

# Satellite Trackers to Mark Ghost Nets



Ocean Voyages Institute, a non-profit organization, has successfully removed more than 40 tons of fishing nets and consumer plastics from the area known as the North Pacific Subtropical Convergence Zone, or more commonly known as the Pacific Gyre. The [sailing cargo ship Kwai](#), arrived in Honolulu, Hawaii, after a 25-day clean-up mission. In the Pacific, between California and Hawaii, four ocean currents converge to create a vortex that collects huge amounts of plastics. This debris field covers vast expanses of ocean, the organization says.

## Fishing Ghost Nets

A prime target for Ocean Voyages Institute's 2019 voyage was the fishing gear called 'ghost nets'. Often weighing tons, these massive nets of nylon or polypropylene drift for decades, amassing plastic debris, ensnaring wildlife, and even entangling ships. An estimated 600,000 tons of this abandoned gear ends up in the oceans every year. According to the United Nations, some 380,000 marine mammals are killed every year by either ingesting or being caught in it.

"Satellite technology played a key role in our recovery effort, offering an innovative solution to finding areas of dense plastic pollution," said Mary Crowley, founder and executive director of OV Institute. "The nets and other debris are signs of the proliferating plastic pollution that poses threats to marine life, coastal environments, shipping, fisheries, wildlife and our health."

## Expert Drone Operators

OV Institute utilized expert drone operators on board, flying survey patterns off both Kwai and the plastic survey vessel *Aveia* to find additional debris. The effectiveness of this year's mission reinforces the plan for expanded clean-up missions in 2020 over a 3-month period, using the survey vessel *Kwai* and additional clean-up vessels, one of which will be adapting fishing gear to fish for plastics.

## Satellite Trackers

During the past year, OV Institute recruited yachts and ships to attach satellite trackers to the ghost nets they encountered. These bowling ball-sized trackers, once activated, signal the nets' locations in real-time. This data enables OV Institute to find and retrieve the trackers and ghost nets. As the ocean tends to sort debris, the tagged nets have shown the surveyors to areas of heavy debris distribution, so that many additional nets and other items can be harvested.

OV Institute collaborated with Nikolai Maximenko and Jan Hafner of the University of Hawaii, coordinating the NASA-funded FloatEco project that studies physical processes controlling the long-range drift of marine debris and its accumulation in some areas of the ocean, as well as biological processes controlling the evolution of the pelagic floating ecosystem.

## Plastic Found Everywhere

Ocean plastic pollution was unknown merely forty years ago. Today, plastic has been documented in the deepest parts of the ocean - near the Mariana Trench (depth 36,000 feet) and in the most remote ocean ecosystems, such as Antarctica (related article: [Exploring the Deepest Points on Planet Earth](#)).

Crowley, a lifelong sailor, launched her first 30-day research expedition to the North Pacific Subtropical Convergence Zone in 2009. Additional expeditions occurred in the following years, including small-scale clean-up missions.

"It is very disturbing to be sailing through what was only decades ago a pristine ocean wilderness and find it filled with our all-too-familiar garbage," says Crowley. "Urgent action is needed at all levels: curtailing the manufacture of throwaway plastics, preventing plastic trash from entering the oceans, and enlisting the public, corporations, and the maritime industry in education, prevention, innovation and massive clean-up efforts. The question is, are we ready to make it a priority to protect 72% of the planet?"

More information: [www.oceanvoyagesinstitute.org](http://www.oceanvoyagesinstitute.org).