



## **NATIONAL TRANSPORTATION SAFETY BOARD**

Office of Aviation Safety  
Washington, D.C. 20594

May 19, 2022

### **Group Chair's Factual Report**

# **SEARCH AND RECOVERY**

DCA21FA174

Attachment 4 - USCG Environment Statement  
(11 pages)

# **Environmental Statement Prepared for the USCG**

RECOVERY OF TRANSAIR FLIGHT 810,  
BOEING 757-257C, N810TA



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**NOTE: It is a violation of Federal Regulation 49 CFR Part 831.13 for any party other than the NTSB to release any information about wreckage or the accident. This includes any photos, sketches, written descriptions, or statements.**

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## TransAir 810 - Recovery Operation: Environmental Summary Statement

The wreckage of the TransAir 810 aircraft covers an area of seafloor approximately 200 m x 130 m in depths of 340' - 440' (103 m - 134 m; Figures 1-3). There is a slope running from shore seaward for a depth change of 100' (30 m) over the wreckage field. It is unclear if this includes a vertical or steep dropoff area. From review of the ROV video, this area is characterized as predominantly soft sediment over hard substrate with low vertical complexity (< 1 m). Due to the lack of structural habitat complexity, this area is expected to have few benthic, demersal, and nektonic species associated with the habitat. The aircraft structure on the bottom has likely attracted fishes and invertebrates over these past three months, and may attract curious protected species such as monk seals or cetaceans.

This area borders critical habitat for ESA-listed species Hawaiian Monk Seals and the Hawaii Distinct Population Segment of Insular False Killer Whales. Turtles will likely be present in these waters, though they tend to stay in surface waters and, while it is not well studied in Hawaii, they are generally not known to dive deeper than 200'. Eclipse Group has retained the services of Marine Ecologist, Darla White, to serve as the protected species observer and environmental expert on this project. She will be observing all operations to ensure that best management practices are implemented (see list below) in the event of visits from ESA-listed species, and to identify unexpected sensitive species (e.g., deep-sea corals) to avoid in the operation area.

The temporary nature of the salvage operation is likely to disturb infaunal communities (e.g., worms, molluscs, crustaceans, small burrowing fishes, etc.) over discreet anchorage areas around the site. The anchorage areas will be surveyed prior to and after removal of the anchors using the ROV to record the disturbance impact. The impact to the anchor sites will likely damage or kill infauna directly under the anchors and in areas that the anchors may drag. This is not expected to have lasting impacts on the infaunal community over the region as these are relatively small disturbance areas. Additionally, some unavoidable disturbance is expected with the lifting operations necessary to retrieve the aircraft.

There are two features nearby that will be avoided. To the east of the wreckage is the Ewa Artificial Reef zone, the boundary of which is depicted by four dots in Figures 1 and 2, and a wastewater outfall pipe approximately 300 m shoreward of the wreckage, shown as a red bar in Figures 1 and 2.

The following three charts overlay the wreckage site with the critical habitat for both false killer whales and Hawaiian monk seals. The wreckage falls outside of both but close enough to be considered when placing anchors for the DBSV. The debris area is in a military exclusion zone.

