

# Overview

## Impacts

Grounded and abandoned vessels are a problem in many coastal areas, and are a significant threat for coral reef habitats. Their impacts are diverse and include:

- Crush, smother & scour many habitat types
- Release oil & other pollutants
- Impede navigation
- Prevent other uses of marine & coastal habitats - both commercial & recreational
- Entrap wildlife
- Threaten public health & safety
- Locations for illegal oil & hazardous material dumps

In addition to these physical effects, abandoned vessels can impact the aesthetics of local environments significantly. While eyesores may not injure wildlife they can affect tourism and local use of the marine environment which translates into impacts to the local economy.

## NOAA's Role

The National Oceanic and Atmospheric Administration (NOAA) has a long and diverse interest in grounded and abandoned vessels. Currently NOAA is involved in a number of ways:

- Office of Coast Survey - locates wrecks on nautical charts to facilitate safe navigation
- Office of Response & Restoration - addresses pollution threats from vessels
- Fisheries - works on entanglement hazards, debris removal & habitat restoration
- Office of Ocean Exploration - investigates wrecks as part of their undersea exploration mandate
- Office of Marine Sanctuaries - manage historic wrecks & respond to pollution threats

Our action to address this problem has typically been limited and focused on specific threats. With the exception of vessels grounded in the National Marine Sanctuaries, no action is usually taken to address the vessel itself, or restoration of the grounding site. This is because existing federal laws and regulations provide less than optimal authority to promptly remove grounded or abandoned vessels that harm natural resources but which are not otherwise obstructing or threatening to obstruct navigation, or threatening a pollution discharge.

## Background

In 1999, the US Coast Guard, NOAA, the Department of Interior and the government of American Samoa began a collaborative effort to address nine abandoned fishing vessels on a reef in Pago Pago, American Samoa. These vessels were a public nuisance and posed an array of threats, including pollution, public health, and physical crushing of coral habitats. Using the combined authorities of the agencies, the vessels were cleaned, cut apart, and removed from the reef, which was also restored. This experience, combined with increasing agency concerns about the decline of coral habitats from a variety of causes, led NOAA and others to question whether abandoned vessels may be causing significant harm to coral habitats elsewhere. At the same time, the US Coral Reef Task Force (CRTF) published their National Action Plan, and identified groundings as a significant factor in the loss of reef habitat.

## Program Goals

NOAA responded to the National Action Plan, in part, by developing the Abandoned Vessel Program.

*Short-range  
Goals*

- **Improve Understanding of the Issue**
- **Increase Awareness**

*(Coral Focused)*

*Short-range  
Initiatives*

*Abandoned vessel inventory  
Field efforts - field surveys & stakeholder workshops  
Legal & policy review*

*Long-range  
Goals*

- **Provide Technical Assistance**
- **Facilitate Vessel Removals**
- **Expand Scope to all US Waters**

*Long-range  
Initiatives*

*Develop reference documents (Prevention methods, emergency response, damage assessment and mitigation)  
Removal assistance  
Canvas new areas & experts*

The database and legal review efforts are on-going. NOAA has also begun vessel surveys and work with local governments to identify candidate vessels for removal.



