

# *West Coast Marine Planning*

*CMANC Fall Meeting  
September 19-21, 2016  
Pismo Beach, CA*

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Port of San Diego

# Today's Agenda

1. Brief Introduction to Blue Economy
2. Drivers of the Port of San Diego's Blue Economy
3. Implementation Tools: Financial vs Regulatory
4. Brief Summary of Coastal and Marine Spatial Planning (CMSP)
5. Current Efforts: West Coast Marine Planning



# *The Blue Economy: What is it?*



# The Port of San Diego's Blue Economy

## Established Industries





# ***Port's Blue Economy: Drivers of Growth***

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## **Established Industries**

- Growth in seaborne trade
- Growth of global tourism
- Coastal urbanization
- Growth in defense and security

## **Emerging Industries**

- Food security
  - Freshwater shortages
  - Demand for protein
- Demand for minerals
- Demand for alternative energy sources
- Research and development:
  - Healthcare
  - Industry
  - Ocean technologies

## ***Examples of Implementation Tools***

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### **Financial**

- Public private partnerships/Joint venture contracts
- Innovative leasing
- Revolving loans
- Grants

### **Regulatory**

- Create a coherent one-shop stop for business
- Consolidate business and economic development functions
- Provide consistent and transparent regulations
- Streamline permit process

*Solution: Coastal and Marine Spatial Planning*

# Brief Summary of Coastal and Marine Spatial Planning

“Coastal and marine spatial planning is a comprehensive, adaptive, integrated, ecosystem-based, and transparent planning process. It is based on sound science and integrates ecological, economic, and social information on current and projected uses of marine waters to inform management and regulatory decisions, reduce conflicts, and facilitate compatibility among projected uses, while sustaining the State's marine ecosystem and resources for present as well as future generations.”

—*California Ocean Protection Council 2013*



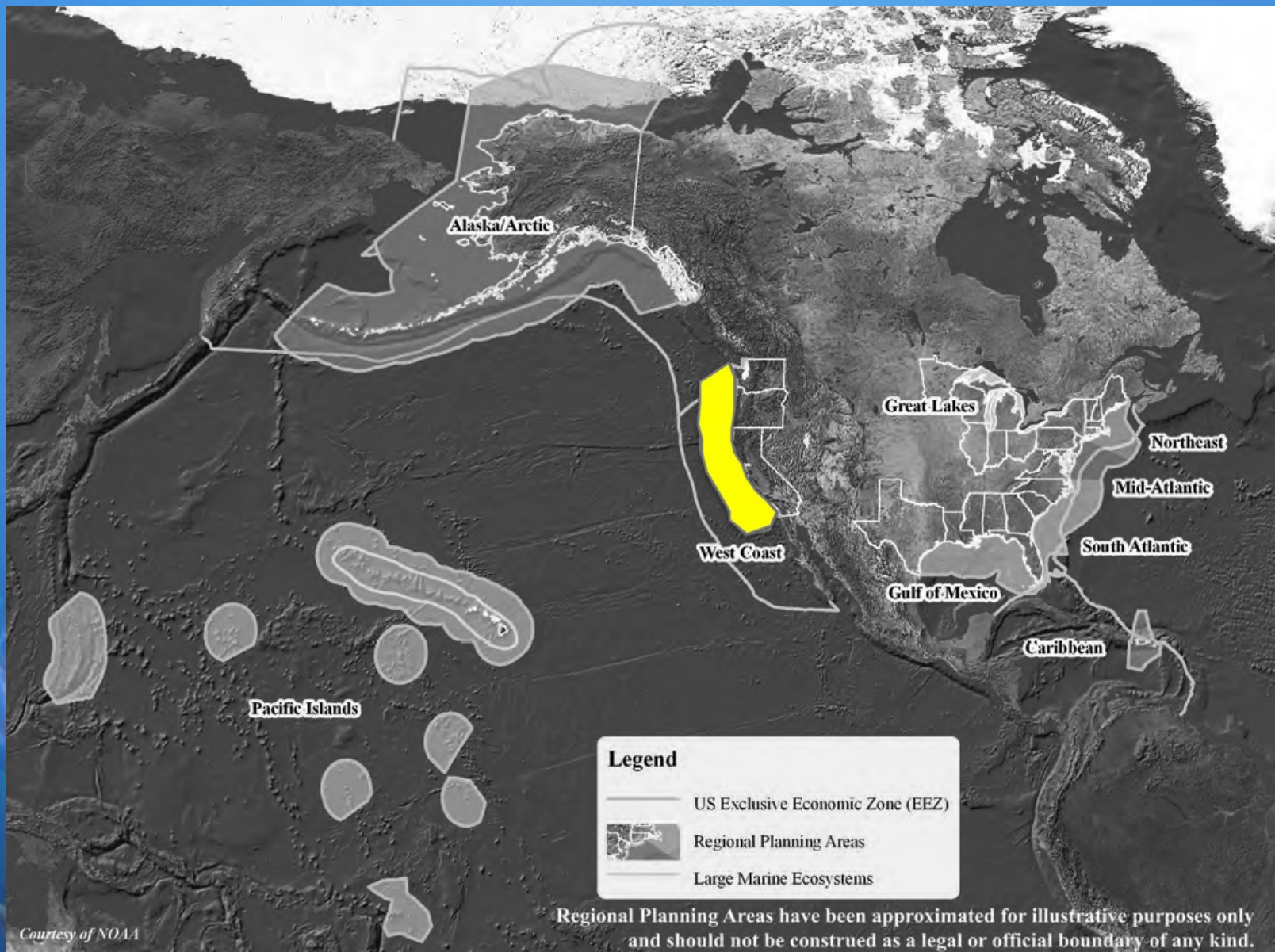
# ***Federal Executive Order 13547 & Final Recommendations***

