Response to the Seminole Tribe Comments.

7.4 SIERRA CLUB FLORIDA EMAIL JUNE 15, 2012

Comment No. 1: "The permit application requires completion of an environmental impact statement to guide permitting, as your notice recognizes. That AEIS must also be available to the public in order to provide comments on this and future permits. Proceeding with the public input process for this permit before preparation of an EIS is premature and improper and deprives the public of the information necessary to submit comments."

Section 1.6 of the FAEIS discusses the timing of USACE public interest reviews and the Clean Water Act Section 404(b)(1) Guidelines analyses for the four similar permit applications and provides a figure showing the relationship between National Environmental Protection Act (NEPA) and the permit decision-making process. The USACE published the public notice on June 1, 2012 concurrently with the Draft Area-wide Environmental Impact Statement (DAEIS), which is a common practice for the USACE in conjunction with permit applications for projects for which the USACE is preparing an Environmental Impact Statement (EIS). Also, in the FAEIS, the USACE announced its intent to provide the public another opportunity to provide comments on the Ona Mine Project.

Comment No. 2: "You issued four notices of permitting on June 1, for the CF Industries South Pasture Extension and the Mosaic Wingate East, Ona and DeSoto mines. We note that all of the notices you have issued are extremely sparse, omitting important information such as the nature of reclamation and the form of mitigation. The need for additional time and information in order to comment is reinforced by the limited nature of the information available."

Section 1.6 of the FAEIS discusses the timing of USACE public interest reviews and the Clean Water Act Section 404(b)(1) Guidelines analyses for the four similar permit applications and provides a figure showing the relationship between NEPA and the permit decision-making process. The USACE published the public notices on June 1, 2012 concurrently with the DAEIS, which is a common practice for the USACE in conjunction with permit applications for projects for which the USACE is preparing an EIS. Also, in the FAEIS, the USACE announced its intent to provide the public another opportunity to provide comments on the four currently proposed mining projects.

Comment No. 3: "Please note additionally that the address for commenting on the Ona mine appears to refer to the Wingate East mine. We assume your reference is incorrect."

The following address is the correct contact information for the Ona Mine Application:

Jacksonville District Corps of Engineers
Attention: John Fellows
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610
Further we expect that any comments on the Ona Mine sent to the wrong address will be transferred and included and considered in the Ona Mine record.

7.5 PEOPLE FOR PROTECTING PEACE RIVER

Comment No. 1: "The direct impacts of Applicant's proposed project will result in unpermittable adverse conditions Section 404 of the Clean Water Act and will be contrary to the public's interest."

Please refer to Sections 5.0 and 6.0. Mosaic has conducted extensive discussions with USACE and EPA as well as NGOs resulting in substantial additional avoidance and minimization of additional wetlands and streams in accordance with the framework identified in the FAEIS. In addition Mosaic has worked extensively on a mitigation plan providing appropriate and practicable onsite and offsite mitigation for wetlands and streams meeting the requirements of the 2008 Mitigation Rule (33 CFR 332).

Comment No. 2: "There will be significant unpermittable foreseeable adverse cumulative impacts on water quality, and conservation and protection of fish and wildlife resulting from the extraction of phosphate ore."

FAEIS pages 4-120 and 4-121 state operation of the Ona Mine would likely result in increases in specific conductance, DO, pH, and total phosphorus, while turbidity, total nitrogen, and chlorophyll-a would remain relatively unchanged. Discharge exceedances of criteria for pH, DO, and turbidity would be very infrequent and of short duration. Specific conductance would not be expected to exceed Florida standards. Therefore, construction and operation of the Ona Mine would have a minor to moderate degree of effect on surface water and groundwater quality. These effects would be insignificant.

FAEIS page 4-126 presents USACE's conclusion that, with mitigation, mining and reclamation of Mosaic's preferred Ona Mine disposal site would have at most a moderate effect on aquatic biological communities, which would not be significant. USACE also concludes the Ona Mine would not have an adverse effect on essential fish habitat in the Peace River or Charlotte Harbor.

Pages 4-153 through 4-155 of the FAEIS present USACE's findings that Mosaic's proposed Ona Mine would have no impact to a minor impact to wildlife habitat, provided mitigative measures are developed during the permit application review process and implemented throughout the permit duration. Impacts to wildlife habitat would be insignificant.

Comment No. 3: "There will be unpermittable foreseeable adverse secondary impacts from the proposed extraction of phosphate ore."

Please refer to the Ona Support Document Section 5.3.22 - Secondary Effects 40 CFR 230. Also please refer to the FAEIS, Section 4-11 Summary of Direct and Indirect Effects on page 4-221 and Tables 4-107 and 4-108.

Comment No. 4: "The Army Corps of Engineers has initially determined that the proposed project may affect, the Audubon's crested caracara (Caracara cheriway) and the Florida panther (Puma concolor coryi). Additionally the Corps has determined the proposal may affect the Eastern indigo snake (Drymarchon couperi), wood stork (Mycteria americana), and the Florida grasshopper sparrow (Ammodramus savannarum floridanus)."

The USACE determined that the Ona Mine project "[m]ay affect, but is not likely to adversely affect" grasshopper sparrow, Florida panther and scrub jay and "may affect" wood stork, Eastern indigo snake and northern crested caracara. For those species that the

USACE has made preliminary determinations of "may affect," formal consultation as required by Section 7 of the Endangered Species Act (ESA) will be initiated by the USACE with the U.S. Fish and Wildlife Service (USFWS). Mosaic will provide the USACE with a Biological Assessment (BA) fully describing all potential impacts to these species and all mitigation measures to offset any affects. Information contained in the BA will be used by the USFWS to draft a Biological Opinion (BO). The USACE through consultation with the USFWS will ensure that its authorization of the Ona Mine Project complies with the Endangered Species Act.

Comment No. 5: "The mitigation proposed by the Applicant is inadequate and will most likely not be viable for some time after construction activities."

Since the June 1, 2012 public notice, Mosaic has continued to develop the Ona Mine mitigation plan in accordance with the requirements of 33 CFR 322. Please refer to the Ona Mine Support Document Section 4.0 – Mitigation Plan. Please note some mitigation is offsite and will occur prior to mining related disturbance.

Comment No. 6: "Whether applicant has provided reasonable assurances that the applicable state and federal water quality standards will not be violated as a result of the proposed extraction of phosphate ore."

An ERP must be obtained from the FDEP. The ERP also serves as a certification of compliance with water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1334.

FAEIS pages 4-120 and 4-121 state operation of the Ona Mine would likely result in increases in specific conductance, DO, pH, and total phosphorus, while turbidity, total nitrogen, and chlorophyll-a would remain relatively unchanged. Discharge exceedances of criteria for pH, DO, and turbidity would be very infrequent and of short duration. Specific conductance would not be expected to exceed Florida standards. In addition monitoring of surface and groundwater will be conducted for the duration of mining and reclamation of the Ona Mine, providing opportunity to identify and address unlikely situations where water quality standards are not being met. Therefore, construction and operation of the Ona Mine would have a minor to moderate degree of effect on surface water and groundwater quality. These effects would be insignificant.

Comment No. 7: "Whether applicant has provided reasonable assurances that the proposed extraction of phosphate ore is in compliance with EPA approved water quality standards with regard to Section 404 of the Clean Water Act."

An ERP must be obtained from the FDEP. The ERP also serves as a certification of compliance with water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1334. Note: The FDEP, Bureau of Mine Reclamation, ERP with its special conditions will be part of the Department of Army 404 permit.

Comment No. 8: "Whether applicant has provided reasonable assurances that the proposed activity is not contrary to the public interest as set forth in Section 404(b) of the Clean Water Act."

Mosaic believes that this Revised Application and supporting Information in conjunction with the FAEIS, provides justification for the USACE to determine that the Ona Mine Project is not contrary to the public interest under USACE permit regulations (33 CFR 320.4) and complies with the Section 404(b)(1) Guidelines (40 CFR 230.10). The public interest and Guidelines compliance determinations are separate determinations and both are required to support the USACE permit decision for the Ona Mine Project. Please refer to Section 5 and Section 6.0.

Comment No. 9: "Whether Applicant has provided reasonable assurances that the cumulative impacts of the proposed project, including applicable past, present, and foreseeable cumulative impacts, will not cause violations of any state or federal standard."

The FAEIS has been revised to expand on the cumulative impacts analysis through the foreseeable future (2060) in the cumulative impacts section of Chapter 4. Direct, indirect, and cumulative impacts are discussed for each of the resource categories in the FAEIS in Chapter 4. The analysis considers all past, present, and reasonably foreseeable actions, including past (previous and ongoing activities, including the existing mines), present (the four currently proposed actions - Desoto, Ona, Wingate East, and South Pasture Extension), and reasonably foreseeable (Pine Level/Keys Tract and Pioneer Tract) actions related to phosphate mining. The temporal scope of the cumulative impact analysis is from 1975 until 2060. Actions prior to 1975 are taken into account as part of the characterization of the current conditions, in accordance with Council on Environmental Quality (CEQ) guidance.

Comment No. 10: "Whether Applicant has provided reasonable assurances that the proposed project is consistent with Florida's Coastal Zone Management Program."

Mosaic provided its certification to the USACE along with the Ona Mine permit application that the Ona Mine Project would be conducted in accordance with Florida's Coastal Management Program (FCMP). USACE permit regulations [33 CFR 325.2(b)(2)(ii)] state that the USACE cannot issue a permit if the State of Florida objects to Mosaic's Coastal Zone Management (CZM) consistency certification.

FCMP meets the requirements of the federal Coastal Zone Management Act (CZMA). The Secretary of the U.S. Department of Commerce, National Oceanographic and Atmospheric Administration, first approved the FMCP in 1981. The Florida Coastal Management Program Guide (Guide) is available at http://www.dep.state.fl.us/cmp. As explained in the Guide, Enforceable Policies in the federally-approved FCMP include Chapters 373 and 403, Florida Statutes, (Page 13) and Federal Consistency Reviews are conducted as part of the evaluation of ERP applications. Therefore, the Ona Mine ERP would constitute FDEP's certification that the activities authorized by the ERP are consistent with the FCMP.

FAEIS sub-section 6.6 further explains the CZMA. USACE cannot issue the Ona Mine 404 Permit unless and until FDEP has provided its certification under the provisions of Section 401 of the federal Clean Water Act.

Comment No. 11: "Whether Applicant has provided reasonable assurances that permanent impacts associated with the disturbance of 4,593.4 acres wetlands does not violate any state or federal standard."

As stated by EPA, in a letter dated June 7, 2013, the proposed Ona Mine revision would avoid a total of 3,595 acres made up of uplands (2,158 acres) and waters of the U.S. (1,437 acres). (Since the June 7, 2013 letter, additional land was added to the Ona Mine boundary making these referenced acres different than the revised permit application submittal.) The Revised Proposed Action is consistent with the Priority Avoidance Criteria of the Proposed Mitigation Framework as outlined in Chapter 5 of the FAEIS. Disturbance will not occur until all permits have been obtained.

The EPA also stated their agreement with Mosaic's current Plan C and their belief that the proposed additional avoidance and minimization is consistent with the avoidance determination framework developed for the AEIS, as well as with the mitigation sequencing avoidance requirement as defined in the 2008 Compensatory Mitigation Rile (33 CFR Part 332). Mosaic also believes that the evidence presented in this application conforms with the 404(b)(1) Guidelines and indicates that Mosaic's application presents the least environmentally damaging practicable alternative under the Guidelines.

The Ona Mine project would impact wetlands within discrete mining blocks sequentially for approximately a 29 year period. Wetland impacts are not permanent as Mosaic has also developed a mitigation plan (Section 4.0) providing both onsite and offsite wetland mitigation. Onsite mitigation will provide higher functioning wetlands that are better positioned in the landscape and protected by a conservation easement to protect those functions from future land uses.

Comment No. 12: "Whether Applicant has provided reasonable assurances that the proposed extraction of phosphate ore is in compliance with Section 7 of the Endangered Species Act for the protection of the Audubon's crested caracara (Caracara cheriway), the Florida panther (Puma concolor coryi), the Eastern indigo snake (Drymarchon couperi), the wood stork (Mycteria americana), and the Florida grasshopper sparrow (Ammodramus savannarun floridanus)."

Mosaic understands that the USACE intends to consult with USFWS under ESA section 7 as required, and to otherwise ensure compliance with ESA section 7 requirements. Mosaic is preparing a biological assessment and will provide this and other information to the USACE and the USFWS to support the agencies' determinations in compliance with ESA section 7.

7.6 SIERRA CLUB FLORIDA, MANASOTA-88, 3PR, POW

Comment No. 1: "We believe that when the application is sufficiently complete an additional public notice period and public hearing should be provided by the Corps and we reserve the right to provide further comments at that time."

Section 1.6 of the FAEIS discusses the timing of USACE public interest reviews and the Clean Water Act Section 404(b)(1) analyses for the four similar permit applications and provides a figure showing the relationship between NEPA and the permit decision-making process. In the FAEIS the USACE announced its intent to provide the public another opportunity to provide comments on the four currently proposed mining projects.

Comment No. 2: "We further believe that this permit should not proceed until an environmental impact statement has been provided."

The FAEIS was published in the Federal Register on May 3, 2013. The 30 day review period ended on June 3, 2013. An addendum to the FAEIS was published in the Federal Register on July 12, 2013, with a 30 day review period.

Comment No. 3: "The Ona application provides for avoidance/preservation of only some 7% of the mine property and provides minimal protection around Horse Creek, Brushy Creek, and their significant wetlands. (The 7% figure is Mosaic's and should be confirmed). This is clearly inadequate and we understand that Mosaic in fact agrees that more avoidance/preservation is required."

Prior to the development of the framework outlined in Chapter 5 of the FAEIS, the June 2011 application was submitted with approximately 7% total avoidance. As stated by EPA, in a letter dated June 7, 2013, the Revised Proposed Action avoids approximately 16% and is consistent with the framework outlined in Chapter 5 of the FAEIS as well as with the mitigation sequencing avoidance requirement as defined in the 2008 Compensatory Mitigation Rile (33 CFR Part 332). The currently proposed Ona Mine Plan C would avoid a total of 3,595 acres made up of uplands (2,158 acres) and waters of the U.S. (1,437 acres). The avoided waters of the U.S. would include 26,000 linear feet or 100 percent of the perennial streams in the project area; 116,000 linear feet or 52 percent of the intermittent and ephemeral streams; 1,088 acres or 45 percent of the forested wetlands and 209 acres or 21 percent of the herbaceous wetlands. The Revised Proposed Action would avoid 61 acres or 48 percent of the Bay Swamps in the project area. (Since the June 7, 2013 letter, additional land was added to the Ona Mine boundary making these referenced acres different than the revised permit application submittal.) Also see response to CHNEP Comment No. 9 on page 5-7.

Comment No. 4: "We understand that USEPA has provided you with a description of avoidance/preservation principles which should be applied to all four of the pending permit applications (CF South Pasture Extension, Wingate East and DeSoto as well as Ona)."

The onsite alternatives analysis has been modified in accordance with a conceptual mitigation framework outlined in the FAEIS that prioritizes aquatic resources for avoidance and minimization that will be used by the USACE during permit reviews. This discussion is in Chapter 5 of the FAEIS.

Comment No. 5: "In the case of Ona, prior permit applications have defined areas for avoidance (ACI areas), and this map, originally provided by Mosaic predecessor IMC, is attached. It is not clear why the prior ACI areas have been omitted from avoidance plans in the current application. Clearly their avoidance is desirable and achievable based on past permit proposals and they should be added to the Ona avoidance areas."

The currently proposed avoidance boundary, (referred to as "Plan C") is the result of multiple discussions, site visits, and meetings over the last two years between Mosaic, agencies, and other special interest groups. It is also based on the mitigation framework that prioritizes aquatic resources for avoidance and minimization established by the USACE and EPA and discussed in Chapter 5 of the FAEIS. Please refer to the AEIS Consistency letter in Appendix 2-5-A-I for additional details regarding Plan C.