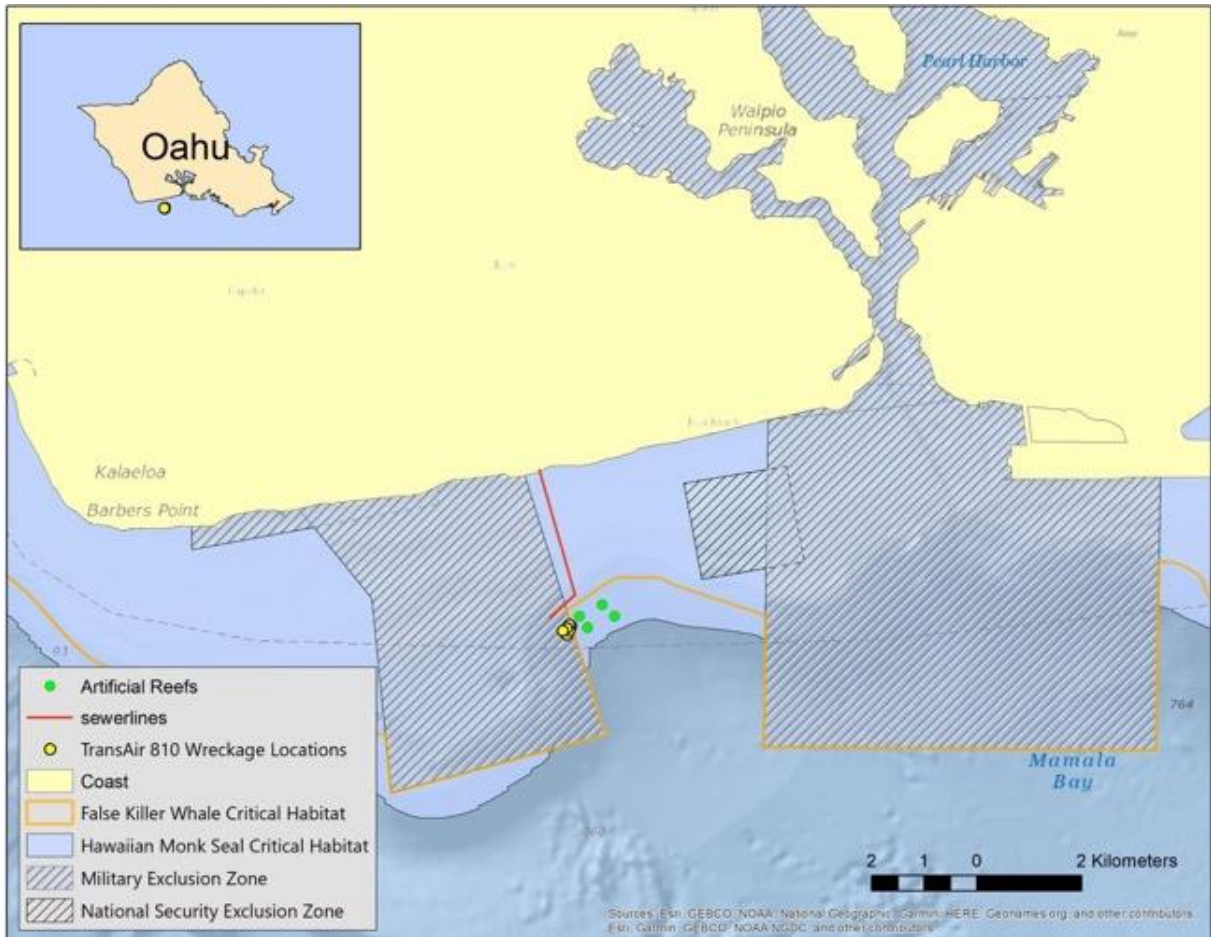


Figure 1. Location of operation and related zones.

