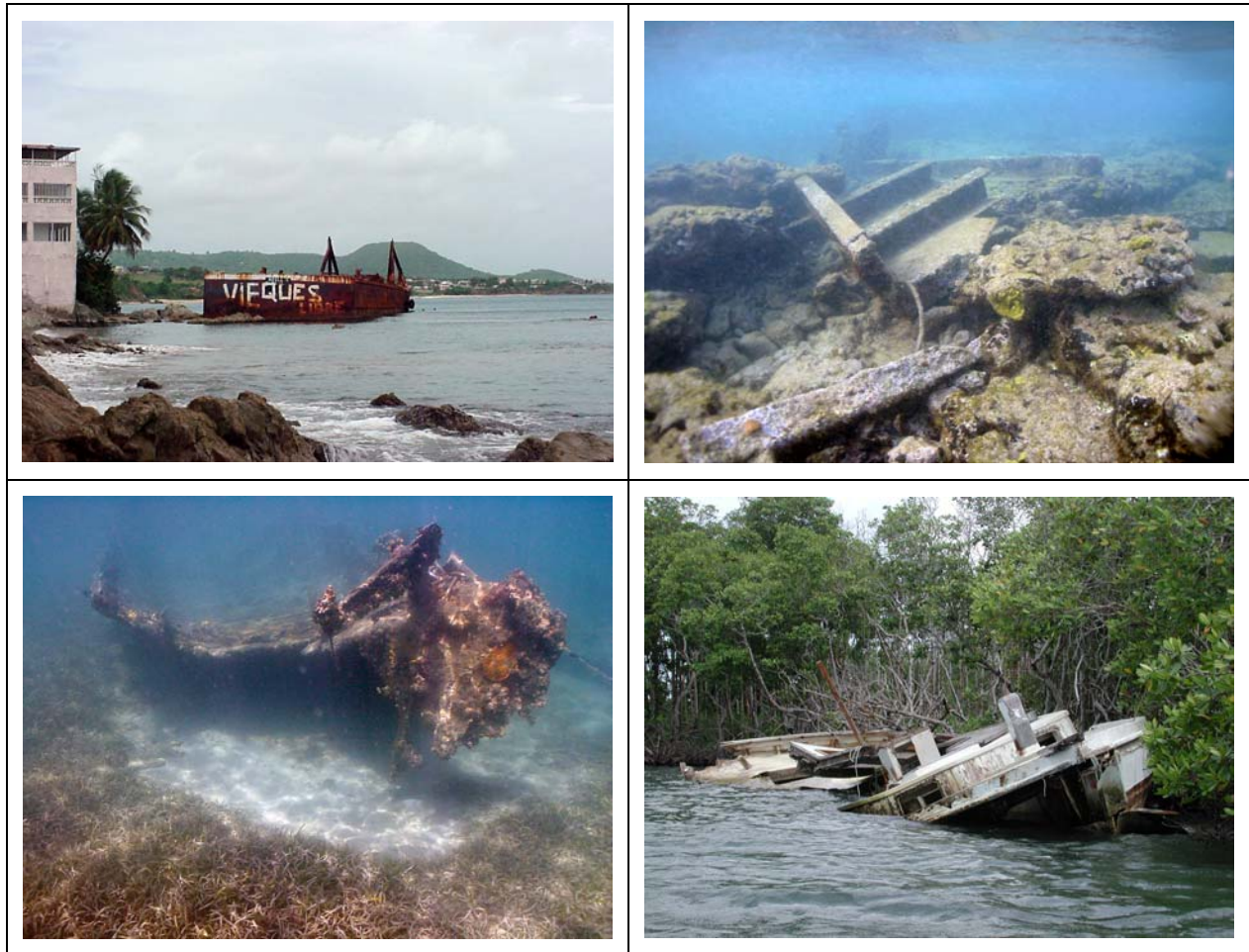


Surveys of Abandoned Vessels: U.S. Caribbean Region



**SURVEYS OF ABANDONED VESSELS:
U.S. CARIBBEAN REGION**

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LIST OF ABBREVIATIONS

AVI	Abandoned Vessel Inventory
CRTF	Coral Reef Task Force
ESI	Environmental Sensitivity Index
ft	feet
km	kilometer
LCU	Landing Craft Utility
NOAA	National Oceanic and Atmospheric Administration
USVI	United States Virgin Islands

SURVEYS OF ABANDONED VESSELS: U.S. CARIBBEAN REGION

INTRODUCTION

Grounded and abandoned vessels are a problem in many coastal areas, and they are a significant threat for coral reef habitats. In addition to the physical crushing and smothering of habitats, grounded vessels pose a significant threat of oil spills and releases of other pollutants, may impede navigation, block public and private uses of intertidal and subtidal habitats such as aquaculture, become a site for illegal dumping of waste oils and hazardous materials, be a visual eyesore, and become a wildlife entrapment and public health hazard.

The National Oceanic and Atmospheric Administration (NOAA) has a long and diverse interest in grounded and abandoned vessels, but action to address these threats has been limited and focused on specific threats. NOAA cartographers note the location of wrecks on nautical charts to facilitate safe navigation. NOAA Office of Response and Restoration works on pollution threats from vessels. NOAA Fisheries works on entanglement hazards and debris removal from vessels. However, with the exception of vessels grounded in the National Marine Sanctuaries and National Parks, 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 vessels or abandoned vessels that are causing harm to natural resources but which are not otherwise obstructing or threatening to obstruct navigation, or threatening a pollution discharge.

In 1999, the U.S. Coast Guard, NOAA, and the Commonwealth 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 three agencies, the vessels were cleaned, cut apart, and removed from the reef, and the grounding sites were restored. This experience, combined with increasing agency concerns about the decline of coral habitats from a variety of causes, led NOAA and others to inquire whether abandoned vessels may be causing significant harm to coral habitats elsewhere.

At the same time, the U.S. Coral Reef Task Force (CRTF) published their National Action Plan, and identified groundings as a significant factor in the loss of reef habitat.

"Every year hundreds of vessels strike U.S. coral reefs, causing significant damage that goes largely unrepaired and unrecovered. In the Florida Keys National Marine Sanctuary alone, approximately 500 small vessel groundings occur each year. Vessels striking shallow coral reefs can cause profound damage to the habitat by destroying the benthic community, displacing resident fishes, and eliminating critically important topographic complexity and habitat structure that is the result of thousands of years of growth."

In response to the National Action Plan, NOAA began an investigation of the problems posed by abandoned and derelict vessels on U.S. coral reef habitats. This effort has three elements: 1) development of a database of abandoned vessels¹; 2) review of existing legal authorities; and 3) site visits, vessel surveys, and prioritization of problem vessels for potential removal. The database and legal review efforts are on going, and NOAA has begun conducting site visits to identify candidate vessels for removal.

The following report summarizes survey work conducted during the summer of 2002 in Puerto Rico and the US Virgin Islands.

STUDY METHODS

The vessels included in this report are a subset of vessels in the Abandoned Vessel Information (AVI) database developed by NOAA's Office of Response and Restoration. The AVI database is a compilation of existing data from sources such as NOAA, the U.S. Coast Guard, States, Territories and the maritime industry, as well as original data from charts and interviews with local sources. Development on the database began in August 2001, and information is regularly being added and refined. While the database focuses on regions of the US with coral, not all of the vessels are aground on coral or associated habitats. Since the database contains too many vessels to feasibly survey in the field, records were filtered to identify those vessels that were most likely to be located in sensitive habitats. This selection was based on their mapped location, vessel information, and nearby benthic habitats as provided in the NOAA benthic habitat maps. This initial priority list was then further evaluated using Environmental Sensitivity Index (ESI) data that had recently been updated for both Puerto Rico and the U.S. Virgin Islands.

Because vessel positions were in some cases approximate, and because the vessels or debris may move, a 1 km buffer around each vessel position was used in place of specific coordinates. Vessels with known coral habitats within their 1km buffer were then assigned higher priority. The subset of vessels was then sorted based on logical and logistical considerations - only nearshore vessels in the intertidal or shallow subtidal that were readily accessible by small boat or from shore were surveyed. In some cases, solitary vessels in remote areas were not surveyed because of the cost and time required to access the sites. As a result, this report should not be viewed as a complete inventory.

The information in the AVI database was derived from a number of sources. In some cases, the position information may be approximate, identifying numbers and names may be obscured or removed, and description of the vessel may be vague or imprecise. Furthermore, new vessels continue to become abandoned while older vessels degrade, shift in position, or are occasionally removed. Therefore, some vessels in the database were flagged as potential duplicates with slightly different descriptions or positions. Effort was made to search all of the vessels using their reported positions, but in some cases no vessel was found, while in other

¹ The field surveys focused on derelict vessels that were aground, broken apart, sunken, showed no sign of maintenance, use, or were otherwise dilapidated in their condition. Some of these vessels may still have a concerned owner. Our use of the word "abandoned" in the text and tables of this report is not intended to connote any legal conclusions about the status of the titles of the vessels being addressed.

instances, multiple vessels were found when only one was charted. Vessels found during the field surveys were photographed and position information was collected to help sort out duplicate records, but some duplicate records may persist in the database.

Two types of field surveys were conducted:

1. A full site assessment and completion of a detailed survey form, which was based on the following activities:
 - a. The current location of the vessel was determined using GPS;
 - b. The vessel was inspected to the extent possible, recording the vessel type, construction, dimensions, conditions, etc.;
 - c. A biologist conducted a snorkel survey of the benthic habitats and visual surveys of the adjacent intertidal habitats; and
 - d. The entire site, vessel footprint, and adjacent habitats were filmed using an underwater video and digital photography following a set pattern.
2. A rapid assessment, conducted at vessels with low potential environmental impact or restoration value, consisting of the following activities:
 - a. The current location of the vessel was determined using GPS;
 - b. The vessel type and dimensions were recorded;
 - c. A biologist made a quick site assessment; and
 - d. The site was photographed and videotaped.

The completed field forms and a photograph of each vessel are included in a separate document that contains two appendices: Appendix A for the Puerto Rico vessels and Appendix B for the U.S. Virgin Islands vessels. This document is available from the NOAA Damage Assessment Center.

SURVEY RESULTS

There were fourteen vessels on the priority list for Puerto Rico. Two vessels were determined to be duplicate records, and one vessel in Roosevelt Roads could not be located. One vessel on the priority list, the *Dutchman*, was in the process of being removed by the U.S. Coast Guard as a continuing pollution threat because it had been used repeatedly for illegal dumping. Oil had been removed from the vessel twice, therefore the U.S. Coast Guard used funds from the Oil Spill Liability Trust Fund to have the vessel removed and scrapped. Removal actions for the *Dutchman* were completed in June 2002. During the field surveys in the priority areas in Puerto Rico, 23 new abandoned vessels that were not included in the AVI database were surveyed, for a total of 34 vessels. It is probable that some of the “new” vessels in both Puerto Rico and the USVI were previously identified and included in the AVI database, but it was not possible to match these vessels with the existing identification numbers with a high degree of certainty, and therefore they were assigned new numbers. Figure 1 shows the location of the inspected vessels in Puerto Rico, classified according the primary habitat type at the vessel site. Table 1 includes summary information about each vessel in Puerto Rico.

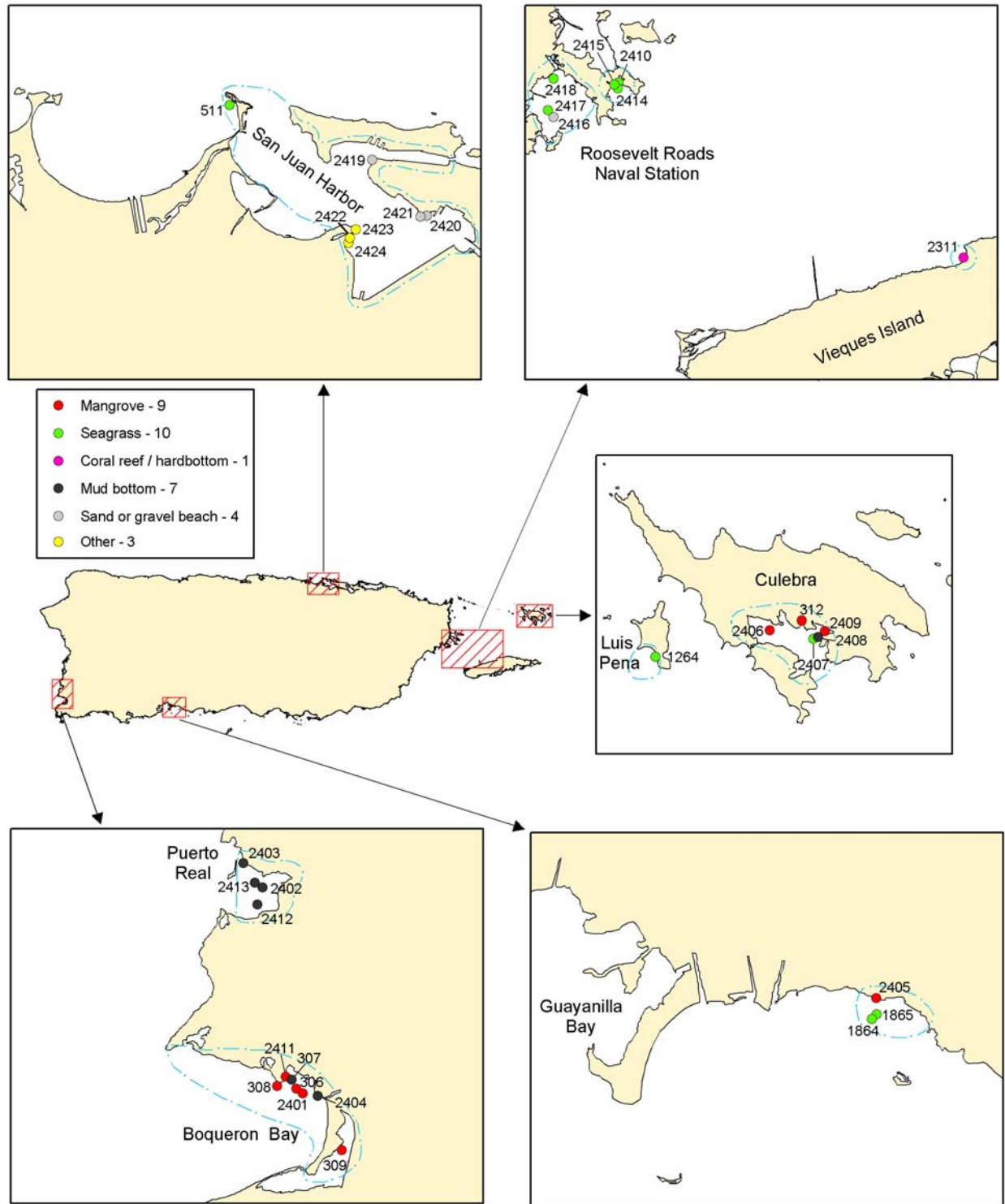


Figure 1. Location map showing the distribution of the 34 abandoned vessels surveyed in June 2002 in Puerto Rico, with insets for the priority regions. The symbol color indicates the primary habitat in the vicinity of the vessel. The blue-dashed line delineates the actual areas surveyed during the field visits.

There were 17 vessels on the priority list in four areas in St. Croix, USVI. Fourteen vessels were identified in Salt River Bay, but only 7 were matched with the original 12 records in the database, and 7 were given new numbers. Three new vessels were located in Tague Bay, in addition to the 1 on the priority list. The 1 priority listed vessel in Krause Lagoon was not located, but 2 new vessels were found. The 3 priority listed vessels near Altona Lagoon were not located, but 5 new vessels were found in this area. A total of 25 vessels were surveyed in St. Croix.

There were 25 vessels on the priority list in five areas in St. Thomas, including an unknown number in a sixth area, Krum Bay. The 1 high priority vessel on Saba Island was surveyed. One vessel was on the priority list for Elephant Bay, but 6 were located, and all were given new numbers. The 1 priority listed vessel on Water Island was surveyed. Ten vessels were on the list for Hassel Island. Four of these vessels and a new vessel were located, the other 6 were not found. Five vessels were on the list for Benner Bay, but 29 vessels were located, and it was not possible to match those with the 5 already in the database, so all were given new numbers. The 2 vessels on the list for Red Hook were surveyed. A total of 44 vessels were surveyed in St. Thomas. Multiple vessels were very briefly surveyed in Krum Bay, but because of access constraints, there is not enough information for us to include these in the database as unique vessels.

A total of 69 vessels, including 53 vessels that were considered “new,” were surveyed for the USVI. Figure 2 shows the location of the surveyed vessels in the USVI, classified according to the primary habitat type at the vessel site. Table 2 includes summary information about each vessel in St. Croix and St. Thomas. Conditions and threats described in Tables 1 and 2 are preliminary and may change overtime, particularly as the vessels degrade. Determination of pollution, navigation, and public health threats were based on observations made during the field surveys and/or discussion with local officials. It was not possible to fully inspect fuel tanks or other confined spaces during the field surveys.

Table 3 presents information on the number of vessels by vessel type, primary habitat type in the immediate vicinity of the vessel, and whether there was a potential pollution, navigation or public health hazard. Figure 3 shows the distribution for Puerto Rico by vessel type. In Puerto Rico, most of the vessels surveyed were recreational boats, and 10 of the 17 were sailboats. At least 4 of the sailboats went aground and were not removed following hurricanes; each had been stripped of all salvageable materials. In the USVI (Fig. 4) most of the vessels surveyed were also recreational boats, and at least 34 of the 59 were sailboats. Most went aground after a hurricane or other storm and were not removed.

Table 3 lists the habitats that are associated with coral reef ecosystems, which include hardbottoms, mangroves, and seagrasses. In Puerto Rico, 20 of the 34 vessels were located in these coral-reef associated habitats. Only 1 vessel was directly located on coral reef/hardbottom habitat. Of the remaining 14 vessels, 7 were located on mud bottom habitats, 4 were on sand and gravel beach habitat, and 3 were in developed harbors with man-made shorelines. In the USVI, only 2 of the 69 vessels were located on coral reef/hardbottom habitat. Of the remaining 67 vessels, 20 were located on mangrove habitats, 13 on seagrass habitats, 3 on macroalgae

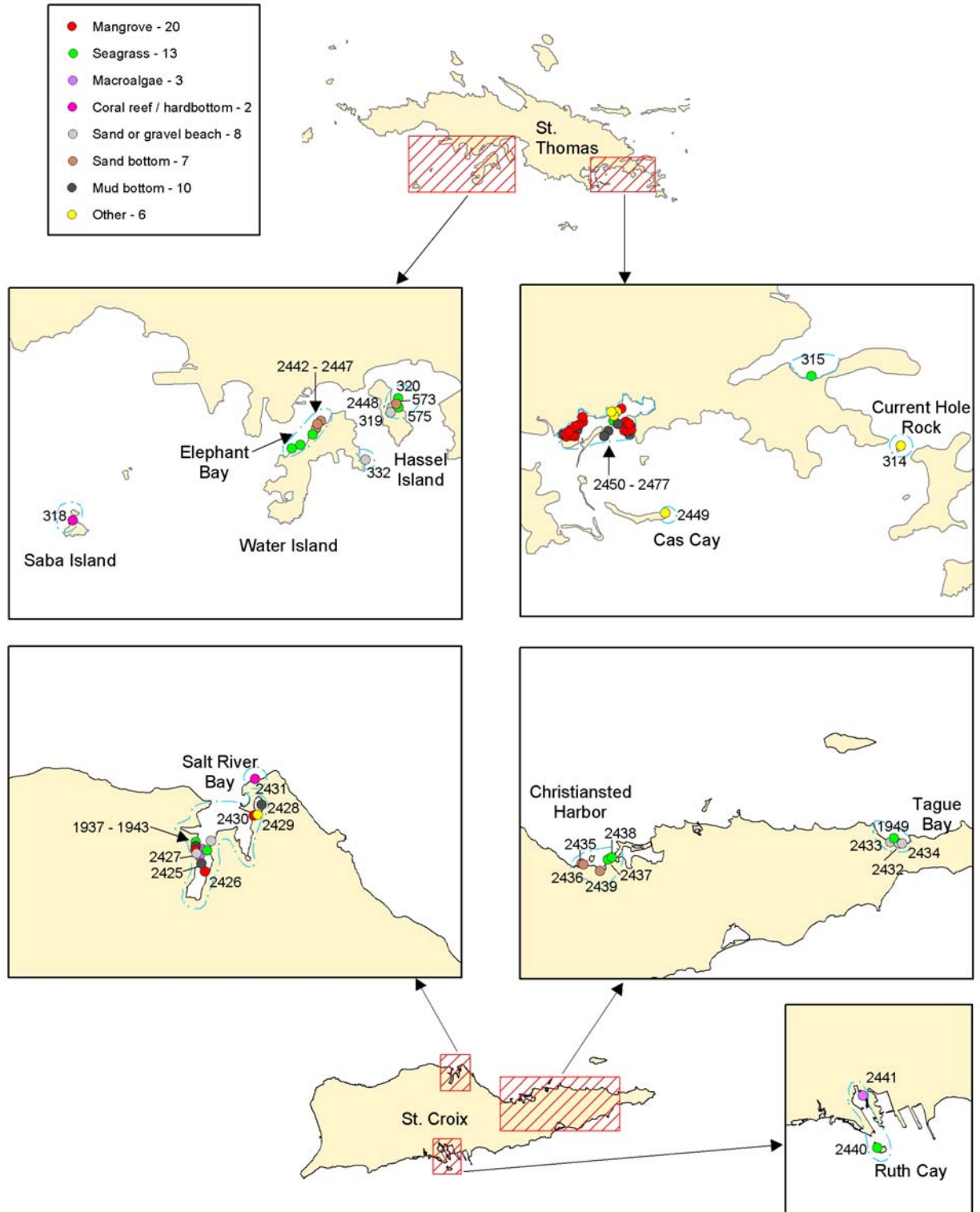


Figure 2. Location map showing the distribution of the 69 vessels surveyed in June 2002 in St. Thomas and St. Croix, U.S. Virgin Islands, with insets for the priority regions. The symbol color indicates the primary habitat in the vicinity of the vessel. The blue-dashed line delineates the actual areas surveyed during the field visits.

Table 1. Summary information for the 34 vessels surveyed in Puerto Rico.

Vessel Name/ Incident ID	Location	Description	Threats*	Habitat
<i>El Camuelo</i> Barge 511/1877	Isla de Cabras, PR	Liquid fuel barge, steel, 200 ft; grounded only a few feet from shore	Pollution: No Navigation: No Public Health: Slip/fall hazard	Seagrass; hardbottom
<i>Be??trix</i> 308	Boqueron Bay, PR	Sailboat, fiberglass, 30 ft; semi- submerged, against mangroves; sunk after H. Georges	Pollution: No Navigation: No Public Health: Slip/fall hazard	Mangroves; seagrass
<i>Tortuga</i> 306	Boqueron Bay, PR	Recreational vessel, wood/fiberglass, 49 ft; semi- submerged, lodged against mangroves; sunk during H. Georges	Pollution: No Navigation: No Public Health: Slip/fall hazard	Mangroves; seagrass
<i>Reina del Mar</i> 2411	Boqueron Bay, PR	Commercial fishing vessel, fiberglass, 29 ft, cabin-cruiser; floating, tied to mangroves	Pollution: Yes, some fuel onboard Navigation: No Public Health: No	Mangroves
Unk307	Boqueron Bay, PR	Submerged debris field of 40 ft sportfishing vessel that was likely salvaged	None	Open bay, mud bottom
Unk2401	Boqueron Bay, PR	Hull of fiberglass sailboat that burned to the water line; lodged against mangroves	None	Mangroves; seagrass
<i>G. Saba</i> 2412 2 vessels	Puerto Real, PR	Two vessels: a) commercial fishing vessel and, b) landing craft; both sitting on mud bottom in the middle of the bay	Pollution: No fuel but oil drums, marine batteries, possibly ammonia Navigation: Yes Public Health: Yes	Open bay, mud bottom
<i>?? Tador</i> 2413	Puerto Real, PR	Commercial fishing vessel, steel, 45 ft; grounded on starboard side; lots of fishing lines	Pollution: No Navigation: Yes Public Health: No	Open bay, mud bottom
Unk2402	Puerto Real, PR	Sailboat, wood, 37 ft; may have been re-floated	None	Open bay, mud bottom
Unk2403	Puerto Real, PR	Bulk barge, metal, 60 ft, very rusted with many holes, grounded	Pollution: No Navigation: No Public Health: Yes, Slip/fall hazard	Mud bottom; man-made shoreline
Unk2404	Boqueron Bay PR	Barge, metal, 30 ft, rusted throughout, within 30 ft of the shoreline and town	Pollution: No Navigation: No Public Health: Yes, Slip/fall hazard	Probably mud

*Threats are preliminary determinations and could change.

Table 1. Cont.

Vessel Name/ Incident ID	Location	Description	Threats*	Habitat
Unk309/310	Boqueron Bay PR	Skiff, wooden, 15 ft, floating, adjacent to mangrove	None	Mangroves
<i>Pawnee</i> 1864	Bahia de Tallaboa, Ponce, PR	Salvage tug, 100 ft, aground ~1 mi offshore	Pollution: Maybe Navigation: No Public Health: Yes, slips/falls, lots of equipment on deck	Seagrass
<i>Princess</i> 1865	Bahia de Tallaboa, Ponce, PR	Small cruise ship, steel, 160 ft; grounded ~1 mi offshore; burned, rusted hull	Pollution: No Navigation: No Public Health: Yes, slips/falls	Seagrass
Unk2405; could be Unk2099	Bahia de Tallaboa, Ponce, PR	Commercial vessel, steel, 50 ft; rusted hulk resting on sand and gravel beach inside mangrove forest	Pollution: Unk Navigation: No Public Health: Yes, slips/falls, human waste	Mangroves
<i>Karma</i> 1264	Cayo Luis Pena, Culebra, PR	Sailboat, wood and fiberglass, 28 ft, in two pieces submerged in 20 ft of water	Pollution: No Navigation: No Public Health: No	Seagrass; nearby coral patch and fringing reef
Unk2406	Cayo Pirata, Culebra Harbor, PR	Houseboat, fiberglass over wood, grounded but may be squatters using it	Pollution: No Navigation: No Public Health: Yes, slips and falls	Mangroves
<i>High Barbaree</i> 2407	Culebra Harbor, PR	Sailboat, fiberglass, 32 ft; sunk during H. Marilyn in 1996, stripped bare by owner	Pollution: No Navigation: No Public Health: Yes, entrapment	Seagrass; mangroves and macroalgae beds adjacent to site
<i>Zorba</i> 2408	Culebra Harbor, PR	Sailboat, wood, 52 ft; sunk during H. Hugo; just rotten ribs remain	None	Bare mud and macroalgae; seagrass; mangroves adjacent to site
<i>Don Confe</i> 2409	Culebra Harbor, PR	Sailboat, fiberglass, wood, ferrocement hull, 36 ft; sunk intentionally	None	Mangroves
<i>Legend</i> 312	Culebra Harbor, PR	Cabin cruiser, wood, 50 ft; sank at mooring in shallow bay	Pollution: Unknown Navigation: No Public Health: Yes, slips/falls	Mangroves

*Threats are preliminary determinations and could change.

Table 1. Cont.

Vessel Name/ Incident ID	Location	Description	Threats	Habitat
<i>YFU83</i> 2410	Puerca Bay, Roosevelt Roads, PR	Landing craft utility boat, steel, 135 ft; grounded against the shoreline	Pollution: May be fuel onboard Navigation: No Public Health: No	Seagrass; sand and gravel beach; mangroves
Unk2414	Puerca Bay, Roosevelt Roads, PR	Landing craft utility boat, steel, 130 ft; partially submerged within 50 ft of shore	Pollution: May be fuel onboard Navigation: No Public Health: No	Seagrass; sand and gravel beach; mangroves
Unk2415	Puerca Bay, Roosevelt Roads, PR	Landing craft utility boat, steel, 130 ft; partially submerged within 50 ft of shore	Pollution: May be fuel onboard Navigation: No Public Health: No	Seagrass; sand and gravel beach; mangroves
Unk2416	Ensenada Honda, Roosevelt Roads, PR	Sailboat, fiberglass, Catalina 22 ft; stranded on a gravel beach against mangroves	None	Gravel beach; mangroves; seagrass
Unk2417	Ensenada Honda, Roosevelt Roads, PR	Sailboat, fiberglass, 35 ft; sunk in 3 ft of water 100 ft from shore	None	Seagrass; mangroves
Unk2418	Ensenada Honda, Roosevelt Roads, PR	Sailboat, wood, 50 ft; submerged with only the mast visible	Pollution: No Navigation: Possible Public Health: No	Seagrass
Unk2419	San Juan Harbor, PR	Sailboat, fiberglass, 40 ft; on sand and gravel beach	None	Sand and gravel beach
Unk2420	San Juan Harbor, PR	Rusted remains of three vessels; in mangrove fringe	None	Sand and gravel beach; mangroves
Unk2421	San Juan Harbor, PR	Rusted remains of one vessel; in mangrove fringe	None	Sand and gravel beach; mangroves
Unk2424	San Juan Harbor, PR	Barge, steel, 300 ft; grounded in industrial area	None	Bottom type unknown; man-made shorelines nearby
Unk2422	San Juan Harbor, PR	Fishing boat, metal, rusted, 75 ft, grounded in industrial area	None	Bottom type unknown; man-made shorelines nearby
Unk2423 2 vessels	San Juan Harbor, PR	Two ferries, steel, 125 ft; grounded against the shore; being cut up for scrap	None	Man-made shorelines
<i>Hosll II</i> 2311	Isabel Segunda, Vieques, PR	Deck barge, steel, 200 ft; stern grounded on intertidal zone	Pollution: No Navigation: No Public Health: yes, slips/falls	Hardbottom; gravel beach; rock platform

*Threats are preliminary determinations and could change.

Table 2. Summary information for the 69 vessels (plus the Krum Bay vessels) surveyed in the U.S. Virgin Islands (St. Thomas and St. Croix).

Vessel Name/ Incident ID	Location	Description	Threats*	Habitat
<i>Bacardi</i> 1937	Salt River, St. Croix, USVI	Sailboat, ferro-cement hull with painted wood, 47 ft; ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard	Sand/gravel beach; mangroves; seagrass
<i>Kittiwake</i> 1938	Salt River, St. Croix, USVI	Sailboat, fiberglass, 48 ft; aground and ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard	Seagrass, mangroves; sand beach
<i>La Gloria II</i> 1939	Salt River, St. Croix, USVI	Recreational fishing vessel, fiberglass, 35 ft; semi-submerged in center of bay	Pollution: Unknown Navigation: Possible Public Health: Slip/fall hazard	Macroalgae
Unk1940	Salt River, St. Croix, USVI	"NOAA" barge, fiberglass hull with aluminum and plywood decking, 32 ft; aground and ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard	Seagrass; mangroves
Unk1943	Salt River, St. Croix, USVI	Deteriorated 36 ft wooden vessel, submerged	None	Mud bottom; seagrass; macroalgae
<i>Mi Sueno</i> 1941	Salt River, St. Croix, USVI	Sailboat, fiberglass, 26 ft; aground and ashore	Pollution: Unknown Navigation: No Public Health: No	Mangroves; mud bottom; seagrass
<i>Dauntless</i> 1942	Salt River, St. Croix, USVI	Power cruiser, aluminum hull, 66 ft, aground and ashore	Pollution: Some paint, lacquer, oil containers, engine parts Navigation: No Public Health: No	Macroalgae; seagrass; gravel beach
Unk2425	Salt River, St. Croix, USVI	Unknown vessel, aground and partially exposed, just took a photo, no survey	No information	Mud bottom
Unk2426	Salt River, St. Croix, USVI	Unknown vessel, ashore, just took a photo, no survey	No information	Mangroves
Unk2427	Salt River, St. Croix, USVI	Hull of vessel ashore	No information	Gravel beach
<i>Gandalf</i> 2428	Judith Fancy, St. Croix, USVI	Small recreational vessel, wood plank hull, aground, partially submerged	None	Mud bottom

*Threats are preliminary determinations and could change.

Table 2. Cont.

Vessel Name/ Incident ID	Location	Description	Threats*	Habitat
Unk2429	Judith Fancy, St. Croix, USVI	Trimaran, fiberglass, ~39 ft, upland	Pollution: No Navigation: No Public Health: Slip/fall hazard	Upland
Unk2430	Judith Fancy, St. Croix, USVI	Catamaran, fiberglass, ~ 49 ft, only hulls intact, ashore, no photos	Pollution: No Navigation: No Public Health: Slip/fall hazard	Mangroves; upland
Unk2431	Whitehorse Reef near Judith Fancy, St. Croix, USVI	Steel barge with debris field, mostly submerged, some exposed, about 100 m from shore	Pollution: No Navigation: No Public Health: Rusty debris, slip/fall hazard	Hardbottom / coral reef
Unk1949	Tague Bay, St. Croix, USVI	Sailboat, ferro-cement, 50 ft, submerged in 8-12 ft of water in the middle of bay	Pollution: No Navigation: Yes Public Health: No	Seagrass
<i>Aleria</i> 2432	Tague Bay, St. Croix, USVI	Sailboat, fiberglass, ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard	Gravel beach; rocky shore
<i>Hobo</i> 2433	Tague Bay, St. Croix, USVI	Sailboat, fiberglass, ashore	None	Sand beach
Unk2434	Tague Bay, St. Croix, USVI	Motorboat, fiberglass, 18-20 ft, ashore	None	Gravel beach; rocky shore
Unk2435	Christiansted Harbor, St. Croix, USVI	Sailboat, 25-28 ft, sunk in ~ 6 ft of water in harbor	None	Sand bottom
Unk2436	Christiansted Harbor, St. Croix, USVI	Catamaran, fiberglass, 28 ft, mostly buried, one pontoon and some other pieces showing	Pollution: Some batteries and fuel tank Navigation: No Public Health: No	Sand bottom
Unk2437	Christiansted Harbor, St. Croix, USVI	Steel barge, aground and ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard and rusty parts	Seagrass; gravel beach; macroalgae
Unk2438	Christiansted Harbor, St. Croix, USVI	Steel dredge/barge, aground and ashore; also observed a partial sailboat hull aground between 2437 and 2438	Pollution: No Navigation: No Public Health: Slip/fall hazard and rusted out	Seagrass; mixed sand and gravel beach

*Threats are preliminary determinations and could change.

Table 2. Cont.

Vessel Name/ Incident ID	Location	Description	Threats*	Habitat
Unk2439	Gallows Bay, St. Croix, USVI	Burned sailboat on wheeled device for hauling out, steel frame and wood hull, ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard and rusted out	Sand bottom
Unk2440	Ruth Cay, St. Croix, USVI	US Navy supply boat, steel, 67 ft, aground and ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard and rusted out	Seagrass; mixed sand and gravel beach; macroalgae; patchy hardbottom
Unk2441	Krause Lagoon, St. Croix, USVI	Sailboat, wood hull, 56 ft, submerged	None	Macroalgae; mangroves; seagrass
<i>Munro</i> 318	Saba Island, St. Thomas, USVI	Sailboat, fiberglass, 46 ft, aground and ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard, but fairly inaccessible	Hardbottom / coral reef; gravel beach
Unk2442	Elephant Bay, St. Thomas, USVI	Sailboat, wood, 68 ft, submerged	None	Seagrass; hardbottom / coral reef
Unk2443	Elephant Bay, St. Thomas, USVI	Sailboat, steel/wood, 66 ft, burned and submerged	Pollution: No Navigation: Yes Public Health: No	Seagrass
<i>Geisha</i> 2444	Elephant Bay, St. Thomas, USVI	Sailboat, fiberglass, 39 ft, submerged	None	Seagrass; sand bottom; macroalgae
Unk2445	Elephant Bay, St. Thomas, USVI	Sailboat, steel, 39 ft, aground	Pollution: No Navigation: No Public Health: Slip/fall hazard	Sand bottom; seagrass
Unk2446	Elephant Bay, St. Thomas, USVI	Crane barge, steel, 105 ft, submerged, adjacent to 2447	Pollution: No Navigation: Yes Public Health: Entrapment	Sand bottom; hardbottom / coral reef; seagrass
Unk2447	Elephant Bay, St. Thomas, USVI	Tug, steel, 66 ft, submerged, adjacent to 2446	Pollution: No Navigation: Yes Public Health: Entrapment	Sand bottom; hardbottom / coral reef; seagrass
<i>Amalie Queen</i> 332	Water Island, St. Thomas, USVI	Ferry, steel, 50 ft, ashore	None	Gravel beach; salt pond

*Threats are preliminary determinations and could change.

