CLALLAM COUNTY
GRANT NO. G0300123

NORTHWEST STRAITS PROJECT: CLALLAM COUNTY NEARSHORE MAPPING AND RESTORATION

DERELICT GEAR REMOVAL

TASK 4

AUGUST 20, 2003

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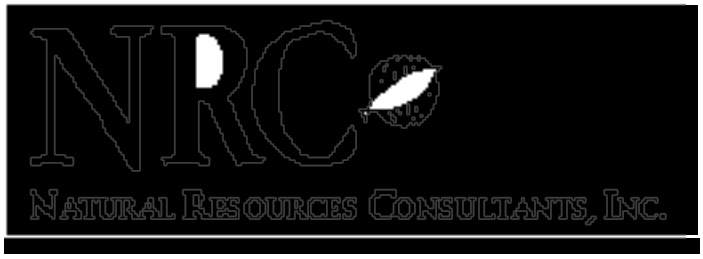

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FINAL REPORT

DERELICT FISHING GEAR IDENTIFICATION AND RETRIEVAL PROJECT STRAIT OF JUAN de FUCA

PREPARED FOR:

CLALLAM COUNTY

PREPARED BY:

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Introduction

This project was funded by the National Oceanic and Atmospheric Administration (NOAA)(Clallam County, Grant No. G0300123). This is the final report for Task Number 4, Derelict Gear Removal, part of the Northwest Straits Commission Project: Clallam County Nearshore Mapping and Restoration.

Abandoned, lost and discarded fishing gear can present safety, liability, nuisance and environmental impact issues in marine waters. Identification, location and safe removal of derelict fishing gear can reduce these impacts. The Northwest Straits Commission (NWSC) recently teamed with the National Oceanic and Atmospheric Administration (NOAA) to address the issue of derelict fishing gear in north Puget Sound and the Strait of Juan de Fuca. The outcome of this project is a comprehensive program to safely remove derelict fishing gear from the marine environment in an environmentally acceptable manner. The Washington Department of Fish and Wildlife (WDFW) has recently published guidelines for derelict fishing gear removal in Washington marine waters.

Clallam County sought to locate and remove derelict fishing gear in Dungeness Bay, Sequim Bay, Port Angeles Harbor, Freshwater Bay, Twin Rivers/Deep Creek area and Sekiu area. Divers and others had reported derelict fishing gear in these areas. This derelict fishing gear was believe to be possibly causing unobserved and unreported mortality for marine life, presented a possible hazard to navigation and was a safety issue for commercial and recreational divers. The location and removal of this derelict fishing gear would reduce these impacts. Clallam County contracted with Natural Resources Consultants, Inc., (NRC) to manger the derelict fishing gear project. NRC subcontracted the Innerspace Exploration Team for sidescan sonar services and Bubble Heads, Inc. for diver gear recovery services. The Clallam County derelict fishing gear survey and removal project followed the guidelines established by the WDFW and the NWSC and was conducted in collaboration with tribal governments of the area, the NWSC, WDFW enforcement and Peninsula College.

Scope of Work

This project focused on the identification and removal of derelict pots and, if encountered, derelict nets in Sequim Bay, Dungeness Bay, Port Angeles Harbor and Freshwater Bay. Although there was interest by the County in derelict fishing gear location and removal in the Twin Rivers/Deep Creek and Sekiu areas, the budget and time available for the project did not allow work in these areas. The work was conducted with the collaboration of local Tribes and non-Treaty commercial divers.

A derelict fishing gear removal plan was prepared and submitted to the WDFW (Appendix 1). The plan was approved by the WDFW. Side-scan sonar was used to survey for derelict fishing gear and surface air supplied divers were used to recover the lost fishing gear.

Gear retrieved during the course of this project was treated in line with the Washington State Abandoned Property Rights Law or other salvage laws. The owners of the derelict fishing gear recovered, if identified, were contacted and provided an opportunity to recover their property. Derelict fishing gear that could not be identified to an owner was either donated to the Peninsula College fisheries program or disposed of in the Port Angeles Landfill.

Several guests were present on the survey and dive removal vessels during the project. Clallam County Commissioners Mr. Mike Doherty, District 3, and Mr. Steve Tharinger, District 1, joined the survey vessel and observed the dive removal operations in Port Angeles Harbor. Mr. Brad Collins with the City of Port Angeles observed the survey operations in Port Angeles Harbor. Ms. Lisa Hillier, shellfish biologist with the Lower Elwha Tribe and Andrew Hillier observed the operation on the survey vessel in Port Angeles Harbor. Mr. Joe Schmitt participated in the entire project and provided valuable assistance and support vessel services that were greatly appreciated. The Port Angeles Harbor Master's office and the staff of the John Wayne Marina were very helpful during the project.

Methodology

Sidescan Sonar Survey

The Innerspace Exploration Team performed the sidescan sonar surveys during the project. A Marine Sonic Sidescan Sonar System operating at 600

kHz and a differential global positioning system (DGPS) were used during the survey to locate derelict fishing gear. The sonar system employed a heavy towfish towed off the bow of a 24-foot survey vessel. A hydraulic wench and cable controlled the depth of the towfish. The survey image was projected on a monitor onboard the vessel and recorded onto a computer hard drive for later processing.

Generally the sidescan sonar survey was conducted at 4.63 km/hr (2.5 knots) with a path width of 50 m on either side of the boat for an approximate area swept of 100 m (328 ft). The survey path width was occasionally decreased to 10 to 20 m on either side of the boat in shallow water (less than 5 m deep) or when a more detailed image of an object was desired. Survey depths generally ranged from about 4.6 m (15 ft) to 30.5 m (100 ft) in order to identify derelict fishing gear within the dive depth capabilities of the recovery team. The intent of the sidescan sonar survey was to subsample the fishing grounds in each area for derelict fishing gear in order to estimate the total amount of derelict fishing gear in each area and to provide locations of derelict fishing gear for recovery operations. The project budget did not allow for comprehensive survey coverage of the fishing grounds in any one area. Some minor problems with sidescan sonar imaging were occasionally experienced during the survey due to salinity distortions near sources of freshwater runoff and due to surface noise from wind waves and other vessel noise. The total survey coverage in each area was reduced by the areas of poor image quality and the area surveyed presented here represents only good to excellent image quality coverage.

Derelict crab pots were readily identified on the sidescan sonar images. Figure 1 shows a typical sidescan sonar image of a derelict sport crab pot (square image in upper portion of the figure) and a derelict commercial crab pot with attached line (round image in lower portion of the figure). Counts and precise locations of derelict fishing gear were recorded during post-survey processing of the data that allowed greater time to examine the images.

Gear Recovery

Bubble Heads, Inc., conducted the diver recovery of the derelict fishing gear. Four divers equipped with surface supplied air and communications operated off a 32-foot dive support and gear recovery vessel. The precise locations of derelict fishing gear detected during the sonar survey were passed to the dive team by radio or cell phone. In some cases, the survey vessel dropped marker

buoys at locations of multiple derelict gear encounters. The dive team used a wide area augmented GPS system (WAAS) to locate the derelict gear locations. The dive support vessel was either anchored or allowed to drift in the vicinity of the reported derelict gear location and a diver was deployed. The diver had approximately a 91 m (300 ft) radius within which to search due to the length of the air hose and communication cable. In some areas, poor visibility required the diver to drag the hose and cable around in a circle until it tangled with the derelict fishing gear and then the diver worked back along the cable to the gear.

Once the diver found the derelict gear, a recovery line was attached to the gear and it was hauled aboard the recovery vessel by hand or with the aid of a hydraulic winch. The recovery line was sent back down to the diver via the hose and communication cable and the operation was repeated until all of the identified derelict fishing gear was recovered from a location. Upon recovery of the derelict fishing gear a variety of information was recorded to describe the condition of the derelict gear and the associated organisms. Figure 2 provides an example of the data recording sheets used. Information collected included whether the derelict gear was commercial or sport, whether it was fishing or disabled, whether it was equipped with rot cord (pots), the number of live and dead Dungeness crab, other crab and fish entrapped and an areas for notes about the gear. The derelict fishing gear was stored on the deck of the recovery vessel until it was convenient to transfer it to shore where it was stored in a secure location.

In Dungeness Bay the dive support vessel explored some shallow inshore areas where the sonar survey could not operate and removed some derelict crab pots from these areas that were not included on the list of derelict gear surveyed.

Results

The project began at 8 AM, Friday, June 27, 2003, and ended at 4 PM, Wednesday, July 2, 2003. Derelict gear surveys were conducted on each day and diver removal operations were conducted on June 27, June 28 and July 1. Survey operations were conducted in Dungeness Bay, Sequim Bay, Protection Island, Port Angeles Harbor, and Freshwater Bay to Crescent Bay. Derelict fishing gear removal operations were conducted in Dungeness Bay, Sequim Bay and Port Angeles Harbor.

A total of 8.79 km^2 was surveyed with sidescan sonar, 296 derelict pots were observed (292 crab pots and 4 shrimp pots) and 52 crab pots and 11 octopus traps were recovered (Table 1). Additionally, 7 shrimp pots (entangled but not derelict) were recovered at the direction of Tribal biologists in Port Angeles Harbor.

Of the 52 crab pots recovered, 20 were commercial pots and 32 were sport pots (Table 2). The 7 shrimp pots recovered were all commercial pots. The 11 octopus tire traps recovered were also commercial gear. Of the 20 commercial crab pots recovered, 14 were still actively fishing and 6 were no longer fishing. Of the 32 sport crab pots recovered, 14 were still actively fishing and 18 were no longer fishing.

Of the 20 commercial crab pots recovered, 16 were equipped with rot cord and 4 were not. All six of the commercial crab pots no longer actively fishing were equipped with rot cord that had deteriorated.

Of the 32 sport crab pots recovered, 19 were equipped with rot cord, 5 did not have rot cord and for 8 pots it was impossible to determine if rot cord had or had not been used. Of the 14 sport crab pots still actively fishing, 10 had rot cord that had not yet disintegrate and 4 had no rot cord. Of the 18 sport pots no longer actively fishing, 9 had rot cord, 1 did not have rot cord and for 8 pots it was impossible to determine if rot cord had been used or not.

A total of 55 Dungeness crab were recorded from the 52 crab pots recovered including 30 live and 25 dead Dungeness crabs (Table 2). The overall catch rate observed was about one Dungeness crab per pot with 0.5 dead Dungeness crabs per pot. Additionally, there were 38 other crab recorded primarily Lyre and red rock crabs. Of these, 26 were found alive and 12 dead. One dead rockfish was also recorded from the crab pots recovered.

In the 14 commercial crab pots still actively fishing, a total of 12 live and 23 dead Dungeness crab were observed, 17 live and 12 dead other crab (mainly Lyre crab) and 1 dead rockfish were identified. Of these totals, 8 live and 17 dead Dungeness crab and 10 live and 5 dead other crab were in pots without rot cord and 4 live and 6 dead Dungeness, 7 live and 7 dead other crab and 1 dead rockfish were in pots with rot cord that had yet to disintegrate.

In the 14 sport pots found still fishing, a total of 14 live and 2 dead Dungeness crab and 4 live other crab were observed. Of this total, 7 live and 2 dead Dungeness crab and 3 live other crab were in pots with rot cord that

had yet to disintegrate and 7 live Dungeness crab and 1 live other crabs were in sport pots with no rot cord.

Seven shrimp pots were recovered that contained numerous spot prawns, 1 live Dungeness crab, 10 live other crabs, 6 live rockfish and 2 dead rockfish. There were no animals observed in the 11 octopus traps recovered.

Based on observed densities of derelict crab pots encountered during the surveys and the approximate estimates of the area of the crab pot fishing grounds within the depth ranges surveyed in each area, a rough estimate of 1,009 derelict crab pots may have been present over all the areas surveyed. The 52 crab pots recovered represents 17.6% of the derelict pots observed during the survey and 5% of the projected derelict pots that may be on the fishing grounds in the areas surveyed.

The total weight of the recovered gear was 885 kg (1,950 lbs). Of the 52 crab pots recovered, seven commercial and three sport pots were salvageable. Only one commercial crab pot had an identification tag. The owner of this pot was contacted and recovered the crab pot. The remaining 9 salvageable pots were donated to the Peninsula College marine program. The remaining 42 crab pots and octopus tire gear were disposed of in the Port Angeles landfill. The seven shrimp pots were recovered and the owner notified of their location adjacent to the Port Angeles Marine fuel dock but the pots were apparently stolen prior to the owner's recovery. Tribal enforcement officers are investigating the incident.

Dungeness Bay

Dungeness Bay was surveyed on June 27 and 28, 2003. A total of 2.38 km^2 was surveyed which represented approximately 13% of the 17.86 km^2 Dungeness crab fishing grounds in the area within the depths surveyed (4.6 to 30.5 m) (Figure 3). However, during a subsequent commercial crab fishery opening, crab pot gear was observed over a much wider area and at depths that exceeded the 30.5 m survey depths indicating the actually crab fishing grounds in Dungeness Bay may be larger than estimated in this report. However, since no survey effort was extended in these deeper areas, projections of total derelict fishing gear made in this report are based on the crab fishing grounds located within the depths surveyed.

A total of 48 derelict crab pots were observed during the survey in Dungeness Bay for an estimated density of 20.2 derelict crab pots/km^2 (Figures 4 and 5).