The Areas of Conservation Interest (ACIs) were developed during the late 1990's by IMC-Agrico Co. and were included as avoidance in the Consolidated Development Application (CDA) at that time. It is also noteworthy to mention that reclamation technology had not advanced to where it is today. Mosaic now has an extensive resume of reclamation successes, including ecosystems previously assumed to be difficult to recreate such as bay swamps and streams. The ACIs in prior applications were developed under companies no longer in existence that had much different ore reserve concerns, financial stresses and unproven mitigation techniques. The long span of time between early submittals in which the ACIs were developed and the modern applications has seen the consolidation of companies, clarification of ore reserve priorities and most importantly important advances in mitigation planning, design and execution. Many of the ACIs were developed under the paradigm where large swaths of land with any aquatic resource regardless of the quality of the resource was subject to avoidance to provide reasonable assurance for aquatic resource protection. The proven successes in aquatic resource regulation, mitigation and enhancement over the past 20 years has reduced the need for avoidance of ACIs since reasonable assurance is now attainable through advanced design as observed in modern mitigation projects in place. Plan C was negotiated with the agencies as providing reasonable avoidance of AEIS Framework aquatic resources on the Ona tract. The AEIS framework is considered a replacement for the old ACI concepts.

Comment No. 6: "The Southwest Florida Water Management District has not yet set minimum flows and levels for Horse Creek. The DAEIS evaluation of groundwater and surface water impacts to the Peace watershed was deeply flawed, as pointed out in our DAEIS comments, but even the DAEIS assumed there would be a 16% loss of flow to Horse Creek from the three proposed new mines. (It is not clear if the Altman impact was included). These combined impacts are simply irresponsible and unacceptable."

The MFL studies are prepared by SWFWMD pursuant to its responsibilities and the Ona Mine as well as other proposed mines and mine extensions will be operated in accordance with established associated requirements. Chapter 4 of the FAEIS clearly describes the change in flow relative to existing conditions. The DAEIS compared flows against Alternative 1 (no new mines), but it is more accurate to discuss the change to existing flows (2020 estimate would be closest to existing conditions) related to impacts. The

surface water section of Chapter 4 and Appendix G of FAEIS expanded the discussion on future changes to flow rates, including the Charlotte Harbor Estuary. Surface water yield analyses were conducted addressing conditions during the dry and wet seasons, and all of these results are presented in the FAEIS to address comments received on the DAEIS. Also refer to the response below to Comment No. 7.

Comment No. 7: "Cumulative impacts such as flow should be avoided. In addition to expanded avoidance around stream buffer areas and connected wetlands, permitted mining activities should be sequenced, with measures such as avoidance of concurrent mining by multiple mines in a watershed such as Horse Creek."

SWFWMD's MFL program described above is being implemented to prevent adverse cumulative effects on flows in all major streams that may be caused by all land uses, not just phosphate mining. As noted in FAEIS Sub-section 3.2.2.1, MFLs for the Myakka and Peace Rivers have been adopted and the Horse Creek MFL Rule is scheduled for adoption well before Mosaic would commence mining at the Ona Mine. Thus, SWFWMD's current regulatory structure will provide protection for aquatic resources on and downstream of Mosaic's Ona Mine.

Separately, Section 5.5.4 explains why the cumulative effects on flow patterns and volumes projected in the DAEIS and FAEIS were overly conservative. The AEIS Addendum also addresses USACE's prior estimates. Also, Section 3.0 explains the avoidance and minimization evaluations Mosaic conducted between August 2011 and April 2013 that resulted in Mosaic's Revised Proposed Action presented in Section 1.5. Mosaic's Revised Proposed Action would increase the avoided areas on the Ona Mine by 669 acres, including approximately 46,009 linear feet of stream channel, when compared to the July 2011 Proposed Action that generated this comment.

The existing regulatory structure already vests authority with FDEP and SWFWMD to prevent adverse impacts through the Total Maximum Daily Load (TMDL) and MFL Rules that would be implemented by enforceable conditions in Mosaic's ERP, WUP, and IW/NPDES Permits. Sequencing of mining would not accomplish the same level of protection.

Comment No. 8: "In light of the substantial impacts to Horse Creek, and the DAEIS estimates that impacts will be at least 16% of flow, we believe that Horse Creek baseline flow and water quality studies should be prepared immediately, that continued study should be performed as mining proceeds, and that permits affecting Horse Creek should be sequenced so that subsequent permits can be adjusted to account for unacceptable impacts."

Section 5.3.4 explains why the DAEIS flow projections were overly conservative. For these reasons, USACE has published an AEIS Addendum to correct the record. Appendix 2-3-E and the AEIS Addendum document cumulative flow reductions would be, at most, seven percent. As explained above, SWFWMD's MFL Rule will be in place and actual future flow reductions in Horse Creek would be controlled by the MFL Rule, not the FAEIS projections.

Baseline flow and water quality studies already have been prepared for Horse Creek. As the footnote below indicates, these studies document baseline conditions in the 1970s, 1980s, and 1990s, well before any mining occurred in the Horse Creek basin[2,3,4,5]. Since 2003, Mosaic's Horse Creek Stewardship Program has provided a continuous tracking of changes in Horse Creek. Thus, the requested flow and water quality studies have been prepared and are ongoing.

Comment No. 9: "The mining companies' response to requests by the public for avoidance and sequencing is that they are entitled to maintain production at their beneficiation plants and that production requires a certain level of mining activity. With this as their argument, they must be required to explain the economics of their beneficiation plants: how old they are, whether the investment in them been depreciated or amortized, what new investments have been made in those plants and how those investments been treated for financial purposes, whether those investments were made with the assumption of the granting of future permits, what is the return on investment from those plants etc."

As previously stated Mosaic's Plan C provides for avoidance and minimization of aquatic resources in accordance with the mitigation framework in the FAEIS. Mosaic does not make final investment decisions involving new beneficiation plants or other mining equipment or infrastructure prior to the USACE issuance of permits. A new, approximately one billion dollar beneficiation plant is anticipated to be constructed at the Ona Mine. Section 1.0 provides details on relevant economic considerations.

Comment No. 10: "The Corps in preparing the AEIS has retained consultants which are paid for by the permit applicant. This clearly could be done as well in the case of economic issues. Moreover the NEPA regulations require that the Corps obtain missing information unless it is truly financially unreasonable to do so. Where Mosaic and the Corps have put plant economics at the center of their permitting arguments the Corps may not then abandon its review responsibilities on this issue."

In the FAEIS, the analysis of costs as they pertain to practicability was also prepared by the USACE and their consultants independently of the Applicants. The Applicants properly funded preparation of the AEIS, which also included the analysis of reasonable alternatives, under CEQ regulations and in accordance with the December 17, 1997 guidance memorandum from USACE Headquarters through an independent third party contractor, the direction for the study was by the USACE.

[2] USEPA, 1981. Draft Environmental Impact Statement: Farmland Industries, Inc.
[3] USEPA, 1981. Draft Environmental Impact Statement: Mississippi Chemical Corporation.
[4] USEPA, 1987. Draft Environmental Impact Statement: CF Mining Corporation.
[5] USGS, 1997. Hydrological and Water Quality Conditions in the Horse Creek Basin, West-Central Florida, October 1992 – February 1995.

Comment No. 11: "In the past there has been little or no provision for monitoring compliance with permit conditions and assumptions and adjusting conditions if expected mitigation and/or water quality and quantity impacts are not achieved. An adequate monitoring program should be provided for in the permit and provision made for reopening permit conditions and requirements if permitting assumptions are not met."

We disagree with the assertion that there has been little or no provision for monitoring compliance with permit conditions. The South Fort Meade Hardee County Extension permits contain language that specifically address those issues. South Fort Meade – Hardee County Department of Army 404 Permit (SAJ-1997-4099 IP-MGH) special condition No. 4 states the following:

"The project was reviewed and evaluated by the Corps of Engineers, USEPA, and USFWS. As a result of the process, the provision to ensure progress of the authorized work will be monitored by the Reviewing Agencies which include the Corps of Engineers, USEPA, and USFWS. An Annual Review by the Reviewing Agencies will evaluate the authorized work, schedule, monitoring program, reporting process, and other aspects of the authorized work. Any such revisions or refinements to the authorized work will require subsequent review by the Corps of Engineers in accordance with 33 CFR 325.7.

a. *The Permittee will submit to the Corps of Engineers a request to review the project 30 days before the end of the first full calendar year and each subsequent calendar year thereafter, if applicable.*
b. *The Reviewing Agencies review will begin 30 days after receipt of the Permittee's request and/or no later than March 31st of the first year and each subsequent year thereafter, if applicable.*
c. *The Reviewing Agency will review the file and will inspect the project site for compliance with the terms of the permit, including General, Special Conditions and Monitoring Requirements.*

    1. *If the Reviewing Agencies determine that the Permittee is not in compliance with the terms of the permit, until the Permittee is in compliance with the terms and conditions of the permit, the Permittee must not proceed with the next scheduled mine block.*
    2. *As an element of the Annual Review, the Corps shall notify the Permittee of any deficiencies that may be noted and request a plan for remediation."*

South Fort Meade – Hardee County Florida Department of Environmental Protection Environmental Resource Permit (0221122-004) special condition No. 25 states the following:

"The Department shall review this permit at the end of the first five-year period and each subsequent five-year period thereafter, if applicable. The review shall begin 90 days before the end of the five-year period. The Department shall review the file and shall inspect the project site for compliance with the terms of the permit, including the

General, Specific Conditions and Monitoring Requirements. This inspection will be in conjunction with the quarterly inspections conducted by Department staff.

a. *If the Department determines that the permittee is not in compliance with the terms of the permit, revocation or suspension of the permit may be initiated pursuant to rule 62-4.100, F.A.C*

b. *As an element of the five-year periodic review, the Department shall notify the permittee of any additional permit conditions to be added to the original permit based on rules adopted during the preceding five-year period."*

Mosaic will agree to reasonable similar permit conditions for future Ona Mine permits which allow each agency to review and modify or suspend/revoke permits as needed due to issues such as if reclamation success has not been met, other permit noncompliance, etc. These conditions will be negotiated to comply with the specific conditions of the various permits.

Comment No. 12: "For example, an underlying assumption of permitting must be that groundwater flows are not affected. Regular monitoring should be performed to verify that this is the case and if groundwater flows are impacted remediation should be implemented."

In October 2012, Mosaic was issued its new Integrated Water Use Permit (IWUP) which authorizes the withdrawal of groundwater at all of Mosaic's current and future mining projects (Appendix 2-3-A). A major component of the IWUP is the expansive environmental monitoring program, the Environmental Management Plan (EMP), which outlines the processes and procedures Mosaic must implement to ensure that groundwater withdrawals do not result in adverse impacts to environmental features adjacent to and in areas surrounding the mine project boundaries.

As of June 2013, all elements of the IWUP EMP have been fully implemented, and Mosaic is taking a proactive approach to ensure groundwater flows are maintained in the area of active mine activities. As demonstrated through this program, regular monitoring is already a component of Mosaic's day to day mine operations, and the EMP provides a framework by which any identified issues are remediated and/or mitigated such that adverse impacts to adjacent environmental features and hydrologic conditions do not occur.

Comment No. 13: "Further the permit should provide a mechanism for adjustment of mitigation requirements if mitigation is delayed. There must be a provision for additional mitigation requirements in the event of delay or a reopening of mitigation requirements if the issue requires review."

The South Fort Meade – Hardee County Department of Army 404 Permit (SAJ-1997-4099 IP-MGH) states as a special condition (No. 15.e.) that in the event that the performance standards listed have not been achieved the Permittee must undertake a remediation program approved by the USACE. The Permittee shall submit to the USACE an alternative compensatory mitigation proposal to fully offset the functional loss that occurred as a result of the project. The alternate mitigation proposal may be required to

include additional mitigation to compensate for the temporal loss of wetland function associated with the unsuccessful compensatory mitigation activities. The USACE reserves the right to fully evaluate, amend, approve or reject the alternate compensatory mitigation proposal. Within 120 days of the USACE approval, the Permittee will initiate the alternate compensatory mitigation proposal according to the approved plan.

It is likely that a similar permit condition will be included in the future Ona Mine 404 permit.

Comment No. 14: "Where there are delays in restoration/mitigation, or where there is failure in achieving the expected success, there must be a mechanism to compensate for that additional loss of function which was not considered at the time of permitting. In permitting there must be a greater than 1 to 1 replacement and there must be monitoring and provisions for revision and response if mitigation is delayed or unsuccessful."

The South Fort Meade - Hardee County Department of Army 404 Permit (SAJ-1997-4099 IP-MGH) states as a special condition (No. 15.e.) that in the event that the performance standards listed have not been achieved the Permittee must undertake a remediation program approved by the USACE. The Permittee shall submit to the USACE an alternative compensatory mitigation proposal to fully offset the functional loss that occurred as a result of the project. The alternate mitigation proposal may be required to include additional mitigation to compensate for the temporal loss of wetland function associated with the unsuccessful compensatory mitigation activities. The USACE reserves the right to fully evaluate, amend, approve or reject the alternate compensatory mitigation proposal. Within 120 days of the USACE approval, the Permittee will initiate the alternate compensatory mitigation proposal according to the approved plan.
It is likely that a similar permit condition will be included in the future Ona Mine 404 permit.

Comment No. 15: "The commenters have raised the point in their DAEIS comments that permit terms for mines are much too long-extending for decades, and those concerns are raised again here."

We disagree with the assertion that there has been little or no provision for monitoring compliance with permit conditions. The South Fort Meade Hardee County Extension permits contain language that specifically address those issues. South Fort Meade – Hardee County Department of Army 404 Permit (SAJ-1997-4099 IP-MGH) special condition No. 4 states the following:

"The project was reviewed and evaluated by the Corps of Engineers, USEPA, and USFWS. As a result of the process, the provision to ensure progress of the authorized work will be monitored by the Reviewing Agencies which include the Corps of Engineers, USEPA, and USFWS. An Annual Review by the Reviewing Agencies will evaluate the authorized work, schedule, monitoring program, reporting process, and other aspects of the authorized work. Any such revisions or refinements to the authorized work will require subsequent review by the Corps of Engineers in accordance with 33 CFR 325.7.

d. *The Permittee will submit to the Corps of Engineers a request to review the project 30 days before the end of the first full calendar year and each subsequent calendar year thereafter, if applicable.*

e. *The Reviewing Agencies review will begin 30 days after receipt of the Permittee's request and/or no later than March 31st of the first year and each subsequent year thereafter, if applicable.*

f. *The Reviewing Agency will review the file and will inspect the project site for compliance with the terms of the permit, including General, Special Conditions and Monitoring Requirements.*

3. *If the Reviewing Agencies determine that the Permittee is not in compliance with the terms of the permit, until the Permittee is in compliance with the terms and conditions of the permit, the Permittee must not proceed with the next scheduled mine block.*

4. *As an element of the Annual Review, the Corps shall notify the Permittee of any deficiencies that may be noted and request a plan for remediation."*

South Fort Meade – Hardee County Florida Department of Environmental Protection Environmental Resource Permit (0221122-004) special condition No. 25 states the following:

"The Department shall review this permit at the end of the first five-year period and each subsequent five-year period thereafter, if applicable. The review shall begin 90 days before the end of the five-year period. The Department shall review the file and shall inspect the project site for compliance with the terms of the permit, including the General, Specific Conditions and Monitoring Requirements. This inspection will be in conjunction with the quarterly inspections conducted by Department staff.

c. *If the Department determines that the permittee is not in compliance with the terms of the permit, revocation or suspension of the permit may be initiated pursuant to rule 62-4.100, F.A.C*

d. *As an element of the five-year periodic review, the Department shall notify the permittee of any additional permit conditions to be added to the original permit based on rules adopted during the preceding five-year period."*

Mosaic will agree to reasonable similar permit conditions for future Ona Mine permits which allow each agency to review and modify or suspend/revoke permits as needed due to issues such as if reclamation success has not been met, other permit noncompliance, etc. These conditions will be negotiated to comply with the specific conditions of the various permits.

