

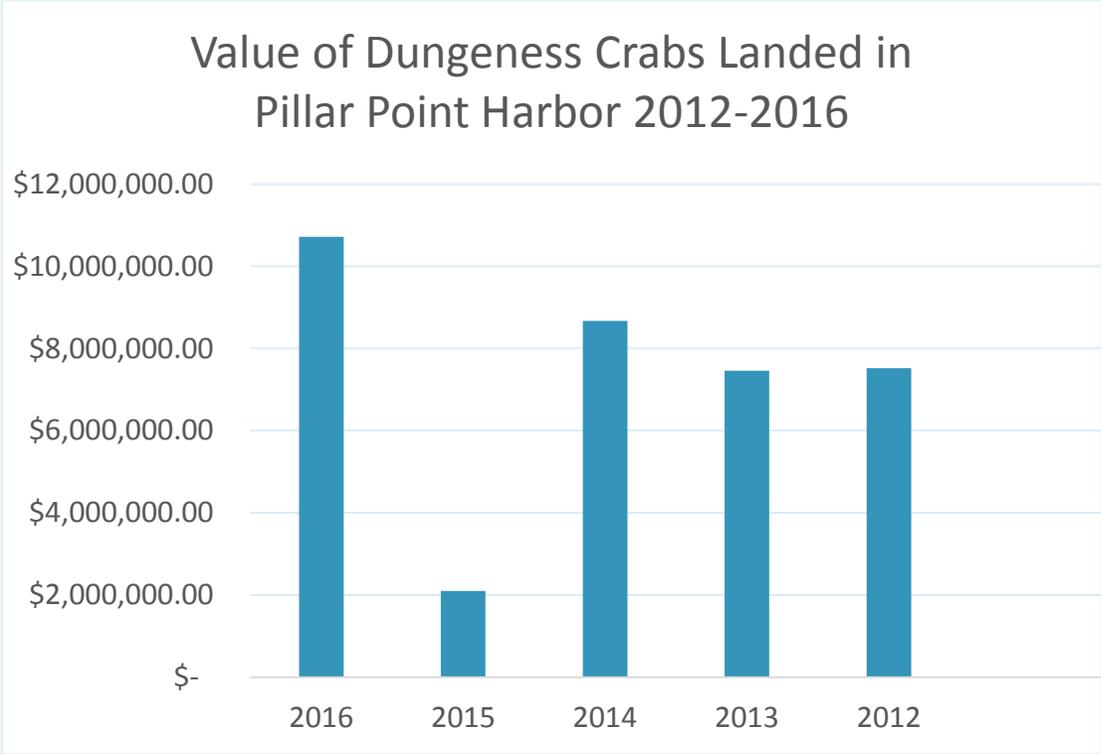
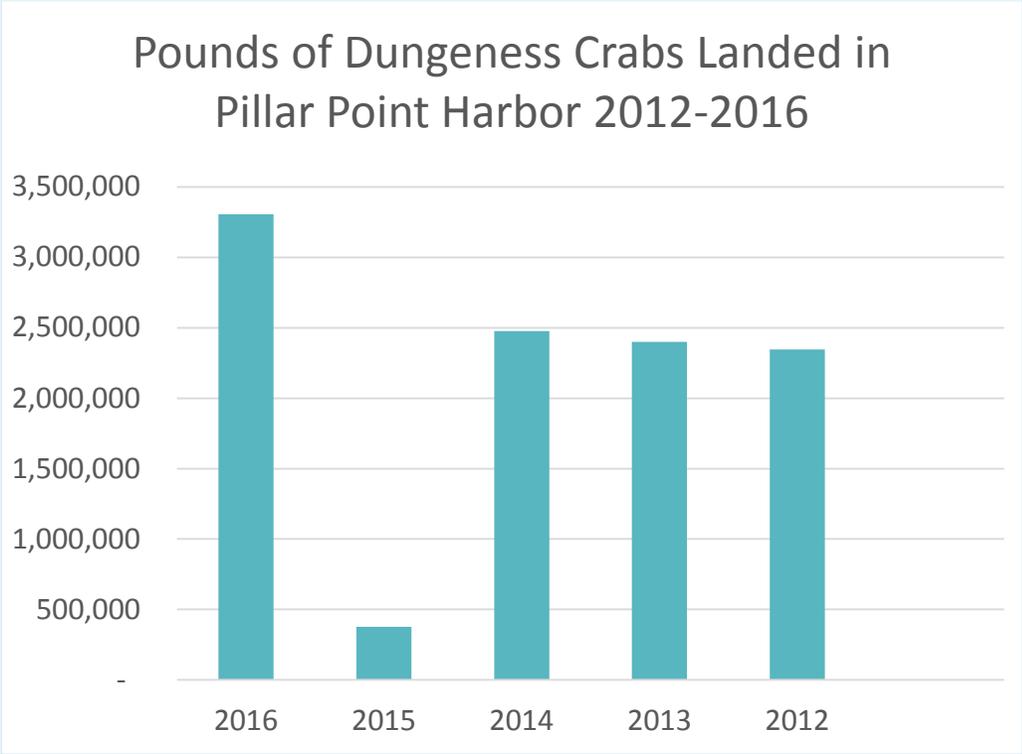