A print out of an Excel® database of observed derelict fishing gear locations is provided in Appendix 2. Assuming the observed density of derelict crab pots is representative of the overall fishing grounds within depth ranges surveyed, there were an estimated 361 total derelict crab pots in Dungeness Bay. During the project 13 derelict crab pots or 27% of the observed pots and 4% of the estimated total number of derelict crab pots were removed.

Derelict gear removal operations were conducted in Dungeness Bay on June 27 and 28, 2003. A total of 27 Dungeness crab, 15 dead and 12 live, were recorded from the 13 derelict crab pots recovered in Dungeness Bay (Table 2) for an approximate catch rate of 2 dead or live crab per derelict pot. The ten commercial crab pots accounted for 18 of the Dungeness crab with 14 found dead and 4 found alive. The 3 sport crab pots recovered in Dungeness Bay contained 1 dead and 8 live Dungeness crab. Using the catch rate observed of 2 crabs per pot in the recovered crab pots and the survey projection of 361 total derelict crab pots in Dungeness Bay, there may have been up to 722 Dungeness crab entrapped by derelict crab pots during the survey period.

Sequim Bay

Sequim Bay was surveyed on June 27 and June 28, 2003. A total of 0.89 km^2 was surveyed which represented approximately 10% of the 9.35 km^2 of Dungeness crab fishing grounds in the area within the depths surveyed (4.6 to 30.5 m) (Figure 3).

A total of 33 derelict crab pots were observed during the survey in Sequim Bay for an estimated density of 37.1 derelict crab pots/km^2 (Figures 4 and 5). Assuming the observed density of derelict crab pots is representative of the overall fishing grounds within depth ranges surveyed, there were an estimated 347 total derelict crab pots in Sequim Bay. During the project 4 derelict crab pots or 12% of the observed pots and 1% of the estimated total number of derelict crab pots were removed.

Derelict gear removal operations were conducted in Sequim Bay on June 27, 2003. A total of 4 Dungeness crab, 1 dead and 3 live, were recorded from the 4 derelict crab pots recovered in Sequim Bay (Table 2) for an approximate catch rate of 1 dead or live crab per derelict pot. The one commercial crab pot accounted for 1 live Dungeness crab. The 3 sport crab pots recovered contained 1 dead and 2 live Dungeness crab. Using the catch rate observed of 1 crab per pot in the recovered crab pots and the survey projection of 347

total derelict crab pots in Dungeness Bay, there may have been up to 347 Dungeness crab entrapped by derelict crab pots during the survey period.

Protection Island

Protection Island was surveyed on June 28, 2003. A total of 0.59 km^2 was surveyed (Figure 3). The size of the Dungeness crab fishing grounds off Protection Island was not estimated since no active fishing gear was present with which to estimate the extent of the fishing grounds. No derelict fishing gear was detected during the sonar survey of Protection Island (Figure 5).

Freshwater Bay to Crescent Bay

The area off Freshwater Bay to Crescent Bay was surveyed on June 29. A total of 1.72 km^2 was surveyed which represented approximately 22% of the 7.73 km^2 of Dungeness crab fishing grounds in the area within the depths surveyed (4.6 to 30.5 m) (Figure 6).

A total of 5 derelict crab pots were encountered during the survey for a density of 2.9 derelict pots/km^2 (Figure 7). Assuming the observed density of derelict crab pots is representative of the overall fishing grounds within depth ranges surveyed, there were an estimated 22 total derelict crab pots in area between Freshwater Bay and Crescent Bay.

Port Angeles Harbor

Port Angeles Harbor was surveyed on June 30, July 1 and July 2. The area surveyed within the harbor was subdivided among three areas: West, North and East. The West area was primarily a crab pot fishing area. The North area was primarily a deep water area where shrimp pot fishing occurs. The East area was an area reported to be a popular commercial and sport crab pot fishing area. A total of 1.53 km^2 was surveyed in the Port Angeles Harbor West area that represented approximately 77% of the 1.99 km^2 of Dungeness crab fishing grounds in the area within the depths surveyed (4.6 to 30.5 m) (Figure 8).

A total of 206 derelict crab pots were encountered during the survey for a density of 134.3 derelict pots/km^2 (Figures 9, 10 and 11). Assuming the observed density of derelict crab pots is representative of the overall fishing grounds within depth ranges surveyed, there were an estimated 267 total derelict crab pots in the Port Angeles Harbor West area.

Derelict gear removal operations were conducted in Port Angeles Harbor on July 1, 2003. A total of 35 derelict crab pots removed represented 18% of those observed and 13% of those projected in the West area during the project. A total of 24 Dungeness crab, 9 dead and 15 live, were recorded from the 35 derelict crab pots recovered in Port Angeles Harbor West area (Table 2) for an approximate catch rate of 0.69 dead or live crab per derelict pot. The 9 commercial crab pots accounted for 18 of the Dungeness crab with 9 found dead and 9 found alive. The 26 sport crab pots recovered contained 6 live Dungeness crab. Using the catch rate observed of 0.69 crab per pot in the recovered crab pots and the survey projection of 267 total derelict crab pots in the Port Angeles Harbor West area, there may have been up to 183 Dungeness crab entrapped by derelict crab pots during the survey period.

A total of 1.2 km^2 of area was surveyed with sonar in the Port Angeles Harbor East area including a short survey path north to the end of the Ediz Hook (Figure 8). The survey area represented about 48% of the estimated 2.51 km^2 of crab pot fishing ground area within the depth ranges surveyed. No derelict crab pots were encountered in the East area (Figure 11).

A total of 0.47 km^2 of area was surveyed with sonar in the Port Angeles Harbor North area (Figure 8). The survey area represented approximately 34% of the 1.37 km^2 of deep water shrimp fishing grounds in the vicinity of the survey area within the depth ranges surveyed. Four derelict shrimp pots were identified on longline gear in the North area for an overall density of 8.5 derelict shrimp pots/ km^2 (Figure 9). Assuming this density is representative of derelict shrimp pots throughout the fishing grounds, there are a projected 12 derelict shrimp pots in the area.

Four surface buoys with actively fishing shrimp pots were observed during the survey of the Port Angeles Harbor North area. These pots had been left in place after the closure of the Tribal commercial shrimp season because they were reportedly entangled with debris on the seabed. A Tribal shellfish biologist onboard the survey boat requested that the shrimp pots be recovered and returned to the Tribal fisherman. The survey boat utilized a hydraulic winch to free the pots from the seabed. Each of the four buoys was attached to two shrimp pots. One shrimp pot was lost on the seabed during the recovery operation. The seven shrimp pots recovered contained numerous spot prawns, 1 live Dungeness crab, 10 live other crabs, 6 live rockfish and 2 dead rockfish.

Conclusions

No gillnets were observed during the derelict fishing gear survey either by the sidescan sonar survey or by the divers.

Although the sidescan sonar survey effort was relatively low, the density of derelict crab pots at Protection Island, Freshwater Bay, Crescent Bay and Port Angeles Harbor East appears to be low. Further survey effort or survey effort in deeper or shallower water in these areas may change these results but based on the current survey results the impact of derelict crab pots in these areas is minimal.

The density of derelict fishing gear observed in Dungeness Bay and Sequim Bay was relatively low for the apparent amount of sport and commercial crab fishing effort that occurs in these areas. However, the number derelict crab pots projected from the survey and the estimated area of the crab fishing grounds represents a significant percentage of the average daily recreational crab fishing effort observed in both areas during the survey. Approximately 75% of the crab pots recovered in Dungeness and Sequim Bays were still actively fishing and 24% of the crab pots were not equipped with rot cord. Based on the numbers of Dungeness crab observed in the recovered pots from both areas and the projection of the number of derelict pots that may occur in both areas, there may have been over 1,000 Dungeness crab entrapped in derelict crab pots in Dungeness Bay and Sequim Bay during the survey period. Nearly all of the crab recovered from derelict pots in all areas during the project were larger adult crab that were incapable of exiting through the escape rings.

The highest density of derelict crab pots encountered during the project was in Port Angeles Harbor West. This area is a relatively shallow, protected part of the harbor easily accessible to sport and commercial crab pot fishers. The fishing grounds are somewhat confined by deeper water to the east and the log booming grounds to the north. It is also an area of intensive commercial and recreation vessel traffic including tugs, barges, tankers, cargo ships, commercial fishing vessels and pleasure craft, all of which may cut crab pot float lines resulting in derelict pots. Many of the derelict crab

pots recovered from this area (20 out of 35 pots) were not actively fishing and showed evidence of possible damage from propellers or from being dragged.

Based on the survey results and a rough estimate of the area of the crab fishing grounds in the Port Angeles Harbor West area, it's possible there were 267 derelict crab pots containing as many as 183 Dungeness crab. Five of the 35 crab pots recovered from the Port Angeles Harbor West area were not equipped with rot cord and all but one of these was still actively fishing.

The seven shrimp pots recovered from the North area in Port Angeles Harbor contained numerous spot prawns, 1 live Dungeness crab, 10 live other crabs, 6 live rockfish and 2 dead rockfish. There were no animals observed in the 11 octopus traps recovered.

It is difficult to make projections about the total annual mortality resulting from either the recovered and/or projected remaining derelict fishing gear encountered during the survey. Assumptions about entrapped animal survival time, pot deterioration, pot self-baiting rates and seasonal animal densities in the area would be necessary to estimate the total annual impact of the derelict fishing gear on the mortality of the species they entrap. Developing estimates for each of these assumptions is beyond the scope of this study but should be addressed in future research.

However, the results of the project indicate that some level of continuous mortality is occurring for Dungeness crab, other crab and rockfish due to derelict crab and shrimp pots in the marine waters of Clallam County. An approximate estimate of annual mortality can be calculated if one assumes a fairly constant quantity of derelict fishing gear on the fishing grounds (newly lost gear replaces lost gear that becomes inactive), crab entrapment rates per actively fishing pot similar to those observed in this study (live crab replace dead crab) and mortality of entrapped crab within 30 days of capture. Since nearly all of the Dungeness crab entrapped were a size that prevented their escape through the escape rings on the pots, the estimates of annual mortality are based on the number of dead and live crab observed in the actively fishing pots from each area.

Using the above assumptions, the live and dead Dungeness crab observed in the actively fishing derelict crab pots recovered in each area during the survey multiplied by 12 months provides an annual mortality estimate of Dungeness crab per actively fishing derelict pot. The total number of actively fishing derelict pots in an area is estimated from the total number of derelict

pots projected from the sonar survey and the estimated size of the crab fishing grounds multiplied by the percentage of actively fishing to inactive pots observed in the pot recovery process. Total annual mortality of crab within each area is then the estimate of mortality per actively fishing derelict pot multiplied times the projected number of actively derelict crab pots on the fishing grounds in each area.

In Dungeness Bay a total of 27 dead and live Dungeness crab were observed in 10 actively fishing derelict pots (Table 2), or 2.7 crabs per pot. Multiplied by 12 months, provides an annual mortality rate estimate of 32.4 crab per actively fishing derelict pot. The sonar survey projected a total of 361 derelict crab pots on the fishing grounds in Dungeness Bay (Table 1) and the pot recovery effort found 10 actively fishing pots out of 13 pots recovered or 77%. Applying this percentage to the 361 derelict pots projected from the sonar survey and the estimated size of the crab fishing grounds produces an estimate of 278 actively fishing derelict crab pots. Applying the estimate of annual mortality per actively fishing derelict crab of 32.4 crab per pot to the estimate of 278 actively fishing derelict crab pots on the fishing grounds produces an overall annual mortality rate of about 9,000 Dungeness crab in Dungeness Bay.

Using a similar approach for each area where derelict gear survey and pot removal operations were conducted yields annual mortality estimates of 6,240 Dungeness crab in Sequim Bay and 1,831 Dungeness crab in the Port Angeles Harbor West area.

It is clear that the impacts of derelict pots could be reduced by fishers complying with the regulations for the use of rot cord in all pots.

Recommendations

Based on the observations and the results of the Clallam County derelict fishing gear project, the following are recommendations to further reduce the impact of derelict fishing gear on the marine environment of Clallam County.

- **The derelict crab and shrimp pots located during the project should be removed from Dungeness Bay, Sequim Bay and the Port Angeles Harbor West area.**

The concentration of derelict pots encountered in these areas and the number of crab and other organisms found in the gear is sufficiently high to warrant their removal.

- **Further sidescan sonar surveys should be conducted in areas not covered during the project.**

Sidescan sonar effort was concentrated within areas and at depths that the salvage divers were capable of working on derelict fishing gear removal. Additionally, there was insufficient time and budget in the project to survey several other areas of interest to the County including the Twin Rivers/Deep Creek and Sekiu areas. After completion of the project and during the commercial Dungeness crab season, a substantial amount of crab pot fishing effort was observed in deeper water between Dungeness Bay and Protection Island. This area was not surveyed during the project because it was beyond the depth range of the divers. However, it would be useful to survey this area and determine the density of derelict fishing gear. There may be other means available to recover deepwater derelict pots and traps such as by a remote operated vehicle.

- **Scanning sonar should be investigated as a tool to guide divers to derelict fishing gear under poor visibility conditions.**

During the Clallam County derelict fishing gear project poor water visibility conditions were experienced in nearly all areas. Even when the recovery vessel was anchored near the derelict fishing gear it was time consuming and difficult for the divers to locate the gear. If the recovery vessel was equipped with a scanning sonar head it might be possible for the surface support staff to image both the diver and the derelict fishing gear and use the surface to diver communications system to guide the diver to the derelict gear. If successful, this would decrease the time required for gear retrieval and increase the amount of gear that could be recovered in the typical dive operation.

