September 17, 2018

U.S. Army Corps of Engineers, Mobile District
Attn: Colonel Sebastien P. Joly
109 Saint Joseph Street
Mobile, AL 36602

RE: Draft Supplemental Environmental Impact Statement (DSEIS) to evaluate improvements to the Mobile Harbor Federal Navigation Channel, Mobile, AL.

Dear District Commander,

We are Mobile Baykeeper, a twenty-one-year-old nonprofit organization with the mission of providing citizens a means to protect the beauty, health and heritage of the Mobile Bay Watershed and coastal communities. We are submitting comments on behalf of the Peninsula of Mobile, Conservation Alabama Foundation, our Board, staff and more than 4,500 members regarding a Draft Supplemental Environmental Impact Statement (DSEIS) and General Reevaluation Report (GRR) to evaluate improvements to the Mobile Ship Channel.

We applaud the U.S. Army Corps of Engineers (USACE) for its efforts since 2015 to communicate with and involve the community in the project evaluation. Throughout this time, community members have had the opportunity to attend public scoping meetings and provide feedback on different project components. The Corps has a responsibility to meaningfully consider all comments made during this period. The Corps must listen to these comments and has a responsibility to address these issues before the final draft 32 C.F.R. § 651.36(a). Mobile Baykeeper has provided several comment letters during the assessment of the potential impacts associated with deepening and widening the Mobile Bay navigation channel, some of these points have been addressed but many have been left unanswered and continue to be major issues making the study inappropriate for approval.

Our biggest cause of concern is that several of the studies conducted are not comprehensive and therefore inadequate as required by the National Environmental Policy Act process for determining impact from the proposed project 40 C.F.R. § 1500.1(a). A DSEIS must include “high-quality information and accurate scientific data” per 40 C.F.R. § 1500.1(b) to ensure that its own determination is based on the best scientific and current data available. This lack of information may be the reason the Corps is finding the project will
result in “no impact” on any of the natural resources assessed. This is extremely concerning as it is the only channel expansion project of similar size in the country that has not identified any impacts or mitigation through its environmental impact statement.

The current SEIS presented is flawed, incomplete, and contains several issues identified in our comment letter below. This is not an exhaustive list; these are the issues we were able to identify within the public comment period allotted and more issues exist within the study. We must see major improvement in the quality of the study before the release of the final SEIS. The Corps must fully evaluate the following comments formulated based on the concerns of our members, partners, and experts. We strongly request a written response for how each will be incorporated and how the Corps plans to account for these risks through proper studies and mitigation. If the Corps does not address these issues there will be legal ramifications. The study should meet the letter and spirit of the law as well as give decision makers the best possible information so they are able to make an informative decision. The proposed Mobile Ship Channel expansion is a major infrastructure project located in the heart of Mobile Bay and in an estuary that supports our State’s economy and community. We cannot let timelines or agendas dictate the quality of the study needed to ensure our natural resources are protected.

USE OF A ONE-YEAR SIMULATION FOR THE HYDRODYNAMIC AND WATER QUALITY MODELING

As stated in our previous comment letter, we fundamentally disagree with the use of a one-year simulation (2010) as the basis of a number of the environmental impact analyses in the DSEIS. More specifically, the Corps has selected the time period “for GSMB hydrodynamic, sediment transport, and water quality modeling of Mobile Bay” as “January through December of 2010” (5.3.1. Waves pg. 5-0). Although the Corps indicates 2010 is a year containing high and low flow conditions, the variations that exist between years and over a longer period of time are far greater and must be considered. In previous meetings with state agencies and in environmental focus group meetings, the Corps has been made aware of the concerns for using 2010 in their models but has chosen not to incorporate this feedback. It has been suggested and often considered better to use at least a three-year simulation for this type of modeling to ensure varied conditions are captured.

We appreciate the Corps’ use of the Coastal Storm Modeling System (CSTORM) to look at hurricane conditions for capturing high water levels; the Corps must also look at extreme low water levels caused by prolonged droughts. By looking at the minimum low freshwater flow, the model will better predict the maximum extent of saltwater intrusion. There have been numerous severe droughts over the last 10 years in the Mobile Bay area and the failure to look at how these relatively common droughts (some lasting for several months) will interact with a deeper channel will result in an underestimation of the project’s impact on wetlands, etc.
WETLAND IMPACT ANALYSIS

Wetlands are known to provide several important ecological functions such as water purification, shoreline stabilization, flood protection, groundwater recharge, nutrient recycling, particle retention, surface water and subsurface storage, and habitat for fish and wildlife. They add intrinsic value to the community. The final EIS for Charleston’s Harbor expansion indicated unavoidable impacts to 324 acres of wetlands from increases in salinity; requiring mitigation plans to preserve 665.6 acres of wetlands. Similarly, the Savannah Harbor Expansion Project (SHEP) determined there would be “minor adverse effects to the fish and wildlife habitat function in 223 acres of tidal freshwater wetlands” and a conversion of 740 acres of saltmarsh to brackish marsh as a result of the project.