# HALF MOON BAY LOST FISHING GEAR RECOVERY PROJECT



Presentation to  
the San Mateo County Harbor District  
December 20, 2017

The California Dungeness crab fishery is a highly valuable state resource, averaging an exvessel value of approximately \$59.6 million a year. Locally, over the last five years an average of 2.2 million pounds of Dungeness Crab representing almost \$7.3 million dollars per year was landed in Pillar Point Harbor. This fishery has the highest number Pillar Point Harbor fishermen participating with approximately 42 Dungeness Crab Permit holders.



\* In January 2017, the 2015 Dungeness Crab Fishery was declared a disaster by the US Department of Commerce /NOAA

In response to an increase in reported entanglements, The California Dungeness Crab Fishing Gear Working Group initially convened in the fall of 2015. Since that time, 100+ fishermen have been trained to respond to an entanglement event, hundreds of Best Practices fishing guides have been distributed, and there has been important research into the key drivers of entanglement risk on an annual basis. With the support of the Crab Fleet, Senate Bill 1287 was signed in 2016 to support lost gear recovery efforts and although the law has not yet been implemented, 2017 has shown a significant decrease in reported entanglements.

### California Dungeness Crab Fishing 2017-18 Best Practices Guide to Minimize Whale Entanglement Risk

Support for Best Practices

When it comes to whale entanglements, the support of the Crab Fleet is essential. The Crab Fleet has been instrumental in the development of the Best Practices Guide. The Crab Fleet has been instrumental in the development of the Best Practices Guide. The Crab Fleet has been instrumental in the development of the Best Practices Guide.

**BEST PRACTICES**

- No excess lines should be floating on the surface. Log line should only be between the main buoy and trailer.
- When changing set location or depths, adjust the length of trap lines by adjusting shot (i.e., measured length of line) to maintain taut vertical lines.
- Avoid getting gear in the vicinity of whales whenever possible.
- Maintain gear to ensure lines and buoys are in good working condition and will not break under natural conditions causing gear to become lost or irretrievable. Lost gear contributes to marine debris and increases risk of whale entanglements.
- All gear should be clearly marked consistent with applicable regulations. All gear should be maintained so markings are clearly legible to facilitate correct identification of the gear if it is involved in entanglements.
- Use the minimum amount of scope required to compensate for tides, currents and weather. Whales are more likely to become entangled with slack lines, which can potentially cause a "ghost snare".
- Remove all lost gear by the end of the season when gear is no longer allowed in the water.