Table 2. Cont.

Vessel Name/ Incident ID	Location	Description	Threats*	Habitat
<i>Rendezvous</i> 319	Careening Cove, Hassel Island, St. Thomas, USVI	Trimaran, fiberglass over wood hull, 75 ft, aground and ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard	Sand and gravel beach; mud bottom; macroalgae
Unk2448	Careening Cove, Hassel Island, St. Thomas, USVI	Military lifeboat, steel, 56 ft, ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard	Sand and gravel beach; mud bottom
Unk573	Careening Cove, Hassel Island, St. Thomas, USVI	Fiberglass hull, 34 ft, submerged about 60 ft off beach	None	Sand bottom
Unk320	Hassel Island, St. Thomas, USVI	Sailboat, steel frame with wood planking, 82 ft, aground nearshore	Pollution: No Navigation: No Public Health: Slip/fall hazard	Seagrass; sand bottom
<i>Quest</i> 575	Hassel Island, St. Thomas, USVI	Sailboat, fiberglass, 41 ft, submerged in 25-30 ft	None	Seagrass
<i>Serendipity</i> 314	Current Hole Rock, St. Thomas, USVI	Sailboat, fiberglass, 46 ft, aground	Pollution: No Navigation: No Public Health: Yes, slips/falls, but inaccessible	Rock platform; hardbottom / coral reef
<i>Orca</i> 315	Muller Bay, St. Thomas, USVI	Sailboat, steel, 41 ft, aground and ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard	Seagrass; sand beach
Unk2449	Near Benner Bay entrance, St. Thomas, USVI	Sailboat, fiberglass, ~33 ft, ashore	Pollution: No Navigation: No Public Health: Slip/fall hazard	Exposed rocky shore
Unk2450	Bovoni Cay, St. Thomas, USVI	Sailboat, fiberglass, ~33 ft, aground	Pollution: No Navigation: No Public Health: Slip/fall hazard	Seagrass; mangroves
Unk2451	Benner Bay, St. Thomas, USVI	Sailboat, steel, aground	Pollution: No Navigation: No Public Health: Slip/fall hazard	Mangroves
Unk2452	Benner Bay, St. Thomas, USVI	Sailboat, wood, aground	Pollution: No Navigation: No Public Health: Slip/fall hazard	Mangroves

*Threats are preliminary determinations and could change.

Table 2. Cont.

Vessel Name/ Incident ID	Location	Description	Threats*	Habitat
Unk2453	Benner Bay, St. Thomas, USVI	Sailboat, fiberglass, refloated	Pollution: Unknown Navigation: No Public Health: No	Mud bottom
<i>Franc??</i> 2454	Benner Bay, St. Thomas, USVI	Sailboat, fiberglass, aground	Pollution: No Navigation: No Public Health: Slip/fall hazard	Mangroves
Unk2455	Benner Bay, St. Thomas, USVI	Sailboat hull, against mangroves	None	Mangroves
Unk2456	Benner Bay, St. Thomas, USVI	Sailboat, fiberglass, upside down with other boats on it	None	Mangroves
Unk2457	Benner Bay, St. Thomas, USVI	Sailboat, fiberglass, in mangroves	None	Mangroves
<i>Emit</i> 2458	Benner Bay, St. Thomas, USVI	Sailboat, fiberglass, aground	Pollution: No Navigation: Possible Public Health: Slip/fall hazard	Mud bottom
Unk2459	Benner Bay, St. Thomas, USVI	Powerboat, fiberglass, aground	None	Mangroves
Unk2460	Benner Bay, St. Thomas, USVI	Dive boat, fiberglass, aground	None	Mangroves
Unk2461	Benner Bay, St. Thomas, USVI	Sunken vessel of unknown type	Pollution: No Navigation: Possible Public Health: No	Mud bottom
Unk2462	Benner Bay, St. Thomas, USVI	Powerboat, fiberglass, aground	Pollution: No Navigation: No Public Health: Slip/fall hazard	Mangroves
Unk2463	Benner Bay, St. Thomas, USVI	Wood skiff, aground	None	Mangroves
Unk2464	Benner Bay, St. Thomas, USVI	Fiberglass hull, submerged	None	Mangroves

*Threats are preliminary determinations and could change.

Table 2. Cont.

Vessel Name/ Incident ID	Location	Description	Threats*	Habitat
Unk2465 Could be 305, 1931, or 1932	Benner Bay, St. Thomas, USVI	Houseboat, fiberglass, aground	Pollution: No Navigation: No Public Health: Slip/fall hazard	Mangroves
Unk2466 Could be 305, 1931, or 1932	Benner Bay, St. Thomas, USVI	Houseboat, fiberglass, aground	Pollution: No Navigation: No Public Health: Slip/fall hazard	Mangroves
Unk2467	Benner Bay, St. Thomas, USVI	Fishing boat, wood, aground	Pollution: Unknown Navigation: No Public Health: Slip/fall hazard	Mangroves
Unk2468	Benner Bay, St. Thomas, USVI	Powerboat, fiberglass, aground, mostly submerged	Pollution: Unknown Navigation: Yes Public Health: Slip/fall hazard	Mud bottom
Unk2469	Benner Bay, St. Thomas, USVI	Big powerboat, fiberglass, mostly submerged	Pollution: Unknown Navigation: Yes Public Health: No	Mangroves
Unk2470	Benner Bay, St. Thomas, USVI	Powerboat, mostly submerged	Pollution: Unknown Navigation: Possible Public Health: No	Mangroves
Unk2471	Benner Bay, St. Thomas, USVI	Sunken vessel of unknown type, no photos	Pollution: No Navigation: Possible Public Health: No	Mud bottom; mangroves
Unk2472	Benner Bay, St. Thomas, USVI	Homemade work barge, metal, partially submerged	Pollution: No Navigation: Yes Public Health: Slip/fall hazard	Mud bottom
Unk2473	Benner Bay, St. Thomas, USVI	Sailboat, fiberglass, re- floated	None	Mud bottom
Unk2474	Benner Bay, St. Thomas, USVI	Fiberglass hull afloat with inverted boat inside	Pollution: No Navigation: No Public Health: Slip/fall hazard	Mangroves
Unk2475	Benner Bay, St. Thomas, USVI	Upright wooden hull with large hole	None	Man-made shoreline

Table 2. Cont.

Vessel Name/ Incident ID	Location	Description	Threats	Habitat
Unk2476	Benner Bay, St. Thomas, USVI	Inverted small vessel	None	Man-made shoreline
Unk2477	Benner Bay, St. Thomas, USVI	Upright fishing vessel	Pollution: Unknown Navigation: No Public Health: No	Man-made shoreline
Unk321/1921 Multiple vessels in Krum Bay	Krum Bay, St. Thomas, USVI	Multiple vessels (possibly 10), including barges, tugs, and others; could not get very close, so no survey, just photographs were taken	Pollution: Possible Navigation: No Public Health: Slip/fall and other	Man-made shoreline

*Threats are preliminary determinations and could change.

habitats, 8 on sand and gravel beach habitats, 7 on sand bottom habitats, 10 on mud bottom habitats, and 6 on rocky shorelines or man-made shorelines in developed harbors.

Table 3 summarizes the information on potential threats. It should be noted that the threat determination is preliminary and could change upon further investigation. Six of the vessels in Puerto Rico were potential pollution threats. Only the *Pawnee*, a salvage tug, was thought to potentially have a significant amount of fuel on board, most likely located in deep tanks that were not easily accessible. The *Reina del Mar*, a small fishing vessel, contained a small amount of fuel in its tanks, but it appeared that the vessel was not yet completely abandoned. The *G. Saba*, a large commercial fishing vessel, contained some oil in drums, marine batteries, and possibly some ammonia. It could not be determined whether the three vessels on the Naval Station Roosevelt Roads contained any fuel onboard, so these vessels were listed as potential pollution threats. The U.S. Coast Guard has been very proactive in removing fuel and/or vessels that pose a significant pollution threat. Two vessels in St. Croix were potential, although

Table 3. Information on vessel type, habitat and potential threats for the 103 vessels surveyed in the Caribbean region: 34 in Puerto Rico and 69 in the U.S. Virgin Islands.

Area	Vessel Type	Coral Reef Habitat	Seagrass Habitat	Mangrove Habitat	Potential Pollution Threat	Potential Navigation Threat	Potential Public Health Threat
Puerto Rico	Commercial: 14 Recreational: 17 Military: 3	1	10	9	6	3	15
U.S. Virgin Islands	Commercial: 8 Recreational: 59 Military: 2	2	13	20	3	12	36

unlikely, pollution threats. The *Dauntless*, a 66 ft power cruiser, contained some engine parts and some containers of paint, lacquer, and oil. A sunken catamaran in Christiansted Harbor had some batteries and a fuel tank. The pollution hazard potential of eight other vessels in the USVI was considered to be “unknown” because only abbreviated surveys were conducted.

The *G. Saba* and *??Tador* were classified as possible navigation threats. They were both located in the middle of Puerto Real, a small harbor on the southwestern coast. Both vessels are out of the main vessel traffic areas but in the general harbor area. The *G. Saba* is very visible, being upright and flooded to its normal waterline. The *??Tabor* (so named because the first two letters were not discernable) is grounded on its side and partially submerged, with only about 2 feet of the hull exposed. A third vessel, a submerged sailboat in the harbor of the Naval Station Roosevelt Roads, was a potential navigational threat to local traffic in the harbor. Twelve vessels in the USVI were considered to be potential navigation threats. Most were submerged in mooring areas, and parts of the vessels were close to or above the water surface and were poorly marked. Other vessels were more clearly visible, but were in heavily trafficked areas.

About one-half of the vessels in Puerto Rico and the USVI were classified as potential public health threats, mostly as slip and fall hazards because the decks were tilted or the metal deck and/or sides were rusted out. Three submerged vessels were potential entrapment hazards to swimmers who might try to go inside the cabin space. Vessels located in industrial or restricted access areas were not classified as public health threats, based on the assumption that they were not areas where the public normally used for recreation.

Eighteen vessels (8 in Puerto Rico and 10 in the USVI) are described in detail in the following plates as examples of the vessel types surveyed and the habitats impacted.

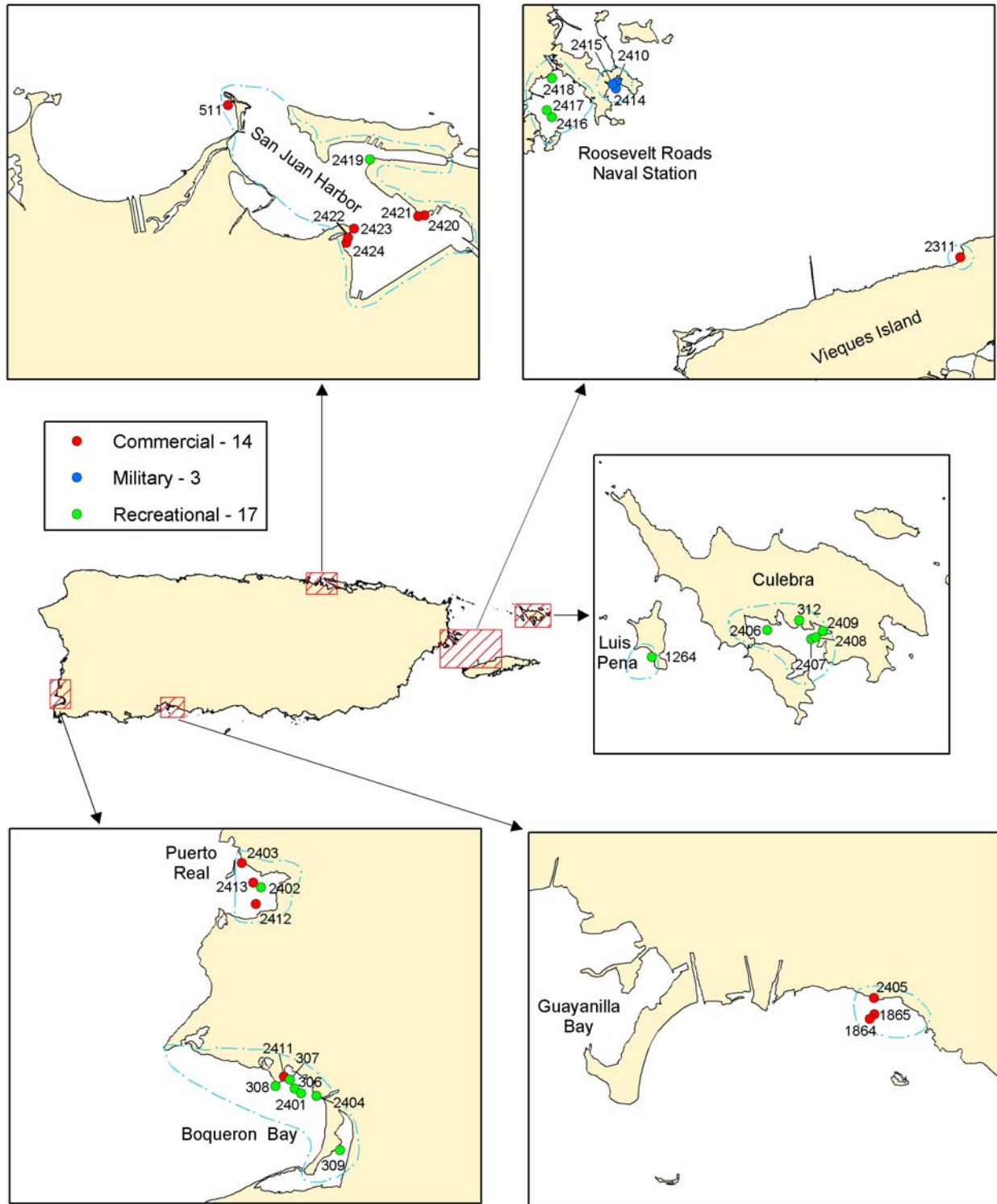


Figure 3. Spatial distribution of vessels that were surveyed in Puerto Rico by type. Commercial vessels were relatively common in the industrial ports. The blue-dashed line delineates the actual areas surveyed during the field visits.

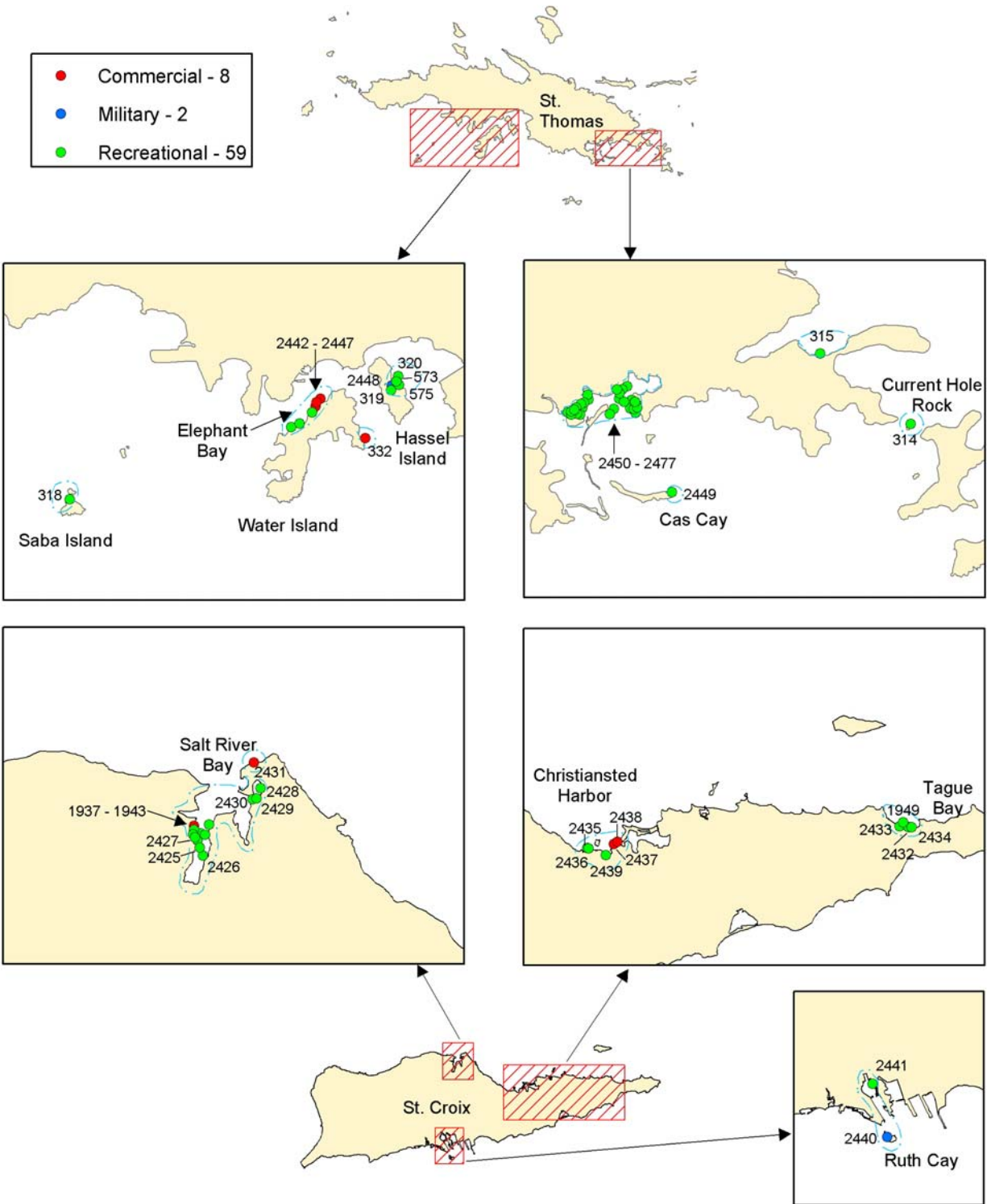


Figure 4. Spatial distribution of the vessels surveyed in the U.S. Virgin Islands of St. Thomas and St. Croix by type. Note the dominance of recreational vessels. The blue-dashed line delineates the actual areas surveyed during the field visits.



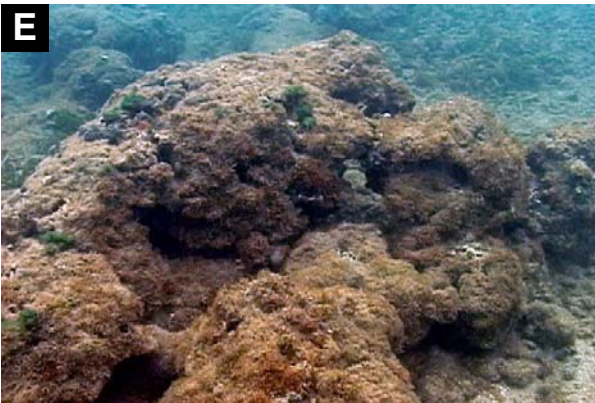
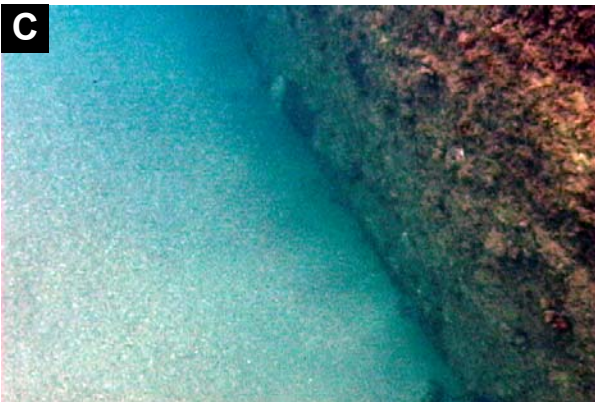
PLATE 1. *El Canuelo* Barge, Isla de Cabras, Puerto Rico.

Vessel Information: The *El Canuelo* is a 200 ft liquid fuel oil barge that has been hard aground since at least 1976. The steel deck plates are starting to break up and there are many holes in the side plates. The cargo area is open to the sea. No information is known about the previous owners.

General Site Characterization: The vessel is located several hundred feet offshore of a municipal park with very high local use for swimming, snorkeling, diving, and recreational boating. The vessel is a destination point for swimmers. It is moderately exposed to waves.

Environmental Characterization: Seagrasses (shoal and turtle grass) were sparse and patchy surrounding much of the vessel scour area, but denser and mixed with fleshy macroalgae away from the vessel. There was a patch of hardbottom colonized mainly by macroalgae, (live hard coral cover was <1% and colonies were small) within 35 ft.

Comparison to Other Vessels: Most vessels grounded on seagrass habitats had a scour area around the vessel that was unvegetated and 1-2 ft lower in depth than the adjacent vegetated areas.



Photographs of *El Canuelo* (2 June 02):

- A. View to the NW from the municipal park to the barge offshore. Note the swimmers.
- B. Barge deck condition.
- C. Unvegetated scour area that extends 15-30 ft around the vessel.
- D. Seagrass habitat.
- E. Hardbottom habitat 35 ft NE of barge with about 1% live coral present.





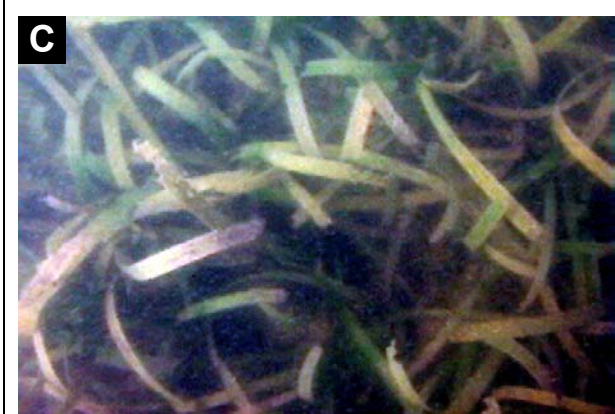
PLATE 2. *Be??trix*, Boqueron Bay, Puerto Rico.

Vessel Information: The *Be??trix* is a 30 ft fiberglass sailboat that is reported to have grounded during Hurricane Georges in September 1998. Only the fiberglass hull remains; it has been completely stripped. The mast and most of the cabin are gone. It is partially submerged and lodged against the outer mangrove fringe.

General Site Characterization: Mangroves, which are 50-75 ft wide, fringe the north shore of Boqueron Bay, and are part of the Boqueron Forest managed by the Puerto Rico DNER. Boqueron Bay is shallow and mostly used by recreational and local fishing boats.

Environmental Characterization: A red mangrove stand, including some black mangroves landward, fringes the shore. The stand is large and mature but shows evidence of storm damage, as well as possible damage caused by the vessel. The nearshore benthic habitat around the vessel is composed of sparse shoal and turtle grass that becomes denser with increasing distance offshore. The vessel could move during future storms, causing more damage to adjacent seagrass and mangrove habitats.

Comparison to Other Vessels: This vessel is typical of sites consisting of sailboats that were stripped and not removed after they sank during a hurricane. It is one of three sailboats lodged against the mangrove fringe that were surveyed in Boqueron Bay. In other areas, such as Culebra Harbor and Ensenada Honda at Roosevelt Roads, the sailboats sank a further distance offshore and sit on seagrass or mud bottoms.



Photographs of *Be??trix* (3 June 2002):

- A. View looking north of the vessel lodged against the mangrove fringe.
- B. View looking west showing the vessel position relative to the mangroves.
- C. Seagrass habitat.
- D. Inside mangrove stand.
- E. Mangrove habitat.

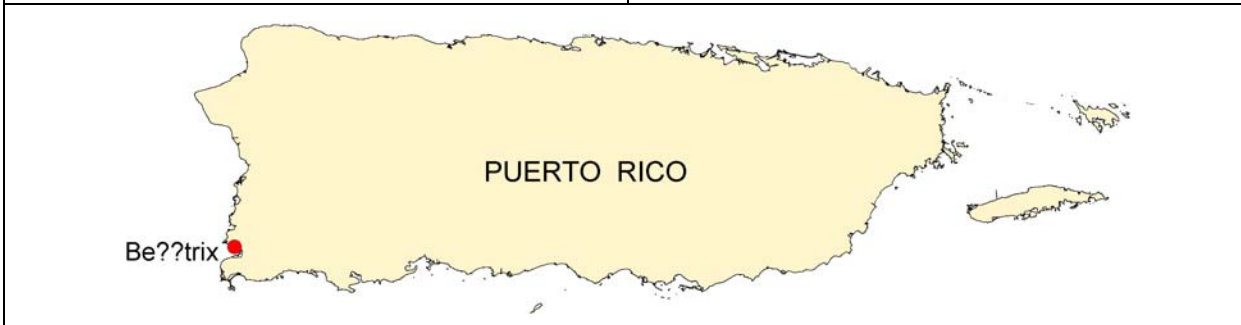




PLATE 3. Tug *Pawnee* and cruise ship *Princess I*, Bahia de Tallaboa, near Ponce, Puerto Rico.

Vessel Information: The *Princess I* grounded when it was being moved to a shoreline site to be used as a restaurant. The salvage tug *Pawnee* grounded nearby during salvage efforts. Both vessels grounded in the early 1990s. The *Pawnee* has holes in its sides and the USCG thinks that there may be fuel in the deeper tanks. The *Princess I* burned to the waterline and only the steel hull remains. The USCG removed oily bilge water, and they believe there may be some fuel in deep tanks.

General Site Characterization: The vessels are located about midway between the industrial areas of Guayanilla and Ponce, in an area that is important for artisanal and commercial fishing and sport diving.

Environmental Characterization: Both vessels are grounded in seagrass habitat composed of dense turtle grass mixed with manatee grass and *Halimeda* macroalgae in places. The substrate is carbonate sand. Large areas around each vessel are now devoid of seagrass and signs of active scour are apparent. The edge of the grass bed around each vessel also has a 1-2 ft high eroding scarp where seagrass rhizomes are exposed and the root mat is undercut to 2 ft or more in places. Further loss of seagrass around each vessel is likely, particularly during hurricanes.

Comparison to Other Vessels: There are many sites with multiple grounded vessels that were not removed. The *Princess I* and *Pawnee* sites are characteristic of the type of seagrass damages expected for larger vessels grounded in open bays.



Photographs of the *Pawnee* and *Princess I* (4 June 02):

- A. The *Pawnee*.
- B. The *Princess I*.
- C. 1-ft high eroding scarp at edge of seagrass bed around the *Pawnee*.
- D. Seagrass habitat.
- E. Fire coral growing on vessel debris.



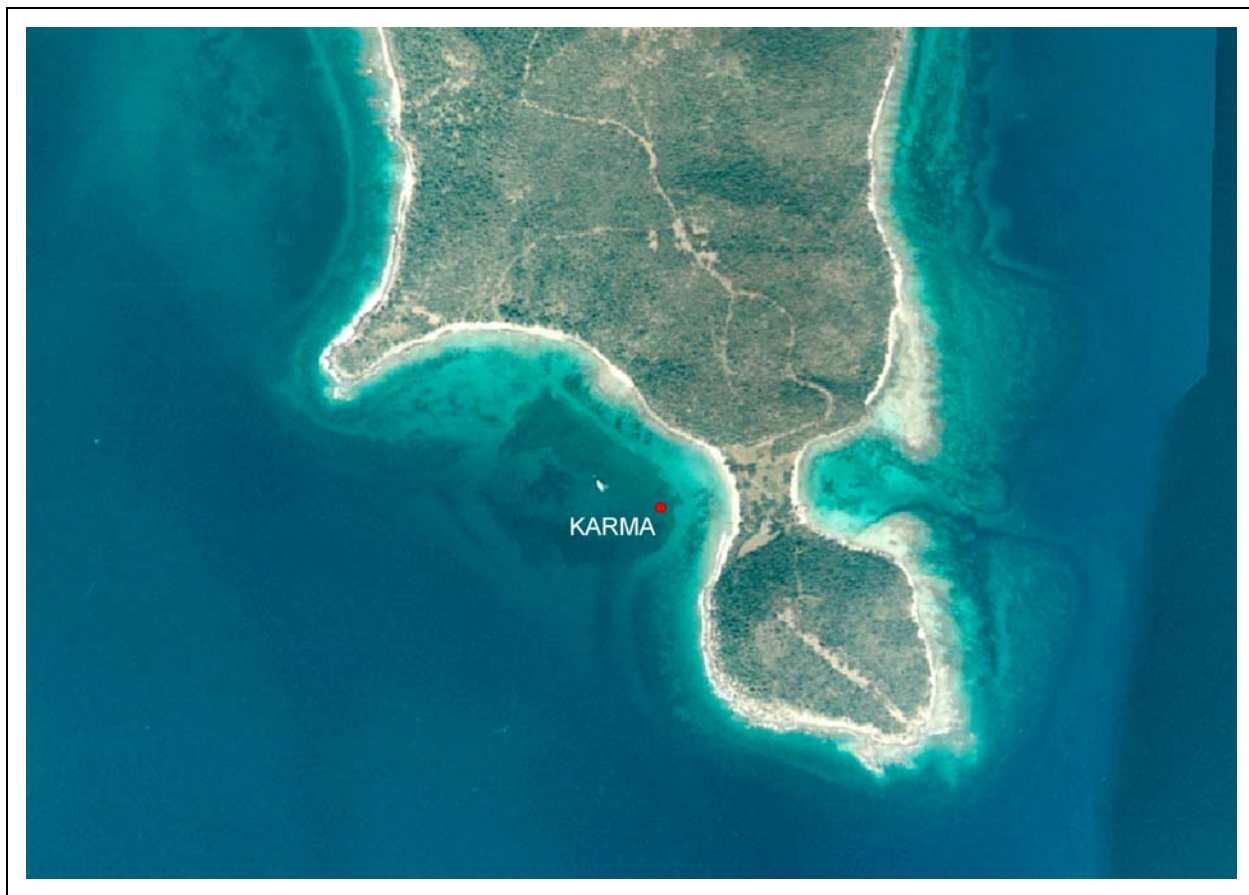


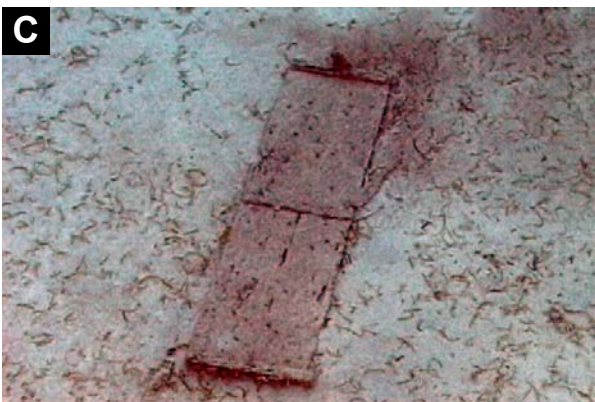
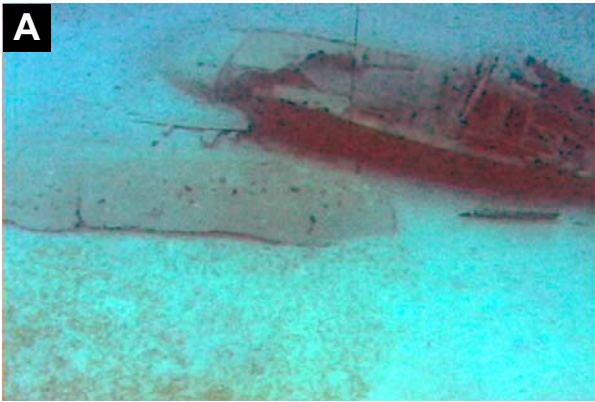
PLATE 4. The *Karma*, Cayo de Luis Pena, Culebra, Puerto Rico.

Vessel Information: The *Karma* is a wood and fiberglass sailboat that was intentionally sunk in April 2001 by the owner to create a diving site/artificial reef in a bay that is a popular diving and boating site. The vessel has already broken into two main pieces, and several small pieces have moved towards shore.

General Site Characterization: The adjacent shoreline is part of the Culebra National Wildlife Refuge where no overnight camping is allowed. However, the bay is a very popular boating site.

Environmental Characterization: The vessel is sunk in an area with dense turtle grass. Coral patch reef and a narrow fringing reef occur roughly 50-75 ft from the vessel. A large area around the vessel is now devoid of seagrass. Seagrass cover is sparse surrounding the bare area, with lower shoot density and shorter blades than in the surrounding grass bed. The site falls within Designated Critical Habitat for the federally threatened green sea turtle, which includes seagrass habitat damaged by the vessel.

Comparison to Other Vessels: This site is unique in that the vessel was intentionally sunk. This vessel is also one of the deeper sites surveyed, and it is adjacent to the highest quality coral reef habitat encountered during this project. This site also had the most direct damage to Designated Critical Habitat for threatened and endangered species observed during the project.



Photographs of the *Karma* (5 June 02):
A. Overview of vessel.
B. Horizontal view of vessel.
C. Vessel debris in sparse seagrass habitat.
D. Detail of remaining vessel structure.
E. Nearby coral reef habitat.





PLATE 5. Landing Craft Utility (LCU) vessels, Puerca Bay, Naval Station Roosevelt Roads, Puerto Rico.

Vessel Information: There are three LCUs partially sunk in the intertidal zone. Two vessels are awash up to the top deck. The other vessel (YFU83) had apparently sunk for a while and been re-floated; it had barnacles on the deck and housing. The bow of this vessel is resting on the sand and gravel beach at low water.

General Site Characterization: There is a dirt road access to the vessels and the adjacent beach. Although there is limited public access to the Naval Station facilities, people obviously use FYU83, as indicated by fire rings, beer cans, and trash onboard.

Environmental Characterization: Dense to patchy turtle grass mixed with calcareous macroalgae extend around all vessels. There is a scour at least 140 ft x 30 ft around YSU83, the only vessel that could be safely surveyed during the site visit because of moderate wave energy and high water turbidity. A steep scarp in the seagrass bed, indicating active erosion, occurs near the two partially submerged vessels. The adjacent mangrove forest is designated critical habitat for the federally endangered yellow-shouldered blackbird, which uses mangroves and coastal fringe habitats. Mangroves could be damaged if the vessels moved onshore during a major storm.

Comparison to Other Vessels: These vessels differ from most other vessels because the owner is known and responsible for these vessels. Naval Station Roosevelt Roads has expressed interest in working with Trustees on plans for vessel removal.



Photographs of the LCUs at Roosevelt Roads Naval Station (6 June 02):

- A. This LCU was covered with barnacles, indicating that it had previously sunk and then was re-floated and grounded. There is extensive scouring of the adjacent seagrass beds.
- B. The two partially submerged LCUs; photo taken from the YFU83.

