Ventura Shellfish Enterprise
Ventura Port District Board of Port Commissioners
Four Points by Sheraton Ballroom
July 17, 2019
Agenda

- **Project Purpose – Why VSE?** – Brian Pendleton (General Manager)
- **Project Background** – Dr. Linda Santschi (CMB)
- **Site Selection Process** – Brian Pendleton
- **Project Description** – Laurie Monarres (Dudek)
- **Preliminary Financial Analysis** – Brian Pendleton
- **Infrastructure Requirements** – Richard Parsons
- **Steps to Implementation** – Laurie Monarres, Dr. Ralph Imondi (CMB), Robert Smith (Plauche & Carr)
PROJECT PURPOSE – WHY VSE?

Brian Pendleton
Project Purpose – Why VSE?

Aligns with Ventura Harbor’s mission statement to serve as a commercial fishing harbor.

- Aquaculture creates jobs
- Supports waterfront communities
Serves to diversify fisheries and provide an additional sustainable and consistent fishery

- Open ocean waters of the Ventura area are ideally suited for mussel cultivation
- VSE will produce high-quality shellfish for some of the largest markets in the world
Bolsters the case for continued dredging of the Harbor by the U.S. Army Corps of Engineers.
Project goals and objectives align with federal and state policy to enhance and increase healthy, sustainable seafood production from aquaculture.
Global Impact of Protein Production

*VSE Workshop 1: Introduction to Shellfish Aquaculture and the Ventura Shellfish Enterprise
http://venturashellfishenterprise.com/index.html#GetInvolved
Project Objectives

To increase the supply of safe, sustainably produced, and locally grown shellfish.

To enhance and sustain Ventura Harbor as a major west coast fishing port and support the local economy.

To provide economies of scale, pre-approved growing areas, and technical support to include small local producers who would not otherwise be able to participate in shellfish aquaculture.
Project Objectives

To provide an entitlement and permitting template for aquaculture projects statewide.

To enhance public knowledge and understanding of sustainable shellfish farming practices and promote community collaboration.

To advance scientific knowledge and state of the art aquaculture practices through research and innovation.
PROJECT BACKGROUND

Dr. Linda Santschi
Early Project Inspiration
Early Project Inspiration

Cell proliferation, specialization, growth, migration, and programmed death

Photos courtesy of Doug Bush, The Cultured Abalone
SITE SELECTION PROCESS

Brian Pendleton
Site Selection Process

- 8 alternative sites originally evaluated
  - SeaSketch – UCSB Bren School spatial planning analysis
  - Criteria / Siting Decision Matrix
  - Stakeholder feedback - site selection workshops, Board meetings
- SeaSketch Alternative 8 federal waters option initially selected by Board (Nov 15, 2017)
Site Selection Process

- NOAA’s (National Ocean Service) Coastal Aquaculture Siting and Sustainability (CASS) Technical Report-VSE: Aquaculture Siting Analysis Results
- CASS Technical Report
  - Quantitative requirements from VPD and volunteer partners
  - New AOI – 20,000 acres in federal waters
  - Identified environmental and use factors that intersect AOI
Site Selection Process

- Allowed VPD, NOAA, and volunteer partners to evaluate the proposed siting (SeaSketch Alternative 8)
  - Refined permit locations and configurations
  - Consulted with aquaculture experts
- Result of the CASS Technical Report
  - Two new alternatives were identified consistent with the Board’s prior site selection:
    - Size (20, 100-acre plots)
      - 2,000 acres
    - Location in federal waters
  - CASS Technical Report Alternative 1 was selected by Board (Sept 26, 2018)
- Permit and project applications submitted (Oct 4 and 5, 2018)
Site Selection Process
PROJECT DESCRIPTION

Laurie Monarres
Project Description

Project Size: Twenty 100-acre growing sites, 2,000 acres total

Shellfish Species: Mediterranean mussel (*Mytilus galloprovincialis*)

Growing Method: Open water long lines

Growing Location: Santa Barbara Channel, beginning 3.53 miles WSW of Ventura Harbor in federal waters

Landing Location: Ventura Harbor
Mediterranean Mussel Fast Facts

- **Formal Name**
  - *Mytilus galloprovincialis*

- **Species Type**
  - Bivalve species

- **Non-Invasive Species**
  - Naturalized in California ocean waters

- **Food Source**
  - Mussel acts as a filter, taking in nutrients from existing algae and plankton
  - No added food or water is necessary

*Article by Chris O'Neal: https://www.vcreporter.com/2017/02/mussel-up-ventura-harbor-concept-could-become-aquaculture-blueprint-for-california-and-beyond/
GENERAL OBSERVATIONS:

- Anchor lines should have 2.5:1 slope from anchor to submerged corner buoy.
- Submerged buoyancy keeps lines tight despite surface waves and storms.

