



## SHAPING THE FUTURE ... TOGETHER

### EXECUTIVE SUMMARY

### GUAM AND CNMI MILITARY RELOCATION DRAFT EIS / OEIS VOLUME 4: NAVY AIRCRAFT CARRIER BERTHING

#### Focus

Volume 4 of the Draft Environmental Impact Statement (EIS) / Overseas Environmental Impact Statement (OEIS) addresses the proposed development of a new docking and support facility for Nuclear Powered Aircraft Carriers (CVN) planned for Apra Harbor. The preferred location is within Navy property at the northwest side of Polaris Point between Bravo Wharf and the Sasa Bay Marine Preserve. An alternative site is at Guam Ship Repair Facility.

Proposed actions include construction of a new berthing facility (dock and shore support facilities) adequate to accommodate the needs of a 1,123-foot CVN. This would include a dock measuring 1,325 feet by 90 feet supported on piles. Also, a 600-foot wide access channel to the facility and a minimum turning basin of radius 1,092 feet with clear depths of at least 49.5 feet are needed. This will require dredging of coral reef areas, which, in the Preferred Alternative, would directly impact an estimated 39 acres of coral reef. Siltation caused during the dredging would damage additional surrounding marine areas.

#### Key Actions

##### **Dredging**

The Draft EIS analysis of Navy plans for dredging in Apra Harbor for the CVN's channel, turning basin and berthing site does not adequately recognize or try to conform to the need to use dredged materials beneficially, to execute the dredging in the manner least destructive to marine life, and to assess the impacts of the dredging on marine life.

##### **Disposal of dredged materials**

Guam's policy is to utilize dredged materials for beneficial uses, and encourage temporary storage of dredged material for future beneficial uses. "Beneficial use" is repeatedly cited in the Draft EIS as a priority for dredged material disposal, but steps needed to allow this within planned construction time constraints are not addressed. This could result in lost value of over 600,000 cubic yards of materials, because they will be dumped in the Ocean Dredge Material Disposal Site (ODMDS).

Inadequate assessment is given for the utilization of dredged materials in plans for the huge amounts of construction proposed for Guam. Possible uses, such as using dredged materials to create target range berms, are noted, but there is no evidence of a serious commitment to advance plans for beneficial uses.

The physical qualities and levels of contamination in recently dredged materials from Inner Apra Harbor and near Bravo Wharf, which are now in confined areas on Naval Base Guam, should be discussed relative to planned dredging. Are there restrictions on re-use of the materials and have beneficial uses been planned for them? Can they be included in beneficial uses to be identified for dredging actions addressed in this Draft EIS?

##### **Methods of dredging and best management practices**

The Draft EIS recommends mechanical dredging, although it is noted to be the most damaging method. However, prioritizing the use of less damaging hydraulic dredging as the preferred alternative is not done. Best Management practices (BMPs) of using silt curtains to restrain turbidity and sedimentation is presented, but experience in other Navy dredging projects in Apra Harbor show that these are inadequate in such deep dredging projects.

##### **Physical impacts from dredging**

The Draft EIS does not adequately assess the loss of ecological functions and the impacts on the unique marine species and habitats that physical removal of substrate and siltation from the proposed massive dredging will cause. Better assessments must be conducted, addressing impacts to the unique marine species and habitats, the coral age classes, the communities of fish, invertebrates and marine plants, etc.

##### **Impacts of release of sediment contaminants during dredging**

Although individual contaminant levels may be below established risk levels, the real impacts on living marine resources depend on the combined impacts of all contaminants and the sensitivity of each of the species that occur in the impact areas. When adequate testing of the levels of contamination in the materials to be dredged for the CVN's channel, turning basin and berthing site is complete, there may not be time to adjust for dredging management and disposal decisions.

##### **Mitigation**

Throughout the Draft EIS, mitigation of construction activity impacts to the environment are promised to be addressed through application of BMPs. However, the details of these practices and their ability to mitigate are not adequately covered.