- **Fishing gear regulations should be enforced in commercial and recreational crab fisheries.**

The Clallam County derelict fishing gear project was conducted prior to the opening of the commercial season but during an open period for the recreational Dungeness crab fishery. During the course of the survey, a number of violations of the recreational crab fishing regulations were

witnessed, particularly in Dungeness Bay. The infractions witnessed included illegal floats such as bleach bottles and life jackets, use of homemade pots without legal escape rings and pots not equipped with rot cord. Nine of 52 or 17% of the derelict crab pots recovered were not equipped with rot cord. The use of rot cord is essential to minimize the impact of derelict crab and shrimp pots.

- **Fishers should be informed of hazardous areas for crab and shrimp fishing where pots and traps are more likely to be lost.**

In Port Angeles Harbor, the sidescan sonar survey showed a large concentration of logs and other woody debris on the bottom in the vicinity of the log boom grounds on the north side of the harbor. The logs on the bottom were concentrated such that identifying derelict fishing gear with the sonar was difficult. The presence of these logs greatly increases the probability of pot entanglement and gear loss. Active crab and shrimp pot fishing was observed in this area and 7 shrimp pots longlined together in pairs were freed from entanglement and recovered during the project. One shrimp pot was lost during the recovery period. Additionally, numerous recreational crab pots were observed in the vicinity of commercial and recreational vessel corridors in the western half of the harbor. Particularly tug and tanker traffic in this area is likely to result in cut float lines and derelict crab pots. A public information sign at the boat launches in the area advising crab and shrimp pot fishers of these hazardous areas and recommending safer areas for fishing could reduce the number of derelict pots and traps in the area.

- **A protocol should be developed for procedures to retrieve derelict fishing gear from areas deeper than 30 m (100 ft).**

Both commercial and recreational pot fishing effort for crab and shrimp occurs at depths in excess of 30 m (100 ft) beyond the safe operating depth of salvage divers without employing additional safety measures such as decompression chambers that are expensive to operate. Alternative methods of derelict gear retrieval should be examined such as targeted grappling, remote operated vehicle or other methods.

Table 1. Area surveyed (square kilometers), approximate crab fishing ground area (square kilometers), percent of crab fishing grounds surveyed, number of pots observed, number of pots recovered, derelict pot density (number of crab pots per square kilometer), projected number of derelict crab pots on fishing grounds and percent of projected derelict crab pots recovered by area for the Clallam County derelict fishing gear project, June/July, 2003. Source: NRC.

Location	Area Surveyed (km^2)	Approximate Fishing Ground Area (km^2)	Percent of Fishing Ground Surveyed (%)	Number of Pots Observed	Number of Pots Recovered	Derelict Pot Density (# pots/km^2)	Projected Number of Derelict Pots on Fishing Ground	Percent of Projected Derelict Pots Recovered
Dungeness Bay	2.38	17.86	13%	48	13	20.2	361	4%
Sequim Bay	0.89	9.35	10%	33	4	37.1	347	1%
Protection Island	0.59	Unknown	-	0	0	0.0	-	-
Port Angeles Harbor West	1.53	1.99	77%	206	35	134.3	267	13%
Port Angeles Harbor East	1.20	2.51	48%	0	0	0.0	0	0%
Port Angeles Harbor North	0.47	1.37	34%	4	0	8.5	12	0%
Freshwater Bay	1.72	7.73	22%	5	0	2.9	22	0%
Total	**8.79**	**40.81**	**20%**	**296**	**52**	**33.7**	**1,009**	**5%**

Note: Port Angeles Harbor North is a shrimp pot fishing area in water over 100 ft deep.
Four longlined derelict shrimp pots were identified during the survey but were not recovered.

Table 2. Number live and dead animals recorded from derelict crab pots removed during the Clallam County derelict fishing gear project, June/July 2003. Source: NRC.

	Commercial			Sport			Total		
Area Category	Active	Inactive	Total	Active	Inactive	Total	Active	Inactive	Total
Dungeness Bay									
# Pots Recovered	8	2	10	2	1	3	10	3	13
# Dead Dung Crab	14	0	14	1	0	1	15	0	15
# Live Dung Crab	4	0	4	8	0	8	12	0	12
Total Dung Crab	18	0	18	9	0	9	27	0	27
# Dead Other Crab	7	0	7	0	0	0	7	0	7
# Live Other Crab	6	1	7	0	0	0	6	1	7
Total Other Crab	13	1	14	0	0	0	13	1	14
# Dead Fish	1	0	1	0	0	0	1	0	1
# Live Fish	0	0	0	0	0	0	0	0	0
Total Fish	1	0	1	0	0	0	1	0	1
Sequim Bay									
# Pots Recovered	1	0	1	2	1	3	3	1	4
# Dead Dung Crab	5	0	5	0	1	1	5	1	6
# Live Dung Crab	0	0	0	1	2	3	1	2	3
Total Dung Crab	5	0	5	1	3	4	6	3	9
# Dead Other Crab	0	0	0	4	0	4	4	0	4
# Live Other Crab	0	0	0	2	0	2	2	0	2
Total Other Crab	0	0	0	6	0	6	6	0	6
# Dead Fish	0	0	0	0	0	0	0	0	0
# Live Fish	0	0	0	0	0	0	0	0	0
Total Fish	0	0	0	0	0	0	0	0	0
Port Angeles Harbor									
# Pots Recovered	5	4	9	10	16	26	15	20	35
# Dead Dung Crab	9	0	9	0	0	0	9	0	9
# Live Dung Crab	7	2	9	4	2	6	11	4	15
Total Dung Crab	16	2	18	4	2	6	20	4	24
# Dead Other Crab	1	0	1	0	0	0	1	0	1
# Live Other Crab	5	2	7	3	2	5	8	4	12
Total Other Crab	6	2	8	3	2	5	9	4	13
# Dead Fish	0	0	0	0	0	0	0	0	0
# Live Fish	0	0	0	0	0	0	0	0	0
Total Fish	0	0	0	0	0	0	0	0	0
Total									
# Pots Recovered	14	6	20	14	18	32	28	24	52
# Dead Dung Crab	28	0	28	1	1	2	29	1	30
# Live Dung Crab	11	2	13	13	4	17	24	6	30
Total Dung Crab	39	2	41	14	5	19	53	7	60
# Dead Other Crab	8	0	8	4	0	4	12	0	12
# Live Other Crab	11	3	14	5	2	7	16	5	21
Total Other Crab	19	3	22	9	2	11	28	5	33
# Dead Fish	1	0	1	0	0	0	1	0	1
# Live Fish	0	0	0	0	0	0	0	0	0
Total Fish	1	0	1	0	0	0	1	0	1

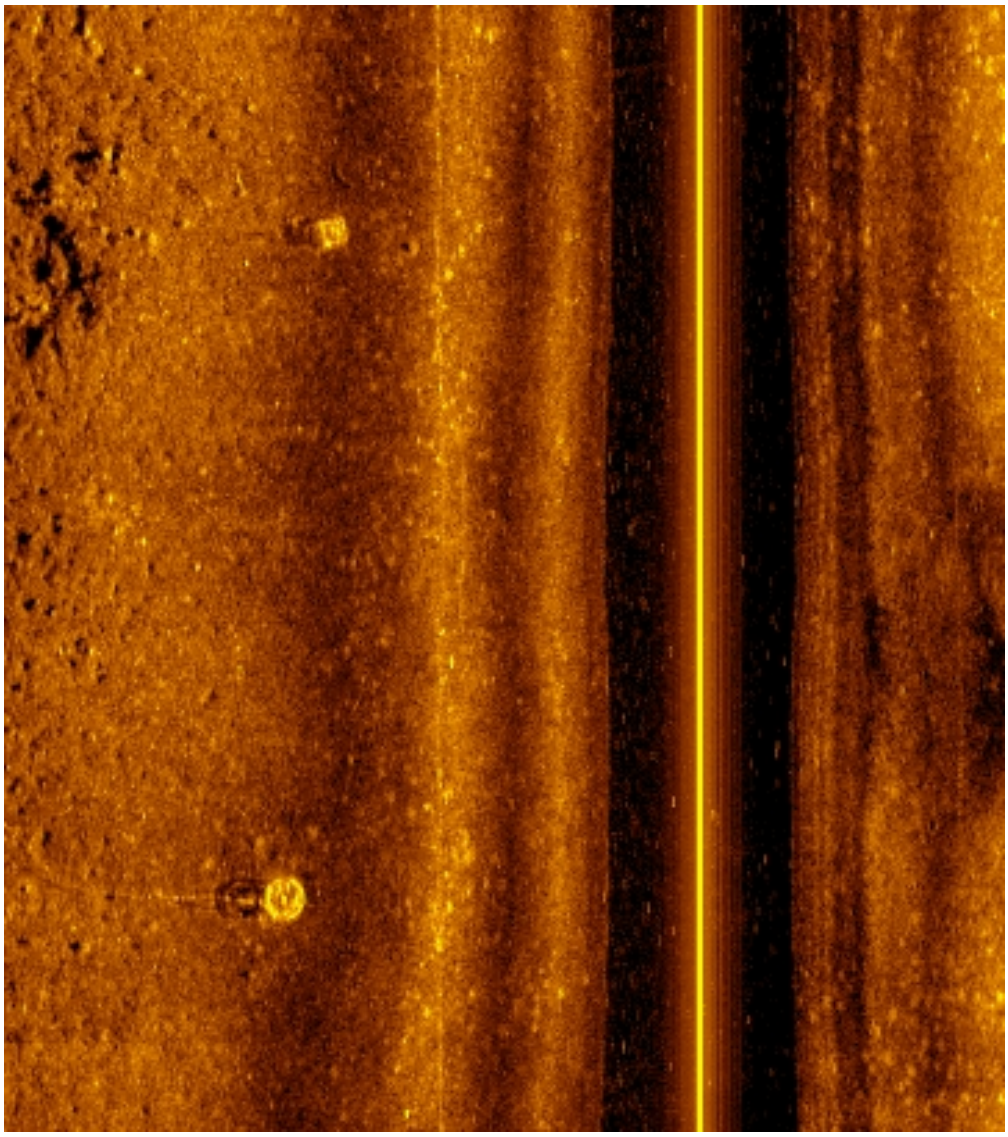

Figure 1. An example of a sidescan sonar image of derelict crab pots collected during the Clallam County derelict gear project. (Square sport pot in upper image and round commercial pot with line in lower image). Source: Innerspace Exploration Team.

Derelict Gear Reporting Form: Crab Pots

Survey Date: _____ Survey Area: _____

Rec #	Sport (S) Comm. (C)	Fishable (Y/N)	Rot Cord (Yes/No)	ALIVE		DEAD		ALIVE	DEAD	Notes
				Dung. Crab (#)	Other Crab (#)	Dung. Crab (#)	Other Crab (#)	All Fish (#)	All Fish (#)	
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
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41										
42										
43										
44										
45										

Figure 2. An example of the data sheets used for describing the derelict fishing gear recovered during the Clallam County derelict gear project. Source: NRC.

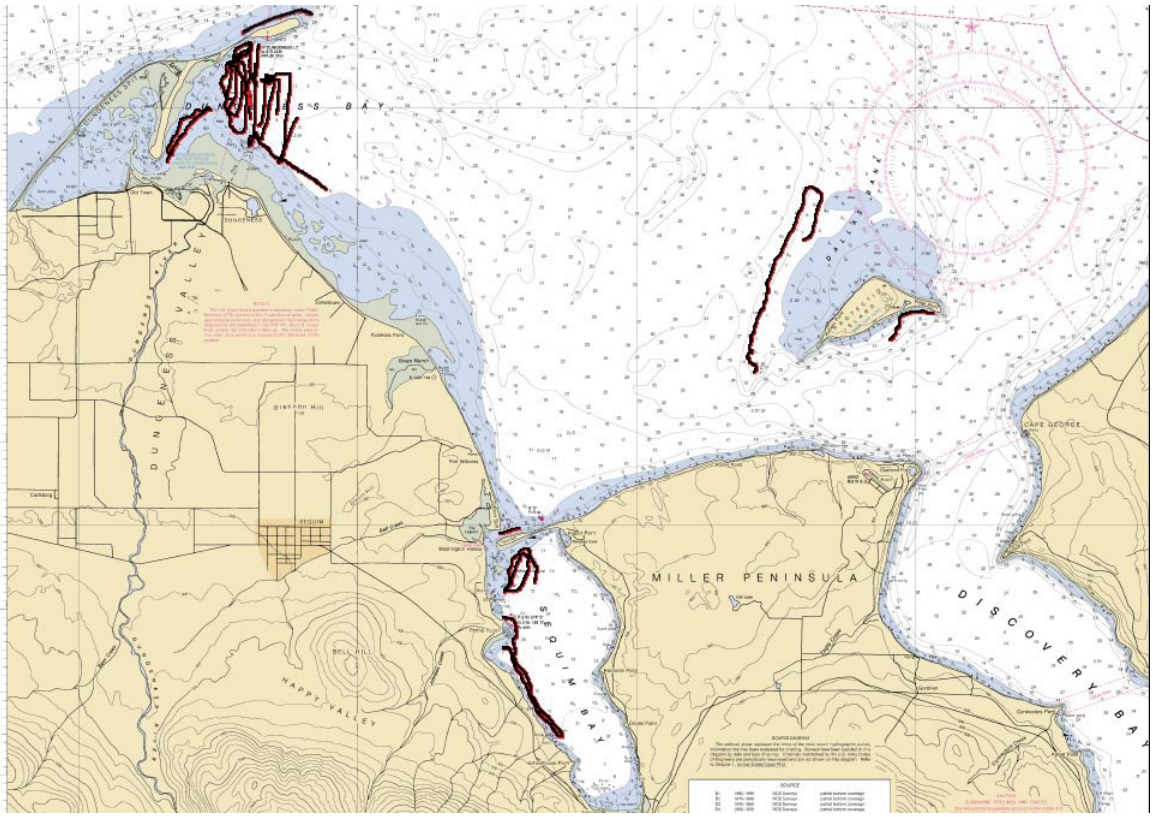

Figure 3. The location of sidescan sonar survey effort in Dungeness Bay, Sequim Bay and Protection Island conducted during the Clallam County derelict fishing gear project. Source: Innerspace Exploration Team.