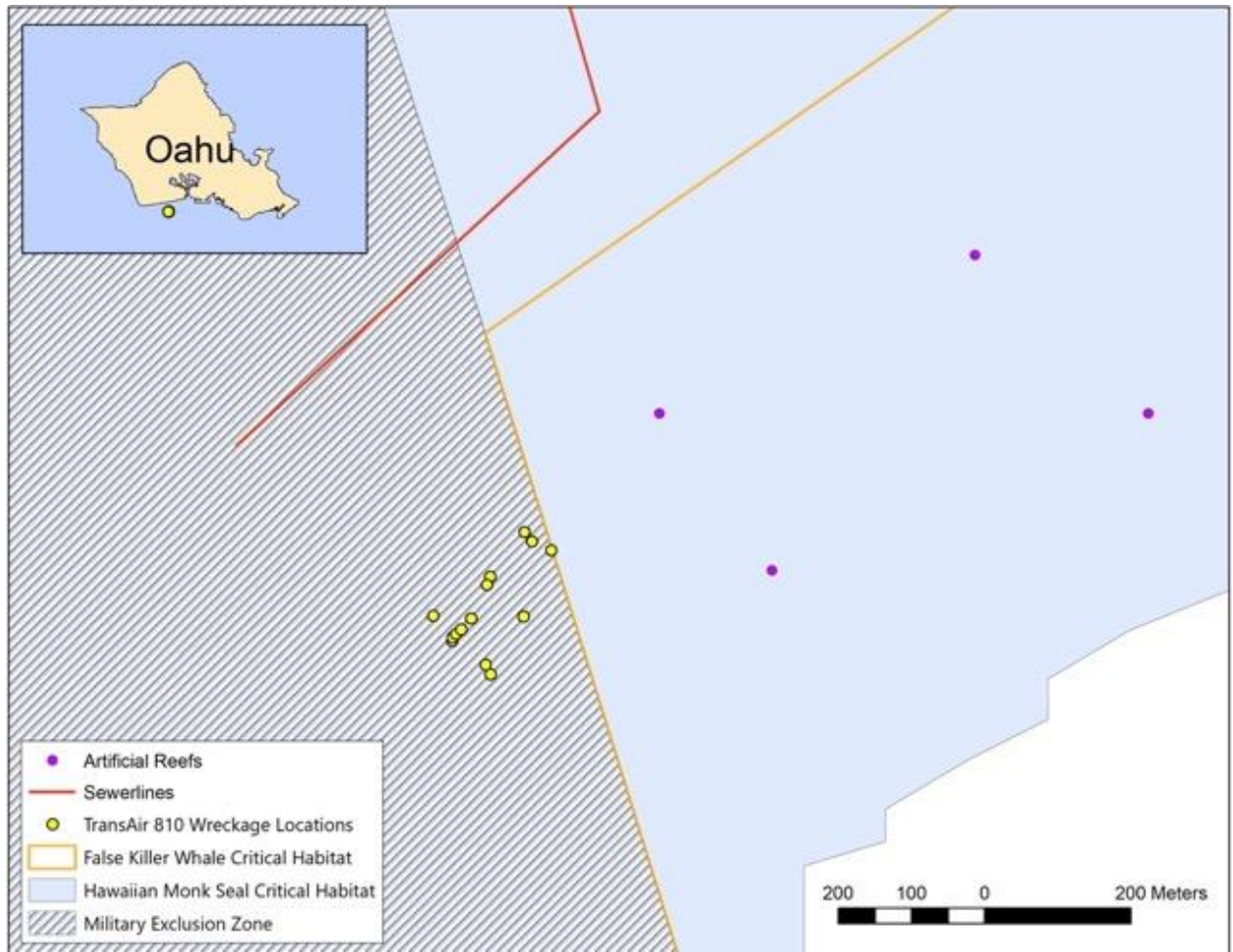


Figure 2. Closer view of location of features near operation.