Both of these impact statements found adverse effects to local wetlands mainly from saltwater intrusion. Deepening the channel can increase saltwater intrusion, causing seawater to advance farther upstream. Changing the salinity regime threatens the freshwater and estuarine wetlands and ultimately the species that rely on them. We are concerned that by using a one-year simulation of 2010, the model used to predict how far and the extent of saltwater intrusion is not accurate, thus showing no significant impact with project. The SLR scenario did indicate 10 acres of wetlands would be inundated, and the Corps considered this to be “negligible.” The Corps must understand where these 10 acres are and evaluate its importance to the system as a whole. The Corps must also address its lack of data with the mortality studies for wetlands, given that only 43% of the potential impact area could be studied and the real impact could be much larger.

SUBMERGED AQUATIC VEGETATION (SAV) IMPACT ANALYSIS

Submerged aquatic vegetation (SAV) is an important source of food for several species including manatees and over-wintering waterfowl. It provides habitat for macroinvertebrates and fishes, and helps prevent erosion through sediment stabilization. Over the past few decades, there have dramatic declines in the SAV population in Mobile Bay.

Changes to salinity from a deeper channel can modify the vegetative community (or SAVs) which can in turn, alter its use as protection for species and eliminate important food sources. Similar to our concerns detailed above for wetlands, this is also a concern for evaluating SAV population impacts. Results from the study indicated that four species, Eurasian Watermilfoil, Wild Celery, Southern Naiad, and Widgeon Grass were predicted to experience an increase in salinity. Many of these, although one even being invasive, are actually a food source to several local species including the endangered West Indian Manatee. Section 7(a)(2) of the Endangered Species Act (ESA) requires each

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1 Final Report and Environmental Impact Statement for Charleston’s Harbor Expansion
2 Final Report and Environmental Impact Statement for Savannah Harbor Port Expansion
http://www.sas.usace.army.mil/Portals/61/docs/SHEP/Reports/EIS/Section%201%20with%20TOC%20SHEP%20FINAL%20EIS.pdf
federal agency to “insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species” 16 U.S.C.A. § 1536. The Corps must consult with the Fish and Wildlife Service to evaluate the impact on the reduction of the manatee’s food source.

The mortality of these species is also highly dependent on the duration of salinity increases experienced (some a month or more). The current analysis does not seem to simulate a scenario where this may happen, likely because a prolonged drought is not simulated. For instance, “an increase of 1.5 ppt above relative threshold values is unlikely to impact the 21 acres of Southern Naiad in question, unless these increased salinities have extended (i.e. multiple weeks) duration”. This is an important factor the Corps must simulate in order to address uncertainty and properly estimate the likelihood for mortality from the proposed project.

SEDIMENT TRANSPORT STUDY
The Corps evaluated how the dredging and expanded dimensions will impact the sediment transport and ebb tidal shoaling. We appreciate the Corps conducting a 10-year simulation in addition to the one-year simulation. Storm surges and hurricane/tropical storm waves were not included in the modeling and this largely limits the peak wave characteristics needed to understand how these may impact processes with new project dimensions. The Corps must include storm surges associated with strong storms and waves seen during tropical weather. Another factor that must be included in the modeling efforts is the riverine effects from the river inflow as it plays a key role in the overall hydrodynamics and sediment load. Any study that does not include these crucial factors is incomplete, the opposite of “high quality” and does not fulfill the requirements of NEPA.

Results from this study indicate that “for the 10-year simulations, there were larger changes in bed levels with the proposed channel deepening; at the end of 10 years, the largest changes were offshore of the Fort Morgan Peninsula and ranged from −3.17 to 3.94 m for the simulation without Sea Level Rise (SLR) and −1.92 to 1.47 m for the simulation with 0.5 m of SLR. The with project implementation condition reduced the entrance channel shoaling volume by 5.54 percent for the simulation without SLR and 14.98 percent for the simulation with 0.5 m of SLR.” However, when describing these results the Corps indicates these changes are only minor impacts to the peninsula. The findings indicate that sediment is being transported away from the ebb tidal shoal, and that as a result of the channel modifications; morphological changes are anticipated in nearshore areas. The reduction of shoaling between 6 and 15% are not “minimal differences”.