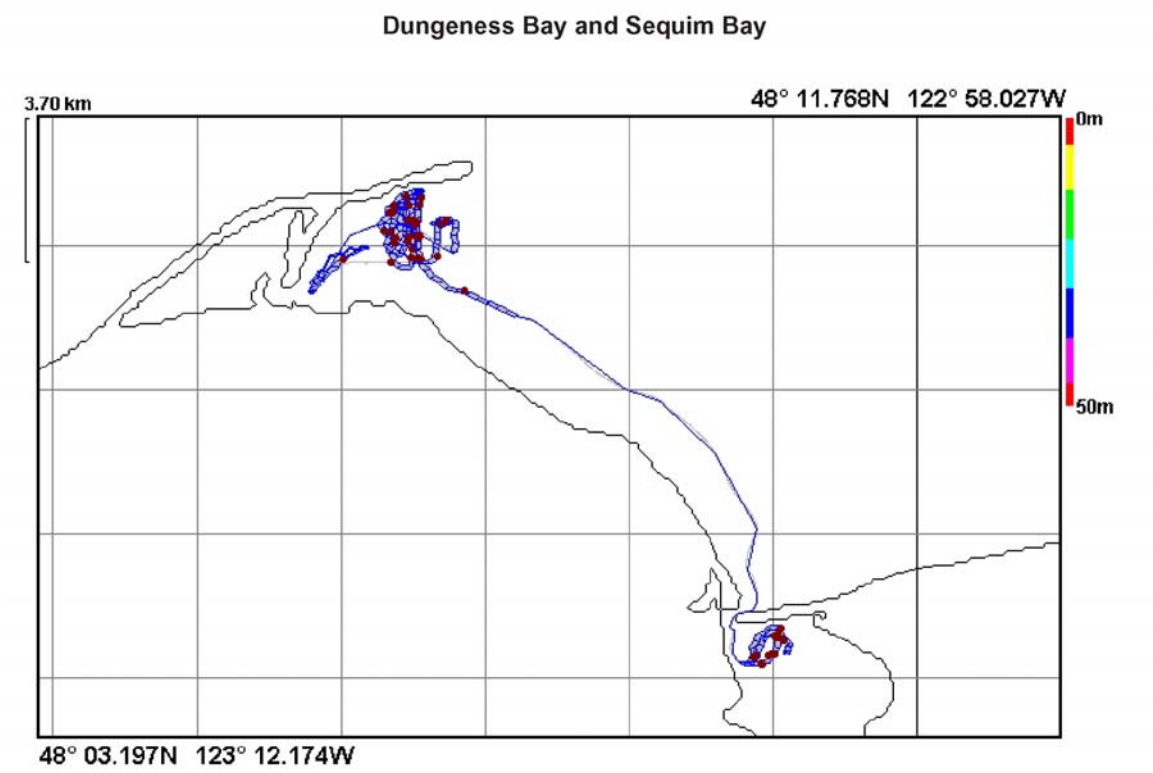

Figure 4. The location of sidescan sonar survey effort and derelict fishing gear encountered in Dungeness Bay and Sequim Bay on June 27, 2003, during the Clallam County derelict fishing gear project. Source: Innerspace Exploration Team.

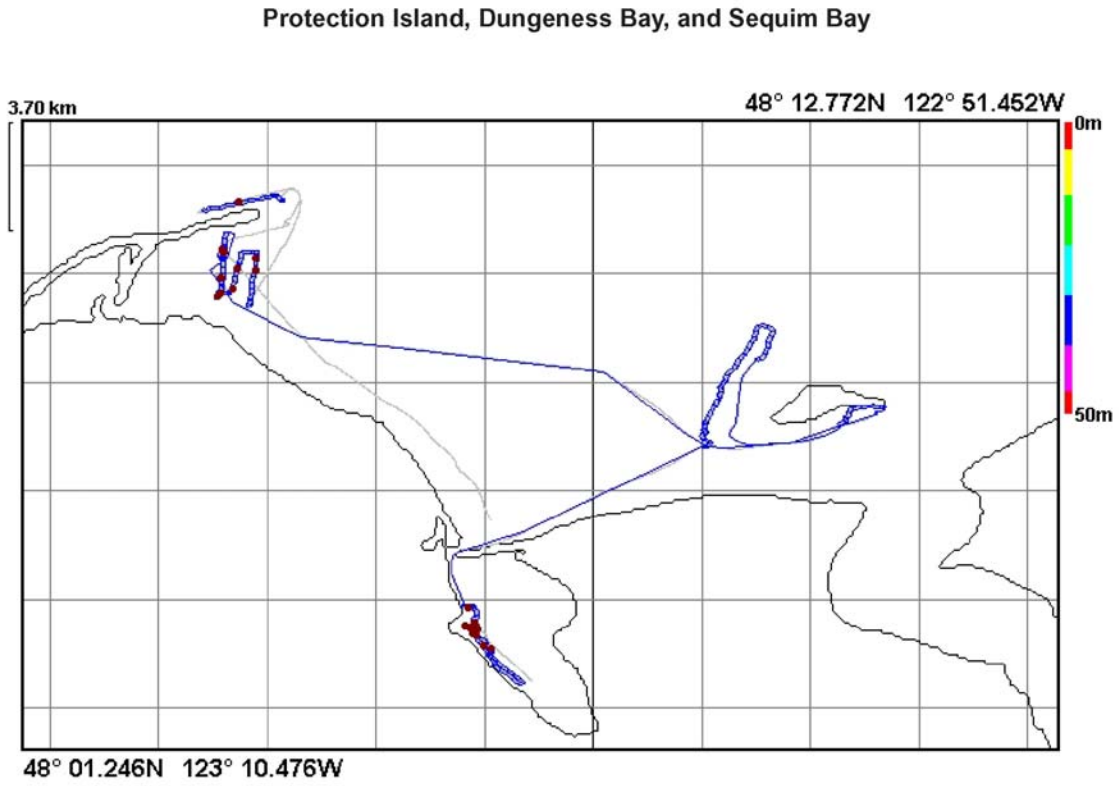

Figure 5. The location of sidescan sonar survey effort and derelict fishing gear encountered in Dungeness Bay, Sequim Bay and Protection Island on June 28, 2003, during the Clallam County derelict fishing gear project. Source: Innerspace Exploration Team.

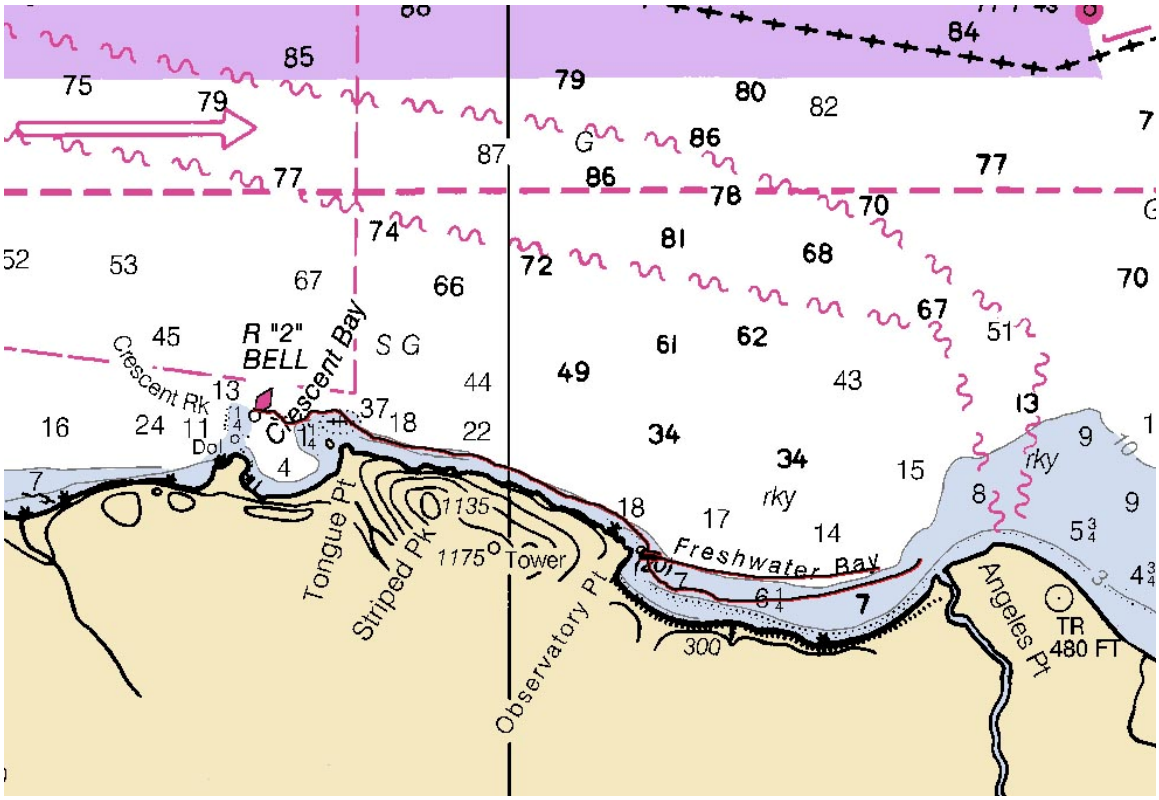

Figure 6. The location of sidescan sonar survey effort between Freshwater Bay and Crescent conducted during the Clallam County derelict fishing gear project. Source: Innerspace Exploration Team.

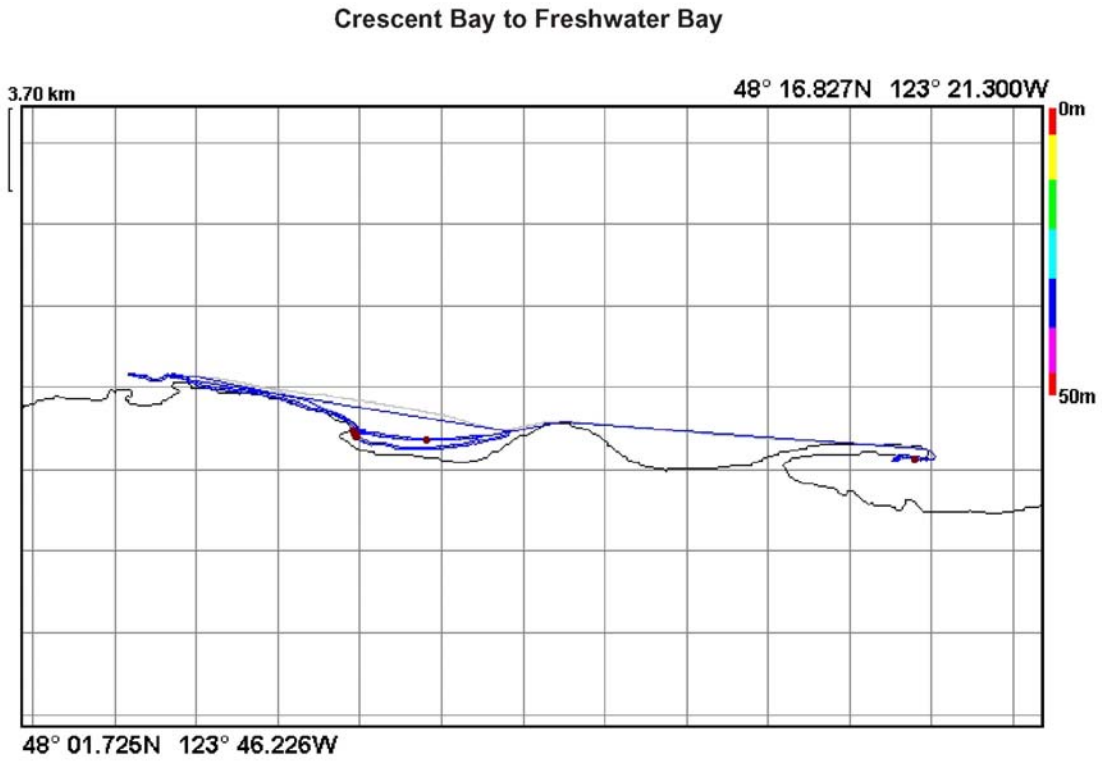

Figure 7. The location of sidescan sonar survey effort and derelict fishing gear encountered between Freshwater Bay and Crescent conducted June 29, 2003, during the Clallam County derelict fishing gear project. Source: Innerspace Exploration Team.

