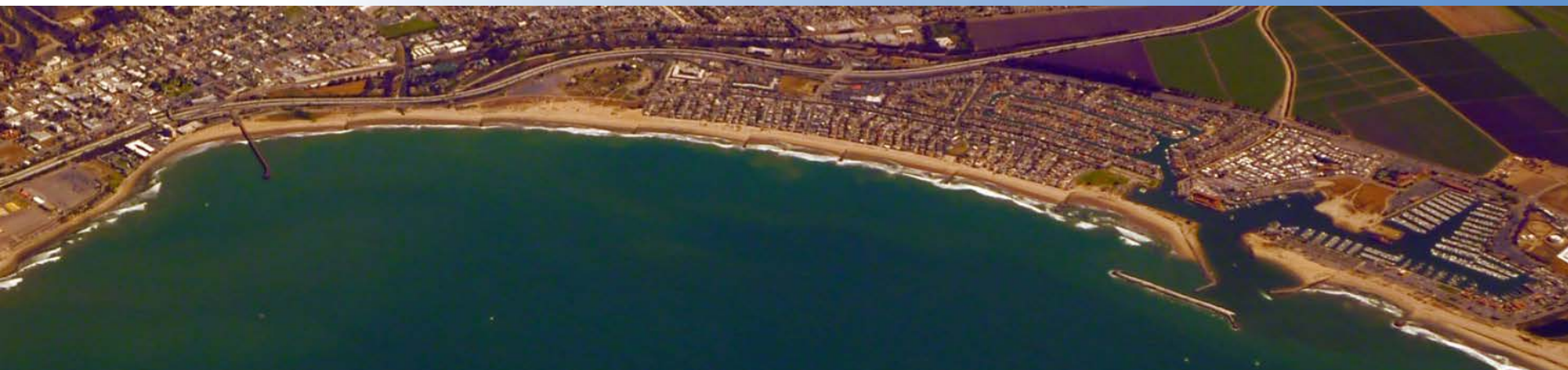
Ventura Shellfish Enterprise

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

Project Purpose – Why VSE?

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

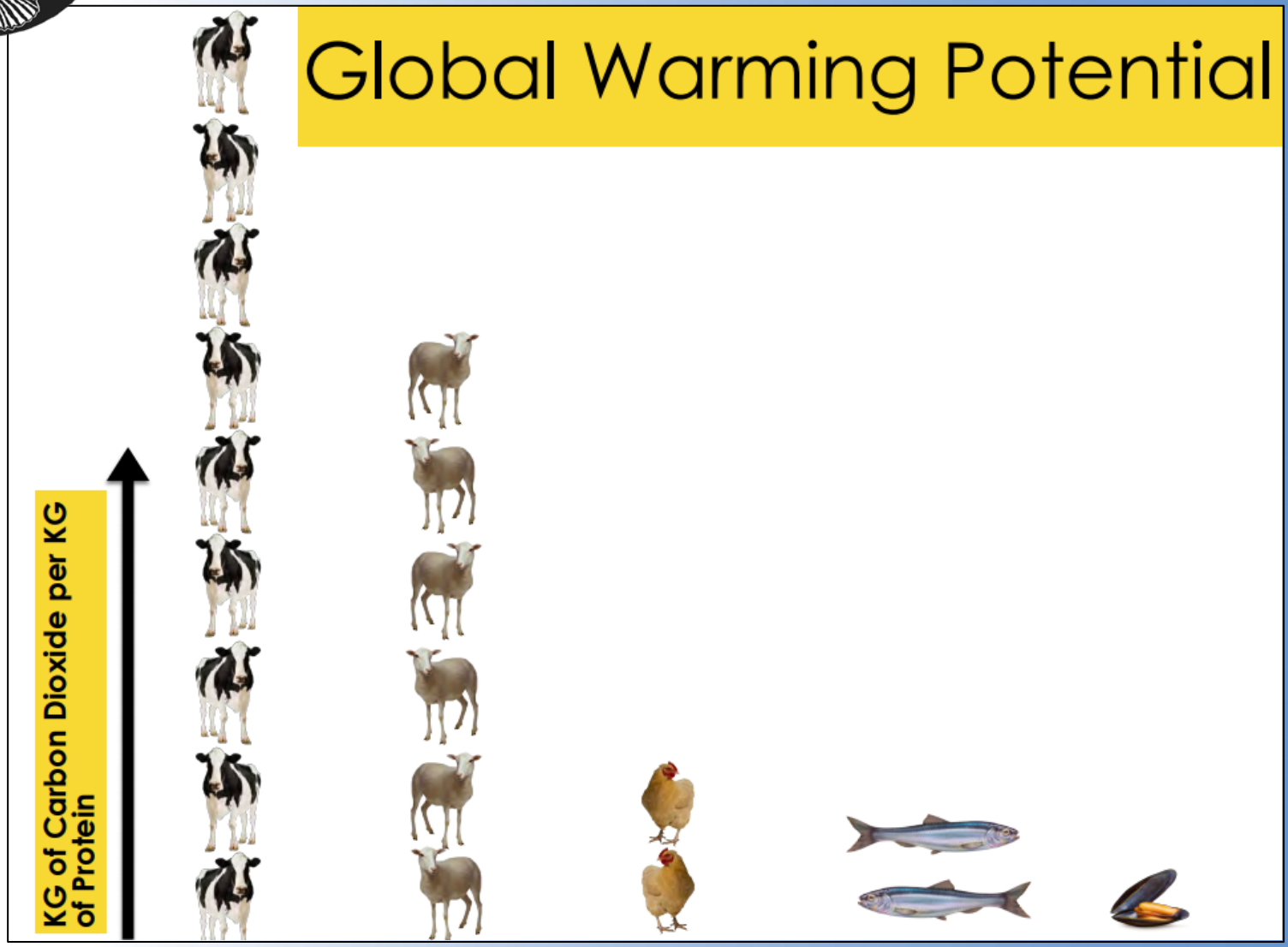
Project Purpose – Why VSE?

