



DEPARTMENT OF THE ARMY  
CHARLESTON DISTRICT, CORPS OF ENGINEERS  
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CHARLESTON, SOUTH CAROLINA 29403-5107

# FINDING OF NO SIGNIFICANT IMPACT

## CHARLESTON HARBOR ADDITIONAL ADVANCED MAINTENANCE DREDGING

### CHARLESTON HARBOR, SOUTH CAROLINA

September 22, 2009

The National Environmental Policy Act (NEPA) requires the U.S. Army Corps of Engineers, Charleston District (The Corps) to evaluate the effect of proposed projects on both the environment and human health and welfare. This Finding of No Significant Impact (FONSI) summarizes the results of The Corps' evaluation and documents The Corps' conclusions.

The Corps has prepared an Environmental Assessment (EA) that covers maintenance dredging practices in Charleston Harbor. Charleston Harbor is located midway along the South Carolina coastline approximately 140 statute miles southwest of the entrance to Cape Fear River, North Carolina and approximately 75 statute miles northeast of the Savannah River (see Figure 1). The EA discusses dredging depths not addressed in the 1996 Feasibility Report and 1996 EA for deepening and widening the Charleston Harbor Federal Navigation Channel. The 1996 Report/EA indicated an authorized depth of 45 feet (47-foot deep entrance channel) plus 2 feet of advanced maintenance and 2 feet of allowable overdepth for a total potential dredging depth of 49 feet. Allowable overdepth dredging is to assure the project is constructed to the authorized depth, and advanced maintenance dredging is conducted in high shoaling areas to enable the project to remain at the authorized depth for a longer period of time.

During the harbor deepening project (1999 through 2004), portions of several reaches were dredged 2 to 4 feet deeper (additional advanced maintenance) because of historically higher shoaling rates. This resulted in potential dredging depths of either

51 feet or 53 feet in those areas. Since completion of the harbor deepening project in 2004, maintenance dredging, including the additional advanced maintenance, has been performed on a 12 to 18 month frequency. This additional advanced maintenance in the higher shoaling areas was not addressed in the 1996 Report/EA and is the reason for the Charleston Harbor Additional Maintenance Dredging EA, 2009.

Based on recent dredging projects, the anticipated average annual maintenance dredging needs for Charleston Harbor are approximately 2,200,000 cubic yards. About 1,360,000 cubic yards of this total go to the EPA designated Charleston Ocean Dredged Material Disposal Site (ODMDS), of which, about 310,000 cubic yards is from the additional advanced maintenance areas. About 840,000 cubic yards of the total go to the Clouter Creek Disposal Area, of which, about 330,000 cubic yards are from the additional advanced maintenance areas. These annual volumes should average the same for the foreseeable future.

The Corps evaluated two alternatives in the EA: No Action and the Proposed Project. Both alternatives will use the same dredging methods and the same disposal locations and are expected to result in the same quantity of material being dredged.

- **No Action** – The no action alternative is what was discussed in the 1996 Report/EA. As indicated above, those documents covered a project depth of 45 feet plus 2 feet of advanced maintenance and 2 feet of allowable overdepth (45+2+2) for a total potential dredging depth of 49 feet (2 feet deeper in the entrance). However because of higher shoaling rates in certain areas, a portion of the harbor would need to be dredged as frequently as twice per year to maintain the authorized depth and allow efficient ship navigation. This would result in an increased annual cost of about \$2,085,000 primarily due to more frequent mobilization of dredging equipment and a higher unit cost.
- **Proposed Project** – For the proposed project, most of the project would be maintained to a project depth of 45 feet plus 2 feet of advanced maintenance and 2 feet of allowable overdepth (45+2+2). Due to higher shoaling rates, portions of the following reaches would continue to be maintained to either 45 feet plus 4 feet of advanced maintenance and 2 feet of allowable overdepth (45+4+2) or 45 feet plus 6 feet of advance maintenance and 2 feet of allowable overdepth (45+6+2): Ordnance Reach and Turning Basin, Lower Wando River, Wando Turning Basin, and Lower Town Creek Reach are all dredged 2 feet deeper (i.e. 45+4+2); and Drum Island Reach is dredged 4 feet deeper (i.e. 45+6+2). These areas with higher shoaling rates are indicated in Figure 2. The additional advance maintenance dredging will enable the harbor to continue to be maintained on a 12-18 month frequency. This will result in a decreased annual cost of about \$2,085,000 compared to the no action alternative primarily due to less frequent mobilization of dredging equipment and a lower unit cost.

