

Surveys of Abandoned Vessels: American Samoa



**SURVEYS OF ABANDONED VESSELS:
AMERICAN SAMOA**

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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 vessel issues 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 and the NOAA Marine Debris Program work on entanglement hazards and debris removal from vessels. However, with the exception of vessels grounded in National Marine Sanctuaries or Monuments, 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. 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. 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 implemented the Abandoned Vessel Program (AVP) to investigate the problems posed by abandoned and derelict vessels on U.S. coral reef habitats. This effort has a number of elements:

- 1) Understanding the scope of the issue. NOAA's efforts in this element are well established and include: development of an extensive database of abandoned vessels in U.S. waters and holding workshops with local stakeholders to help them identify local management challenges. These workshops also assist NOAA in understanding local differences regarding vessel issues. To develop new data and to ground truth information in the database, surveys were conducted in the Caribbean in 2002 (103

vessels surveyed in Puerto Rico and the U.S. Virgin Islands) and in the Pacific in 2003 (73 vessels surveyed in Guam and the Northern Mariana Islands).

- 2) Removal assistance for local governments. The AVP has limited funding and the majority of the support has been in the form of technical assistance, but NOAA, through Coral Conservation and Marine Debris programs, has been able to provide some financial support. NOAA has also provided legal assistance and salvage and wreck removal guidance on a limited basis. The AVP also assists with planning and funding of specific vessel removals on a small scale, including a wreck removal feasibility study in American Samoa that will be discussed in detail in this report. An example of a successful removal case study involves the *Nago. No. 15*, a vessel that was surveyed by the AVP in 2003 in Saipan and was declared a high priority for removal. Typhoons in 2004 caused further damage to seagrass beds in the vicinity of the grounded vessel. Removal was complete by 2006 at a cost of nearly \$50,000. The #62 *Nam Sung*, grounded on Sasanlago-Tatqua beach, Rota, was also removed.
- 3) General education. The educational element of the AVP includes general presentations on the issue to coastal managers and practitioners across the country. In 2005, the AVP conducted a week-long training course for Guam and CNMI on vessel inspection and prevention of abandonment of derelict vessels. The AVP also sponsored a session at the 2007 Coastal Zone Management Conference on this issue and hopes to continue outreach efforts to prevent groundings and derelict vessels.

A primary vehicle for both the removal assistance and education elements is the Abandoned Vessel Program website: <http://response.restoration.noaa.gov/dac/vessels/>. Information on the wreck removal feasibility study in Samoa can be found at: http://marinedebris.noaa.gov/projects/amsamoa_vessels.html.

American Samoa

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.

In April 2005, the NOAA AVP monitored the recovery of the wreck removal sites in Pago Pago harbor. These wrecks were visited again in 2008. The AVP also surveyed other known and reported wrecks in American Samoa and met with local officials to better understand their priorities. Two of the surveyed vessels, the F/V *Jui Man #3* on Tutuila Island and the F/V *Young Kwan* on Aunu'u Island are both local sources of marine debris and are local priorities for wreck removal. These and 3-5 additional vessels (the exact number was unknown based on

debris that may have belonged to one or more vessels) surveyed during the 2005 and 2008 trips are summarized below.

DATABASE REVIEW

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 of the database began in August 2001, and information is regularly being added and refined. While the database focuses on regions of the U.S. with coral, not all of the vessels are aground on coral or associated habitats.

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 the 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. During the 2005 survey effort, the AVP met with local officials in American Samoa for further details on the vessels listed.

Prior to the survey there were twenty-nine vessel records in the database located in American Samoa. Nine vessels were listed as present in Pago Pago Harbor, 6 vessels on Aunu'u Island, 2 vessels on Tau Island, and there were no coordinates for the remaining 12 vessels. Table 1 highlights vessels for which there was information available.

TABLE 1. American Samoa Abandoned Vessel Database Summary.

Vessel Name	Location	Condition	Removal Candidate	Comments
KOORALE	Pago Pago Harbor	Operational	Possibly	Longliner; not a navigation or pollution hazard; no reef impact
TATOSO	Pago Pago Harbor	Operational	Possibly	Conflicting info: tugboat; not a navigation or pollution hazard; no reef impact in 20-25' water; or may have sank in 1995 but recovered
SEA GEM	Pago Pago Harbor	Removed?	N/A	Possibly removed during longliner project
UNKNOWN 1270	Pago Pago Harbor	Broken up	None	Not much left of broken hull on reef; removal may do more harm than good
MICHAEL D	Pago Pago Harbor	Operational		May be grounded; may be sunken cannery disposal vessel
FONG KUO NO. 16	Pago Pago Harbor	Operational	N/A	

TABLE 1. Cont.

Vessel Name	Location	Condition	Removal Candidate	Comments
UNNAMED (AS439CF)	Pago Pago Harbor	Operational		Sank in 1997 but was recovered
MISIMOA	Pago Pago Harbor	Unknown		This may be sunken cannery vessel instead of Michael D
JUI MAN NO. 3	Aunu'u Area	Intact/ fully exposed	Yes	Exposed on beach/rocks; vessel is deteriorating and potentially harmful to the reef
YIH LIEN NO. 3	Aunu'u Area	Operational?		Grounded in 1999 but now operational
UNKNOWN 1260	Aunu'u Area	Broken up	No	Exposed hull pieces on sand/rock/coral; not a navigation or pollution hazard; difficult removal
TALIMAN'O	Tau	Operational		Went aground in 1994, back in operation
MANU'ATELE III	Tau	Operational		
USS CHEHALIS	Tutuila	Intact		WWII wreck; US Navy and USCG engaged in dialogue regarding clean up
JIN SHIANG FA	Rose Atoll	Broke up and sank		Grounded on Rose Atoll in 1993; extensive surveys followed
9 Longliners	Pago Pago	Removed		Removed in 1999
PRISCIALLMM	No coordinates			Pleasure craft

In Pago Pago Harbor, the *Koorale* (longliner), *Fong Kuo No. 16*, the *Sea Gem*, and Unnamed (AS439CF) are all presumed to be intact and operational. There was conflicting information on the *Michael D* and the *Tatoso*. One source claimed that both vessels were operational. Another thought that the *Michael D* was a cannery disposal vessel and was sunk with a buoy marker on it, and the *Tatoso* was sunk in 20-25' of water and is visible. Another source suggested that the *Misimoa* was the sunken cannery vessel. Unknown 1270 is broken up on the reef.