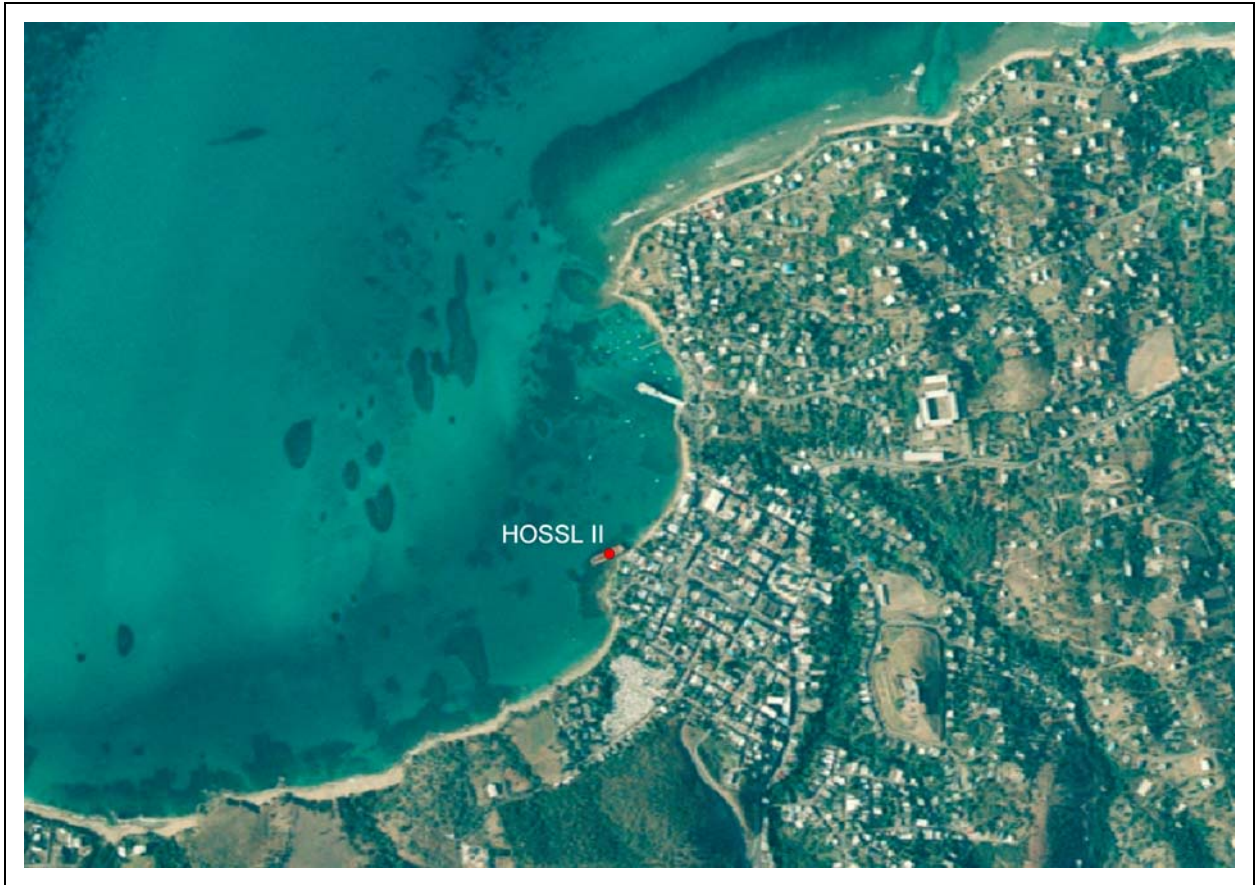


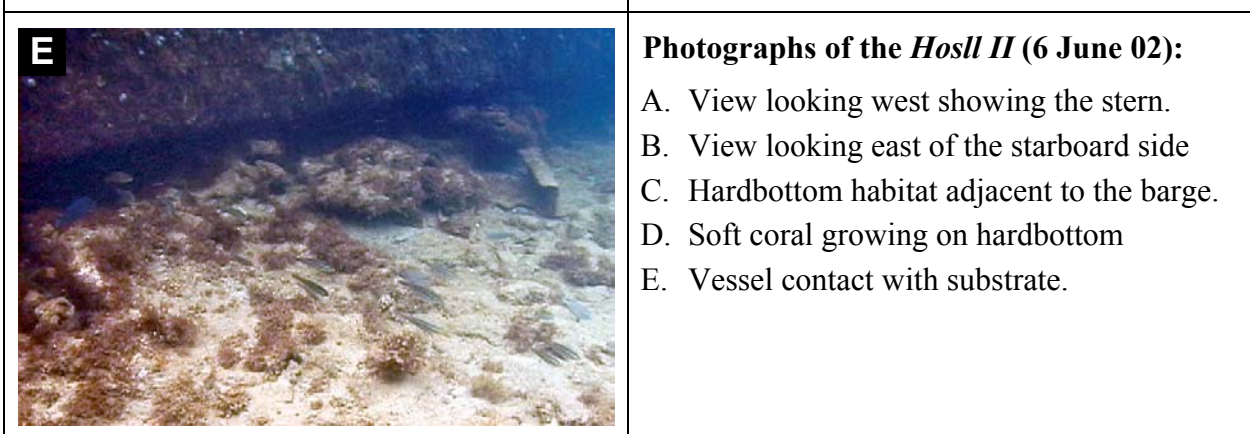
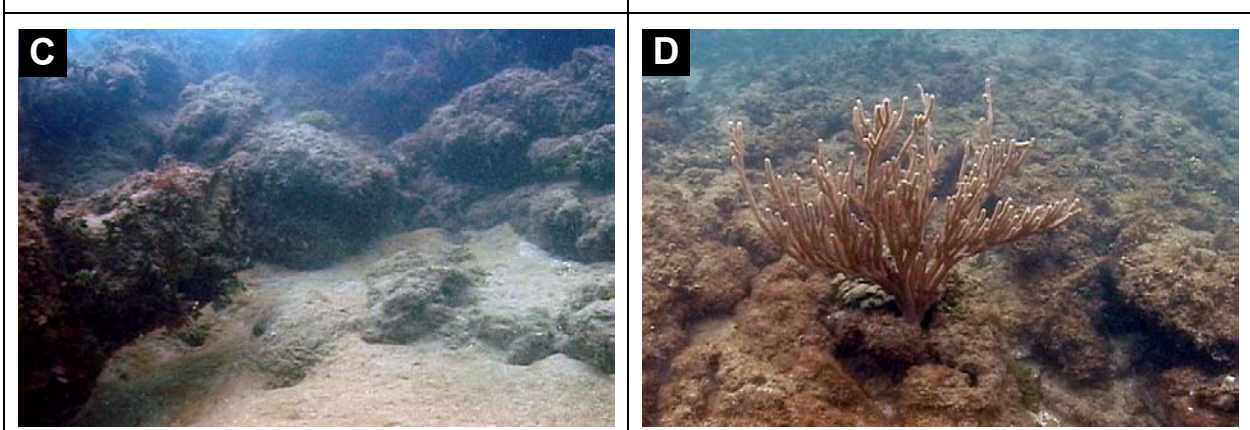
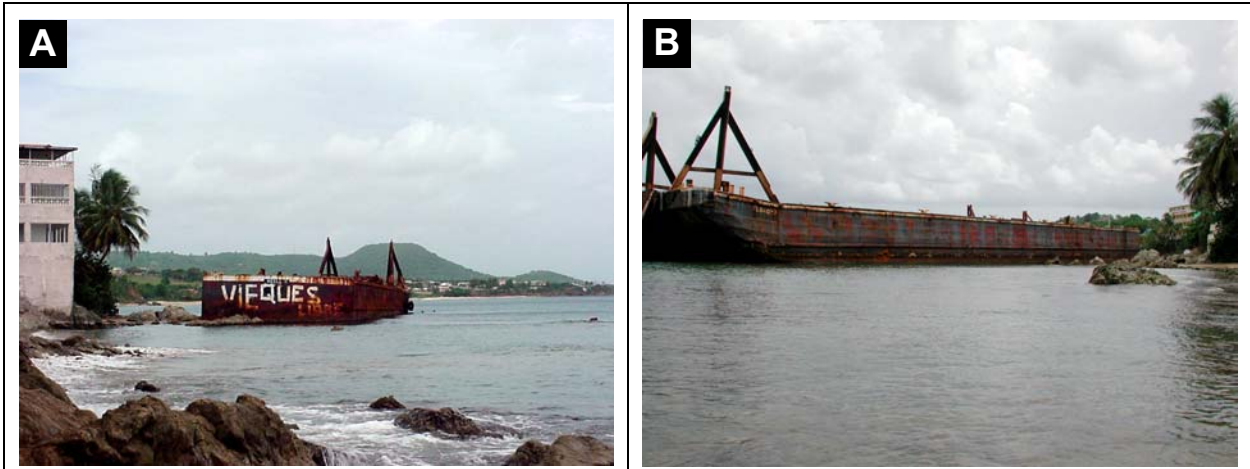
PLATE 6. *Hosll II* barge, Isabel Segunda, Vieques, Puerto Rico.

Vessel Information: The *Hosll II* is a 200 ft deck barge grounded very close to shore near the town of Isabel Segunda. It had been converted from a liquid petroleum barge to a deck barge, and there are no fuels or hazardous materials on board (per USCG inspection). There is a moderate amount of debris around the vessel.

General Site Characterization: The site is within 1,500 ft of the port of Isabel Segunda, which is the main ferry terminal and marina for the island of Vieques. Houses and businesses are located immediately onshore and are protected by high seawalls.

Environmental Characterization: This is the only vessel in Puerto Rico that rests directly on hardbottom habitat. Calcareous macroalgae, some large soft corals, and mat anemones colonize the hardbottom. Live hard coral is present (<1% cover) with an average size of 10 cm diameter and a maximum size of 20 cm diameter. The adjacent shoreline is composed of a mixed sand and gravel beach, and the benthic habitat between the beach and vessel consists of a subtidal rock platform. The barge is hard aground and unlikely to move during a storm or hurricane.

Comparison to Other Vessels: Five abandoned barges were surveyed in Puerto Rico. Three (*El Canuelo*, one inside San Juan Harbor, and the *Hosll II*) were large, intact barges, whereas the other two were rusted out hulks.



Photographs of the *Hosll II* (6 June 02):

- A. View looking west showing the stern.
- B. View looking east of the starboard side
- C. Hardbottom habitat adjacent to the barge.
- D. Soft coral growing on hardbottom
- E. Vessel contact with substrate.





PLATE 7. The *Kittiwake*, Salt River Bay, St. Croix, USVI.

Vessel Information: The *Kittiwake* is a 48 ft sailboat that most likely grounded during a hurricane. It is aground and ashore. The vessel is in good condition with no obvious hull damage. The cost estimate for removal was reported to be \$4,800.

General Site Characterization: The vessel is located onshore in the Salt River Bay National Historic Park and Ecological Preserve. Salt River Bay is a sheltered bay that is used as a mooring area.

Environmental Characterization: The vessel is aground on mangroves, sand beach, and seagrasses (proceeding from bow to stern, landward to seaward). The red mangrove forest is 30+ ft wide, and the sand beach is about 7 ft wide. A patch of dense turtle grass with infauna burrows roughly 10 feet wide runs adjacent and parallel to the beach. Dense cover of *Halimeda* macroalgae with infauna burrows occurs seaward of the seagrasses and extends into deeper water. Intertidal sediments are sandy. Muddier sediments occur in the subtidal area with increasing depth. Physical mangrove damage was observed extending roughly 15-20 ft into the forest, and was caused at least in part by this vessel. Unrelated hurricane damage was also present. Seagrasses were damaged directly under the vessel and along a 3 ft-wide unvegetated strip along the port side of vessel. Additional mangrove and seagrass damage is possible if the vessel moved during major storms or hurricanes.

Comparison to Other Vessels: This vessel grounding is typical of many that occurred in Salt River Bay and other mooring areas in mangrove habitat that were impacted by hurricanes.



Photographs of the *Kittiwake* (25 June 02):

- A. View of vessel from port side.
- B. View of vessel from starboard side.
- C. Vessel deck; beach and mangrove habitat.
- D. Mangrove habitat.
- E. Seagrass and macroalgae habitat.



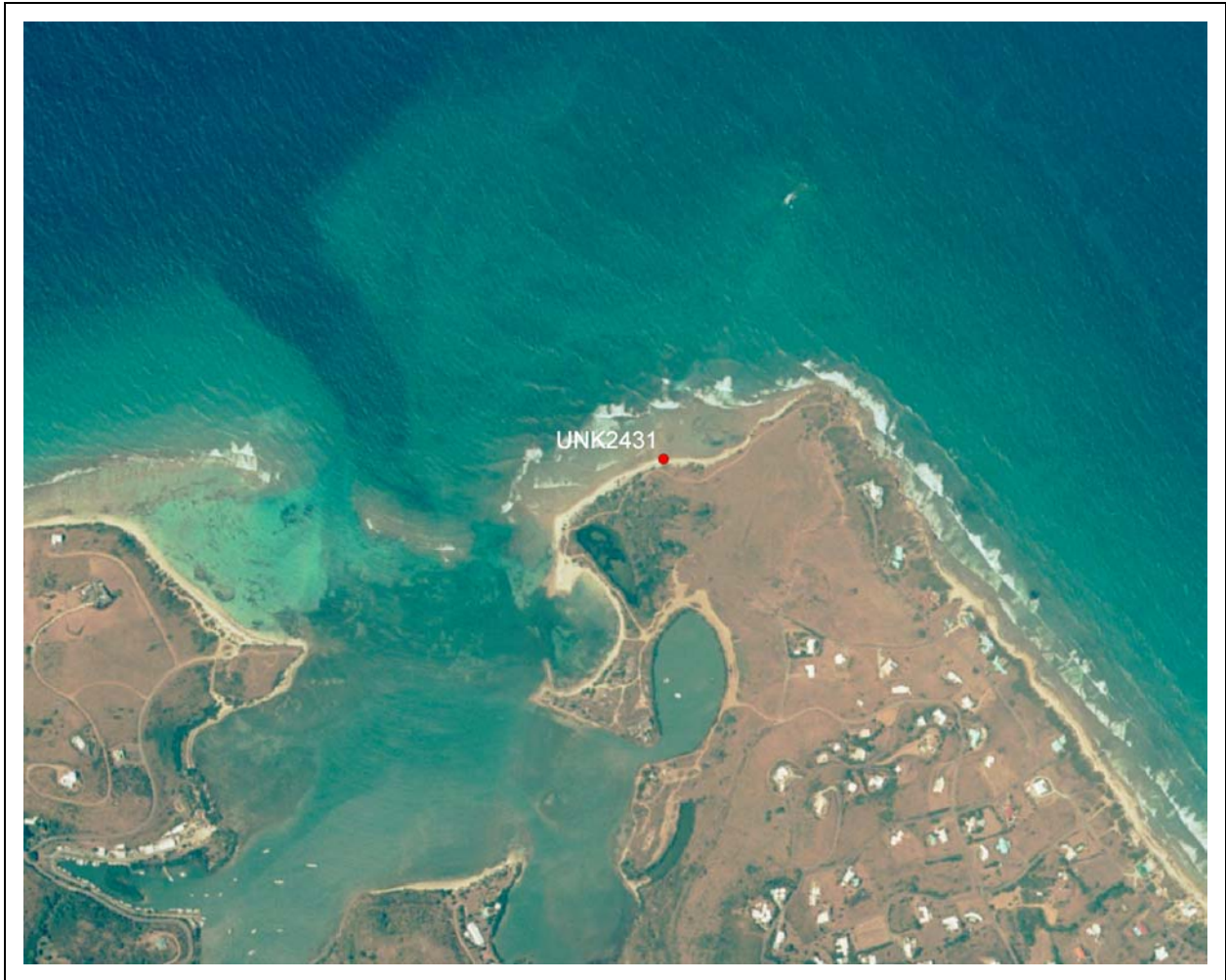


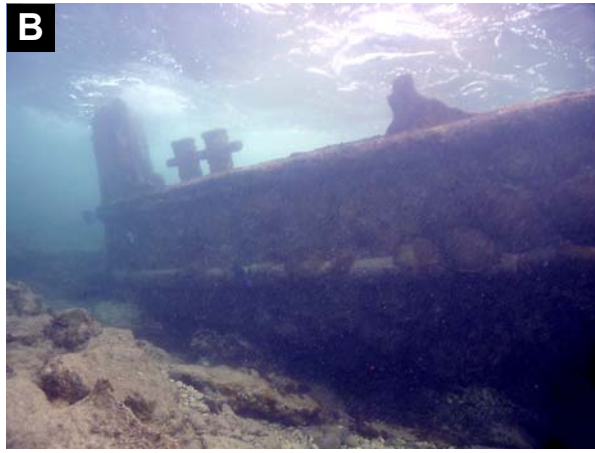
PLATE 8. Unknown 2431 steel barge, Whitehorse Reef, St. Croix, USVI.

Vessel Information: Unknown 2431 is a steel barge surrounded by a large debris field. The vessel and debris are very rusted. No information is known about the previous owners.

General Site Characterization: The vessel is located ~ 300 ft offshore of a gravel beach within a gated community. The area may be used for beachcombing. It is highly exposed to waves in the surf zone.

Environmental Characterization: The vessel is grounded on hardbottom and coral reef habitat near Whitehorse Reef. Limited live coral was observed. An extensive debris field extends over 100 ft around the barge. *Diadema* and fish were relatively abundant, and lobster and a juvenile hawksbill sea turtle were observed.

Comparison to Other Vessels: This vessel is unique because it is aground on hardbottom and coral reef habitat in the surf zone, and because debris extends throughout a large area surrounding the vessel.



Photographs of Unk2431 barge (25 June 02):

- A. View of barge from shore.
- B. View of barge underwater.
- C. Debris field.
- D. Soft coral on hardbottom.
- E. Juvenile hawksbill sea turtle swimming around debris field.





PLATE 9. Unknown 1949 sailboat, Tague Bay, St. Croix, USVI.

Vessel Information: Unknown 1949 is a 50 ft ferro-cement sailboat that sunk at its mooring. The hull is mostly intact, and two masts, several booms, rigging, wiring, and other debris are present. It is completely submerged in ~ 8 ft of water. An estimate of \$7,000 has been quoted for removal.

General Site Characteristics: Tague Bay is a marina and mooring area that is protected by a barrier reef. The submerged lands are proposed to be a territorial marine park.

Environmental Characterization: A large area under and around the vessel is devoid of seagrass and signs of active scour are apparent. Several blowout areas were observed around the port side near the bow and stern. Small eroding scarps were observed at the edge of the seagrass beds along the entire port and stern sides. Dense turtle grass and large infauna burrow mounds surround the vessel scour, and dense coverage of a mixture of turtle and manatee grass occur off of the stern. Sparser coverage occurs adjacent to sand blowout area between 6-10 ft off of the port side. Approximately 90 feet beyond the starboard side of vessel is a 10-12 ft deep unvegetated channel. Some fire coral and soft coral are growing on the vessel. The substrate is coarse-grained sand of calcareous origin with some shell material. Debris remains within the vessel, and two masts extend well beyond the hull into seagrass habitat.

Comparison to Other Vessels: This vessel is typical of several sailboats that sunk at their moorings during storms or unknown causes. Portions of the hull are exposed and visible, and a few buoys poorly mark the vessel, thus these vessels are potential hazards to local vessel traffic. This vessel is also typical of sailboats that sank in seagrass habitat.



Photographs of Unk1949 sailboat (26 June 02):

- A. View of vessel as navigation hazard.
- B. Scour in seagrass habitat.
- C. Wheelhouse and debris.
- D. Vessel as artificial reef habitat.
- E. Seagrass habitat.





PLATE 10. Unknown 2435, sailboat, Christiansted Harbor, St. Croix, USVI.

Vessel Information: Unknown 2435 is a 25-28 ft fiberglass sailboat. This vessel sank at its mooring during Hurricane Hugo in 1989. The vessel hull is fairly intact, but there are no masts and it is beginning to deteriorate. No information is known about the previous owners.

General Site Characterization: The vessel is submerged in ~ 6 ft of water in Christiansted Harbor, a heavily used mooring area and marina in an area that is dominated by privately owned businesses related to tourism and national historic sites.

Environmental Characterization: The vessel is grounded on unconsolidated sediment (sand bottom) in a harbor. If the vessel moved during a large storm or hurricane, it is possible that nearby benthic habitats, most likely seagrass or macroalgae, could be impacted.

Comparison to Other Vessels: This vessel is representative of sailboats that sank at their moorings in harbors on sand bottoms.



Photographs of Unk2435, sailboat (26 June 02):

- A. Aerial view of vessel.
- B. View of vessel from bow.
- C. View of vessel from stern.
- D. Sand bottom habitat.
- E. Vessel interior.



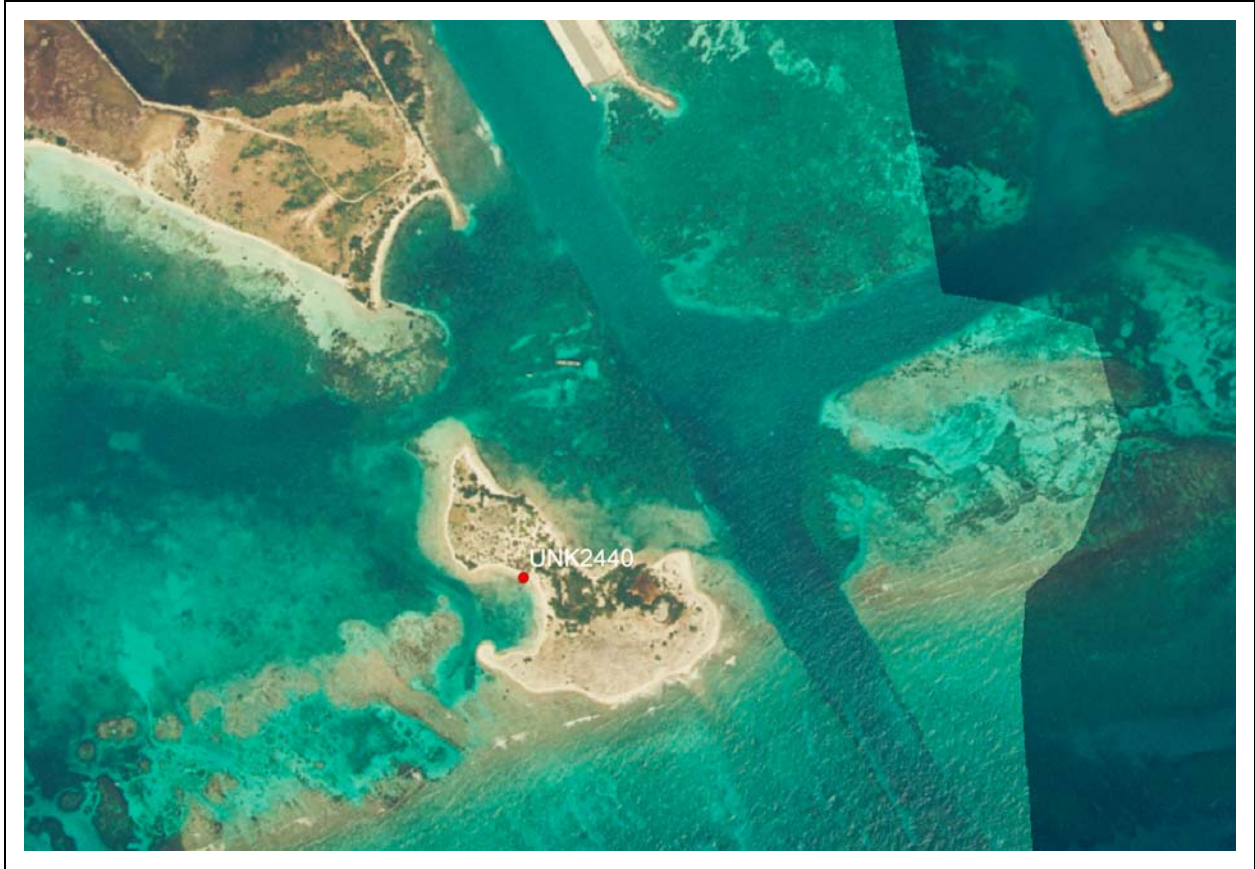


PLATE 11. Unknown 2440 ex-Navy supply boat, Ruth Cay, St. Croix, USVI

Vessel information: Unknown 2440 is a 67 ft, steel, U.S. ex-Navy supply boat, aground and ashore. The vessel is deteriorating, and there are several large holes and a lot of debris in the hull. Vegetation is growing in it.

General Site Characterization: The vessel is aground on a DPNR wildlife preserve. The cay is only accessible by boat, and therefore recreational use is limited. A large least tern nesting colony occurs on the SW side of the protected cove where the vessel is located.

Environmental Characterization: The vessel is grounded primarily in seagrass and macroalgae habitat on coarse-grained sand substrate, but a portion of the port side is aground on mixed sand and gravel beach. A patch of turtle grass occurs in the subtidal area on the starboard side of the bow. There is dense coverage of a mixture of turtle grass, *Halimeda*, and other macroalgae off of the starboard and stern sides. A scour hole the same width as the vessel occurs around the stern. There is some patchy hardbottom habitat in the bay. Seagrasses are damaged directly under the vessel, and additional injury is possible if it moved during major storms or hurricanes.

Comparison to Other Vessels: This vessel is unique because it is a large steel vessel, unlike the majority of sailboats that were surveyed, and it was grounded in a protected cove that is not heavily utilized. It is representative of vessels that are grounded onshore on sand beach and in intertidal seagrass habitat.

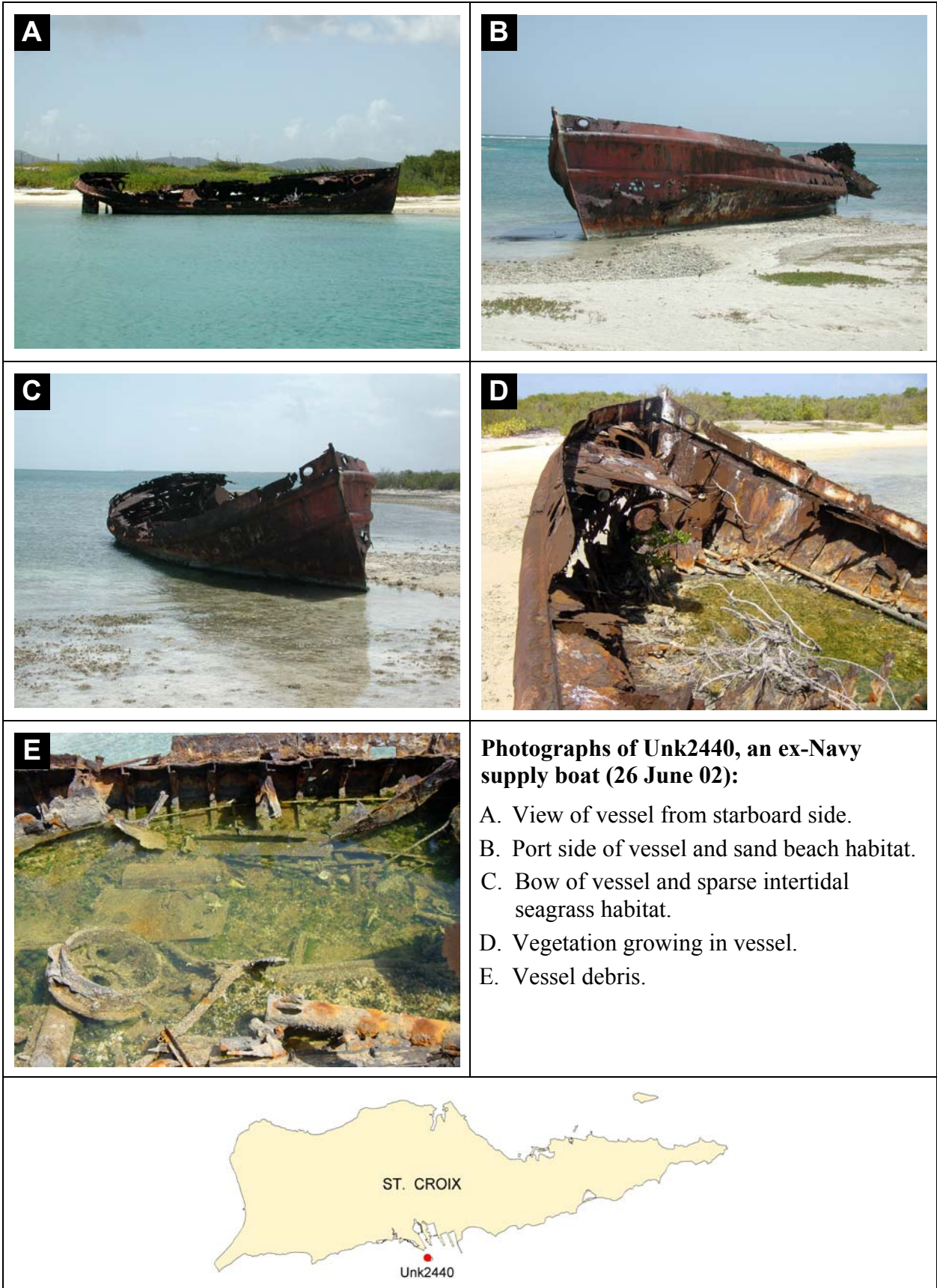




PLATE 12. The *Munro*, sailboat, Saba Island, St. Thomas, USVI.

Vessel Information: The *Munro* is a 46 ft fiberglass sailboat aground and ashore. The vessel's mooring broke in Honeymoon Bay on Water Island and it drifted to Saba Island in 2000. The hull is intact, but is approximately one-quarter filled with rubble and there is no mast. No information is known about the owners.

General Site Characterization: The vessel is ashore on Saba Island, a USVI wildlife sanctuary. Access is by boat only, and this is limited.

Environmental Characterization: The stern is grounded on hardbottom habitat and coral rubble with calcareous sand, and the bow is ashore on a mixed sand gravel beach with some cobble to boulder-sized sediments. Sparse macroalgae occurs on the substrate, and very little live coral was observed. The vessel is located in a high-energy environment, and its presence onshore is causing a high gravel berm (3-6 ft) to form on the starboard side, and erosion to occur on the port side. Damage to benthic habitats is not evident, but is possible if the vessel was to move during a storm event.

Comparison to Other Vessels: This vessel is representative of a few vessels that were grounded on gravel beach habitat on a small islands with surrounding hardbottom habitat in the surf zone.



Photographs of *Munro* (27 June 02):

- A. Gravel beach habitat.
- B. View of vessel and beach from port side.
- C. Cabin interior.
- D. View of stern.
- E. Hardbottom habitat.



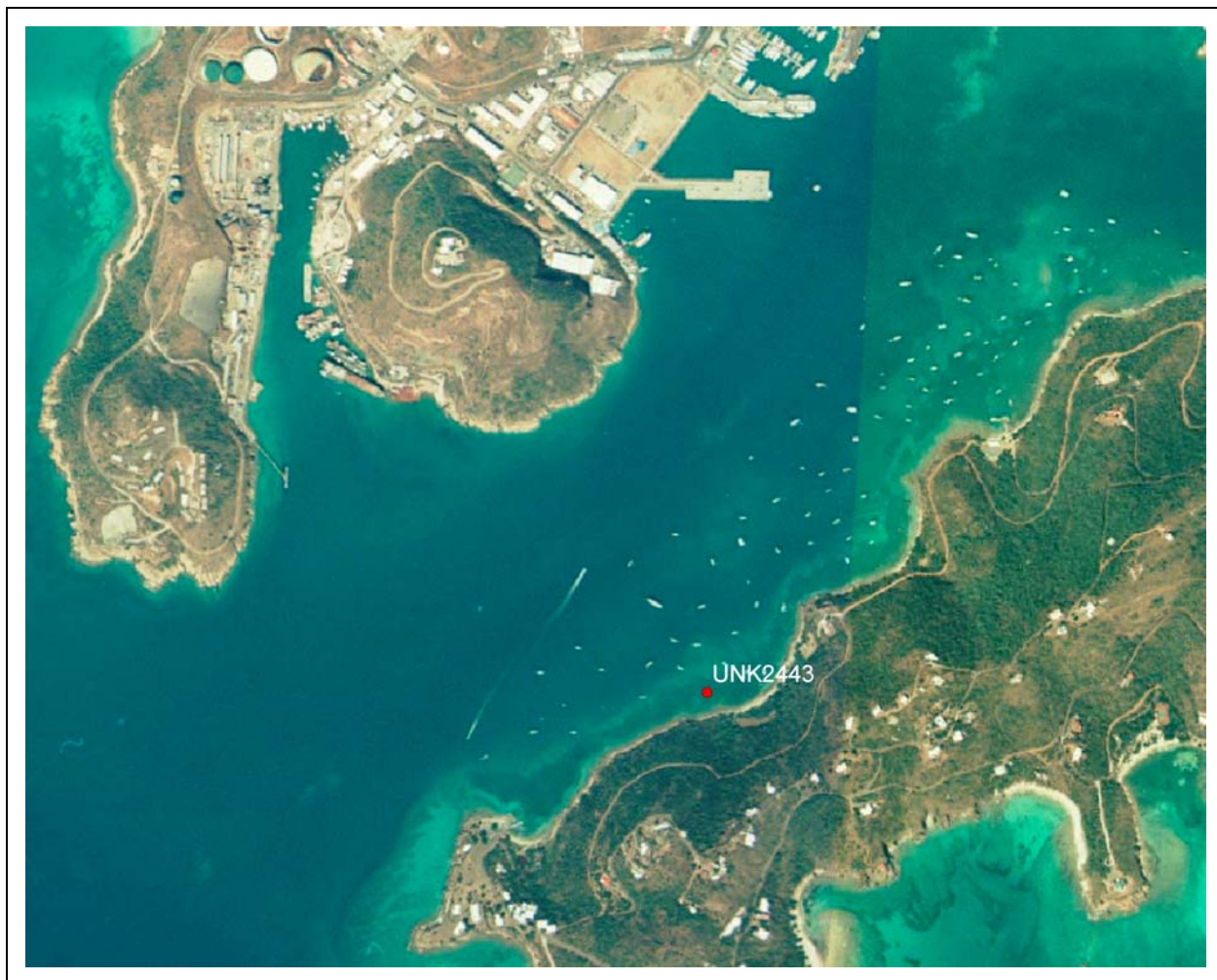


PLATE 13. Unknown 2443, sailboat, Elephant Bay, St. Thomas, USVI.

Vessel Information: Unknown 2443 is a 66 ft, steel-framed sailboat with wood planking. The vessel caught fire and burned at its mooring sometime between 1983-1985. The steel hull remains, but the vessel is mostly burned. No information is known about the owners.

General Site Characteristics: The vessel is submerged in Elephant Bay, which is a mooring and recreational boating area. The site is fairly sheltered during typical weather conditions.

Environmental Characterization: A large area under and around the vessel is devoid of seagrass, and signs of active scour are present. The scour area is wider around the bow and on the starboard side. Dense turtle grass occurs surrounding the vessel scour on all sides. Approximately 30 feet to the port side of the bow is an area of sand and gravel bottom with some soft coral. The vessel could cause additional seagrass damage, and/or possibly soft coral damage, if it moved during major storms or hurricanes.

Comparison to Other Vessels: This vessel is representative of sailboats that are grounded in seagrass habitat that leave an unvegetated scour area around a portion of the vessel.



Photographs of Unk2443, sailboat (27 June 02):

- A. Scour area in seagrass habitat.
- B. Vessel on seagrass.
- C. Burned hull.
- D. Live coral growing on hull.
- E. Overview of hull.





PLATE 14. *Serendipity*, sailboat, Current Hole Rock, St. Thomas, USVI.

Vessel Information: The *Serendipity* is a 46 ft fiberglass sailboat, aground since 2001. The vessel lost its anchorage during a storm and was grounded on Current Hole Rock. The vessel is mostly intact, except the keel is broken. No information is known about the owners.

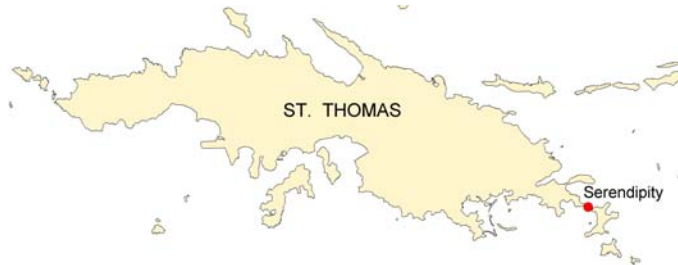
General Site Characterization: The submerged lands are part of the DPNR St. James Reserve and Wildlife Sanctuary, and public access is limited. The vessel is ashore on a small island. It is exposed to moderate wave energy.