7.7 FRIENDS OF HORSE CREEK

Please refer to Appendix 2-3-C for the Cardno ENTRIX Letter Submitted to USACE responding to the Friends of Horse Creek comments.

Record of Decision and Statement of Findings for Department of the Army (DA) Permit Application SAJ-2011-01869

Attachment A – Public Notice Comments and Responses

Section 4: Mosaic's Responses to Comments Received on January 12, 2018 Public Notice

Mosaic Response to Comments[1] on the
January 12, 2018 Public Notice for the Ona Mine Clean Water Act Section 404 Permit (SAJ-2011-01869)
April 10, 2018

Comment	Response
U.S. Environmental Protection Agency (EPA)	
1. EPA's 2012 letters focused on three issues: (i) avoidance of Aquatic Resources of National Importance (ARNIs), (ii) the proposed compensatory mitigation plan, and (iii) permit duration.	If the Corps proceeds with the issuance of a CWA 404 permit for the proposed Ona project, Mosaic expects these three specific interests identified by EPA's 3(a) and (b) letters will be addressed by the Corps consistent with how those same three EPA interests were addressed for the SPE and Wingate East permits. Specifically, the Corps would send correspondence to EPA pursuant to Part IV, Paragraph 3(c)(2) of the Section 404(q) MOA indicating their position addressing these three components as described below.
a. ARNIs - The draft EA adequately addressed EPA's concerns regarding avoidance of ARNIs.	Noted.
b. Compensatory Mitigation- EPA recommends that the final permit and supplemental EA include the compensatory mitigation plan.	As the Corps provided with respect to the SPE and Wingate East permits, the final permit for the Ona Mine would include a final, Corps-approved plan with a finding that "the final compensatory mitigation plan addresses the concern about mitigation by including consideration of time lag and risk in a functional analysis."
c. Permit Duration - EPA understands that the requested permit duration will most likely be addressed in the Draft Permit that will be provided to EPA at a later date.	The proposed permit would provide a 30-year construction window to mine phosphate on the Ona Mine. Mosaic proposes to mine the area for approximately 24 years and anticipates it will take approximately 6 years to complete the reclamation and mitigation construction. As the Corps provided with respect to the SPE and Wingate East permits, here, permit duration would be addressed "… by requiring monitoring and reporting on the status of the project, including both the impacts … and the compensatory mitigation" … and the

[1] Three entities submitted comments in response to the January 12, 2018 public notice for the Ona Mine's Clean Water Act Section 404 permit (SAJ-2011-01869): (i) U.S. Environmental Protection Agency; (ii) Center for Biological Diversity, and (iii) ManaSota-88.

	Corps will "… require adaptive management to correct problems with mitigation before it fails and alternative mitigation if adaptive management does not work, and will commit to reviewing compliance every five years, with input from EPA and other agencies."
Center for Biological Diversity (CBD) **Mosaic notes that CBD's comments regarding the Ona Mine are substantially similar and in many cases identical to comments CBD submitted on the SPE and Wingate East Supplement Notices, and those comments have already been thoroughly addressed by both Mosaic and the Corps in the SPE and Wingate East decision documents. Notwithstanding the failure of CBD to raise any new issues whatsoever, Mosaic provides the following responses to CBD's comments relative to the Ona Mine.**	
I. The Corps Must Deny the Clean Water Act (CWA) Permit Application for the Ona Mine	
A. The Ona Mine is Contrary to the Public Interest	
1. Ona Mine's supposed public benefits do not outweigh the damage that will be done to the water resources the Clean Water Act is intended to protect. CBD Comments at 3.	The land that will be impacted consists predominately of pasture land that was ditched, dewatered, and cleared for agricultural use, including alterations for cattle grazing. The proposed compensatory mitigation (including offsite wetland establishment and preservation and onsite preservation and reclamation) will restore the land and waters to a more natural and ecologically valuable condition than exists today. Accordingly, the impacts to the site will be more than fully offset by reclamation and mitigation. The mitigation and reclamation will improve the overall function and value of aquatic ecosystems and wildlife habitat at the site. Moreover, the work authorized by the permit will produce other significant public benefits, including substantial economic benefits such as increases in average annual employment, present value labor income, present value added, and present value output. Thus, the public benefits outweigh the impacts of the work authorized by the Corps permit, especially when considering the extent of reclamation required by the state and mitigation. Mosaic has proposed to impact 3,426.1 acres of wetlands and 100,766.8 linear feet of streams for the Ona project. Implementation of the proposed reclamation plan and

	compensatory mitigation plans will more than offset these impacts and will result in long term benefits through the reclamation of native habitat and mitigation of aquatic resources throughout the Peace River Basin, through conveyances and recording of Conservation Easements (CE) against title to the following CE areas including: • Preservation of 5,755.4 acres including onsite preservation of 1,483.8 acres of wetlands, 120,855.65 linear feet of streams, and 2,192.9 acres of adjacent native habitat upland buffers, and, Offsite Horse Creek-Payne Creek Preservation Sites, Offsite Payne Creek Connector Preservation Site, Offsite Peace River North Preservation Site, Offsite Peace River South Preservation Site, Offsite West Fork Horse Creek Preservation Site prior to mining, • Reclamation of all mined areas including 5,004.7 acres of re-establishment wetlands and associated upland buffer, and • Immediate commencement of Enhancement or Restoration of 4,781.78 acres occurring in several offsite mitigation projects referred to as the Offsite Payne Creek Restoration Site, Offsite Bowlegs Creek Restoration Site, Offsite West Fork Horse Creek Restoration Site and Offsite South Pasture Extension Restoration Site. • Florida requires that reclaimed wetlands and surface waters be restored on an acre-for-acre and type-by-type basis. Moreover, Mosaic's CMP contains extensive measures that will ensure the success of Mosaic's reclamation and mitigation efforts, including a Long Term Management Plan to ensure the long-term sustainability of the mitigation. (33 CFR 332.4(c)). And Mosaic has a demonstrated record of compliance, including at the neighboring South Pasture Mine (cite). As part of the CMP, a total of 13,285 acres will be placed into perpetual protection through a Deed of Conservation Easement (CE) in favor of the FDEP as Grantee with third party beneficiary rights, including enforcement rights, in favor of the USACE. • Section 4.6.3 of the FAEIS describes the economic effects of the Ona project, including income/revenue attributed to mining, and local government revenues

	that would result from the mining project, and average annual employment. FAEIS at 4-191 to 193. As shown in Table 4-98 in that section, with the Ona Mine, as compared to the No-Action Alternative, there would be increases in average annual employment, present value labor income, present value added, and present value output. FAEIS at 4-193; *see also* FAEIS Appendix H (explaining the methodology used by the Corps to evaluate economic effects, including definitions of the economic parameters considered). • Similarly, in the discussion of cumulative effects, the Corps evaluated the total income generated by the proposed mines (including Ona) as well as the agricultural activities on the mine site. *See* FAEIS § 4.12.6. • Sections 5.a.vii and 5.b.v of the draft Environmental Assessment (EA) describe the updated analyses of the potential direct, indirect, and cumulative economic effects. Based on this analysis the Ona mine would have a net economic benefit of $9.8 billion on Hardee County. *See* EA, Attachment B, Table 4-98. o Because some of the project updates that reduced environmental impacts could also affect the economic effects, including the elimination of the onsite beneficiation plant and the reduction in the area and duration of mining, the Corps independently reviewed and verified an updated economic analysis. This analysis included updates to Table 4-98 (EA, Attachment B) which describes the net impacts of the Ona alternative compared to the no action alternative. o For the updated analysis of the cumulative effects on Hardee County, the Corps considered the results of the revised economic direct and indirect impact analysis for Ona, and prepared a revised Table 4-137 in Attachment B. The Corps also updated the analysis of the cumulative effects on the eight-county study area, as shown in the revised Table 4-139 in Attachment B. • Even with the changes to the Ona project, discussed in sections 5.a.vii and 5.b.v of the EA, the work authorized by the Corps permit for the Ona Mine will still have a major beneficial economic effect on Hardee County. The

	cumulative effect on both Hardee County and the study area would be beneficial, and for Hardee County the effect would be of a moderate to major magnitude.
2. Ona Mine is contrary to the public interest, as evidenced by the widespread opposition to phosphate mining in the region, which is based on the perceptions and opinions of the impacted communities, the science and observations offered by experts, and the economic analysis provided by the public. CBD Comments at 3.	As discussed in CBD Response I.A.1, the work authorized by the Corps permit for the Ona project will have significant economic and environmental benefits for the region. The Corps has conducted a comprehensive public interest review and CWA Section 404(b)(1) analysis for Ona weighing each of the public interest factors listed in 33 C.F.R. § 320.4. *See* EA, § 7. While not required by regulation, the Corps also took the extra step of publishing a draft public interest analysis and taking public comments on the draft.
3. To begin with, the supposed economic benefit of fertilizer production and the phosphate industry more broadly is disputed. A review of the Corps' economic analysis by Richard Weiskoff in 2012 found that the AEIS economic analysis uses an inappropriate model and fails to take into account the full cost of displacing the dynamic and growing agricultural sectors, especially agricultural services, and their linkages. (Weiskoff 2012). In addition, it found that the quality and productiveness of the reclaimed land cannot be determined. Therefore, the real cost to the region is the loss of farm land, depletion of the aquifer, the accumulation of toxic waste, and the potential destruction of the downstream water supply. CBD Comments at 5.	See CBD Response I.A.1. 33 C.F.R. § 320.4(a)(1) requires the Corps to weigh the reasonably foreseeable benefits of a proposal against the reasonably foreseeable detriments. Appendix H to the FAEIS explains the methodology used by the Corps to evaluate economic effects, including definitions of the economic parameters considered. The public interest and economic impacts the Corps evaluated were based on the Corps permitted work associated with the mining projects at issue, not the broader economic benefits of fertilizer production or the phosphate industry. *See* FAEIS § 4.12.6.
4. If the public need were truly for fertilizer, as opposed to just phosphate ore, then the EA or the FAEIS should have also evaluated the impacts of the growth or addition of phosphogypsum stacks that would result from approval of the Ona Mine. However, in its 2013 AEIS, the Corps stated that "the four proposed phosphate mines have independent	The discussion of the larger fertilizer industry in the FAEIS section on Purpose and Need (as well as in that section of the EA) is background. It is not the basis of the project benefits that the Corps identified. See also CBD Responses I.A.3 and I.A.5.

utility from the existing fertilizer plants and that the mining operations are single and complete projects"[2] and that the Corps does not consider the phosphogypsum stacks to be a component of the direct and indirect effects of the four proposed mines. Aside from the Corps' failure to evaluate this indirect impact, it is difficult to believe the applicant would invest in a mine expansion for the stated purpose of obtaining phosphate ore for phosphate fertilizer production if it could not also rely on its ability to expand its phosphogypsum management system. The dredge and fill activities of the Ona Mine are inextricably related to any future phosphogypsum stack management expansion. CBD Comments at 5.	
5. Numerous commenters provided information on phosphogypsum stacks that should have been included in the AEIS, noting that: "Phosphogypsum stacks are located in the study area and their number and extent are directly a result of past and future phosphate mining. The proposed mines will increase the need for such facilities and add to the recently observed impacts/costs of stack closures. They have not only environmental impacts on water quality, but also potential economic impacts for existing/future public utilities using surface water supplies downstream of mining in the [Central Florida Phosphate District]…"[3] CBD Comments at 6.	The phosphogypsum stacks, which are separate and have independent utility from the mining activities at issue in the Ona permit application, are not part of the proposed action and are outside of the Corps' control and responsibility, and thus did not require consideration as part of the direct and indirect impacts analysis. *See* FAEIS at 1-29 and 1-30. Phosphogypsum stacks are not associated with or co-located with the mines, but with fertilizer manufacturing facilities, and their impacts are fully assessed at the time those stacks are separately and rigorously permitted by other agencies, including FDEP and EPA. When scoping a project for NEPA analysis, the Corps generally is confined by the scope of its regulatory jurisdiction. 33 C.F.R. pt. 325, App. B § 7(b)(1); *see also D'Olive Bay Restoration & Pres. Comm., Inc. v. U.S. Army Corps of Eng'rs*, 513 F. Supp. 2d 1261, 1295 (S.D. Ala. 2007) (citing *Save the Bay v. U.S. Corps of Eng'rs*, 610 F.2d 322, 327 (5th Cir. 1980)). While in some circumstances the Corps' is deemed to have control and responsibility beyond jurisdictional waters on a project site, such as where an entire project is deemed federalized as a result of the extent of federal control over the project, 33 C.F.R. pt. 325, App. B § 7(b)(2), the Corps is not

[2] AEIS ES-5.
[3] Appendix A, at 233.

	required to consider the effects of separate, independent projects merely because they have some relationship to the project covered by the Corps' permit action. *See Pres. Endangered Areas of Cobb's History, Inc. v. U.S. Army Corps of Eng'rs*, 87 F.3d 1242, 1247 (11th Cir. 1996); *Fla. Wildlife Fed'n v. U.S. Army Corps of Eng'rs*, 401 F. Supp. 2d 1298, 1317 (S.D. Fla. 2005). Here, as with the SPE and Wingate East mines, the Corps determined that the fertilizer plants, which produce phosphogypsum as a byproduct, were not within the scope of the proposed mining activities, and their effects are not direct or indirect effect of the Corps permit for the Ona project. The fertilizer plants are independent projects beyond the Corps' control and responsibility. They have operated for years independently of the mines, and they will continue to operate regardless of Ona, because those plants process rock sourced from other mines in Florida and, in certain circumstances, rock that is imported as necessary to maintain fertilizer production. In addition, there are other uses for phosphate ore than fertilizer. The gypstacks at those plants are regulated primarily by USEPA and FDEP, and are thus outside of the Corps' control with respect to the Ona project.[4] The Corps is not required to address impacts of the phosphogypsum stacks in its cumulative effects analysis because the effects of those stacks do not accumulate in the environment with the effects of work permitted by the Corps permit. The stacks are in different locations than the Ona mine, the nature of the projects is different (mining and reclaiming a mine site versus fertilizer production at a plant site), and the effects of the mine and the stacks do not combine within the ecosystem in any meaningful way. CBD's comments do not identify any effects of the stacks that combine with the effects of the Corps permitted work. Moreover, there is not a sufficiently close causal relationship between the proposed mining activities and environmental impacts caused by the phosphogypsum stacks in order to treat the effects of those stacks as effects of the Corps permit. NEPA requires a reasonably close causal relationship between the

[4] Note that the Middle District of Florida recently dismissed claims that the Corps failed to consider the effects of the gypstacks on the environment and on public health for the South Pasture Extension (SPE) mine. The Court affirmed the Corps' determination that "the Corps' jurisdiction excludes consideration of phosphogypsum stacks in this instance, that a phosphogypsum stack is 'independent' from the proposed SPE mine, and that the Corps considered the effects of the by-product where required." *See CBD v. Corps, No. 8:17-cv-618, at *9 (M.D. Fla. Dec. 14, 2017) ("CBD v. Corps").* This case is currently on appeal to the U.S. Court of Appeals for the Eleventh Circuit.