Bolsters the case for continued dredging of the Harbor by the U.S. Army Corps of Engineers.

Project Purpose – Why VSE?

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 state-wide.

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.

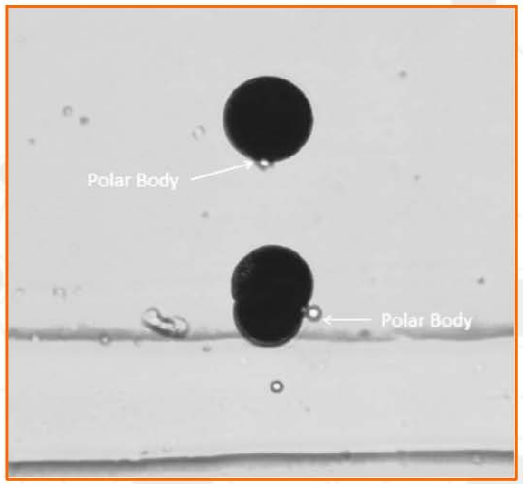
PROJECT BACKGROUND

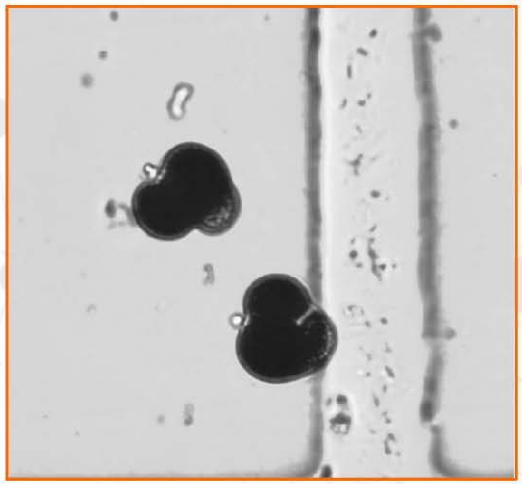
Dr. Linda Santschi

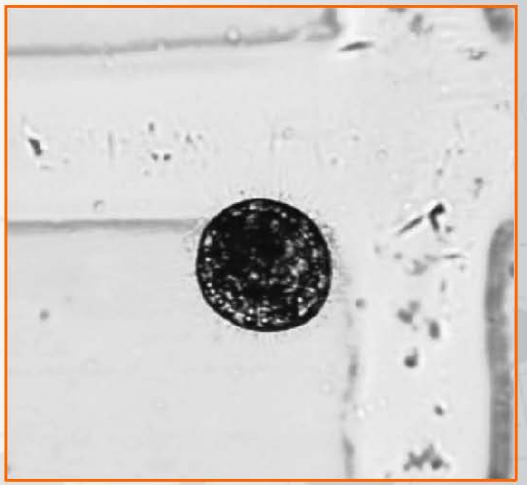
Early Project Inspiration

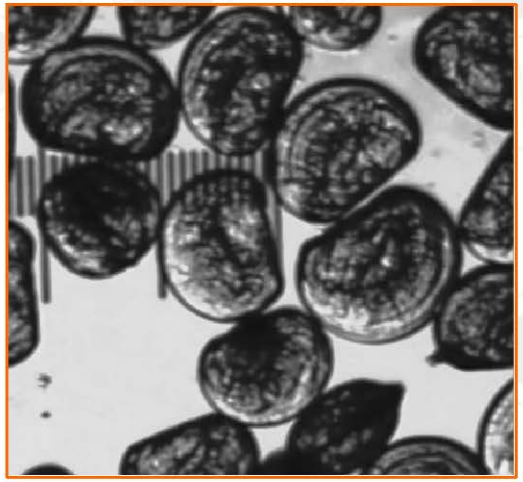
Early Project Inspiration

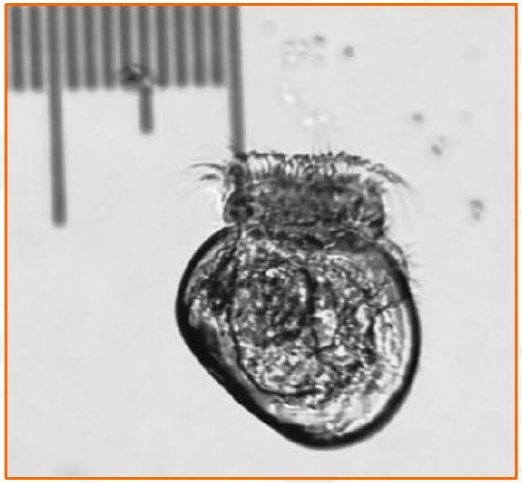
Cell proliferation, specialization, growth, migration, and programmed death