On Tutuila Island, the *Jui Man No. 3* is intact and fully exposed, therefore a removal candidate. The F/V *Young Kwan* on Aunu'u Island is broken apart and debris is spread along more than a kilometer of shoreline. This vessel may be a duplicate record in the database. Unknown 1260 is also broken up in a high energy surf zone. The *Yih Lien No. 3* grounded in 1999 but is now operational. The two vessels on Tau Island are both likely operational.

Of the vessels in the database with “no coordinates”, 9 were removed in 1999 as part of the longliner project. The *USS Chehalis* was a small tanker that sank shortly after the end of

WWII. Recent surveys show the vessel still intact on the bottom off of the fuel dock in Tutuila. This vessel is believed to be the source of periodic oil sheens in Pago Pago harbor, and the U.S. Navy and the U.S. Coast Guard are reportedly engaged in a dialogue about cleanup options. Other vessels in the database include the fishing vessel *Jin Shiang Fa*. This vessel grounded and broke apart at Rose Atoll in 1993, spilling over 100,000 gallons of diesel fuel. This incident was the subject of extensive surveys and wreck removal efforts. The twelfth vessel with no coordinates is a pleasure craft.

VESSEL SURVEYS

Five vessels were located and surveyed on the 2005 trip (Figure 1 depicts locations of 4 of the surveyed vessels). These vessels are summarized below and described in the following pages. Several of the vessels surveyed in American Samoa broke apart and created extensive debris fields. This process was also noted in AVP surveys of vessels in the Caribbean and elsewhere in the Pacific. While vessels that are abandoned in port areas may stay essentially intact for years, vessels grounded and left exposed to high-energy environments rapidly break up into many pieces, creating large and potentially mobile debris fields. These vessels and debris pose an increased threat to coral and hardbottom habitats because the vessel fragments can roll across the bottom breaking corals, crushing benthic organisms, filling in gaps and generally reducing the structural complexity of the environment. Corals may recruit on this debris but periodic storms will roll the wreckage and shear-off the corals. This scattered wreckage also presents unique removal challenges since locating and removing all of the pieces requires increased man-hours and additional salvage equipment. In addition, marine debris is an eyesore and may be a public health threat. This problem was noted on Aunu'u Island where large fragments and spikes of jagged metal were observed protruding from the reef flats. Local residents expressed concern regarding use of the area because of the sharp metal.

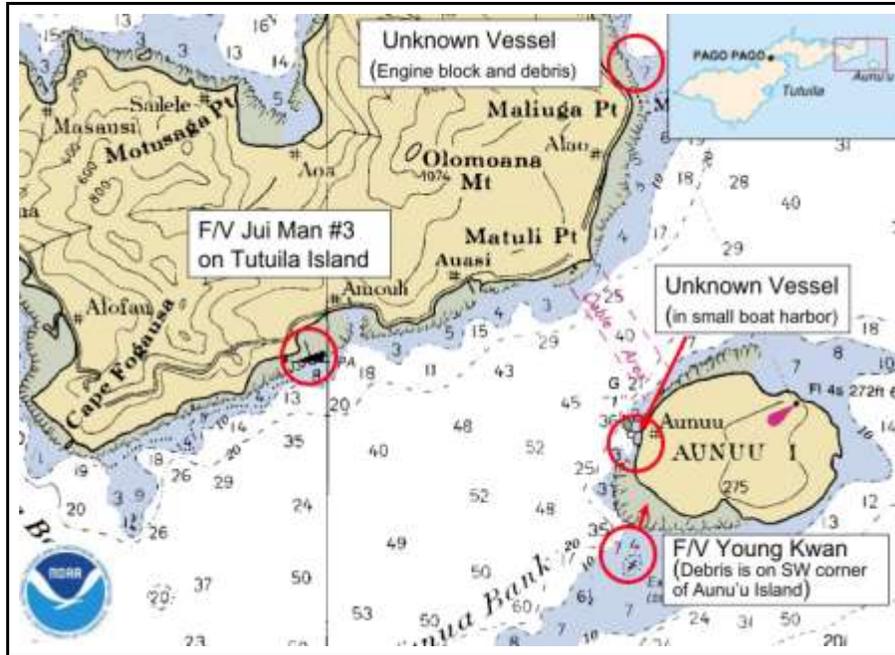


FIGURE 1. Location of four vessels surveyed in 2005.

Unknown 1270, a vessel grounded in the 1960s, was located at Niuloa Point on Tutuila (Figure 2). The vessel was present at 1-10 feet of depth on a wide reef flat and debris was widely spread (Figures 3 and 4). The reef was heavily used by residents for subsistence (invertebrates were abundant) and recreation.

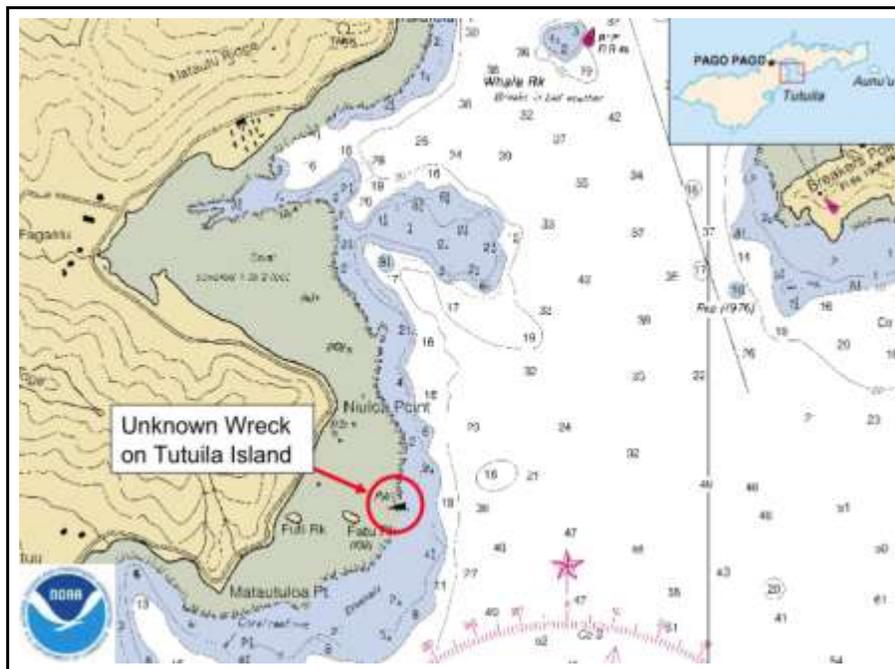


FIGURE 2. Location of Unknown 1270 on Tutuila Island.