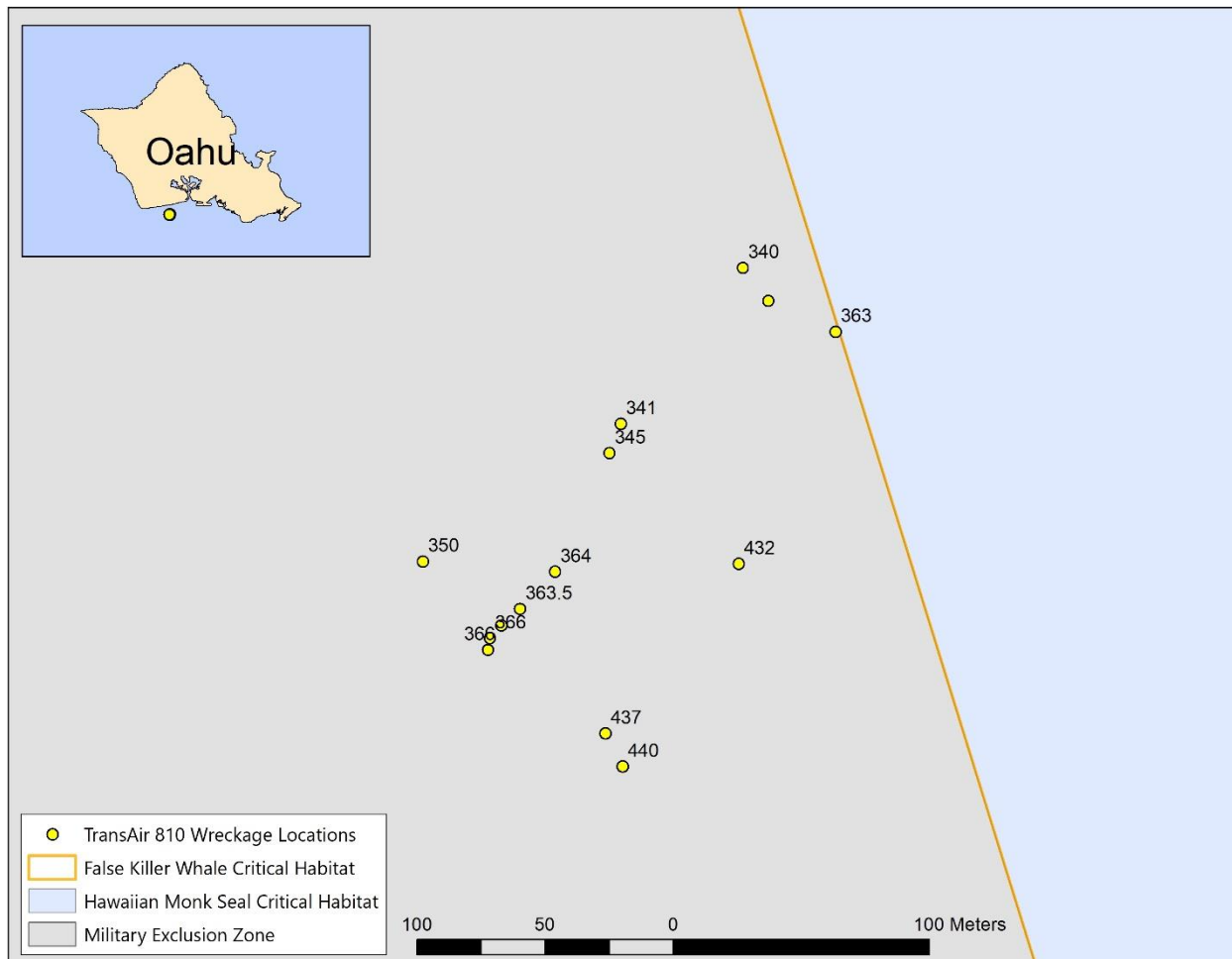


Figure 3. Recorded wreckage locations and depths.

**Table 1. Aircraft wreckage coordinates.**

Target Name	X	Y	Latitude	Longitude	Depth (Ft)	Video time
Tail Section (with Main Wings)	601212.4 2	2353304.3 8	21° 16' 43.2873" N	158° 01' 27.6581" W		7/7/2021 16:45:36
Aft of Tail Section	601236.9 7	2353292.7 4	21° 16' 42.9038" N	158° 01' 26.8086" W	363	7/7/2021 16:56:41
Forward of Tail Section	601203.0 3	2353317.2 3	21° 16' 43.707" N	158° 01' 27.9811" W	340	7/7/2021 17:01:06
APU	601111.1 3	2353168.3 6	21° 16' 38.8839" N	158° 01' 31.2017" W	366	7/8/2021 9:19:12
Engines	601111.8 4	2353172.9 4	21° 16' 39.0325" N	158° 01' 31.176" W	366	7/8/2021 9:21:30

Nose Landing Gear	601115.9 3	2353177.8 3	21 °16' 39.1909" N	158° 01' 31.0332" W	354.5	7/8/2021 9:29:28
Forward of Cockpit Section	601122.7 9	2353184.3 1	21° 16' 39.4002" N	158° 01' 30.7938" W	363.5	7/8/2021 9:33:16
Aft of Cockpit Section	601135.3 9	2353198.8 6	21° 16' 39.871" N	158° 01' 30.3533" W	364	7/8/2021 9:36:25
Thrust Reverser Engine 1	601154.0 4	2353136.1 9	21° 16' 37.829" N	158° 01' 29.7198" W	437	7/8/2021 9:58:48
Inlet Guide Vane	601160.4 2	2353123.4 6	21° 16' 37.4135" N	158° 01' 29.5009" W	440	7/8/2021 10:06:15
Tires	601202.3 6	2353202.3 7	21° 16' 39.9715" N	158° 01' 28.029" W	432	7/8/2021 10:24:50
FedEx Cargo Can (SAA 34562 FX)	601158.9 6	2353256.4 2	21 °16' 41.7382" N	158° 01' 29.5234" W	341	7/8/2021 10:36:19
TransAir Cargo Can (SAA 4054 TXHA)	601154.9 1	2353244.9 9	21° 16' 41.3671" N	158° 01' 29.6662" W	345	7/8/2021 10:39:18
Keel Beam	601087.2	2353202.5 2	21° 16' 40" N	158° 01' 32.0246" W	350	7/8/2021 13:52:59