*AVP Unknown 2443*



*Hosll II - Vieques, PR*



*Tanker Prestige - Spain*



*SS Jacob Luckenbach - CA*



*M/V New Carissa - Oregon Coast*



*Messenger of Peace - Maui*



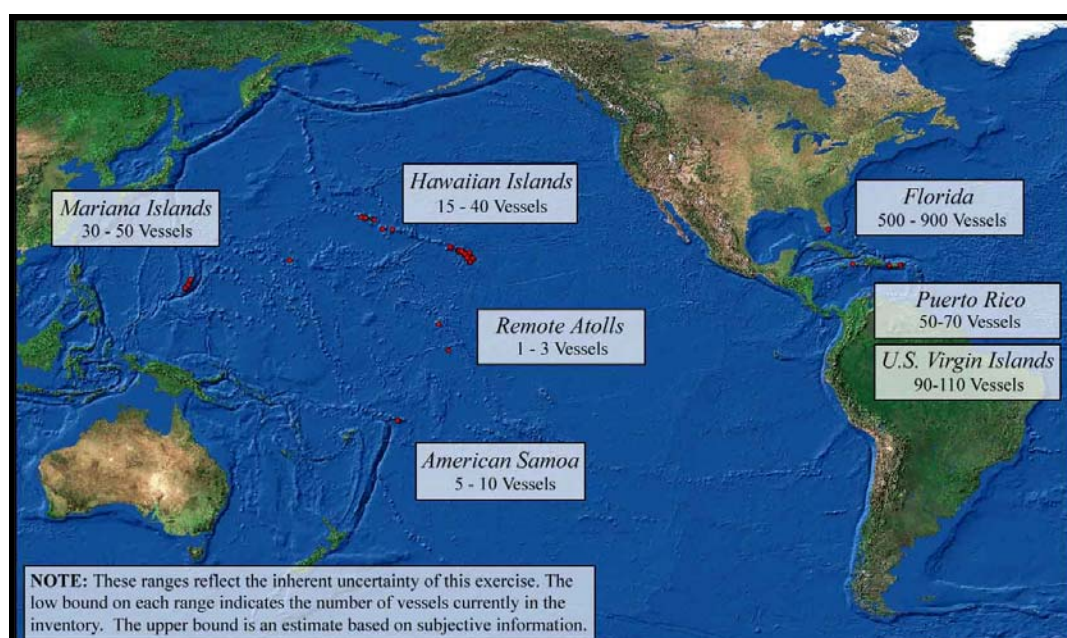
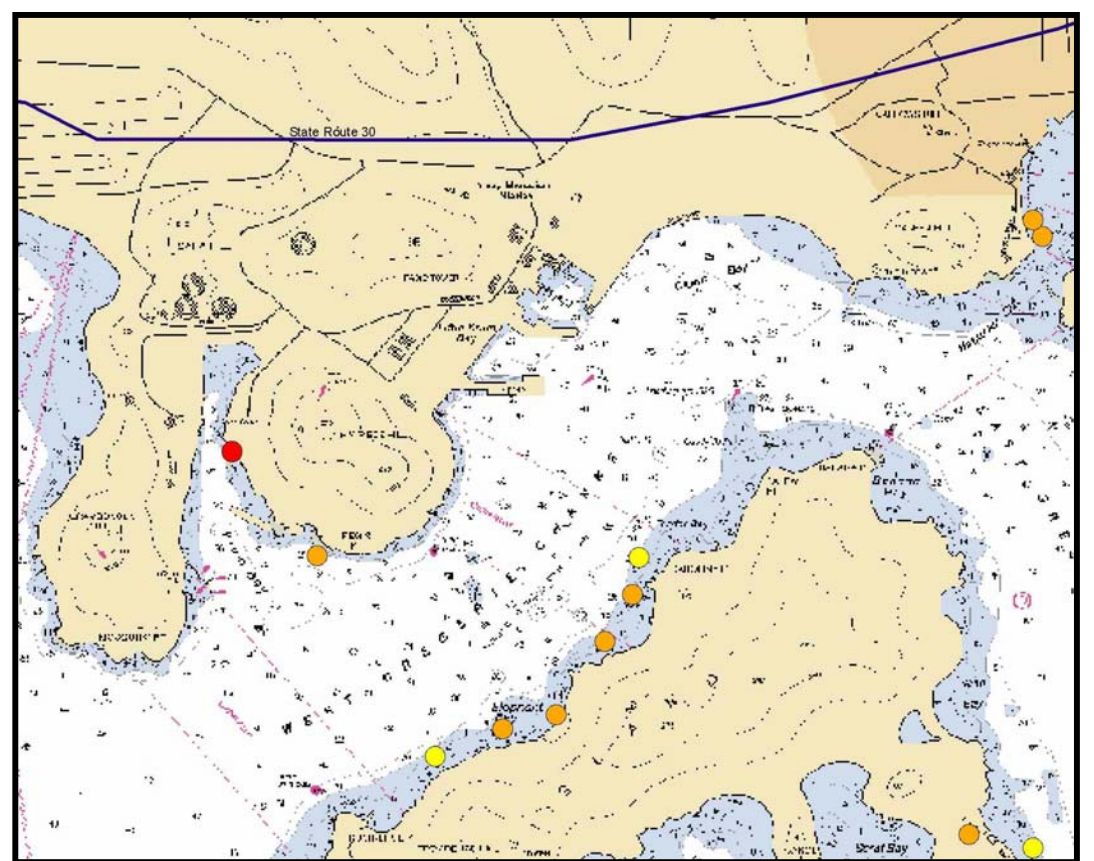
# Abandoned Vessel Program