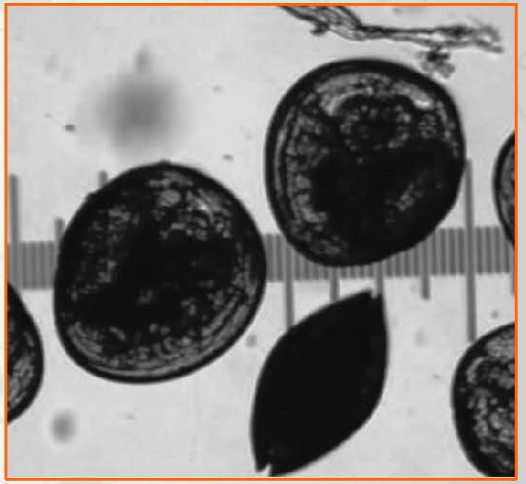












Photos courtesy of Doug Bush, The Cultured Abalone

2017 Workshop Series

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

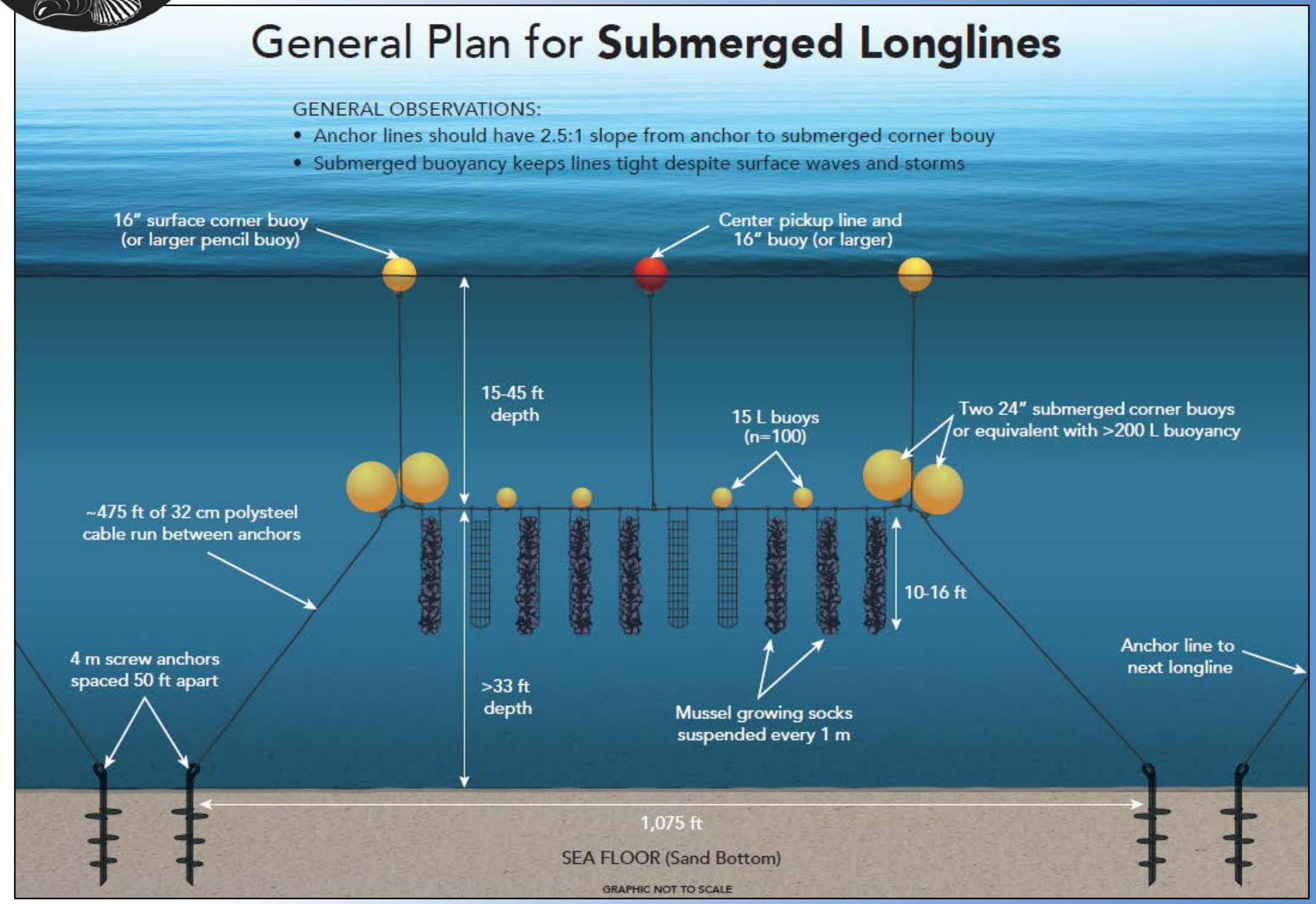
Mediterranean Mussel*

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/