	environmental effect and the alleged cause, which is analogous to the familiar doctrine of proximate cause from tort law. Nonetheless, the Corps *did* consider the gypstacks as part of its cumulative effects analysis in the FAEIS. *See* FAEIS at 4-11 to 4-12 ("the AEIS does not study the direct and indirect impacts of fertilizer plants, to include phosphogypsum and phosphogypsum stacks. However, the cumulative impacts of phosphogypsum and phosphogypsum stacks on resources within the geographic and temporal scope of the cumulative impacts analysis are considered within the scope of analysis."). For instance, the groundwater resources cumulative impacts analysis was conducted on a regional level and captured the effects of non-mining activities, such as from the fertilizer processing facilities in areas where Mosaic withdraws groundwater to use at chemical plants. *See* FAEIS at 4-277 to 4-296. Likewise, the surface water hydrology cumulative impacts analysis considered effects of existing non-mining industrial uses, which would include gypstacks, on surface water hydrology. *See* FAEIS 4-249. However, gypstacks were generally found to be too geographically remote to combine with the effects of the Corps permitted work. *See, e.g.,* FAEIS, App. D at D-47 ("water quality effects from chemical plants and gypsum stacks are not relevant to the present applications and offsite alternatives.").
6. The stacks are not in the public interest as they are radioactive and there's no long term solution for what will be done with the 1 billion tons (and growing) of radioactive waste generated by the process. Indeed, the EPA's 2015 settlement agreement with Mosaic, calling for $2 billion to remedy violations with respect to existing phosphogypsum stacks calls into question whether the applicant is fit to continue to put entire communities at risk with its waste production. The consent decree that resulted from the settlement agreement also calls for a Resource Conservation and Recovery Act (RCRA) hazardous waste determination for eight phosphogypsum stacks. If any of the	As noted above in CBD Response I.A.5, the fertilizer plants and gypstacks are independent projects that have operated for years independently of the mines, and they will continue to operate regardless of Ona. Furthermore, those facilities are regulated primarily by USEPA and FDEP. Thus, the issues presented in this comment are not within the purview of the Corps' review process.

phosphate mined from Ona Mine would contribute to one of those stacks, operations must not begin until a RCRA plan is in place. CBD Comments at 6.	
7. The threats these phosphogypsum stacks create for local communities is imminent. On September 15, 2016, news broke that a sinkhole had opened up below and in a phosphogypsum stack at Mosaic's New Wales plant.[5] The sinkhole had allowed at least 215 million gallons of water to pour into the Floridan aquifer. It appears Mosaic knew about the spill and sinkhole for three weeks before the media broke the story (Bernard 2016). This is not the first time a sinkhole has opened up the stacks at this location, with sink holes occurring in 2013, 2004, and 1994.[6] The New Wales phosphogypsum stack is the destination site of the radioactive phosphogypsum that will be generated by the proposed Project. Beyond New Wales, in 2009 a sinkhole at the PCS White Springs facility released more than 90 million gallons of hazardous wastewaters into the Floridan aquifer…. The Corps must take these threats to the region seriously and evaluate them as indirect impacts of authorizing phosphate mining in the region. CBD Comments at 6-7.	The phosphogypsum stacks are independent from the proposed Ona mine. See CBD Response I.A.5. The New Wales plant is not necessarily the destination for the phosphate rock from the proposed Ona project. Nonetheless, Mosaic's current intent to supply phosphate rock to their phosphate production facilities does not refute the independent utility of the production facilities. That mining and ore processing are related to each other does not mean that they lack independent utility. *Sylvester v. U.S. Army Corps of Eng'rs*, 884 F.2d 394, 400 (9th Cir. 1989) ("although each [of two projects] would benefit from the other's presence," they are still independent where "each could exist without the other."). Although the Corps is not required to address New Wales, Mosaic provides the following additional information. The results of nearly 2,000 residential and other well tests continue to show no impact from the sinkhole. Data from Mosaic's onsite monitoring network of 80 wells also indicate that the process water remains onsite and is being effectively recovered by the company. Environmental Consulting & Technology, Inc. (ECT) completed fourth quarter 2017 testing of private residential drinking water wells located within a four mile radius of the sinkhole for those residents who had requested sampling. Well tests were performed in accordance with the Florida Department of Environmental Protection's (FDEP) Consent Order and continue to show no impacts from the sinkhole.

[5] Mellissa Marino, *Mosaic Begins Work on Massive Sinkhole*, Channel 8 News, (Feb. 3, 2017 6:23 PM), http://wfla.com/2017/02/03/mosaic-begins-work-on-massive-polk-sinkhole/.

[6] 2004 Anomaly at 25.

B. The Corps Must Comply with its Mandate to Avoid, Minimize, and Select the Least Environmentally Damaging Alternative Practicable	
1. The Corps does not discuss the public's need to mine phosphate ore or the public's need for the applicant to have a mine in close proximity to its existing beneficiation plant infrastructure, nor does it explain the public's interest in the applicant meeting its desired production output. Since the purpose of the proposed action informs the alternatives analysis, and since the purpose and need statement are not in the public's interest, proper consideration has not been given to alternatives that were not the applicant's preferred alternative, especially the No Action Alternative. The Corps should independently address the purpose and need of the proposed project in its EA to better inform its alternatives analysis. CBD Comments at 10.	The comments incorrectly assert that the Corps has not considered the public's need in developing the statement of purpose and need, and attempts to read in an additional NEPA requirement that the agency's statement of purpose and need must be based on the "public need." This is not required by NEPA or its regulations. *See, e.g.,* 40 C.F.R. § 1502.13. The Corps has thoroughly considered the public need in developing the purpose and need statement for the Ona project. In the FAEIS, the Corps devotes an entire section (over six pages of discussion) of Chapter 1 (Project Purpose and Need) to the public's need for phosphate rock. FAEIS at § 1.2.1. Mosaic's application materials provide an even more extensive discussion of the public need for phosphate rock. *See* Ona Revised Permit Application at 1-5 to 1-13 (Nov. 2016). In sum, phosphorous is an essential element for plant and animal nutrition and is consumed primarily as a principal component of nitrogen-phosphorous-potassium fertilizers. Fertilizers are increasingly important to improve crop yields needed to feed a growing world population. If phosphorous is either lacking or depleted from the soil, it must be added in order to maintain crop health and yields. Phosphate rock minerals are the only significant global resources of phosphorous. As the extensive FAEIS discussion demonstrates, the Corps has adequately considered and discussed the public need in developing its purpose and need statement for the Ona project. Nor is the statement of project purpose flawed for the other reasons that commenters suggest. In developing the statement of purpose and need, the Corps will "… look hard at the factors relevant to the definition of purpose" and "should take into account the needs and goals of the parties involved in the application." *Citizens for Smart Growth v. Sec'y of Dep't of Transp.*, 669 F.3d 1203, 1212 (11th Cir. 2012); *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 199 (D.C. Cir. 1991) ("Congress did expect agencies to consider an applicant's wants when the agency formulates the goals

	of its own proposed action. Congress did not expect agencies to determine for the applicant what the goals of the applicant's proposal should be."). The Corps established the purpose and need in light of the applicant's specific project needs. 33 C.F.R. § 325, App. B. Mosaic is seeking to replace production from the Four Corners and South Fort Meade mines thereby ensuring a long-term supply of phosphate rock to maintain production levels and meet the fertilizer demand of Mosaic's customers. The commenter's assertions rest on the faulty premise that the Corps' statement of project purpose and need is "simply what the applicant wants to mine." Quite the contrary, Mosaic (like most companies) would like to be able to grow its business by expanding its production and sale of phosphate products. However, based on years of discussions with the Corps and efforts to minimize impacts, it has agreed to limit its production to levels it *needs* simply to maintain, rather than grow, current production levels. To independently verify Mosaic's project-specific need statement, the Corps evaluated public 10-K reports for the Four Corners and South Fort Meade mines and overall production information for Mosaic's currently operating mines. Based on these considerations, the Corps considered Mosaic's need for an alternative to yield a total of 6 MTPY for 24 years. Draft EA at 8-9.
2. The applicant has failed to demonstrate that the proposed project is in fact needed, much less that there are no practicable alternatives. … Proposing alternatives that are actually projects slated for another time or have already been approved - like the Wingate East, Pioneer Tract, and Site W-2 - circumvents the purpose of an alternatives analysis, which is to consider other actions. Particularly since the Corps has already approved the Wingate East Mine application. The Corps should consider other	The statement of project purpose and need is appropriate and allows for consideration of reasonable alternatives. The range of alternatives the Corps may consider is limited to those which are "technically and economically practical or feasible," and those that "meet the purpose and need of the proposed action." 33 C.F.R. § 325.1(b); 33 C.F.R. Part 325, App. B. An agency is not required to consider alternatives that would frustrate the very purpose of the project. *Mayo Found. v. Surface Transp. Bd.*, 472 F.3d 545, 550 (8th Cir. 2006). Likewise, under the 404(b)(1) Guidelines, the Corps is to select the least environmentally damaging practicable alternative (LEDPA), and a "practicable"

alternatives that would satisfy the project need, like importing the phosphate ore or using less fertilizer in general. There is consensus that the world's phosphate rock supply is finite and that in order to meet global demand for the agricultural sector, greater recycling of and sustainable use of phosphorus will be necessary (Cordell and White 2013). Proposals that look at non-phosphate rock supply could be examined if the purpose of the Project were more broadly drawn. CBD Comments at 10.	alternative is one that 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) (emphasis added).[7] As explained above, the Corps appropriately defined the project purpose and need for the Ona project and is evaluating the alternatives in light of this project purpose. The Corps' evaluation of the purpose and need allowed consideration of a wide range of reasonable alternatives, including "no action," offsite, and onsite alternatives. The Corps must consider the needs of the applicant in preparing appropriate alternatives. *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997) ("The stated goal of a project necessarily dictates the range of 'reasonable' alternatives . . ."). An alternative that would not allow Mosaic to use its phosphate reserves, and the resources acquired to mine those reserves, in a cost effective manner would be impracticable in light of the project purpose and need. *See Pamlico-Tar River Foundation*, 329 F. Supp. 2d 600, 613 (E.D.N.C. 2004). As explained in Response I.B.1 above, the Corps' analysis considers production of phosphate rock from the Ona project at a level that Mosaic *needs* simply to maintain, rather than grow, current production levels. The Corps' exhaustive consideration of alternatives documented in the FAEIS and draft EA/404(b)(1) Analysis demonstrates that Ona is the LEDPA. In the FAEIS, the Corps independently examined a wide range of alternatives, including parcels not owned by Mosaic, importation of phosphate ore, and mining upland only areas. FAEIS at 2-2. "To provide a robust comparison of alternatives to those preferred by the Applicants, alternative sites in the CFPD, but at locations other than those identified by the Applicants, were identified and evaluated by the [Corps]." FAEIS at 2-9. The extensive screening process for offsite alternatives is described in great detail in the FAEIS, Appendix B. Following each step of the screening process the Corps narrowed the practicable offsite alternatives. For example, after step 2 of the screening process (the GIS analysis) the Corps was left with 39 offsite alternatives.

[7] The Corps' LEDPA analysis is almost identical to that required by NEPA. *See* 40 C.F.R. § 230.10(a)(4) ("analysis of alternatives required for NEPA environmental documents . . . will in most cases provide the information for the evaluation of alternatives under [404(b)(1)] guidelines"); Standard Operating Procedures for the U.S. Army Corps of Engineers Regulatory Program, p. 20 (Jul. 1, 2009) ("Districts should not conduct or document separate alternatives analyses for NEPA and the 404(b)(1) Guidelines.").

	FAEIS at B-18. At the conclusion of the screening process, nine alternatives remained (No Action, Desoto, Ona, Wingate East, South Pasture Extension, Pine Level/Keys Tract, Pioneer, Site A-2, Site W-2). FAEIS at B-50. The draft EA assesses these offsite alternatives, excluding the South Pasture Extension, which is already under development. Draft EA at 9. Thus, the Corps has properly identified and assessed reasonable offsite alternatives to the proposed action. Both the FAEIS and the draft Ona EA/404(b)(1) Guidelines Analysis provides extensive discussion of the modifications that Mosaic has made to the Ona mine plan to avoid and minimize impacts in accordance with the Corps' regulations. In developing the FAEIS, the Corps and EPA developed the Mitigation Framework to outline reasonable alternatives for avoidance, minimization, and compensatory mitigation for the four Preferred Alternatives. The Corps identified priority-based avoidance areas, including perennial and intermittent streams, forested wetlands, and high quality herbaceous wetlands. FAEIS at 5-3. FAEIS Figure 5-3 identifies priority avoidance criteria features on the Ona site. The Corps also determined the extent of onsite avoidance that is practicable under the Section 404(b)(1) Guidelines. The Corps evaluated the practicability and environmental effects of six minimization alternatives for the proposed Ona project, each of which represents a different mine plan for the project. Draft EA at 17-25. Additionally, the Corps evaluated opportunities to further minimize impacts through best management practices and mine design. Mosaic's Preferred Alternative would avoid approximately 30% of the jurisdictional waters of the U.S. on the site, including 46% of the mitigation framework priority wetlands and 84% of the mitigation framework priority streams. *See* Draft EA at 20. This alternative results in an efficient, practicable mine plan that represents the LEDPA.
3. As explained above there are numerous practicable alternatives to the proposed project that would avoid significantly impacting these important resources. Further, there is no evidence that the applicant has	As detailed in the Corps' draft EA/404(b)(1) Analysis, the Ona project is the least environmentally damaging practicable alternative. Consistent with the FAEIS Mitigation Framework, since the June 1, 2012 Public Notice, Mosaic has taken substantial steps to minimize impacts to important environmental resources. Mosaic has:

minimized impacting these resources through project modifications. … CBD Comments at 11.	• decreased proposed impacts to jurisdictional wetlands by 1,188.9 acres; • decreased proposed impacts to jurisdictional streams by 35,964.2 linear feet; • reduced the number of crossings of West Fork Horse Creek from 2 to 1; • increased avoidance of overall impacts by 2,250 acres; • eliminated the on-site beneficiation plant; and • reconfigured the clay settling areas to avoid impacts to aquatic resources. Mosaic has also updated the compensatory mitigation plan to address the Corps' technical review of its proposed UMAM functional analysis, provisions for long-term management of the mitigation areas, and financial assurances for mitigation implementation and long-term management.
4. [CBD presents a number of mitigation studies and argues that greater mitigation ratios are required.] Greater mitigation ratios are required. CBD Comments at 11-13.	Prior to permit issuance, the Corps will ensure that Mosaic's compensatory mitigation plan fully complies with the requirements of the 2008 Compensatory Mitigation Rule, which requires "no net loss" of wetlands—i.e., the applicant is required to offset each acre of affected wetlands by restoring, enhancing, establishing, or preserving an acre of wetlands. Draft EA at 63; *see also* 33 C.F.R. Parts 325 and 332 and 40 C.F.R. Part 230. As noted above, Mosaic's proposed mitigation plan will more than offset the proposed impacts. *See* CBD Response I.A.1. The court recently approved similar mitigation efforts for the SPE Mine. *CBD v. Corps*, at *10 ("By requiring the mitigation of more than twice the acreage affected by the proposed SPE mine, the permit amply satisfies the 'no-net-loss' requirement.").
5. Beyond so-called "white papers" provided by the applicant which appear to be little more than propaganda for the applicant, the AEIS and EA present no information that past reclamation has produced adequate compensation or that future mitigation or reclamation will be adequate to compensate for impacts to wetlands and species'	With respect to reclamation success, Mosaic has provided a comprehensive compensatory mitigation plan that provides details about Mosaic's experience with successful reclamation and mitigation. *See* Appendix 4-6-G "Mitigation Success Data and Adaptive Management." As the district court recently recognized in *CBD v. Corps*, at *11, the documents Mosaic has provided show Mosaic's record of successful mitigation of wetlands impacts.

habitats. However, information to the contrary has been provided by several expert agencies and individuals. For example, USGS critiques the DAEIS for not basing its assumptions about surface and groundwater impacts in logic or science.[8] Likewise, the Florida Association of Mitigation Bankers found that "predicting the post-reclamation hydrology has been a challenge historically"; that "the risk of unsuccessful mitigation on mined site is understated in the Draft AEIS"; and that the analysis "should reflect the issues that have plagued the industry's post-reclamation (on-site) mitigation in the past, rather than optimistic speculation about the ability of new technology to resolve these issues."[9] [Other critiques from the Sarasota County Board of Commissioners and Brian Winchester, President and Technical Director of Winchester Environmental Associates, Inc.] CBD Comments at 13.	The Corps permit for Ona would include required performance standards, or success criteria, for hydrology, water quality, vegetative cover, and other criteria. These standards must be achieved. Moreover, the Long Term Management Plan component of the Compensatory Mitigation Plan will require active management, if necessary, even after the specified performance standards have been achieved to ensure sustainability of the mitigation. Appendix I of the FAEIS and the permit for South Pasture Extension (SAJ-1993-01395) provide examples of ecological performance standards applicable to phosphate mining.
6. While the EA states that the applicant will implement a monitoring program, it does not provide details about that program, other than that the applicant itself will monitor and periodically report to the Corps, allowing the fox to guard the henhouse. CBD Comments at 13.	Consistent with 33 C.F.R. § 332.4(c)(10), Mosaic's compensatory mitigation plan describes the parameters to be monitored in order to determine if the compensatory mitigation is on track to meet performance standards. Data collected will include but not be limited to coverage of desirable plant species and of nuisance/exotic plant species, dominance of plant species, hydrology, and tree health/viability and density. This data, along with observed wildlife usage and overall ecological evaluation, will be included in periodical reports to the Corps to evaluate the status of the mitigation. Mosaic will monitor herbaceous and shrub wetland mitigation areas semi-annually for the first three years and annually thereafter for a total of no less than five years of monitoring, and monitor forested wetland mitigation areas semi-annually for the first 5 years and annually thereafter for a total of no less than 10 years of monitoring. As with the SPE and Wingate East permits, the mitigation plan's monitoring and reporting requirements will be made binding through Ona's permit conditions.