## Abstract

Derelict and abandoned vessels pose significant threats to coral ecosystems by releasing pollutants, physically destroying habitat, and causing algal blooms through iron deposition. Each of these threats has been anecdotally documented in the recent academic literature and popular press, but the scale and scope of the problem is poorly understood because of reporting inconsistencies at the local level and the lack of data collection and analysis at the national level. NOAA's Damage Assessment Center is attempting to address these issues by creating a comprehensive database of abandoned vessels threatening coral reef ecosystems. Vessel data has been assembled for tropical habitats across the entire United States and its territories. It is the goal of the Abandoned Vessel Program (AVP) is to use these data, as well as the database, geographic information system and web applications that have been developed for them, to improve understanding and analysis of the issue. The Abandoned Vessel Inventory will also be used to develop a broader support for the issue, resulting in study and assessment in all US waters.

## Data Collection

The project's first effort was to mine numerous databases that contain abandoned vessel information. Sources included the USCG, NOAA and the State of Florida. After these data were reviewed and incorporated, additional internet and paper research was performed. Data was further refined through field surveys of vessels in PR and the USVI in the summer of 2002 (with Research Planning, Inc.) Critical points were learned in the field. Many vessels remain on paper that can no longer be found in the field. Conversely, many more were found that had no record in the database. These observations emphasize the need for rigorous, centralized data collection, thorough field surveys, input from as many public and private sources as possible and support further development of the Abandoned Vessel Inventory.



Abandoned Vessel Inventory:  
Overview of Contents

Abandoned Vessel Program  
NOAA - Damage Assessment Center  
January, 2003  
Doug Helton, (206) 526-4563 / Ian Zelo (206) 526-4599