Project Description



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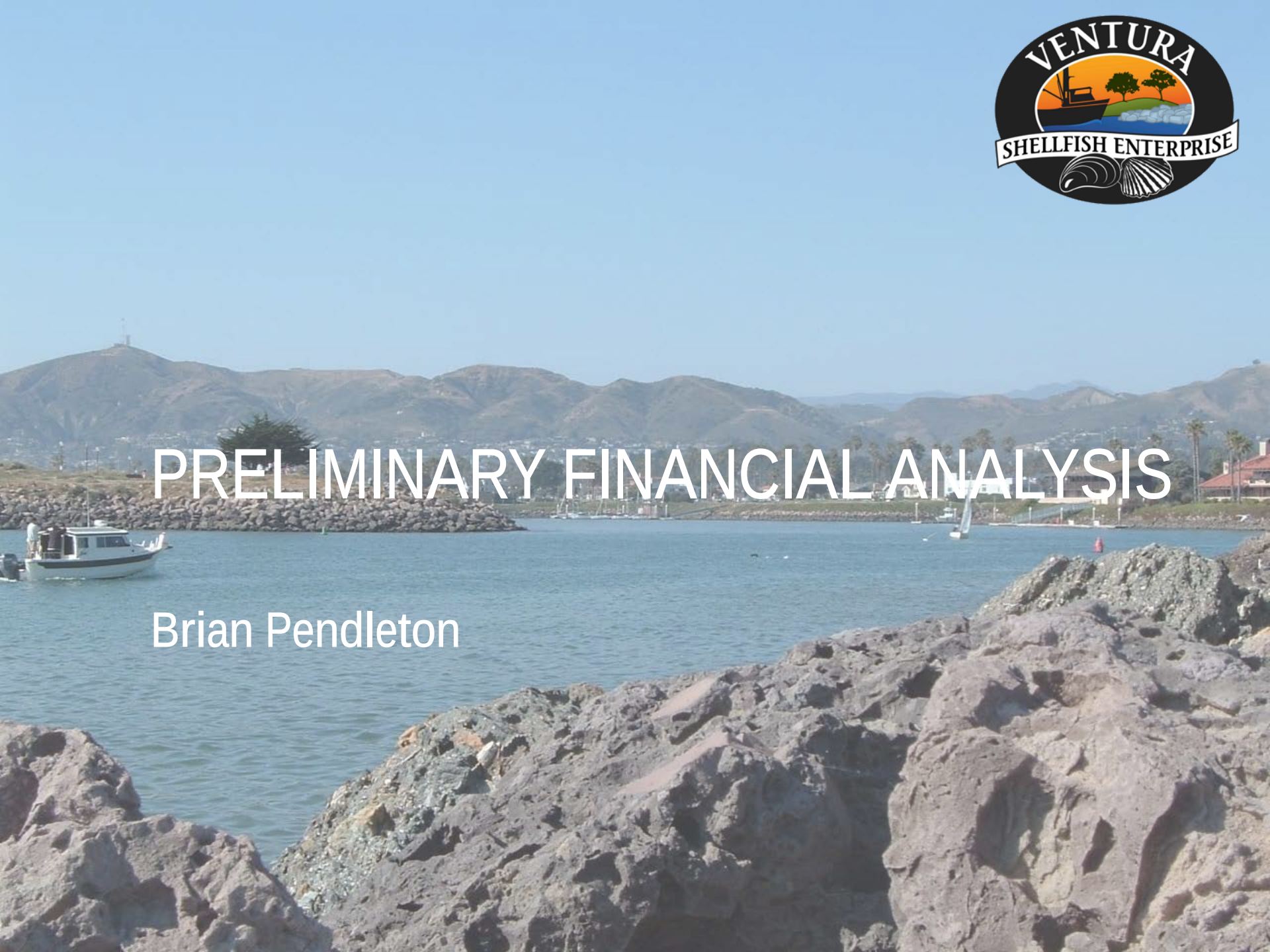


PRELIMINARY FINANCIAL ANALYSIS

Brian Pendleton

Preliminary Financial Analysis

- 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.