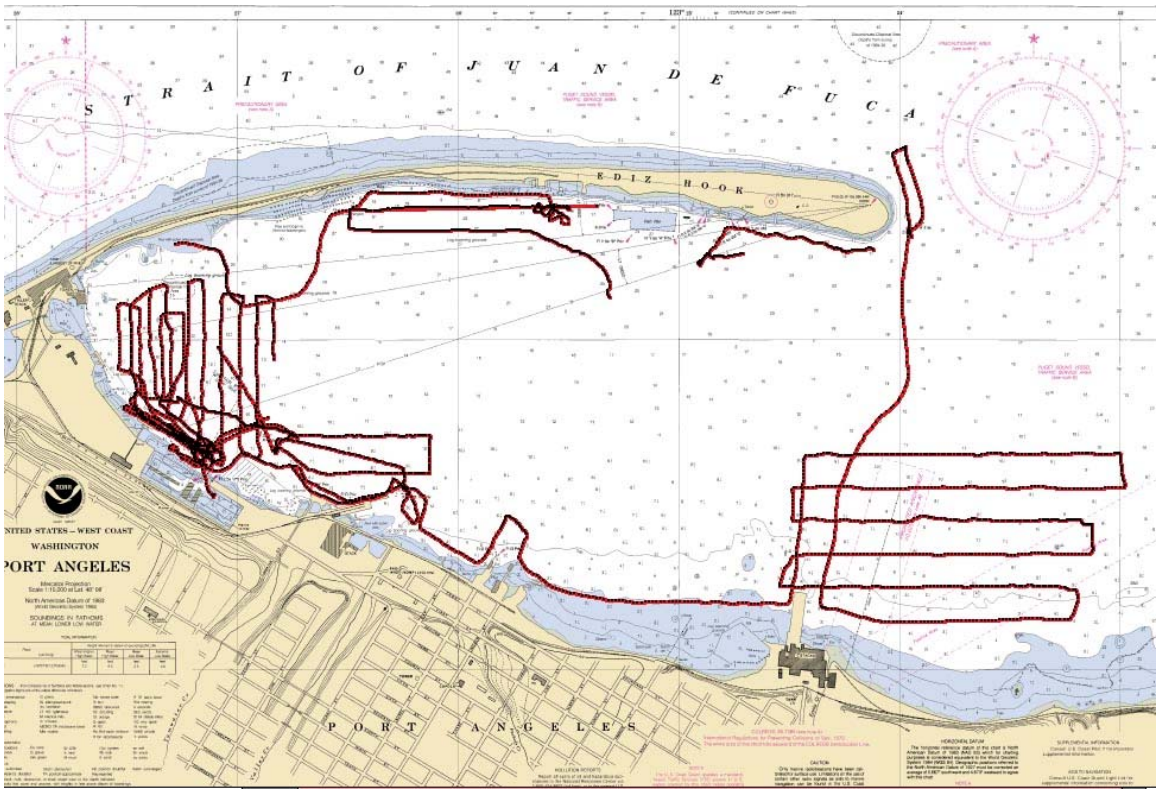

Figure 8. The location of sidescan sonar survey effort in Port Angeles Harbor conducted during the Clallam County derelict fishing gear project. Source: Innerspace Exploration Team.

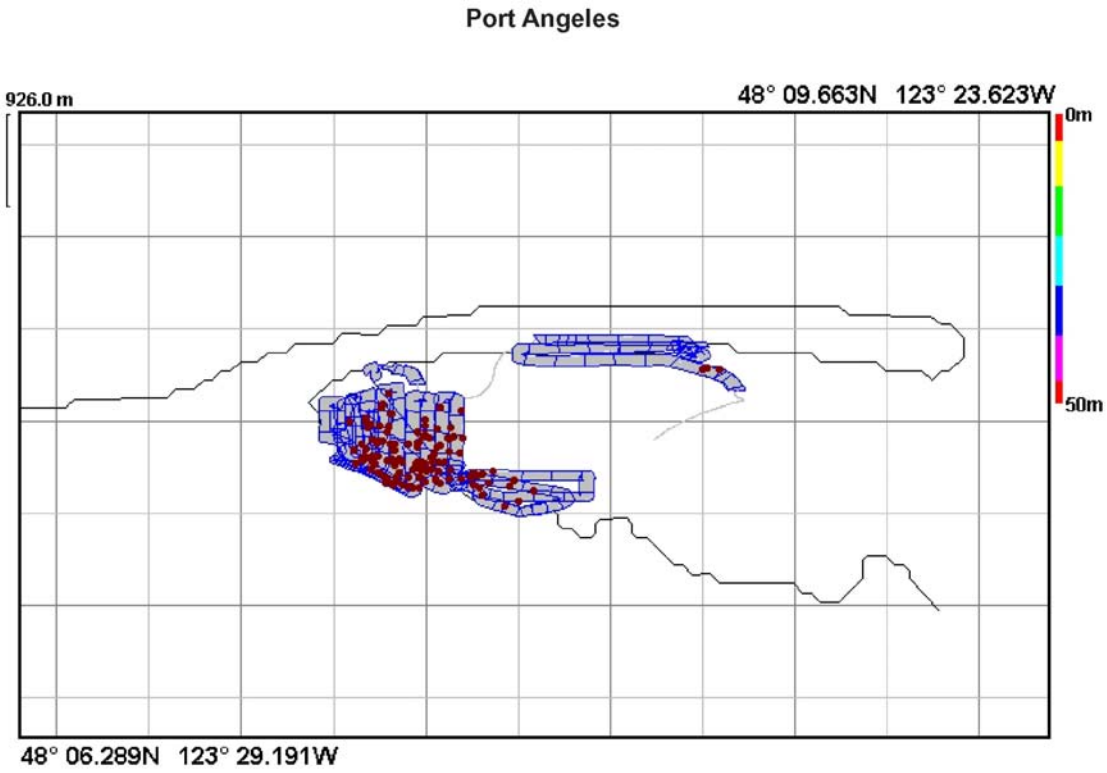

Figure 9. The location of sidescan sonar survey effort and derelict fishing gear encounter on June 30, 2003, in Port Angeles Harbor during the Clallam County derelict fishing gear project. Source: Innerspace Exploration Team.

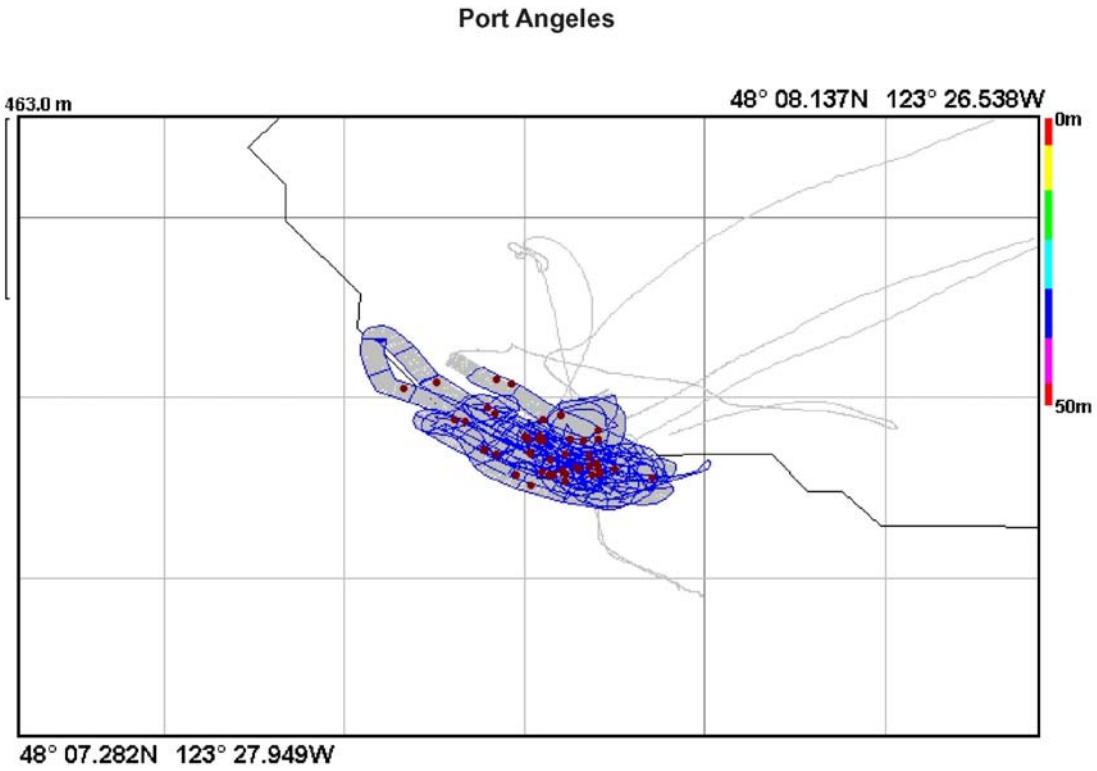

Figure 10. The location of sidescan sonar survey effort and derelict fishing gear encounter on July 1, 2003, in Port Angeles Harbor during the Clallam County derelict fishing gear project. Source: Innerspace Exploration Team.

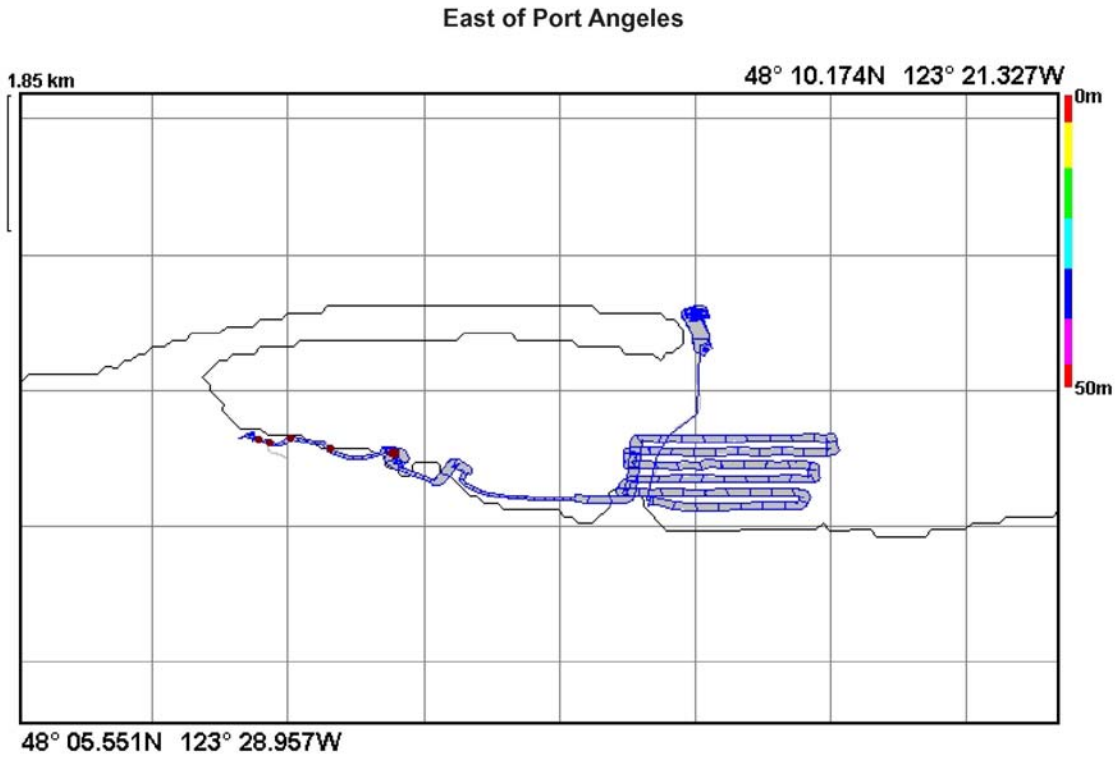

Figure 11. The location of sidescan sonar survey effort and derelict fishing gear encounter on July 2, 2003, in Port Angeles Harbor during the Clallam County derelict fishing gear project. Source: Innerspace Exploration Team.

APPENDIX 1

Clallam County Derelict Fishing Gear Project Removal Plan

1900 W. NICKERSON, STE. 207
SEATTLE, WASHINGTON 98119-1650, U.S.A.
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E-Mail : jjune@nrccorp.com (corporate)

DERELICT FISHING GEAR REMOVAL PLAN

SUBMITTED TO THE:

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

SUBMITTED BY:

NATURAL RESOURCES CONSULTANTS, INC.

June 18, 2003

Introduction

Natural Resources Consultants, Inc. (NRC), in accordance with Senate Bill 6313, is providing this Derelict Fishing Gear Removal Plan to the Washington Department of Fish and Wildlife for approval and waiver of permits. The proposed derelict fishing gear removal operation proposed by this plan is on behalf of Clallam County, Washington.

This derelict fishing gear removal and disposal plan addresses the requirements for approval and waiver of permits by the Washington Department of Fish and Wildlife as outlined in the draft Derelict Fishing Gear Removal and Disposal Protocol:

"Prior to undertaking any derelict fishing gear removal operation, the removal proponents must develop a Derelict Fishing Gear Removal and Disposal Plan following the guidelines in this protocol. The Plan must include information about who will be sponsoring and participating in the gear removal operation and their qualifications/and experience, where the removal operation will be conducted, what types of gear will be removed and how it will be identified and located, the methods, procedures and equipment that will be employed, environmental impacts of the removal operation, notification, permits, permit waivers sought and verification of legal access from responsible parties, insurance and liability coverage, documenting and reporting of activities and disposal/recycling options."