FIGURE 3. Historic NGS photo from 1971 showing Unknown 1270 intact.



FIGURE 4. February 2008 photo of wreckage from Unknown 1270.

Yien Len 3 was located at Alao on Tutuila Island (Figure 5). The vessel is grounded between 1-10 feet in depth and may be a public health hazard to recreational beach users because there is a large engine block within 20 m of shore (Figures 6 and 7).

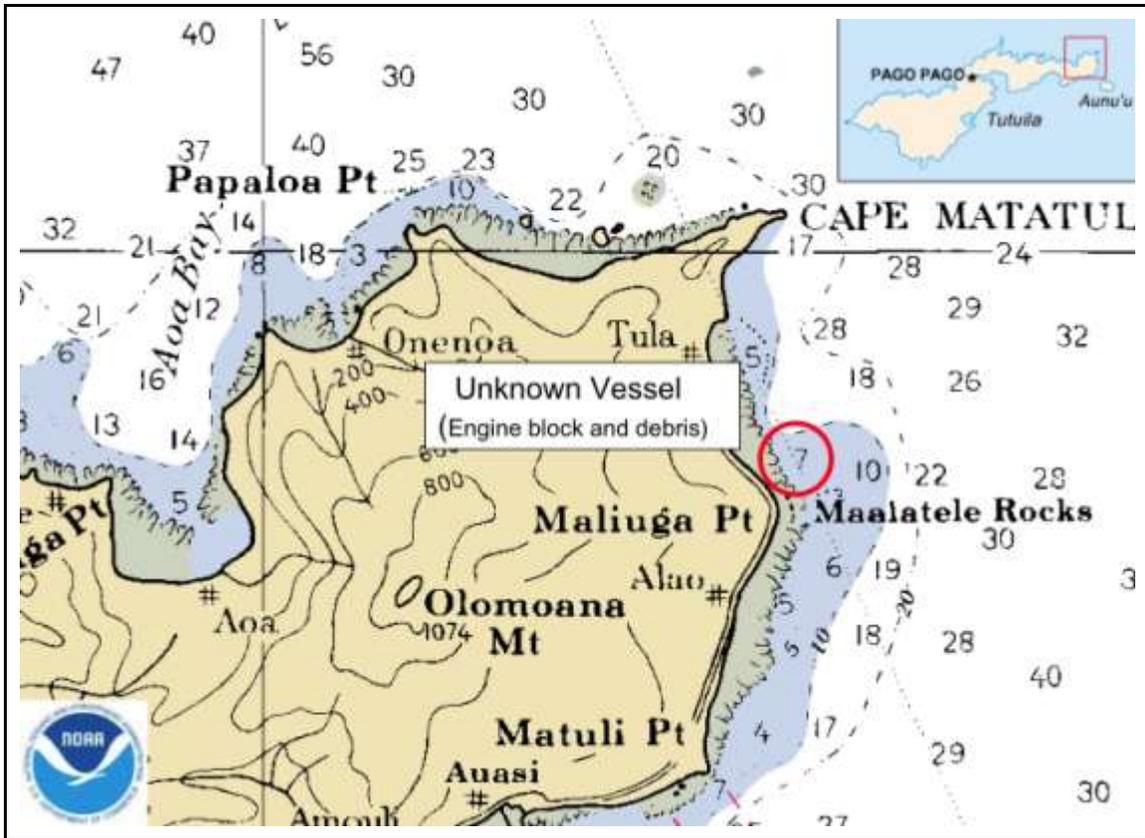


FIGURE 5. Location of engine block and debris (*Yien Len 3*) on Tutuila Island.



FIGURE 6. April 2005 photo of *Yien Len 3* engine block.

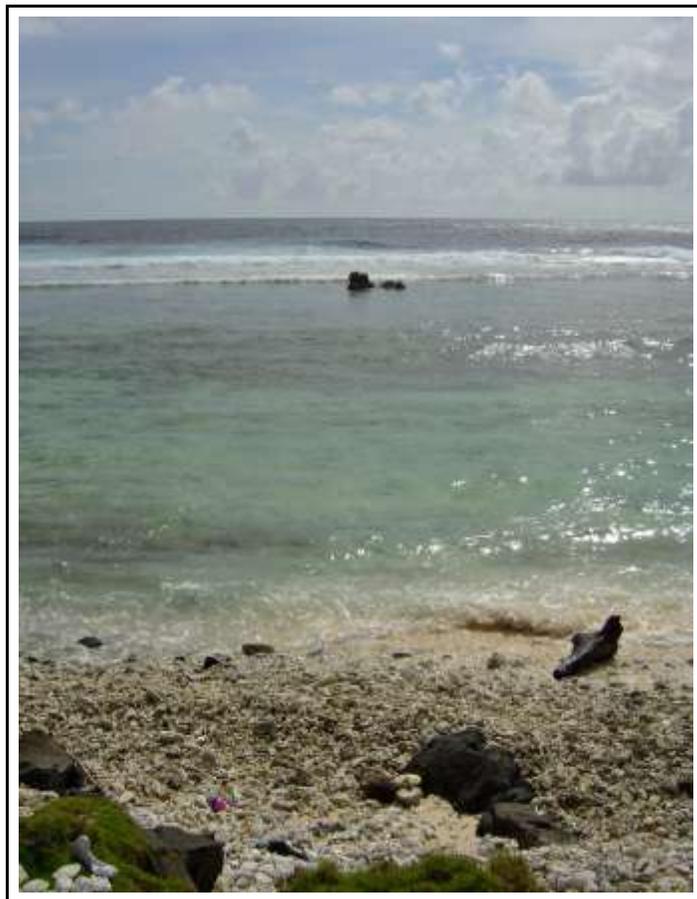


FIGURE 7. *Yien Len 3* engine block view from shore.

Jui Man No. 3 was located at Amouli on Tutuila Island. It was a longliner likely grounded in the 1960s and is located on narrow reef flat adjacent to an exposed rocky shore (Figure 8). The vessel is visible and accessible (Figure 9). The position and state of the vessel observed during the 2008 visit was comparable to the 2005 survey (Figures 10 and 11). Hard corals were observed on the reef flat.