IMPACTS TO WATER QUALITY
Dredging can cause an increase in suspended sediment concentrations or cloudy water conditions, the potential release of contaminated material, an increase in erosion to nearby shorelines, and the disturbance of habitats particularly within the vicinity of the dredging activities. During this activity, fine sediments (including clays, silt, and fine-sands) generate turbid conditions. Turbidity plumes and
sedimentation are a result of overflow and washing practices. The sediment plumes can extend long distances depending upon the type of dredge, operation practices, wind/currents, and the type of sediments located in the excavation area. From Newell and Siederer 2003, referenced by the Corps in the DSEIS, these plumes “in most cases, coarse material up to sand-size particles settles within 650 to 1,970 ft of the point source of discharge”. Based on these distances, the Corps must study the area that will experience an increase in turbidity and suspended solids from the proposed dredging operations. This must be identified to ensure there are not sensitive habitats/species to consider the impact that may occur from the extent of the plume.

The Corps is not considering the impact of dredging on the water quality of the surrounding areas because “results of the water quality modeling indicate that the predicted levels of total suspended solids are representative of the observed data…subsequently, there would be no expected increase in the concentrations of the turbidity as a result of the implementation of the TSP” (5.5.4.2.1. Project Construction pg. 5-14). This is inconceivable. The Corps must specifically quantify the proposed project’s impact on aquatic resources as a result of an increase in turbid waters from dredging.

**CONCERNS WITH FLUID DYNAMICS**

It is vital that the Environmental Fluid Dynamics Code (EFDC) include an additional model to show how pathogens move through the system and how that may change with the new channel dimensions. Scientists with similar modeling have described the ship channel as a funnel for the Mobile WWTP at McDuffie. The Corps is required to model how the project may alter the flow of effluent from this facility with the new dimensions of the channel post expansion.

Another important area to model when considering how the channel expansion may impact the dynamics of the system is what comes into the Bay from the gulf. Two main concerns are how harmful algal blooms (HABs) and oil coming from an offshore spill may be brought further up the Bay with the new channel configuration. HABs are harmful to human health, replace key food sources, clog fish gills, and lowers oxygen conditions after they die. It will be important to evaluate the risk of gulf HABs entering Mobile Bay after the expansion. Similarly, it will be vital to assess the flow of oil after a spill offshore and to what extent that oil will travel up the Bay given the new channel design. Both of these are essential factors are unfortunately increasing in their frequency are necessary to understand the risks associated. The Corps must model how both of these factors could change with the project implemented.

**ACKNOWLEDGEMENT OF PAST IMPACTS IN THE CUMULATIVE IMPACT ANALYSIS**

Under the National Environmental Policy Act and the promulgated regulations, federal agencies (including the Corps) are required to consider the cumulative impacts when making a decision. A cumulative impact is the “impact on the environment that results from the incremental impact of the proposed project when added to other past [emphasis added], present, and reasonably foreseeable future actions regardless of the agency (federal or non-federal) or person that undertakes such other
actions; cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 C.F.R. § 1508.7). To ensure compliance with NEPA requirements, the Corps must evaluate the previous study conducted in 1980 (and several USACE reports since then) to determine historic impacts relevant to the expansion being considered. This is of particular importance when considering cumulative impacts from the ship channel on the surrounding shorelines. At present, the Corps is only considering from 2011-2015 as the baseline conditions which largely miss the cumulative impact of the past 38 years of erosion issues along the shorelines of Mobile Bay and Dauphin Island.

**INCLUSION OF INDIRECT IMPACTS**

Under NEPA, the Corps must identify all indirect impacts resulting from the proposed ship channel enlargement\(^5\) and perform compensatory mitigation for any unavoidable impacts. Indirect impacts are defined by NEPA as those impacts “caused by the action and are later in time and farther removed in distance, but are still reasonably foreseeable.” These impacts “…may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems” (40 CFR § 1508.8).

The Corps is required to understand and predict the induced growth and encroachment or alteration effects\(^6\) that will occur from the proposed ship channel enlargement and the indirect impacts that will occur from this induced growth. The high likelihood of induced growth is outlined by information provided by the Corps regarding this proposed project. In slides from the Corps’ public meeting in September 2017, the Corps stated that there was a record 19% growth in containerized cargo in 2016 and a 25% increase in truck traffic with the build out of the container terminal.\(^7\) Based on this evidence provided by the Corps, the enlargement of the Port of Mobile will induce substantial growth not only around the Port of Mobile but also throughout the greater Mobile area as associated business, distributors, and suppliers grow to meet the needs of the expanded Port of Mobile. While this growth is a good thing for the economy of the Mobile area, the Corps must factor the indirect effects of this induced growth into its DSEIS.

**AIR QUALITY CONCERNS**

To ensure compliance with NEPA requirements, the Corps must evaluate the previous study conducted in 1980 (and several USACE reports since then) to determine historic impacts on air quality. By only considering 2011 as the baseline conditions, cumulative impacts of the past 38 years on air quality are left unaddressed.