Preliminary Financial Analysis

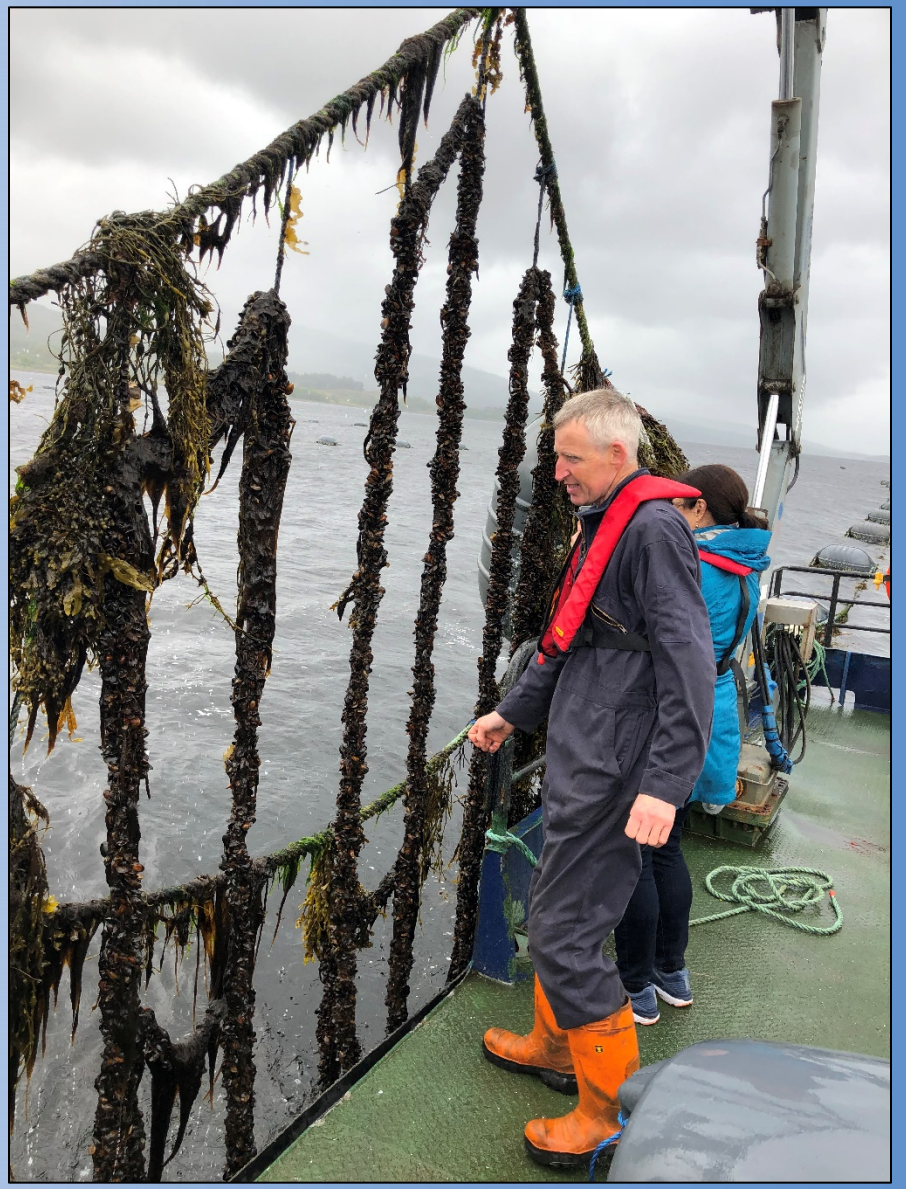
- Conservative project estimates based upon these factors could result in a $22.5M – $27.5M in annual wholesale value
- VPD and project consultant Scott Lindell is updating his 2017 financial analysis of typical costs and revenues, including assumptions from the latest engineering design