Participants

The Clallam County is the project sponsor and has contracted with NRC to organize and undertake the derelict fishing gear removal operation. NRC has subcontracted with Innerspace Exploration for side scan sonar services and Bubble Heads, Inc. for dive services. Mr. Jeff June, with NRC will act as the Project Manager and will participate in the gear removal operation. NRC will invite representatives of the Washington Department of Fish and Wildlife to participate in the clean up operation. Also invited have been representatives of the local tribal governments and representatives from the Clallam County Marine Resource Committee (MRC).

Jeff June, an NRC partner, was contracted by the NWSC to manage the joint NWSC/NOAA pilot derelict fishing gear removal and disposal project. This project involved a cooperative effort with the WDFW to develop guidelines for the safe and environmentally sensitive removal of derelict fishing gear from the marine environment of Washington State as required by Senate Bill

6313. In addition to the development of the guidelines, the project created a public reporting system for derelict gear (phone, fax, mail, email and internet), developed a database and GIS reporting system for derelict gear, created a protocol to allow prioritization of derelict gear removal, carried out a survey of derelict fishing gear near Lummi Island, conducted three pilot derelict gear removal operations to test the guidelines and removal/disposal procedures and developed and implemented a public outreach/education program to inform the public about the derelict fishing gear issue and the accomplishments of the NWSC/NOAA program.

As the NWSC/NOAA derelict fishing gear project manager, Mr. June assisted in the drafting of the guidelines and convened a panel of technical experts of State, Federal and Tribal agencies who edited the guidelines. The guidelines were recently accepted and published by the WDFW. Mr. June coordinated the diver survey for derelict fishing gear around Lummi Island and reported the identified locations of derelict gear to the WDFW for inclusion into the State derelict gear database. Mr. June wrote the derelict fishing gear removal plan for the pilot removal operations conducted by the NWSC that was approved by the WDFW. He coordinated participation in the removal operations by Department of Natural Resources dive team, a commercial salvage dive operator and representatives of the commercial fishing industry. Mr. June acted as the on-site manager of the pilot removal operations and coordinated all aspects of the gear removal and disposal including media coverage. Mr. June recently completed a final report for the NWSC/NOAA project and is currently assisting the NWSC in seeking additional partnership support for continuing derelict fishing gear removal operations.

Innerspace Explorations is small business on the forefront of marine hydrographic survey technology. Mr. Crayton Fenn has extensive experience in the detection, location and documentation of objects in the marine environment. Innerspace Explorations utilizes cutting edge side scan sonar technology that is proven in the detection of derelict fishing gear and other objects in the water column and on the seabed. Innerspace has been contracted by the WDFW to locate illegal longlined crab pot gear on the seabed (image attached). Innerspace has located derelict crab pots in Boundary Bay, Shilshole Bay and south Puget Sound. Most recently, Innerspace conducted six-weeks of survey operations in Texas searching for space shuttle parts in several reservoirs for NASA. Innerspace recently completed four days of surveying for derelict fishing gear in Boundary Bay, Bellingham Bay, Samish Bay and Port Susan that discovered and documented literally hundreds of derelict crab pots.

Bubble Heads, Inc., is a professional diving company located in Brinnon, Washington. Mr. Carl Sheats, owner and principal, has nearly 30 years of experience and 5,000 hours of commercial diving experience in salvage, commercial fishery harvests and underwater construction operations (resume attached). Mr. Sheats was the Supervisor of the Native American commercial dive training program and his dive team will include experienced divers from local Tribes. Mr. Sheats owns and operates a 32 ft. commercial dive support vessel and a 22 ft support-retrieval vessel. He operates the latest in professional surface supplied air diving systems. Bubble Heads, Inc., has experience in underwater removal and disposal of derelict fishing gear. They routinely remove nets, lines and other fishing-related debris from underwater obstructions in the sea urchin, geoduck and sea cucumber harvest areas. They have extensive underwater diving experience. They are particularly sensitive to the environmental aspects of the operation and have read, understand and agree to abide by the environmental protection measures outlined in the derelict fishing gear removal and disposal guidelines published by the WDFW.

Schedule

Derelict fishing gear removal and disposal operations are scheduled for the period June 20 through June 26, 2003. Operations may proceed through June 30, if necessary due to weather or other schedule issues but all removal operations will terminate prior to the July 1, 2003 commercial crab fishery opening.

Locations and Types of Derelict Fishing Gear

The derelict fishing gear removal operation will be staged out of John Wayne Marine, Sequim Bay, Washington. Derelict gear removal operations may occur in Sequim Bay, Dungeness Bay, Port Angeles Harbor, Freshwater Bay, Twin Rivers/Deep Creek area and Sekiu area, depending upon weather and operation schedule. These locations are where the presence of high concentrations of commercial and recreational crab fishing effort occurs and derelict fishing gear has been reported.

Survey Methods and Equipment

Prior to initiating surveys for derelict fishing gear, NRC will contact local fishers and identify specific locations and depth ranges commonly fished in each area. NRC will also attempt to identify locations of natural or man-caused obstructions in salmon fishing areas that may have entangled

gillnets. NRC will team with Innerspace Explorations for side scan sonar survey coverage in each area. We propose using a 600kHz, high-resolution side scans sonar to locate the derelict fishing gear. This is a proven technology that we have used to locate pots in the past for the WDFW. We will record our track lines and the locations of the derelict gear with the use of DGPS which will give us the accuracy required to precisely plot the location of the derelict fishing gear encountered. Our survey speed will be between 2.5 and 3 knots and we would be able to cover 1 square nautical mile per day. The equipment that will be used in the survey will consist of:

26' survey vessel
600kHz heavy towfish
Hydraulic winch and cable
Backup hand-deployed tow cable
Two topside CPUs

We anticipate one survey day in each of the locations identified for a total of six survey days of effort. The survey will maximize the opportunity to locate derelict fishing gear by concentrating survey effort in those areas and depth ranges of known high-density crab pot fishing areas. NRC will analyze the derelict fishing gear survey data collected and produce GIS charts showing derelict fishing gear locations and quantity of gear by type (example attached) and a database containing the following information:

Date and Time of Observation
General Survey Location
DGPS latitude and longitude to 1/1000th of a minute.
Type of gear encountered
Quantity of gear encountered
Depth of water
Probable substrate type

A GIS chart plot of the entire area surveyed in each location will also be developed and submitted. Derelict fishing gear survey information will be submitted in both hard copy color format and in electronic format (.dbf and GIS shape files). With Clallam County's approval, NRC will submit the derelict fishing gear survey information to WDFW for inclusion into the State of Washington derelict fishing gear database.

<u>Removal Methods and Equipment</u>

NRC will team Bubble Heads, Inc., salvage divers from Brinnon, Washington, for derelict fishing gear removal. Bubble Heads is an experienced commercial

dive company with experience in derelict fishing gear removal. They are also very familiar with the waters of the Strait of Juan de Fuca. Prior to the removal operation, NRC and Bubble Heads will coordinate with Clallam County on selecting the derelict fishing gear identified during the survey for removal.

A dive plan will be prepared in advance of the removal operations. The derelict fishing gear will be removed by divers utilizing surface supplied air equipment. All required OSHA safety standards will be met during the dive operations and the required insurance will be in effect. The dive removal operation will follow all removal guidelines included in the WDFW derelict fishing gear removal and disposal guidelines. Bubble Heads will provide the necessary dive support vessels, gear retrieval vessels, surface supplied air gear, underwater communication system, lift bags, grappling hook, rope, etc., necessary to remove the derelict fishing gear encountered. We anticipate using four experienced divers, including at least one local Tribal diver, to remove derelict fishing gear over a three day period. Derelict fishing gear removal operations will be conducted during closed fishing periods for commercial crab to avoid conflicts with actively fishing gear. NRC will coordinate with WDFW on the fishing season schedule. The amount of derelict fishing gear that can be removed during the removal operations is dependent upon the amount of derelict gear located during the survey and the density of derelict fishing gear located with a given area. However, previous removal operations conducted by NRC indicate that four divers should be capable of removing 100 derelict pots per day or more.

A Dive Supervisor will be assigned the responsibility of planning and organizing the diver derelict fishing gear operation and safety plan at each location. At each location, a pre-removal dive survey will be conduct to assess the conditions of the gear and the environment at the dive location. A Dive Removal Plan will be prepared by a Master Diver prior to the commencement of removal of derelict fishing gear by the dive team, taking into consideration information developed during the pre-dive removal survey, as well as any other points the Dive Supervisor may feel to be cogent. As during the pre-dive removal survey, due regard will be had towards the definite possibility of diver entanglement in the gear (particularly nets) during the removal operation.

The dive support vessel will be anchored or held in place by a towline from the skiff, if anchoring is not possible. A single diver will be deployed with surface supplied air, a voice communication system. Airlift bags will be attached to individual exposed crab pots or several crab pots if located next to one another and inflated to lift the pot vertically off the seabed and float

them to the surface where they will be later collected with the skiff and delivered to the storage barge. The diver or the skiff operator will remove any live or dead animals and as much algae and plant growth as possible and return them to the sea. The number and species of live and dead animals released per pot will be recorded on data sheets. If a crab pot is over 1/2 buried in the seabed, the diver will cut away a section of the pot webbing to debilitate the pot's fishing capability and leave the pot in place so as to minimize disturbance of the seabed. The total number of crab pots removed and remaining on the seabed will be recorded.

Although the derelict gear removal operation will concentrate on derelict crab pots, if gillnets and purse seine nets are discovered during the survey or removal operations they will be evaluated for possible immediate removal. If the nets cannot be immediately removed, their location and condition will be recorded and reported to WDFW. If they are determined to be feasible for immediate removal, they will be lifted free of seabed using air lift bags. The diver will then carefully cut with a knife along any net encrusted into the habitat or buried in the seabed freeing the net and floating it to the surface. No mechanical advantage tools will be used to free the nets. Only when the net is free from the seabed and floating in the water will it be bundled and loaded onboard the storage barge. Live and dead animals will be removed from the net, recorded on data sheets and returned to the sea. The volume and weight of net materials removed and the location of nets remaining will be recorded.

Disposal

NRC will contact the Clallam County Sheriff's Office and notify them of the intent to remove derelict fishing gear that may be covered under Washington State's Abandoned Property Rights laws. The proper papers will be filed to release into our custody any derelict fishing gear recovered that is unclaimed by the original owners. Proper public notice of our intent will be published as required by law. Once the derelict fishing gear is removed, it will be stored in a secure location in Clallam County. Using pot tags or gillnet float identification numbers, NRC will attempt to contact owners of the derelict fishing gear recovered and arrange for them to recover their fishing gear if they choose. If the ownership of the derelict fishing gear cannot be identified or the owners choose not to recover their gear, NRC will arrange for recycling of the composite materials of the gear or if recycling is not feasible, disposal in the Port Angeles Landfill. Prior any disposal in the landfill, crab pots will be crushed and gillnets bundled to reduce the volume of the disposed

materials. NRC will arrange for transportation of the derelict fishing gear from the removal area to the recycling or disposal location.

Environmental Impacts

The derelict fishing gear removal will follow the environmental protection measures outlined in the draft derelict fishing gear removal and disposal protocol. Operations will be conducted on mud habitat at depths of 40 to 90 ft. The proposed derelict gear removal operations is unlikely to occur in any habitats of special concern as identified in WAC 220-110-250:

- Surf smelt (Hypomesus pretiosus) spawning beds - located in the upper beach area in saltwater areas containing sand and/or gravel bed materials.
- Pacific sand lance (Ammodytes hexapterus) spawning beds - located in the upper beach area in saltwater areas containing sand and/or gravel bed materials.
- Rock sole (Lepidopsetta bilineata) spawning beds - located in the upper and middle beach area in saltwater areas containing sand and/or gravel bed materials.
- Pacific herring (Clupea harengus pallasi) spawning beds occur in lower beach areas and shallow subtidal areas in saltwater areas; and include eelgrass (Zostera spp) and other saltwater vegetation and/or other bed materials such as subtidal worm tubes.
- Rockfish (Sebastes spp) settlement and nursery areas - located in kelp beds, eelgrass (Zostera spp) beds, other saltwater vegetation, and other bed materials.
- Lingcod (Ophiodon elongatus) settlement and nursery areas - located in beach and subtidal areas with sand, eelgrass (Zostera spp), subtidal worm tubes, and other bed materials.
- Juvenile salmonid (Family salmonidae) migration corridors, and rearing and feeding areas are ubiquitous throughout shallow nearshore saltwater areas of the state.
- The following vegetation is found in many saltwater areas and serves essential functions in the developmental life history of fish or shellfish:
  - Eelgrass (Zostera spp);
  - Kelp (Order laminariales);
  - Intertidal wetland vascular plants (except noxious weeds).

None of the areas being considered for derelict fishing gear removal operations under this plan are located in Marine Protected Areas, Marine Parks or areas with known contaminated sediments.

No mechanical advantage tools will be used to dislodge or unbury derelict fishing gear from the seabed or surrounding rocky habitat. Airlift bags will be used by the divers to position nets for cutting free from entanglement with surrounding habitat. The divers will make every attempt possible not to disturb or dislodge vegetation or organisms from nearby habitats. Only minimal disturbance of soft bottom sediments may occur during derelict pot removal. Pots found buried more than one-half in the sediment will be disabled by cutting the pot mesh and the gear left in place. Divers will not damage or disturb any marine plants such as eelgrass or kelp during the derelict gear removal operations.