Although the Corps conducted an air quality analysis model to assess the Clean Air Act criterion air

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\(^5\) 40 C.F.R. § 1508.8


\(^7\) USACE Public Scoping Meeting Slides
contaminants, the model is based on an assumption of fewer ships calling at the port after implantation. Results predicted by the Corps indicate “the short-duration (e.g., worst-case) daily emissions at the port including vaporized volatile organic compounds released during the fueling process between larger ships and fuel farms could increase as a result of introducing large vessels, but the overall annual emissions associated with ship traffic would likely be less under the implementation of the TSP than the No Action Alternative” (5.14.3. Future Maintenance pg. 5-64). However, the Corps cannot accurately predict this. “Given the uncertainty of the mix and size of vessels using the port and the change in vessel travel time after channel deepening, a precise calculation of the annual emissions is not feasible.” It is unacceptable for the Corps to have several impact analyses that contain an assumption that has yet to be validated and has been stated by the Corps as “uncertain”.

The increase in truck traffic associated with the build out of the container terminal would result in an approximate 25% increase in truck traffic. Truck transportation related emissions would also increase as a result (by 25%), but the Corps has not studied the emission impacts to the travel corridors. The Corps must enumerate the air emissions anticipated from the increase in truck traffic and what areas will experience the highest increase in emissions. This is an indirect impact that must be acknowledged by the Corps and further studies are required to quantify this impact as a result of the project implementation. The Corps must offset these impacts with mitigation projects such as land acquisition, planting trees, creating parks, etc.

SHIP WAKE IMPACT ANALYSIS
The Corps conducted a ship wake analysis by estimating the Vessel Generated Wave Energy (VGWE) to see if the VGWE increases as a result of the project. We have concerns with several specifics of this study and question if all potential impacts were considered and studied.

The field portion of the investigation included “a suite of five pressure sensors located north of Gaillard Island” and site locations were chosen “based on availability of existing infrastructure to affix instrumentation” (Figure 1) (5.3.1.2.1. Ship Wake pg. 5-1). Although more easily available, these locations pose potential bias in the overall VGWE estimation. According to the 2016 calendar year, AIS database’s summary of vessel speed, the upper and middle bay sections of the channel include the lowest vessel speeds (Figure 2). This location bias of these sensors must be accounted for when computing the VGWE.
Another factor not clearly incorporated into the equation is the projected load of the ships, impacting the draft of the ships. Currently, the container vessels travelling in the channel are approximately half-loaded due to depth restrictions in the channel. The Corps also must account for the change in VGWE when the vessels are fully loaded. The signal received for these vessels will change based on their ability to reach full bell. The Corps must account for this when looking at the difference of VGWE generated with the project implementation.

The VGWE calculated also looks to be lacking incorporation of the projected fleet with project. Looking at the forecasted vessels calling to the Mobile Harbor, by 2035, the PPXGn3 will account for 27% of tonnage distribution, however this vessel class was not included in the computed VGWE (Table 1). The Corps must include this, especially when it is expected to make up a large portion of the expected fleet composition over the study period. This lack of information could impact the accuracy of the Corps conclusion.

In relation to ship wake, the Corps has not looked at energy tolerances for any of the important aquatic resources that are known to have sensitivity to wave energy. The Corps cannot know the project’s impact to shorelines, wetlands, SAVs, oysters, etc. when these analyses were not conducted.
in the study. Again, the Corps must consider the past impacts of the ship channel on these resources in the study per NEPA requirements.

The Corps needs to evaluate how a Vessel Speed Reduction (VSR) program would impact the project’s impact on shorelines and air quality. There are several other locations that have successfully implemented VSR programs to reduce the negative impacts from ship wake and air emissions on their surrounding communities including the Port of Los Angeles, Port of Long Beach, Port of San Diego, Port Authority of New York and New Jersey. Several community members along the western shore of Mobile Bay have expressed great concern about the impacts of the project on their shorelines. The Corps must thoroughly consider this alternative and evaluate how different vessel speeds change the impact analysis. We have also submitted a letter to the Alabama State Port Authority and Mobile Bar Pilots requesting the implementation of a VSR program.

**OYSTER IMPACT ANALYSIS**

The Eastern Oyster (*Crassostrea virginica*), which is important both commercially and ecologically for the area, is a specific concern for the proposed project and current analyses for the impact on this species is incomplete and inadequate. It is of the utmost importance to accurately portray the oyster larvae movement and local reef recruitment to predict the impact the project will have on the oyster population. One of the main concerns with the proposed alterations to the navigation channel is the potential for more oyster larvae to be flushed out of the bay, reducing oyster recruitment. The Corps lacks accurate information about the movement of oyster larvae in the Mobile Bay system. The Corps must meet with local scientist, Dr. Carmichael (and associated scientists) about the published larvae movement model that includes several years of data and validated model to ensure trends seen in the Corps’ model matches or follows trends seen in a highly credible source (40 C.F.R. § 1500.1(b)).