## Key Observations

Observation/ Issue	Comment
<p><b>Dredging Methods</b></p> <ul style="list-style-type: none"> <li>Hydraulic - Dismissed by Draft EIS</li> <li>Mechanical Dredging - Preferred by Draft EIS</li> </ul>	<p>The hydraulic method, which causes less environmental effect and has less impact on marine life, is dismissed but should be preferred.</p> <p>Mechanical dredging is the most environmentally damaging approach. Sufficient justification for its use is not provided.</p>
<p><b>Dredged Material Disposal</b></p> <ul style="list-style-type: none"> <li>Beneficial reuse - Dismiss</li> </ul>	<p>This is the preferred disposal method and should not be dismissed because of lack of analysis in Draft EIS preparation. The beneficial uses of dredged materials are being dismissed, but should receive highest priority. This EIS must make more of an effort to plan for, assess and prioritize beneficial uses for dredged materials.</p>
<p><b>Dredged Material Disposal</b></p> <ul style="list-style-type: none"> <li>Better options needed</li> </ul>	<p>Ocean disposal is the least preferred option. If all dredged material cannot be put to beneficial use, an option of beneficial use and upland disposal should be a priority, with the ability to use the material in upland disposal for future beneficial uses.</p>
<p><b>Dredged Material Disposal</b></p>	<p>The option of mixed beneficial use and ocean disposal should be replaced by beneficial use and upland placement.</p>
<p><b>Dredged Material Disposal</b></p> <ul style="list-style-type: none"> <li>Beneficial Uses</li> </ul>	<p>The Draft EIS does not provide enough information and discussion on other beneficial uses of dredged materials.</p>
<p><b>Elevated Facilities Design and Construction</b></p> <ul style="list-style-type: none"> <li>All facilities within this area would be designed and constructed to elevate the structure out of the flood zone.</li> </ul>	<p>The impacts associated with elevating the proposed structures within flood zones need to be assessed. If fill is used to elevate the facilities, will it be fill from this project's dredging or imported fill that may introduce damaging invasive species? If proposed land facilities are elevated, the impacts on changing the hydrological dynamics of the flood zones should be addressed.</p>
<p><b>Operation Surface Water</b></p> <ul style="list-style-type: none"> <li>It is the intent that all designs would result in 100% capture and treatment, if required, of stormwater runoff.</li> </ul>	<p>This has not been the Navy practice on Guam, even in recent construction, such as Bravo Wharf at Polaris Point. The EIS must explain why this design practice will be followed for the proposed CVN projects. Cite regulations, laws and policies that will make Navy follow this design practice.</p>
<p><b>Water Contamination</b></p> <ul style="list-style-type: none"> <li>Dredged sediment contamination levels reported as composites</li> </ul>	<p>Reporting on composite sampling of sediments is a mechanism that conceals evidence of certain significantly contaminated hot spots. Although individual contaminant levels may be below established risk levels, the real impacts on living marine resources depend on the combined impacts of all contaminants and the sensitivity of each of the species that occur in the impact areas.</p>
<p><b>Water Contamination</b></p> <ul style="list-style-type: none"> <li>The discharges of fill materials would not cause or contribute to violations of any federal or Guam EPA water quality standard with the implementation of BMPs to control turbidity.</li> </ul>	<p>The Draft EIS does not explain how the BMP's will prevent exceeding allowed turbidity levels, when their previous uses in Apra Harbor did not accomplish this. Improved BMPs are needed and should be addressed in the EIS.</p>
<p><b>Impact of Fill Materials</b></p> <ul style="list-style-type: none"> <li>The placement of fill materials would not result in significant adverse impacts to human health and welfare, including municipal and private water supplies, recreational and commercial fisheries, or special aquatic sites.</li> </ul>	<p>Impacts on special marine habitats and possibly fisheries could be significant. More analysis is needed. Lack of information makes it impossible to determine whether other special, unique or valuable species suspected to live in the area of direct dredging impacts will be significantly impacted.</p>
<p><b>Water Quality Impact Testing</b></p> <ul style="list-style-type: none"> <li>Testing would be accomplished within three years of the start of the proposed construction dredging.</li> </ul>	<p>Does this mean testing results will not be available until after the dredging starts?</p>
<p><b>Noise Impacts</b></p> <ul style="list-style-type: none"> <li>Noise of flight operations.</li> <li>Noise Impacts of harbor activities</li> </ul>	<p>It appears the Draft EIS does not address the noise increases related to flight operations from the CVNs, as aircraft fly to Andersen AFB and return to the CVN. Did noise impact studies recognize the impacts to residents in live-aboard boats anchored in Sasa Bay, next to Polaris Point?</p>