X and Y coordinates are UTM North Zone 4 meters. Depth is from ROV pressure sensor.

**ENVIRONMENT - Excerpt from the plan. The plan is a living document. This is from the first draft that was submitted to all parties. Some details in red are still in process.**

## **POLLUTION CONTROL**

### **CHEMICAL, FUEL, OIL**

Lone Star Retrieval is responsible for defueling, which is expected to be done on the DBSV by Lone Star Recovery (LSR) subcontractor Pacific Environmental Company (PENCO). PENCO will have the oil spill response vessel (OSRV) NRC SENTRY available prior to movement of the large section which contains the fuel tanks. PENCO plans to have the NRC SENTRY on scene while lifting the wing section and for the recovery of fuel, plus any unforeseen hazardous materials.



OSRV NRC SENTRY will be on positioned down-current from potential sources of release. The OSRV is fitted with containment boom, 2 skimming systems, outrigger arms, and recovered oil storage, but due to the light-end nature of the jet fuel, SENTRY will likely opt to deploy her outrigger arms along with a wide, U-shaped “pocket” of sorbent material. This wide-sweep method will result in the most efficient and efficacious recovery, given the operating environment and product to be recovered. On-scene adjustments to this plan may be made by NRC’s response personnel in collaboration with the salvage master, based on experience and on-scene conditions. NRC SENTRY and her crew are the best equipped to make best efforts to recover spilled oil, but will make no guarantees of recovering every drop of released product.

While no loss of fluid is anticipated, the BH ROV utilizes a biodegradable hydraulic fluid.

## **BIOLOGICAL**

The operation is being coordinated with NOAA and the State of Hawaii to best prevent biological contamination by vessels from other environments. These mitigations include:

1. The BOLD HORIZON has had the hull cleaned prior to departure. Images of the bottom of the hull have been provided. The BH will be inspected upon arrival.
2. Derrick Barge Salta Verde is to be inspected for lack of organisms prior to leaving Long Beach. [CURTIN TO TELL IF HULL ALSO TO BE CLEANED] [CURTIN TO FIND WHETHER A LOCAL INSPECTION IS STILL REQUIRED]
3. Tug Shirley C is to be inspected for lack of organisms prior to leaving Long Beach. [CURTIN TO TELL IF HULL ALSO TO BE CLEANED] [CURTIN TO FIND WHETHER A LOCAL INSPECTION IS STILL REQUIRED]
4. None of the vessels anticipate bringing ballast for discharge into Hawaiian waters.

## **PROTECTED SPECIES AND ENVIRONMENTAL IMPACT**

This operation is classified as an emergency operation and although only minimal residual fuel is believed to remain in the wreckage, all efforts are being taken to prevent further impact on the local environment, habitat, and species, regardless of protection status.

The work area is adjacent to designated critical habitat zones for ESA-listed Hawaiian monk seals (*Neomonachus schauinslandi*) and Hawaii’s distinct population of insular false killer whales (*Pseudorca crassidens*), and sea turtles (*Chelonia mydas*, *Eretmochelys imbricata*) are likely to be present in this area (Figures 3 and 4).

Best Management Practices (BMPs) as provided by NOAA consultations will be implemented at all times and are detailed below. Eclipse Group has retained Marine Field Ecologist, Darla White, MSc.<sup>[1]</sup> to coordinate for the protected species related environmental monitoring requirements and BMP implementation in the event of animal interaction with operations. Ms. White is part of the project



planning, and will serve as the Protected Species Observer (PSO) during all recovery operations. As the PSO, she will ensure all parties are knowledgeable of the BMPs, record observation data, and summarize the observations into a report upon completion of the recovery operation.