The Corps' criteria for evaluating the effect of both the no action alternative and the proposed project included the following:


- **Wetlands**: No adverse affect on wetlands are expected as a result of implementing either the no action alternative or the proposed project.
- **Water Quality**: A short-term increase in turbidity will occur during dredging activities associated with both alternatives. However, because of the more frequent dredging associated with the no action alternative, these turbidity increases would occur more often if the proposed project is not implemented. The temporary impact to water quality resulting from the proposed project was determined to be of short duration and cause minimal temporary disturbance to water quality.
- **Cultural Resources**: No effects on cultural resources are expected as a result of implementing either the no action alternative or the proposed project.
- **Threatened and Endangered Species**: There is a minor risk to threatened and endangered species as a result of implementing either the no action alternative or the proposed project. Either alternative may affect but is not likely to adversely affect threatened and endangered species. However, the risk is slightly higher resulting from the more frequent dredging associated with the no action alternative.
- **Benthic Organisms**: There will be impacts to benthic organisms associated with both the no action alternative and the proposed project. However, the impacts to benthic organisms will be greater as a result of the no action alternative. The impact to benthic organisms resulting from the proposed project was determined to cause a temporary disturbance that would result in short term minimal impacts to benthic populations.
- **Fisheries**: There is a potential impact to fisheries associated with both the no action alternative and the proposed project. However, the impacts to fisheries will be greater as a result of the no action alternative. The impact to fisheries due to the proposed project was determined to result in minimal impacts to overall fisheries populations.
- **Socioeconomic**: No adverse affect on socioeconomic conditions are expected as a result of implementing either the no action alternative or the proposed project.
- **Air Quality**: There will be a minor impact to air quality as a result of implementing either the no action alternative or the proposed project. However, the impact is slightly higher resulting from the more frequent dredging associated with the no action alternative.
- **Cumulative Impacts**: There are some cumulative impacts associated with both the no action alternative and the proposed project. However, the cumulative impacts will be greater as a result of the no action alternative. The cumulative impacts resulting from the proposed project were determined to be negligible.

Because the additional advanced maintenance areas have already been dredged and have been maintained at the same time as routine maintenance events, no significant environmental impacts are expected from continuing this dredging practice. In addition, if the proposed project is implemented, dredges will be in the harbor less frequently, resulting in fewer impacts compared to the no action alternative.

Implementing the proposed action will also result in an average annual savings in dredging costs of approximately \$2,085,000 compared to the no action alternative. Therefore, the proposed project is recommended for long-term maintenance of Charleston Harbor.

A draft EA and FONSI were distributed in July 2009 for a 30 day comment period. No substantial adverse comments were received. Therefore, the Corps' findings are that the proposed project does not significantly adversely affect the environment or human health and welfare and, therefore, preparation of an Environmental Impact Statement is not warranted. The full Environmental Assessment can be downloaded from the internet at <http://www.sac.usace.army.mil/?action=environmental.assessment> or a copy may be obtained by contacting Mr. Alan Shirey by telephone at (843) 329-8166 or by e-mail at [alan.d.shirey@usace.army.mil](mailto:alan.d.shirey@usace.army.mil). The 1996 Feasibility Study and 1996 EA can also be downloaded from the internet at the same site listed above.

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