Observation/ Issue	Comment
<p><b>Multiple Uses of Apra Harbor Would Continue</b></p>	<p>Because of many conflicting marine water uses, a master plan of water use for Apra Harbor, including military uses, is needed.</p>
<p><b>Artificial Reefs within Apra Harbor or Other Locations</b></p>	<p>If artificial reefs are proposed to be utilized to make up for losses of reef fish, why aren't quantitative assessments of fish in the impact areas before dredging being utilized in mitigation calculations?</p>
<p><b>Artificial Reefs and Shallow Water Reef Enhancement</b></p> <ul style="list-style-type: none"> <li>As part of the artificial reef proposal, the Habitat Equivalency Analysis (HEA) restoration project would include the potential use of transplanted coral as part of its compensation strategy.</li> </ul>	<p>Transplanting coral from the dredging area could be donated as a management practice, but can not be charged to compensatory mitigation costs.</p>
<p><b>Impacts to Unique Coral Species</b></p> <ul style="list-style-type: none"> <li>To date, the coral community in the potentially affected area has not been documented to be comprised of unique species that could be lost from the Apra Harbor system.</li> </ul>	<p>Although most of the coral community to be destroyed by dredging is made up of the common species <i>Porites rus</i>, unique communities containing dense coverage of "rare" corals, including <i>Pectinia</i> (cf. <i>P. paeonia</i>) and <i>Leptoseris</i> (cf. <i>L. gardenari</i>), were also observed there by the resource regulators team. These make up healthy coral habitats apparently found no where else in the Marianas or any other US controlled waters.</p>
<p><b>Impacts to Cultural Sites</b></p> <ul style="list-style-type: none"> <li>No impacts to National Register of Historic Places (NRHP) eligible or listed archaeological or architectural resources or traditional cultural properties.</li> </ul>	<p>The known listed historic sites in Apra Harbor are not in the impact areas of proposed dredging. With no survey for submerged cultural resources being done in the dredging impact areas, it is incorrect to assume there are no NRHP-eligible resources that would be affected.</p>
<p><b>Impacts of Increased Vessel Traffic</b></p> <ul style="list-style-type: none"> <li>Because the annual number of vessels visiting the Port of Guam has decreased by 1,902 vessels over the period of 1995 to 2008, it is expected that the addition of about 300 vessels per year would have a less than significant impact on marine transportation in Apra Harbor.</li> </ul>	<p>Not all vessels have the same impact. This data is misleading because it does not compare changes of similar vessels with similar impacts. The large decrease of vessels in past years probably reflects decreases in port visits of fishing vessels, whereas the additional vessels in future years would be cargo and bulk carriers with very different impacts on marine transportation.</p>
<p><b>Mitigation Measures for CVN Visits</b></p> <ul style="list-style-type: none"> <li>No mitigation would be required for Alternative 1 or Alternative 2.</li> </ul>	<p>Possible mitigation practices would be to schedule CVN visits at times that are not peak seasons for tourist water recreational uses and times when fishermen do not want to fish the season's mackerel runs in the impact area.</p>
<p><b>Impacts to Tourism</b></p> <ul style="list-style-type: none"> <li>Long-term operational effects on tourism would include force protection restrictions during carrier ingress and egress restricting diving and tourist operation. However, these economic impacts to tourism would be somewhat mitigated or compensated for by increased tourism from military personnel.</li> </ul>	<p>Some estimated dollar values for these trade-offs in compensation should be given in the EIS.</p>
<p><b>Summary of Potential Mitigation Measures</b></p>	<p>Listing potential mitigation, without committing the Department of Defense (DoD) to provide the necessary resources to mitigate negative impacts caused by DoD actions and identifying how the DoD would implement these, is not sufficient.</p>
<p><b>Health and Safety</b></p>	<p>It appears the Draft EIS does not address the safety, noise and air pollution increases related to flight operations from the CVNs, as aircraft fly to Andersen AFB and return to the CVN.</p>
<p><b>Socio-economics</b></p> <ul style="list-style-type: none"> <li>Chapter 16 also describes potential impacts related to crime and social order issues and community cohesion, but recommended potential mitigation measures would reduce impacts to a less than significant level. Accordingly, these impacts would not have a corresponding impact with regard to environmental justice and protection of children.</li> </ul>	<p>Listing potential mitigation in Chapter 16, without committing the DoD to provide the necessary resources to mitigate negative impacts caused by DoD actions and identifying how the DoD would implement these, is not sufficient.</p>

**Assessment**

**Dredging**

DoD plans and the Draft EIS do not adequately provide for beneficial uses of dredged materials and are anticipated to lead to ocean disposal by default. Although dumping offshore in an approved Ocean Dredged Materials Disposal Site (ODMDS) may meet legal requirements and not directly cause environmental damage, it has significant negative indirect impacts. Not maximizing the utilization for beneficial uses of the materials dredged from Apra Harbor creates a burden and cost on Guam of the loss of the value of those materials. Use of these materials on Guam can lessen the amounts of imported aggregate and fill materials which have potential threats to health, agriculture and the living terrestrial and marine resources of Guam. Such threats of invasive destructive species in imported sand or gravel can be avoided by using Guam dredged materials for construction and other uses rather than imported material. The Draft EIS indicates that Guam quarried materials will not be the main source of aggregates for DoD construction, implying that materials will be imported, adding to the congestion at Port of Guam and on Guam roads.

