



U.S. Environmental Protection Agency



U.S. Maritime Administration

This document is one section from the “National Guidance: Best Management Practices for Preparing Vessels Intended to Create Artificial Reefs,” published in May 2006. The reference number is EPA 842-B-06-002. You can find the entire document at <http://www.epa.gov/owow/oceans/habitat/artificialreefs/index.html>.

National Guidance: Best Management Practices for Preparing Vessels Intended to Create Artificial Reefs

**Cover, Acknowledgements, Table of Contents, and
Executive Summary**

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National Guidance: Best Management Practices for Preparing Vessels Intended to Create Artificial Reefs



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- Maritime Administration
- National Oceanic and Atmospheric Administration
- United States Army Corps of Engineers
- United States Fish and Wildlife Service
- United States Coast Guard
- United States Department of the Navy
- United States Environmental Protection Agency



Photo courtesy of Laura S. Johnson

Maritime Administration's James River Reserve Fleet, Virginia.

Cover Photos

Top photo: Ex-USS Spiegel Grove en route to artificial reef sink site. Photo courtesy of Andy Newman, Florida Keys News Bureau.

Middle photo: Ex-USS Spiegel Grove resting at its artificial reef site. Photo courtesy of Florida Fish and Wildlife Conservation Commission, Division of Marine Fisheries Management, Artificial Reef Program.

Bottom photo: The scuttling of Navy Dive Tender YDT-14 on April 1, 2000, approximately 18 miles SE of Pensacola Pass, Escambia County, Florida. Photo courtesy of Florida Fish and Wildlife Conservation Commission, Division of Marine Fisheries Management, Artificial Reef Program.

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Photo courtesy of Florida Fish and Wildlife Conservation Commission
 The scuttling of Adolphus Busch on Dec. 5, 1998, approximately 7 miles S of
 Summerland Key, Monroe County, Florida.

EXECUTIVE SUMMARY

This guidance document was developed to satisfy the mandate of Section 3516 of the National Defense Authorization Act for Fiscal Year 2004, which requires that the Maritime Administration (MARAD) and the U.S. Environmental Protection Agency (EPA) jointly develop guidance recommending environmental best management practices to be used in the preparation of vessels for use as artificial reefs. It also responds to MARAD's request for the EPA to provide national environmentally-based best management practices for the preparation of vessels to be sunk with the intention of creating artificial reefs in permitted artificial reef construction areas.

Options for managing obsolete and decommissioned military and commercial vessels include re-use of the vessel or parts of the vessel, recycling or scrapping, creating artificial reefs, and disposal on land or at sea. This document discusses the preparation of obsolete and decommissioned military and commercial vessels when employing the vessel management option of artificial reefing. Artificial reefs should only be developed where such reefs will enhance native marine resources and benefit the natural marine environment. Strategically sited artificial reefs not only can enhance aquatic habitat, but also provide an additional option for conserving, managing, and/or developing fishery resources.

Although the best management practices presented in this document are intended for use when preparing vessels to serve as artificial reef habitat, the best management practices may have applicability to other in-water uses of vessels, such as the creation of recreational diving opportunities. It is recommended that these best management practices be implemented for such in-water uses of vessels, with the caveat that further vessel preparation beyond that employed for artificial reef habitat may be needed. When preparing a vessel for such in-water uses, consideration should be given to vessel stability and integrity prior to and after final placement.

This guidance identifies materials or categories of materials of concern that may be found aboard vessels and specifically identifies where they may be found. For each material or category of material, this document provides a narrative clean-up performance goal and information on methods for achieving those goals in preparation of the vessel prior to sinking. Materials of concern include, but are not limited to: oil and fuel, asbestos, polychlorinated biphenyls (PCBs), paint, solids/debris/floatables, and other materials of environmental concern. Exhibit 1 provides a summary of the narrative clean-up goals for materials of concern.

In keeping with Section 3516 of the National Defense Authorization Act for Fiscal Year 2004, this guidance document addresses only recommended clean-up practices for vessels that are intended to be placed as artificial reefs. It neither endorses such placement nor does it address the potential availability or environmental effects associated with alternatives to placement of vessels as artificial reefs.

Exhibit 1. Summary of Narrative Clean-up Goals for Materials of Concern

| Material of Concern | Narrative Clean-up Goal |
|--|---|
| <i>Oil And Fuel</i> | Remove liquid fuels and oils and semi-solids (greases) so that: no visible sheen is remaining on the tank surfaces (this includes all interior fittings, piping, structural members); no film or visible accumulation is remaining on any vessel structure or component (e.g., on machinery or from spills on decking or carpet). The end result of such clean-up should be that no sheen be visible upon sinking a vessel. |
| <i>Asbestos</i> | Remove any loose asbestos and asbestos that may become loose during vessel sinking; remove or seal accessible friable asbestos. |
| <i>Polychlorinated Biphenyls (PCBs)</i> | Remove all manufactured products containing greater than or equal to (\geq) 50 parts per million (ppm) of solid PCBs; remove all liquid PCBs regardless of concentration; remove all materials contaminated by PCB spills where the concentration of the original PCB source is \geq 50 ppm. |
| <i>Paint</i> | Remove harmful exterior hull anti-fouling systems that are determined to be active; remove exfoliating (peeling) and exfoliated paint. |
| <i>Solids/Debris/Floatables</i> | Remove loose debris, including materials or equipment that are not permanently attached to the vessel that could be transported into the water column during a sinking event. |
| <i>Other Materials of Environmental Concern</i> | Remove other materials that may negatively impact the biological, physical, or chemical characteristics of the marine environment. |

The narrative clean-up performance goals for the materials of concern highlighted in this guidance should be achieved while preparing a vessel intended for artificial reefing. There are statutory requirements and associated regulations, as well as permit processes applicable to the process of preparing a vessel for reefing that are not highlighted in this document. These include, but are not limited to, issues such as vessel inspections by appropriate authorities and storage and disposal of waste generated during clean-up/preparation. Further, this document does not provide information on how to sink a vessel or the required actions or regulatory procedures/processes associated with the actual act of sinking a vessel.