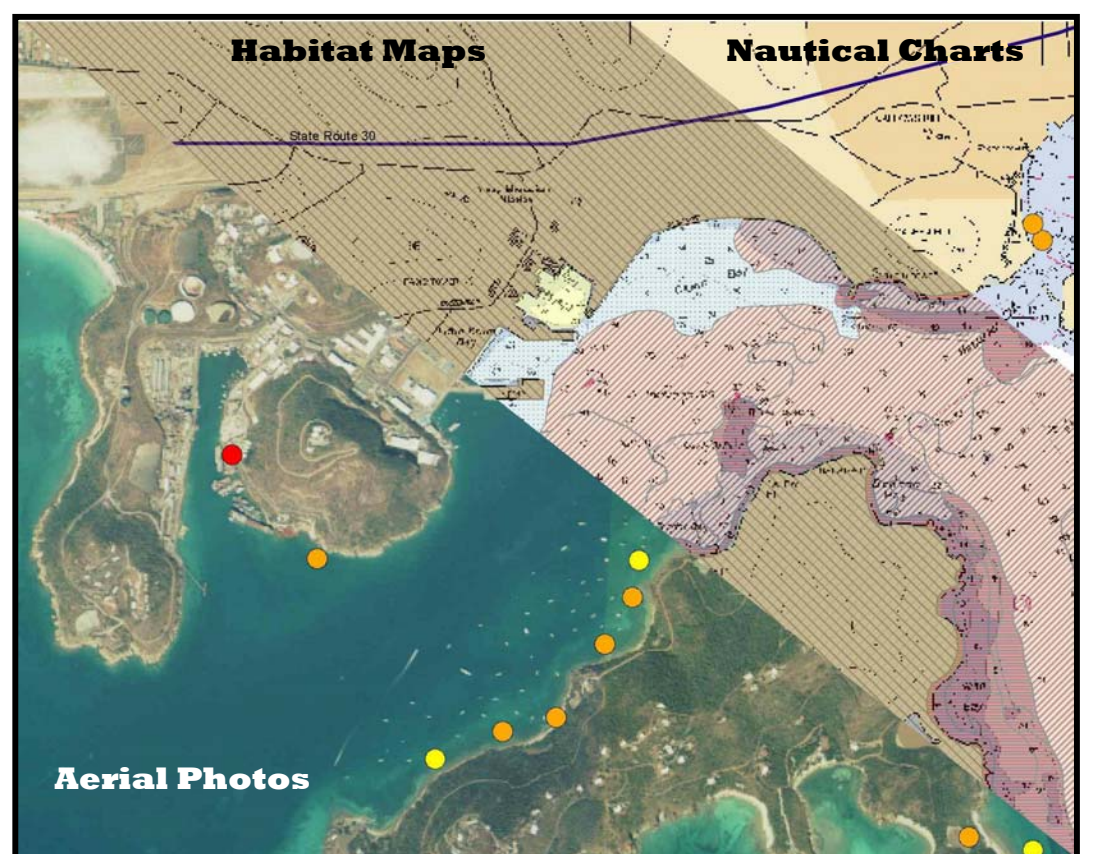
## Data Analysis

Additionally, the AVP has set up a Geographic Information System (GIS) application linked directly to the database. This tool spatially represents vessel information and can relate it to other relevant data. To date, aerial photography, nautical charts, topographical information and habitat maps have been incorporated. The GIS facilitates simultaneous spatial analysis of vessel data and NOAA's best environmental and ecosystem data.

## Data Management & Distribution

The inventory is housed in a Microsoft Access 2000 database which allows for flexible data entry, association of different types of survey information and easy execution of a variety of query, filter, and reporting operations. The database also manages and exports information to the project website and for electronic distribution. This database currently contains 63 vessels in the U.S. Pacific Island territories, over 160 vessels around the U.S. Caribbean Islands, and approximately 550 vessels in the Florida Keys. In total there are more than 2000 records but varying degrees of confidence in these data lead us to narrow the numbers when generating regional totals.

The Abandoned Vessel Program website is the primary mechanism used to distribute information about the program as well as AVI data. The site has downloadable GIS data, PDF data, presentations, and papers about AVP effort. It also has basic information about more than 100 vessels in US waters, vessel survey reports and a suite of links and other resources.

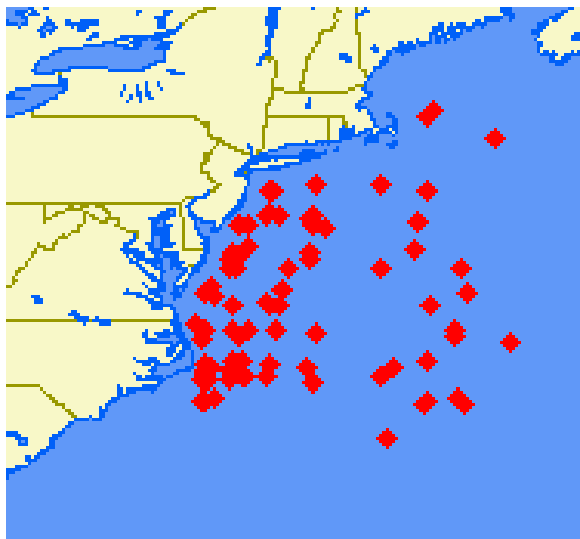


# Discussion

## Challenges for AVP

The case study review and the data management discussion begin to reveal the spectrum of challenges that face the Abandoned Vessel Program. The full suite of challenges includes:

- Developing accurate vessel data, including vessel ownership information
- Building a better understanding of the fate and effects of vessel groundings, including case-histories of prior grounding and wreck removal efforts
- Prioritizing vessels and securing funds for removal
- Evaluating legal issues and strategies to facilitate vessel removal
- Developing cost effective and environmentally sound removal and disposal strategies
- Supporting local governments with technical and legal aspects of vessel removals
- Improving monitoring and restoration tools



89 Vessels sunk by U-boats in the US mid-Atlantic region

## Broadening Concern

Although coral reefs are particularly sensitive, abandoned vessels are a problem across a much broader range of habitats. Concern is also increasing over the fate of thousands of sunken vessels throughout the entire US coastal zone. Many of these wrecks pose environmental threats, either because of the hazardous nature of their cargoes, the presence of munitions, or because of bunker fuel oils left onboard. As these wrecks corrode and decay, they may release oil or hazardous materials.

## Conclusions

### ➤Coral reefs:

- Are highly productive
- Sustain a large economic base
- Are declining at an alarming rate
- Are significantly impacted by derelict and abandoned vessels

### ➤Responders

- Generally focus on the pollution threats posed by fuels on board grounded vessels
- Often lack authority or funds to remove the vessel itself

➤Even though the pollution risk of a vessels may be abated, they continue to damage ecosystems.

➤Focus on oil pollution alone may miss the larger goal of environmental protection after a spill.

