San Diego Bay Aquaculture

San Diego Bay Aquaculture is specializing in growing marine shellfish to support sustainable aquaculture businesses in San Diego Bay

PORT of SAN DIEGO

PILOT PROJECT

In 2017, San Diego Bay Aquaculture (SDBA) partnered with the Port of San Diego to demonstrate an accelerated, year-round shellfish aquaculture nursery operation in San Diego Bay, using the Floating Upweller System (FLUPSY) technology. SDBA's principals have over twelve years of experience in shellfish and seaweed farming, FLUPSY operations and aquafarm ownership.

A FLUPSY is a floating barge that serves as a shellfish nursery, growing oysters from seed (size of red pepper flakes) to juvenile stage (size of quarters). During the five-year pilot project SDBA will be importing and growing oysters and other shellfish to the juvenile stage, establishing health and growth baselines, and measuring the associated environmental benefits. The juvenile shellfish will be exported to grow-out locations outside of San Diego Bay. The goal of the pilot is to demonstrate that shellfish nursery operations in San Diego Bay are feasible.

HIGHLIGHTS

- First commercial shellfish aquaculture operation in San Diego Bay
- During scaled operations, the FLUPSY's annual capacity is expected to be up to 20 million oyster seed per year
- Port supporting long-term planning effort to establish health baseline and measuring the associated environmental benefits.

CURRENT STATUS

In support of the pilot, the Port provided funding, permitting, and environmental review as well as access to Port-controlled land in San Diego Bay to establish the FLUPSY. SDBA is rearing experimental batches of shellfish to verify growth performance, explore market diversification and further establish the health baseline record with a goal to obtain necessary export permits and regulatory approvals.

Scorecard: SDBA / Q1 FY21

PILOT TIMELINE: Board Approval: 6/20/2017 Start Date: 9/10/2018 End Date: 9/10/2023

PILOT OVERVIEW

Tracking benefits from pilot project to commercial success

Portfolio Company	Product/Services	Outcome	Outlook
SDBA	Oyster Nursery	Import permit obtained / Oyster growth rate achieved	Obtain export permit / Explore market diversification → Scale oyster nursery operations in San Diego Bay

Achieved

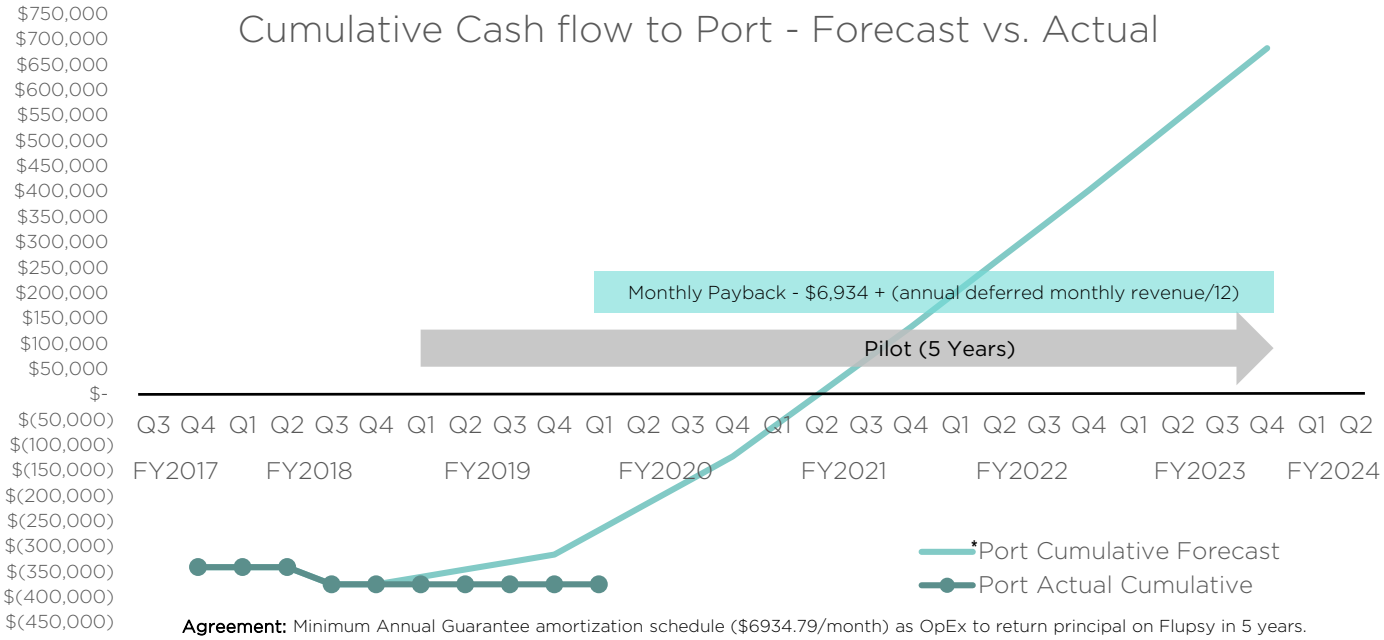
ENVIRONMENTAL & SOCIAL BENEFITS

Pilot Key Performance Indicators

OVERALL KPI (Port Fiscal Year)	Shellfish growth rate (length/day/individual)			Rate of customer acquisition	FLUPSY energy efficiency	Effectiveness of operations
	Diploid Pacific Oyster	Manila Clam	Triploid Pacific Oyster			
Q2 FY20–Q2 FY21	*Pilot continues to track growth performance of experimental batches of shellfish to further develop the health baseline required to secure export markets through FY 2021. Market diversification opportunities underway that include abalone grow out, research on barnacles for culinary uses, as well as shellfish production for restoration projects.*					
Q2 FY19	0.64 mm/day	0.13 mm/day	0.3 mm/day	N/A	N/A	**Growth rate 3X faster than anticipated**

Per pilot project statement of work

FINANCIAL FORECAST



Agreement: Minimum Annual Guarantee amortization schedule ($6934.79/month) as OpEx to return principal on Flupsy in 5 years. Non-OpEx reserve schedule for shortfall. 10% of gross sales kicker contribution triggered with annual profit

**Revenue forecast based on sales projections submitted to Port*