FIGURE 8. April 2005 photo of *Jui Man No. 3* from shore.



FIGURE 9. Deck of *Jui Man No. 3*.

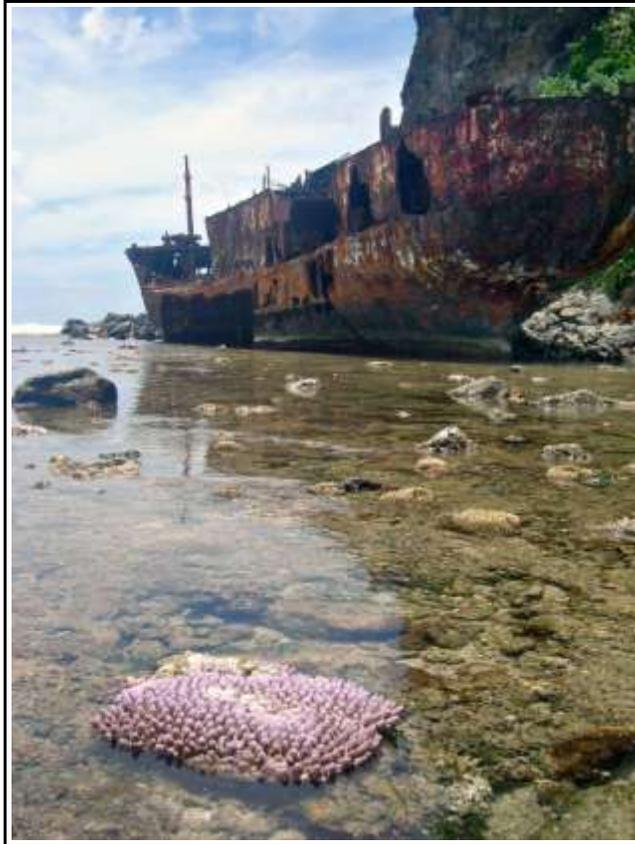


FIGURE 10. February 2008 photo of *Jui Man No. 3* and reef.



FIGURE 11. February 2008 status of *Jui Man No. 3*.

A small passenger vessel was located in 20 feet of water in the Aunu'u Harbor (Figure 12). It is a possible threat to the anchorage/small boat harbor (Figure 13).



FIGURE 12. April 2005 survey of Aunu'u harbor.

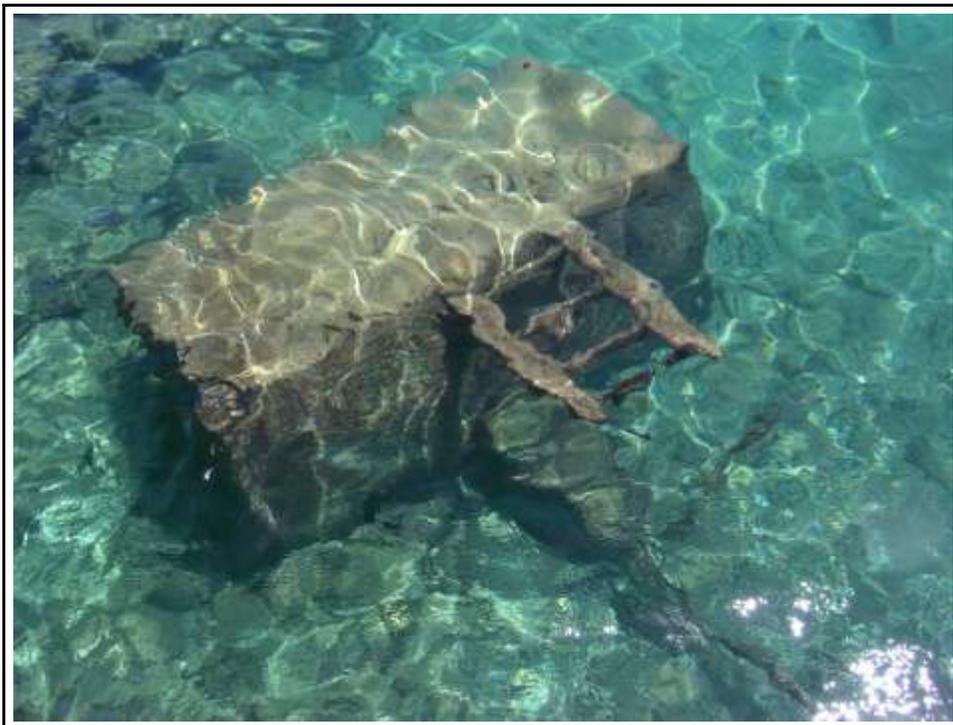


FIGURE 13. Debris in Aunu'u Harbor.

Along the west shore of Aunu'u there is a large debris field, believed to be from the wreck of the F/V *Young Kwan* that grounded in 1986 (Figure 14). Local residents recalled the vessel breaking apart during Typhoon Val in 1991. Debris stretches from the supratidal to the subtidal along over a kilometer of shoreline (Figure 15). The benthic habitat consisted of soft and coralline algae and some hard coral which may be threatened by mobile debris pieces (Figure 16). The vessel is located on a public beach and children were observed playing on the wreckage (Figure 17). February 2008 surveys showed the debris in a further deteriorated condition (Figures 18 and 19).