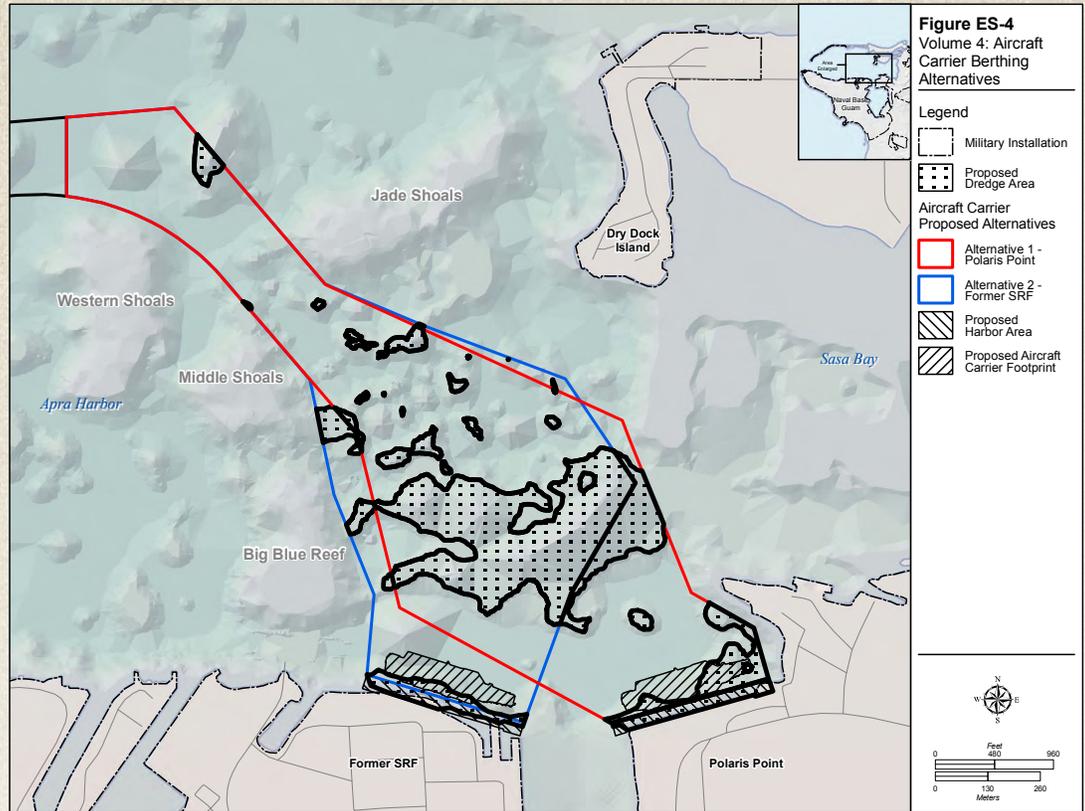
Beneficial uses of dredged materials outside of military activities must be assessed. There must be consideration of use as land fill cover, road base, rehabilitation of old quarries, beach restoration, fill for port expansion, fill for adaptation to sea level rise, etc., which are all needed for the Guam community.

Suitable dredged materials should be prioritized for use over Guam quarried materials,

to substitute for the impacts of quarrying on local residents and Guam’s environment. Even restoration of abandoned quarries should be assessed as a beneficial use of dredged materials.

**Mitigation**

The loss of coral reefs and their functions due to construction and dredging are viewed by the public as further damage by the Navy to subsistence fishing resources and recreational water uses. The need to avoid consumption of fishes in Agat Bay, Apra Harbor and Agana due to risks from contamination by past Navy activities has already angered fishermen and fish consumers. Restriction of access to water use areas because of Navy activities also adds to sensitivity over any proposed new damage to marine resources. Even more widespread concern lies with the basis of Guam’s economy, the visitor industry, which is very dependent on a quality marine environment and daily activities in Apra Harbor. Sufficient mitigation practices and compensatory mitigation for proposed losses of marine resources and loss of access must be provided and will have the attention of the public. Many people believe that losses of coral reefs are not replaceable through mitigation and will not accept inadequate approaches to mitigation.



**Figure ES-4**  
 Volume 4: Aircraft Carrier Berthing Alternatives

**Legend**

- Military Installation
- Proposed Dredge Area
- Aircraft Carrier Proposed Alternatives**
- Alternative 1 - Polaris Point
- Alternative 2 - Former SRF
- Proposed Harbor Area
- Proposed Aircraft Carrier Footprint