**BUOY SETUP BEST PRACTICES**

Minimum distance between the main and trailer buoy

**RECREATIONAL**  
30-50 fathoms  
shortest as possible, max of 4 fathoms (24m)

**COMMERCIAL**  
Inside 30 fathoms  
shortest as possible, max of 3 fathoms (18m)  
30-50 fathoms  
shortest as possible, max of 5 fathoms (30m)

Minimize # of buoys in set up - no more than 1 trailer buoy inside 30 fathoms

Keep line between trap and main buoy taut, vertical and taut

### 2016 West Coast Whale Entanglement Summary

**Developments of Interest**

Three vessel cases where U.S. commercial fishing gear was observed or removed from humpback whales in California waters. In these instances, communication and cooperation between stakeholders involved in entanglement responses is critical. It was essential in helping determine the origin of the fishing gear. These cases highlight the international scope of the problem and emphasize the value of comprehensive documentation of entanglement events, and strengthen relationships between stakeholders.

These were humpback cases where entangled whales were weighted multiple times, including some whales showing signs of death shortly after the event. Some entangled whales were weighted gear-free and showed signs of healing from current entanglements. It is important to note that entanglement events can occur over time, and highlights the need to enhance our understanding of the problem to better assess the consequences of entanglements to whale populations.



### Current Problem

The Crab Fishing Gear Working Group initially convened in the fall of 2015 to address the recent increase in reported entanglements in the waters of California. The Crab Fleet has been instrumental in the development of the Best Practices Guide. The Crab Fleet has been instrumental in the development of the Best Practices Guide.



### Governor Brown signs McGuire's Whale Protection Bill SB 1287 will protect whales from lost or abandoned crab gear

Friday, September 23, 2016  
Sacramento, CA - A record number of whales are suffering from entanglements in California waters - 2015 saw 57 whales entangled off our coast, which is the highest total since the National Marine Fisheries Service started keeping records in 1982. Just in the first half of this year alone, there were another 40 reports of entangled whales off California's coast. Many of these whales are becoming entangled in lost or abandoned crab fishing gear.

North Coast Senator Mike McGuire's legislation that will help permanently protect whales by removing lost and abandoned crab fishing gear from the ocean was signed Friday afternoon by Governor Jerry Brown. SB 1287 also received widespread and overwhelming support in the Senate and Assembly.

"With whale entanglement numbers skyrocketing off the California coast, we were able to bring together crabbers and environmentalists to get this common sense bill signed into law. This bill will save the lives of countless threatened and endangered whales and it will keep California's crab fleet fishing," Senator Mike McGuire said.

The Whale Protection & Crab Gear Retrieval Act, which was proactively initiated by the thousands of hard working men and women who make up California's mighty crab fleet, would create a regulatory program with incentives for fishermen to retrieve Dungeness crab fishing gear that would otherwise be lost in the ocean. It's estimated that thousands of pots are lost every year and these pieces of gear could have hundreds of feet of rope attached to a locator buoy.

The lost gear has created marine debris and entanglement hazards for whales and other marine life, along with others in the crab fleet.

"In light of the record number of whale entanglements over the last several months, this legislation will provide us with the retrieval program to ensure California's beloved humpbacks and blue whales will have the protection they need to thrive," Senator McGuire said.

Crab fishermen continue to take the lead on the whale entanglement issue and many are already taking part in a voluntary pilot project that was initiated two years ago. Approximately 1,500 lost crab pots have been collected in that program. SB 1287 builds upon the successful pilot project by advancing a statewide solution to the growing problem.

Based on recommendations from the Dungeness Crab Task Force, SB 1287 will call on the Department of Fish and Wildlife to establish a retrieval program. One hundred percent of the program will be paid for by industry related fees, not the taxpayers. Dungeness crab fishermen, who obtain a retrieval permit through this program, will collect old crab traps after the crab season has closed each year. Those fishermen will be paid a recovery bounty for each trap retrieved from the ocean. The bill also establishes a fee to be paid by the owner that lost or abandoned crab traps after the crab season. A crab fisherman who doesn't buy back their lost or abandoned crab traps will not be able to get their vessel permit the next season. The creation of a self-perpetuating program to recover fishing gear is a necessary step to ensure the long-term viability of a self-perpetuating program.