To the greatest extent possible, all live and dead animals will be removed from the derelict fishing gear recovered and returned to the sea on site prior to disposal. Counts of live and dead animals by species or species group will be recorded for each derelict gear observed whether removed or left in place.

One diver will be equipped with an underwater video camera allowing documentation of removal activities. Any environmental impacts observed from the derelict fishing gear removal operation will be recorded and reported to WDFW. It is not anticipated that any habitat restoration or mitigation will be necessary as part of the proposed derelict fishing gear removal operation.

Insurance and Safety

Bubble Heads, Inc., will conduct all dive operations during the proposed derelict gear removal operation in compliance with existing OSHA and Washington State Labor and Industry safety standards for commercial dive operations. Each diver will operate as an independent subcontractor and each maintains industry standard insurance as required by law. Bubble Heads, Inc., has developed and enforces their own diver safety plan during all commercial operations.

Notification, Permits and Legal Access

NRC will provide a U.S. Coast Guard Notice to Mariners three days prior to the start of removal operations. WDFW enforcement and DNR will be

notified five days prior to the start of operations. Local Tribes have been notified of the proposed operations.

NRC, acting on behalf of Clallam County is requesting a waiver of permits and enforcement of fishing gear possession regulations during the proposed derelict fishing gear removal operation. NRC and its contractors will follow all of the guidelines in the draft Derelict Fishing Gear Removal and Disposal Protocol that has been drafted in cooperation with WDFW and DNR personnel.

NRC has obtained permission for legal access from the John Wayne Marina for loading and unloading derelict fishing gear. No other legal access permission is required for the areas proposed for the derelict fishing gear removal operation.

Documentation and Reporting

NRC will conduct the necessary reporting to the WDFW on the derelict fishing gear removal and disposal operation, as required in the published State guidelines. This report will list the quantities of derelict gear removed, the locations from where it was removed and the final disposition of the derelict fishing gear. NRC will also conduct any necessary reporting of the disposition of the derelict fishing gear as required by the Washington State's Abandoned Property Rights laws and the Clallam County Sheriff's Office. NRC will also compile a final project report for Clallam County outlining the accomplishments of the project, listing any problems or challenges encountered and providing recommendations for future derelict fishing gear projects. A hard copy of the project report will be supplied to the Board of County Commissioners, the Strait of Juan de Fuca Marine Resource Committee, and the NWSC. In addition, an electronic copy of the report will be supplied to the Board of County Commissioners.
encountered will be recorded.

Counts of live and dead animals and estimates of associated biota will be recorded for each derelict fishing gear recovered or left in place. Video and still photographs will be recorded to document the removal and disposal operations. Any environmental impacts from the derelict fishing gear removal operation will be documented and reported.

The ultimate disposition of the derelict fishing gear removed whether returned to fishers, recycled or disposed of will be recorded. A final report will be prepared and submitted to the WDFW describing the removal operation and reporting the collected information.

APPENDIX 2

Derelict Fishing Gear Survey Database

DG Type	Latitude	Longitude	Depth (ft)	Location	Status
crab pot	4809.379	12306.292	45	Dungeness Bay	removed
crab pot	4809.583	12306.915	28	Dungeness Bay	remaining
crab pot	4809.631	12306.868	29	Dungeness Bay	remaining
crab pot	4809.734	12306.654	48	Dungeness Bay	remaining
crab pot	4809.762	12307.296	16	Dungeness Bay	remaining
crab pot	4809.803	12306.884	30	Dungeness Bay	remaining
crab pot	4809.807	12307.963	33	Dungeness Bay	remaining
crab pot	4809.830	12306.927	27	Dungeness Bay	remaining
crab pot	4809.836	12307.018	32	Dungeness Bay	remaining
crab pot	4809.841	12307.026	32	Dungeness Bay	remaining
crab pot	4809.856	12306.668	52	Dungeness Bay	removed
crab pot	4809.909	12306.854	30	Dungeness Bay	remaining
crab pot	4809.948	12307.009	35	Dungeness Bay	remaining
crab pot	4810.041	12307.264	32	Dungeness Bay	remaining
crab pot	4810.048	12306.224	60	Dungeness Bay	remaining
crab pot	4810.068	12307.072	32	Dungeness Bay	removed
crab pot	4810.095	12306.572	58	Dungeness Bay	remaining
crab pot	4810.107	12307.234	34	Dungeness Bay	remaining
crab pot	4810.119	12307.057	36	Dungeness Bay	removed
crab pot	4810.121	12306.901	36	Dungeness Bay	remaining
crab pot	4810.122	12306.961	36	Dungeness Bay	remaining
crab pot	4810.149	12306.906	40	Dungeness Bay	remaining
crab pot	4810.180	12307.305	36	Dungeness Bay	remaining
crab pot	4810.208	12307.410	29	Dungeness Bay	remaining
crab pot	4810.270	12306.221	72	Dungeness Bay	remaining
crab pot	4810.295	12306.983	45	Dungeness Bay	remaining
crab pot	4810.302	12306.627	32	Dungeness Bay	removed
crab pot	4810.303	12306.627	32	Dungeness Bay	removed
crab pot	4810.304	12306.629	33	Dungeness Bay	removed
crab pot	4810.339	12306.955	45	Dungeness Bay	remaining
crab pot	4810.340	12306.953	45	Dungeness Bay	removed
crab pot	4810.341	12306.951	45	Dungeness Bay	removed
crab pot	4810.352	12306.541	21	Dungeness Bay	remaining
crab pot	4810.352	12307.086	45	Dungeness Bay	remaining
crab pot	4810.359	12307.023	45	Dungeness Bay	remaining
crab pot	4810.399	12306.804	55	Dungeness Bay	remaining
crab pot	4810.424	12306.827	55	Dungeness Bay	remaining
crab pot	4810.456	12307.292	45	Dungeness Bay	remaining
crab pot	4810.458	12306.826	50	Dungeness Bay	remaining
crab pot	4810.466	12307.317	34	Dungeness Bay	remaining
crab pot	4810.549	12307.265	45	Dungeness Bay	remaining
crab pot	4810.557	12306.909	75	Dungeness Bay	remaining

DG Type	Latitude	Longitude	Depth (ft)	Location	Status
crab pot	4810.561	12307.268	46	Dungeness Bay	remaining
crab pot	4810.570	12307.066	93	Dungeness Bay	remaining
crab pot	4810.664	12306.900	45	Dungeness Bay	remaining
crab pot	4810.665	12306.898	45	Dungeness Bay	remaining
crab pot	4810.666	12306.892	45	Dungeness Bay	remaining
crab pot	4810.690	12307.104	52	Dungeness Bay	remaining
crab pot	4808.729	12336.370	32	Freshwater Bay	remaining
crab pot	4808.807	12338.092	16	Freshwater Bay	remaining
crab pot	4808.885	12338.106	28	Freshwater Bay	remaining
crab pot	4808.889	12338.110	27	Freshwater Bay	remaining
crab pot	4808.942	12338.166	29	Freshwater Bay	remaining
crab pot	4807.527	12326.220	36	Port Angeles Harbor West	remaining
crab pot	4807.536	12326.207	30	Port Angeles Harbor West	remaining
crab pot	4807.539	12326.218	29	Port Angeles Harbor West	remaining
crab pot	4807.540	12326.238	29	Port Angeles Harbor West	remaining
crab pot	4807.550	12326.227	32	Port Angeles Harbor West	remaining
crab pot	4807.569	12326.688	30	Port Angeles Harbor West	remaining
crab pot	4807.619	12327.138	30	Port Angeles Harbor West	remaining
crab pot	4807.641	12327.213	30	Port Angeles Harbor West	remaining
crab pot	4807.645	12326.981	30	Port Angeles Harbor West	remaining
crab pot	4807.539	12326.572	40	Port Angeles Harbor West	removed
crab pot	4807.569	12326.499	48	Port Angeles Harbor West	removed
crab pot	4807.596	12326.693	35	Port Angeles Harbor West	remaining
crab pot	4807.622	12326.416	52	Port Angeles Harbor West	remaining
crab pot	4807.628	12327.241	32	Port Angeles Harbor West	remaining
crab pot	4807.634	12327.194	32	Port Angeles Harbor West	remaining
crab pot	4807.635	12327.087	38	Port Angeles Harbor West	remaining
crab pot	4807.637	12326.089	48	Port Angeles Harbor West	remaining
crab pot	4807.639	12327.073	32	Port Angeles Harbor West	remaining
crab pot	4807.641	12327.035	38	Port Angeles Harbor West	remaining
crab pot	4807.642	12327.070	38	Port Angeles Harbor West	remaining
crab pot	4807.642	12327.211	32	Port Angeles Harbor West	removed
crab pot	4807.642	12327.217	32	Port Angeles Harbor West	removed
crab pot	4807.643	12326.712	48	Port Angeles Harbor West	remaining
crab pot	4807.644	12327.083	38	Port Angeles Harbor West	remaining
crab pot	4807.644	12327.102	38	Port Angeles Harbor West	removed
crab pot	4807.644	12327.157	36	Port Angeles Harbor West	removed
crab pot	4807.644	12327.262	32	Port Angeles Harbor West	remaining
crab pot	4807.644	12327.263	32	Port Angeles Harbor West	remaining
crab pot	4807.645	12327.146	32	Port Angeles Harbor West	remaining
crab pot	4807.646	12327.194	32	Port Angeles Harbor West	remaining
crab pot	4807.648	12326.545	52	Port Angeles Harbor West	remaining

DG Type	Latitude	Longitude	Depth (ft)	Location	Status
crab pot	4807.648	12327.227	32	Port Angeles Harbor West	remaining
crab pot	4807.649	12327.197	36	Port Angeles Harbor West	remaining
crab pot	4807.652	12327.126	32	Port Angeles Harbor West	remaining
crab pot	4807.652	12327.147	36	Port Angeles Harbor West	removed
crab pot	4807.652	12327.176	32	Port Angeles Harbor West	removed
crab pot	4807.653	12327.179	32	Port Angeles Harbor West	remaining
crab pot	4807.654	12326.743	48	Port Angeles Harbor West	remaining
crab pot	4807.656	12327.125	39	Port Angeles Harbor West	remaining
crab pot	4807.656	12327.160	32	Port Angeles Harbor West	remaining
crab pot	4807.659	12327.150	36	Port Angeles Harbor West	remaining
crab pot	4807.663	12327.217	44	Port Angeles Harbor West	remaining
crab pot	4807.664	12327.215	32	Port Angeles Harbor West	remaining
crab pot	4807.666	12326.660	46	Port Angeles Harbor West	remaining
crab pot	4807.666	12326.927	48	Port Angeles Harbor West	remaining
crab pot	4807.671	12327.161	32	Port Angeles Harbor West	remaining
crab pot	4807.672	12327.160	39	Port Angeles Harbor West	remaining
crab pot	4807.672	12327.194	32	Port Angeles Harbor West	remaining
crab pot	4807.672	12327.241	32	Port Angeles Harbor West	remaining
crab pot	4807.673	12327.290	32	Port Angeles Harbor West	remaining
crab pot	4807.674	12327.244	32	Port Angeles Harbor West	remaining
crab pot	4807.675	12327.009	48	Port Angeles Harbor West	remaining
crab pot	4807.677	12327.002	42	Port Angeles Harbor West	remaining
crab pot	4807.678	12327.307	32	Port Angeles Harbor West	remaining
crab pot	4807.681	12326.519	48	Port Angeles Harbor West	remaining
crab pot	4807.681	12326.527	48	Port Angeles Harbor West	remaining
crab pot	4807.681	12326.944	48	Port Angeles Harbor West	remaining
crab pot	4807.687	12326.949	42	Port Angeles Harbor West	remaining
crab pot	4807.689	12326.875	50	Port Angeles Harbor West	remaining
crab pot	4807.689	12327.166	35	Port Angeles Harbor West	remaining
crab pot	4807.690	12327.168	36	Port Angeles Harbor West	remaining
crab pot	4807.690	12327.225	32	Port Angeles Harbor West	remaining
crab pot	4807.691	12327.163	35	Port Angeles Harbor West	remaining
crab pot	4807.692	12326.807	45	Port Angeles Harbor West	remaining
crab pot	4807.692	12327.148	32	Port Angeles Harbor West	remaining
crab pot	4807.693	12327.231	32	Port Angeles Harbor West	remaining
crab pot	4807.694	12327.188	36	Port Angeles Harbor West	remaining
crab pot	4807.694	12327.246	32	Port Angeles Harbor West	remaining
crab pot	4807.695	12327.036	38	Port Angeles Harbor West	remaining
crab pot	4807.695	12327.096	52	Port Angeles Harbor West	remaining
crab pot	4807.696	12327.163	38	Port Angeles Harbor West	remaining
crab pot	4807.697	12327.229	32	Port Angeles Harbor West	remaining
crab pot	4807.697	12327.250	32	Port Angeles Harbor West	remaining