Below is the list of NOAA consultation BMPs and responses with each as will be addressed:

1) All workers associated with this project, irrespective of their employment arrangement or affiliation (e.g., employee, contractor, etc.) should be fully briefed on these BMPs and the requirement to adhere to them for the duration of their involvement in this project.

RESPONSE: Eclipse Group will provide the BMPs to all parties involved in the project via the planning document, email, and in-person briefings.

2) Constant vigilance by an observer should be kept for the presence of any ESA-listed marine species during all aspects of the proposed activities.

RESPONSE: Darla White will serve as the Protected Species Observer onboard for all operations. All others involved in observing operations will be apprised of the BMPs and also watch for animals as well.

3) All work should be postponed or halted when motile ESA-listed marine species are within 50 meters of the proposed work, and should only begin/resume after the animals have voluntarily departed the area.

RESPONSE: When an ESA-listed animal is spotted near the area, the operation leaders will be notified by the observer immediately to halt operations until the animal leaves of its own accord.

4) When piloting vessels, vessel operators should alter course to remain at least 50 meters from marine mammals and sea turtles.

RESPONSE: The vessel operators will alter course to remain at least 50 m from marine mammals and sea turtles when piloting vessels.

5) Reduce vessel speed to 10 knots or less when piloting vessels at or within the ranges described above from marine mammals and sea turtles. Operators should be particularly vigilant to watch for turtles at or near the surface, and if practicable, reduce vessel speed to 5 knots or less.

RESPONSE: The vessel operators will reduce speed to 10 knots or less when within 50 m or less of sea turtles and marine mammals.

6) Marine mammals, sea turtles and other ESA-listed motile species should not be encircled or trapped between multiple vessels or between vessels and the shore.

RESPONSE: The vessel operators will be cognizant to proactively avoid any encircling or entrapment of ESA-listed species between vessels or between vessels and the shore. The vessel operators will wait for the animal to leave the area before proceeding with operations that would put the animal in this situation.

7) Do not attempt to intentionally interact with any ESA-listed marine species.

RESPONSE: No interactions will be made with ESA-listed species by anyone on the project, and the team will be informed of species-specific practices such as avoiding eye contact with Hawaiian monk seals.

8) The project manager and heavy equipment operators should perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations shall be postponed or halted should a leak be detected, and should not proceed until the leak is repaired and equipment cleaned.

RESPONSE: All equipment will be inspected for cleanliness and leaks prior to daily operations. Operations will be postponed should a leak be detected until repaired and cleaned.

9) If the salvaged sections of the aircraft cannot be transported and defueled at a safe location on land, place absorbents around the edge of the barge to make sure fuel products do not return to the ocean.

RESPONSE: The description is seen as a reactive step for fuel which leaks; while the project plan calls for both preventive and reactive measures to keep potential contamination from happening in the first place. These include placement of a cofferdam of fuel absorbents at the periphery of the barge deck and around the portions of wing which contain fuel tanks that may leak. Further, absorbent material is normally preventively placed near heavy hydraulics.

10) Prepare a plan for how the transfer of fuel products is expected to occur and what contingencies will be taken in the event of unforeseen circumstance (i.e. if a spill occurs and respective clean up) or in the event of leaking or debris loss during the retrieval and what steps will be taken for fuel recovery.

RESPONSE: As detailed elsewhere and discussed with both State of Hawaii and NOAA, very little fuel is expected to remain in the airplane fuel tanks by virtue of both the accident and fuel tank venting designs. Regardless, to capture the maximum possible amount of petroleum products, the recovery plans include:

1. As described in the previous response, extensive absorbent materials will be placed around the wing tanks and edge of the barge deck.
2. A specialized Honolulu-based maritime environmental response company, Pacific Environmental Group (PENCO), will station an oil skimmer (OSRV SENTRY) downstream of the wreckage prior to the raising in order to capture all possible leakage as soon as it is known.
3. PENCO personnel experienced in de-fueling safely will board the barge to perform the de-fueling operation when the wing section is brought aboard.
4. A 6,000 gallon ISO tank will be placed adjacent to the wing for defueling as efficiently as possible and in as limited of a space as possible. As a contingency, the barge was originally built and certified to transfer oil products and if something were to happen to the ISO tank, the water/fuel mix could be temporarily captured in the barge.
5. Deck spills will be remediated with the absorbents already described.

