

Zephyr Debris Removal

Zephyr is offering an innovative vessel design and service model for marine debris removal in bay and harbor environments to reduce marine debris pollution



PILOT PROJECT

In 2018, Zephyr partnered with the Port of San Diego to demonstrate an innovative new design for a marine debris skimming vessel, and for the development of a database of key variables influencing marine debris accumulation in San Diego Bay. Zephyr is a start-up company whose founder has over 20 years of experience in the maritime industry as a small business owner and commercial fishing captain.

During the one-year pilot, over 33,000 pounds of trash were collected from San Diego Bay, as well as data on location, volume and content of debris. The data collected is assisting and informing management decisions to address marine debris sources and hotspots around San Diego Bay. Moving forward, Zephyr is actively working on a new innovative approach to prevent and reduce debris accumulation in Bay environments to improve and expand his marine debris removal services.

CURRENT STATUS

In March 2020 Zephyr completed a one-year contract with the Port's General Services Department to provide marine debris removal services. As the vessel continues to demonstrate its efficient skimming operation and technology the goal is to commercialize the solution across California and beyond to help remove debris from other Ports and Harbors.

HIGHLIGHTS



Winner!
2018 AAPA
Environmental
Improvement Awards

Category: Mitigation
Marine Debris Removal Project

In 2018 the Port won an award from the American Association of Port Authorities (AAPA) for its support of Zephyr innovative debris removal system through pilot project facilitation.

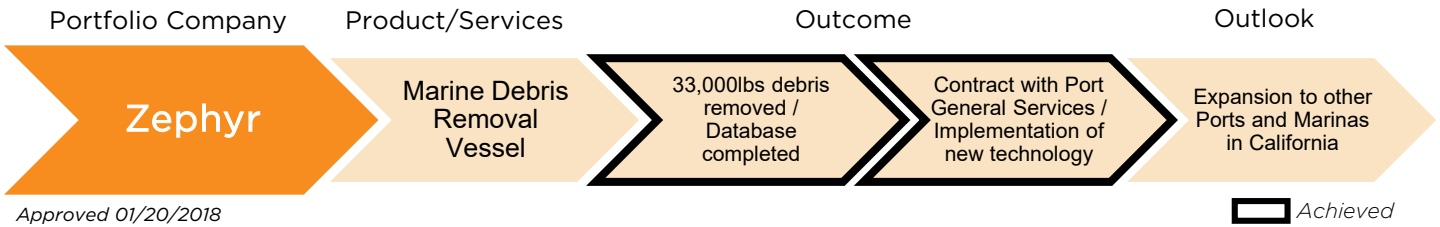


Scorecard: Zephyr / Q1 FY21

PILOT TIMELINE: Board Approval: 1/9/2018 Start Date: 2/5/2018 End Date: 2/5/2019

PILOT OVERVIEW

Tracking benefits from pilot project to commercial success



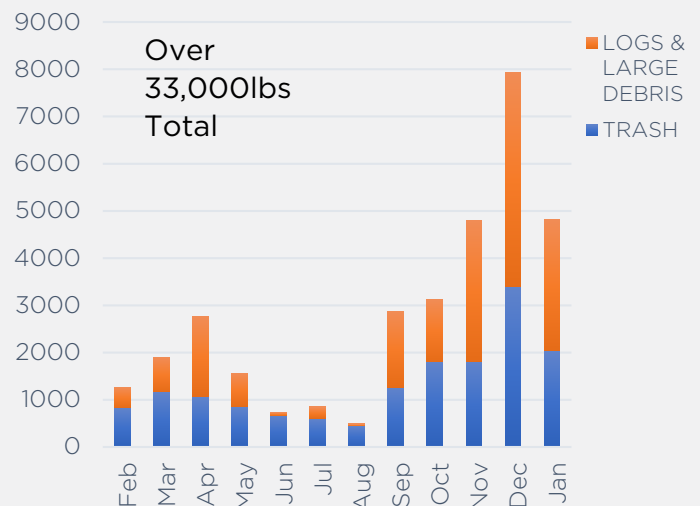
ENVIRONMENTAL & SOCIAL BENEFITS

Pilot Key Performance Indicators

OVERALL KPI	Track amount of debris collected	Track effectiveness of skimming operations
Q1 FY19	4,809 LBS	Seasonality pattern developed
Q2 FY19	15,872 LBS	Designed Technology improvements
Q1 FY19	4,216 LBS	Hot spot, trash accumulation locations identified
Q4 FY18	5,065 LBS	Pattern and predictability developed based on variables and data collected
Q3 FY18	3,172 LBS	Baseline variables established and recorded

Per pilot project statement of work

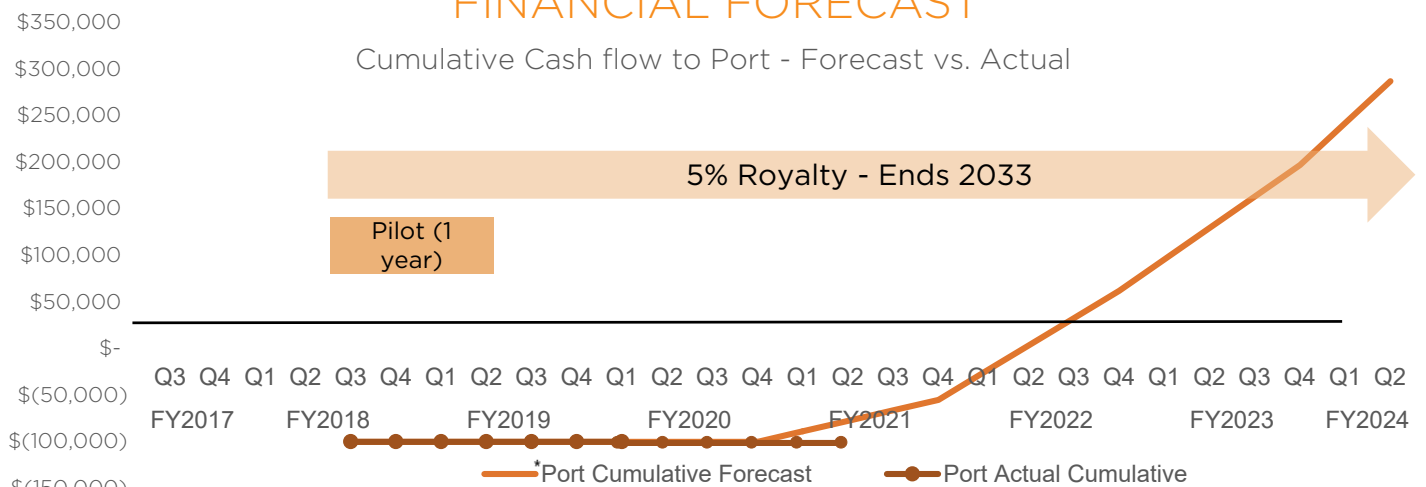
2018 Total Trash (lbs/month)



Monthly Marine Debris removed during pilot

FINANCIAL FORECAST

Cumulative Cash flow to Port - Forecast vs. Actual



Agreement: 5% royalty of worldwide gross revenue for a period of 15 years

*Revenue forecast based on sales projections submitted to Port