INFRASTRUCTURE REQUIREMENTS

Richard Parsons

Infrastructure Requirements

- 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

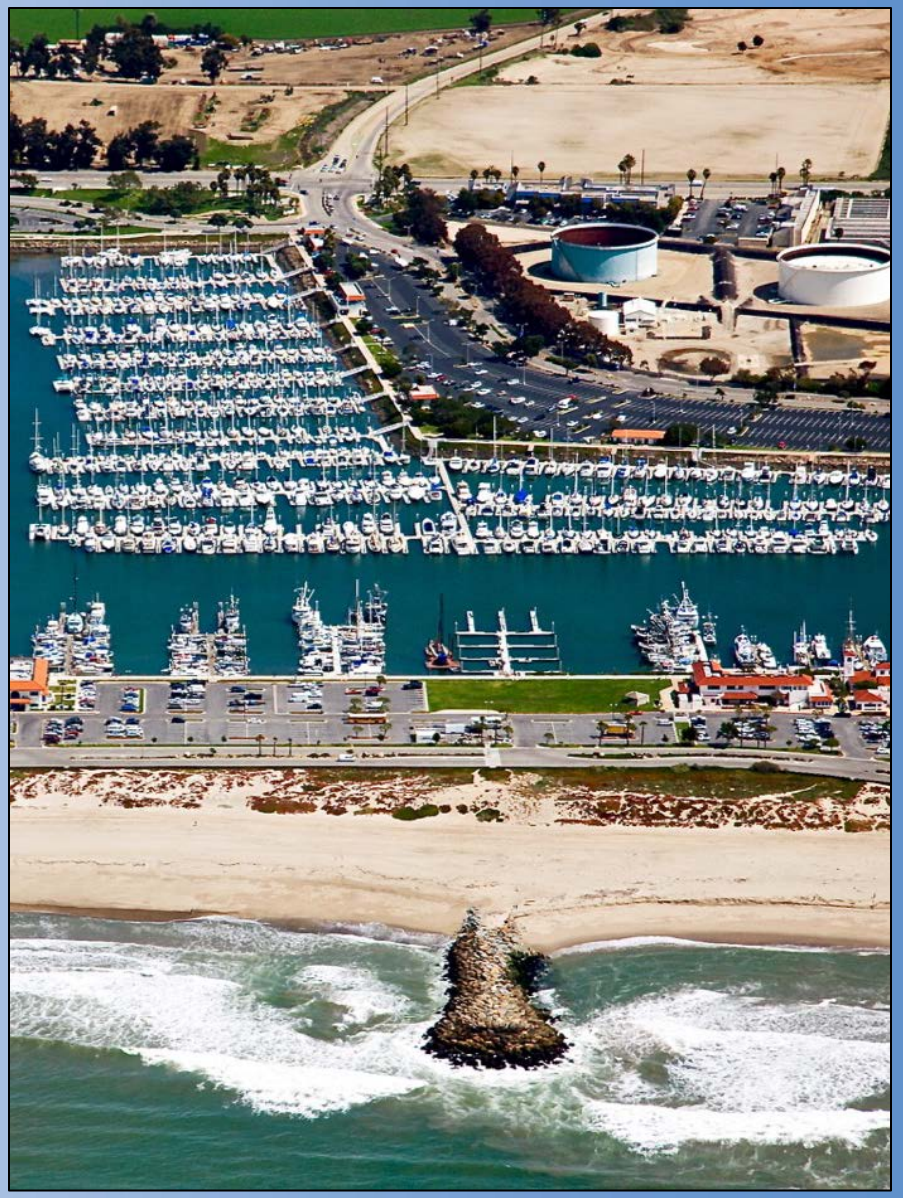
U.S. Army Corps of Engineers

- 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

Environmental Permits

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

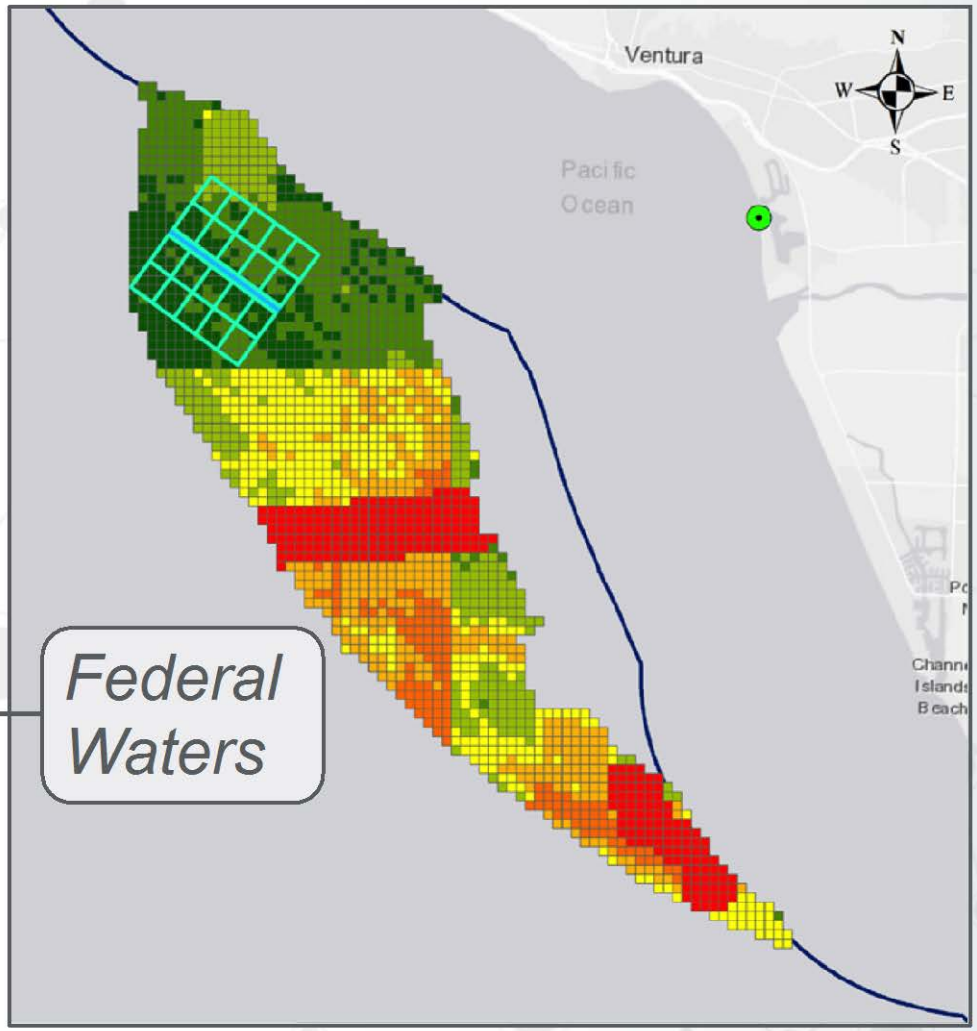
National Shellfish Sanitation Program

Guide to the Control of Molluscan Shellfish

Model Ordinance

Control Authority

Federal Waters Siting Alternative 1



NSSP Requirements

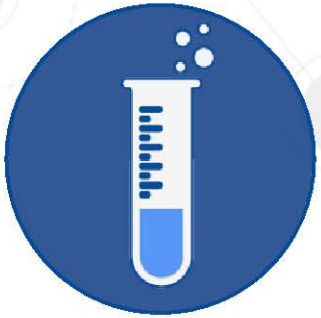
- Plan of Operations (VSE with FDA review)
- NOAA contract/harvest permit, tag number, and traceability (NOAA)
- Marine Biotoxin Contingency Plan (VSE with FDA review)
- Sanitary Survey (FDA)
- Biotoxin Shucking Evaluation (FDA)
- Harvester Training (FDA)
- Marine Biotoxin Screen Kit Training (FDA)
-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