"The Dungeness crab fishery is in the top tier of California's commercial seafood catch and the entire industry has weathered a challenging few years, including the historic delay of this year's Dungeness crab season," Senator McGuire said. "This gear retrieval program will be a great step forward in cleaning up our oceans and making a safer home."

A broad coalition of fishing and environmental groups were unified in supporting SB 1287 which will increase marine safety while reducing marine debris and the potential for whale entanglement, including: Pacific Coast Fisherman Safety Association, Sierra Club, California's Against Waste, California Coastkeeper Alliance, Earthjustice, Golden Gate Fishermen's Bay Aquarium, Trinidad Bay Fishermen's Association, Lieutenant Governor Gavin Newsom, The Marine Mammal Center, Monterey Assn. the Monterey Bay Commercial Fishermen's Assn, Ocean County Fishermen's Assn, Half Moon Bay Seafood Marketing and many more.

### CALIFORNIA DUNGENESS CRAB FISHING GEAR WORKING GROUP

#### Research Priorities Statement

July 2017

The California Dungeness Crab Fishing Gear Working Group (Working Group) is committed to reducing the risk of whale entanglements in Dungeness crab fishing gear while supporting thriving whale populations and a thriving and profitable Dungeness crab fishery along the West Coast. The Working Group generally supports the funding of research and projects that build on and/or complement the Working Group's efforts to further goals in generating information related to:

- Increased understanding of whale distribution and factors associated with whale distribution, specifically the overlap of Dungeness crab fishing and whale presence off the California coast (e.g. aerial and vessel-based surveys, whale prediction tools, etc.);
- Enhanced reporting of Dungeness crab fishing effort to inform the overlap between fishing and whales (e.g. tools to track fishing dynamics, etc.);
- Improved recording and interpretation of whale entanglement events; and
- Improved gear setup and trap servicing techniques.

Projects focusing on enhancing communications with fishermen and between state and federal agencies, environmental organizations, and others to share information and solicit support of participation in our efforts to address whale entanglements in Dungeness crab fishing gear are also a priority.

Efforts to reduce whale entanglements in Dungeness crab fishing gear benefit from collaboration and coordination with researchers and neutral parties outside the Working Group to help steward many of these ideas. The Working Group appreciates the opportunity to work with and learn from researchers, scientists, communications experts, etc. to forward ideas regarding these priority topics. The Working Group welcomes the opportunity to discuss proposed projects and how they might help advance the Working Group's efforts.

Please contact the Working Group Facilitation Team ([kelly@strategiesearth.com](mailto:kelly@strategiesearth.com) or 310-738-2665) to discuss your project details and how it aligns with Working Group priorities. We look forward to the opportunity to work together collaboratively.

The Dungeness Crab Fishing Gear Working Group (limits state and federal agency participants)

- Jim Anderson, Commercial Fishing, Half Moon Bay
- Tom Dempsey, The Nature Conservancy
- Calder Deyerle, Commercial Fishing, Monterey Bay Area
- Tom Estes, Commercial Fishing, Fort Bragg
- Gerry Hemmingsen, Commercial Fishing, Crescent City



With the support of The Nature Conservancy and the San Mateo County Harbor District, Half Moon Bay Commercial Fisheries Trust (HMBCFT), partnered with members of the Half Moon Bay Seafood Marketing Association (HMBSMA) and took the initiative to design and test a fishermen-driven model recovering lost Dungeness crab gear in 2015.