Environmental Characterization: The vessel is aground on a rock platform. The adjacent benthic habitat is hardbottom and coral reef. From the shoreline to approximately 65 feet offshore, the habitat is fire coral, some hard coral (brain coral, elkhorn), and soft coral on bedrock and large boulders. *Diadema* are abundant. Further offshore are higher density patch reefs on coarse-grained sand and coral rubble with abundant soft corals, sponges, massive corals, fire coral, *Diadema*, and small colonies of staghorn and pillar coral. Damage to live coral, invertebrates, coral reef, and hardbottom habitat is likely if the vessel moved during a large storm or hurricane.

Comparison to Other Vessels: This vessel is unique among the vessels surveyed in the USVI because it is grounded near coral reef and hardbottom habitat.



Photographs of *Serendipity* (28 June 02):
 A. View of vessel from starboard side.
 B. View of deck.
 C. Reef habitat.
 D. Staghorn coral.
 E. Pillar coral.



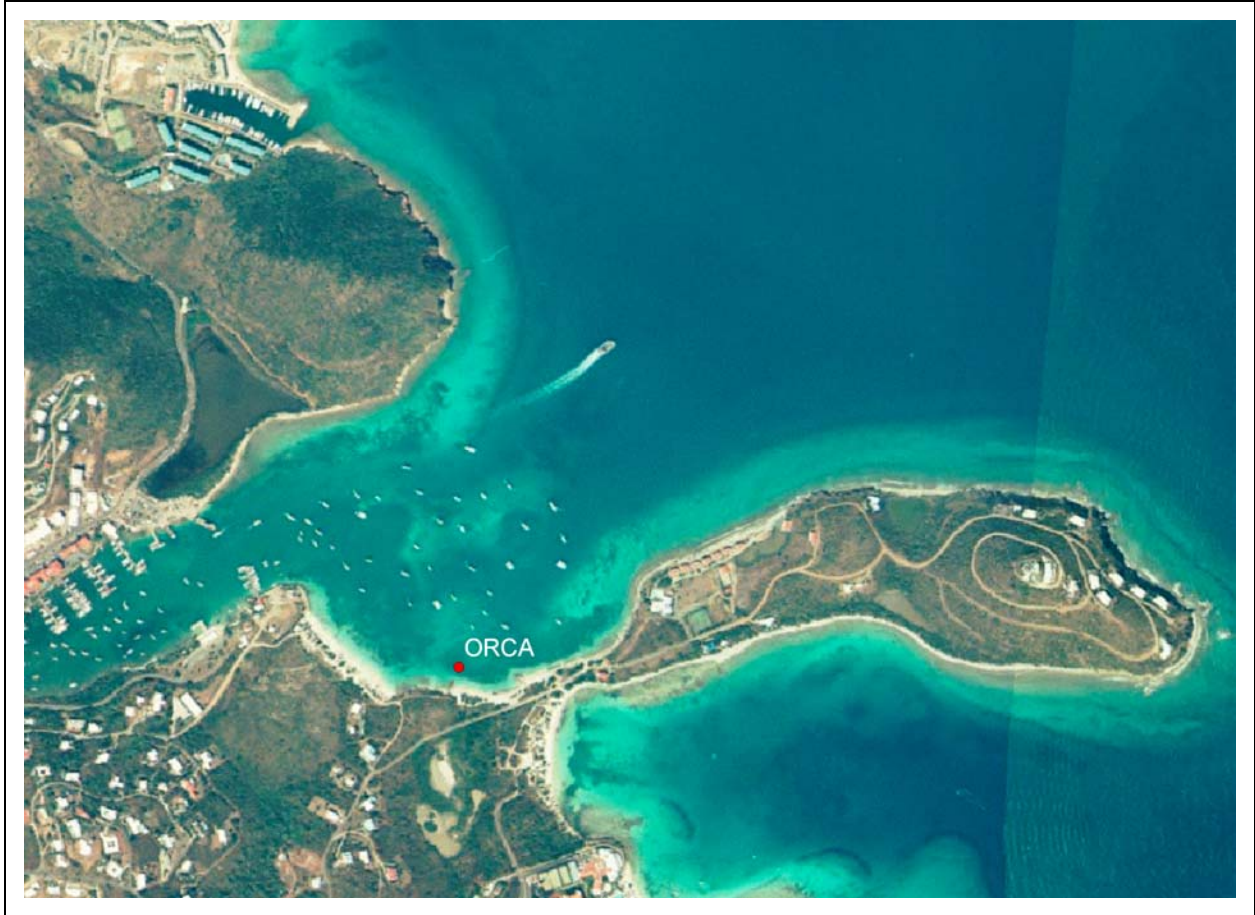


PLATE 15. *Orca*, sailboat, Muller Bay, St. Thomas, USVI.

Vessel Information: The *Orca* is a 41 ft steel sailboat aground and ashore since 1995. The vessel was likely grounded during Hurricane Marilyn. The vessel is rusting and the mast is broken, but the hull is mostly intact. No information is known about the owners.

General Site Characterization: The vessel is located at a public beach with a small industrial area behind it. Muller Bay is somewhat sheltered, and is used as a mooring area.

Environmental Characterization: The vessel is aground in the intertidal zone on seagrass and sand. Approximately 15 ft from the starboard side of the vessel is a 30 cm seagrass scarp, and a roughly 15 ft wide manatee grass bed of moderate coverage extends along the starboard and stern sides of the vessel. Offshore from the manatee grass bed is dense coverage of mixed turtle and manatee grass and macroalgae. There is an unvegetated intertidal and subtidal sandy zone surrounding the vessel. The vessel could cause seagrass damage if it moved during major storms or hurricanes.

Comparison to Other Vessels: This vessel is unique among the sailboats surveyed in the USVI because it is aground at a public beach.



Photographs of ORCA (28 June 02):

- A. View of vessel from starboard side.
- B. Sand beach habitat.
- C. Vessel deck.
- D. Sandy intertidal zone.
- E. Seagrass habitat.





PLATE 16. Unknown 2465, houseboat, Benner Bay, St. Thomas, USVI.

Vessel Information: Unknown 2465 (VI 12870-T) is a fiberglass houseboat. The vessel is damaged and at a 45° port list and tied to the mangroves. No information is known about the owners.

General Site Characterization: The vessel is grounded in the mangroves. Benner Bay is a large marina and mooring area owned by the USVI territory, and it has heavy recreational vessel traffic.

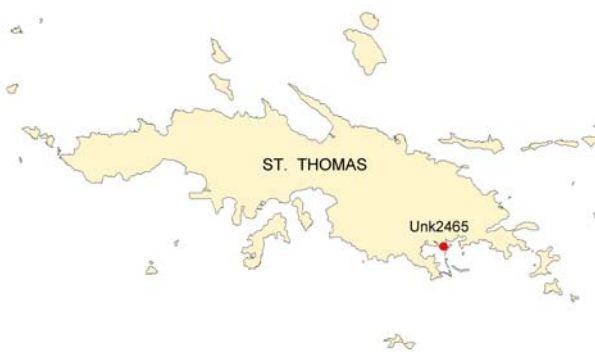
Environmental Characterization: Physical mangrove damage was observed along the port side of the vessel, including dead trees, open canopy, and attached vessel lines. The vessel may have caused injury to the mangroves, at least in part, although storm damage is also a possibility. Additional mangrove damage is likely if the vessel moved during large storms or hurricanes.

Comparison to Other Vessels: This vessel represents the 20 plus vessels abandoned in Benner Bay, most in mangrove habitats.

A



B



Photographs Unk2465, houseboat in Benner Bay (26 June 02):

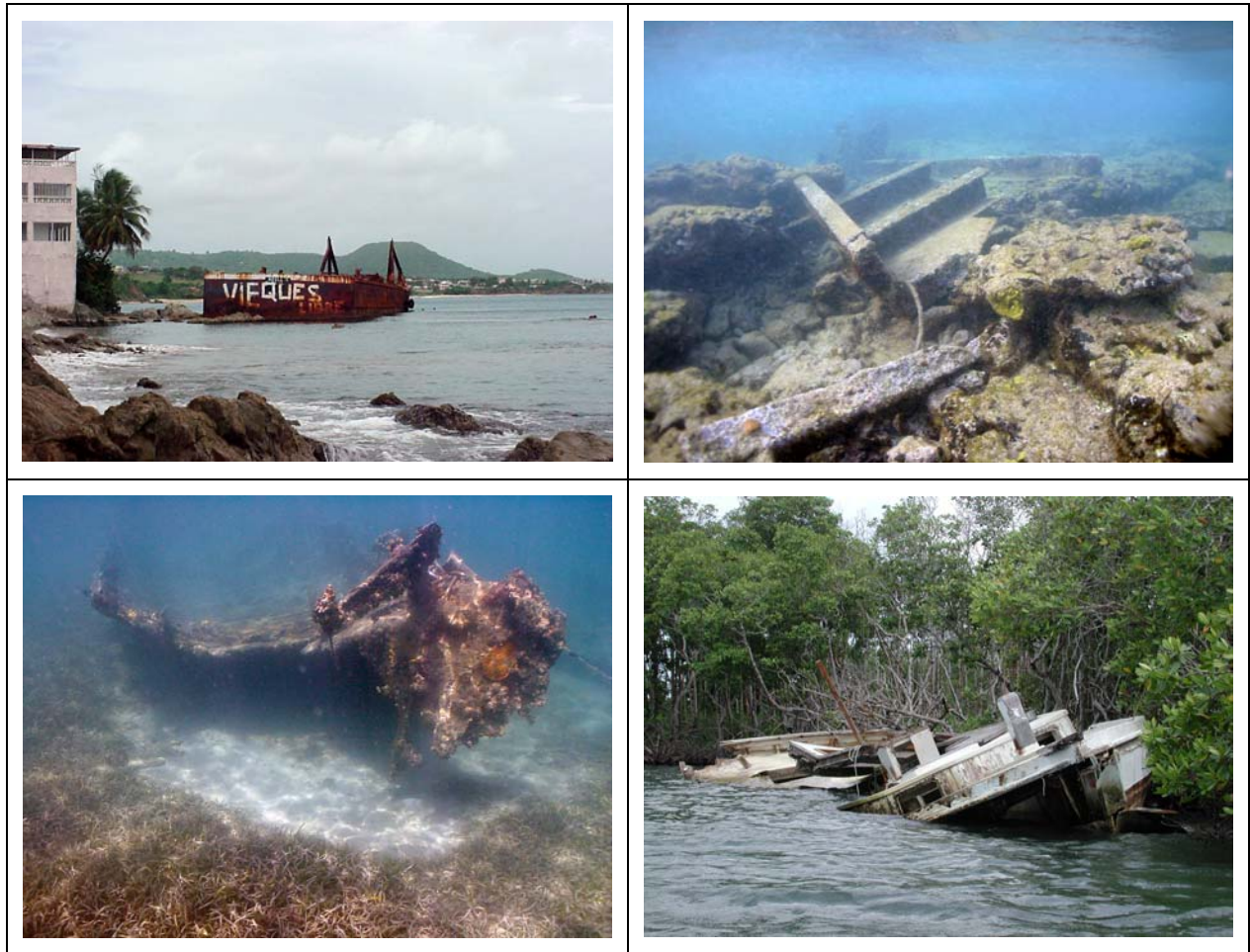
- A. View of two houseboats tied to mangroves.
- B. View of dilapidated vessel.

SUMMARY OF FINDINGS

- During the field surveys conducted in the priority areas in Puerto Rico and the USVI, many new vessels were identified. Thus, the actual number of abandoned vessels in the Caribbean region may be as much as double the number in NOAA's Abandoned Vessel Inventory (AVI) database. There are also likely to be areas in the U.S. Caribbean region that were not identified in the AVI database, and subsequently not surveyed, where additional vessels are located.
- Multiple abandoned vessels were often clustered together, especially in areas heavily used by yachts and long-term mooring areas. Hurricanes were the cause of many of the groundings in these areas. Examples of sites with clustered distributions of vessels are: Benner Bay in St. Thomas, Salt River Bay in St. Croix, and Boqueron Bay in southwest Puerto Rico.
- Only 6 of the 103 abandoned vessels that were surveyed in the U.S. Caribbean region posed any pollution threat, and usually the threat was thought to be minor (small amount of fuel, marine batteries, paint, etc.). The U.S. Coast Guard in Puerto Rico is very proactive in terms of investigating vessels that are pollution threats and working to have any immediate threats removed. They have also completely removed several vessels that posed chronic threats because of illegal dumping. This U.S. Coast Guard initiative is very commendable and has significantly reduced the pollution risks of abandoned vessels in the region.
- Fourteen vessels were determined to pose potential navigational threats, though none were located in active navigational waterways. Most of the vessels with potential navigational threats were located close to marinas, ports, and other areas of recreational vessel activity.
- The greatest threat posed by the surveyed vessels was to public health, with 48 vessels considered some risk, mostly from slips and trips by the public climbing on the vessels. A few submerged vessels were potential entrapment hazards for swimmers and divers.
- Many of the abandoned vessels were recreational vessels grounded during the 4 major hurricanes that have passed over Puerto Rico and the USVI since 1989: Hugo (Category 4) in 1989; Marilyn (Category 3) in 1995; Georges (Category 3) in 1998; and Lenny (Category 4) in 1999. The vessels sunk at their mooring or broke away and grounded against the shoreline. The owner may have attempted salvage, or removed whatever they could from the vessel, but did not remove the entire vessel from the grounding site. For these kinds of vessels, the owner name is seldom known, and current addresses are more difficult to document.
- Of the 103 vessels surveyed, 23 vessels (22 percent) were located in areas where the primary habitat being affected or potentially at risk was seagrass. Mangroves were the primary habitats being impacted by 29 vessels (28 percent). Coral reef habitat was the primary habitat being affected by 3 vessels (3 percent). The remaining 47 percent of the vessels were located on macroalgae habitats, sand and gravel beach habitats, sand bottom habitats, mud bottom habitats, rocky shorelines, or on man-made shorelines in developed harbors.

- Damage from abandoned vessels in seagrass habitat occurred in the footprint of the vessel, which could be significant for the larger vessels. Furthermore, there was always some physical loss of seagrass habitat around the vessel where waves cut scour pits and undercut banks around the vessel. Depending on the wave energy, wave approach, water depth, and vessel size, these erosional features could be up to 100 ft wide around the vessels, although 10-20 ft is more typical.
- In the future, major storms and hurricanes will potentially cause continued impacts to seagrass habitats. The expansion of scour pits around vessels is likely in the event of vessel movement during storms and as the vessels degrade.
- Most of the vessels in mangrove habitats were stranded against or on the outer fringe, causing damage in the immediate vicinity of the vessel. Often there was evidence of damage to the mangrove fringe that was likely caused during one of the recent hurricanes that have struck the Caribbean region. Many of these vessels could readily move again during a large storm, causing additional damage to mangroves.
- Of the 103 vessels assessed during the field surveys, coral reef/hardbottom habitat was directly affected by one vessel in Puerto Rico and two vessels in the USVI. On the island of Culebra, Puerto Rico, the *Karma* was breaking up and the debris field could be transported into coral reef habitat. On St. Croix, a steel barge with a large debris field is grounded on hardbottom and coral reef habitat with limited live coral. On Saba Island, off St. Thomas, the *Munro*, a 46 ft sailboat, is half ashore, half grounded on hardbottom habitat with coral rubble, with very little live coral observed.

Surveys of Abandoned Vessels: U.S. Caribbean Region



APPENDICES

RAPID ASSESSMENT REPORTS FOR ABANDONED VESSELS
IN PUERTO RICO AND THE U.S. VIRGIN ISLANDS



**APPENDIX A:
RAPID ASSESSMENT REPORTS FOR
ABANDONED VESSELS IN PUERTO RICO**

Prepared by:

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Research Planning, Inc.
Columbia, South Carolina 29202

September 2002

APPENDIX A
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1) Survey Information

- a) **Date and location:** 3 June 2002. Boqueron Bay, Puerto Rico.
- b) **Weather and tide conditions at time of survey:** 5-7 knots wind, clear, sunny.
- c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA); USCG; DNER; Lopez (FWS).
- d) **GPS Location:**
Lat: 18° 01.568'
Lon: 67° 10.769'



- e) **Inspection Narrative:** Vessel was boarded for inspection of condition; snorkel survey and videotaping of benthic habitats; shoreline survey of mangrove fringe.

2) Grounding site logistics

- a) **Adjacent land ownership:** The mangrove fringe is part of the Boqueron Forest, managed by DNER, with private ownership landward of the mangroves. The submerged lands are owned by the Commonwealth of Puerto Rico.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** There is a Commonwealth wildlife refuge nearby.
- d) **Points of access:** There is a DNER facility with boat ramp and docks inside Boqueron Lagoon.
- e) **Sea conditions and exposure to wave energy at site:** Relatively low; seas were about 0.3 m and choppy. It is protected from the NE trade winds.
- f) **Depth and nearby bathymetry:** 0-3 ft.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded against a Commonwealth Forest and on Commonwealth-owned submerged lands.

4) Vessel Information

- a) **Vessel name:** TORTUGA.
- b) **Vessel type:** Converted fishing vessel.
- c) **Construction materials:** Wood and fiberglass.

- d) **Principle dimensions:** 48 ft x 14 ft.
- e) **Hull number, registration number and engine serial numbers:** None.
- f) **Fuel type and estimated tank capacity:** None onboard.
- g) **Commercial vs. pleasure craft:** May have been converted from a fishing boat to a pleasure boat.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Partially submerged.
- b) **Nature of casualty (preliminary cause if known):** Grounded during Hurricane Georges.
- c) **What were the circumstances of the grounding or abandonment?** Abandoned after the hurricane.
- d) **Date of grounding/length of time the vessel has been "abandoned":** September 1998.
- e) **General description of vessel damage:** Only the fiberglass hull remains; most of cabin is gone. What appears to be the wooden deck cover is floating on the seaward side of the vessel, partially trapped under the hull.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats (batteries, long-line reel, fishing nets, hooks, etc.):** The mast is broken, and there is a minor amount of debris.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?** No.
- b) **Depth and visibility of the vessel:** 1-2.5 ft, against the mangrove fringe.

- c) **Is the vessel properly marked?** No, but it is readily visible and against the mangroves.
- d) **Type of navigation in the area:** Recreational only.
- e) **Has the vessel moved over time? Might it move in the future?** No. The vessel would only move if it broke into pieces. The loose deck cover could easily break away and move.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Recreational fishing and boating.
- b) **Evidence of people boarding the vessel?** No, but it has been stripped of all valuables.
- c) **Entrapment or slip/fall hazards?** Yes, slip hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Unknown.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Unknown.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Un-vegetated benthic area and vessel intrusion into edge of mangrove forest covers roughly 50 ft x 30 ft in maximum length and width. These dimensions do not include possible mangrove damage in nearby area.
- b) **Dimensions of debris field:** Debris primarily within area described above.
- c) **Primary Habitat(s):** Mangroves. Vessel lies against the seaward edge of an 80+ ft-wide red mangrove forest. Black mangroves also present.
- d) **Secondary Habitat(s):** Seagrass. Dense turtle grass occurs up to the mangrove edge (or within 5 ft of the mangroves), excluding the un-vegetated area around the vessel.
- e) **Substrate:** Sand mixed with some finer material.
- f) **Damage Observations:** Roughly 15 ft-wide area of un-vegetated substrate occurs on starboard side of vessel where seagrasses were likely present. Two smaller un-vegetated areas near the

vessel, roughly 5 ft in diameter each, may be seagrass blowout areas. Substantial physical mangrove damage observed, along port side of vessel, as well as in larger area roughly 20-30+ ft in diameter, occurring several feet off the stern of the vessel and extending inside the forest interior (dead trees, open canopy, and understory mangrove regeneration observed). Mangrove damage may have been caused by this vessel, at least in part, although unrelated hurricane damage also a possibility. Vessel could cause additional mangrove and seagrass injury if it moved or broke up during a major a storm or hurricane.



1) Survey Information

- a) **Date and location:** 3 June 2002. Boqueron Bay, Puerto Rico.
- b) **Weather and tide conditions at time of survey:** Clear, winds 5-7 knots.
- c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA); Lopez (FWS); USCG; DNER.
- d) **GPS location:**
Lat: 18° 1.646'
Lon: 16° 11.018'
- e) **Inspection Narrative:** Vessel was boarded for inspection of condition; snorkel survey and videotaping of benthic habitats; shoreline survey of mangrove fringe.



2) Grounding site logistics

- a) **Adjacent land ownership:** The mangrove fringe is part of Boqueron Forest, managed by DNER, with private ownership landward of the mangroves. The Commonwealth of Puerto Rico owns the submerged lands.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** There is a Commonwealth wildlife refuge nearby.
- d) **Points of access:** There is a DNER facility with boat ramp and docks inside Boqueron Lagoon.
- e) **Sea conditions and exposure to wave energy at site:** Relatively low; seas were about 0.3 m and choppy. It is protected from the NE trade winds.
- f) **Depth and nearby bathymetry:** 0-3 ft.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded against a commonwealth forest and on commonwealth-owned submerged lands.

4) Vessel Information

- a) **Vessel name:** Name was partially obscured. Looked like: BE??TRIX.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Fiberglass; white hull, blue deck, red stripe on back.



- d) **Principle dimensions:** 29 ft x 9.5 ft.
- e) **Hull number, registration number and engine serial numbers:** Registration number on hull is PR 116GG?. First number may not be a "1".
- f) **Fuel type and estimated tank capacity:** None onboard.
- g) **Commercial vs. pleasure craft:** Pleasure craft.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Puerto Rico.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Partially submerged and ashore.
- b) **Nature of casualty (preliminary cause if known):** Grounded during Hurricane Georges.
- c) **What were the circumstances of the grounding or abandonment?** Abandoned after the hurricane.
- d) **Date of grounding/length of time the vessel has been "abandoned":** September 1998.
- e) **General description of vessel damage:** Only the fiberglass hull remains; most of cabin is gone.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** The mast is broken, and there is a minor amount of debris.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?** No.
- b) **Depth and visibility of the vessel:** 1-2.5 ft, against the mangrove fringe.
- c) **Is the vessel properly marked?** No, but it is readily visible and against the mangroves.

- d) **Type of navigation in the area:** Recreational only.
- e) **Has the vessel moved over time? Might it move in the future?** Not since the hurricane. It would only move if the hull broke into pieces.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) **Potential Public Health**

- a) **Public uses in the area:** Recreational fishing and boating.
- b) **Evidence of people boarding the vessel?** No, but it has been stripped of all valuables.
- c) **Entrapment or slip/fall hazards?** Yes, slip hazard and swimmers could be trapped inside the hull.

9) **Prior Response/Salvage actions (if any/ if known)**

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Unknown.

10) **Vessel Ownership (if known)**

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Unknown.

11) **Endangered Species and critical habitats**

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) **Potential Environmental Impacts**

- a) **Dimensions of vessel grounding footprint:** Possible loss of sparse seagrass directly under and adjacent to vessel. Also, physical mangrove damage possibly caused in part by this vessel, dimensions not recorded.
- b) **Dimensions of debris field:** Minor debris right around vessel.
- c) **Primary Habitat(s):** Mangroves. Vessel lies against the seaward edge of a 50 ft-wide fringing red mangrove forest. Black mangroves present also. Succulent halophytes occur in understory. Seaside maho shrubs occur also.
- d) **Secondary Habitat(s):** Seagrass. Sparse shoal grass mixed with some turtle grass occurs in a 15-30 ft-wide band along the shoreline, right up to the mangroves in places. Calcareous macroalgae also present (*Padina* sp.). Seaward of this, denser turtle grass is present.
- e) **Substrate:** Sand mixed with some finer material.

- f) **Damage Observations:** Possible seagrass damage directly under and adjacent to vessel. Physical mangrove damage observed, possibly caused by this vessel, although unrelated hurricane damage also a possibility. Vessel could injure mangroves and seagrasses if it moved during major storms or hurricanes.

1) Survey Information

a) **Date and location:** 3 June 2002, Cano Boqueron, Boqueron Bay, Puerto Rico.

b) **GPS location:**
Lat: 18° 00.753'
Lon: 67° 10.128'



2) Grounding site logistics:

Grounded in a small sheltered bay about 100 ft from the DNER marine ranger office and dock.

3) Vessel Information:

Fishing vessel, open wooden skiff, 15 ft x 4 ft, floating in water 3 ft deep against the mangrove fringe.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is on un-vegetated mud bottom at edge of mangrove forest. Area is designated critical habitat for the federally endangered yellow-shouldered blackbird, which uses mangroves and coastal fringe habitats. See Code of Federal Regulations, Title 50, Chapter I, Part 17.95, 1 October 2001, <http://www.access.gpo.gov/>. Mangroves are the primary nesting habitat for this species. Mangroves could be damaged if the vessel moved during a major storm or hurricane, although the damage would likely be minor.

1) Survey Information

- a) **Date and location:** 5 June 2002, Culebra, Puerto Rico.
- b) **Weather and tide conditions at time of survey:** 5-10 knot wind, cloudy.
- c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA); Tallevast (FWS); Mosley (USCG)
- d) **GPS Location:**
Lat: 18° 18.538'
Lon: 65° 17.103'
- e) **Inspection Narrative:**
Boarded the vessel and videotaped part of vessel and shoreline habitat.



2) Grounding site logistics

- a) **Adjacent land ownership:** The mangrove forest is part of the Culebra National Wildlife Refuge.
- b) **Any man-made structures that might be affected or obstruct removal:** None.
- c) **Land-use:** Extensive and fringing mangrove forest with some recreational use for fishing.
- d) **Points of access:** Access is by boat from Culebra Harbor.
- e) **Sea conditions and exposure to wave energy at site:** Very sheltered inside the Harbor.
- f) **Depth and nearby bathymetry:** 6 ft where the vessel is grounded; the small bay is deeper.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No, but the adjacent mangrove forest is National Wildlife Refuge land.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded on state-owned submerged lands.

4) Vessel Information

- a) **Vessel name:** LEGEND.
- b) **Vessel type:** Hatteras type cabin cruiser.
- c) **Construction materials:** Wood.
- d) **Principle dimensions:** 50 ft x 15 ft, with two decks.
- e) **Hull number, registration number and engine serial numbers:** Unknown.

- f) **Fuel type and estimated tank capacity:** Could not be determined.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Aground and tilted to starboard by about 30 degrees.
- b) **Nature of casualty:** Sank at its mooring.
- c) **What were the circumstances of the grounding or abandonment?** Due to negligence by the owner, who lives out of the country, the vessel sank at its mooring, several times.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Last sinking was in 1998.
- e) **General description of vessel damage:** The wood is starting to deteriorate. The hull is flooded. The vessel is grounded at a steep (30 degrees) angle on starboard side.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Tanks were intact.
- e) **Other equipment and supplies that may pose their own threats:** None, the vessel had been stripped of all equipment and supplies.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?** Located in a small bay, at the edge of an extensive mangrove forest, outside any navigational channels.
- b) **Depth and visibility of the vessel:** Vessel is grounded in 6 ft of water; it is highly visible.
- c) **Is the vessel properly marked?** There are no markings on the vessel.
- d) **Type of navigation in the area:** Culebra Harbor is a high-use recreational boating area.

- e) **Has the vessel moved over time? Might it move in the future?** Does not appear that the vessel has moved. It could move into the mangroves during a hurricane.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Recreational boating area.
- b) **Evidence of people boarding the vessel?** Some (trash).
- c) **Entrapment or slip/fall hazards?** Yes, there are open hatches and rotting wood.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** Unknown.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Leonell Rodriguez/address in U.S. unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Unknown.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** Yes, green sea turtle. See Federal Register 63(170): 46693-46701, 2 September 1998, <http://www.access.gpo.gov/>.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** Probably not.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Not measured.
- b) **Dimensions of debris field:** Not examined.
- c) **Primary Habitat(s):** Mangrove. Vessel bow against red mangroves at head of small bay.
- d) **Secondary Habitat(s):** N/A.
- e) **Substrate:** Mud.
- f) **Damage Observations:** None directly observed. Vessel could cause mangrove damage if it moved during future hurricanes.

1) Survey Information

- a) **Date and location:** 3 June 2002. Isla de Cabras, Puerto Rico
- b) **Weather and tide conditions at time of survey:** Cloudy.
- c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA); Mosley (USCG).
- d) **GPS Location:**
Lat: 18° 28.435'
Lon: 67° 09.579'
- e) **Inspection Narrative:** Vessel was boarded for inspection of condition; snorkel survey and videotaping of benthic habitats.



2) Grounding site logistics

- a) **Adjacent land ownership:** Municipal recreational park; National Park Unit; Private club.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** High-use local recreational park.
- d) **Points of access:** There is a road in the park right to the shoreline close to the vessel.
- e) **Sea conditions and exposure to wave energy at site:** Moderate exposure to waves; Isla de Cabras provides shelter from prevailing seas.
- f) **Depth and nearby bathymetry:** 10-15 ft.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** Yes, National Park Service unit that is on land, adjacent to the park.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded on state-owned submerged lands.

4) Vessel Information

- a) **Vessel name:** Unknown.
- b) **Vessel type:** Barge, liquid fuel oil.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 200 ft x 45 ft.
- e) **Hull number, registration number and engine serial numbers:** Unknown.
- f) **Fuel type and estimated tank capacity:** None onboard.

- g) **Commercial vs. pleasure craft:** Commercial craft.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state/homeport:** Unknown.
- j) **Builder, model (if any), and year of construction:** Unknown.
- k) **Vessel tonnage (over 100 gross tons?):** N/A.
- l) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Aground.
- b) **Nature of casualty (preliminary cause if known):** Unknown.
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Unknown. First mention in history section of USCG database in 1976.
- e) **General description of vessel damage:** Deck plates are starting to break up; many holes in sides and open to the sea.
- f) **Vessel Cargo:** None at this time; was used for liquid petroleum.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own:** 8 inch hose on deck, hanging over the side. Several pieces of metal piping debris on the bottom on starboard side.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?** > 3 km from navigable channel.
- b) **Depth and visibility of the vessel:** 10-15 ft, readily visible with most of the deck exposed.
- c) **Is the vessel properly marked?** No, but it is readily visible.
- d) **Type of navigation in the area:** Recreational boat only.
- e) **Has the vessel moved over time? Might it move in the future?** No evidence of any movement.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Heavy use of water area for swimming, diving, snorkeling, jet skis.
- b) **Evidence of people boarding the vessel?** During the survey on Sunday, several groups of swimmers boarded the vessel. It is a destination point for swimmers.
- c) **Entrapment or slip/fall hazards?** Yes, the deck surface is rusting; some areas are already broken through. Expect continued degradation that will pose greater future public hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Unknown.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Unknown.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Un-vegetated area around the vessel was roughly 250 ft x 130 ft in maximum length and width.
- b) **Dimensions of debris field:** Debris lie mostly within 15-30 ft of vessel.
- c) **Primary Habitat(s):** Seagrass. Sparse and patchy shoal grass surrounding much of the vessel scour area, denser turtle grass present as well, closer to vessel off the bow, further away in other areas. Fleishy macroalgae mixed with seagrasses in places.
- d) **Secondary Habitat(s):** Hardbottom. A patch of hardbottom (at least 70-100 ft across) occurred roughly 50 ft off the bow and front starboard side of the vessel. Hardbottom colonized mainly by macroalgae, live hard coral cover was <1% and the few colonies were small, roughly 6 in. diameter on average, 10 in. maximum.
- e) **Substrate:** Sand with some finer materials and pebble-sized coral rubble.
- f) **Damage Observations:** Large area around vessel devoid of seagrass (bare sand). Active scour observed. No eroding scarp observed at edge of bare area. In most places only sparse seagrass coverage occurs around the bare area. Seagrasses will not likely colonize the bare and sparse areas around the vessel with any permanence due to continuing scour. Additional seagrass damage could occur during major storms or hurricanes.

1) Survey Information

a) **Date and location:** 5 June 2002, Culebra, Puerto Rico.

b) **Weather and tide conditions at time of survey:** 15-20 knot wind, cloudy.

c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA); Tallevast (FWS); Mosley (USCG).

d) **GPS Location:**
Lat: 18° 17.924'
Lon: 65° 19.967'

e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and benthic habitats around the vessel and to shore.



2) Grounding site logistics

a) **Adjacent land ownership:** Culebra National Wildlife Refuge.

b) **Any man-made structures that might be affected or obstruct removal:** None.

c) **Land-use:** National Wildlife Refuge, day hiking only. No overnight camping allowed.

d) **Points of access:** Only access is by boat from Culebra Harbor.

e) **Sea conditions and exposure to wave energy at site:** Seas are typically 2-3 ft. Normally in the lee of trade winds and waves.

f) **Depth and nearby bathymetry:** 20 ft, shallows gradually toward the shoreline.

3) Jurisdiction and land ownership

a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.

b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded on state-owned submerged lands.

4) Vessel Information

a) **Vessel name:** KARMA.

b) **Vessel type:** Sailboat.

c) **Construction materials:** Wood and fiberglass.

d) **Principle dimensions:** Vessel is in 2 pieces: stern piece is 25 ft x 8 ft; bow decking is 28 ft x 8 ft.

e) **Hull number, registration number and engine serial numbers:** Unknown.

f) **Fuel type and estimated tank capacity:** Fuel tanks were removed before sinking.

- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Completely submerged.
- b) **Nature of casualty:** Intentional sinking as a diving site/artificial reef.
- c) **What were the circumstances of the grounding or abandonment?** Intentional sinking.
- d) **Date of grounding/length of time the vessel has been "abandoned":** April 2001.
- e) **General description of vessel damage:** Vessel has broken into main pieces and several smaller pieces. The sides of the main stern section are collapsing.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No fuel or hazmat on board.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Tanks were removed prior to sinking.
- e) **Other equipment and supplies that may pose their own threats:** N/A.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?** Greater than 2 miles from any navigational channels.
- b) **Depth and visibility of the vessel:** 21 ft water depth. Vessel is completely submerged, and the highest point is ~ 4 ft above the seafloor.
- c) **Is the vessel properly marked?** There are no markings on the vessel.
- d) **Type of navigation in the area:** High-use recreational boating site. Many day and overnight visitors anchor in the small bay where the Karma is sunk.
- e) **Has the vessel moved over time? Might it move in the future?** Yes, pieces have broken off and will continue to break off. Loose pieces could move landward during storms.

f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** High use for recreational boating, hiking, wildlife viewing, etc.
 - b) **Evidence of people boarding the vessel?** N/A.
 - c) **Entrapment or slip/fall hazards?** No entrapment hazard because no confined spaces.
-

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Not needed.
 - b) **Salvage efforts:** None, intentionally sunk.
-

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Jack Leroque, Culebra, Puerto Rico.
 - b) **Insurance Agent and type of coverages:** Unknown.
 - c) **What communications have occurred between owner/operator/insurer and state or federal government?** Owner was contacted shortly after he sank the boat by law enforcement agents of both NOAA and PRDNER. He has offered to remove the pieces that remain with help from volunteers.
 - d) **Contact names:** Teresa Tallevast, USFWS, Teresa_Tallevast@fws.gov
-

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** Yes, green sea turtle. See Federal Register 63(170): 46693-46701, 2 September 1998, <http://www.access.gpo.gov/>.
 - b) **Is the vessel destroying critical habitat or could it be if the vessel moved?** Yes, seagrass habitat specifically.
 - c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.
-

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Un-vegetated area around the vessel and larger debris was roughly 50 ft x 45 ft in maximum length and width.
- b) **Dimensions of debris field:** Roughly 55 ft x 30 ft Consists of large items near vessel and a few scattered items at perimeter of area.
- c) **Primary Habitat(s):** Seagrass. Dense turtle grass outside area surrounding vessel.
- d) **Secondary Habitat(s):** Patch reef starts 50 ft from vessel and gradually grades to narrow fringing reef close to shoreline. Fringing reef includes some larger massive corals. Patch reef also occurs roughly 75 ft off starboard side of vessel.
- e) **Substrate:** Sand (carbonate sand).
- f) **Damage Observations:** Large area around vessel devoid of seagrass (bare sand). No eroding scarp observed at edge of bare area. Sparse seagrass coverage occurs for 15-20 ft around the bare area, with visibly lower shoot density and shorter blades than in the surrounding grass bed.