We are concerned with the findings of oyster larval particle tracking resulting in 100% survivorship even though we know that higher values have been documented in credible models that already exist for Mobile Bay. The Corps concludes, “the oyster model results do not project an increase in larvae flushing out of Mobile Bay under the with channel modification project scenarios (i.e., Scenarios 2 & 4)”. One of the major concerns with the model is that the seeding reef was limited to only one run from Brookley Reef. To ensure accuracy, the model must be run from all reefs relative to their productivity and, in particular, from Cedar Point.

The Corps used information provided from Alabama Department of Conservation and Natural Resources (ADCNR) and Alabama Marine Resources Division (MRD) to assess 13 adult oyster reefs for salinity and dissolved oxygen project mortality impacts for juvenile and adult oysters. Reef locations that were used in modeling were limited to only 13 reefs. However, there are additional sites that were not included in the analyses. The Corps must review side-scan sonar data collected through the National Resource Damage Assessment (NRDA) by local scientists including Dr. Sean Powers to include documented natural oyster reefs in the oyster impact analysis. It is also important to include
oyster reefs from Mississippi since it has been documented larvae come in from these sources and that could change with channel modifications.

Projected salinity and dissolved oxygen models need to include more than just physiological impacts to include other factors determining survival. The impact of predators on survival of oysters must be identified in the SEIS. This is particularly important because increases in salinity will likely drive a higher presence of predators such as oyster drills, which could play a major role in overall oyster survival.

**FISH IMPACT ANALYSIS**

The fisheries assessment analysis indicated, “values exceeding 3 ppt were projected for January – May” (5.8.7.2.1. Project Construction pg. 5-44) particularly at Little Sand Island. The Corps needs to identify what communities live in this area and then determine if they will be impacted from this major shift in salinity values. The Corps must consider evaluating local independent fisheries surveys conducted by Dr. Powers at the University of South Alabama to validate and fill in any data gaps from the data collected by the state and federal agencies. These independent fisheries surveys include trawl, seine, and gill net methods during summer and winter season that may be limited in the current study.

**BENTHIC COMMUNITY IMPACT ANALYSIS**

Benthic communities are known to play a critical role in the health and functioning of estuarine systems. We are concerned with the current impact analysis and how this may not accurately describe the impact from the proposed project. Sampling was limited to fall and spring and the spring sampling happened in a high freshwater inflow when salinity was less extreme. We suggest taking additional samples or coordinating with local benthic ecologists like Dr. Kelly Dorgan at the Dauphin Island Sea Lab to ensure full impacts to benthic communities are considered on the complete spatial scale. Additionally, we are concerned with a potential data gap in the Corps sampling for benthics. Benthic collection seems to only be from the upper channel and not where the proposed widening activities will take place in the lower Bay.

Although the Corps states that bottom habitats are dominated by polychaetes (who are more resilient to salinity changes), an increase of 1-3 ppt could have significant impacts to other less dominant (but important) species. The Corps must identify and quantify these impacts in more detail to understand the impacts from the proposed project.

**INVASIVE SPECIES**

Invasive species have the potential to threaten or displace native species, degrade habitats, and spread diseases. With anticipated increases in salinity with the project implementation, the potential for “tropicalization” or introduction of nonnative or invasive species into Mobile Bay and surrounding coastal areas may increase. The Corps must study the potential for the new channel dimensions and increased salinity/temperature regimes to result in more gulf species to enter new, more inland territories.
INCONSISTENCY WITH FEWER SHIPS WITH PROJECT IMPLEMENTATION

In our review, we noticed some inconsistencies with the assumption of fewer ships “With Project” than “Without Project” that needs to be addressed.

Under 1.3.1. Problems, the Corps states that the “principal navigation problem is larger vessels are experiencing transportation delays and inefficiencies due to limited channel depth and width” indicating there is a need to expand to accommodate more ships. The Corps also stated that “existing channel dimensions also restrict many vessels to one-way traffic and in some areas limit transit operations to daylight only” suggesting the operation timeframe could be expanded in the future once the project is complete given a deeper and wider channel. The justification for much of the project is to “accommodate current and anticipated growth in containerized and bulk cargo vessel traffic”. If the project’s justification is to provide a better port for vessels to bring business to, then the assumption that fewer vessels will come post improvement seems counterintuitive.

Similar inconsistencies were seen in the Air Quality analyses. In section 5.14.3. Future Maintenance Section of Air Quality, the Corps states that “Due to the upcoming increase of the number of Post Panamax vessels in the world fleet and the opening of the Panama Canal expansion, the transition of larger vessels in the Gulf of Mexico is anticipated to occur with or without the proposed channel deepening” although does not account for if the improvements are not made, vessels may choose another port to call, reducing the amount of vessels without project.