Gear is  
Recovered at  
Sea

Gear is stored  
while attempts  
are made to  
contact owners

Original Owners  
pick up gear  
and reimburse  
program

Remaining pots  
are sold or  
salvaged



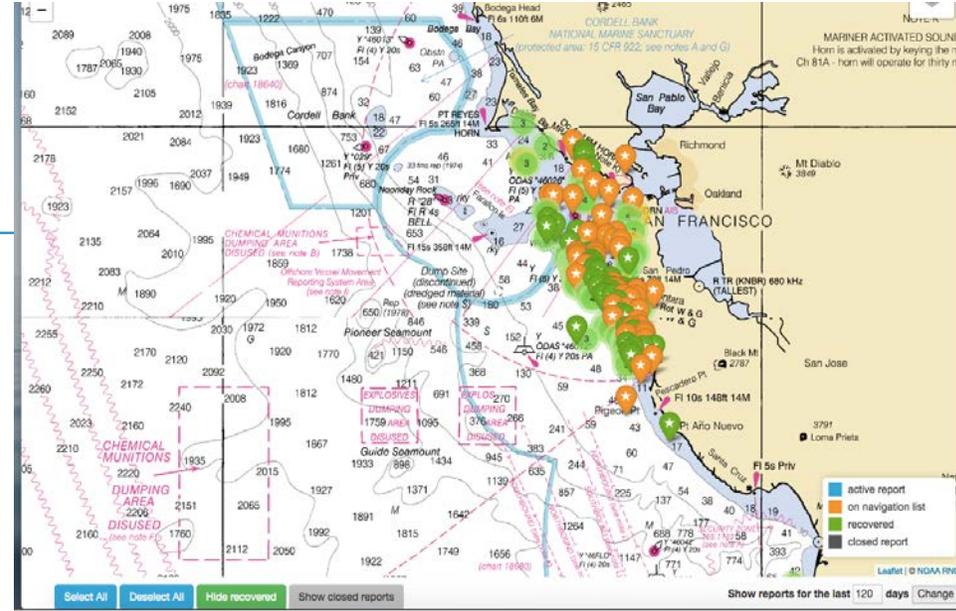
# Data Tool

In 2016, a tool was developed by The Nature Conservancy and tested by the Half Moon Bay fleet to help identify lost gear locations for targeted recovery.

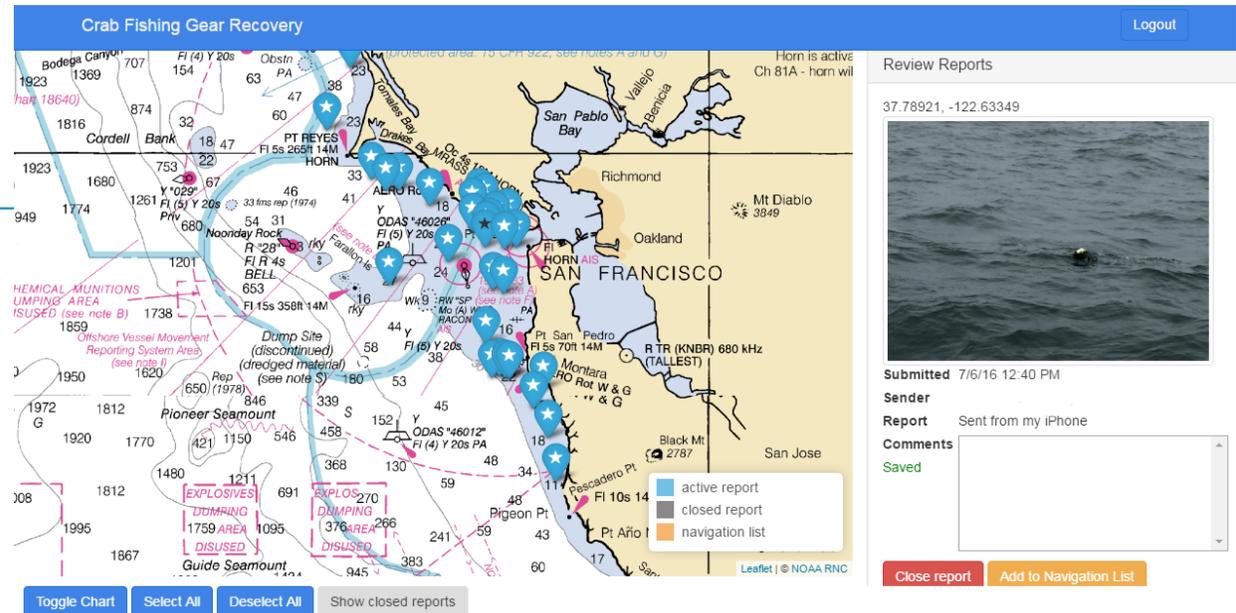
In 2017, the tool was expanded to track lost gear from when it was first located in the ocean, to final resolution at the end of the program.