[8] Appendix A to the FAEIS at 361.
[9] Appendix A to the FAEIS at 12.

7. The Corps must seriously consider the concerns of these expert agencies and individuals. It cannot accept the applicant's promises of doing reclamation better in the future than it has done in the past as scientific evidence that promised mitigation in the form of state-mandated reclamation will rise to the task of compensating for the wetlands that will be lost to phosphate mining. CBD Comments at 14.	See CBD Response I.B.5.
8. The Ona Mine is not water dependent, and that the Corps and applicant have not overcome the presumption that a practicable alternative that does not involve a discharge into wetlands exists. CBD Comments at 3.	*See* CBD Response to I.B.2. Based on the Corps' alternatives analysis, the presumptions of available practicable alternatives have been overcome. The Corps' draft alternatives analysis clearly demonstrates that the proposed impacts are the least environmentally damaging practicable alternative and, therefore, can and should be permitted consistent with the 404(b)(1) Guidelines.
II. The Corps Must Comply with the National Environmental Policy Act (NEPA)	
A. The Corps must complete a site-specific Environmental Impact Statement (EIS) before rendering a final permit decision for the Ona Mine	
1. The Corps has predetermined the outcome of its NEPA review. In its EA for Ona Mine, the Corps states that despite the fact that the draft analysis "does not include any of the final determinations" required by the Clean Water Act – because "the Corps cannot make such determination until the conclusion of the permit application review process" that those conclusions will be published in the record of decision and statement of findings (RODSOF) (as opposed to a FONSI or determination that an EIS is needed), and that the Corps plans to adopt the Final	The Corps has not predetermined the outcome of its NEPA review. As with the SPE and Wingate East permits, the Corps will issue a project-specific ROD for Ona once it has considered the public comments received on the supplemental Ona public notice. The Ona ROD will constitute the Corps' final decision for the Ona project.[10] In August 2009, the Corps determined that preparation of an EIS was warranted because pending and anticipated "phosphate mining applications are actions that are closely related, have cumulatively significant impacts, share common timing (under review at the same time), and share similar geography." *Id.* Specifically, the Corps stated that "[p]ending permit applications to mine phosphate that share similarities are the major federal actions to be reviewed by the AEIS." *Id.*

[10] Note that the district court recently approved the same approach for the SPE mine in *CBD v. Corps*.

EIS and this EA in the RODSOF. CBD Comments at 16.	The FAEIS "constitutes the project-specific NEPA analysis for the four similar permit applications." FAEIS at 1-34. Culminating in development and publication of the FAEIS, the Corps conducted a comprehensive review of four similar, specific projects with pending applications at the same time, for the specific purpose of assessing the direct, secondary and cumulative impacts of those four specific projects, as well as those anticipated phosphate mining projects that were reasonably foreseeable. FAEIS at 1-33. The FAEIS provided detailed, site-specific analysis of the degree and significance of direct and indirect impacts of each of the four projects on affected resources. For each such category, the Corps analyzed the impacts specifically attributable to Ona. FAEIS at 4-221-30. The Corps then analyzed the cumulative impacts of the proposed mines when added to other past, present, and reasonably foreseeable future actions. FAEIS at 4-231 to 4-313. After the FAEIS, Mosaic reduced the proposed impacts from the Ona mine, and on that basis Mosaic submitted revised Ona application materials. The Corps reviewed this additional information and, consistent with the FAEIS, the Corps has conducted a draft public interest review and CWA Section 404(b)(1) analysis for Ona, final versions of which will be included in the project-specific record of decision-statements of findings (RODSOF) for the Ona project. An additional site-specific EIS for the Ona project – in addition to the FAEIS and EA (and ROD that will be issued) – is neither required nor appropriate. With the Draft Ona EA/404(b)(1) Analysis, the Corps has reviewed and evaluated additional/revised application information submitted by Mosaic to assess whether the Ona project would have new significant impact that was not already considered and addressed in the FAEIS. The foregoing project refinements, supplemental information, and analyses have the overall effect of reducing project impacts as compared to the Ona proposal considered in the FAEIS. After consideration of public comments received on the Ona project and this additional information, the Corps will provide its final determinations in the Ona project-specific RODSOF.

2. The FAEIS does not alone satisfy NEPA requirements for individual projects within its scope. CEQ regulations indicate when tiering from a broader environmental impact statement to a subsequent narrower statement is appropriate, and specifically give the example of a regional or basinwide program statement and the ultimate site-specific statements.[11] Manifesting this intent, the EA incorporates by reference the FAEIS and provides no further discussion of the Ona Mine's impacts. CBD Comments at 17.	*See* CBD Response II.A.1. In compliance with NEPA requirements, the FAEIS contains a site-specific analysis of the Ona project's environmental impacts. The district court recently upheld the Corps' approach and confirmed that the FAEIS constitutes the project-specific review for the four projects contained therein. *See CBD v. Corps*, at *4-5. The FAEIS evaluates the direct, indirect, and cumulative effects of each of the four specific projects individually, including Ona. The Corps performed a detailed study of each mine project. Consistent with the CEQ regulations, the FAEIS identifies and addresses impacts which were not considered significant and, therefore, were not carried forward for more in depth analysis in the FAEIS. FAEIS at 4-5. For the other environmental resource categories, the FAEIS provides a more detailed, site-specific analysis of each of the four mining projects, including Ona, to determine the degree and significance of effects. In addition, the FAEIS evaluated the degrees of direct and indirect effects of the specific Ona project on the resource categories that were analyzed in more depth. FAEIS at 4-221-30. NEPA also requires federal agencies to analyze the action's cumulative impacts on the environment. 40 C.F.R. § 1508.7. Consistent with this requirement, for each of the environmental resource categories, the FAEIS describes in detail the impacts on the environment which would result from the incremental impact of the four proposed mines when added to other past, present, and reasonably foreseeable future actions. FAEIS at 4-231.
3. Reclamation has not been proven to provide the same ecosystem benefits as restoration. [CBD then cites a few reclamation, water quality, and CSA studies] CBD Comments at 17-18	See CBD Response I.B.5.
4. During the Planning Commission meeting August 18, 2016, a representative of the applicant, Shannon Gonzalez of Flatwoods Consulting Group hired by Mosaic, stated that there was peer reviewed scientific information indicating that reclaimed lands provide	The three-year study initiated in 2004 was commissioned by the Florida Institute of Phosphate Research (FIPR) and performed by Biological Research Associates and the University of South Florida to conduct a wildlife habitat and wildlife utilization study of lands mined for phosphate in the Bone Valley region of Florida. The 62 study sites were comprised of 24 upland, 18 wetland and 20 mixed sites. The presence and relative

[11] 40 C.F.R. § 1508.28.

the ecosystem benefits promised. This individual referenced, but did not offer into evidence, an unnamed 2008 report by the Florida Institute of Phosphate Research (FIPR). The 2008 study co-authored by Shannon Gonzalez, commissioned by FIPR, reviewed 62 mined lands comprised of 24 upland, 18 wetland, and 20 mixed sites and found five classes of vertebrates, including 299 individual species (BRA 2008). The report did not however, rate how well the reclaimed areas faired using any metric. CBD Comments at 18.	abundance of vertebrates (mammals, birds, reptiles, amphibians, and freshwater fishes) at each site were documented by using a variety of techniques including herp arrays, frogloggers, aquatic traps, fish sampling, Sherman traps, ANABAT units, bird surveys, and pedestrian transects. A total of 299 vertebrate species was recorded from the 62 sites. Mixed sites tended to have the highest number of species, followed by wetland sites and upland sites, respectively. Species richness ranged from 22 to 127 species per site. The report found that the "[n]umbers of plant species increased with time since reclamation. Older reclaimed sites tended to support a more diverse flora, with taller vegetation and greater canopy cover than sites reclaimed later." FIPR at 47. Also, "[s]tudy sites located in areas that provided a mixture of uplands and wetlands supported higher species richness than wetlands or uplands alone, reflecting an increase in habitat heterogeneity." *Id.* Based on these and other findings a series of recommendations were developed covering landscape-scale and site-specific concerns, as well as maintenance and monitoring goals. Mosaic's mitigation and reclamation plan for the Ona mine are consistent with these recommendations.
5. Neither Chapter 4 of the FEIS, nor the EA by incorporating the FEIS, specifically discuss site-specific secondary effects caused by the Ona Mine. The purpose of an areawide impact statement is to facilitate the evaluation of cumulative impacts, and should not be a shortcut designed to eliminate in-depth, site-specific scientific evaluation of direct and secondary impacts for each permitted project. CBD Comments at 18.	See CBD Response II.A.2. As stated in Section 4.1 of the FAEIS, the evaluations of impacts described in the FAEIS included both direct and indirect, or secondary, impacts. Chapter 4 of the FAEIS provides detailed analysis of the secondary effects of the Ona project. Changes to the Ona project, which are considered by the Corps in the Ona Draft EA, do not alter the secondary effects determinations made in the FAEIS. The FAEIS constitutes the project-specific NEPA analysis for the Ona mine.
B. The Corps cannot issue a Finding of No Significant Impact (FONSI)	
1. The Project meets several of the significance factors warranting an EIS. CBD Comments at 18.	The FAEIS constitutes the project-specific NEPA analysis for the Ona mine. See CBD Response II.A.1. The function of the EA was to provide information on the changes to the proposed Ona project that have occurred since the Final EIS and consider any potential impacts associated with such changes. Draft EA at 1. The Corps determined

	that "the project changes, including reductions in mined area, impacts to aquatic resources, and mining duration, should lead to reduced degrees of effect on listed species, environmental justice, radiation, cultural and historic resources, and surficial geology and soils." Draft EA at 28. Accordingly, no significant impacts are expected beyond the effects considered in the FAEIS.
2. The proposed action may affect public health or safety…Also submitted to the Corps via public comments on its DEIS, members of the public adjacent to mine sites cite loss of springs and ecosystem benefits of wetlands that were destroyed and/or moved by mining practices.[12] Likewise, neighboring property owners have complained of fugitive dust. In addition, once the land has been used for phosphate mining, the land can no longer be used for economic development such as agriculture, commercial or residential uses. CBD Comments at 20.	The FAEIS constitutes the project-specific NEPA analysis for the Ona mine. See also CBD Responses II.A.1 and II.B.1. Section 4.1.8.1 of the FAEIS addresses fugitive dust. That section describes the best management practice of watering down roads within the mine to reduce fugitive dust and protect air quality. In Section 4.8 of the FAEIS, the Corps evaluated the potential radiation effects of the Ona mine. The FAEIS concluded that, with mitigation, the Ona Mine will either have no or minor direct or indirect effects related to radiation. FAEIS at 4-203. In the Draft EA, the Corps determined that no updates to the FAEIS radiation analysis was necessary based on the Ona project changes. Draft EA at 28.
3. This risks associated with gypstacks are significant. CBD Comments at 20-23.	The FAEIS constitutes the project-specific NEPA analysis for the Ona mine. See also CBD Responses I.A.5 and II.B.1. No significant impacts are expected beyond the effects considered in the FAEIS.
4. The land has characteristics that are unique, including wetlands, particularly riparian forests. The proposed alternative will impact over 553 acres of Corps' wetlands. The wetlands and adjacent lands support a host of imperiled and iconic species including wood stork, eastern indigo snake, crested caracara, Florida scrub jay, bald eagle, gopher tortoise, Florida pine snake, gopher frog, Florida sandhill crane, Sherman's fox squirrel, Florida burrowing owl, southeastern American kestrel, Florida mouse, snowy egret, little blue heron, tricolor	The FAEIS constitutes the project-specific NEPA analysis for the Ona mine. See CBD Responses II.A.1 and II.B.1. The impacts to wetlands and/or riparian forests were addressed in the FAEIS. Section 4.4.4 of the FAEIS describes the predicted effects of the Ona mine on surface water quality. FAEIS at 4-120-21. As stated there, Ona will have a minor to moderate degree of effect. Discharges from the mine will need to comply with both a Section 401 water quality certification (FDEP ERP) and a Section 402 NPDES permit (also issued by FDEP). Changes to the Ona project do not alter surface water quality determinations made in the FAEIS. Section 4.4 and Appendix D of the FAEIS describe the surface water quality monitoring, including aquatic biological monitoring, associated with existing phosphate mines, and reasonably expected to be required for proposed mines, including the Ona mine.