Most notably, the Corps acknowledges the fact that if the channel is not expanded, vessels could choose another port – “If the channel is not widened and deepened, it is possible that the larger container ships would choose another available harbor for loading and unloading. This would result in less maritime traffic and less rail and vehicular traffic associated with the port” (5.15.1. Hazardous and Toxic Materials under No Action). This is a scenario that is not considered in the study. The Corps must evaluate this if they are basing the impact analyses on an assumption of more ships (and therefore more impacts) without the project than with the project. It is also likely that container ships may choose another port for loading and unloading if that port is more efficient/better cost savings than Mobile Harbor. Both of these possibilities should be considered.

Further, with plans to build the I-10 Bridge in the near future, the potential role in increasing economic growth and capacity in the area needs to be included and evaluated in the DSEIS. The I-10 Bridge may play a role in increasing demand and therefore increasing impacts.

Additionally, the build out of the container terminal, will also increase capacity and demand. With new projects like the $60 million automobile roll-on, roll-off terminal and Walmart’s $135 million distribution center is demand not anticipated to grow at a rate that is more than heavily loaded vessels? This must be incorporated into the economic study.
CONCERNS WITH IMPACTS TO LITTLE SAND ISLAND
The Corps has identified potential impacts to resources from the Choctaw Pass Turning Basin expansion but does not consider these to be significant. From the slope stability analyses, it may “require excavation far enough back toward Pinto and Little Sand Island that it would, in effect, remove material that supports nearshore portions of the Pinto Island upland disposal area” (5.4.3.2.1. Post Construction pg. 5-8) and is stated to be finalized during the PED phase of the project. The Corps aquatic resources assessment also concludes potential impacts to “wetland communities that exist on and around Little Sand Island.” Berkowitz et al. (2018) indicates these wetlands “are typical of those found in disturbed areas.” This likely means these wetland resources are needed in order to balance the disturbed system, not as an excuse for them to be insignificant losses.

ENVIRONMENTAL JUSTICE CONCERNS
The Corps must comply with the Executive Order 12898 requiring federal agencies to ensure minority and low-income populations will not experience disproportionately high and adverse impacts from federal projects. Based on the study results indicating a 25% increase in truck traffic, the Corps must also look at the increase of emissions anticipated to be experienced from truck transportation travelling through neighborhoods, including those of minority and low-income populations. The Corps also indicated an increase in trucks carrying hazardous waste across the Cochrane Africatown Bridge by 2.5% that generates an increase of risk for an environmental justice community. Despite both of these increases identified by the study, the Corps has not acknowledged these as impacts necessary to mitigate. The Corps is required to mitigate for any unavoidable impacts as a result of the project implementation, and the increase in truck traffic emissions and increased risk of hazardous waste spills anticipated to be disproportionately experienced by the surrounding environmental justice communities must be communicated and accounted for in the final SEIS.

CONSIDERATION OF PLACEMENT SITES

Beneficial Use Areas
We appreciate the Corps working to find Beneficial Use Areas and considering the community’s input on these options. We appreciate the Corps removing the Upper Beneficial Use Site, the construction of a 1,200-acre marsh island. In general, any option that is selected must be thoroughly studied to ensure the best possible option.

Relic Shell Mined Area
We are concerned with the Corps’ use of 30-year-old surveys to determine the available relic shell mined sites (NOAA surveys between 1960 and 1961 and 1984 and 1987). Structured field verification is absolutely necessary to verify the use of these sites. Several hurricanes and powerful storms have happened since that time and may have changed and settled differently.

Specifically, scientists have tagged tarpon and red drum that are known to use these areas. Please coordinate with the University of South Alabama to acquire this information. The Corps does recognize, in Section 5.7.2.1., the various species utilizing the relic shell mined areas as habitat.
However, it states that the proposed fill will not destroy habitat. The Corps must acquire expert opinions (scientists, state agencies) to validate that the deeper holes are not utilized as habitat before disposing at these sites.

*Sand Island Beneficial Use Area (SIBUA)*

Given the low rate of replenishment to Dauphin Island, the Corps must expand the area to ensure better return rates and reduce negative impacts to Dauphin Island. If return rates are not accomplished, the Corps then must take an adaptive management approach to ensure it can be adjusted until successful. Furthermore, there should be additional studies to consider how the extension will replenish the W. shore of Dauphin Island and Little Sand Island.

The Corps has stated, “The rate of dredged material placement has been higher than the rate of transport out of SIBUA, leading to decreased depths” which indicates the replenishment to Dauphin Island is not happening at the rate of which was intended. From the Flocks et al 2017 study, we can see erosion along the W. shore of Dauphin Island and Little Sand Island.