Development will continue in 2018

HMB worked with 5 California ports to share the tool and support efforts to build similar programs. More than 1000 pots were recovered in California in 2017



The Nature Conservancy  
Protecting nature. Preserving life.



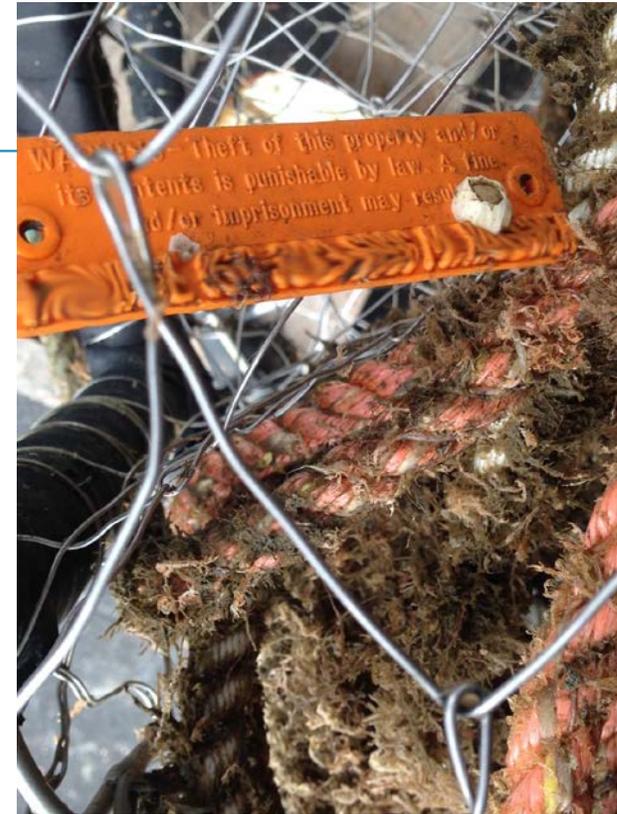
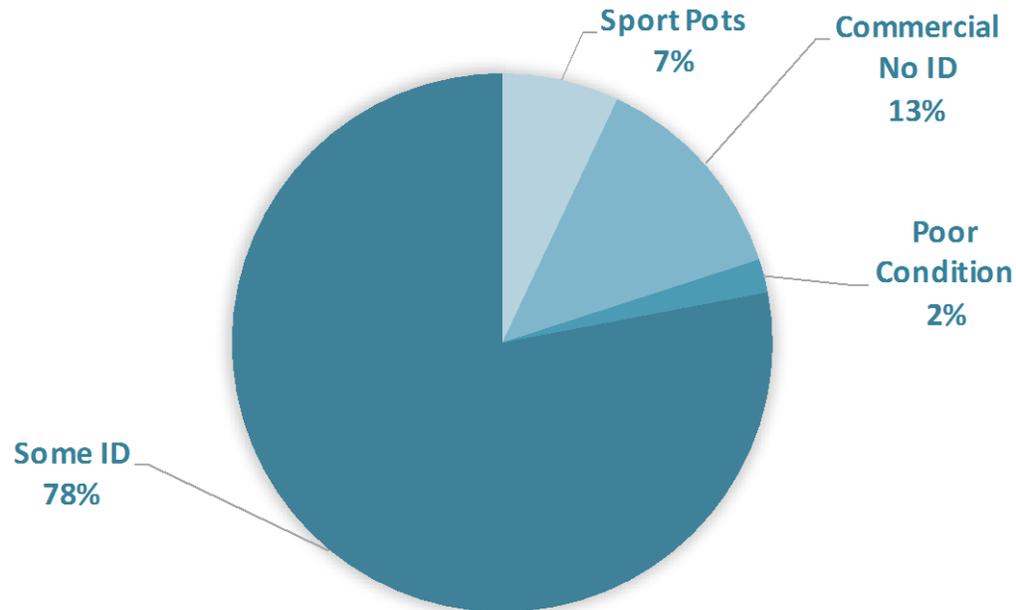


## Gear Storage

For all three years of the program, SMCHD has donated an area of the parking lot for storage during the program. In 2016 and 2017, HMBCFT rented construction fencing to secure the gear. A sign on the gear lot alerted fishermen and the public to the program and provided contact information. The fenced area is kept locked with a combination lock that is changed weekly during the distribution phase of the project. In 2017 space had to be increased due to high volume of pots recovered, and SMCHD accommodated the additional space needed.