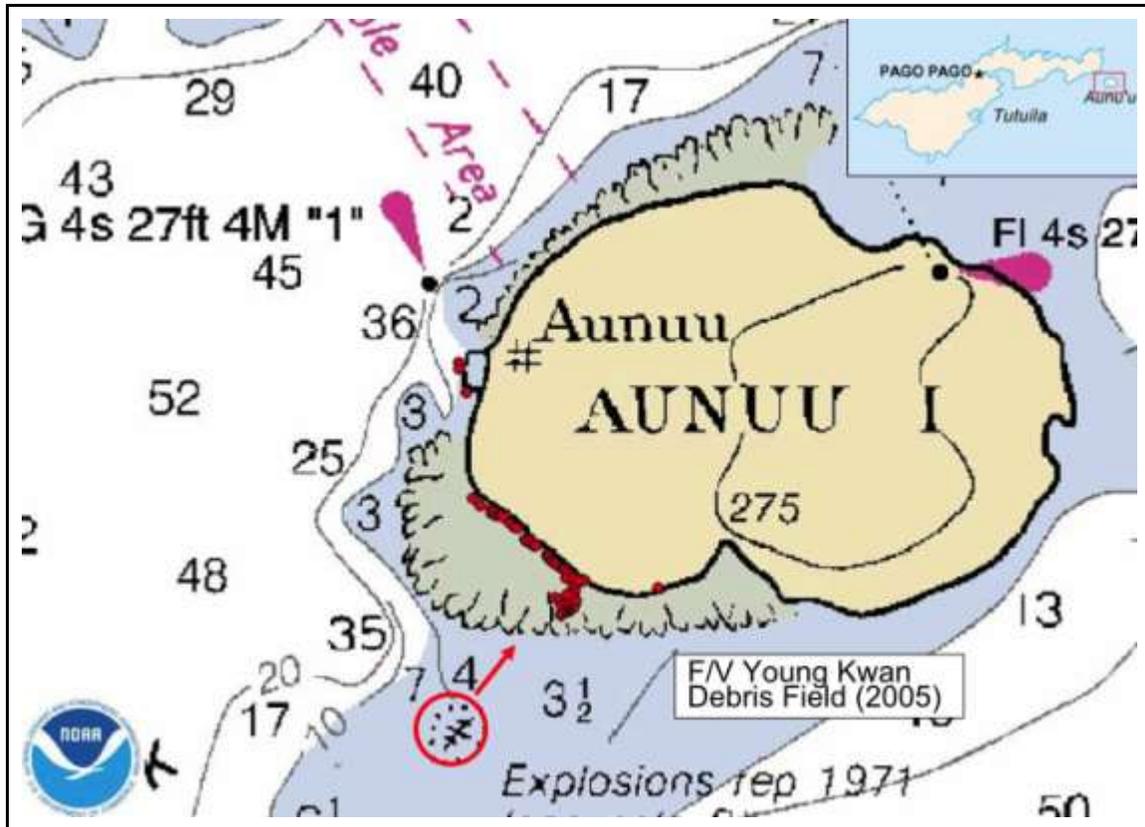


FIGURE 14. Location map of F/V *Young Kwan* debris field on Aunu'u Island.



FIGURE 15. April 2005 photo of F/V *Young Kwan* debris field.



FIGURE 16. F/V *Young Kwan* debris on beach during 2005 survey.



FIGURE 17. Children playing on F/V *Young Kwan* debris.



FIGURE 18. February 2008 photo of debris field; note further decay of large pieces.



FIGURE 19. February 2008 photo of *F/V Young Kwan* debris.

SUMMARY OF FINDINGS

Findings from surveys elsewhere in the Pacific (Guam and CNMI) and in the Caribbean resulted in the emergence of five main themes or issues in regards to vessel abandonment in U.S. territories (176 vessels were surveyed in 2002 and 2003 on 11 islands). These were: 1) vessels that were a high removal priority for local agencies; 2) vessels with historical significance; 3) clusters of wrecked vessels; 4) derelict vessels still afloat; and 5) vessels with large impacts and logistically complex removals (e.g., debris fields extending large distances). Since such a small number of vessels were surveyed in American Samoa, only two of these themes were relevant for this territory, and those were vessels that are a high removal priority (e.g., *F/V Jui Man #3* on Tutuila Island and *F/V Young Kwan* on Aunu'u Island) and vessels that have logistically complex removals (e.g., Unknown 1270 on Tutuila and *F/V Young Kwan*). Removal of Unknown 1270 may cause more harm than good to the reef, but the *Young Kwan* may be a good candidate for removal.

The two vessels of primary interest are continuing to deteriorate and scatter debris along the nearshore zone. The presence of the debris is harming corals and limiting human uses of the reef areas because of sharp metal in the intertidal and nearshore subtidal areas. As a follow up to this field survey, the AVP is proposing to develop ready-to-implement wreck removal plans for these vessels. The eventual removal of these wrecks will directly benefit NOAA trust resources.

APPENDIX A
FIELD SURVEYS

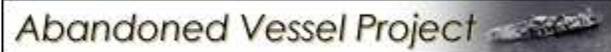
Unk1270
Engine Block/Yien Len 3
Jui Man 3
Aunu'u Harbor
F/V Young Kwan

VESSEL NAME: Unknown

Registration #:

<p>1. <u>Survey Information</u> Date: 4/9/2005 General location: <i>Niuloa Point, AS</i></p> <p>GPS Coordinates: <i>Wpt 52-85 plus bow, hatch, portions of house, hull</i></p> <p>GPS Datum: <input type="checkbox"/> <u>WGS 84</u></p> <p>Surveyor: <i>Helton, Zelo, Kolinski</i></p> <p>2. <u>Grounding Site Information</u> <input type="checkbox"/> <u>Near shore</u> <input type="checkbox"/> <u>Onshore</u> <input type="checkbox"/> <u>Road Access</u> <input type="checkbox"/> Protected Area Wave Exposure H / M / L Comments: <i>Site is a wide reef flat near the entrance to Pago Pago harbor. Wave energy was low at the time of survey but the site is exposed and likely swept by large waves during storm events. Debris field stretched from Niuloa Point across the flat all the way to Fatu Rock. There were MANY pieces of debris. We GPS'd many but not all the pieces to get a sense of scale for the debris field.</i></p> <p>3. <u>Vessel Information</u> Incident Date: Cause of Incident: Vessel Condition: Pieces Length/Beam: N/A Hull Material: steel Type / Use: General / Ownership / Registry Comments: <i>Wreck occurred in the 1960's. Historic NGS photo from 1971 shows vessel intact. Debris ranged in size from small pieces of steel (a couple kgs) to sections of hull measuring 10 meters or more. There are many sharp pieces of debris in tidepools and protruding from the reef flat that can trip up shoreline users.</i></p>	<p>4. <u>Public Safety</u> <input type="checkbox"/> <u>Slip-Fall Hazard</u> <input type="checkbox"/> Entrapment Hazard <input type="checkbox"/> Fishing Gear on Board <input type="checkbox"/> Evidence of Public Boarding Public Use of Surrounding Area: <i>The debris is strewn across a heavily used reef flat. There were many people on the flat fishing and subsistence gathering. There were also many people out on the reef for recreation.</i></p> <p>5. <u>Pollution/Navigation Threats</u> <input type="checkbox"/> Near Channel <input type="checkbox"/> Near Mooring Area <input type="checkbox"/> Properly Marked <input type="checkbox"/> Hazmat / Fuel On Board <input type="checkbox"/> Fully Submerged Depth: 0 <u>1-10'</u> 10-20' 20-30' Other _____ Comments: <i>No pollution or navigation threats. No intact fuel tanks</i></p> <p>6. <u>Environment</u> Habitats: Live coral cover H / M / L Seagrass cover: H / M / L <input type="checkbox"/> Mangroves <input type="checkbox"/> <u>Bare sediment</u> <input type="checkbox"/> <u>Hardbottom</u> <input type="checkbox"/> <u>Tidal Flat</u> <input type="checkbox"/> <u>Macroalgae</u> <input type="checkbox"/> <u>Beach</u> Other: <i>Lots of coral pavement, many invertebrates. Not sure about over the reef crest. There easily could be a healthy coral community past the break that would be threatened by debris mobilized during storm events.</i></p> <p>Bottom Type: <input type="checkbox"/> Rock <input type="checkbox"/> Gravel/Rubble <input type="checkbox"/> Sand <input type="checkbox"/> Mud Other: Comments on Impacts:</p>	<p>7. <u>Prior Response/Salvage Actions (if any/ if known)</u></p> <p><u>Images:</u> if possible we try to collect images of all vessel / incidents that we enter into our database. Shots of both the vessel and the surrounding area are helpful.</p> <p>For questions or comments or to return this form please contact:</p> <p>Doug Helton or Ian Zelo 206-526-4563 FX: 206-526-6665 Doug.Helton@noaa.gov 7600 Sand Point Way NE Seattle, WA 98115</p> <p>Jim Jeansonne 727-570-5714 FX: 727-570-5390 Jim.Jeansonne@noaa.gov 9721 Executive Ctr. Dr. N. St. Petersburg, FL 33702</p> 
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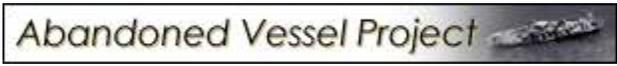
VESSEL NAME: Engine Block - maybe Yien Len 3



Registration #:

<p>1. <u>Survey Information</u> Date: 4/10/2005 0950 General location: Alao, AS</p> <p>GPS Coordinates: <i>Wpt Engine: -14.2578, -170.5610</i></p> <p>GPS Datum: <input type="checkbox"/> <u>WGS 84</u></p> <p>Surveyor: <i>Helton, Zelo, Kolinski</i></p> <p>2. <u>Grounding Site Information</u> <input type="checkbox"/> <u>Near shore</u> <input type="checkbox"/> Onshore <input type="checkbox"/> <u>Road Access</u> <input type="checkbox"/> Protected Area Wave Exposure <u>H</u>/ M / L Comments: <i>In the nearshore off a long sandy local beach. We did not get to survey the habitat around the debris. We were surveying on a Sunday which limited what we were allowed to do without offending residents.</i></p> <p>3. <u>Vessel Information</u> Incident Date: Cause of Incident: Vessel Condition: Length/Beam: Hull Material: Type / Use: <i>General / Ownership / Registry</i> Comments: <i>Not much known here. The debris is a large engine block sitting about 20m from shore in the shallow subtidal.</i></p> <p>4. <u>Public Safety</u> <input type="checkbox"/> <u>Slip-Fall Hazard</u> <input type="checkbox"/> Entrapment Hazard <input type="checkbox"/> Fishing Gear on Board <input type="checkbox"/> Evidence of Public Boarding <u>Public Use of Surrounding Area:</u> <i>The beach is one that the locals use recreationally and the block is close enough to wade to easily. It could pose a threat to shoreline users or fisherman on the reef from sharp metal.</i></p>	<p>5. <u>Pollution/Navigation Threats</u> <input type="checkbox"/> Near Channel <input type="checkbox"/> Near Mooring Area <input type="checkbox"/> Properly Marked <input type="checkbox"/> Hazmat / Fuel On Board <input type="checkbox"/> Fully Submerged Depth: 0 <u>1-10'</u> 10-20' 20-30' Other _____ Comments: <i>No pollution or navigation threat.</i></p> <p>6. <u>Environment</u> Habitats: Live coral cover H / M / L Seagrass cover: H / M / L <input type="checkbox"/> Mangroves <input type="checkbox"/> Bare sediment <input type="checkbox"/> Hardbottom <input type="checkbox"/> Tidal Flat <input type="checkbox"/> Macroalgae <input type="checkbox"/> Beach Other:</p> <p>7. Bottom Type: <input type="checkbox"/> Rock <input type="checkbox"/> Gravel/Rubble <input type="checkbox"/> <u>Sand</u> <input type="checkbox"/> Mud Other: <i>We did not survey. The bottom is probably similar to other areas like this that we did survey. Some sand, some hard bottom, some coral cover.</i></p> <p>Comments on Impacts:</p> <p>8. <u>Prior Response/Salvage Actions (if any/ if known)</u></p>	<p><u>Images:</u> if possible we try to collect images of all vessel / incidents that we enter into our database. Shots of both the vessel and the surrounding area are helpful.</p> <p>For questions or comments or to return this form please contact:</p> <p>Doug Helton or Ian Zelo 206-526-4563 FX: 206-526-6665 Doug.Helton@noaa.gov 7600 Sand Point Way NE Seattle, WA 98115</p> <p>Jim Jeansonne 727-570-5714 FX: 727-570-5390 Jim.Jeansonne@noaa.gov 9721 Executive Ctr. Dr. N. St. Petersburg, FL 33702</p> 
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VESSEL NAME: Jui Man 3



Registration #:

<p>1. <u>Survey Information</u> Date: 4/10/05 General location: Amouli, AS GPS Coordinates: <i>Bow – Wpt BW -14.2786, -170.5910</i> <i>Stern – Wpt ST-14.2786, -170.5900</i> GPS Datum: <input type="checkbox"/> <u>WGS 84</u></p> <p>Surveyor: <i>Helton, Zelo, Kolinski</i></p> <p>2. <u>Grounding Site Information</u> <input type="checkbox"/> Near shore <input type="checkbox"/> <u>Onshore</u> <input type="checkbox"/> <u>Road Access</u> <input type="checkbox"/> Protected Area Wave Exposure <u>H</u>/ M / L Comments: <i>Vessel grounded parallel to shore in upper intertidal/supratidal. Vessel is adjacent to roadway. Access requires scrambling down rocks, with potential slip hazard. High energy location. Waves were surging through and around vessel with breakers just offshore.</i></p> <p>3. <u>Vessel Information</u> Incident Date: Cause of Incident: Vessel Condition: poor, rusted, deteriorating Length/Beam:30m/? Hull Material: steel Type / Use: longliner General / Ownership / Registry Comments: <i>Vessel has clearly been in location for a long time. The hull is rusted through and fully tidal. Incident probably occurred in the 1960's. Wooden deck in questionable condition. Wheel house is gone. No evidence of intact tanks and vessel is believed to be free of oil.</i></p> <p>4. <u>Public Safety</u> <input type="checkbox"/> <u>Slip-Fall Hazard</u> <input type="checkbox"/> <u>Entrapment Hazard</u> <input type="checkbox"/> Fishing Gear on Board – Unk probably not though <input checked="" type="checkbox"/> <u>Evidence of Public Boarding</u></p>	<p>Public Use of Surrounding Area: <i>Did not see evidence of public boarding but access to the vessel is very easy and vessel is very visible and potentially an attractive nuisance . Vessel is very near a long sandy beach that supports public or village access. The immediate area is heavy rock / riprap that protects the road.</i></p> <p>5. <u>Pollution/Navigation Threats</u> <input checked="" type="checkbox"/> <u>Near Channel</u> <input checked="" type="checkbox"/> <u>Near Mooring Area</u> <input type="checkbox"/> Properly Marked <input checked="" type="checkbox"/> <u>Hazmat / Fuel On Board</u> <input checked="" type="checkbox"/> <u>Fully Submerged</u> Depth: <u>0</u> 1-10' 10-20' 20-30' Other _____ Comments: <i>No navigation threat. Very unlikely that there is any remaining pollution threat. Removal of the vessel might be feasible from roadway, but would block main road to the area.</i></p> <p>6. <u>Environment</u> Habitats: Live coral cover H / M / L Seagrass cover: H / M / L <input checked="" type="checkbox"/> <u>Mangroves</u> <input type="checkbox"/> Bare sediment <input type="checkbox"/> Hardbottom <input checked="" type="checkbox"/> <u>Tidal Flat</u> <input type="checkbox"/> Macroalgae <input type="checkbox"/> Beach Other: <i>The vessel sits on a narrow reef flat. It is likely that there are corals on flat and close offshore. High wave energy did not allow access to conduct an U/W survey but maps show corals in the bay and coral rubble along shoreline was extensive. As pieces of the vessel break off they may crush or roll over these habitats. The scrap steel would slowly be transported to the head of the bay during storm events and pose a risk to shoreline users. Note: during a February 2008 resurvey of the area, it was confirmed that there is valuable reef habitat seaward of the wreck.</i></p>	<p>7. Bottom Type: <input type="checkbox"/> <u>Rock</u> <input type="checkbox"/> <u>Gravel/Rubble</u> <input type="checkbox"/> Sand <input type="checkbox"/> Mud Other: Comments on Impacts:</p> <p>8. <u>Prior Response/Salvage Actions (if any/ if known)</u></p> <p><u>Images</u>: if possible we try to collect images of all vessel / incidents that we enter into our database. Shots of both the vessel and the surrounding area are helpful.</p> <p>For questions or comments or to return this form please contact:</p> <p>Doug Helton or Ian Zelo 206-526-4563 FX: 206-526-6665 Doug.Helton@noaa.gov 7600 Sand Point Way NE Seattle, WA 98115</p> <p>Jim Jeansonne 727-570-5714 FX: 727-570-5390 Jim.Jeansonne@noaa.gov 9721 Executive Ctr. Dr. N. St. Petersburg, FL 33702</p> 
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VESSEL NAME: Aunuu Harbor

Abandoned Vessel Project 

Registration #:

<p>1. <u>Survey Information</u> Date: 4/11/06 General location: Aunuu Harbor GPS Coordinates: <i>Wpt 152 -14.2828, -170.5610</i> <i>Wpt 153 -14.2829, -170.5610</i></p> <p>GPS Datum: <input type="checkbox"/> <u>WGS 84</u></p> <p>Surveyor: <i>Helton, Zelo, Kolinski</i></p> <p>2. <u>Grounding Site Information</u> <input type="checkbox"/> <u>Near shore</u> <input type="checkbox"/> Onshore <input type="checkbox"/> <u>Road Access</u> <input type="checkbox"/> Protected Area Wave Exposure H / M / <u>L</u> <i>Comments:</i> <i>The vessel is located in the small boat basin on Aunu'u Island. The vessel is marked by private buoys. The passenger ferry from the main island is shallow draft and appears to have room to operate safely. The basin is heavily armored with large concrete blocks and is not a high value for natural resources</i></p> <p>3. <u>Vessel Information</u> Incident Date:? Cause of Incident:? Vessel Condition: hull intact Length/Beam:? Hull Material:? Type / Use: <i>General / Ownership / Registry</i> <i>Comments:</i> <i>Vessel upside down and on the bottom in the middle of the harbor area.</i></p> <p>4. <u>Public Safety</u> <input checked="" type="checkbox"/> Slip Fall Hazard <input checked="" type="checkbox"/> Entrapment Hazard <input checked="" type="checkbox"/> Fishing Gear on Board <input checked="" type="checkbox"/> Evidence of Public Boarding Public Use of Surrounding Area: <i>Public harbor / anchorage, possible hazard for larger vessels</i></p>	<p>5. <u>Pollution/Navigation Threats</u> <input type="checkbox"/> <u>Near Channel</u> <input type="checkbox"/> <u>Near Mooring Area</u> <input type="checkbox"/> Properly Marked - NO <input type="checkbox"/> Hazmat / Fuel On Board ?? <input type="checkbox"/> <u>Fully Submerged</u> Depth: 0 1-10' <u>10-20'</u> 20-30' Other _____</p> <p><i>Comments:</i> <i>Vessel is in 20' of water. There is about 15' of water over the keel. The vessel is in the middle of the small harbor which serves as a small anchorage, the local doc (for ferry in addition to other vessels) and there is a boat ramp here as well.</i></p> <p>6. <u>Environment</u> Habitats: Live coral cover H / M / <u>L</u> Seagrass cover: H / M / L <input type="checkbox"/> Mangroves <input type="checkbox"/> Bare sediment <input type="checkbox"/> Hardbottom <input type="checkbox"/> Tidal Flat <input type="checkbox"/> Macroalgae <input type="checkbox"/> Beach Other: <i>There was a small coral head on the vessel itself, but little natural habitat.</i></p> <p>Bottom Type: <input type="checkbox"/> <u>Rock</u> <input type="checkbox"/> <u>Gravel/Rubble</u> <input type="checkbox"/> <u>Sand</u> <input checked="" type="checkbox"/> Mud Other:</p> <p><i>Comments on Impacts:</i> <i>Vessel probably more of a threat to the anchorage than to navigation. It is unlikely that a vessel with a draft deep enough to hit this wreck would enter such a small harbor.</i></p> <p>7. <u>Prior Response/Salvage Actions (if any/ if known)</u></p> <p><u>Images:</u> if possible we try to collect images of all vessel / incidents that we</p>	<p>enter into our database. Shots of both the vessel and the surrounding area are helpful.</p> <p>For questions or comments or to return this form please contact:</p> <p>Doug Helton or Ian Zelo 206-526-4563 FX: 206-526-6665 Doug.Helton@noaa.gov 7600 Sand Point Way NE Seattle, WA 98115</p> <p>Jim Jeansonne 727-570-5714 FX: 727-570-5390 Jim.Jeansonne@noaa.gov 9721 Executive Ctr. Dr. N. St. Petersburg, FL 33702</p> 
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VESSEL NAME: F/V Young Kwan