1) Survey Information

- a) **Date and location:** 4 June 2002, Bahia de Tallaboa, near Ponce, Puerto Rico.
- b) **Weather and tide conditions at time of survey:** 5 knot wind, 1.5 ft swell.
- c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA); DNER.
- d) **GPS Location:**
Lat: 17° 59.239'
Lon: 66° 43.279'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and benthic habitats. Vessel was not boarded.



2) Grounding site logistics

- a) **Adjacent land ownership:** Private.
- b) **Any man-made structures that might be affected or obstruct removal:** The Corco oil offloading facility is about 2-3 miles to the west.
- c) **Land-use:** Some recreational boating. There is a gas-fired power plant 1-2 miles to the west.
- d) **Points of access:** Dirt road access to the adjacent shoreline. Ready marine access to site from Ponce.
- e) **Sea conditions and exposure to wave energy at site:** Seas are typically 2-3 ft.
- f) **Depth and nearby bathymetry:** 10 ft, shallows gradually toward the shoreline.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded on state-owned submerged lands.

4) Vessel Information

- a) **Vessel name:** PAWNEE.
- b) **Vessel type:** Large salvage tug.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 100 ft x 31 ft.
- e) **Hull number, registration number and engine serial numbers:** Chinese letters on transom.



- f) **Fuel type and estimated tank capacity:** All tanks appear empty.
- g) **Commercial vs. pleasure craft:** Commercial.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Aground.
- b) **Nature of casualty:** Grounded during effort to salvage the Princess, which is grounded nearby.
- c) **What were the circumstances of the grounding or abandonment?** Abandoned after grounding during attempted removal of the Princess (unknown 1865).
- d) **Date of grounding/length of time the vessel has been "abandoned":** Reported by DNER as grounding about 10 years ago (early 1990s).
- e) **General description of vessel damage:** Hull has holes in the side.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** None apparent. USCG reports that there may be oil in the deep and/or peak tanks, and containers of lube oil may be present.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** Unknown; vessel not boarded.
- d) **Condition of fuel tanks:** Unknown; vessel not boarded.
- e) **Other equipment and supplies that may pose their own threats:** There are 4-5 pieces of steel debris on the seafloor within 10-20 ft of the starboard side.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** None.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?:** Greater than 2 miles from any navigational channels.
- b) **Depth and visibility of the vessel:** ~10 ft water depth. Vessel is highly visible.
- c) **Is the vessel properly marked?** There are no markings on the vessel, but it is readily visible.
- d) **Type of navigation in the area:** Recreational only.



- e) **Has the vessel moved over time? Might it move in the future?** No. The vessel is very stable. It might move during a major hurricane.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Low use for recreational fishing and boating.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, slip hazard, as well as a lot of equipment on deck and a boom extending off the stern.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** USCG did remove oily bilge water.
- b) **Salvage efforts:** ??.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Unknown.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it be if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** The area around the vessel devoid of seagrass was roughly 130 ft x 100 ft in maximum length and width.
- b) **Dimensions of debris field:** Pieces of steel debris, tires, etc. observed within 10-20 ft of vessel.
- c) **Primary Habitat(s):** Seagrass. Dense turtle grass, mixed in some places with manatee grass and *Halimeda* macroalgae.
- d) **Secondary Habitat(s):** N/A.
- e) **Substrate:** Sand (carbonate sand).
- f) **Damage Observations:** Area devoid of seagrass and signs of scour present around entire vessel, wider on the port side. A 1 ft-high eroding scarp was observed at the edge of the seagrass bed on the port side of vessel and at the bow, the root mat was slightly undercut. Further erosion of the grass bed is likely, particularly during future hurricanes.

1) Survey Information

- a) **Date and location:** 4 June 2002, Bahía de Tallaboa, Ponce, Puerto Rico
- b) **Weather and tide conditions at time of survey:** Rain, 5 knot wind, 1.5 ft swell.
- c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA); DNER.
- d) **GPS Location:**
Lat: 17° 59.290'
Lon: 66° 43.233'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and benthic habitats. The vessel was not boarded.



2) Grounding site logistics

- a) **Adjacent land ownership:** Private.
- b) **Any man-made structures that might be affected or obstruct removal:** The Corco oil offloading facility is about 2-3 miles to the west.
- c) **Land-use:** Some recreational boating. There is a gas-fired power plant 1-2 miles to the west.
- d) **Points of access:** Dirt road access to the adjacent shoreline. Ready marine access to site from Ponce.
- e) **Sea conditions and exposure to wave energy at site:** Seas are typically 2-3 ft.
- f) **Depth and nearby bathymetry:** 8-10 ft, shallows gradually toward the shoreline.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded on Commonwealth-owned submerged lands.

4) Vessel Information

- a) **Vessel name:** PRINCESS I.
- b) **Vessel type:** Small cruise ship, or a large yacht.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 160 ft x 23 ft.
- e) **Hull number, registration number and engine serial numbers:** None.

- f) **Fuel type and estimated tank capacity:** All tanks appear empty.
- g) **Commercial vs. pleasure craft:** Commercial.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** Yes.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Aground.
- b) **Nature of casualty:** Reported to have grounded during attempts to move it to a shoreline site as a restaurant. Onshore, there was evidence of shore-based anchoring systems and chains.
- c) **What were the circumstances of the grounding or abandonment?** Abandoned after attempts to salvage it failed. In fact, the tug PAWNEE became grounded and was abandoned close by during the salvage.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Reported by DNER as grounding about 10 years ago (early 1990s).
- e) **General description of vessel damage:** The vessel burned to the water line at some time. Only the metal hull and superstructure remain. The metal is heavily rusted and there are holes in the hull. It is tilted to starboard by 15-20 degrees.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** None according to DNER.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Unknown; vessel not boarded.
- e) **Other equipment and supplies that may pose their own threats:** None on board. There is one piece of metal debris on the starboard side seafloor.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?** Greater than 2 miles from any navigational channels.
- b) **Depth and visibility of the vessel:** 8-10 ft water depth. Vessel is highly visible.



- c) **Is the vessel properly marked?** There are no markings on the vessel, but it is readily visible.
- d) **Type of navigation in the area:** Recreational only.
- e) **Has the vessel moved over time? Might it move in the future?** No. The vessel is very stable. It might move during a major hurricane.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Low use for recreational fishing and boating.
- b) **Evidence of people boarding the vessel?** No. But there is a ladder on the starboard side that could be used to board the vessel.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard because of the tilt of the deck and heavy rusting of the hull and deck.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** The owners attempted salvage when initially grounded, in an effort that resulted in the grounding and abandonment of the salvage tug PAWNEE nearby.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Unknown.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it be if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** The area under and around the vessel devoid of seagrass was roughly 180 ft x 110 ft in maximum length and width.
- b) **Dimensions of debris field:** One piece of debris, within area described above.
- c) **Primary Habitat(s):** Seagrass. Dense turtle grass, mixed in some places with manatee grass and *Halimeda* macroalgae. A small stand of manatee grass and *Halimeda* present off the starboard side of the bow.
- d) **Secondary Habitat(s):** N/A.
- e) **Substrate:** Sand (carbonate sand).



- f) **Damage Observations:** Area devoid of seagrass was present around the entire vessel. Seagrass density was generally lower adjacent to the un-vegetated area. Signs of scour were more obvious on the port side. Blowout areas were observed off the bow and the stern on the port side. A 2 ft-high eroding scarp was observed at the edge of the seagrass bed along the entire port side of vessel and around the blowout areas. Seagrass rhizomes were exposed along the scarp and the root mat was undercut to 2 ft or more. Further erosion of the grass bed is likely, particularly during future hurricanes.



1) Survey Information

- a) **Date and location:** 6 June 2002, Isabel Segunda, Vieques, Puerto Rico.
- b) **Weather and tide conditions at time of survey:** 5 knot wind, cloudy.
- c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA).
- d) **GPS Location:**
Lat: 18° 08.991'
Lon: 65° 26.648'
- e) **Inspection Narrative:**
Snorkel and videotaping of vessel and benthic habitats around the vessel and shoreline.



2) Grounding site logistics

- a) **Adjacent land ownership:** Private.
- b) **Any man-made structures that might be affected or obstruct removal:** Seawalls in front of waterfront buildings.
- c) **Land-use:** Private residences, church, and restaurant.
- d) **Points of access:** Shore access is by a narrow foot trail across private property. Boat access from the marina at Isabel Segunda about 1,500 ft to the east.
- e) **Sea conditions and exposure to wave energy at site:** Exposed to direct waves from the north.
- f) **Depth and nearby bathymetry:** Ranges from the intertidal zone to 5 ft on irregular rocky substrate.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded on state-owned submerged lands.

4) Vessel Information

- a) **Vessel name:** HOSLL II.
- b) **Vessel type:** Deck barge.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 200 ft x 43 ft.

- e) **Hull number, registration number and engine serial numbers:** Registration number "FL0412RX" painted on bow on either side of vessel.
- f) **Fuel type and estimated tank capacity:** None.
- g) **Commercial vs. pleasure craft:** Commercial.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** "Miami FL" painted on stern under vessel name.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** Yes.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Aground.
- b) **Nature of casualty:** Unknown.
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Unknown.
- e) **General description of vessel damage:** The hull is rusted with small openings and cracks, making the inside open to seawater. The stern is grounded in the intertidal zone, at ~30 degree angle to the shoreline.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** None observed. The USCG checked in detail.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** Unknown, did not board.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** None observed.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?:** Located 1,500 ft from the port of Isabel Segunda where there is a ferry landing and marina.
- b) **Depth and visibility of the vessel:** Vessel stern is partially grounded in the intertidal zone and readily visible.

- c) **Is the vessel properly marked?** There are no markings on the vessel.
- d) **Type of navigation in the area:** Small boat anchorage immediately to the west. Ferry dock and fishing harbor 1,500 ft to the east.
- e) **Has the vessel moved over time? Might it move in the future?** Apparently has moved over time, but it appears to be hard aground at this time.
- f) **Would other structures be endangered if the vessel were to shift or move?** A large hurricane might move it closer to shore, potentially affecting the seawalls.

8) Potential Public Health

- a) **Public uses in the area:** Local, small recreational boating area, commercial harbor, and ferry terminal.
- b) **Evidence of people boarding the vessel?** Yes, ropes and chains were hanging from the sides, allowing access to the deck. Fishing line and tackle hanging off vessel as well.
- c) **Entrapment or slip/fall hazards?** Yes, slip and fall hazards from the rusting deck.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** Unknown.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Was owned by Hess, who sold it to a salvage company who converted it to a deck barge.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Unknown.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it be if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Roughly the same as the vessel dimensions, 200 ft x 43 ft.
- b) **Dimensions of debris field:** Extends approximately 20-30 ft off either side of vessel. Debris include large pieces of metal, including a construction scoop, as well as piping, tires, etc.
- c) **Primary Habitat(s):** Hardbottom. Mainly colonized by calcareous macroalgae, some large soft corals, mat anemones, etc. also present. Live hard coral present, <1% cover, average size was 10 cm diameter, maximum size was 20 cm diameter.

- d) **Secondary Habitat(s):** Gravel beach and rock platform present off port side of vessel, nearer to vessel at the stern end. Rock platform partially covered with sand in wave shadow. On starboard side of vessel, subtidal sand plain occurs beyond hardbottom habitat (roughly 30-50 ft out from vessel).
- e) **Substrate:** Rock, sand.
- f) **Damage Observations:** Hardbottom habitat and associated organisms were likely crushed and under hull and larger debris.



1) Survey Information:

- a) **Date and location:** 3 June 2002, Boqueron Bay, Puerto Rico.
- b) **GPS Location:**
Lat: 18° 01.566'
Lon: 67° 10.719'



2) Grounding site logistics:

The mangrove fringe is the Boqueron Forest, managed by DNER, with private ownership landward of the mangroves. The submerged lands are owned by the Commonwealth of Puerto Rico.

3) Vessel Information:

Fiberglass sailboat that appears to have burned to the waterline.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

None, the partial fiberglass hull is trapped in the mangrove fringe. No other materials present.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel located against a fringing red mangrove forest, with some black mangroves also present. Benthic habitats are seagrasses, with dense cover of turtle grass and manatee grass. Physical damage to mangroves observed, possibly caused by this vessel, at least in part, although unrelated hurricane damage could also be the cause. Seagrass damage under and adjacent to vessel a possibility, but not investigated. Damage to mangroves or seagrass could occur if the hull moved or broke up during a major storm or hurricane.

1) Survey Information

- a) **Date and location:** 3 June 2002, Puerto Real, Puerto Rico.
- b) **GPS Location:**
Lat: 18° 04.308'
Lon: 67° 11.250'



2) Grounding site logistics:

Vessel is anchored in the middle of the bay of Puerto Real, which includes a small harbor and facilities.

3) Vessel Information:

Wooden sailboat, 37 ft, that looks like it has been re-floated (heavy barnacle growth all over hull, cabin, mast. Inboard engine was removed. Fuel tank intact but empty.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

No pollution hazard. Could be a navigational hazard, though it is out of main traffic areas.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel occurs over soft mud bottom in the middle of bay. Vessel could damage seagrass or mangrove habitats if it broke mooring and moved during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 3 June 2002, Puerto Real, Puerto Rico.
- b) **GPS Location:**
Lat: 18° 04.598'
Lon: 67° 11.471'



2) Grounding site logistics:

Grounded close to the harbor facilities of Puerto Real. Shoreline has residential development.

3) Vessel Information:

Barge, dry bulk type, that is 60 ft x 20 ft. Grounded close to shore on the north side of Puerto Real. Hull is very rusted with large holes in the sides and much of the decking gone.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

None.

6) Potential Public Health Threats:

Yes, slip and fall hazard since the barge can be accessed from shore.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel occurs on mud bottom, shoreline is man-made structure. No habitat damage expected.

1) Survey Information:

a) **Date and location:** 3 June 2002, Boqueron Bay, Puerto Rico.

b) **GPS Location:**
Lat: 18° 01.487'
Lon: 67° 10.464'



2) Grounding site logistics:

Grounded 30 ft from shore in the center of the town of Boqueron.

3) Vessel Information:

Barge, 30 ft x 15 ft, type unknown because the deck and sides are completely rusted away. Only the ribs remain.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

None.

6) Potential Public Health Threats:

Yes, slip and fall hazard since the barge can be accessed from shore.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Not investigated.

1) Survey Information:

a) **Date and location:** 4 June 2002, Bahia de Tallaboa, near Ponce, Puerto Rico.

b) **GPS Location:**
Lat: 17° 59.408'
Lon: 66° 43.269'



2) Grounding site logistics:

Adjacent land is privately owned, including an abandoned shrimp farm. There are dirt roads off the main highway that access directly to the site, though they appear to flood at high water.

3) Vessel Information:

Steel vessel, 50 ft x 11 ft. Possibly a fishing vessel or workboat. Very rusted. About 10 ft of the stern section is resting on a sand and gravel beach; the bow section extends into a small lagoon bordered by mangroves.

4) Casualty information:

Unknown. Looks like it was driven onshore by a large storm.

5) Pollution/Potential Navigation Threats:

None.

6) Potential Public Health Threats:

Yes, slips/falls because the vessel can be readily climbed on. Human waste on ground around vessel.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Signs of garbage dumping around vessel. Vessel could damage mangroves if it moved during large storms or hurricane.

1) Survey Information:

a) **Date and location:** 5 June 2002, Culebra Harbor, Puerto Rico.

b) **GPS Location:**
Lat: 18° 18.440'
Lon: 65° 17.735'



2) Grounding site logistics:

Located inside Culebra Harbor anchored against a small mangrove island (Cayo Pirata).

3) Vessel Information:

Houseboat (fiberglass over wood) grounded and tied to the shoreline.

It appeared to be abandoned, although FWS reported that someone was illegally squatting on the island and living aboard. Various supplies and household goods were present inside. A wooden structure had been partially constructed on the top deck.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

Unknown pollution; the vessel was not boarded. No threat to navigation.

6) Potential Public Health Threats:

Slips and trips hazard if the public boards the vessel.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel located within designated critical habitat for the federally threatened green sea turtle. See Federal Register 63(170): 46693-46701, 2 September 1998, <http://www.access.gpo.gov/>. Habitats around the vessel were not investigated. Vessel could damage mangroves and perhaps seagrasses if it moved during a hurricane.

1) Survey Information

a) **Date and location:** 5 June 2002, Culebra, Puerto Rico.

b) **Weather and tide conditions at time of survey:** 10-15 knot wind, cloudy.

c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA); Tallevast (FWS); Mosley (USCG).

d) **GPS Location:**
Lat: 18° 18.210'
Lon: 65° 16.875'



e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and benthic habitats around the vessel.

2) Grounding site logistics

a) **Adjacent land ownership:** The mangrove fringe is part of the Culebra National Wildlife Refuge. The upland is private ownership.

b) **Any man-made structures that might be affected or obstruct removal:** None.

c) **Land-use:** Main harbor for Culebra. Some recreational use of the shoreline for fishing.

d) **Points of access:** Access is by boat from Culebra Harbor.

e) **Sea conditions and exposure to wave energy at site:** Very sheltered inside the Harbor.

f) **Depth and nearby bathymetry:** 4-5 ft, shallows gradually 30 ft toward the shoreline.

3) Jurisdiction and land ownership

a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No, but is adjacent to National Wildlife Refuge lands.

b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded on state-owned submerged lands.

4) Vessel Information

a) **Vessel name:** HIGH BARBAREE.

b) **Vessel type:** Sailboat.

c) **Construction materials:** Fiberglass.

d) **Principle dimensions:** 30 ft x 9 ft.

e) **Hull number, registration number and engine serial numbers:** Unknown.

f) **Fuel type and estimated tank capacity:** No fuel tanks were present.

g) **Commercial vs. pleasure craft:** Pleasure.



- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** ??
- j) **Homeport:** ??
- k) **Builder, model (if any), and year of construction:** ??
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel “historic”?** No.

5) Casualty information

- a) **General status of vessel:** Completely submerged.
- b) **Nature of casualty:** Sank during Hurricane Marilyn in 1995.
- c) **What were the circumstances of the grounding or abandonment?** Abandoned after sinking.
- d) **Date of grounding/length of time the vessel has been “abandoned”:** Sank in 1995; unknown when abandoned.
- e) **General description of vessel damage:** Vessel is still intact; very little structural damage.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No fuel or hazmat on board.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Appears that tank was removed after sinking.
- e) **Other equipment and supplies that may pose their own threats:** None, the vessel has been stripped of all equipment and supplies.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** None.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?** Located 30 ft from shore so outside any navigational channels.
- b) **Depth and visibility of the vessel:** 4-5 ft water depth. Vessel is completely submerged.
- c) **Is the vessel properly marked?** There are no markings on or above the vessel.
- d) **Type of navigation in the area:** Culebra Harbor is a high-use recreational boating area.
- e) **Has the vessel moved over time?** Might it move in the future? Does not appear that the vessel has moved. It could move during a hurricane.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** High use for recreational boating area.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, entrapment hazard because the inside cabin has multiple openings with access by swimmers.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** It is likely that the owners decided that the vessel was a total loss.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Mike Lostrito/moved to the US, address unknown.
- b) **Insurance Agent and type of coverages:** ??
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** ??
- d) **Contact names:** ??

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** Yes, green sea turtle. See Federal Register 63(170): 46693-46701, 2 September 1998, <http://www.access.gpo.gov/>.
- b) **Is the vessel destroying critical habitat or could it be if the vessel moved?** Yes, seagrass habitat specifically.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Un-vegetated area around the vessel was roughly 45 ft x 15 ft in maximum length and width.
- b) **Dimensions of debris field:** N/A. Parts of sails or sail covers on substrate roughly 10 ft from the vessel.
- c) **Primary Habitat(s):** Seagrass. Dense turtle grass with large infaunal sediment mounds (possibly burrowing sea cucumber) mixed with calcareous and fleshy macroalgae; scattered red finger sponges also present in grass bed.
- d) **Secondary Habitat(s):** Mangroves. A 15-25 ft-wide stand of red mangroves and a few black mangroves occurs roughly 30 feet off vessel bow. Roughly 60 ft off vessel stern the bottom is mainly macroalgae and bare substrate.
- e) **Substrate:** Mud with small shell fragments.
- f) **Damage Observations:** Narrow area immediately surrounding vessel devoid of seagrass. Minor blowout area at bow of vessel. Some sediment scour observed at vessel contact with substrate. No eroding scarp observed at edge of un-vegetated area.

1) Survey Information

a) **Date and location:** 5 June 2002, Culebra, Puerto Rico.

b) **Weather and tide conditions at time of survey:** 15-20 knot wind, cloudy.

c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA); Tallevast (FWS); Mosley (USCG).

d) **GPS Location:**
Lat: 18° 18.234'
Lon: 65° 16.804'



e) **Inspection Narrative:** Snorkel survey and videotaping of vessel and benthic habitats around the vessel and shoreline.

2) Grounding site logistics

a) **Adjacent land ownership:** The mangrove fringe is part of the Culebra National Wildlife Refuge. The upland is private ownership.

b) **Any man-made structures that might be affected or obstruct removal:** None.

c) **Land-use:** Main harbor for Culebra. Some recreational use of the shoreline for fishing.

d) **Points of access:** Access is by boat from Culebra Harbor.

e) **Sea conditions and exposure to wave energy at site:** Very sheltered inside the Harbor.

f) **Depth and nearby bathymetry:** 4-5 ft, shallows gradually 20-30 ft toward the shoreline.

3) Jurisdiction and land ownership

a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No. But it is adjacent to National Wildlife Refuge lands.

b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded on state-owned submerged lands.

4) Vessel Information

a) **Vessel name:** ZORBA.

b) **Vessel type:** Sailboat.

c) **Construction materials:** Wood.

d) **Principle dimensions:** 52 ft x 8 ft.

e) **Hull number, registration number and engine serial numbers:** Unknown.



- f) **Fuel type and estimated tank capacity:** Two empty aluminum fuel tanks (~25 gal each) present.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Completely submerged.
- b) **Nature of casualty:** Sank during Hurricane Hugo in 1989.
- c) **What were the circumstances of the grounding or abandonment?** Abandoned after sinking.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Sank in 1989; unknown when abandoned.
- e) **General description of vessel damage:** Vessel is completely collapsed. Mostly just rotten wood ribs remaining.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No fuel or hazmat on board.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Tanks appeared intact but empty.
- e) **Other equipment and supplies that may pose their own threats:** None, the vessel had been stripped of all equipment and supplies.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?** Located 20-30 ft from shore so outside any navigational channels.
- b) **Depth and visibility of the vessel:** 4-5 ft water depth. Vessel is completely submerged.
- c) **Is the vessel properly marked?** There are no markings on or above the vessel.
- d) **Type of navigation in the area:** Culebra Harbor is a high-use recreational boating area.



- e) **Has the vessel moved over time? Might it move in the future?** Does not appear that the vessel has moved. It could move during a hurricane.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** High use for recreational boating area.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** No.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** It is likely that the owners decided that the vessel was a total loss.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown/According to FWS information, the owner lived in St. Thomas but is now said to live in the United States, address unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Unknown.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** Yes, green sea turtle. See Federal Register 63(170): 46693-46701, 2 September 1998, <http://www.access.gpo.gov/>.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** Yes, seagrass habitat specifically.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Unclear. Possible loss of 20 ft wide band of sparse seagrass along roughly 120 ft of shore. Also, boat scars in mangroves possibly caused in part by this vessel, dimensions not recorded.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Bare substrate and macroalgae surround the vessel on all sides and extend offshore. A roughly 20 ft-wide band of sparse turtle grass with large infaunal sediment mounds (possibly burrowing sea cucumber) mixed with calcareous and fleshy macroalgae parallels the shoreline and occurs roughly 35 ft off the bow and stern of the vessel.
- d) **Secondary Habitat(s):** Mangroves. Red mangroves occur roughly 20-30 ft shoreward of vessel.
- e) **Substrate:** Mud with small shell fragments.

- f) **Damage Observations:** It is possible that the 20 ft-wide band of seagrass formerly continued across the area occupied by the vessel. Also, some mangrove damage likely caused by boats tied up or washing ashore during past hurricanes could possibly be attributed to this vessel.



1) Survey Information

a) **Date and location:** 5 June 2002, Culebra, Puerto Rico.

b) **Weather and tide conditions at time of survey:** 5-10 knot wind, cloudy.

c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA); Tallevast (FWS); Mosley (USCG).

d) **GPS Location:**
Lat: 18° 18.340'
Lon: 65° 16.654'

e) **Inspection Narrative:**
Exposed portion of vessel and surrounding shoreline habitat inspected. Submerged portion of vessel and benthic habitats not inspected.



2) Grounding site logistics

a) **Adjacent land ownership:** The mangrove forest is part of the Culebra National Wildlife Refuge.

b) **Any man-made structures that might be affected or obstruct removal:** None.

c) **Land-use:** Mangrove tidal creek with some recreational use for fishing.

d) **Points of access:** Access is by boat from Culebra Harbor.

e) **Sea conditions and exposure to wave energy at site:** Very sheltered mangrove tidal creek.

f) **Depth and nearby bathymetry:** 5 ft where the vessel is grounded; the creek channel is deeper.

3) Jurisdiction and land ownership

a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No, but the adjacent mangrove forest is National Wildlife Refuge land.

b) **Is the vessel grounded on state property or state submerged lands?** Yes, vessel is grounded on state-owned submerged lands.

4) Vessel Information

a) **Vessel name:** DON CONFÉ.

b) **Vessel type:** Sailboat.

c) **Construction materials:** Fiberglass over wood, with ferro-cement hull.

- d) **Principle dimensions:** 36 ft x 13 ft.
- e) **Hull number, registration number and engine serial numbers:** Unknown.
- f) **Fuel type and estimated tank capacity:** Could not be determined.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel “historic”?** No.

5) Casualty information

- a) **General status of vessel:** Aground and partially submerged.
- b) **Nature of casualty:** Sunk intentionally by the owner in the late 1990s.
- c) **What were the circumstances of the grounding or abandonment?** Intentionally sunk and abandoned.
- d) **Date of grounding/length of time the vessel has been “abandoned”:** Sunk in 1990s.
- e) **General description of vessel damage:** The exposed wood is starting to rot and the fiberglass is peeling and cracking off. The vessel is grounded at a steep (>20 degrees) angle on starboard side.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** Little likelihood that there is any fuel or hazmat on board.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** No tanks were observed.
- e) **Other equipment and supplies that may pose their own threats:** None, the vessel had been stripped of all equipment and supplies.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?:** Located in a small mangrove creek channel and outside any navigational channels.
- b) **Depth and visibility of the vessel:** Vessel is submerged one-half above the waterline.

- c) **Is the vessel properly marked?** There are no markings on or above the vessel.
- d) **Type of navigation in the area:** Culebra Harbor is a high-use recreational boating area.
- e) **Has the vessel moved over time? Might it move in the future?** Does not appear that the vessel has moved. It could move during a hurricane.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Recreational boating area.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, there are open hatches and rotting wood.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** None, it was intentionally abandoned.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Edwin Raymundi/ currently lives in Guaynabo, PR.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Unknown.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** Yes, green sea turtle. See Federal Register 63(170): 46693-46701, 2 September 1998, <http://www.access.gpo.gov/>.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** Probably not.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Not measured.
- b) **Dimensions of debris field:** Not examined.
- c) **Primary Habitat(s):** Mangrove. Vessel along one bank of 50 ft-wide tidal creek lined by red mangroves.
- d) **Secondary Habitat(s):** Not examined.
- e) **Substrate:** Not examined, likely mud.
- f) **Damage Observations:** None directly observed. Possible scour around vessel could cause erosion along mangrove shoreline. Some boat scar damage in mangroves could possibly be attributed to this vessel. Vessel could cause mangrove damage during future hurricanes.

1) Survey Information

- a) **Date and location:** 6 June 2002, Roosevelt Roads Naval Station, Puerto Rico.
- b) **Weather and tide conditions at time of survey:** 10 knot wind, cloudy.
- c) **Team Members:** Michel, Zengel, Nixon (RPI); Helton (NOAA).
- d) **GPS Location:**
Lat: 18° 13.809'
Lon: 65° 36.156'
- e) **Inspection Narrative:** Visual inspection and videotaping of vessel and surrounding habitats.



2) Grounding site logistics

- a) **Adjacent land ownership:** Naval station.
- b) **Any man-made structures that might be affected or obstruct removal:** Dock 1,500 ft to the west.
- c) **Land-use:** Naval operations.
- d) **Points of access:** Shore access is by a dirt road. Boat access from Navy facilities in Puerca Bay.
- e) **Sea conditions and exposure to wave energy at site:** Exposed to south winds; seas 1-2 ft.
- f) **Depth and nearby bathymetry:** Ranges from 0 ft where the bow rests on the intertidal zone to 10 ft at the stern.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** No, vessel is grounded in the Navy harbor.

4) Vessel Information

- a) **Vessel name:** YFU83.
- b) **Vessel type:** Large landing craft utility boat.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 135 ft x 23 ft.
- e) **Hull number, registration number and engine serial numbers:** Unknown.



- f) **Fuel type and estimated tank capacity:** Could not determine.
- g) **Commercial vs. pleasure craft:** Military.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** Yes.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Aground.
- b) **Nature of casualty:** Unknown.
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Unknown.
Vessel was obviously sunk for a while, as indicated by barnacles over deck and housing.
- e) **General description of vessel damage:** The stern is swamped, but the vessel looks intact.
- f) **Vessel Cargo:** None.

6) Potential Pollution Threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** None observed.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No, but lots of trash, beer bottles, etc. indicating recreational use.
- d) **Condition of fuel tanks:** Unknown.
- e) **Other equipment and supplies that may pose their own threats:** None observed.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential Navigation Threats

- a) **Is the vessel located in or adjacent to navigation channel(s)?** Not near any navigational channels.
- b) **Depth and visibility of the vessel:** Vessel bow is grounded in the intertidal zone and readily visible.
- c) **Is the vessel properly marked?** There are no markings on the vessel.
- d) **Type of navigation in the area:** Military harbor.
- e) **Has the vessel moved over time? Might it move in the future?** It appears to be hard aground at this time. Could move some landward in a large storm.

f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** None.
 - b) **Evidence of people boarding the vessel?** Yes, evidence of trash, beer bottles, camp fires on deck.
 - c) **Entrapment or slip/fall hazards?** Yes, slip and fall hazards.
-

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
 - b) **Salvage efforts:** Unknown.
-

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Roosevelt Roads Naval Station.
 - b) **Insurance Agent and type of coverages:** N/A, military vessel.
 - c) **What communications have occurred between owner/operator/insurer and state or federal government?** DNER has expressed interest in sinking the vessels as artificial reefs.
 - d) **Contact names:** LCDR Thomas Holder, Phone (787) 865-8497/4005; Cell: (787) 354-2080; email: holdert@navstarr.navy.mil
-

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** Yes, yellow-shouldered blackbird. See Code of Federal Regulations, Title 50, Chapter I, Part 17.95, 1 October 2001, <http://www.access.gpo.gov/>.
 - b) **Is the vessel destroying critical habitat or could it if the vessel moved?** Yes, mangrove and coastal fringe habitat could be damaged if vessel moved onshore during a major storm or hurricane. Mangroves are the primary nesting habitat for this species.
 - c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.
-

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Area without seagrass was at least 140 ft x 30 ft in maximum length and width. Areas toward the stern (further from shore) on both sides of vessel were not surveyed due to depth and high water turbidity during site visit, so damaged area could be larger.
- b) **Dimensions of debris field:** Unknown.
- c) **Primary Habitat(s):** Seagrass. Dense to patchy turtle grass mixed with calcareous macroalgae.
- d) **Secondary Habitat(s):** Mixed sand and gravel beach backed by a 10-15 ft-wide fringe of mangroves, salt grass, and seaside maho shrubs and trees.
- e) **Substrate:** Sand and gravel (carbonate sand; cobble-sized coral rubble). Mud with small-sized shell fragments also present in lee area between the port side of this vessel and two other vessels.

- f) **Damage Observations:** Area under and around vessel devoid of seagrass. A 1 ft-high eroding scarp was observed at the edge of the seagrass bed along the starboard side of vessel. Also, possible larger area devoid of seagrass present in lee formed by this vessel and the two associated landing craft abandoned at this site, Unk2414 and Unk2415. Additional seagrass damage could occur from scour or if the vessel moved during a major storm or hurricane.

1) Survey Information

- a) **Date and location:** 3 June 2002, Boqueron Bay, Puerto Rico
- b) **GPS location:**
Lat: 18 01.745
Lon: 67 10.916



2) Grounding site logistics

The mangrove fringe is the Boqueron Forest, managed by DNER, with private ownership landward of the mangroves. The submerged lands are owned by the Commonwealth of Puerto Rico.

3) Vessel Information

Fiberglass cabin-cruiser style commercial fishing vessel, 29 ft x 9 ft. It is floating and tied to a mangrove tree. Registration number on bow is PR-1158-FF. There is a lot of gear onboard and the prop shaft is still in place, suggesting that the boat is not abandoned.

4) Casualty information

N/A.

5) Pollution/Potential Navigation Threats

There were a few inches of fuel in the fuel tank.

6) Potential Public Health Threats

None.

7) Prior Response/Salvage actions (if any/ if known)

Unknown.

8) Potential Environmental Impacts

Vessel tied to and floating against mangrove forest edge, over soft mud bottom. Vessel could cause mangrove damage during a major storm or hurricane.

1) Survey Information

- a) **Date and location:** 3 June 2002, Puerto Real, Puerto Rico.
- b) **GPS Location:**
Lat: 18° 04.047'
Lon: 67° 11.278'



2) Grounding site logistics

Vessels are grounded in the middle of the bay of Puerto Real, with a small harbor and facilities.

3) Vessel Information

Two vessels: a large commercial fishing vessel and a smaller landing craft utility vessel tied to it. Both vessels are grounded in shallow water but most of the deck area is above water.

4) Casualty information

Unknown.

5) Pollution/Potential Navigation Threats

The USCG boarded the vessel previously and determined that there was no fuel in the tanks, but there were lube oil drums, marine batteries, and possibly ammonia in the extensive refrigeration units onboard.

6) Potential Public Health Threats

Slip/fall hazard, possible entrapment hazard.

7) Prior Response/Salvage actions (if any/ if known)

USCG inspected the vessels for fuel. Determined that there was no significant oil pollution threat.

8) Potential Environmental Impacts

Vessels grounded on soft mud bottom in middle of bay. No expected habitat damage unless vessels were to move into seagrass or mangrove habitats during a major storm or hurricane, which may be unlikely.

1) Survey Information

- a) **Date and location:** 3 June 2002, Puerto Real, Puerto Rico.
- b) **GPS Location:**
Lat: 18° 04.333'
Lon: 67° 11.311'



2) Grounding site logistics:

Vessel is grounded in the middle of the bay of Puerto Real, which includes a small harbor and facilities.

3) Vessel Information:

Metal fishing vessel (45 ft x 10 ft) with outrigger booms, resting on the bottom on its starboard side. Name is ??tador (first few letters not clear). There are a lot of fishing lines and rigging attached to the vessel.

4) Casualty information:

Unknown. Hull has a lot of algal growth on it.

5) Pollution/Potential Navigation Threats:

No pollution hazard. Could be a navigational hazard, though it is out of main traffic areas.

6) Potential Public Health Threats:

Slip/fall hazard, possible entanglement and entrapment hazards.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel on soft mud bottom in middle of bay. No expected habitat damage unless vessel was to move into seagrass or mangrove habitats during a major storm or hurricane, which may be unlikely. Possible wildlife entanglement issues associated with rigging and lines.