# Gear Identification

## IDENTIFICATION IN GEAR RECOVERED 2017

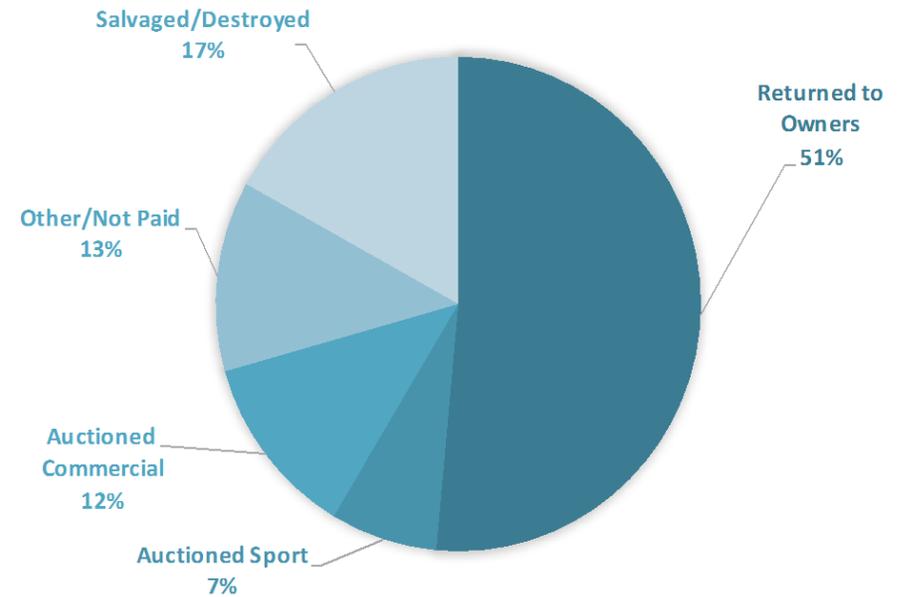


Condition of gear recovered through lost gear recovery efforts remains variable and there continues to be more than 20% of gear that does not include owner identification information including recreational gear.



# Gear Distribution

## FINAL DISTRIBUTION OF GEAR 2017



Gear was distributed over the course of 12 weeks and the program was completed By October 15, 2017.



# Cost Recovery

82%

2017 Gear retrieval costs

64%

Cost Recovery in 2017

29%

Recovered gear that did not result in cost recovery for the program.



In 2015, 3 vessels participated in the program over 6 sea days, retrieving **182 crab pots**

In 2016, 5 vessels participated in the program over 12 sea days, retrieving **207 crab pots**

In 2017, 4 vessels participated in the program over 13 sea days, retrieving **449 crab pots**

**838 pots**  
have been recovered in HMB since 2015

# Lessons Learned

- LOST GEAR RECOVERY PROGRAMS CAN EFFECTIVELY REMOVE GEAR FROM THE WATER
- TOOLS AND TECHNOLOGY PROVIDE OPPORTUNITIES
- FISHERMEN ARE SUPPORTIVE OF LOST GEAR RECOVERY PROGRAMS
- LOCAL ORGANIZATIONS CAN ADD CAPACITY AND AID IN LOST GEAR EFFORTS
- COSTS MUST BE AFFORDABLE FOR INDUSTRY AND SUPPORT THE PROGRAM





THANK YOU to the San Mateo County Harbor District for supporting the Lost Fishing Gear Recovery Program in Half Moon Bay.