[12] DAIS at Chp. 1 p. 39.

heron, white ibis, and American alligator. CBD Comments at 23.	
5. The effects on the quality of the human environment are likely to be highly controversial. The Corps has already received thousands of comment letters from concerned and impacted citizens of Florida.[13] Furthermore, the byproduct of the process the Corps is considering permitting is radioactive, with no real solution for permanent storage. These two factors alone warrant an Environmental Impact Statement and make a FONSI a factual and legal impossibility. CBD Comments at 24.	The FAEIS constitutes the project-specific NEPA analysis for the Ona mine. See also CBD Responses II.A.1 and II.B.1. No significant impacts are expected beyond the effects considered in the FAEIS.
6. The action is related to other actions with individually insignificant but cumulatively significant impacts. The FEIS details, and the Corps is currently considering, associated projects that cumulatively have significant impacts. CBD Comments at 24.	The FAEIS constitutes the project-specific NEPA analysis for the Ona mine. See CBD Responses II.A.1 and II.B.1. The FAEIS considered the cumulative impacts of the four projects and other reasonably foreseeable actions. *See* AEIS § 4.12. No significant impacts are expected beyond the effects considered in the FAEIS.
III. The Corps and U.S. Fish and Wildlife Service must comply with the Endangered Species Act (ESA)	
A. The Service and Corps Must Evaluate Impacts of Ona Mine on Listed Species	
1. The Service must consider the cumulative effect of Desoto, Wingate East, and South Pasture Mine mines on the species and their habitat at Ona Mine. CBD Comments at 26.	By letter dated August 1, 2012, the Corps requested initiation of formal consultation with the U.S. Fish and Wildlife Service (FWS or Service) for the eastern indigo snake, the caracara, and the wood stork, and concurrence with its effect determinations for the grasshopper sparrow, panther, and scrub jay. The Service is currently preparing a biological opinion for the project site. The biological opinion will consider "cumulative effects" as appropriate. "Cumulative effects" is defined for purposes of ESA Section 7 consultation as "those effects of future State or private activities, not

[13] AEIS at Chp. 1 p. 43-46; Manatee County Public Comments 1-7.

	involving Federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation." 50 C.F.R. § 402.02.
2. The applicant must provide with sufficient specificity what effect the permanent loss of the original habitat will have, or the effect the modified (so-called "reclaimed") land will have after it is finally "reclaimed" many years after it is destroyed. CBD Comments at 28.	Prior to mining, 5,755.4 acres including onsite preservation of 1,483.8 acres of wetlands, 120,855.65 linear feet of streams, and 2,192.9 acres of adjacent native habitat upland buffers, and Offsite Horse Creek-Payne Creek Preservation Sites, Offsite Payne Creek Connector Preservation Site, Offsite Peace River North Preservation Site, Offsite Peace River South Preservation Site, Offsite West Fork Horse Creek Preservation Site that will not be disturbed and will be placed under CE protection prior to mining providing an immediate ecosystem benefit. The proposed project will cause the short-term disruption of the existing, altered ecosystem within limited portions of the site as the mining proceeds over the life of the mine. Mining occurs in a rolling manner and not all the area within the mine footprint is mined at once. As mining moves from one cell to the next, reclamation will typically begin on the prior cell. Moreover, the mitigation plan is designed to offset impacts not just in the long run, but on a temporal basis by providing upfront mitigation at the time or in advance of impacts. Successful implementation of the proposed reclamation plan and compensatory mitigation plans will also result in substantial long term benefits through the reclamation of native habitat and mitigation of aquatic resources. As indicated previously, much of the site has been altered from its native habitat and converted to improved pasture. These historic alterations tend to fragment habitat and isolate wildlife populations. The reclamation plan and compensatory mitigation proposed will improve overall habitat value by consolidating and returning native habitats around the preserved wildlife corridors. This will increase the value of onsite habitat and promote wildlife movements through a series of connected corridors.[14] One measure of past and present effects of mining on land is the characterization of the amount of land mined and then reclaimed in accordance with state regulations. After mining physically disrupts the land surface, reclamation standards for phosphate lands

[14] Note that in *CBD v. Corps*, at *13-14, the district court determined that it was reasonable for FWS to consider proposed impacts at SPE to be both temporary and sufficient because FWS determined that "Mosaic's reclamation efforts would adequately restore the affected land (and in some instances, would improve the land's suitability for habitation by a threatened or endangered species)." The same is true for the proposed Ona mine.

	under Chapter 62C-16, F.A.C., require contouring to safe slopes, providing for acceptable water quality and quantity, revegetation, and the return of wetlands and streams to pre-mining type, nature, function, and acreage. FAEIS at 4-249. Chapter 62-16, F.A.C. also requires revegetation of the reclaimed landscape "recognize the requirements for appropriate habitat for fish and wildlife." Figure 4-24 shows a summary of acreage within the CFPD of historical phosphate mines that have been mined but not reclaimed or mitigated (Past Mines) as well as the reclamation status of current operating mines (Present Mines), the four mines described in the FAEIS (Applicants' Preferred Alternatives), and the two foreseeable future mines (Reasonably Foreseeable Future Mines). This figure demonstrates that over time the overall quantity of unreclaimed land steadily decreases as Mosaic continues to reclaim past and present mine sites. The draft EA updates Figure 4-24. In addition, Mosaic provided in its application to the Corps comprehensive documentation addressing the reclamation schedule and the anticipated status of the post-reclamation topography, wetlands, soils, and streams. The application also included maps depicting the status of these resources following reclamation.
3. **Florida Panther:** The Project will negatively impact the recovery of the panther, whose greatest threats are habitat destruction and fragmentation. The Service's analysis of the environmental baseline will need to: 1) take into account the fact that there is currently not enough habitat available to support the existing panther population; and 2) analyze the impact of other projects in the area. CBD Comments at 29.	No confirmed panther sightings have been reported on the site, and no tracks have been observed during multiple general wildlife surveys conducted on the site during the past 13 years. 2017 BA at 5-2. In 1998, radio telemetry data showed a transient male in the region, but not onsite. *Id.* In early 2004, a single unconfirmed sighting of a large cat was reported to FWS. However, no scat or panther tracks were documented, and this sighting was never confirmed. *Id.* Also, the project site is not located within the FWS Panther Focus Area. *Id.* Thus, there are no anticipated direct, indirect or cumulative impacts to the Florida panther. *Id*. at 5-3. The Corps concluded in the 2017 BA that the Ona project is not likely to adversely affect the Florida panther. *Id.* The project will in fact promote any future panther dispersal in the region by preserving, enhancing, and reclaiming native riparian corridors on the site. These corridors will be permanently protected by conservation easement and managed in perpetuity. The Panther Recovery Plan recognizes the need for "protection from development to provide a corridor to facilitate dispersal from south Florida to potentially suitable habitat north of the Caloosahatchee River." In addition, one of the stated recovery objectives in The Panther Recovery Plan is to "prevent habitat fragmentation, promote connectivity…" The provision of dispersal corridors at the site protected with a

	conservation easement will promote panther movements as recommended in the Panther Recovery Plan.
4. **Wood stork:** The Service will need to calculate the loss of wetlands and other surface waters (jurisdictional and non-jurisdictional) that will result from the project and the effect that will have on the wood stork. …The Project would impact 533 acres of Corps jurisdictional wetlands that likely provide foraging habitat for the wood stork. Nothing in the 2012 statement indicates that a temporary loss is not a take under the ESA. Furthermore, nothing in the 2012 statement demonstrates that the land will be reclaimed adequately and prey base restored, by for example, comparing to other reclaimed lands. The 2012 statement does not look at take from vehicle collision over the course of the Project, or the loss or reduction of foraging habitat. The Service and Corps must consider all of these factors during Section 7 consultation. CBD Comments at 30-31.	Based on the review of the status of the wood stork, the environmental baseline for the action area, the effects of Mosaic's Proposed Action and the cumulative effects, the development of the Ona Mine project, as proposed, is not likely to adversely affect the wood stork. 2017 BA at 4-66. The facts supporting a not likely to adversely affect determination include: • A portion of the Ona Mine is located within the 18.6 mile Core Foraging Area (CFA) of the El Claire Ranch wood stork Colony (Colony No. 616016). The project is not within any primary or secondary buffer zones. • Mosaic's state mitigation plan will provide compensation for isolated wetlands not under Corps jurisdiction; • Prior to construction, hydroperiod modeling will be conducted to confirm wetland elevations, outfall elevations, slopes, and subsurface lithology. The resulting reclamation wetlands will have similar hydoperiods and improved foraging prey base for wood storks. • Mosaic's Proposed Action includes mitigation within and beyond the CFA of Colony no. 616016. The mitigation consists of re-establishment of wetlands matching the hydroperiods of the wetlands to be impacted, and provides foraging values higher than that of the wetlands to be impacted; and the temporary prey base loss will be mitigated by type-for type wetland reclamation t greater than 1:1 ratio resulting in an overall increase in prey biomass for both short hydroperiod wetlands and long hydroperiod wetlands. • Mosaic's Proposed Action includes advanced or concurrent mitigation at offsite locations to increase foraging values with the CFA of Colony no. 616016, along with five other colony sites. *See* 2017 BA at 4-67.

	Moreover, in response to similar arguments regarding the characterization of habitat impacts as "temporary," the district court recently determined that it was reasonable for FWS to consider proposed impacts at SPE mine to be temporary because FWS determined that "Mosaic's reclamation efforts would adequately restore the affected land (and in some instances, would improve the land's suitability for habitation by a threatened or endangered species)." *CBD v. Corps*, at *13-14. The same is true for the proposed Ona mine.
5. **Audubon's crested caracara:** The 2012 statement does not evaluate the direct effects from the Project including mortality from vehicular traffic, harassment, and missed foraging and breeding opportunities; and that the indirect effects include post-construction maintenance. The Service and Corps will need to consider these impacts during Section 7 consultation. CBD Comments at 32.	The 2017 BA addresses these potential effects on the caracara. *See* 2017 BA at 4-15 to 4-16 (vehicular traffic), 4-25 (harassment), 4-16 to 4-20 (foraging and breeding), 4-21 (post-construction maintenance). The BA requests the following authorization for incidental take: (i) the incidental take of caracara foraging habitat, caracaras, caracara nests, including their eggs and offspring in the action area, and (ii) the incidental take of individuals caused by a project-related vehicle collision on SR 64 and CR 663 in the action area. *Id.* at 4-26. Following mining and reclamation, it is expected that caracaras will use the project site in a similar fashion to baseline conditions, potentially with greater productivity based on improved conditions. *Id.* While the Ona project may affect up to two breeding pairs currently nesting within or near the action area, based on the very limited and temporary nature of the impacts, the project is not likely to jeopardize the continued existence of the northern crested caracara species. *Id.* The following reasons support this finding: • Mining disturbance would be temporary and gradual, with less than 56% of the mine disturbed at any given time. *Id.* The two onsite breeding pairs have nested near the boundary of Mosaic's future Pioneer and West Pioneer mine sites, where suitable habitat exists to the south and west of the Ona Mine and current land management practices will continue. *Id.* • The nesting and breeding history of the pair located on the adjacent SPE property is indicative of caracaras behavior when mining is occurring on adjacent lands. *Id.* There, the pair moved away from the advancing mining activities, but remained onsite in a new adjacent territory. *Id.* No evidence of reduced reproduction or territorial disputes between breeding pairs occurred following this relocation. *Id.* Similarly, mining on the Manson Jenkins tract

	located adjacent to the Ona Mine did not cause another breeding pair to abandon a nest located within one mile of the mine. *Id.* at 4-26 to 4-27. The presence of these two breeding pairs within the vicinity of active mining operations provides evidence that ongoing mining nearby does not preclude caracara breeding, and would not result in the extirpation of the local population. *Id.* at 4-27.
6. The proposed mine extension will affect many of the unique and sensitive reptiles and amphibians on the mining site and in the surrounding areas. The Project will destroy important habitats and microhabitat features, degrade and fragment the mining site and surrounding land, and disrupt essential species behaviors. Several rare and imperiled species have ranges that overlap with the proposed mine extension and will be harmed by mining activities. The proposed mine extension will detrimentally and irreparably harm the native herpetofauna by destroying their natural habitat during the mining process, degrading and fragmenting surrounding habitat, and disturbing the species' essential feeding, breeding, and sheltering behaviors. For reptiles and amphibians, which are tremendously sensitive to environmental change due to their biology and natural history traits, these changes can be devastating. CBD Comments at 32.	*With regard to herpetofaunal species, although the gopher tortoise is listed as a candidate species in Florida, the law does not require the Service to evaluate impacts to candidate species or include them in Section 7 consultation. See 50 C.F.R. § 424.15 ("[N]one of the substantive or procedural provisions of the Act apply to a species that is designated as a candidate for listing."); see also Section 7 Consultation Handbook at 1-5-6, 6-1.* The provisions that CBD points to in the Consultation handbook apply for intra-service consultations and conferences. For the Ona project, FWS is consulting with the Corps. It is not intra-service consultation. Moreover, the conference requirements CBD references apply to proposed species or proposed critical habitat. *See* 50 C.F.R. § 402.10. FWS has not proposed to list the eastern gopher frog. *See* https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=C044. 50 § , which applies to interagency consultations,, only proposed species or proposed critical habitat *Under Florida law, gopher tortoises will be relocated along with any commensal species found onsite. Florida Fish and Wildlife Conservation Commission (FWC) has developed a set of extensive permitting guidelines and permitting system that was specifically designed to meet the goals in FWC's Gopher Tortoise Management Plan. The main goal of the management plan is to restore and maintain secure, viable populations of tortoises. The specific objectives of the management plan are:* • *Minimize the loss of tortoises* • *Increase and improve tortoise habitat* • *Enhance and restore tortoise populations* • *Maintain the tortoise's function as a keystone species* *The permitting system was designed to accomplish all of the above goals by providing for the management of tortoise habitat for tortoises, commensals, providing for the responsible relocation and restocking of tortoises to protected, managed lands, and*

	providing a permitting system with regulation and sufficient enforcement to ensure compliance. See Gopher Tortoise Permitting Guidelines, April 2008 (Revised January 2017) 1 *In December 2012, Mosaic signed a Memorandum of Agreement with FWC addressing Gopher Tortoises on Mosaic land for the next 30 years of mining activity. Mosaic has secured the first 5-year relocation permit involving various donor sites, and long-term protected recipient sites on reclaimed Mosaic lands and third-party long-term protected recipient sites.* *Mosaic will complete pre-clearing surveys for each mining unit in advance of clearing to document gopher tortoise abundance and presence of indigo snakes. Reports of each survey will be provided to FWC and FWS. 2017 BA at 4-85. Mosaic will relocate gopher tortoises and all commensal species to suitable onsite or offsite areas in accordance with the mine-wide relocation permit. Id. at 4-86.* *Priority gopher tortoise commensals encountered during gopher tortoise relocation efforts at Ona will be managed according to Interim FWC Policy on the Relocation of Priority Commensals within the Gopher Tortoise Permitting Guidelines (revised April 2013) until approved management plans for these species are developed, at which time management of these species will follow the new FWC Guidelines. With regard to reptiles, the Corps found that the project may affect the threatened eastern indigo snake. The forthcoming biological opinion will consider the Ona project's effects on the eastern indigo snake. Mosaic will implement the Standard Protection Measures for the Eastern Indigo Snake (FWS 2013). Id.* See CBD Response III.A.10.
7. During the mining process, the loud noise and vibrations caused by the mining activities will likely interrupt essential amphibian and reptilian behaviors at the Project site and for great distances in the surrounding areas. …Likewise, vibrations and sounds may frighten or harass nearby reptiles and amphibians, causing them to travel out of their way to	See CBD Response III.A.6. Impacts to the relevant listed species will be evaluated by the Service during ESA Section 7 consultation.

avoid the Project area, and thus disrupting their normal movement patterns as they seek out food and mates…. The Project will also destroy, degrade, and fragment suitable habitat the native herpetofauna relies on for survival. CBD Comments at 33.	
8. Because the phosphate mining operations will completely destroy any thermal resources on the Ona site, native reptiles and amphibians that are not buried or killed on site will have to travel great distances and expend enormous energy to seek out new thermal resources. This will disrupt their mating behaviors and subject them to increased predation as they travel in the open. It is also possible that smaller, slower, and weaker species will die from overheating or starvation before they find new habitat. Even after mining activity is complete and the land is "reclaimed," the new landscape likely will not meet the needs of the varied herpetofauna that rely on it. Reclamation is not the same as habitat restoration, and there is no guarantee that the reclaimed land will have the same attributes it had before mining activity commenced, many of which are necessary to the viability of native reptiles and amphibians in the area. CBD Comments at 34.	See CBD Response III.A.6. Impacts to the relevant listed species will be evaluated by the Service during ESA Section 7 consultation.
9. **Gopher tortoise:** Intraservice consultation and conference must consider effects on listed, proposed, and candidate species.[15] "Candidate species are treated as if they are proposed for listing for purposes of conducting internal FWS conferencing." Therefore,	See CBD Response III.A.6.