1) Survey Information:

a) **Date and location:** 6 June
2002, Roosevelt Roads Naval
Station, Puerto Rico.

b) **GPS Location:**
Lat: 18° 13.803'
Lon: 65° 36.159'



2) Grounding site logistics:

Shore access by dirt road. Boat
access from Navy facilities in Puerca
Bay. Seaward position of vessels is
about 8-10 ft deep.

3) Vessel Information:

Landing craft utility (LCU) vessel,
130 ft x 14 ft, middle of three LCUs grounded/sunk at the head of Puerca Bay. Vessel is completely
swamped at the stern, with the bow and second deck exposed above water line.

4) Casualty information:

Unknown. Appears to have sunk at an offshore mooring.

5) Pollution/Potential Navigation Threats:

Unknown pollution; the vessel was not boarded. No threat to navigation.

6) Potential Public Health Threats:

Slips and trips hazard if the public boards the vessel.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel occurs in seagrass habitat, mainly turtle grass mixed with calcareous macroalgae. Seagrass has likely been damaged underneath and around the vessel. Additional damage could occur from scour or if the vessel moved during a major storm or hurricane. Vessel occurs adjacent to designated critical habitat for the federally endangered yellow-shouldered blackbird, which uses mangroves and coastal fringe habitats. See Code of Federal Regulations, Title 50, Chapter I, Part 17.95, 1 October 2001, <http://www.access.gpo.gov/>. Mangroves are the primary nesting habitat for this species. Mangroves could be damaged if the vessel moved onshore during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 6 June 2002, Roosevelt Roads Naval Station, Puerto Rico.
- b) **GPS Location:**
Lat: 18° 13.803'
Lon: 65° 36.159'



2) Grounding site logistics:

Shore access by dirt road. Boat access from Navy facilities in Puerca Bay. Seaward position of vessels is about 8-10 ft deep.

3) Vessel Information:

Landing craft utility, 130 ft x 14 ft, westernmost of three LCU's grounded/sunk at the head of Puerca Bay. Vessel is completely swamped at the stern, with the bow and second deck exposed above water line.

4) Casualty information:

Unknown. Appears to have sunk at an offshore mooring.

5) Pollution/Potential Navigation Threats:

Unknown pollution; the vessel was not boarded. No threat to navigation.

6) Potential Public Health Threats:

Slips and trips hazard if the public boards the vessel.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel occurs in seagrass habitat, mainly turtle grass mixed with calcareous macroalgae. Seagrass has likely been damaged underneath and around the vessel. Additional damage could occur from scour or if the vessel moved during a major storm or hurricane. Vessel occurs adjacent to designated critical habitat for the federally endangered yellow-shouldered blackbird, which uses mangroves and coastal fringe habitats. See Code of Federal Regulations, Title 50, Chapter I, Part 17.95, 1 October 2001, <http://www.access.gpo.gov/>. Mangroves are the primary nesting habitat for this species. Mangroves could be damaged if the vessel moved onshore during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 6 June
2002, Roosevelt Roads Naval
Station, Puerto Rico.

b) **GPS Location:**
Lat: 18° 13.037'
Lon: 65° 37.996'



2) Grounding site logistics:

No shore access. Boat access from
Navy facilities in Ensenada Honda.
Very shallow seagrass flat.

3) Vessel Information:

Sailboat, Catalina 22 ft fiberglass
hull. Stranded on gravel beach at
and just above the intertidal zone and on the edge of a mangrove fringe.

4) Casualty information:

Unknown. Likely to be private vessel owned by Navy personnel and abandoned after stranding.

5) Pollution/Potential Navigation Threats:

None. No fuel onboard. No navigation hazard.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel occurs on a gravel beach with rock outcrops. Woody trees and shrubs grow down to the shoreline, and mangroves are present, including a small stand of red mangroves just off the bow of the vessel and black mangroves off the stern. Seagrasses occur adjacent to the vessel, mainly dense turtle grass mixed with fleshy macroalgae. Vessel occurs in designated critical habitat for the federally endangered yellow-shouldered blackbird, which uses mangroves and coastal fringe habitat. See Code of Federal Regulations, Title 50, Chapter I, Part 17.95, 1 October 2001, <http://www.access.gpo.gov/>. Mangroves are the primary nesting habitat for this species. Mangroves and coastal fringe habitat, as well as seagrasses, could be damaged if the vessel moved during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 6 June 2002, Roosevelt Roads Naval Station, Puerto Rico
- b) **GPS Location:**
Lat: 18° 13.091'
Lon: 65° 38.040'



2) Grounding site logistics:

No shore access. Boat access from Navy facilities in Ensenada Honda. Very shallow seagrass flat.

3) Vessel Information:

Sailboat, 35 ft x 8 ft fiberglass hull, with two (broken) masts and part of the sails present. Submerged and tilting by 15 degrees to port in 3 ft of water and 100 ft from a mangrove-fringed shoreline. Scour pit 5 ft deep and 6 ft wide all around vessel.

4) Casualty information:

Unknown. Likely to be private vessel owned by Navy personnel and abandoned after sinking.

5) Pollution/Potential Navigation Threats:

None. No fuel onboard. No navigation hazard.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel occurs in shallow seagrass habitat with dense turtle grass. Seagrass has been damaged by vessel and scour in an area roughly 50 ft x 20 ft in maximum length and width. Additional seagrass damage could occur from scour or if the vessel moved during a major storm or hurricane. Vessel occurs adjacent to designated critical habitat for the federally endangered yellow-shouldered blackbird, which uses mangroves and coastal fringe habitats. See Code of Federal Regulations, Title 50, Chapter I, Part 17.95, 1 October 2001, <http://www.access.gpo.gov/>. Mangroves are the primary nesting habitat for this species. Mangroves could be damaged if the vessel moved onshore during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 6 June
2002, Roosevelt Roads Naval
Station, Puerto Rico.

b) **GPS Location:**
Lat: 18° 13.928'
Lon: 65° 37.888'



2) Grounding site logistics:

No shore access. Boat access from
Navy facilities in Ensenada Honda.
Shallow seagrass bed. Vessel lies
roughly 300 ft from mangrove
fringed shoreline.

3) Vessel Information:

Sailboat, 50 ft wood-planked. Bow
is peeling from the frame. Only the tip of the mast is above water and barely visible.

4) Casualty information:

Unknown. Likely to be private vessel owned by Navy personnel and abandoned after sinking.

5) Pollution/Potential Navigation Threats:

None. No fuel onboard. No navigation hazard.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel occurs in shallow seagrass habitat, dense turtle grass mixed with manatee grass. Seagrass has been damaged by vessel and scour. Scour around vessel is about 3 ft wide. Additional seagrass damage could occur from scour or if the vessel moved during a major storm or hurricane. Vessel occurs adjacent to designated critical habitat for the federally endangered yellow-shouldered blackbird, which uses mangroves and coastal fringe habitats. See Code of Federal Regulations, Title 50, Chapter I, Part 17.95, 1 October 2001, <http://www.access.gpo.gov/>. Mangroves are the primary nesting habitat for this species. Mangroves could be damaged if the vessel or parts of the vessel moved ashore during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 7 June 2002, San Juan Harbor, Puerto Rico.
- b) **GPS Location:**
Lat: 18° 27.538'
Lon: 66° 06.357'



2) Grounding site logistics:

Inside San Antonio Channel, on sand/gravel beach adjacent to scrap/garbage dump.

3) Vessel Information:

Sailboat, 40 ft fiberglass. No mast, completely stripped.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

None. No fuel onboard. No navigation hazard.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/if known):

Unknown.

8) Potential Environmental Impacts:

Vessel occurs on sand and gravel beach in industrial area. No habitat impacts expected.

1) Survey Information:

a) **Date and location:** 7 June
2002, San Juan Harbor, Puerto
Rico.

b) **GPS Location:**
Lat: 18° 26.811'
Lon: 66° 05.549'



2) Grounding site logistics:

Grounded in intertidal zone on
southern side of San Juan Harbor.
Boat access only. Very shallow.

3) Vessel Information:

Rusted metal remnants of 3 vessels.
Unable to identify vessel types.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

None. No fuel onboard. No navigation hazard.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel remains occur on sand and gravel beach in industrial area, some mangroves and non-wetland shrubs/trees present as well. No habitat impacts expected.

1) Survey Information:

- a) **Date and location:** 7 June 2002, San Juan Harbor, Puerto Rico.
- b) **GPS Location:**
Lat: 18° 26.799'
Lon: 66° 05.637'



2) Grounding site logistics:

Grounded in intertidal zone on southern side of San Juan Harbor. Boat access only. Very shallow.

3) Vessel Information

Rusted metal remnants of 1 vessel. Unable to identify vessel type.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

None. No fuel onboard. No navigation hazard.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel remains occur on sand and gravel beach with mangroves and non-wetland shrub/trees in industrial area. No habitat impacts expected.

1) Survey Information:

a) **Date and location:** 7 June
2002, San Juan Harbor, Puerto
Rico.

b) **GPS Location:**
Lat: 18° 26.545'
Lon: 66° 05.600'



2) Grounding site logistics:

Grounded within 100 ft of shore in
commercial marine area.

3) Vessel Information:

Rusted metal party boat or small
fishing vessel. Grounded and
partially submerged.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

None. No fuel onboard. No navigation hazard.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel occurs adjacent to man-made and fill shorelines in industrial area. Benthic habitat not investigated. No habitat impacts expected.

1) Survey Information:

a) **Date and location:** 7 June
2002, San Juan Harbor, Puerto
Rico.

b) **GPS Location:**
Lat: 18° 26.545'
Lon: 66° 05.600'



2) Grounding site logistics:

Grounded within 100 ft of shore in
commercial marine area.

3) Vessel Information:

Two ferry boats, 125 ft each, tied up
side by side. May be in process of
being cut up for scrap.

4) Casualty information:

Unknown.

5) Pollution/Potential Navigation Threats:

None. No fuel onboard. No navigation hazard.

6) Potential Public Health Threats

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts

Vessel occurs adjacent to man-made shorelines in industrial area. Benthic habitat not investigated.
No habitat impacts expected.

APPENDIX B
RAPID ASSESSMENT REPORTS FOR
ABANDONED VESSELS IN THE U.S. VIRGIN ISLANDS

APPENDIX B
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1) Survey Information

a) **Date and location:** 28 June 2002, Current Hole Rock, St. Thomas, USVI.

b) **Weather and tide conditions at time of survey:** Clear, calm.

c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA), Willems (USCG).

d) **GPS Location:**
Lat: 18° 18.918'
Lon: 64° 50.022'

e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats, including benthic transects around the vessel.



2) Grounding site logistics

a) **Adjacent land ownership:** The adjacent land is owned by the USVI territory.

b) **Any man-made structures that might be affected or obstruct removal:** The mast might hit the beacon on Current Hole Rock.

c) **Land-use:** Part of St. James Bay Marine Reserve and Wildlife Sanctuary.

d) **Points of access:** Marine access only.

e) **Sea conditions and exposure to wave energy at site:** Partially sheltered, strong currents near island.

f) **Depth and nearby bathymetry:** The vessel is ashore, nearby up to ~ 10 feet deep.

3) Jurisdiction and land ownership

a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.

b) **Is the vessel grounded on state property or state submerged lands?** Yes, DPNR St. James Marine Reserve and Wildlife Sanctuary.

4) Vessel Information

a) **Vessel name:** SERENDIPITY.

b) **Vessel type:** Sailboat.

c) **Construction materials:** Fiberglass.

d) **Principle dimensions:** 45 ft.

e) **Hull number, registration number and engine serial numbers:** Registration #VI 7581 TA.



- f) **Fuel type and estimated tank capacity:** Diesel fuel engine and tank onboard, tank holed.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** US painted on hull.
- j) **Homeport:** Ft. Lauderdale, FL painted on hull.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Aground.
- b) **Nature of casualty:** Storm.
- c) **What were the circumstances of the grounding or abandonment?** Vessel was anchored and tossed onshore by storm.
- d) **Date of grounding/length of time the vessel has been "abandoned":** 2001 or earlier.
- e) **General description of vessel damage:** Vessel mostly intact, keel broken.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** Unknown.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Onboard, tank holed.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is ashore.
- b) **Depth and visibility of the vessel:** N/A.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Varied.
- e) **Has the vessel moved over time? Might it move in the future?** It has not moved over time. It is possible it could move into the channel during a storm.
- f) **Would other structures be endangered if the vessel were to shift or move?** Beacon may be damaged by mast.



8) Potential Public Health

- a) **Public uses in the area:** Small island, not publicly used.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Unknown.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** The footprint is similar to the principal dimensions of the vessel.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Rock platform.
- d) **Secondary Habitat(s):** Hardbottom/coral reef. From the shoreline to approximately 65 ft offshore the habitat is fire coral, some hard coral (brain coral, elkhorn), and soft coral on bedrock and large boulders. *Diadema* are abundant. Offshore of this area are higher density patch reefs on coarse-grained sand and coral rubble with abundant soft corals, sponges, massive corals, fire coral, *Diadema*, and small colonies of staghorn and pillar coral.
- e) **Substrate:** Coarse-grained sand, bedrock, coral rubble.
- f) **Damage Observations:** Damage to live coral, invertebrates, coral reef, and hardbottom habitat is likely if the vessel moved during a large storm or hurricane.

1) Survey Information

- a) **Date and location:** 28 June 2002, Muller Bay, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, windy.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA), Willems (USCG).
- d) **GPS Location:**
Lat: 18° 19.430'
Lon: 64° 50.685'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats, including benthic transects around the vessel.



2) Grounding site logistics

- a) **Adjacent land ownership:** The adjacent land is owned by the USVI territory.
- b) **Any man-made structures that might be affected or obstruct removal:** Powerlines nearby, but probably shouldn't be affected.
- c) **Land-use:** Public beach, small industrial area behind it.
- d) **Points of access:** Road behind beach.
- e) **Sea conditions and exposure to wave energy at site:** Somewhat sheltered bay.
- f) **Depth and nearby bathymetry:** The vessel is ashore, nearby only a few feet deep.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, USVI owned submerged lands.

4) Vessel Information

- a) **Vessel name:** ORCA.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 41 ft x 10 ft
- e) **Hull number, registration number and engine serial numbers:** None.
- f) **Fuel type and estimated tank capacity:** Unknown.

- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Aground.
- b) **Nature of casualty:** Storm, possibly Hurricane Marilyn.
- c) **What were the circumstances of the grounding or abandonment?** Storm.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Possibly 1995.
- e) **General description of vessel damage:** Vessel rusted, mast in water.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** Unknown.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is ashore.
- b) **Depth and visibility of the vessel:** N/A.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Recreational.
- e) **Has the vessel moved over time? Might it move in the future?** Unknown.
- f) **Would other structures be endangered if the vessel were to shift or move?** None.

8) **Potential Public Health**

- a) **Public uses in the area:** Recreational beach, mooring area.
- b) **Evidence of people boarding the vessel?** Yes, "not abandoned, keep off" written on deck.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard.



9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Unknown.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** The footprint is similar to the principal dimensions of the vessel.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Seagrass. Approximately 15 ft from the starboard side of the vessel is a 30 cm seagrass scarp, and a manatee grass bed of moderate coverage that is roughly 15 ft wide and extends along the starboard and stern sides of the vessel. Offshore from the manatee grass bed is dense coverage of mixed turtle and manatee grass and macroalgae.
- d) **Secondary Habitat(s):** Sand beach. The bow and port side of the vessel are grounded on a sand beach, and there is an unvegetated intertidal and subtidal sandy zone surrounding the vessel on the stern and starboard sides.
- e) **Substrate:** Coarse-grained sand.
- f) **Damage Observations:** Vessel could cause seagrass damage if it moved during major storms or hurricanes.

1) Survey Information

a) **Date and location:** 27 June 2002, Saba Island, St. Thomas, USVI.

b) **Weather and tide conditions at time of survey:** Cloudy, rain.

c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA), Willems (USCG Aux), and Zielenski (USCG).

d) **GPS Location:**
Lat: 18° 18.440'
Lon: 65° 00.067'

e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats, including benthic transects around the vessel.



2) Grounding site logistics

a) **Adjacent land ownership:** Saba Island is a USVI wildlife sanctuary.

b) **Any man-made structures that might be affected or obstruct removal:** No.

c) **Land-use:** Wildlife sanctuary.

d) **Points of access:** Marine access only.

e) **Sea conditions and exposure to wave energy at site:** The site is slightly protected, but fairly open and breaking waves were seen. Large swells are possible.

f) **Depth and nearby bathymetry:** The bow is ashore, and the stern is aground in the intertidal zone.

3) Jurisdiction and land ownership

a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.

b) **Is the vessel grounded on state property or state submerged lands?** Yes, USVI wildlife sanctuary.

4) Vessel Information

a) **Vessel name:** MUNRO.

b) **Vessel type:** Sailboat, diesel inboard.

c) **Construction materials:** Fiberglass.

d) **Principle dimensions:** 46 ft x 13 ft.

e) **Hull number, registration number and engine serial numbers:** None.



- f) **Fuel type and estimated tank capacity:** None.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** USVI.
- j) **Homeport:** St. Thomas, USVI.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Aground and ashore.
- b) **Nature of casualty:** Mooring broke in Honeymoon Bay (Water Island) and drifted to Saba Island.
- c) **What were the circumstances of the grounding or abandonment?** Grounded after mooring broke.
- d) **Date of grounding/length of time the vessel has been "abandoned":** 2000.
- e) **General description of vessel damage:** The hull is intact, but is approximately $\frac{1}{4}$ filled with gravel.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Unknown.
- e) **Other equipment and supplies that may pose their own threats:** None.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Aground on an island.
- b) **Depth and visibility of the vessel:** Vessel is partially ashore.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Recreational/commercial.
- e) **Has the vessel moved over time? Might it move in the future?** Yes, the vessel was on the windward side of the island and was blown to the current location. It could move during a large storm.

f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Low public use.
 - b) **Evidence of people boarding the vessel?** No.
 - c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard, but low accessibility.
-

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Unknown.
 - b) **Salvage efforts:** Unknown.
-

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
 - b) **Insurance Agent and type of coverages:** Unknown.
 - c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
 - d) **Contact names:** Klaus Willems, USCG Aux; Torin Zielenski, USCG MSD, 340-776-3497.
-

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
 - b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
 - c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.
-

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Similar to principal vessel dimensions.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Hardground and coral rubble. Some macroalgae occurs on substrate, but very little live coral.
- d) **Secondary Habitat(s):** The bow is grounded on a mixed sand gravel beach with some cobble to boulder sized sediments.
- e) **Substrate:** Hardground coral and rubble with some calcareous sand.
- f) **Damage Observations:** The vessel is located in a high energy environment, and its presence onshore is causing a high gravel berm (3-6 ft) to form on the starboard side, and erosion to occur on the port side. Damage to benthic habitats is not evident, but is possible if the vessel was to move during a storm event.

1) Survey Information

- a) **Date and location:** 27 June 2002, Hassel Island, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, breezy.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA).
- d) **GPS Location:**
Lat: 18° 19.792'
Lon: 64° 56.081'
- e) **Inspection Narrative:**
Photographs were taken and an abbreviated survey was done.



2) Grounding site logistics

- a) **Adjacent land ownership:** National Park Service owns Hassel Island, but there are residential areas near the vessel that pre-date the park.
- b) **Any man-made structures that might be affected or obstruct removal:** Power lines directly adjacent to mast.
- c) **Land-use:** Residential, workshop area for boats.
- d) **Points of access:** Access is mainly by boat.
- e) **Sea conditions and exposure to wave energy at site:** Sheltered cove.
- f) **Depth and nearby bathymetry:** The vessel is parallel to shore and partially ashore, the bow is in 2 ft of water.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** Yes, National Park.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, DPNR merger submerged lands.

4) Vessel Information

- a) **Vessel name:** RENDEZVOUS.
- b) **Vessel type:** Trimaran.
- c) **Construction materials:** Fiberglass over wood hull.
- d) **Principle dimensions:** 75 ft x 31 ft.

- e) **Hull number, registration number and engine serial numbers:** Registration #: VI 5449-TA.
- f) **Fuel type and estimated tank capacity:** Unknown.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** US painted on stern.
- j) **Homeport:** Houston, TX painted on stern.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Ashore.
- b) **Nature of casualty:** Hurricane Marilyn.
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** 1995.
- e) **General description of vessel damage:** Holes in the hull, a lot of trash and debris onboard and near vessel.
- f) **Vessel Cargo:** Mostly trash and debris.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** Unknown.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Unknown.
- e) **Other equipment and supplies that may pose their own threats:** Unknown.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is ashore.
- b) **Depth and visibility of the vessel:** N/A.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Recreational.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.



8) Potential Public Health

- a) **Public uses in the area:** Adjacent land tenant, area used as workshop, sailboat moorings in entrance to cove.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Attempt was made to remove it with a crane, but was not successful.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux; Torin Zielenski, USCG MSD, 340-776-3497.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** The footprint is similar to the vessel dimensions.
- b) **Dimensions of debris field:** A lot of debris onboard and onshore near the vessel.
- c) **Primary Habitat(s):** Sand and gravel beach. The vessel is aground parallel to shore on coarse-grained sand and pebble to cobble sized gravel sediments.
- d) **Secondary Habitat(s):** Mudbottom. The intertidal and subtidal area adjacent to the vessel and under the stern is mudbottom with sparse *Halimeda* and seagrass coverage. Further offshore, the density of turtle grass increases.
- e) **Substrate:** The benthic substrate is mud, the beach substrate is mixed coarse-grained sand and gravel.
- f) **Damage Observations:** Seagrass and macroalgae density are lower in the vicinity of the vessel than further offshore, and additional damage to these habitats is possible if the vessel moved during a large storm or hurricane.

1) Survey Information

- a) **Date and location:** 27 June 2002, Water Island, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, a little rough.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA), Willems (USCG Aux), Zielenski (USCG).
- d) **GPS Location:**
Lat: 18° 19.179'
Lon: 64° 56.402'
- e) **Inspection Narrative:**
Photographs were taken and an abbreviated survey was done.



2) Grounding site logistics

- a) **Adjacent land ownership:** Territorial land.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Recreational, there are a lot of boats and trash along the shore.
- d) **Points of access:** Access is marine only.
- e) **Sea conditions and exposure to wave energy at site:** Vessel is partially in a salt pond with a lagoon with a mangrove shoreline behind it, and partially on a gravel beach that is exposed to the open ocean.
- f) **Depth and nearby bathymetry:** The vessel is ashore.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, state submerged lands.

4) Vessel Information

- a) **Vessel name:** AMALIE QUEEN.
- b) **Vessel type:** Ferry boat.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 49 ft x 15 ft.
- e) **Hull number, registration number and engine serial numbers:** None.



- f) **Fuel type and estimated tank capacity:** Unknown.
- g) **Commercial vs. pleasure craft:** Commercial ferry.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Probably St. Thomas, USVI.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Ashore.
- b) **Nature of casualty:** Hurricane Hugo.
- c) **What were the circumstances of the grounding or abandonment?** Vessel moved across harbor entrance during hurricane.
- d) **Date of grounding/length of time the vessel has been "abandoned":** 1989.
- e) **General description of vessel damage:** Were unable to get close, seems fairly intact.
- f) **Vessel Cargo:** Unknown.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** Unknown.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Unknown.
- e) **Other equipment and supplies that may pose their own threats:** Unknown.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is ashore.
- b) **Depth and visibility of the vessel:** N/A.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Recreational and commercial.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) **Potential Public Health**

- a) **Public uses in the area:** None.



- b) Evidence of people boarding the vessel? No.
- c) Entrapment or slip/fall hazards? No.

9) Prior Response/Salvage actions (if any/ if known)

- a) Pollution response: Unknown.
- b) Salvage efforts: Unknown.

10) Vessel Ownership (if known)

- a) Owner Name/address: Unknown.
- b) Insurance Agent and type of coverages: Unknown.
- c) What communications have occurred between owner/operator/insurer and state or federal government? Unknown.
- d) Contact names: Klaus Willems, USCG Aux; Torin Zielenski, USCG MRD, 340-776-3497.

11) Endangered Species and critical habitats

- a) Is the site designated critical habitat for ESA-listed species? No.
- b) Is the vessel destroying critical habitat or could it if the vessel moved? N/A.
- c) Is there any evidence of entanglement or entrapment of fish/wildlife? No.

12) Potential Environmental Impacts

- a) Dimensions of vessel grounding footprint: Unknown, the vessel was inaccessible, but likely to be similar dimensions as the vessel.
- b) Dimensions of debris field: N/A.
- c) Primary Habitat(s): Gravel beach. The bow is located on the backshore of a gravel berm.
- d) Secondary Habitat(s): The stern is located in a salt pond, and the landward side of the pond is mangrove habitat.
- e) Substrate: Gravel beach with boulder sized sediment.
- f) Damage Observations: Damage to the habitat is unknown because of inaccessibility. It is possible that the beach, salt pond, or mangroves could be damaged if the vessel moved during a major storm or hurricane.

1) Survey Information

- a) **Date and location:** 25 June 2002, Salt River Bay, St. Croix, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA); Farchette (DPNR); Prince (USCG).
- d) **GPS Location:**
Lat: 17° 46.405'
Lon: 64° 45.475'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats.



2) Grounding site logistics

- a) **Adjacent land ownership:** The site is part of the Salt River Bay National Historic Park and Ecological Preserve, managed by the National Park Service. The site is also designated as a USVI Marine Reserve and Wildlife Sanctuary, under authority of DPNR.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Protected area.
- d) **Points of access:** Access is by boat from Salt River Bay.
- e) **Sea conditions and exposure to wave energy at site:** Sheltered bay.
- f) **Depth and nearby bathymetry:** Vessel is onshore. Area directly adjacent is very shallow; depth drops to 3-4 ft within 30 ft of shoreline.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** Yes, National Park, see above.
- b) **Is the vessel grounded on state property or state submerged lands?** Vessel is grounded on joint territorial/federal property.

4) Vessel Information

- a) **Vessel name:** BACARDI.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Ferro-cement hull with painted wood.
- d) **Principle dimensions:** 47 ft x 13 ft.

- e) **Hull number, registration number and engine serial numbers:** Registration number on side of vessel was VI-3194-C.
- f) **Fuel type and estimated tank capacity:** Unknown.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** USVI.
- j) **Homeport:** St. Croix, USVI.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Ashore.
- b) **Nature of casualty:** Unknown.
- c) **What were the circumstances of grounding or abandonment?** Hurricane Georges.
- d) **Date of grounding/length of time the vessel has been "abandoned":** 9/21/98.
- e) **General description of vessel damage:** Large hole on starboard side below water line, several smaller holes, keel buried.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No motor or tanks.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Adjacent to a mooring area.
- b) **Depth and visibility of the vessel:** N/A.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Recreational, used as a mooring area; a marina is nearby.
- e) **Has the vessel moved over time? Might it move in the future?** Does not appear that the vessel has moved. It could move during a hurricane.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.



8) Potential Public Health

- a) **Public uses in the area:** Recreational use.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** None. Monarch Heavy Equipment Rental Inc. estimated costs of \$10,200 to removal and dispose of vessel in January 2000. A 1998 estimate was \$3,000.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Lee Ann Fick, #66A Estate Clairmont (P.O. Box 1157) Christiansted, St. Croix, USVI.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Carlos Farchette, DPNR, 340-773-5774; Joel Tutein, NPS, Park Superintendent, 340-773-1460.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Similar to principal vessel dimensions, including intrusion into mangrove forest on starboard side of vessel.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Sand and gravel beach backed by red mangroves. Mangrove forest is 30+ ft wide.
- d) **Secondary Habitat(s):** Seagrass, macroalgae. Dense mix of turtle grass and manatee grass occurs in shallow subtidal adjacent to beach, roughly 7 ft from port side of vessel. Seagrass bed is roughly 15 ft wide, running parallel to the shoreline. Beyond this, as depth increases, only *Halimeda* macroalgae occurs.
- e) **Substrate:** Sand mainly, with some pebble-sized gravel. Muddier sediments occur in subtidal with depth.
- f) **Damage Observations:** Some physical mangrove damage observed, caused at least in part by this vessel, although unrelated hurricane damage also a possibility (hurricane damage observed elsewhere, where no vessels were present). Vessel could injure mangroves and seagrasses if it moved during major storms or hurricanes.



1) Survey Information

- a) **Date and location:** 25 June 2002, Salt River Bay, St. Croix, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA); Farchette (DPNR); Prince (USCG).
- d) **GPS Location:**
Lat: 17° 46.319'
Lon: 64° 45.511'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats.



2) Grounding site logistics

- a) **Adjacent land ownership:** The site is part of the Salt River Bay National Historic Park and Ecological Preserve, managed by the National Park Service. The site is also designated as a USVI Marine Reserve and Wildlife Sanctuary, under authority of DPNR.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Protected area.
- d) **Points of access:** Access is by boat from Salt River Bay.
- e) **Sea conditions and exposure to wave energy at site:** Sheltered bay.
- f) **Depth and nearby bathymetry:** Vessel partly onshore, partly in very shallow water. Depth is about 3 ft roughly 15 ft from vessel stern.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** Yes, National Park.
- b) **Is the vessel grounded on state property or state submerged lands?** Vessel is grounded on joint territorial/federal property.

4) Vessel Information

- a) **Vessel name:** KITTIWAKE.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Fiberglass.
- d) **Principle dimensions:** 48 ft x 11 ft.



- e) **Hull number, registration number and engine serial numbers:** Registration number observed on side of vessel during survey was VI-3071-C. However, some DPNR correspondence lists the registration number as VI-2043-C.
- f) **Fuel type and estimated tank capacity:** Unknown.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** USVI.
- j) **Homeport:** St. Croix, USVI.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Partly ashore, partly aground.
- b) **Nature of casualty:** Unknown.
- c) **What were the circumstances of the grounding or abandonment?** Possible hurricane grounding.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Unknown.
- e) **General description of vessel damage:** Excellent condition, no obvious damage.
- f) **Vessel Cargo:** Most gear onboard, locks, hatches, and rigging intact. Engine still on board.

6) Potential pollution threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** Unknown, but not likely.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Unknown.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential navigation threats

- a) **Location of vessel relative to navigation channel(s):** N/A.
- b) **Depth and visibility of the vessel:** Vessel ashore and in very shallow water.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Recreational, area serves as a mooring area and a marina is also nearby.

- e) **Has the vessel moved over time? Might it move in the future?** Does not appear that the vessel has moved. It could move during a hurricane.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Recreational.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** None. DPNR cost estimate for removal was \$4,800 in July 2000.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Lee J. Attman.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Carlos Farchette, DPNR, 340-773-5774; Joel Tutein, NPS, Park Superintendent, 340-773-1460.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Similar to principal vessel dimensions, including intrusion into mangrove forest and area where seagrasses are missing under and around the vessel.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Mangroves, sand beach, seagrasses (proceeding from bow to stern, landward to seaward). Red mangrove forest is 30+ ft wide. Sand beach is about 7 ft wide. Dense turtle grass with infauna burrows is roughly 10 ft wide, running adjacent and parallel to the beach.
- d) **Secondary Habitat(s):** Macroalgae. Dense cover of *Halimeda* macroalgae with infauna burrows occurs seaward of the seagrasses and extends into deeper water.
- e) **Substrate:** Sand. Muddier sediments occur in subtidal with increasing depth.
- f) **Damage Observations:** Physical mangrove damage observed, caused at least in part by this vessel, extending roughly 15-20 ft into forest. Unrelated hurricane damage also present. Seagrasses damaged directly under vessel and along 3 ft-wide un-vegetated strip along port side

of vessel. Vessel could cause additional mangrove and seagrass damage if it moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 25 June 2002, Salt River Bay, St. Croix, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA); Farchette (DPNR); Prince (USCG).
- d) **GPS Location:**
Lat: 17° 46.333'
Lon: 64° 45.550'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel.



2) Grounding site logistics

- a) **Adjacent land ownership:** The site is part of the Salt River Bay National Historic Park and Ecological Preserve, managed by the National Park Service. The site is also designated as a USVI Marine Reserve and Wildlife Sanctuary, under authority of DPNR.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Protected area.
- d) **Points of access:** Access is by boat from Salt River Bay.
- e) **Sea conditions and exposure to wave energy at site:** Sheltered bay.
- f) **Depth and nearby bathymetry:** Vessel is sunk on mooring in 3-6 ft of water.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** Yes, National Park.
- b) **Is the vessel grounded on state property or state submerged lands?** Vessel is grounded on territorial submerged land.

4) Vessel Information

- a) **Vessel name:** LA GLORIA II.
- b) **Vessel type:** Fishing boat/pleasure craft.
- c) **Construction materials:** Fiberglass.
- d) **Principle dimensions:** 35 ft x 10 ft.
- e) **Hull number, registration number and engine serial numbers:** Registration number on side of vessel is VI-6467-C.

- f) **Fuel type and estimated tank capacity:** Unknown.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** USVI.
- j) **Homeport:** St. Croix, USVI.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Aground and partially submerged.
- b) **Nature of casualty:** Sunk on mooring (moored by ropes attached to submerged engine block)
- c) **What were the circumstances of the grounding or abandonment?** Negligence.
- d) **Date of grounding/length of time the vessel has been "abandoned":** June 2002.
- e) **General description of vessel damage:** Mattresses, etc. floating in cabin. Vessel in fairly good condition.
- f) **Vessel Cargo:** Standard gear on board, including furniture.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** Possibly a small amount.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Unknown.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Aground in the middle of a mooring area.
- b) **Depth and visibility of the vessel:** Vessel is only partially submerged in 3-6 ft of water, easily visible above water line.
- c) **Is the vessel properly marked?** No.
- d) **Type of navigation in the area:** Recreational, area serves as a mooring area and a marina is also nearby.

- e) **Has the vessel moved over time? Might it move in the future?** It is unstable at this time (partially buoyant), could move during a storm if it broke its mooring.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Recreational.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall and entrapment hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** None.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Johannes Bazil.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** DPNR is trying to contact owner.
- d) **Contact names:** Carlos Farchette, DPNR, 340-773-5774; Joel Tutein, NPS, Park Superintendent, 340-773-1460.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Un-vegetated area under and around vessel roughly 40 ft x 15 ft in maximum length and width. Poor visibility, un-vegetated area around vessel could be greater.
- b) **Dimensions of debris field:** Engine block used as mooring lies roughly 20 ft from vessel.
- c) **Primary Habitat(s):** Macroalgae. Dense cover of *Halimeda* macroalgae with infauna burrows.
- d) **Secondary Habitat(s):** N/A.
- e) **Substrate:** Mud with small shell fragments and *Halimeda* discs.
- f) **Damage Observations:** Physical damage to macroalgae bed under and immediately around vessel. Vessel could cause additional damage to macroalgae bed and could also injure nearby mangrove and seagrass habitats if it moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 25 June 2002, Salt River Bay, St. Croix, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA); Farchette (DPR); Prince (USCG).
- d) **GPS Location:**
Lat: 17° 46.382'
Lon: 64° 45.614'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats.



2) Grounding site logistics

- a) **Adjacent land ownership:** The site is part of the Salt River Bay National Historic Park and Ecological Preserve, managed by the National Park Service. The site is also designated as a USVI Marine Reserve and Wildlife Sanctuary, under authority of DPR.
- b) **Any man-made structures that might be affected or obstruct removal:** Yes. Overhead power lines along road, just landward of mangroves.
- c) **Land-use:** Protected area.
- d) **Points of access:** Road just landward of mangrove forest; water access from Salt River Bay.
- e) **Sea conditions and exposure to wave energy at site:** Sheltered bay.
- f) **Depth and nearby bathymetry:** Vessel is aground; depth of 2 ft at stern, shallows continue for some distance beyond the vessel.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** Yes, National Park.
- b) **Is the vessel grounded on state property or state submerged lands?** Vessel is grounded on joint territorial/federal property.

4) Vessel Information

- a) **Vessel name:** Unk1940. Known locally as the "NOAA" barge.
- b) **Vessel type:** Small working barge, catamaran hull.
- c) **Construction materials:** Fiberglass catamaran hull with aluminum deck frame and plywood decking, two aluminum A-frames on deck.