Abandoned Vessel Project 

Registration #:

<p>1. <u>Survey Information</u> Date: 4/11/06 General location: Aunu'u west shore</p> <p>GPS Coordinates: <i>Collected debris field waypoints 105 - 169</i></p> <p>GPS Datum: <input type="checkbox"/> <u>WGS 84</u></p> <p>Surveyor: <i>Helton, Zelo, Kolinski</i></p> <p>2. <u>Grounding Site Information</u> <input type="checkbox"/> <u>Near shore</u> <input type="checkbox"/> <u>Onshore</u> <input type="checkbox"/> <u>Road Access</u> <input type="checkbox"/> Protected Area Wave Exposure <u>H</u> / M / L Comments: <i>Large debris field that stretches from the supratidal to subtidal that is believed to be the wreckage of the F/V Young Kwan. Gravel and cobble beach with some sand patches. Beach only about 10m across backed by a narrow band of vegetation. Access via gravel road and residences behind the vegetation. A local school teacher in the village said that the vessel went aground in 1986. Locals said the vessel broke apart during Typhoon Val in 1991.</i></p> <p>3. <u>Vessel Information</u> Incident Date: Cause of Incident: Vessel Condition: Length/Beam: Hull Material: Type / Use: <i>General / Ownership / Registry</i> Comments: <i>Large number of rusty debris pieces along long section of beach. Debris ranged in size from less than one kg to several metric tons in size. Steel plating has rusted away in some sections of debris, leaving heavier gauge framing material jutting from the wreckage</i></p> <p>4. <u>Public Safety</u></p>	<p><input type="checkbox"/> <u>Slip-Fall Hazard</u> <input type="checkbox"/> <u>Entrapment Hazard</u> <input type="checkbox"/> <u>Fishing Gear on Board</u> <input type="checkbox"/> <u>Evidence of Public Boarding</u> <i>Public Use of Surrounding Area: The area is a public beach and is backed up to residences. The beach is very accessible. While we were surveying a group of young students came out onto the beach and climbed on large, sharp, rusty debris pieces. The beach and the subtidal are scattered with many sharp pieces of metal.</i></p> <p>5. <u>Pollution/Navigation Threats</u> <input checked="" type="checkbox"/> <u>Near Channel</u> <input checked="" type="checkbox"/> <u>Near Mooring Area</u> <input checked="" type="checkbox"/> <u>Properly Marked</u> <input checked="" type="checkbox"/> <u>Hazmat / Fuel On Board</u> <input type="checkbox"/> <u>Fully Submerged</u> Depth: <u>0</u> <u>1-10'</u> <u>10-20'</u> <u>20-30'</u> Other _____ Comments: <i>Fragments could be fully submerged in deeper water also. Sea conditions were too rough to access the reef crest but larger sections of the wreck may be present in deeper water. Debris is not marked area is not used for navigation. Note: during 2008 survey additional debris including rudder, engine, and shaft were found near the reef crest. Based on the amount of debris on the reef flat, we do not anticipate that a larger section of the wreck remains offshore.</i></p> <p>6. <u>Environment</u> Habitats: Live coral cover H / M / L Seagrass cover: H / M / L <input type="checkbox"/> Mangroves <input type="checkbox"/> Bare sediment <input type="checkbox"/> Hardbottom <input type="checkbox"/> Tidal Flat <input type="checkbox"/> Macroalgae <input type="checkbox"/> Beach Other: <i>The bottom here had low percent cover hard corals and calcareous algae (<5%). It had much higher cover of soft</i></p>	<p><i>algae (grape) and coralline algae. Coralline was encrusting on many rocks and debris pieces also. We could not survey over the break / the edge of the reef flat for more significant hard coral communities. This area is likely to have a healthy coral community. This would be threatened by mobile debris pieces.</i></p> <p>Bottom Type: <input type="checkbox"/> <u>Rock – coral pavement</u> <input type="checkbox"/> <u>Gravel/Rubble</u> <input type="checkbox"/> <u>Sand</u> <input type="checkbox"/> <u>Mud</u> Other: Comments on Impacts: 7. <u>Prior Response/Salvage Actions (if any/ if known)</u> <i>There is one wreck marked on the nautical chart near this location. We could not determine if this debris field represented one vessel or the three that are listed in our database. There was only one recognizable hull though.</i></p> <p>For questions or comments or to return this form please contact:</p> <p>Doug Helton or Ian Zelo 206-526-4563 FX: 206-526-6665 Doug.Helton@noaa.gov 7600 Sand Point Way NE Seattle, WA 98115</p> <p>Jim Jeansonne 727-570-5714 FX: 727-570-5390 Jim.Jeansonne@noaa.gov 9721 Executive Ctr. Dr. N. St. Petersburg, FL 33702</p> 
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