6. Once at a pier and with the wings unloaded to shore, the water/fuel mixture in the ISO tank will be moved from the barge to shore. A PENCO truck will move the mix to a dedicated waste facility in accordance with PENCO standard procedures already in place with the State of Hawaii. PENCO personnel will then clean any remaining spillage from the barge.

11) Ensure basket lids are securely closed during deployment and retrieval, and that ESA-listed animals do not become trapped within while baskets are in-water.

RESPONSE: Basket lids will be shut securely before they are deployed and retrieved. The ROV will be used to visually inspect baskets for ESA-listed animal presence before retrieval. If an animal is present, the basket will remain until the animal leaves of its own volition.

12) Keep all retrieval cables and ROV lines as taut as practicable, and deployed only as long as needed to properly accomplish the required task.

RESPONSE: ROV operators will be cognizant of keeping the retrieval cables taut. All deployment operations will be efficiently run, minimizing time at depth.

13) Use the ROV cameras to ensure no presence of ESA-listed species in and around large debris pieces prior to lifting.

RESPONSE: The ROV will inspect each large piece of debris for ESA-listed species prior to lifting. The ROV will also accompany the large sections for most of the ascents and will be able to spot ESA-listed species which enter the operation. When an ESA-listed animal is spotted near the area, the operation will halt until the animal leaves of its own accord.

14) If an observer determines an ESA-listed individual has been disturbed, harassed, harmed, injured, or killed, report to NMFS within one business day to [danielle.jayewardene@noaa.gov](mailto:danielle.jayewardene@noaa.gov).

RESPONSE: Darla White will record any interactions and report any observations of such events within one business day to Danielle Jayewardene at NMFS.

## **BOTTOM FEATURES**

The only vessel to be anchored will be the DBSV, in a 4-point mooring. The approximate locations are being reviewed with the State of Hawaii.

The BH will work with the tug and barge by using the ROV to image where the anchors are placed, both before placement and after removal.

The DBSV is fitted with a version of heavy Danforth anchor design. To prevent wire rope from cutting back and forth on bottom features, chain will be used between each anchor and the wire rope leading to the barge.

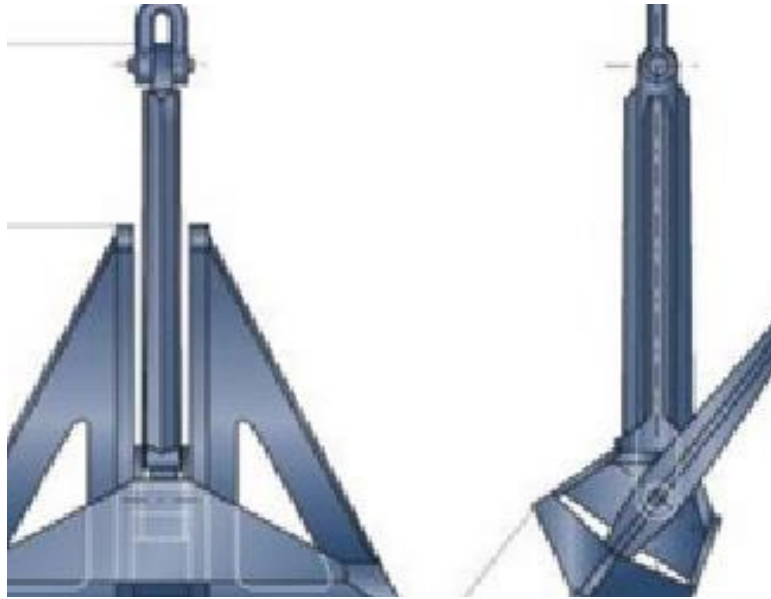


Figure 7. DBSV anchor style (typical)

There are no plans to drag the wreckage which could create additional damage to bottom features.