- d) **Principle dimensions:** 32 ft x 23 ft.
- e) **Hull number, registration number and engine serial numbers:** None.
- f) **Fuel type and estimated tank capacity:** No tanks or engines.
- g) **Commercial vs. pleasure craft:** Commercial/government (university/educational use).
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** USVI.
- j) **Homeport:** St. Croix, USVI.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Aground and partially ashore.
- b) **Nature of casualty:** Hurricane grounding.
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Unknown.
- e) **General description of vessel damage:** Plywood decking is rotted, hulls are damaged by several small holes.
- f) **Vessel Cargo:** None.

6) Potential pollution threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential navigation threats

- a) **Location of vessel relative to navigation channel(s):** Vessel is not close to any major navigation channels.
- b) **Depth and visibility of the vessel:** Vessel is clearly visible.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Recreational, area is a mooring area; a marina is nearby.
- e) **Has the vessel moved over time? Might it move in the future?** Unknown. Could move during a major storm or hurricane.



f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Recreational.
 - b) **Evidence of people boarding the vessel?** No.
 - c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard, due to rotten plywood decking.
-

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
 - b) **Salvage efforts:** None.
-

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
 - b) **Insurance Agent and type of coverages:** Unknown.
 - c) **What communications have occurred between owner/operator/insurer and state or federal government?** None.
 - d) **Contact names:** Carlos Farchette, DPNR, 340-773-5774; Joel Tutein, NPS, Park Superintendent, 340-773-1460.
-

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
 - b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
 - c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.
-

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Un-vegetated area without seagrass occurs under and around the vessel, roughly 35 ft x 30 ft in maximum length and width. Bow also partly in mangroves.
- b) **Dimensions of debris field:** Debris off starboard side and stern within 5 ft of vessel. Debris include makeshift dock materials, steel drum, etc.
- c) **Primary Habitat(s):** Seagrass. Dense turtle grass with *Halimeda* and infauna burrows.
- d) **Secondary Habitat(s):** Mangroves. Red mangrove forest, 15-30 ft wide, occurs off vessel bow and starboard side. Some black mangroves present also.
- e) **Substrate:** Mud with small shell fragments and *Halimeda* discs.
- f) **Damage Observations:** Seagrasses damaged directly under and around vessel, including 5 ft-wide un-vegetated area on starboard side between vessel and mangrove fringe. Mangrove damage also possible. Vessel could cause additional mangrove and seagrass injury if it moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 25 June 2002, Salt River Bay, St. Croix, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA); Farchette (DPNR); Prince (USCG).
- d) **GPS Location:**
Lat: 17° 46.324'
Lon: 64° 45.611'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats.



2) Grounding site logistics

- a) **Adjacent land ownership:** The site is part of the Salt River Bay National Historic Park and Ecological Preserve, managed by the National Park Service. The site is also designated as a USVI Marine Reserve and Wildlife Sanctuary, under authority of DPNR.
- b) **Any man-made structures that might be affected or obstruct removal:** Possibly power lines along the road behind the mangroves.
- c) **Land-use:** Protected area.
- d) **Points of access:** Road behind mangroves or by boat.
- e) **Sea conditions and exposure to wave energy at site:** Sheltered bay.
- f) **Depth and nearby bathymetry:** Vessel is around in intertidal area, stern is ashore.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** Yes, National Park.
- b) **Is the vessel grounded on state property or state submerged lands?** Vessel is grounded on joint territorial/federal property.

4) Vessel Information

- a) **Vessel name:** MI SUENO.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Fiberglass hull, superstructure is fiberglass over wood.
- d) **Principle dimensions:** 26 ft x 11 ft.

- e) **Hull number, registration number and engine serial numbers:** Registration number on the hull is VI-5158-CA.
- f) **Fuel type and estimated tank capacity:** Unknown.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** BVI painted on the stern.
- j) **Homeport:** Tortola, BVI painted on stern.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** Unknown.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Aground and partially ashore.
- b) **Nature of casualty:** Unknown.
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Unknown.
- e) **General description of vessel damage:** No mast or rigging, beginning to rot.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Aground nearshore, and is not close to channel.
- b) **Depth and visibility of the vessel:** N/A.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Recreational, area serves as a mooring area and a marina is also nearby.
- e) **Has the vessel moved over time? Might it move in the future?** Unknown.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.



8) Potential Public Health

- a) **Public uses in the area:** Recreational.
- b) **Evidence of people boarding the vessel?** Yes, cans and trash around vessel. Vessel is propped up on wooden blocks and tied to mangroves.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** Unclear, vessel possibly has been moved from some other grounding location to the current position (pulled up on shore). Vessel attached to anchor or other mooring by steel cable and chains. Also tied to mangroves. Vessel keel and stern propped up on blocks, so possibly being worked on.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** None.
- d) **Contact names:** Carlos Farchette, DPNR, 340-773-5774; Joel Tutein, NPS, Park Superintendent, 340-773-1460.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- g) **Dimensions of vessel grounding footprint:** Similar to principal vessel dimensions, including intrusion into mangrove forest and area where seagrasses are missing under and around the vessel.
- h) **Dimensions of debris field:** Debris extends 3-6 ft around both sides of stern.
- i) **Primary Habitat(s):** Mangroves and mudbottom with some seagrass. Red mangrove forest with some white mangroves surrounds stern and extends along shoreline. Bow is on mudbottom with low turtle grass density.
- j) **Secondary Habitat(s):** Stern is on mixed sand and gravel beach.
- k) **Substrate:** Sand. Muddier sediments occur in subtidal with increasing depth.
- l) **Damage Observations:** Physical mangrove damage observed, caused at least in part by this vessel, extending roughly 15-20 ft into forest, and vessel tied to trees. Unrelated hurricane damage also present. Seagrasses damaged directly under vessel. Vessel could cause additional mangrove and seagrass damage if it moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 25 June 2002, Salt River Bay, St. Croix, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA); Farchette (DPNR); Prince (USCG).
- d) **GPS Location:**
Lat: 17° 46.288'
Lon: 64° 47.992'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats, including benthic transects around the vessel.



2) Grounding site logistics

- a) **Adjacent land ownership:** The land surrounding the bay is part of the Salt River Bay National Historic Park and Ecological Preserve, managed by the National Park Service. The site is also designated as a USVI Marine Reserve and Wildlife Sanctuary, under authority of DPNR.
- b) **Any man-made structures that might be affected or obstruct removal:** Power lines on road 5-10 m away.
- c) **Land-use:** Preserve.
- d) **Points of access:** Access is by boat from Salt River Bay or by road.
- e) **Sea conditions and exposure to wave energy at site:** Sheltered bay.
- f) **Depth and nearby bathymetry:** Water is 2-3 ft deep at bow.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** Yes, National Park.
- b) **Is the vessel grounded on state property or state submerged lands?** Vessel is grounded on joint territorial/federal property.

4) Vessel Information

- a) **Vessel name:** DAUNTLESS.
- b) **Vessel type:** Power cruiser.
- c) **Construction materials:** Aluminum hull with plywood and fiberglass superstructure.
- d) **Principle dimensions:** 66 ft x 17 ft.
- e) **Hull number, registration number and engine serial numbers:** 253410D.



- f) **Fuel type and estimated tank capacity:** Diesel, unknown amount.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** US or BVI.
- j) **Homeport:** Palm Beach, FL painted on stern, or Tortola, BVI.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Aground.
- b) **Nature of casualty:** Possibly Hurricane Hugo.
- c) **What were the circumstances of the grounding or abandonment?** Hurricane .
- d) **Date of grounding/length of time the vessel has been "abandoned":** 1989.
- e) **General description of vessel damage:** Fairly intact.
- f) **Vessel Cargo:** Unknown.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** Some paint, lacquer, engine, oil containers, trash.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No, but leftover party trash.
- d) **Condition of fuel tanks:** Unknown.
- e) **Other equipment and supplies that may pose their own threats:** Batteries, engine parts.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** Possible damage to mangroves and seagrasses.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Ashore in a mooring area.
- b) **Depth and visibility of the vessel:** N/A.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Salt River Bay is a marina/mooring area.
- e) **Has the vessel moved over time? Might it move in the future?** Does not appear that the vessel has moved. It could move during a storm.

- f) **Would other structures be endangered if the vessel were to shift or move?** Other anchored vessels.

8) Potential Public Health

- a) **Public uses in the area:** Marina/mooring area.
b) **Evidence of people boarding the vessel?** Yes, possibly partying or other uses.
c) **Entrapment or slip/fall hazards?** No.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
b) **Salvage efforts:** Unknown.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
b) **Insurance Agent and type of coverages:** Unknown.
c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
d) **Contact names:** Carlos Farchette, DPNR, 340-773-5774; Joel Tutein, NPS, Park Superintendent, 340-773-1460.

13) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

14) Potential Environmental Impacts

- m) **Dimensions of vessel grounding footprint:** Similar to principal vessel dimensions.
n) **Dimensions of debris field:** N/A.
o) **Primary Habitat(s):** Seagrass and macroalgae. Turtle grass off of bow. Fairly dense, some patchy areas. Dense macroalgae off of starboard side. Mixed density turtle grass and macroalgae off of port side; density is higher farther away from vessel. Infaunal burrows present throughout.
p) **Secondary Habitat(s):** Stern is on gravel beach with some cobble-sized riprap.
q) **Substrate:** Coarse-grained sand.
r) **Damage Observations:** Seagrasses and macroalgae damaged directly under vessel, and sparser near vessel on port side. Vessel could cause additional seagrass and mangrove damage if it moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 25 June 2002, Salt River Bay, St. Croix, USVI.
- b) **GPS Location:**
Lat: 17° 46.349'
Lon: 64° 45.608'



2) Grounding site logistics:

The site is part of the Salt River Bay National Historic Park and Ecological Preserve, managed by the National Park Service. The site is also designated as a USVI Marine Reserve and Wildlife Sanctuary, under authority of DPNR. The vessel is submerged in approximately 2 feet of water, fairly close to shore.

3) Vessel Information:

Badly deteriorated wooden vessel, 36 ft x 6 ft.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Possible hazard to anyone wading in area, due to submerged debris and growth on vessel.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel occurs on soft mud bottom with seagrasses or macroalgae, roughly 20 ft from red mangrove shoreline. Possible damage to seagrasses or macroalgae beds has occurred. Movement of vessel or debris during storms and hurricanes could damage benthic habitats and mangroves.

1) Survey Information

- a) **Date and location:** 26 June 2002, Tague Bay, St. Croix, USVI.
- b) **Weather and tide conditions at time of survey:** Calm, some clouds.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA); Farchette (DPNR); Prince (USCG).
- d) **GPS Location:**
Lat: 17° 45.377'
Lon: 64° 36.310'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats, including benthic transects around the vessel.



2) Grounding site logistics

- a) **Adjacent land ownership:** Territorial owned public beaches and privately owned residential areas.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Recreational/private.
- d) **Points of access:** Access is by boat, either from outside Tague Bay, or by driving up to St. Croix Yacht Club adjacent to mooring area and launching from there.
- e) **Sea conditions and exposure to wave energy at site:** Protected by barrier reef.
- f) **Depth and nearby bathymetry:** Vessel is submerged in ~ 8 ft of water.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** The area is proposed to be a territorial marine park.
- b) **Is the vessel grounded on state property or state submerged lands?** Vessel is on territorial submerged lands

4) Vessel Information

- a) **Vessel name:** Unk1949.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Ferro-cement.
- d) **Principle dimensions:** 50 ft x 14 ft.
- e) **Hull number, registration number and engine serial numbers:** None.



- f) **Fuel type and estimated tank capacity:** None.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Probably St. Croix, USVI.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Submerged.
- b) **Nature of casualty:** Sank on mooring.
- c) **What were the circumstances of the grounding or abandonment?** Possibly negligence.
- d) **Date of grounding/length of time the vessel has been "abandoned":** 1995.
- e) **General description of vessel damage:** The interior of the vessel is mostly debris, wiring, etc., but the hull is mostly intact. Some coral is growing on the vessel.
- f) **Vessel Cargo:** None.

6) Potential pollution threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** No tanks were observed.
- e) **Other equipment and supplies that may pose their own threats:** 2 masts and several booms, rigging, etc.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential navigation threats

- a) **Location of vessel relative to navigation channel(s):** Submerged in mooring area.
- b) **Depth and visibility of the vessel:** Portions of the hull exposed and visible, mostly submerged in ~8 ft of water.
- c) **Is the vessel properly marked?** No, only a few marker buoys.
- d) **Type of navigation in the area:** Tague Bay is a marina/mooring area.
- e) **Has the vessel moved over time? Might it move in the future?** Does not appear that the vessel has moved or could move.



- f) **Would other structures be endangered if the vessel were to shift or move?** Other anchored vessels in harbor.

8) Potential Public Health

- a) **Public uses in the area:** Marina/mooring area.
b) **Evidence of people boarding the vessel?** No.
c) **Entrapment or slip/fall hazards?** No.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
b) **Salvage efforts:** None. Cost estimate of \$7,000 for removal was quoted.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** James Whitney.
b) **Insurance Agent and type of coverages:** Unknown.
c) **What communications have occurred between owner/operator/insurer and state or federal government?** DPNR has contacted the owner.
d) **Contact names:** Carlos Farchette, DPNR, (340) 773-5774.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
b) **Is the vessel destroying critical habitat or could it be if the vessel moved?** N/A.
c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** The area under and around the vessel devoid of seagrass was roughly 70 ft x 30 ft in maximum length and width.
b) **Dimensions of debris field:** A lot of debris remains within the vessel. One mast extends 54 ft perpendicular to the starboard side, and a second mast occurs parallel to the vessel 10 ft from the starboard side.
c) **Primary Habitat(s):** Seagrass. Dense turtle grass occurs surrounding vessel scour. Dense coverage of mixture of turtle and manatee grass off of stern. Large infauna burrow mounds occur throughout the seagrass habitat. Sparser coverage occurs adjacent to sand blowout area between 6-10 ft off of port side.
d) **Secondary Habitat(s):** Approximately 90 feet beyond starboard side of vessel was 10-12 ft deep unvegetated channel. Some fire coral and soft coral growing on vessel.
e) **Substrate:** Coarse-grained sand (calcareous origin, some shell material).

- f) **Damage Observations:** Un-vegetated area was present around entire vessel. Several blowout areas were observed around the port side near the bow and stern. Small eroding scarps were observed at the edge of the seagrass beds along the entire port and stern sides.



1) Survey Information

- a) **Date and location:** 25 June 2002, Salt River Bay, St. Croix, USVI.
- b) **GPS Location:** Unknown.



2) Grounding site logistics:

The land surrounding the bay is part of the Salt River Bay National Historic Park and Ecological Preserve, managed by the National Park Service. The site is also designated as a USVI Marine Reserve and Wildlife Sanctuary, under authority of DPNR. The vessel is aground and mostly exposed.

3) Vessel Information:

Pleasure craft (far right in photo), dimensions and construction materials unknown.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

Potential pollution threats: unknown; clearly visible, so unlikely to be a navigation threat.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Benthic habitat not surveyed, but likely macroalgae or seagrass. Injury to benthic or shoreline habitats is possible if vessel moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 25 June 2002, Salt River Bay, St. Croix, USVI.
- b) **GPS Location:** Unknown.



2) Grounding site logistics:

The land surrounding the bay is part of the Salt River Bay National Historic Park and Ecological Preserve, managed by the National Park Service. The site is also designated as a USVI Marine Reserve and Wildlife Sanctuary, under authority of DPNR. The vessel is ashore in dead mangroves.

3) Vessel Information:

Pleasure craft, dimensions and construction materials unknown.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

Unlikely.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Extensive physical mangrove damage observed, but may be due to hurricanes or other factors. Nearby benthic habitat not surveyed, but may be macroalgae. Vessel could cause macroalgae damage if it moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 25 June 2002, Salt River Bay, St. Croix, USVI.
- b) **GPS Location:** Unknown.



2) Grounding site logistics:

The land surrounding the bay is part of the Salt River Bay National Historic Park and Ecological Preserve, managed by the National Park Service. The site is also designated as a USVI Marine Reserve and Wildlife Sanctuary, under authority of DPNR. The vessel is ashore on gravel beach.

3) Vessel Information:

Piece of Sailboat hull, dimensions and construction materials unknown.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done, but possibly seagrass or macroalgae adjacent to vessel. Injury to seagrass or macroalgae is possible if vessel moved during a storm.

1) Survey Information:

- a) **Date and location:** 25 June 2002, Judith Fancy, St. Croix, USVI.
- b) **GPS Location:**
Lat: 17° 46.717'
Lon: 64° 45.037'



2) Grounding site logistics:

The vessel is grounded in a sheltered bay on the east side of Salt River.

3) Vessel Information:

Pleasure craft with wood plank hull, a lot of attached oysters.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None, the vessel is highly visible and in a low traffic area.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is aground on mudbottom and near red mangrove shoreline. Injury to mangroves is possible if vessel moved during major storms or hurricanes.

1) Survey Information

a) **Date and location:** 25 June
2002, Judith Fancy, St. Croix,
USVI.

b) **GPS Location:**
Lat: 17° 46.617'
Lon: 64° 45.086'



2) Grounding site logistics:

The vessel is ashore in upland habitat.

3) Vessel Information:

Fiberglass trimaran, 39 ft.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

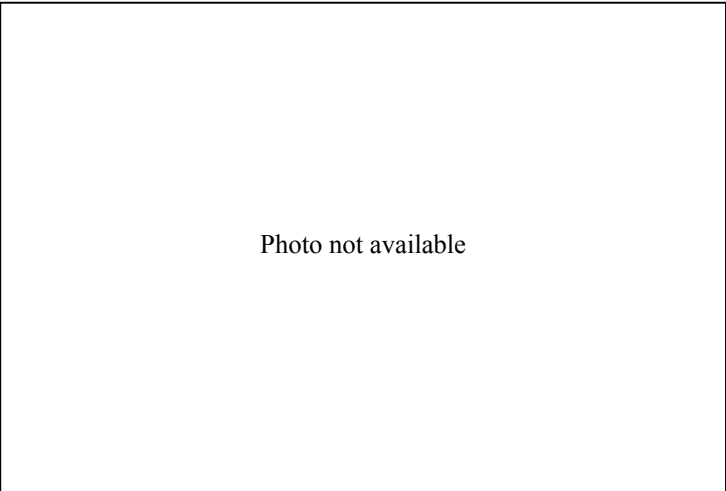
8) Potential Environmental Impacts:

The vessel is aground in upland habitat. Injury to nearby mangroves is possible if vessel moved during major storms or hurricanes.

1) Survey Information

a) **Date and location:** 25 June
2002, Judith Fancy, St. Croix,
USVI.

b) **GPS Location:**
Lat: 17° 46.614'
Lon: 64° 45.096'



2) Grounding site logistics:

The vessel is ashore in upland and mangrove habitat.

3) Vessel Information:

Fiberglass catamaran, 49 ft, only hulls are intact, no photo.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

The vessel is aground in upland and mangrove habitat. Injury to vegetation was observed, and additional injury is possible if vessel moved during major storms or hurricanes.

1) Survey Information

a) **Date and location:** 25 June
2002, Whitehorse Reef, St.
Croix, USVI.

b) **GPS Location:**
Lat: 17_ 46.939'
Lon: 64_ 45.093'



2) Grounding site logistics:

The vessel is aground near the Salt
River Lagoon entrance and
Whitehorse Reef ~ 100 m offshore.

3) Vessel Information:

Steel barge with large debris field.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None, in high energy surf zone.

6) Potential Public Health Threats:

Slip/fall hazard and rusty debris.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is aground on hardbottom habitat with some live coral. Extensive debris field extends tens of meters around barge.

1) Survey Information:

a) **Date and location:** 26 June 2002, Tague Bay, St. Croix, USVI.

b) **GPS Location:**
Lat: 17° 45.296'
Lon: 64° 36.214'



2) Grounding site logistics:

The land surrounding Tague Bay is partially public beach with private residential ownership. The submerged lands are owned by the territory of the USVI.

3) Vessel Information:

Fiberglass sailboat, ~ 18-20 ft, 45° starboard list.

4) Casualty information:

Hurricane Georges, 1998.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

The vessel occurs on a gravel beach adjacent to a sheltered rocky shore. Seagrass occurs in intertidal and subtidal areas adjacent to shore, and damage to this habitat could occur if the vessel moved during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 26 June 2002, Tague Bay, St. Croix, USVI.

b) **GPS Location:**
Lat: 17° 45.325'
Lon: 64° 36.369'



2) Grounding site logistics:

The land surrounding Tague Bay is partially public beach with private residential ownership. The submerged lands are owned by the territory of the USVI.

3) Vessel Information:

Fiberglass sailboat, sitting upright, fairly good condition, still has electrical equipment onboard.

4) Casualty information:

Hurricane Georges, 1998.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

The vessel is ashore on a sand beach. Seagrass occurs in adjacent subtidal areas. Damage to this habitat could occur if the vessel moved during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 26 June 2002, Tague Bay, St. Croix, USVI.

b) **GPS Location:**
Lat: 17° 45.296'
Lon: 64° 36.214'



2) Grounding site logistics:

The land surrounding Tague Bay is partially public beach with private residential ownership. The submerged lands are owned by the territory of the USVI.

3) Vessel Information:

Inverted fiberglass motorboat, 18-20 ft.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

The vessel occurs on a gravel beach adjacent to a sheltered rocky shore. Seagrass occurs in intertidal and subtidal areas adjacent to shore, and damage to this habitat could occur if the vessel moved during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 26 June 2002, Christiansted Harbor, St. Croix, USVI.
- b) **GPS Location:**
Lat: 17° 44.888'
Lon: 64° 42.352'



2) Grounding site logistics:

Christiansted Harbor is a heavily used mooring area. The land surrounding the harbor is territorially owned and is mostly used by privately owned businesses.

3) Vessel Information:

Fiberglass sailboat, 25-28 ft, submerged.

4) Casualty information:

The vessel is submerged in 6' of water. The vessel sank on its mooring during Hurricane Hugo in 1989.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

The vessel occurs on unconsolidated sediment in a harbor. If the vessel moved during a large storm or hurricane, it is possible that nearby benthic habitats, most likely seagrass or macroalgae, could be impacted.

1) Survey Information:

- a) **Date and location:** 26 June 2002, Christiansted Harbor, St. Croix, USVI.
- b) **GPS Location:**
Lat: 17° 44.888'
Lon: 64° 42.352'



2) Grounding site logistics:

Christiansted Harbor is a heavily used mooring area. The land surrounding the harbor is territorially owned and is mostly used by privately owned businesses.

3) Vessel Information:

Fiberglass catamaran, 28 ft, buried with one pontoon showing, mostly in pieces.

4) Casualty information:

The vessel is submerged in 6' of water. The vessel possibly sank during Hurricane Hugo in 1989.

5) Pollution/Potential navigation threats:

Some batteries and a buried fuel tank were observed. No navigation threat.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

The vessel occurs on unconsolidated sediment in a harbor. If the vessel moved during a large storm or hurricane, it is possible that nearby benthic habitats, most likely seagrass or macroalgae, could be impacted.

1) Survey Information:

- a) **Date and location:** 26 June 2002, Christiansted Harbor, St. Croix, USVI.
- b) **GPS Location:**
Lat: 17° 44.964'
Lon: 64° 41.846'



2) Grounding site logistics:

Christiansted Harbor is a heavily used mooring area. The land surrounding the harbor is territorially owned and is mostly used by privately owned businesses.

3) Vessel Information:

Steel barge ashore adjacent to St. Croix marina.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

No.

6) Potential Public Health Threats:

Slip/fall hazard, and a lot of rusty edges and debris onshore.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

The bow of the vessel occurs on a mixed sand and gravel beach. The stern occurs on unconsolidated sediment with sparse seagrass and *Halimeda*. The vessel is currently serving as a breakwater to the adjacent marina. Pilings and pipes occur off of the starboard side. Seagrass and macroalgae has likely been damaged underneath and around the vessel. Additional damage could occur if the vessel moved during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 26 June 2002, Christiansted Harbor, St. Croix, USVI.
- b) **GPS Location:**
Lat: 17° 44.981'
Lon: 64° 41.806'



2) Grounding site logistics:

Christiansted Harbor is a heavily used mooring area. The land surrounding the harbor is territorially owned and is mostly used by privately owned businesses and marinas.

3) Vessel Information:

Steel dredge/barge ashore near entrance to Altona Lagoon.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard and rusty parts.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

The vessel occurs partially on a mixed sand and gravel beach and partially on unconsolidated sediment with sparse seagrass. The vessel may be interfering with circulation in and out of Altona Lagoon. Seagrass has likely been damaged underneath and around the vessel. Additional damage could occur if the vessel moved during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 26 June 2002, Gallows Bay, St. Croix, USVI.

b) **GPS Location:**
Lat: 17° 44.746'
Lon: 64° 41.997'



2) Grounding site logistics:

The land surrounding the bay is territorially owned and mostly used by privately owned businesses and marinas.

3) Vessel Information:

Burned sailboat on wheeled device for hauling out of water, steel frame and wood hull.

4) Casualty information:

Burned.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard and rusty parts.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

The vessel occurs in shallow water on mixed sand and gravel bottom. If the vessel moved during a large storm or hurricane, it is possible that nearby benthic habitats, most likely seagrass or macroalgae, could be impacted.

1) Survey Information

- a) **Date and location:** 26 June 2002, Ruth Cay, St. Croix, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA); Farchette (DPNR); Prince (USCG).
- d) **GPS Location:**
Lat: 17° 41.064'
Lon: 64° 45.763'
- e) **Inspection Narrative:**
Snorkel and beach survey and videotaping of vessel and habitats.



2) Grounding site logistics

- a) **Adjacent land ownership:** The land surrounding the bay is owned by the USVI and is a DPNR wildlife preserve.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Preserve.
- d) **Points of access:** Access is by boat only.
- e) **Sea conditions and exposure to wave energy at site:** The vessel is inside a protected bay.
- f) **Depth and nearby bathymetry:** The bow is onshore, and the stern is in 2-3 of water.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, DPNR land.

4) Vessel Information

- a) **Vessel name:** Unk2440.
- b) **Vessel type:** ex - U.S. Navy supply boat.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 67 ft x 18 ft.
- e) **Hull number, registration number and engine serial numbers:** None.



- f) **Fuel type and estimated tank capacity:** None.
- g) **Commercial vs. pleasure craft:** Military.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** US.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Aground and ashore.
- b) **Nature of casualty:** Unknown.
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Unknown, possibly since the 1960's.
- e) **General description of vessel damage:** Vessel is deteriorating, several large holes in hull, debris inside.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** No tanks were observed.
- e) **Other equipment and supplies that may pose their own threats:** None.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Ashore in a cove.
- b) **Depth and visibility of the vessel:** Vessel is ashore.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Minimal recreational use area.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) **Potential Public Health**



- a) **Public uses in the area:** Minimal fishing and conching.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, the vessel is badly rusted.

9) **Prior Response/Salvage actions (if any/ if known)**

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Unknown.

10) **Vessel Ownership (if known)**

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Carlos Farchette, DPNR, (340) 773-5774.

11) **Endangered Species and critical habitats**

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) **Potential Environmental Impacts**

- a) **Dimensions of vessel grounding footprint:** Similar to principal vessel dimensions.
- b) **Dimensions of debris field:** A lot of debris remains within the vessel.
- c) **Primary Habitat(s):** Seagrass and macroalgae. A patch of turtle grass occurs in the subtidal area on the starboard side of the bow. Dense coverage of mixture of turtle grass, *Halimeda*, and other macroalgae occurs off of the starboard and stern sides. A scour hole the same width as the vessel occurs around the stern.
- d) **Secondary Habitat(s):** The port side of the vessel occurs partially on mixed sand and gravel beach. Patchy hardbottom habitat occurs in the bay.
- e) **Substrate:** Coarse-grained sand.
- f) **Damage Observations:** Seagrasses are damaged directly under vessel. Vessel could cause additional seagrass and macroalgae damage if it moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 26 June 2002, Krause Lagoon, St. Croix, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeanssonne (NOAA); Farchette (DPR); Prince (USCG).
- d) **GPS Location:**
Lat: 17° 42.300'
Lon: 64° 46.111'
- e) **Inspection Narrative:**
Snorkel survey, some photos taken.



2) Grounding site logistics

- a) **Adjacent land ownership:** VIALCO, a private company.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Industrial.
- d) **Points of access:** Road access behind mangroves.
- e) **Sea conditions and exposure to wave energy at site:** Very sheltered mangrove cove.
- f) **Depth and nearby bathymetry:** The bow is exposed, the deck is at ~ 10 ft depth, and the stern is at ~ 20 ft depth.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, territorial submerged lands.

4) Vessel Information

- a) **Vessel name:** Unk2441.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Wood.
- d) **Principle dimensions:** 56 ft x 14 ft.
- e) **Hull number, registration number and engine serial numbers:** None.
- f) **Fuel type and estimated tank capacity:** None.



- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Partially submerged and tied in mangroves.
- b) **Nature of casualty:** Possibly Hurricane Lenny.
- c) **What were the circumstances of the grounding or abandonment?** Hurricane, or was left unattended on mooring and sunk for other reasons.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Possibly 2000.
- e) **General description of vessel damage:** Vessel is rotting.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** No tanks were observed.
- e) **Other equipment and supplies that may pose their own threats:** None.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** None.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Inside a cove.
- b) **Depth and visibility of the vessel:** Vessel is clearly visible.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Shipping channel side basin.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) **Potential Public Health**

- a) **Public uses in the area:** No.
- b) **Evidence of people boarding the vessel?** No.



c) **Entrapment or slip/fall hazards?** Yes, entrapment hazard.

9) Prior Response/Salvage actions (if any/ if known)

a) **Pollution response:** Unknown.

b) **Salvage efforts:** None.

10) Vessel Ownership (if known)

a) **Owner Name/address:** Unknown.

b) **Insurance Agent and type of coverages:** Unknown.

c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.

d) **Contact names:** Carlos Farchette, DPNR, (340) 773-5774.

11) Endangered Species and critical habitats

a) **Is the site designated critical habitat for ESA-listed species?** No.

b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.

c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

a) **Dimensions of vessel grounding footprint:** Similar to principal vessel dimensions.

b) **Dimensions of debris field:** N/A.

c) **Primary Habitat(s):** Macroalgae. A narrow band (1.5 ft) of mixed turtle grass, *Halimeda*, and other macroalgae species occurs directly adjacent to the shoreline. Dense coverage of *Halimeda* occurs seaward of this area in a roughly 15 ft wide band. Some patches occur beyond this area, but the bottom is mostly unvegetated.

d) **Secondary Habitat(s):** Red mangroves occur along the shoreline in a roughly 15 ft wide band.

e) **Substrate:** Fine-grained mud.

f) **Damage Observations:** The area underneath the vessel is devoid of macroalgae. The vessel is tied to the mangroves. Additional damage to macroalgae or mangroves is possible if the vessel were to move during large storms or hurricanes.

1) Survey Information

- a) **Date and location:** 27 June 2002, Elephant Bay, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA), Willems (USCG Aux), Zielenski (USCG).
- d) **GPS Location:**
Lat: 18° 19.319'
Lon: 64° 57.319'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats, including benthic transects around the vessel.



2) Grounding site logistics

- a) **Adjacent land ownership:** USVI territorial land with some private residential property.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Public beach, residential.
- d) **Points of access:** Access is by boat. There is also an access road to Elephant Bay.
- e) **Sea conditions and exposure to wave energy at site:** The site is fairly sheltered during typical NE wind conditions, but not during SW wind conditions and hurricanes.
- f) **Depth and nearby bathymetry:** The vessel is submerged in 8-10 ft of water.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, territorial submerged lands.

4) Vessel Information

- a) **Vessel name:** Unk2442.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Wood.
- d) **Principle dimensions:** 68 ft x 18 ft.
- e) **Hull number, registration number and engine serial numbers:** None.

- f) **Fuel type and estimated tank capacity:** None.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) Casualty information

- a) **General status of vessel:** Submerged.
- b) **Nature of casualty:** Possibly Hurricane Marilyn.
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Possibly 1995.
- e) **General description of vessel damage:** A lot of growth on vessel, hull fairly intact, but deteriorating in some places.
- f) **Vessel Cargo:** None.

6) Potential pollution threats

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** Unknown.
- e) **Other equipment and supplies that may pose their own threats:** None.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) Potential navigation threats

- a) **Location of vessel relative to navigation channel(s):** Vessel submerged in a mooring area and is not very close to the channel.
- b) **Depth and visibility of the vessel:** Vessel is submerged at 8-10 ft.
- c) **Is the vessel properly marked?** No.
- d) **Type of navigation in the area:** Mooring and recreational boating.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Mooring area, recreational boating.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** No.

9) **Prior Response/Salvage actions (if any/ if known)**

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** No.

10) **Vessel Ownership (if known)**

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux; Torin Zielenski, USCG-MSD, 340-776-3497.

11) **Endangered Species and critical habitats**

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) **Potential Environmental Impacts**

- a) **Dimensions of vessel grounding footprint:** The area under and around the vessel devoid of seagrass was roughly 43 ft x 15 ft.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Seagrass. Dense turtle grass occurs surrounding the vessel scour on all sides excluding approximately 2/3 of the starboard side.
- d) **Secondary Habitat(s):** The habitat off of the starboard side is mostly hardbottom with sand and boulders and some live coral on larger boulders.
- e) **Substrate:** Coarse-grained sand.
- f) **Damage Observations:** Un-vegetated area was present around entire vessel, and was larger on the port side of the bow and around the stern. Vessel could cause additional seagrass damage or damage to live coral if it moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 27 June 2002, Elephant Bay, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA), Willems (USCG Aux), Zielenski (USCG).
- d) **GPS Location:**
Lat: 18° 19.362'
Lon: 64° 57.215'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats, including benthic transects around the vessel.



2) Grounding site logistics

- a) **Adjacent land ownership:** USVI territorial land with some private residential property.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Public beach, residential.
- d) **Points of access:** Access is by boat. There is also an access road to Elephant Bay.
- e) **Sea conditions and exposure to wave energy at site:** The site is fairly sheltered during typical NE wind conditions, but not during SW wind conditions and hurricanes.
- f) **Depth and nearby bathymetry:** The vessel is submerged in 9-10 ft of water.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, territorial submerged lands.

4) Vessel Information

- a) **Vessel name:** Unk2443.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Steel frame with wood planking.
- d) **Principle dimensions:** 66 ft x 15 ft.
- e) **Hull number, registration number and engine serial numbers:** None.



- f) **Fuel type and estimated tank capacity:** None.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Submerged.
- b) **Nature of casualty:** Vessel caught on fire on mooring.
- c) **What were the circumstances of the grounding or abandonment?** Fire was extinguished, and vessel was not salvageable.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Sometime between 1983-1985.
- e) **General description of vessel damage:** Vessel is burned, steel hull partially remaining.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** Cooling coils are present, but not a full engine.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel submerged in a mooring area and is not very close to the channel.
- b) **Depth and visibility of the vessel:** Vessel is submerged at 9-10'.
- c) **Is the vessel properly marked?** No.
- d) **Type of navigation in the area:** Mooring and recreational boating.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.



8) Potential Public Health

- a) **Public uses in the area:** Mooring area, recreational boating.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** No.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Attempts were made to extinguish fire.
- b) **Salvage efforts:** None.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux; Torin Zielenski, USCG MSD, 340-776-3497.