➤Responders must ensure that they consider the overall impacts of an incident and work to minimize both the pollution and vessel impacts during a grounding event.

*The preliminary, coral focused, data collection and issue development efforts reported here can serve as first steps in improving the state, territorial, commonwealth, and Federal response to grounded and abandoned vessels. Further effort is clearly needed both in terms of the depth and scope of response. Finally, it is clear that concern for and effort in coral habitats is only a good beginning. The environmental impacts from abandoned vessels and shipwrecks in other marine habitats must also be evaluated.*

## References

NOAA Damage Assessment Center "Emergency Restoration Plan and Environmental Assessment: Pago Pago Harbor, American Samoa" (1999)

Research Planning Inc. "Surveys of Abandoned Vessels: U.S. Caribbean Region, NOAA Damage Assessment Center, Seattle, WA (2002)

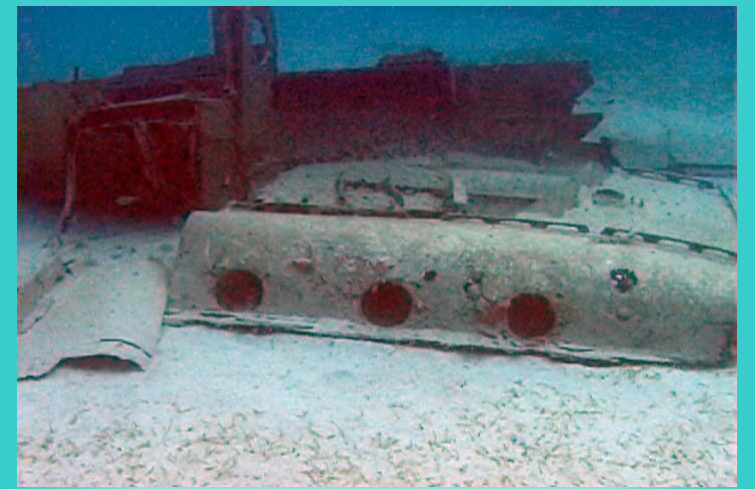
## Contacts

Doug Helton (206) 526-4563 doug.helton@noaa.gov  
Ian Zelo (206) 526 - 4599 ian.j.zelo@noaa.gov

NOAA Damage Assessment Center  
7600 Sand Point Way NE, Seattle, WA 98115r

## Case Study:

### *Scuttling of S/V Karma*



In 2000, the *S/V Karma* was stripped down and scuttled by its owner to make an artificial reef in an ill-conceived ecotourism venture in seagrass beds offshore of Luis Peña Key, Puerto Rico (Figure 2). The vessel rests in 20-25 feet of water, less than 15 feet from a coral reef. The seagrasses in this area are designated as critical habitat for endangered Green Sea Turtles. The physical presence and the motion of the Karma are causing physical injury to the seagrass and the nearby reef is in danger of direct impact.

The vessel owner refused to remove the vessel. In an effort to prevent further injury, the Puerto Rico Department of Natural and Environmental Resources (PRDNER) temporarily stabilized the boat with four anchors. This slowed injury to the seagrass and reduced the risk to the coral reef. Facing winter storms that could multiply the impact of the vessel and an uncooperative vessel owner, the PRDNER requested Federal assistance with the removal. The Environmental Protection Agency (EPA) considered fines and enforcement actions which produced little response from the owner. They also determined that the penalties and enforcement authorities of the Clean Water Act and the Marine Dumping Act did not apply. The Army Corps of Engineers could not use their authority under the Rivers and Harbors Act because there was no navigation threat. The USCG found no oil pollution potential because the owner had removed all fuels and fluids from the vessel and concluded that they had no removal authority. The U.S. Navy was contacted, but the removal project was too small for a Navy training exercise. NOAA identified a funding source but concluded that they lacked clear removal authority since the vessel was still private property. NOAA took initial steps to determine whether the law enforcement office of NOAA Fisheries could use their Endangered Species Act authority to remove the vessel. Agents began an investigation but were stalled when they couldn't establish clear title to the vessel. Follow-up surveys have shown that *Karma* is rapidly disintegrating. Seagrasses around the vessel show signs of scouring and vessel debris is spreading into the adjacent reef areas.

Efforts to remove the *S/V Karma* highlight the unclear nature of federal authority to remove certain abandoned vessels that threaten sensitive marine environments.