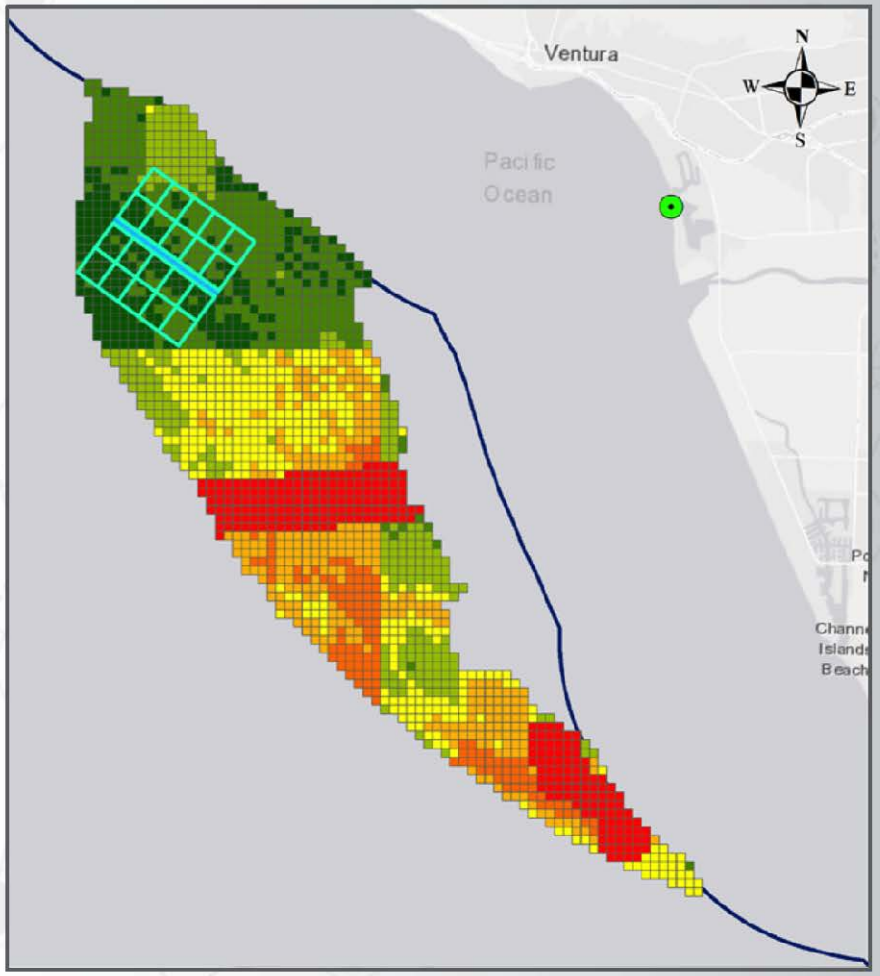
Sanitary Survey

Currently underway by FDA

Evaluate actual and potential pollution sources near growing area

Test water quality at sampling stations within growing area





Biotoxin Pre-Monitoring

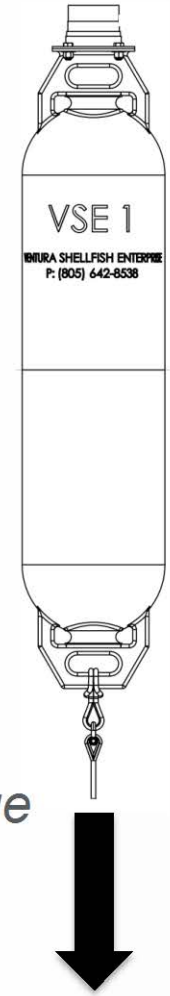
Baseline data for Biotoxin Monitoring/Contingency plan