Diagram of General Plan for Submerged Longlines:

- 16" surface corner buoy (or larger pencil buoy)
- Center pickup line and 16" buoy (or larger)
- 15 ft depth
- 15 L buoys (n=100)
- Two 24" submerged corner buoys or equivalent with >200 L buoyancy
- 475 ft of 32 cm polysteel cable run between anchors
- 4 m screw anchors spaced 50 ft apart
- >33 ft depth
- Mussel growing socks suspended every 1 m
- Anchor line to next longline
- 1.075 ft SEA FLOOR (Sand Bottom)

GRAPHIC NOT TO SCALE
Project Description
Project Description
Project Description
PRELIMINARY FINANCIAL ANALYSIS

Brian Pendleton
Full project build out and operation could generate a maximum of $45M - $55M in annual wholesale value

- Based upon cultivation of 2,000 acres

Many factors determine actual revenue

- Project size
- Growing conditions
- Operational interruptions
- Time period to full build out
- Market conditions
- Project and operational costs, etc.
• Conservative project estimates based upon these factors could result in a $22.5M – $27.5M in annual wholesale value
• VPD and project consultant Scott Lindell is updating his 2017 financial analysis of typical costs and revenues, including assumptions from the latest engineering design
INFRASTRUCTURE REQUIREMENTS

Richard Parsons
• Very little of the existing harbor infrastructure would require modifications to accommodate approximately 20 million pounds of annual mussel harvest

• A third one ton derrick crane could potentially be necessary, and it could be placed at the fish pier

• Docking and trucking requirements can be accommodated at existing harbor facilities
STEPS TO IMPLEMENTATION
Environmental Permits

U.S. Army Corps of Engineers

• §10 Rivers and Harbors Act of 1899 – permit for work and placement of structures in offshore waters
• Standard Individual Permit
• Required consultation with National Marine Fisheries Service has commenced
Environmental Permits

U.S. Army Corps of Engineers

- EA level of environmental review assumed for schedule and cost estimate purposes
- EIS could extend project timeline by at least 12 to 18 months, with added costs of approximately $300,000
- Corps will make EA/EIS determination after receiving public comment
CA Coastal Commission

- Coastal Zone Management Act
  - Consistency Certification for Consistency with California Coastal Act Chapter 3 Policies
- Coastal Commission requested additional information on Nov 2, 2018
- VPD staff plans to submit a response within the next two weeks
SHELLFISH SANITATION

Dr. Ralph Imondi
Public Health Safety

National Shellfish Sanitation Program

Guide to the Control of Molluscan Shellfish

Model Ordinance
Control Authority

Federal Waters Siting Alternative 1

Federal Waters
NSSP Requirements

- Plan of Operations (VSE with FDA review)
- NOAA contract/harvest permit, tag number, and traceability (NOAA)
- **Marine Biotxin Contingency Plan (VSE with FDA review)**
- **Sanitary Survey (FDA)**
- **Biotxin Shucking Evaluation (FDA)**
- **Harvester Training (FDA)**
- **Marine Biotxin Screen Kit Training (FDA)**
- **Use of FDA-Approved Testing Laboratory (VSE with FDA guidance)**
- **Letter of Agreement with State of California (CA)**
- **Vessel and Site Inspection/Audit (NOAA)**
Sanitary Survey

Currently underway by FDA

Evaluate actual and potential pollution sources near growing area

Test water quality at sampling stations within growing area
Baseline data for Biotoxin Monitoring/Contingency plan

- Number and placement of sentinel lines
- Frequency of testing
- Depth of tissue recovered for testing
- Test for biotoxins in mussel tissue
SUB-PERMITTING AND CONSTRUCTION

Robert Smith
• **Problem:** No approved leasing structure to lease federal waters for aquaculture

• **Proposed Solution:** VPD to issue sub-permits to individual grower/producers
  - VPD to retain partial oversight and control while delegating responsibility for compliance with operational conditions
  - VPD would provide initial approval for sub-permittees
  - Army Corps would still approve sub-permits through expedited process (similar to landlord approval of subtenant)
  - Upon project approval, VPD to seek applications and develop criteria to evaluate the sub-permit applications

• **Status:** Proposal submitted to Corps for review in April 2019 subject to ongoing discussions
Schedule and Next Steps

2019
- Respond to agency information requests
- Continue refining project BMPs, monitoring plans, and permit conditions
- Meetings with the agencies

Fall 2020
- Tentative timeline to obtain permits, assuming EA

Winter 2020/2021
- Begin sub-permitting agreements
- Initial project implementation