DG Type	Latitude	Longitude	Depth (ft)	Location	Status
crab pot	4807.698	12327.030	42	Port Angeles Harbor West	remaining
crab pot	4807.698	12327.109	52	Port Angeles Harbor West	remaining
crab pot	4807.701	12326.756	48	Port Angeles Harbor West	remaining
crab pot	4807.704	12326.715	48	Port Angeles Harbor West	remaining
crab pot	4807.706	12327.148	32	Port Angeles Harbor West	remaining
crab pot	4807.707	12327.039	52	Port Angeles Harbor West	remaining
crab pot	4807.707	12327.138	38	Port Angeles Harbor West	remaining
crab pot	4807.711	12327.106	52	Port Angeles Harbor West	remaining
crab pot	4807.717	12326.694	48	Port Angeles Harbor West	remaining
crab pot	4807.717	12327.333	32	Port Angeles Harbor West	remaining
crab pot	4807.718	12327.333	32	Port Angeles Harbor West	remaining
crab pot	4807.719	12327.261	35	Port Angeles Harbor West	remaining
crab pot	4807.719	12327.347	32	Port Angeles Harbor West	remaining
crab pot	4807.720	12326.741	48	Port Angeles Harbor West	remaining
crab pot	4807.720	12327.226	32	Port Angeles Harbor West	remaining
crab pot	4807.722	12326.739	48	Port Angeles Harbor West	remaining
crab pot	4807.723	12327.147	38	Port Angeles Harbor West	remaining
crab pot	4807.725	12327.199	32	Port Angeles Harbor West	remaining
crab pot	4807.727	12326.639	48	Port Angeles Harbor West	remaining
crab pot	4807.727	12326.931	54	Port Angeles Harbor West	remaining
crab pot	4807.729	12327.292	32	Port Angeles Harbor West	remaining
crab pot	4807.734	12327.000	42	Port Angeles Harbor West	remaining
crab pot	4807.735	12326.971	42	Port Angeles Harbor West	remaining
crab pot	4807.735	12327.300	35	Port Angeles Harbor West	remaining
crab pot	4807.736	12327.068	42	Port Angeles Harbor West	remaining
crab pot	4807.736	12327.303	32	Port Angeles Harbor West	removed
crab pot	4807.737	12327.027	42	Port Angeles Harbor West	remaining
crab pot	4807.738	12326.868	50	Port Angeles Harbor West	remaining
crab pot	4807.738	12327.014	42	Port Angeles Harbor West	remaining
crab pot	4807.739	12327.008	42	Port Angeles Harbor West	remaining
crab pot	4807.763	12327.285	35	Port Angeles Harbor West	remaining
crab pot	4807.764	12327.417	32	Port Angeles Harbor West	remaining
crab pot	4807.766	12327.168	38	Port Angeles Harbor West	remaining
crab pot	4807.767	12327.008	52	Port Angeles Harbor West	remaining
crab pot	4807.769	12327.052	52	Port Angeles Harbor West	remaining
crab pot	4807.769	12327.269	32	Port Angeles Harbor West	remaining
crab pot	4807.770	12327.272	45	Port Angeles Harbor West	remaining
crab pot	4807.770	12327.369	42	Port Angeles Harbor West	remaining
crab pot	4807.771	12327.372	32	Port Angeles Harbor West	remaining
crab pot	4807.773	12327.000	49	Port Angeles Harbor West	remaining
crab pot	4807.773	12327.379	42	Port Angeles Harbor West	remaining
crab pot	4807.776	12326.962	52	Port Angeles Harbor West	remaining

DG Type	Latitude	Longitude	Depth (ft)	Location	Status
crab pot	4807.776	12327.286	35	Port Angeles Harbor West	remaining
crab pot	4807.776	12327.289	32	Port Angeles Harbor West	removed
crab pot	4807.777	12327.294	45	Port Angeles Harbor West	removed
crab pot	4807.778	12326.935	55	Port Angeles Harbor West	remaining
crab pot	4807.778	12327.289	48	Port Angeles Harbor West	removed
crab pot	4807.779	12326.901	55	Port Angeles Harbor West	remaining
crab pot	4807.781	12327.020	52	Port Angeles Harbor West	remaining
crab pot	4807.782	12327.126	38	Port Angeles Harbor West	remaining
crab pot	4807.783	12327.047	52	Port Angeles Harbor West	remaining
crab pot	4807.787	12327.210	45	Port Angeles Harbor West	remaining
crab pot	4807.787	12327.339	35	Port Angeles Harbor West	remaining
crab pot	4807.789	12327.282	48	Port Angeles Harbor West	remaining
crab pot	4807.792	12327.184	38	Port Angeles Harbor West	removed
crab pot	4807.795	12327.144	38	Port Angeles Harbor West	removed
crab pot	4807.795	12327.329	48	Port Angeles Harbor West	removed
crab pot	4807.799	12327.346	48	Port Angeles Harbor West	removed
crab pot	4807.800	12327.339	44	Port Angeles Harbor West	removed
crab pot	4807.800	12327.344	42	Port Angeles Harbor West	removed
crab pot	4807.802	12327.343	48	Port Angeles Harbor West	removed
crab pot	4807.804	12326.974	52	Port Angeles Harbor West	remaining
crab pot	4807.808	12327.258	50	Port Angeles Harbor West	removed
crab pot	4807.808	12327.272	52	Port Angeles Harbor West	removed
crab pot	4807.810	12327.271	48	Port Angeles Harbor West	remaining
crab pot	4807.812	12327.336	48	Port Angeles Harbor West	remaining
crab pot	4807.814	12327.292	48	Port Angeles Harbor West	remaining
crab pot	4807.823	12326.955	52	Port Angeles Harbor West	remaining
crab pot	4807.824	12326.955	52	Port Angeles Harbor West	remaining
crab pot	4807.829	12326.820	50	Port Angeles Harbor West	remaining
crab pot	4807.833	12326.877	61	Port Angeles Harbor West	remaining
crab pot	4807.837	12326.878	53	Port Angeles Harbor West	remaining
crab pot	4807.843	12327.165	52	Port Angeles Harbor West	remaining
crab pot	4807.846	12327.178	52	Port Angeles Harbor West	remaining
crab pot	4807.847	12327.392	44	Port Angeles Harbor West	remaining
crab pot	4807.853	12327.322	44	Port Angeles Harbor West	remaining
crab pot	4807.857	12327.323	44	Port Angeles Harbor West	remaining
crab pot	4807.861	12326.943	61	Port Angeles Harbor West	remaining
crab pot	4807.861	12327.048	58	Port Angeles Harbor West	remaining
crab pot	4807.864	12327.180	52	Port Angeles Harbor West	remaining
crab pot	4807.869	12326.923	61	Port Angeles Harbor West	remaining
crab pot	4807.874	12327.097	58	Port Angeles Harbor West	remaining
crab pot	4807.874	12327.172	52	Port Angeles Harbor West	remaining
crab pot	4807.876	12327.194	52	Port Angeles Harbor West	remaining

DG Type	Latitude	Longitude	Depth (ft)	Location	Status
crab pot	4807.877	12327.266	44	Port Angeles Harbor West	removed
crab pot	4807.877	12327.346	45	Port Angeles Harbor West	removed
crab pot	4807.880	12327.265	44	Port Angeles Harbor West	remaining
crab pot	4807.882	12327.298	48	Port Angeles Harbor West	remaining
crab pot	4807.886	12327.040	58	Port Angeles Harbor West	remaining
crab pot	4807.888	12327.038	58	Port Angeles Harbor West	removed
crab pot	4807.888	12327.043	58	Port Angeles Harbor West	removed
crab pot	4807.888	12327.373	48	Port Angeles Harbor West	remaining
crab pot	4807.890	12327.233	52	Port Angeles Harbor West	removed
crab pot	4807.890	12327.271	44	Port Angeles Harbor West	removed
crab pot	4807.892	12327.259	44	Port Angeles Harbor West	remaining
crab pot	4807.899	12326.875	61	Port Angeles Harbor West	remaining
crab pot	4807.899	12327.289	52	Port Angeles Harbor West	remaining
crab pot	4807.903	12326.874	55	Port Angeles Harbor West	removed
crab pot	4807.909	12326.797	55	Port Angeles Harbor West	removed
crab pot	4807.910	12326.977	58	Port Angeles Harbor West	remaining
crab pot	4807.914	12326.886	61	Port Angeles Harbor West	removed
crab pot	4807.918	12326.848	55	Port Angeles Harbor West	removed
crab pot	4807.918	12327.014	58	Port Angeles Harbor West	remaining
crab pot	4807.924	12327.088	62	Port Angeles Harbor West	remaining
crab pot	4807.927	12327.001	58	Port Angeles Harbor West	remaining
crab pot	4807.936	12327.055	62	Port Angeles Harbor West	remaining
crab pot	4807.944	12327.206	55	Port Angeles Harbor West	removed
crab pot	4807.944	12327.241	55	Port Angeles Harbor West	removed
crab pot	4807.947	12327.049	62	Port Angeles Harbor West	remaining
crab pot	4807.960	12326.940	72	Port Angeles Harbor West	remaining
crab pot	4807.964	12327.200	55	Port Angeles Harbor West	removed
crab pot	4807.964	12327.316	48	Port Angeles Harbor West	removed
crab pot	4807.967	12326.867	72	Port Angeles Harbor West	remaining
crab pot	4807.968	12327.317	44	Port Angeles Harbor West	remaining
crab pot	4807.974	12327.004	65	Port Angeles Harbor West	remaining
crab pot	4807.976	12327.205	55	Port Angeles Harbor West	remaining
crab pot	4807.978	12327.247	55	Port Angeles Harbor West	remaining
crab pot	4807.987	12327.303	44	Port Angeles Harbor West	remaining
crab pot	4807.998	12327.320	48	Port Angeles Harbor West	removed
crab pot	4807.999	12327.417	48	Port Angeles Harbor West	removed
crab pot	4808.002	12327.320	44	Port Angeles Harbor West	remaining
crab pot	4808.005	12327.001	65	Port Angeles Harbor West	remaining
crab pot	4808.018	12327.322	44	Port Angeles Harbor West	remaining
crab pot	4808.040	12327.183	66	Port Angeles Harbor West	remaining
crab pot	4808.043	12327.192	55	Port Angeles Harbor West	remaining
crab pot	4808.050	12327.062	65	Port Angeles Harbor West	remaining

DG Type	Latitude	Longitude	Depth (ft)	Location	Status
crab pot	4808.060	12326.805	85	Port Angeles Harbor West	remaining
crab pot	4808.071	12326.923	85	Port Angeles Harbor West	remaining
crab pot	4808.072	12327.244	58	Port Angeles Harbor West	remaining
crab pot	4808.075	12326.924	85	Port Angeles Harbor West	remaining
crab pot	4808.092	12327.235	70	Port Angeles Harbor West	remaining
crab pot	4808.148	12327.199	95	Port Angeles Harbor West	remaining
crab pot	4808.267	12324.400	91	Port Angeles Spit	remaining
crab pot	4803.083	12301.875	60	Sequim Bay	removed
crab pot	4803.159	12302.017	59	Sequim Bay	removed
crab pot	4803.331	12302.163	61	Sequim Bay	removed
crab pot	4803.335	12302.165	56	Sequim Bay	removed
crab pot	4803.345	12302.168	55	Sequim Bay	removed
crab pot	4803.377	12302.211	61	Sequim Bay	remaining
crab pot	4803.410	12302.164	60	Sequim Bay	remaining
crab pot	4803.444	12302.252	58	Sequim Bay	removed
crab pot	4803.450	12302.147	62	Sequim Bay	remaining
crab pot	4803.457	12302.152	62	Sequim Bay	remaining
crab pot	4803.471	12302.281	58	Sequim Bay	removed
crab pot	4803.504	12302.205	58	Sequim Bay	remaining
crab pot	4803.510	12302.196	56	Sequim Bay	remaining
crab pot	4803.519	12302.155	58	Sequim Bay	remaining
crab pot	4803.578	12302.191	58	Sequim Bay	remaining
crab pot	4803.851	12302.299	45	Sequim Bay	remaining
crab pot	4804.188	12302.154	21	Sequim Bay	remaining
crab pot	4804.189	12302.172	21	Sequim Bay	remaining
crab pot	4804.217	12302.167	21	Sequim Bay	remaining
crab pot	4804.222	12302.169	21	Sequim Bay	remaining
crab pot	4804.226	12302.157	21	Sequim Bay	remaining
crab pot	4804.299	12302.266	65	Sequim Bay	remaining
crab pot	4804.299	12302.279	65	Sequim Bay	remaining
crab pot	4804.311	12302.057	25	Sequim Bay	remaining
crab pot	4804.330	12302.245	65	Sequim Bay	remaining
crab pot	4804.338	12301.981	36	Sequim Bay	remaining
crab pot	4804.347	12302.021	36	Sequim Bay	remaining
crab pot	4804.531	12301.862	63	Sequim Bay	remaining
crab pot	4804.566	12301.925	62	Sequim Bay	remaining
crab pot	4804.568	12301.964	62	Sequim Bay	remaining
crab pot	4804.600	12301.981	62	Sequim Bay	remaining
crab pot	4804.621	12301.930	62	Sequim Bay	remaining
crab pot	4804.698	12301.897	62	Sequim Bay	remaining

DG Type	Latitude	Longitude	Depth (ft)	Location	Status
shrimp pot	4808.278	12325.495	141	Port Angeles Harbor North	remaining
shrimp pot	4808.279	12325.410	141	Port Angeles Harbor North	remaining
shrimp pot	4808.266	12325.496	141	Port Angeles Harbor North	remaining
shrimp pot	4808.266	12325.494	141	Port Angeles Harbor North	remaining