[15] Consultation Handbook at 1-5.

must consider impacts to the gopher tortoise during consultation. CBD Comments at 37-38.	
10. **Gopher frog:** Intraservice consultation and conference must consider effects on listed, proposed, and candidate species.[16] Therefore, the Service must consider impacts to the gopher frog during consultation. The Service should consider the effects of habitat destruction, degradation, and fragmentation on the gopher frog when considering the impacts of the Project. Specifically, it should consider how mining activities will destroy existing wetland and upland habitat, degrade surrounding habitat, and prevent movement between isolated habitat fragments surrounding the Project area. Likewise, the Service should take microhabitat into account—specifically, the need for shallow, fishless, ephemeral wetlands for mating, as well as dry, sandy gopher tortoise burrows in the uplands for shelter. The Service should also consider how the Project's impacts will exacerbate the effects of climate change on the gopher frog. The applicant must provide substantial and competent evidence proving that the Project is not incompatible with the gopher frog or its habitat needs. CBD Comments at 40.	The Service is not required to evaluate impacts to candidate species or include them in Section 7 consultation. See CBD Response III.A.6.
11. **Eastern diamondback rattlesnake:** Intraservice consultation and conference must consider effects on listed, proposed, and candidate species.[17] Therefore, the Service must consider impacts to the eastern diamondback rattlesnake during consultation. The Service should closely study the Project's potential	The Service is not required to evaluate impacts to candidate species or include them in Section 7 consultation. See CBD Response III.A.6. Nor is the species listed by the State of Florida. Regardless, because this species is classified as a gopher tortoise commensal species, the eastern diamondback rattlesnake

[16] Handbook at 1-5.
[17] Consultation Handbook at 1-5.

impacts on the eastern diamondback rattlesnake, precisely estimate take associated with the project, and carefully consider more robust conservation measures than currently proposed in the plan, favoring use of avoidance measures over minimization or mitigation. CBD Comments at 41.	will benefit from the actions proposed by Mosaic to protect gopher tortoises and their commensals and restore gopher tortoise habitat.
12. **American alligator:** The Service and Corps must evaluate the effect the clay pits and loss of habitat will have on alligators. CBD Comments at 42.	The American alligator is currently listed by FWS and FWC as threatened by similarity of appearance to the federally endangered American crocodile. A species that is listed as threatened due to similarity of appearance is not subject to ESA section 7 consultation. *See* https://www.fws.gov/endangered/what-we-do/faq.html#17 ("Federal agencies are not responsible for fulfilling the requirements of section 7 with respect to actions that may affect species protected due to similarity of appearance"). Nonetheless, there are no anticipated direct, indirect, or cumulative impacts to the American alligator. As such, the Service and the Corps are not required to evaluate the effect of the clay settling areas on alligators.
13. **Florida manatee:** Consultation documents for Wingate East Mine, Ona Mine, and DeSoto Mine also fail to mention or discuss impacts to manatees in any manner. The FAEIS likewise fails to address impacts to manatees. In its discussion of Charlotte Harbor, the Corps acknowledges that Florida manatees occur in the estuary but does not discuss impacts to manatees specifically.[18] CBD Comments at 46.	The Corps received notice on October 6, 2017, that manatees were sighted in Horse Creek, south of the Ona project site. On November 27, 2017, the Corps prepared a Memorandum for the Record (MFR) (Attachment C to the draft EA) documenting its determination that the proposed Ona project would have 'no effect' on the manatee and provided a copy of the MFR to FWS.
B. The Corps and Service must evaluate population growth and other nearby development	
1. The Corps must consider the synergistic and cumulative effects of these planned nearby projects, along with all past land use projects. The Ona Mine is	See CBD Responses II.A.2 and III.A.1.

[18] FAEIS at 3-116 through 3-117.

only one of several phosphate mines in the region that will impact listed species. The EA fails to consider the DeSoto, South Pasture Extension, and other alternative mines' impacts on species at the Ona Mine site. For example the South Pasture Extension Mine will impact 1,218 acres of wetlands,[19] the Ona Mine will impact 7,615 acres of wetlands,[20] and the DeSoto mine will impact 3,253 acres of wetlands.[21] The Corps must consider the cumulative impacts from all four mines on the environment. CBD Comments at 47.	
C. The Corps and Service must evaluate climate change	
1. The Corps and Service must consider the loss of habitat sea-level rise and climate change will cause and the pressure that will place on human and non-human populations and habitat, and how that will be effected by the Project. CBD Comments at 49.	The FAEIS provides a thorough assessment of the potential impact of climate change and sea level rise. The FAEIS relies on the 2010 CEQ guidance on climate change to conclude that because there is no expectation that any or all of the four proposed mines would emit a significant level of greenhouse gases (GHG) as identified in the guidance (25,000 metric tons of CO2), the impact of the proposed mines would not be significant. FAEIS at 4-7; CEQ, Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions (Feb. 18, 2010). The FAEIS determined that no significant change in climate or sea level rise is expected from continued mining, and that climate change and sea level rise should not adversely impact mining operations. *Id.* In addition, the Service will consider the effects of the Ona project in the section 7 consultation and resulting biological opinion.

[19] AEIS at Chp. 1 p 26.
[20] *Id.*
[21] *Id.* at p. 23.

ManaSota-88	
I. General Comments	
1. To encourage the continued, rapid depletion of this essential non-renewable resource will not only result in serious economic and national security problems for the United States, it will leave Florida with perhaps centuries of costly water, air and land clean-up ahead of it that will far exceed whatever short-term profits and other indirect economic benefits of the industry there might be. Manasota-88 Comments at 1.	See CBD Response I.A.1.
2. ManaSota-88 and its members will be substantially and adversely affected by issuance of this permit as the conditions and activity which will result if the permit is approved, including by water pollution (such as from mining water run-off, unreclaimed or untreated wastewater, mining byproducts and chemicals used therein), air pollution (from the dirtying and fouling of air from large mining and earthmoving heavy equipment and fumes), noise pollution (from noise by large mining and earthmoving equipment, including at late and very early hours), degradation of the water quality of surface and ground waters, long-term degradation or destruction of natural habitat for wildlife which members of ManaSota-88 enjoy and value observing, and by those consequences and others will have a substantial and adverse effect on the property values of ManaSota-88 and its members and on the quality of life of its members. Manasota-88 Comments at 1-2.	The Corps has conducted a comprehensive public interest review and CWA Section 404(b)(1) analysis for Ona weighing each of the public interest factors listed in 33 C.F.R. § 320.4. *See* Draft EA, § 7. While not required by regulation, the Corps also took the extra step of publishing a draft public interest analysis and taking public comments on the draft. See CBD Response I.A.1.

3. The permit approval being sought will have the effect of impairing, polluting, or otherwise injuring the air, water or other natural resources of the State of Florida, directly, and cumulatively, by degrading the water quality of surface and ground waters, adversely affecting wildlife habitat, and otherwise. Manasota-88 Comments at 2.	See CBD Response II.A.1. and II.A.2. In addition, the data does not indicate degradation of water quality. Using data from the 2014 Horse Creek Stewardship Program Annual Report, the Corps updated Figure 4-16, showing the locations of the biological monitoring stations; Figure 4-17, with Stream Condition Index (SCI scores) shown through November 2014; and Figure 4-18, with fish community assessment results shown through November 2014. The updated figures are included in Attachment B to the Draft EA. The updated results show that stations HCSW-1 (the most upstream station) and HCSW-4 (the most downstream) continue to have scores in the 'healthy' range (between 40 and 67, as described in Section 3.3.4.2 of the FAEIS), and station HCSW-2 continues to frequently score as 'impaired', due to natural conditions. The Corps notes that although the FAEIS describes HCSW-3 as having variable scores (impaired to healthy), the updated results show that station as scoring consistently 'healthy' or even 'exceptional.' Numeric nutrient criteria for streams and lakes went into effect on October 27, 2014. Mosaic will work with FDEP to ensure that new and renewed permitted discharges comply with these criteria in accordance with FDEP rules, including the numeric nutrient criteria. Draft EA at 31.
4. The direct impacts of Mosaic Fertilizer, LLC. (Applicant) proposed phosphate mining and associated activities will result in unpermittable adverse impacts which will violate water quality standards and will be contrary to the public interest. Such direct impacts include but are not limited to alterations in the primary productivity and organic matter processing within the downstream areas of the Peace and Myakka Rivers that will temporarily and permanently affect the food chain within the Peace and Myakka Rivers, will likely result in significant levels of pollution to the Peace and Myakka Rivers;	Section 4.2.3 of the FAEIS described the predicted effects of the proposed Ona project on surface water flows within the Upper Myakka River, Horse Creek, and the Peace River. The FAEIS stated that the project will have an insubstantial effect on the Upper Myakka, minor to no effect on the Peace River, and a potentially moderate effect on Horse Creek. The FAEIS also stated that measures such as monitoring and the use of recharge ditches to maintain flow in Horse Creek would reduce that moderate level of effect. According to the Draft EA, the Corps independently reviewed and verified an updated analysis of Ona's effects on surface water hydrology in Horse Creek and the Peace River to address the changes in the project since the FAEIS, including the reduction in mined area and mining duration, both of which are critical components to the

water quality within the Peace and Myakka Rivers will be degraded and the project site will suffer a loss of complex, diverse and unique wetland, forested and marsh ecosystems that Applicant will be unable to successfully restore. Manasota-88 Comments at 2.	hydrology analyses. *See* Draft EA at 29. Appendix G of the FAEIS details the surface water hydrology impact analysis methodology. Attachment B to the Draft EA updates Tables 4-19 through 4-26 and Figures 45, 50-57 and 90-97, which detail projected flows. Because there are no project changes within the Upper Myakka River subwatershed portion of the project, there is no update for that analysis. Within the Horse Creek subwatershed, the reduced capture area and duration led to overall smaller reductions in flows with faster recovery times under all conditions. Within the Peace River watershed, the updated results were substantially similar to the results for the FAEIS. Based on the updated analysis, the Corps has determined again that the Ona Mine would have an insubstantial effect on the Upper Myakka, minor to no effect on the Peace River, and a potentially moderate effect on Horse Creek, and that measures such as monitoring and the use of recharge ditches to maintain flow in Horse Creek would reduce that moderate level of effect. The Corps does not consider these effects significant. Draft EA at 29. The FDEP Environmental Resource Permit (ERP) constitutes the Water Quality Certification under Section 401 of the Act for Ona also includes permit conditions requiring Mosaic to monitor for both water quality and quantity in Horse Creek and other potentially affected waterbodies. If the Corps issues a permit for Ona, those ERP conditions will become part of the Corps permit as well. With regard to public interest, the Corps has conducted a comprehensive public interest review and CWA Section 404(b)(1) analysis for Ona weighing each of the public interest factors listed in 33 C.F.R. § 320.4. *See* EA, § 7. While not required by regulation, the Corps also took the extra step of publishing a draft public interest analysis and taking public comments on the draft. With respect to reclamation success, Mosaic has provided a comprehensive compensatory mitigation plan that provides details about Mosaic's experience with successful reclamation and mitigation. *See* Appendix 4-6-G "Mitigation Success Data and Adaptive Management."

5. There will be significant unpermittable foreseeable adverse cumulative impacts affecting fish, wildlife, listed species and their habitats, hydrologic conditions, uniqueness, location, fish and wildlife utilization, water quality, conservation and protection of fish and wildlife, including waterfowl and their habitat, water flow, fishing and recreational values and the permanence of the proposed mining activities and associated impacts of adjacent and upstream mining activities in the Peace and Myakka Rivers watershed transform the functions and value of the headwaters and stream channels of the Peace and Myakka Rivers. Manasota-88 Comments at 2.	See CBD Responses III.A.1. and III.A.2. In addition, the Service will consider the effects of the Ona project in the ESA section 7 consultation and resulting biological opinion
B. Phosphate Mining, Phosphogypsum Waste Disposal, and the Operation of Fertilizer Manufacturing Plants Must be Linked for Cumulative Impact Analysis.	
1. The Supplemental Environmental Assessment needs to address the effects of highly radioactive and toxic clay settling areas (toxic slime ponds), the health effects associated with the transportation of phosphate ore and gypsum, the public health and environmental impacts associated with phosphogypsum waste disposal, reagents used in mining and processing ores, and other phosphate waste disposal problems. The Supplemental Environmental Assessment needs to be expanded to include a review of all aspects of the phosphate industry. Manasota-88 Comments at 2.	See CBD Response I.A.5. Also, with regard to Clay Settling Areas (CSAs), Section 4.4.2.3 of the FAEIS discusses groundwater quality, and provides the results of groundwater sampling below a CSA on the South Pasture Mine from 2005 through 2010. The Corps updated Figure 4-20 to include results through the first quarter of 2017, as shown in Attachment B to the Draft EA. Groundwater sampling at the compliance wells confirms full compliance with primary and secondary drinking water standards.
C. Cumulative Impact Air Quality Study is Needed	

1. As part of the Supplemental Environmental Assessment, air quality Title V Permits need to be evaluated, this evaluation should include all air permits issued to phosphate related facilities, as well as any existing compliance plans, schedules of compliance, and compliance certifications. A review of any and all enforcement actions taken against any phosphate industry facility should be included in the Supplemental Environmental Assessment. Manasota-88 Comments at 3.	The Ona would be a minor source of air emissions (primarily fugitive dust) and therefore, would not be subject to the Title V air permitting program. Additionally, no significant impacts are expected to occur to air quality that would result from mining in any of the proposed locations. FAEIS at 4-5. Equipment used in land clearing and preparation, and routine vehicular traffic on and around these proposed mine sites would contribute to fuel-burning emissions, but the effects would be small in spatial extent and not stationary. *Id.* Fugitive dust would be associated with mining activities, primarily localized in the vicinity of the electric dragline operations and in areas where earthmoving and truck movement occur. *Id.* Generally these impacts would be localized and, as required by local ordinances, Best Management Practices such as watering down roads would be used as necessary to control or mitigate the impacts. *Id.* Because the area is not in a non-attainment area for any air quality standards and these emissions are minor or, in the case of fugitive dust, mitigated, the impacts of the alternatives will not have a significant effect on the human environment. *Id.*
D. Phosphate Industry Energy Consumption Rates Need to be Evaluated	
1. The industry receives significant subsidies, which enable them to continue their massive pollution. The industry receives cheap water and preferential power rates. The impacts of supporting phosphate activities such as electricity generation and transportation will permit further deterioration of the region's air quality. Manasota-88 Comments at 3.	Mosaic's water and electricity usage fees are not determined by the Corps and are outside the purview of this action.
E. The Overall Economic Impacts of the Phosphate Industry Need to be Assessed	
1. The costs of pollution, loss of wetlands and other natural resources, and the contamination of surface waters have never been computed. If the latter were accomplished, the negative economic impact of	See CBD Response I.A.1.

phosphate mining would be even more apparent. Manasota-88 Comments at 3-4.	
2. The phosphate industry cites the important advantages it brings to the state in taxes and employment, yet the long-term beneficial effect of mining on our economy will be slight. Mining has not played a significant role in the state's economy since before 1960. Mining employs half the number it did 20 years ago, and now accounts for less than 0.5% of Florida's Gross State Product. Manasota-88 Comments at 4.	According to the Corps' economic analysis, the Ona mine would bring 851 additional jobs to Hardee County and would provide an economic benefit of $9.8 billion. *See* EA, Attachment B, Table 4-98.
3. Whatever taxes are realized is small when compared to the costs of the damage the industry creates. If the present extraction of phosphate is permitted, Florida will have centuries of costly water, air and land cleanups ahead of it that will exceed any short-term profits and economic benefits of the industry. Manasota-88 Comments at 4.	See CBD Response I.A.1.
4. The phosphate industry is creating an economic and environmental burden for the taxpayers of Florida in the form of increased air pollution, destruction of roads, depletion and degradation of drinking water supplies, loss of non-renewable mineral resources, and increased health costs. Manasota-88 Comments at 4.	See CBD Response I.A.1.
5. A proper economic assessment can only be made when the following are considered: Costs for irretrievable use of fossil fuels to generate the electrical needs of the industry, the irretrievable commitment of chemicals used in processing, the hazards associated with redistribution of uranium	See CBD Response I.A.1. The Corps has also conducted a comprehensive public interest review and CWA Section 404(b)(1) analysis for Ona weighing each of the public interest factors listed in 33 C.F.R. § 320.4. *See* Draft EA, § 7. While not required by regulation, the Corps also took the extra step of publishing a draft public interest analysis and taking public comments on the draft.