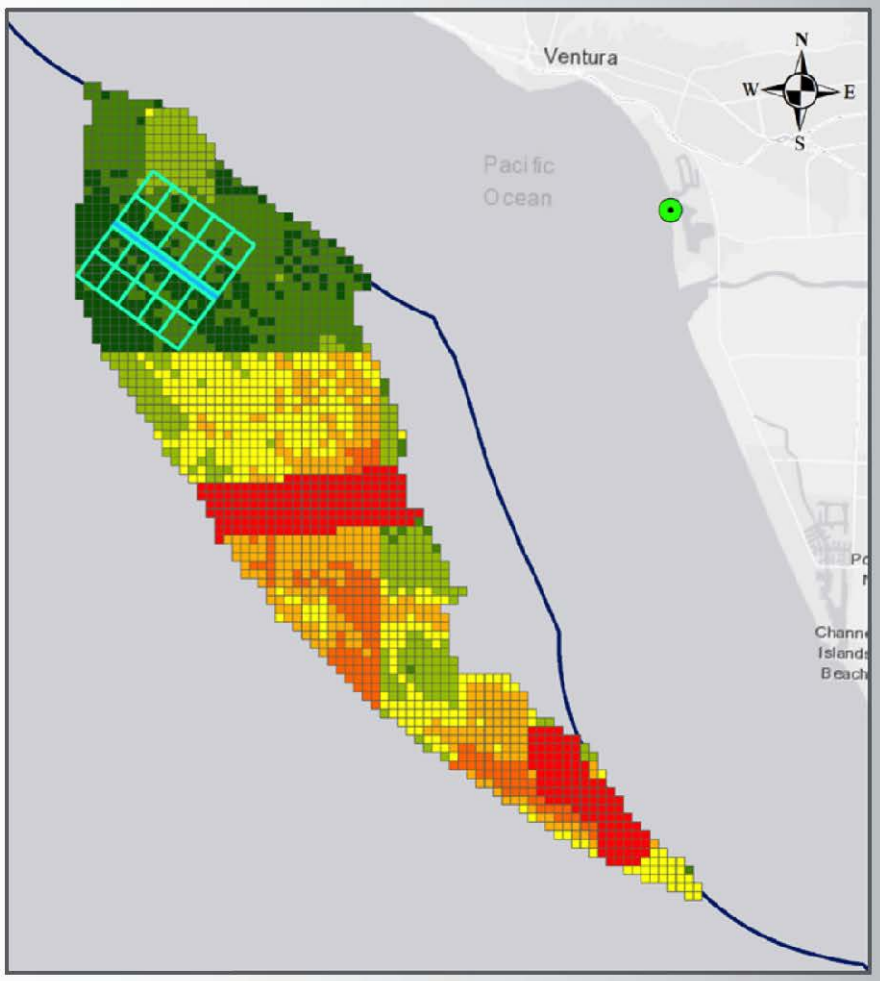
mussel sentinel buoy

Number and placement of sentinel lines

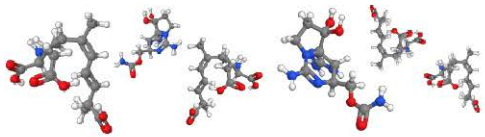
Frequency of testing

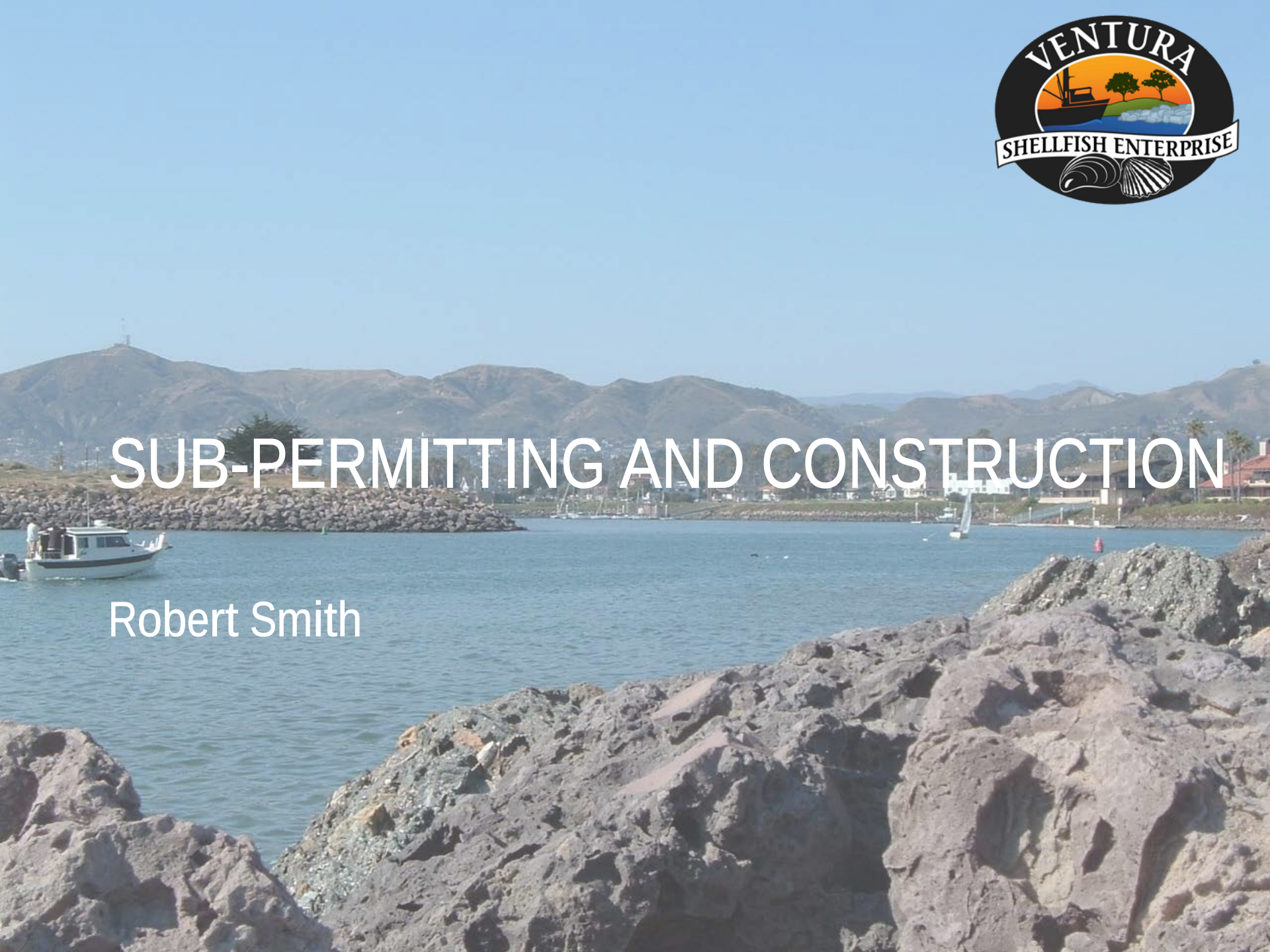
Depth of tissue recovered for testing





test for biotoxins in mussel tissue





SUB-PERMITTING AND CONSTRUCTION

Robert Smith

Sub-permitting and Construction

- **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