Approximately 18.6 million cubic yards of new work material will be placed in the expanded Ocean Dredged Material Disposal Site (ODMDS). However, it should be emphasized that the approximately 1.7 million cubic yards of new work material from the Choctaw Pass Turning Basin expansion portion of the project “is anticipated to be predominantly clean sands with some pockets of silty sands” but is currently included in the ODMDS placement. The Corps must indicate in the SEIS that they intend to use this material for Beneficial Use (SIBUA extension or other) unless material is determined unsuitable (4.11.1. New Work Material Placement Options). The Corps must meet with the community to engage input on additional beneficial use placement areas.
**Maintenance Dredge Material**
The historical sand deficit caused by dredging and removal of sediment needs to be accounted for and added to the cost of further erosion from additional deepening and widening activities (and overall reduction of sediment supply to the littoral zone). Much of the maintenance dredge materials consist of sands found in the outer bar portion of the channel. As maintenance increases with project, and erosion of our shorelines continues to occur, there is a critical need for a better use of this material to replenish shorelines and continue to allow Dauphin Island to serve as a barrier island protecting the inland areas and key habitats that support our fish, crab, shrimp, and oysters.

**DREDGE MANAGEMENT PLAN**
With such a high occurrence of dredging planned and a large amount of dredge spoil needed for placement, we suggest the Corps consider creating a Dredge Management Plan that includes all proposed projects in the Mobile Bay area. This coordination and planning will improve the Corps ability to manage dredging activities, reduce negative impacts to aquatic species and mammals, and combine efforts for Beneficial Use options.

**MONITORING**
With a result of “no impact” from the proposed major project, the amount of uncertainty in identifying the impacts of the project, and the level of interest and concern from the community, the Corps should consider implementing a monitoring plan. The plan should extend at least 10 years after construction to ensure all impacts are considered. It should also include areas around dredging operations and beneficial use disposal areas.

**MITIGATION**
The Corps must consider our suggestions and others’ comments to ensure the project’s draft supplemental environmental impact statement is accurately estimating the unavoidable impacts to our important natural resources. We are very concerned with a project this large being proposed in a sensitive environment like an estuary and resulting in “no impact,” which may indicate these studies underestimate the true impact. Once all feasible studies have been performed for the final DSEIS and avoidance and minimization has been considered, any remaining unavoidable adverse impacts to the environment must be addressed through appropriate and practical compensatory mitigation. We suggest including the community and environmental groups in the process of mitigation to select an existing needed project. Any mitigation identified should also directly correlate with the natural resource determined to be adversely impacted from the project’s implementation. Several other port expansions have identified unavoidable impacts to wetlands, dissolved oxygen, and fish stocks. The Corps is required to carefully and comprehensively look at how this major project will impact our precious natural resources and mitigate accordingly.

**COMMENTS SUMMARIZED**
- As stated in our previous comment letter, we are concerned with the use of a one-year simulation (2010) as the basis of a number of the hydrodynamic, water quality and part of the sediment
transport modeling. These models play a role in identifying the potential impact on aquatic resources and given its limitation to one year, could ultimately underestimate the impact from the proposed project. The application must be at least a three-year simulation with a prolonged drought to better predict conditions post expansion.

- The Environmental Fluid Dynamics Code (EFDC) must include three additional models to show how pathogens, harmful algal blooms, and oil spills will move through the system with the new channel dimensions.
- To ensure compliance with NEPA requirements, the Corps must acknowledge the previous study conducted in 1980 (and several USACE reports since then) to determine historic impacts relevant to the expansion being considered (40 C.F.R. § 1508.7). This is particularly important as impacts to the western shoreline of Mobile Bay and Dauphin Island are historically significant and cannot be ignored.
- The Corps is required to model, understand, and predict the induced growth and encroachment or alteration effects that will occur and identify the indirect impacts that will occur from this induced growth.
- The VGWE may be underestimating the change in wave energy from the proposed expansion. The Corps must account for these inaccuracies and will need to conduct proper impact analyses from wave energy on aquatic resources (oysters, SAVs, etc.) and shoreline erosion.
  - For instance, the study has: 1) bias of sensors based on location and experienced vessel speed, 2) inaccurate expected drawdown measured from existing ship sizes versus those more heavily loaded, and 3) the exclusion of larger vessels like the PPXGn3 anticipated to call at the port post construction.
- Current analyses determining the impact from the proposed project on oysters are incomplete and inadequate.
  - The study fails to use credible high quality data on oyster larvae modeling that has been validated.
  - A major concern with the model for oyster larvae survival is the selection to release from Brookley Reef. The model must be run from all reefs relative to their productivity and, in particular, from Cedar Point.
  - Additional natural reefs exist that the Corps has not considered. The salinity and dissolved oxygen project mortality analysis for juvenile and adult oysters were conducted on only 13 adult oyster reefs provided from ADCNR and MDR. These do not include several other natural reefs that have been identified from local scientists through side-scan sonar methods. The Corps must acquire this data to include these sites in the analyses for the final SEIS.
  - The modeling has also only looked at physiological impacts from salinity increases and not other important factors impacting oyster survival. The Corps must model the potential increase of oyster drills from salinity increase and how that may impact oyster survival rates.
- Wetland impacts may be underestimated from the use of a one-year simulation of 2010 that may limit the ability to predict the extent of saltwater intrusion and the ability to only look at 43% of
the potential impact area. The SLR scenario did indicate 10 acres of wetlands would be inundated, and the Corps considered this to be “negligible.” But the Corps must understand where these 10 acres are to evaluate its importance to the system as a whole.