resources and increased national security costs, the costs of contamination of surface waters, the costs of changes in hydrology, and costs of loss and disturbance of wetlands and other natural resources. Manasota-88 Comments at 4.	
6. The actual influence of phosphate on the state economy is minor when compared to the tourism, retirement and related support service industries, which are largely dependent upon a healthy environment and safe drinking water supplies. Clearly the net economic advantages of insuring a safe source of potable water far outweigh the modest economic gains that may be realized by phosphate mining. Manasota-88 Comments at 4.	The economic analysis in the FAEIS considered impacts on tourism. *See* FAEIS 4-257. "Particularly along the coastal corridor, tourism is a substantive driver behind the local economy, and accordingly a high level of emphasis is awarded to protection of the environment against the cumulative effects of land conversion from natural land uses to those associated with agriculture, mining or other industrial activities, and urban or residential development. Environmental quality is a key factor in promoting seasonal or shorter-term tourism-based economic productivity." *Id.* The Corps determined that the Ona Mine will have a major beneficial economic effect on Hardee County. *See* CBD Response 1.A.1.
F. The EPA Toxic Release Inventory (TRI) Data for Phosphate Facilities Need to be Included in the Supplemental Environmental Assessment	
1. The EPA Toxics Release Inventory (TRI) Program recently released the publication of the 2016 TRI National Analysis. EPA and Florida are required to annually collect data on toxic chemical releases and make the data available to the public in the TRI. Manasota-88 Comments at 4.	These requirements are outside the scope of the Corps' review of the proposed Ona mine. Phosphate mines are not subject to the TRI regulatory requirements.
G. The Impact of Increased Mining Activity on the Tourist and Recreational Industry Needs to be Quantified	

1. According to a study prepared for the Charlotte Harbor Estuary Program, tourism and recreation in the Peace River watershed provide us $4.5 billion in sales. Commercial fishing adds $38 million to the economy and agriculture adds another $1.8 billion. Phosphate mining contributes a value of $530 million. More than one million people are employed in the fishing, tourism and recreation and agriculture industries while phosphate strip mining has fewer than 10,000 jobs statewide (3,100 promised in the Peace River watershed). The bottom line: the Peace River watershed has an economic value that approaches $5 billion. These dollars come from the wetlands, meandering creeks, endangered and protected species, the Peace River and its tributaries. Manasota-88 Comments at 4-5.	Noted. As explained above, *see* CBD Response 1.A.1, the economic analysis for the Ona mine found it would provide an economic benefit of $9.8 billion to Hardee County. *See* EA, Attachment B, Table 4-98.
H. Radiation Standards for Post Reclamation Mined Lands Need to be Strengthened	
1. Post-reclamation lands must not be permitted to exceed pre-mining, unenhanced natural background soil radium and gamma levels. Radiation risks are not evenly distributed. Proximity to the mine site, wind direction, and other factors subject some too much higher risks than others. Manasota-88 Comments at 5.	If issued, the Corps permit for Ona will include required performance standards, or success criteria, for hydrology, water quality, vegetative cover, and other criteria. Appendix I of the FAEIS and the permit for South Pasture Extension (SAJ-1993-01395) provide examples of ecological performance standards applicable to phosphate mining. Both documents are available at: http://www.saj.usace.army.mil/Missions/Regulatory/Items-of-Interest/ In addition, Mosaic provided in its application to the Corps comprehensive documentation addressing the reclamation schedule and the anticipated status of the post-reclamation topography, wetlands, soils, and streams. The application also included maps depicting the status of these resources following reclamation.
2. It has been known for decades that land mined for phosphate exhibits higher radioactivity at the surface than it did before mining. The elevated levels of	Section 4.8 of the FAEIS addresses the potential effects of radiation associated with phosphate mining. The Corps concluded that radiation would have minor or no impact for the proposed Ona mine. AEIS Table 4-107 at p. 4-225. The Corps has determined

radiation pose a considerable threat to human health and the environment. Elevated concentrations of radium-226 and other radionuclides are known to occur in phosphate ores and mining wastes. A goal of the Supplemental Environmental Assessment should be to reduce or eliminate the radioactive materials at gyp piles at the chemical processing plants, clay settling areas from beneficiation and the leach zone overlying the phosphate rock matrix that is redistributed by mining and reclamation areas. Phosphate industry representatives frequently try to downplay the radiation risk associated with phosphate mining by comparing it with the risk of natural terrestrial and cosmic radiation. Manasota-88 Comments at 5.	that, the Ona project changes, including the reductions in mined area, impacts to aquatic resources, and mining duration, should lead to reduced degrees of effects on radiation. Draft EA at 28.
3. Since it is both economically and technically feasible, the ACOE should require that radiation levels after mining not exceed those that existed before mining. Additional regulations are needed to address those instances when post-reclamation lands exceed pre-mining radioactive concentrations. The ACOE and state regulations pertaining to phosphate mining need to be written to include a non-degradation clause that will require lands be returned to essentially the same radiation levels that existed before mining. Manasota-88 Comments at 5-6.	See ManaSota-88 Response I.H.1.
I. Clay Settling Areas (CSA) Must Be Eliminated	
1. Clay Settling Areas are one of the significant environmental and public health threats associated with phosphate mining. Radioactive wastes from these ponds threaten surface and groundwater; the	The preferred alternative allows Mosaic to minimize CSA impacts through several means including utilization of existing CSA capacity within adjacent mines and stage filling; proper design of the overall mine backfill plan to advantageously site CSAs in areas with greater overall mining depths, thereby maximizing unit storage capacity in

hazard of slime spills is a constant menace to essential public water supplies and natural systems. Elevated levels of fluorides, chromium, cadmium, arsenic and other toxins are commonly found in clay settling areas. The possibility of a slime pond dam break cannot be ruled out. When a pond ruptures their earthen impoundment's, the highly acidic, highly radioactive slime effluents completely annihilate all aquatic life in the receiving waters. The highly acidic slime ponds also emit fluoride and radon gases, which are harmful to humans, plants and animal tissues. Manasota-88 Comments at 6.	terms of disposal capacity per acre of land; strategic location of CSAs contiguous to each other so that common walls may be utilized and thereby reduce the overall footprint; and proper consideration of site hydrology effects in developing the mine backfill plan such that changes in runoff or recharge are not disproportionally assigned to any one subwatershed associated with the project. Draft EA at 26-27. Section 4.4.2.3 of the FAEIS discusses groundwater quality, and provides the results of groundwater sampling below a CSA on the South Pasture Mine from 2005 through 2010. The Corps updated Figure 4-20 to include results through the first quarter of 2017, as shown in Attachment B to the Draft EA. The Corps has determined that the groundwater quality at the compliance wells continued to rarely exceed the primary and secondary drinking water standards. Draft EA at 31.
2. Nearly half of the slime ponds constructed in Florida remain as remnants of the environmental disaster that phosphate mining has had on the native landscape. Under the procedures practiced by the mining industry today, few of the slime ponds are fully reclaimed until mining operations are relocated or the mine closes. Manasota-88 Comments at 6.	See ManaSota-88 Response I.I.1. Also, due to the nature of CSAs, they are often the last portions of a mine to be reclaimed.
J. Mining Activities Must Not Degrade Ground Water Quality	
1. Strip mining destroys the surficial aquifer. The reduction of this base flow has a critical impact on the ability to provide drinking water. The loss of water from the surficial aquifer diverts water that normally seeps into the aquifer. Manasota-88 Comments at 6.	The phosphate industry has become more efficient in its use of water resources over the years and has increased its reuse of water. These efforts have made it possible for Mosaic to use substantially less groundwater than historic methods required. *See* FAEIS at 3-66 and 3-70. During mining, the surficial aquifer off-site is protected by the ditch and berm system incorporated into the mine. This same system also protects downstream waters and is a requirement of the state environmental resource permit. Potential impacts to the surficial aquifer system by the Ona project are discussed in Section 4.3.3 of the FAEIS and the Corps determined there would be only a minor impact on the surficial aquifer system and none of the impacts would be significant.

	Section 4.3 and Appendix F of the FAEIS also address the use of groundwater for the Ona project. The elimination of the onsite plant, and the separation of Ona into a western part (associated with the Four Corners plant) and eastern part (associated with the South Pasture plant), has reduced the proposed onsite groundwater withdrawal rate by almost ten million gallons per day. Draft EA 29-30. Based on this reduction in groundwater pumping, the Corps has determined that the Ona project should have a reduced direct and indirect effect on groundwater, which is still not significant. Draft EA at 30. The cumulative effect of phosphate mining on groundwater resources is addressed in Section 4.12.2.12 of the FAEIS and Section 4.12.3.13 describes the mitigation, monitoring, and adaptive management measures to protect groundwater resources.
2. Although groundwater itself moves slowly, often only ten or twenty feet a year, the contaminants move in unpredictable plumes, the behavior and flow rate of which are difficult and costly to measure. Moreover, once the contamination is detected few remedies are available, and these are often economically or technically unfeasible. Additional monitoring requirements for phosphate mining is needed. Groundwater lacks the self-cleaning properties provided surface water by dilution, circulation and degradation by sunlight and can remain contaminated for centuries. Manasota-88 Comments at 6-7.	Section 4.12.3 of the FAEIS described the predicted cumulative impacts to groundwater resources, and found that there would mostly be minimal impacts to the surficial, intermediate, and Florida aquifers, which would not be significant. The exception to this determination was for Ona, because the FAEIS determined that "pumping Ona Mine at the permitted drought year rate for extended periods could result in a drawdown at ROMP 31," which the Corps considered to be a moderate level of impact, and significant due to potential effects on the Southern Water Use Caution Area. As described in Section 5.a.ii of the Draft EA, Mosaic proposes to greatly reduce groundwater withdrawals onsite at Ona. Based on the analyses completed for the FAEIS, the Corps does not expect that these changes will result in increases in degrees of effect for groundwater impacts, or changes in the significance determinations. To address other changes, such as the increased duration of groundwater withdrawals at other sites to support Ona, such as at the Four Corners and South Pasture sites, the Corps will require Mosaic to update the cumulative effects modeling using the same methods used for the FAEIS. The Corps will review and verify the updated groundwater cumulative effects analysis, and consider the updated results in making its final determination in the RODSOF for the Ona project. Draft EA at 37.

	Additionally, Mosaic has an integrated Water Use Permit for the Ona Mine which includes groundwater flow and quality monitoring requirements. See also CBD Response I.A.5.
K. Future Land Uses on Reclaimed Lands Need to be Identified	
1. Agricultural land activities on reclaimed phosphate lands can concentrate radioactive contaminants in drinking water, citrus, vegetable foods and in the dairy products and the beef grown on mined-out lands. …The type of agricultural uses permitted on reclaimed phosphate lands need to be closely regulated. Livestock and crops grown on reclaimed lands will likely exhibit an uptake of radioactive contaminates from the land. Manasota-88 Comments at 7.	See CBD Response I.B.5. Mosaic has submitted a Long-Term Management Plan that will provide for management of proposed secondary uses of the mitigation areas such as cattle grazing. See Draft EA at 62.
L. The Myakka River is an Outstanding Florida Water (OFW) and Must Not Be Polluted	
1. In 1985, the Legislature of Florida adopted the Myakka River Wild and Scenic Designation and Preservation Act (Section 258.501, Florida Statutes), which designated a 34-mile segment of the Myakka River within Sarasota County as a "Florida wild and scenic" river. These designations are intended to provide additional protection to special waters recognized for their ecological significance, by providing the highest degree of protection under the State of Florida permitting policies. ManaSota-88 is concerned that future phosphate mine discharges will degrade the Myakka River, generate low dissolved	Noted. See ManaSota-88 Response I.4.

oxygen levels and significantly increase pollutant levels. Manasota-88 Comments at 7.	
2. Because of the potential adverse impacts associated with phosphate mining, it is important that the ACOE have a clear understanding of the potential adverse impacts to the Myakka River before additional mining begins. Manasota-88 Comments at 8.	See ManaSota-88 Response I.4.
M. Phosphogypsum Generation and Waste Disposal Issues Need to be Included in the Supplemental Environmental Assessment	
1. The cumulative health effects of the radioactive exposures associated with phosphate mining, processing the phosphate ore, and storage of the radioactive phosphogypsum waste need to be assessed. Manasota-88 Comments at 8.	See CBD Response I.A.5
2. Phosphate mining operations and phosphogypsum waste disposal analysis are not required in any federal, state or local permit. Cumulative impact analysis of phosphate extraction cannot possibly occur without linking mining operations to phosphogypsum waste disposal. Manasota-88 Comments at 8.	See CBD Response I.A.5
N. Post-mining Land Reclamation Requirements Need to be Strengthened	
1. Reclamation is not the same as restoration and this distinction clearly needs to be made. For all tributaries of the Myakka and Peace River, restoration should be performed, not just reclamation or mitigation.	See CBD Response I.B.4. Also, if issued, the Corps permit for Ona will include required performance standards, or success criteria, for hydrology, water quality, vegetative cover, and other criteria.

Restoration requirements for all lands within the 100-year flood plain and all tributaries should be included in the Supplemental Environmental Assessment. No mining should occur within 1,000 feet of any river, stream or creek. Conservation easements should be required for all rivers, streams, creeks and wetlands. Hardwood wetlands should not be mined, as the technology does not exist to restore hardwood wetlands. Manasota-88 Comments at 9.	Appendix I of the FAEIS and the permit for South Pasture Extension (SAJ-1993-01395) provide examples of ecological performance standards applicable to phosphate mining. Both documents are available at: http://www.saj.usace.army.mil/Missions/Regulatory/Items-of-Interest/
O. Additional Studies are Needed	
1. The Environmental Protection Agency (EPA) and the ACOE should conduct additional studies to determine the long-term health effects of exposure to toxic and hazardous substances associated with current and former phosphate mining and processing sites located in Florida…. Nine additional studies need to be done during the Supplemental Environmental Assessment process. Manasota-88 Comments at 10.	The Corps has relied on scientific research, data, and other information reasonably available to the agency. "The Corps does not err simply because it relies on data submitted by a permit applicant . . . Indeed, an applicant will frequently be the only party with an incentive to develop such data." *Sierra Club v. Van Antwerp*, 526 F.3d 1353, 1368 (11th Cir. 2008). "The district engineer may require the applicant to furnish appropriate information that the district engineer considers necessary for the preparation of an Environmental Assessment (EA) …." 33 C.F.R. Part 325, App. B § 3.[22] But, "[t]he agency shall independently evaluate the information submitted and shall be responsible for its accuracy." 40 C.F.R. § 1506.5(a). The Corps independently reviewed and verified various aspects of the Ona application, including the statements of need, the economic analysis, the practicability of and the environmental impacts for each alternative, and the analysis of Ona's effects on surface water flows in the Upper Myakka River, Horse Creek, and the Peace River.

[22] *See also* 33 C.F.R. Part 325, App. B § 8(f)(2) ("Information required for an EIS also may be furnished by the applicant or a consultant employed by the applicant. Where this approach is followed, the district engineer will (i) advise the applicant and/or his consultant of the Corps information requirements, and (ii) meet with the applicant and/or his consultant from time to time and provide him with the district engineer's views regarding adequacy of the data that are being developed (including how the district engineer will view such data in light of any possible conflicts of interest)."