11) Endangered Species and critical habitats

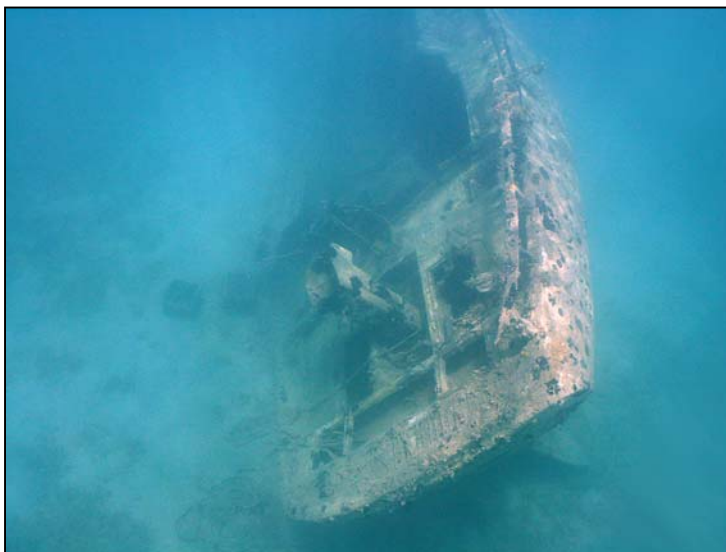
- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** The area under and around the vessel devoid of seagrass was roughly 72 ft x 33 ft.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Seagrass. Dense turtle grass occurs surrounding the vessel scour on all sides.
- d) **Secondary Habitat(s):** Approximately 30 feet to the port side of the bow is an area of sand and gravel bottom with some soft coral.
- e) **Substrate:** Coarse-grained sand and gravel.
- f) **Damage Observations:** Un-vegetated area was present around entire vessel, but was wider around the bow and on the starboard side. Vessel could cause additional seagrass damage, or possibly soft coral damage, if it moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 27 June 2002, Elephant Bay, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA); Willems (USCG Aux.), Zielenski (USCG).
- d) **GPS Location:**
Lat: 18° 19.496'
Lon: 64° 57.059'
- e) **Inspection Narrative:**
Snorkel survey and videotaping of vessel and habitats, including benthic transects around the vessel.



2) Grounding site logistics

- a) **Adjacent land ownership:** USVI territorial land with some residential property.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Public beach, residential.
- d) **Points of access:** Access is by boat. There is also an access road to Elephant Bay.
- e) **Sea conditions and exposure to wave energy at site:** The site is fairly sheltered during typical NE wind conditions, but not during SW wind conditions and hurricanes.
- f) **Depth and nearby bathymetry:** The vessel is submerged in 20 ft of water.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, territorial submerged lands.

4) Vessel Information

- a) **Vessel name:** GEISHA.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Fiberglass.
- d) **Principle dimensions:** 39 ft x 13 ft.
- e) **Hull number, registration number and engine serial numbers:** None.



- f) **Fuel type and estimated tank capacity:** Unknown.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Submerged.
- b) **Nature of casualty:** Probably Hurricane Marilyn.
- c) **What were the circumstances of the grounding or abandonment?** Hurricane.
- d) **Date of grounding/length of time the vessel has been "abandoned":** 1995.
- e) **General description of vessel damage:** Vessel has port list, deteriorating, no mast or rigging.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is submerged in a mooring area and is not very close to the channel.
- b) **Depth and visibility of the vessel:** Vessel is submerged at ~ 20 ft.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Mooring and recreational boating.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Mooring area, recreational boating.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** No.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** None.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** None.
- d) **Contact names:** Klaus Willems, USCG Aux; Torin Zielenski, USCG MSD, 340-776-3497.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** The area under and around the vessel devoid of seagrass was roughly 43 ft x 20 ft.
- b) **Dimensions of debris field:** A line extends from the port side of the bow at a 45° angle for approximately 30 ft. Small amounts of debris are spread throughout the area.
- c) **Primary Habitat(s):** Seagrass. Dense turtle grass occurs surrounding the vessel scour on the bow and port sides. Sparser grass occurs off the stern and starboard sides.
- d) **Secondary Habitat(s):** Sand bottom. A large patch of sand, approximately 20 ft in diameter, occurs 6 ft off of the bow on the port side. Another large patch of sand, approximately 26 ft x 13 ft occurs 7 ft off of the stern on the starboard side, and in general, sandy areas occur more frequently off of the starboard and stern sides. A small patch of macroalgae is adjacent to the stern on the starboard side.
- e) **Substrate:** Coarse-grained sand.
- f) **Damage Observations:** Un-vegetated area was present around entire vessel. Vessel could cause additional seagrass damage if it moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 27 June 2002, Elephant Bay, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA), Willems (USCG Aux), Zielenski (USCG).
- d) **GPS Location:**
Lat: 18° 19.568'
Lon: 64° 57.016'
- e) **Inspection Narrative:** The vessel was photographed and an abbreviated survey was done.



2) Grounding site logistics

- a) **Adjacent land ownership:** USVI territorial land with some private residential property.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Public beach, residential.
- d) **Points of access:** Access is by boat. There is also an access road to Elephant Bay.
- e) **Sea conditions and exposure to wave energy at site:** The site is fairly sheltered during typical NE wind conditions, but not during SW wind conditions and hurricanes.
- f) **Depth and nearby bathymetry:** Depth of 8-10 ft at stern, Depth of 6-7 ft at bow.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, territorial submerged lands.

4) Vessel Information

- a) **Vessel name:** Unk2445.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 39 ft x 13 ft.
- e) **Hull number, registration number and engine serial numbers:** None.

- f) **Fuel type and estimated tank capacity:** None.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Aground.
- b) **Nature of casualty:** Went aground during a storm.
- c) **What were the circumstances of the grounding or abandonment?** Was moored in area prior to storm and was abandoned.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Late 1970's.
- e) **General description of vessel damage:** Steel shell of hull remains.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** None.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is aground in mooring area and is not close to the channel.
- b) **Depth and visibility of the vessel:** Aground and visible.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Mooring and recreational boating.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) **Potential Public Health**



- a) **Public uses in the area:** Mooring area, recreational boating.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Slip/fall hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Unknown.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux; Torin Zielenski, USCG MSD, 340-776-3497.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Unknown.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Sand bottom.
- d) **Secondary Habitat(s):** A seagrass bed occurs approximately 15 ft off of the stern. The adjacent shoreline is a rocky shore.
- e) **Substrate:** Coarse-grained sand.
- f) **Damage Observations:** Un-vegetated area was present around vessel, but it is unclear if it was seagrass habitat prior to vessel grounding. Damage to seagrass off of stern is possible if vessel moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 27 June 2002, Elephant Bay, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansson (NOAA), Willems (USCG Aux), Zielenski (USCG).
- d) **GPS Location:**
Lat: 18° 19.625'
Lon: 64° 57.006'
- e) **Inspection Narrative:** The vessel was photographed and an abbreviated survey was done.



2) Grounding site logistics

- a) **Adjacent land ownership:** USVI territorial land with some private residential property.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Recreational fishing, residential.
- d) **Points of access:** Access is by boat. There is also an access path near beach.
- e) **Sea conditions and exposure to wave energy at site:** The site is fairly sheltered during typical NE wind conditions, but not during SW wind conditions and hurricanes.
- f) **Depth and nearby bathymetry:** Mid-ship is at 26 ft depth, bow is at 9 ft depth.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, territorial submerged lands.

4) Vessel Information

- a) **Vessel name:** Unk2446
- b) **Vessel type:** Crane dredge or barge.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 105 ft x 33 ft.
- e) **Hull number, registration number and engine serial numbers:** None.

- f) **Fuel type and estimated tank capacity:** None.
- g) **Commercial vs. pleasure craft:** Commercial
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Submerged.
- b) **Nature of casualty:** Unknown
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Unknown.
- e) **General description of vessel damage:** Fairly intact.
- f) **Vessel Cargo:** Unknown.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** None.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is submerged in a mooring area and is not very close to the channel.
- b) **Depth and visibility of the vessel:** High point of vessel is at 9 ft depth, some buoys on it, but they are old and not very visible.
- c) **Is the vessel properly marked?** No
- d) **Type of navigation in the area:** Mooring and recreational boating.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) **Potential Public Health**

- a) **Public uses in the area:** Mooring area, recreational boating.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, entrapment.

9) **Prior Response/Salvage actions (if any/ if known)**

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Unknown.

10) **Vessel Ownership (if known)**

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux; Torin Zielenski, USCG MRD, 340-776-3497.

11) **Endangered Species and critical habitats**

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) **Potential Environmental Impacts**

- a) **Dimensions of vessel grounding footprint:** The vessel footprint is similar to the dimensions of the vessel. Unk2447 is immediately adjacent to the vessel on the port side.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Sand bottom. The area around the vessel is primarily bare unconsolidated sediment.
- d) **Secondary Habitat(s):** Approximately 50 ft off of the port side of the vessel is a 30 ft wide area of hardbottom habitat with no live coral. Beyond that is a seagrass bed.
- e) **Substrate:** Coarse-grained sand.
- f) **Damage Observations:** Un-vegetated area was present around vessel, but it is unclear if it was hardbottom or seagrass habitat prior to vessel grounding. Damage to hardbottom and seagrass off of port side is possible if vessel moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 27 June 2002, Elephant Bay, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, calm.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA), Willems (USCG Aux), Zielenski (USCG).
- d) **GPS Location:**
Lat: 18° 19.625'
Lon: 64° 57.006'
- e) **Inspection Narrative:** The vessel was photographed and an abbreviated survey was done.



2) Grounding site logistics

- a) **Adjacent land ownership:** USVI territorial land with some private residential property.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Recreational fishing, residential.
- d) **Points of access:** Access is by boat. There is also an access path near beach.
- e) **Sea conditions and exposure to wave energy at site:** The site is fairly sheltered during typical NE wind conditions, but not during SW wind conditions and hurricanes.
- f) **Depth and nearby bathymetry:** Wheelhouse is at 9 ft depth, top of rigging is at 5 ft depth.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, territorial submerged lands.

4) Vessel Information

- a) **Vessel name:** Unk2447.
- b) **Vessel type:** Tug or workboat.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 66 ft x 20 ft.
- e) **Hull number, registration number and engine serial numbers:** None.



- f) **Fuel type and estimated tank capacity:** None.
- g) **Commercial vs. pleasure craft:** Commercial
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Submerged.
- b) **Nature of casualty:** Unknown
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Unknown.
- e) **General description of vessel damage:** Fairly intact.
- f) **Vessel Cargo:** Unknown.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** None.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is submerged in mooring area and is not very close to the channel.
- b) **Depth and visibility of the vessel:** High point of vessel is at 5 ft depth, some buoys on it, but they are old and not very visible.
- c) **Is the vessel properly marked?** No
- d) **Type of navigation in the area:** Mooring and recreational boating.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) **Potential Public Health**

- a) **Public uses in the area:** Mooring area, recreational boating.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Yes, entrapment.

9) **Prior Response/Salvage actions (if any/ if known)**

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Unknown.

10) **Vessel Ownership (if known)**

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux; Torin Zielenski, USCG MSD, 340-776-3497.

11) **Endangered Species and critical habitats**

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) **Potential Environmental Impacts**

- a) **Dimensions of vessel grounding footprint:** The vessel footprint is similar to the dimensions of the vessel. Unk2446 is immediately adjacent to the vessel on the port side.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Sand bottom. The area around the vessel is primarily bare unconsolidated sediment.
- d) **Secondary Habitat(s):** Approximately 30 ft off of the starboard side of the vessel is a 30 ft wide area of hardbottom habitat with no live coral. Beyond that is a seagrass bed.
- e) **Substrate:** Coarse-grained sand.
- f) **Damage Observations:** Un-vegetated area was present around vessel, but it is unclear if it was hardbottom or seagrass habitat prior to vessel grounding. Damage to hardbottom and seagrass off of port side is possible if vessel moved during major storms or hurricanes.

1) Survey Information

- a) **Date and location:** 27 June 2002, Hassel Island, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, breezy.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA), Willems (USCG Aux), Zielenski (USCG).
- d) **GPS Location:**
Lat: 18° 19.792'
Lon: 64° 56.081'
- e) **Inspection Narrative:**
Photographs were taken and an abbreviated survey was done.



2) Grounding site logistics

- a) **Adjacent land ownership:** National Park Service owns Hassel Island, but there are residential areas near the vessel that pre-date the park.
- b) **Any man-made structures that might be affected or obstruct removal:** Power lines directly adjacent to mast.
- c) **Land-use:** Residential, workshop area for boats.
- d) **Points of access:** Access is mainly by boat.
- e) **Sea conditions and exposure to wave energy at site:** Sheltered cove.
- f) **Depth and nearby bathymetry:** The vessel is ashore.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** Yes, National Park.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, DPNR merger submerged lands.

4) Vessel Information

- a) **Vessel name:** Unk2448.
- b) **Vessel type:** Lifeboat.
- c) **Construction materials:** Steel.
- d) **Principle dimensions:** 56 ft x 14 ft.
- e) **Hull number, registration number and engine serial numbers:** None.

- f) **Fuel type and estimated tank capacity:** None.
- g) **Commercial vs. pleasure craft:** Possibly military.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Ashore.
- b) **Nature of casualty:** Unknown.
- c) **What were the circumstances of the grounding or abandonment?** Unknown.
- d) **Date of grounding/length of time the vessel has been "abandoned":** Has been abandoned for a very long time.
- e) **General description of vessel damage:** Deck deteriorated, only steel hull remains, mangroves and vegetation growing in hull.
- f) **Vessel Cargo:** None.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is ashore.
- b) **Depth and visibility of the vessel:** N/A.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Recreational.
- e) **Has the vessel moved over time? Might it move in the future?** No.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) **Potential Public Health**

- a) **Public uses in the area:** Adjacent land tenant, area used as workshop, sailboat moorings in entrance to cove.
- b) **Evidence of people boarding the vessel?** No.
- c) **Entrapment or slip/fall hazards?** Rusty parts.

9) **Prior Response/Salvage actions (if any/ if known)**

- a) **Pollution response:** None.
- b) **Salvage efforts:** None.

10) **Vessel Ownership (if known)**

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux; Torin Zielenski, USCG MSD, 340-776-3497.

11) **Endangered Species and critical habitats**

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) **Potential Environmental Impacts**

- a) **Dimensions of vessel grounding footprint:** The footprint is similar to the vessel dimensions.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Sand and gravel beach. The vessel is aground parallel to shore on coarse-grained sand and pebble to cobble sized gravel sediments
- d) **Secondary Habitat(s):** Sparse turtle grass and macroalgae on mud and some gravel occurs adjacent to the vessel.
- e) **Substrate:** The benthic substrate is mud, the beach substrate is mixed coarse-grained sand and gravel.
- f) **Damage Observations:** Seagrass and macroalgae density are lower in the vicinity of the vessel than further offshore, and additional damage to these habitats is possible if the vessel moved during a large storm or hurricane.

1) Survey Information

- a) **Date and location:** 28 June 2002, near Benner Bay entrance, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, windy.
- c) **Team Members:** Zengel, Lord (RPI); Jeanssonne (NOAA), Willems (USCG).
- d) **GPS Location:**
Lat: 18° 18.472'
Lon: 64° 51.745'
- e) **Inspection Narrative:**
Photos were taken and an abbreviated survey was done.



2) Grounding site logistics

- a) **Adjacent land ownership:** The adjacent land is owned by the USVI territory.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Rocky shore, inaccessible.
- d) **Points of access:** Marine access only.
- e) **Sea conditions and exposure to wave energy at site:** Inside bay, but subject to high wave activity.
- f) **Depth and nearby bathymetry:** The vessel is ashore.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, USVI owned submerged lands.

4) Vessel Information

- a) **Vessel name:** Unk2449 (possibly “Nephrite” or “Dependence”).
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Fiberglass.
- d) **Principle dimensions:** ~ 36 ft.
- e) **Hull number, registration number and engine serial numbers:** VI 053T.
- f) **Fuel type and estimated tank capacity:** Unknown.

- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** USVI.
- j) **Homeport:** USVI.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Ashore.
- b) **Nature of casualty:** Accident while motoring.
- c) **What were the circumstances of the grounding or abandonment?** Motoring at night.
- d) **Date of grounding/length of time the vessel has been "abandoned":** 2000.
- e) **General description of vessel damage:** Mast missing.
- f) **Vessel Cargo:** Unknown.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** Unknown.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is ashore.
- b) **Depth and visibility of the vessel:** N/A.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Varied.
- e) **Has the vessel moved over time? Might it move in the future?** Unknown, could possibly move during a storm.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) **Potential Public Health**

- a) **Public uses in the area:** Not accessible.

- b) **Evidence of people boarding the vessel?** Unknown, but unlikely.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** None.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** The footprint is similar to the principal dimensions of the vessel.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Exposed rocky platform.
- d) **Secondary Habitat(s):** Unknown, but possibly hardbottom/coral reef.
- e) **Substrate:** Unknown.
- f) **Damage Observations:** Damage to coral reef and hardbottom habitat is possible if the vessel moved during a large storm or hurricane.

1) Survey Information

- a) **Date and location:** 28 June 2002, Bovoni Cay, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, windy, some chop.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA), Willems (USCG Aux).
- d) **GPS Location:**
Lat: 18° 19.108'
Lon: 64° 52.087'
- e) **Inspection Narrative:**
Photos were taken and an abbreviated survey was done.



2) Grounding site logistics

- a) **Adjacent land ownership:** The adjacent land is owned by the USVI territory.
- b) **Any man-made structures that might be affected or obstruct removal:** No.
- c) **Land-use:** Mooring area.
- d) **Points of access:** Marine access only.
- e) **Sea conditions and exposure to wave energy at site:** Inside bay, but subject to high winds, etc.
- f) **Depth and nearby bathymetry:** Unknown.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** No.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, USVI owned submerged lands.

4) Vessel Information

- a) **Vessel name:** Unk2450
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Fiberglass.
- d) **Principle dimensions:** ~ 36 ft
- e) **Hull number, registration number and engine serial numbers:** None.



- f) **Fuel type and estimated tank capacity:** Unknown.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Aground.
- b) **Nature of casualty:** Blown off of mooring by wind.
- c) **What were the circumstances of the grounding or abandonment?** Not properly anchored.
- d) **Date of grounding/length of time the vessel has been "abandoned":** 2002.
- e) **General description of vessel damage:** Lots of lines on it, looks like someone may be in the process of trying to right the vessel.
- f) **Vessel Cargo:** Unknown.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** Unknown.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** No.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** N/A.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is in mangrove area.
- b) **Depth and visibility of the vessel:** Clearly visible.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Possible recreational use.
- e) **Has the vessel moved over time? Might it move in the future?** Unknown.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) **Potential Public Health**



- a) **Public uses in the area:** Limited use, in mangrove area.
- b) **Evidence of people boarding the vessel?** Unknown.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** Unknown.
- b) **Salvage efforts:** Attempt was made to pull vessel off of grounding, but couldn't remove it from keel depression.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Unknown.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems, USCG Aux.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** Unknown, too shallow to approach in USCG vessel.
- b) **Dimensions of debris field:** N/A.
- c) **Primary Habitat(s):** Likely seagrass.
- d) **Secondary Habitat(s):** Mangroves are along the shoreline behind the vessel.
- e) **Substrate:** Unknown.
- f) **Damage Observations:** Vessel could cause additional mangrove and seagrass injury if it moved or broke up during a major a storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.

b) **GPS Location:**
Lat: 18° 19.074'
Lon: 64° 51.986'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Steel hulled sailboat, badly deteriorated.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

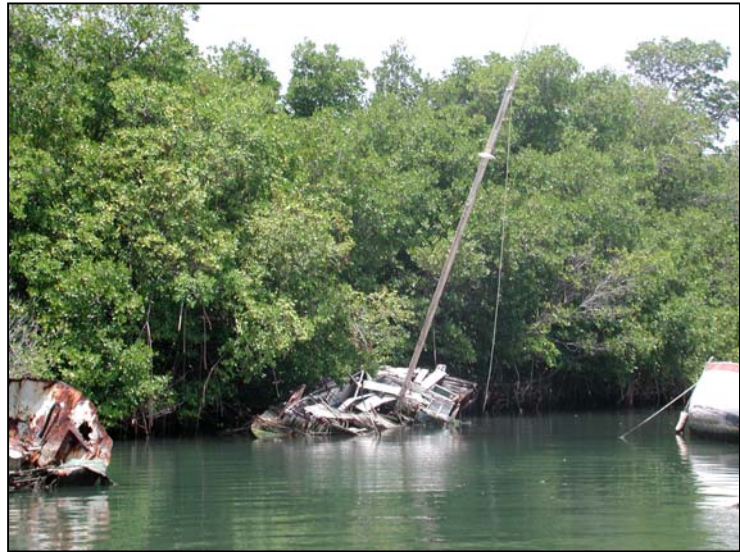
8) Potential Environmental Impacts:

Physical mangrove damage (dead trees) occurred along the starboard side of the vessel near the bow. Vessel could cause additional mangrove damage if it moved or broke up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 19.074'
Lon: 64° 51.986'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Wooden sailboat, badly deteriorated.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Physical mangrove damage (dead trees) occurred along the starboard side of the vessel. Vessel could cause additional mangrove damage if it moved or broke up during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.
- b) **GPS Location:**
Lat: 18° 19.074'
Lon: 64° 51.986'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Refloated fiberglass sailboat.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

Unknown pollution threat, no navigation threat.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae. Vessel is near mangroves, and could cause damage if it moved or broke up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.

b) **GPS Location:**
Lat: 18° 19.074'
Lon: 64° 51.986'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass sailboat, aground. Home port of Key West, FL painted on vessel.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae. Vessel is near mangroves, and it could cause damage if it moved or broke up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.

b) **GPS Location:**
Lat: 18° 19.037'
Lon: 64° 51.987'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass sailboat hull aground, likely damaged (inverted hull in center of photo).

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is in the mangroves, so damage is possible, and additional damage may occur if the vessel moved or was broken up during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.
- b) **GPS Location:**
Lat: 18° 19.037'
Lon: 64° 51.987'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Inverted fiberglass sailboat hull aground with boats on top of it.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is in the mangroves, so damage is possible, and additional damage may occur if the vessel moved or was broken up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 19.037'
Lon: 64° 51.987'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass sailboat aground, holes in hull.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is in the mangroves, so damage is possible. Additional damage may occur if the vessel moved or was broken up during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.
- b) **GPS Location:**
Lat: 18° 19.000'
Lon: 64° 51.989'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass sailboat, aground.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae. Vessel is near mangroves and could cause damage if it moved or broke up during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.
- b) **GPS Location:**
Lat: 18° 19.103'
Lon: 64° 52.322'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass powerboat aground and damaged.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is in the mangroves, so damage is possible. Additional damage may occur if the vessel moved or was broken up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 19.128'
Lon: 64° 53.322'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass dive boat aground, VI
8880T.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Substantial physical mangrove damage observed along port side of vessel, (dead trees, open canopy, some regeneration occurring). Mangrove damage may have been caused by this and other vessels, although unrelated storm damage also a possibility. Vessel could cause additional mangrove injury if it moved or broke up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.

b) **GPS Location:**
Lat: 18° 19.043'
Lon: 64° 52.364'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Sunken vessel of unknown type.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

No pollution threat, possible navigation threat.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae. Vessel is near mangroves, and could cause damage if it moved.

1) Survey Information:

- a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.
- b) **GPS Location:**
Lat: 18° 19.060'
Lon: 64° 52.372'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass powerboat, aground, badly damaged.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is in the mangroves, so damage is possible. Additional injury may occur if the vessel moved or was broken up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 19.060'
Lon: 64° 52.372'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Wooden skiff, aground.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Substantial physical mangrove damage observed along entire vessel (dead trees, open canopy). Mangrove damage may have been caused by this vessel, at least in part, although unrelated hurricane damage also a possibility. Vessel could cause additional mangrove injury if moved during a storm.

1) Survey Information:

a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.

b) **GPS Location:**
Lat: 18° 19.027'
Lon: 64° 52.411'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass hull, submerged.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Physical damage to mangrove prop roots was observed. It is unlikely that the vessel would be re-mobilized during a storm, and therefore is unlikely to cause additional injury.

1) Survey Information:

a) **Date and location:** 28 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 18.994'
Lon: 64° 52.394'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass houseboat, aground, VI
12870-T.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Physical mangrove damage observed along port side of vessel (dead trees, open canopy), and vessel is tied to mangroves. Mangrove damage may have been caused by this vessel, at least in part, although storm damage also a possibility. Vessel could cause additional mangrove injury it moved during a storm.

1) Survey Information:

a) **Date and location:** 28 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 18.994'
Lon: 64° 52.399'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass houseboat, aground.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is in the mangroves, so damage is possible. Vessel could cause additional mangrove injury if it moved or broke up during a storm.

1) Survey Information:

a) **Date and location:** 28 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 19.009'
Lon: 64° 52.439'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Wooden fishing boat, aground.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Physical mangrove damage observed along port side of vessel (open canopy). Mangrove damage may have been caused by this and other vessels, although unrelated storm damage also a possibility. Vessel could cause additional mangrove injury if it moved or broke up during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.
- b) **GPS Location:**
Lat: 18° 19.009'
Lon: 64° 52.439'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass powerboat, mostly submerged.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

Unknown pollution hazard, possible navigation hazard.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae. Vessel is near mangroves, and could cause damage if it moved or broke up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 19.009'
Lon: 64° 52.439'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Large fiberglass powerboat, mostly submerged.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

Unknown pollution hazard, possible navigation hazard.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae. Vessel is near mangroves, and could cause damage if it moved or broke up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.

b) **GPS Location:**
Lat: 18° 19.014'
Lon: 64° 52.426'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Powerboat, mostly submerged.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

Unknown pollution hazard, possible navigation hazard.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

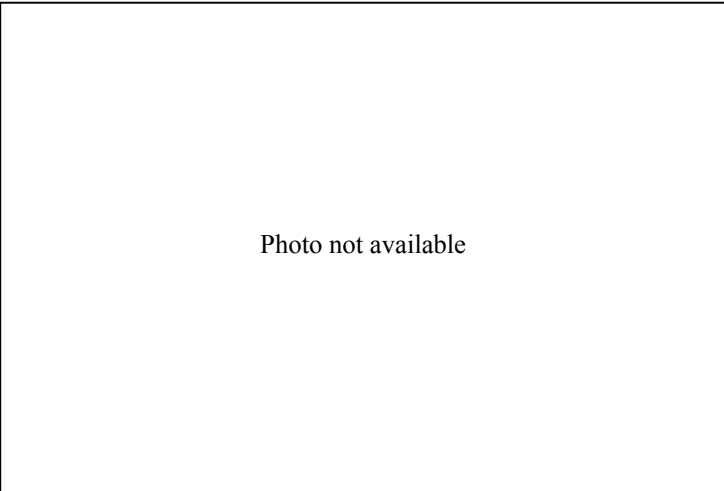
8) Potential Environmental Impacts:

Vessel is adjacent to prop roots, so damage to mangroves is possible. No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae. Injury to mangroves is possible if vessel moved or broke up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 19.027'
Lon: 64° 52.138'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Sunken vessel of unknown type, no photos.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

No pollution hazard, possible navigation hazard.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae. Injury to mangroves is possible if vessel moved or broke up during a major storm or hurricane.

1) Survey Information:

- a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.
- b) **GPS Location:**
Lat: 18° 18.991'
Lon: 64° 52.166'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Metal, partially submerged homemade work barge.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

No pollution hazard, but could be a navigation hazard.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae. Due to proximity, injury to mangroves is possible if vessel moved or broke up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 19.087'
Lon: 64° 52.076'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Refloated fiberglass sailboat.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae. Vessel is near mangroves, and could cause injury if it moved or broke up during a major storm or hurricane.

1) Survey Information:

a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.

b) **GPS Location:**
Lat: 18° 19.186'
Lon: 64° 52.044'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Fiberglass hull afloat with inverted boat inside.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

Slip/fall hazard.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is tied to mangroves, and could cause additional injury to mangroves if it moved or broke up during a major storm or hurricane. No benthic survey was done. The bottom is probably mud, with some possible seagrass or macroalgae.

1) Survey Information:

- a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.
- b) **GPS Location:**
Lat: 18° 19.186'
Lon: 64° 52.044'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Upright wooden hull with large hole.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud. Potential impacts are more likely to be to other vessels in the marina than to nearby habitats, although mangroves line the shoreline, and could be injured if the vessel moved during a large storm.

1) Survey Information:

- a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.
- b) **GPS Location:**
Lat: 18° 19.186'
Lon: 64° 52.044'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Inverted small vessel in marina.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud. Potential impacts are more likely to be to other vessels in the marina than to nearby habitats, although mangroves line the shoreline, and could be injured if the vessel moved during a large storm.

1) Survey Information:

- a) **Date and location:** 28 June 2002, Benner Bay, St. Thomas, USVI.
- b) **GPS Location:**
Lat: 18° 19.186'
Lon: 64° 52.044'



2) Grounding site logistics:

Benner Bay is a large marina and mooring area owned by the USVI territory.

3) Vessel Information:

Upright fishing vessel in marina.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

Unknown pollution threat, no navigation threat.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

No benthic survey was done. The bottom is probably mud. Potential impacts are more likely to be to other vessels in the marina than to nearby habitats, although mangroves line the shoreline, and could be injured if the vessel moved during a large storm.

1) Survey Information

- a) **Date and location:** 27 June 2002, Hassel Island, St. Thomas, USVI.
- b) **Weather and tide conditions at time of survey:** Clear, relatively calm, seas at 1 ft.
- c) **Team Members:** Zengel, Lord (RPI); Jeansonne (NOAA).
- d) **GPS Location:**
Lat: 18° 19.849'
Lon: 64° 56.014'
- e) **Inspection Narrative:**
Photographs were taken and an abbreviated vessel and benthic habitat survey was done.



2) Grounding site logistics

- a) **Adjacent land ownership:** National Park Service owns Hassel Island, but there are residential areas near the vessel that pre-date the park.
- b) **Any man-made structures that might be affected or obstruct removal:** Small concrete building, seawall.
- c) **Land-use:** Residential, workshop area for boats.
- d) **Points of access:** Access is by boat.
- e) **Sea conditions and exposure to wave energy at site:** Relatively sheltered, not much fetch.
- f) **Depth and nearby bathymetry:** The vessel is in the intertidal zone, but ~ 30 ft depths nearby.

3) Jurisdiction and land ownership

- a) **Is the vessel in or near a national marine sanctuary, national park, national seashore, or national monument?** Yes, National Park.
- b) **Is the vessel grounded on state property or state submerged lands?** Yes, DPNR merger submerged lands.

4) Vessel Information

- a) **Vessel name:** Unk320.
- b) **Vessel type:** Sailboat.
- c) **Construction materials:** Steel frame with wood planking.

- d) **Principle dimensions:** 82 ft x 16 ft.
- e) **Hull number, registration number and engine serial numbers:** None.
- f) **Fuel type and estimated tank capacity:** Unknown.
- g) **Commercial vs. pleasure craft:** Pleasure.
- h) **If a fishing vessel, the type of fishery and gear aboard:** N/A.
- i) **Nationality/flag state:** Unknown.
- j) **Homeport:** Unknown.
- k) **Builder, model (if any), and year of construction:** Unknown.
- l) **Vessel tonnage (over 100 gross tons?):** No.
- m) **Is the vessel "historic"?** No.

5) **Casualty information**

- a) **General status of vessel:** Aground
- b) **Nature of casualty:** Hurricane Marilyn.
- c) **What were the circumstances of the grounding or abandonment?** Hurricane.
- d) **Date of grounding/length of time the vessel has been "abandoned":** 1995.
- e) **General description of vessel damage:** Vessel is fairly intact, some deterioration.
- f) **Vessel Cargo:** Unknown.

6) **Potential pollution threats**

- a) **Is there fuel or hazmat onboard? Estimated quantities?** No.
- b) **Evidence of releases? Sheens?** No.
- c) **Evidence of illegal dumping?** No.
- d) **Condition of fuel tanks:** None.
- e) **Other equipment and supplies that may pose their own threats:** Unknown.
- f) **What new or continuing harm to natural resources might result by removing oil/hazardous substances but leaving the vessel?** None.

7) **Potential navigation threats**

- a) **Location of vessel relative to navigation channel(s):** Vessel is very nearshore.
- b) **Depth and visibility of the vessel:** N/A.
- c) **Is the vessel properly marked?** N/A.
- d) **Type of navigation in the area:** Varied.
- e) **Has the vessel moved over time? Might it move in the future?** No, could possibly mobilize during a hurricane.
- f) **Would other structures be endangered if the vessel were to shift or move?** No.

8) Potential Public Health

- a) **Public uses in the area:** Adjacent land tenant, area used as workshop, sailboat moorings in entrance to cove.
- b) **Evidence of people boarding the vessel?** Yes, ladder on it, easily accessible.
- c) **Entrapment or slip/fall hazards?** Yes, slip/fall hazard.

9) Prior Response/Salvage actions (if any/ if known)

- a) **Pollution response:** None.
- b) **Salvage efforts:** None.

10) Vessel Ownership (if known)

- a) **Owner Name/address:** Private owner left town shortly after grounding.
- b) **Insurance Agent and type of coverages:** Unknown.
- c) **What communications have occurred between owner/operator/insurer and state or federal government?** Unknown.
- d) **Contact names:** Klaus Willems ,USCG Aux; Torin Zielenski, USCG MSD, 340-776-3497.

11) Endangered Species and critical habitats

- a) **Is the site designated critical habitat for ESA-listed species?** No.
- b) **Is the vessel destroying critical habitat or could it if the vessel moved?** N/A.
- c) **Is there any evidence of entanglement or entrapment of fish/wildlife?** No.

12) Potential Environmental Impacts

- a) **Dimensions of vessel grounding footprint:** The area under and around the vessel devoid of seagrass is roughly 90 ft x 20 ft.
- b) **Dimensions of debris field:** The mast is lying almost perpendicular to the starboard side.
- c) **Primary Habitat(s):** Seagrass. Large patches of dense turtle grass surround the vessel scour along the stern and starboard sides of the vessel. A mixed seagrass and rubble patch occurs approximately 15 ft from the starboard side of the bow, and sparse grass occurs underneath and adjacent to the bow.
- d) **Secondary Habitat(s):** Mixed sand and gravel substrate. The vessel is aground roughly 10-15 ft from a seawall on mixed sand and gravel. There is some cobble and boulder sized gravel along the port side. The substrate within the vessel scour along the stern and starboard sides is coarse-grained sand and gravel, with some rubble near the bow.
- e) **Substrate:** The benthic substrate is mixed coarse-grained sand and gravel.
- f) **Damage Observations:** Seagrass density is lower adjacent to the vessel than further offshore. Additional damage to seagrass is possible if the vessel moved during a large storm or hurricane.

1) Survey Information:

a) **Date and location:** 29 June
2002, Benner Bay, St. Thomas,
USVI.

b) **GPS Location:**
Lat: 18° 19.787'
Lon: 64° 57.630'



2) Grounding site logistics:

Industrial and marina area possibly
on oil company property.

3) Vessel Information:

Multiple vessels tied together and
spread through area.

4) Casualty information:

Unknown, probably various, were not able to do full survey.

5) Pollution/Potential navigation threats:

Unknown pollution threat, possible navigation threat.

6) Potential Public Health Threats:

Slip fall/hazard and others.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

In an industrial, rather than a sensitive habitat area. No habitat surveys were done, but benthic substrate is probably mud, and shoreline vegetation is not mangroves.

1) Survey Information:

- a) **Date and location:** 27 June 2002, Careening Cove, Hassel Island, St. Thomas, USVI.
- b) **GPS Location:** Unknown.



2) Grounding site logistics:

Hassel Island is National Park Service owned, but residential area near vessel grounding pre-dates park.

3) Vessel Information:

Submerged fiberglass sailboat hull 34 ft x 11 ft, at ~ 20 ft deep, lots of debris near vessel.

4) Casualty information:

Unknown.

5) Pollution/Potential navigation threats:

None.

6) Potential Public Health Threats:

None.

7) Prior Response/Salvage actions (if any/ if known):

Unknown.

8) Potential Environmental Impacts:

Vessel is located on fine-grained sand bottom. A large debris field surrounds the vessel. Nearby habitat is dense turtle grass and infaunal burrows.