- Impacts to SAVs have been identified by how they will impact local species that rely on them, including the West Indian Manatee. The study does not adequately incorporate prolonged exposure to salinity, despite its harm to the species in question. The Corps must look at the maximum length of exposure anticipated of higher salinities and how frequent this may occur to determine overall mortality from the proposed project.

- The fisheries assessment analysis indicated, “values exceeding 3 ppt were projected for January – May” particularly at Little Sand Island; and therefore, the Corps must determine if fish species in that area will be impacted from this major shift in salinity values.

- Benthic sampling was limited to fall and spring and primarily in the upper portions of the Bay. The Corps must seek existing datasets or increase field verification to account for these data gaps. An increase of 1-3 ppt in the bottom habitats could mean significant impacts to other less dominant (but important) species. The Corps must identify and quantify these impacts in more detail.

- The Corps must assess the potential increase of nonnative or invasive species entering into Mobile Bay and surrounding coastal areas from increased salinity/temperature as a result of new channel dimensions.

- Inconsistencies exist throughout the DSEIS regarding the Corps’ assumption that fewer ships will use the channel “With Project” than “Without Project” and include unreliable assumptions that must be addressed.

- Impacts that have been identified to Little Sand Island/Pinto Island need to be explained in more detail, and the species currently utilizing this resource needs to be investigated.

- Air quality study contained a recent baseline of 2011; the Corps is required to consider previous impacts from the SEIS in 1980. The Corps’ assumption that there will be fewer ships in the future (and therefore less air impacts) must be validated.

- We are concerned with the indirect impacts of 25% increased truck traffic and a 2.5% increase in petroleum and hazardous materials that will be transported through environmental justice communities. How will the Corps mitigate this impact?

- More current surveys and verification with local scientists and state agency data on fisheries and benthic assemblages are needed to validate the use of the relic shell mined areas for beneficial use of dredge spoil placement.

- We encourage the Corps to use the approximately 1.7 million cubic yards of new work material from the Choctaw Pass Turning Basin that is likely made of clean sands for Beneficial Use and not dispose of in the ODMDS. We encourage the SIBUA be expanded, and suggest the Corps monitor its ability to increase return rates and apply an adaptive management strategy to get the highest effectiveness possible with this site.

- We suggest the Corps consider creating a Dredge Management Plan that includes all proposed projects in the Mobile Bay area.
The monitoring plan should extend at least 10 years after construction to ensure all impacts are considered. It should also include areas around dredging operations and beneficial use disposal areas.

We are concerned with a project this large being proposed in a sensitive environment like an estuary and resulting in “no effects,” which may indicate these studies underestimate the true impacts.

Mobile Bay is valuable to several industries including: commercial and recreational fisheries, tourism, coastal development, and recreational activity. Each of these industries contributes significantly to our economic prosperity and growth making it vitally important to evaluate all potential impacts to our natural resources. To protect our economy, community, and quality of life, we must ensure that we mitigate for any impacts associated with a major development project. Mobile Baykeeper recognizes the economic value of the Port as it contributes $19.4 billion to our regional economy and knows that improvements could make our Port more competitive in the industry. The DSEIS currently contains major data gaps and issues that need to be addressed before the final study release. It is of the utmost importance to thoroughly study the proposed port expansion so that we can grow responsibly and ensure negative impacts to the very natural resources that support so many economic sectors and our quality of life are effectively minimized.

Mobile Baykeeper appreciates the opportunity to provide input on the Mobile Harbor General Reevaluation Report and the DSEIS. We understand this is a long and tenuous process and appreciate the Corps taking the time to address the public’s concerns and take comments into consideration to ensure all impacts are properly evaluated.

Thank you in advance for your consideration and response to each of these comments. We request a written response to each of the provided comments. Please feel free to contact us with any questions at (251)-433-4229.

Sincerely,

Casi (KC) Callaway  Cade Kistler  Laura Stone Jackson
Executive Director  Program Director  Program and Grants Coordinator

Debi Foster  Tammy Herrington
Peninsula of Mobile  Conservation Alabama Foundation

CC: Fish and Wildlife Service, Alabama Department of Environmental Management, EPA Region 4

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8 USACE public scoping document