Signed July 19, 2010 by President Obama

- Establishes our Nation's first ever *National Policy for Stewardship of the Ocean, our Coasts, and the Great Lakes*
- Creates an interagency *National Ocean Council* to provide sustained, high-level, and coordinated attention to advance the National Policy
- Seeks to address the most pressing challenges facing the ocean, our coasts, and the Great Lakes
- Establishes *a flexible framework for effective coastal and marine spatial planning* to address conservation, economic activity, user conflict, and sustainable use of ecosystem services



## 9 Regional Planning Areas & Bodies



# ***West Coast Regional Planning Body***

## ✧ **West Coast Governors Alliance on Ocean Health**

- Washington
- Oregon
- California

The California Natural Resources Agency (CRNA) is the representative agency for the West Coast Governors Alliance. The Ocean Protection Council (OPC), a division of CRNA, carries out CMSP for California.



# Current Efforts: Western Marine Spatial Planning



# West Coast Governors Agreement on Ocean Health

Contains a series of action plans, including:

- Create a National-Level Commitment to the Ocean
- Mitigate and Adapt to Climate Change
- Ensure Clean Coastal Waters and Beaches
- Improve Coastal Air Quality
- Protect a Healthy Ocean and Coastal Habitats
- Reduce Impacts of Offshore Energy Development
- Promote Citizen Ocean Awareness and Literacy
- Expand Ocean and Coastal Scientific Information, Research, and Monitoring
- Work for Sustainable Coastal Communities
- Implement Ecosystem-Based Management

# ***Southern California Bight Forum***

## **Working hypothesis:**

Southern California Bight would be an ideal laboratory for applying, testing, and refining CMSP.

## **Major conclusion:**

A series of small, carefully planned pilot projects should be carried out in the context of a comprehensive CMSP process.

Themes that received considerable support were:

- Offshore finfish aquaculture
- Offshore algae aquaculture for production of biofuels, and
- Offshore renewable energy.

# ***The Port as a Catalyst for Sustainable Ocean Based Innovation***

**Value Creation:** Utilize Coastal and Marine Spatial Planning to help lead and accelerate the New Emerging Blue Economy in San Diego.

1. Consistent with The Port Mission.
2. Water Dependent Businesses.
3. Creates new Tenants, non-competitive.

Land/Water Rights with Direct Marine Access

Marine Planning & Regulatory Expertise

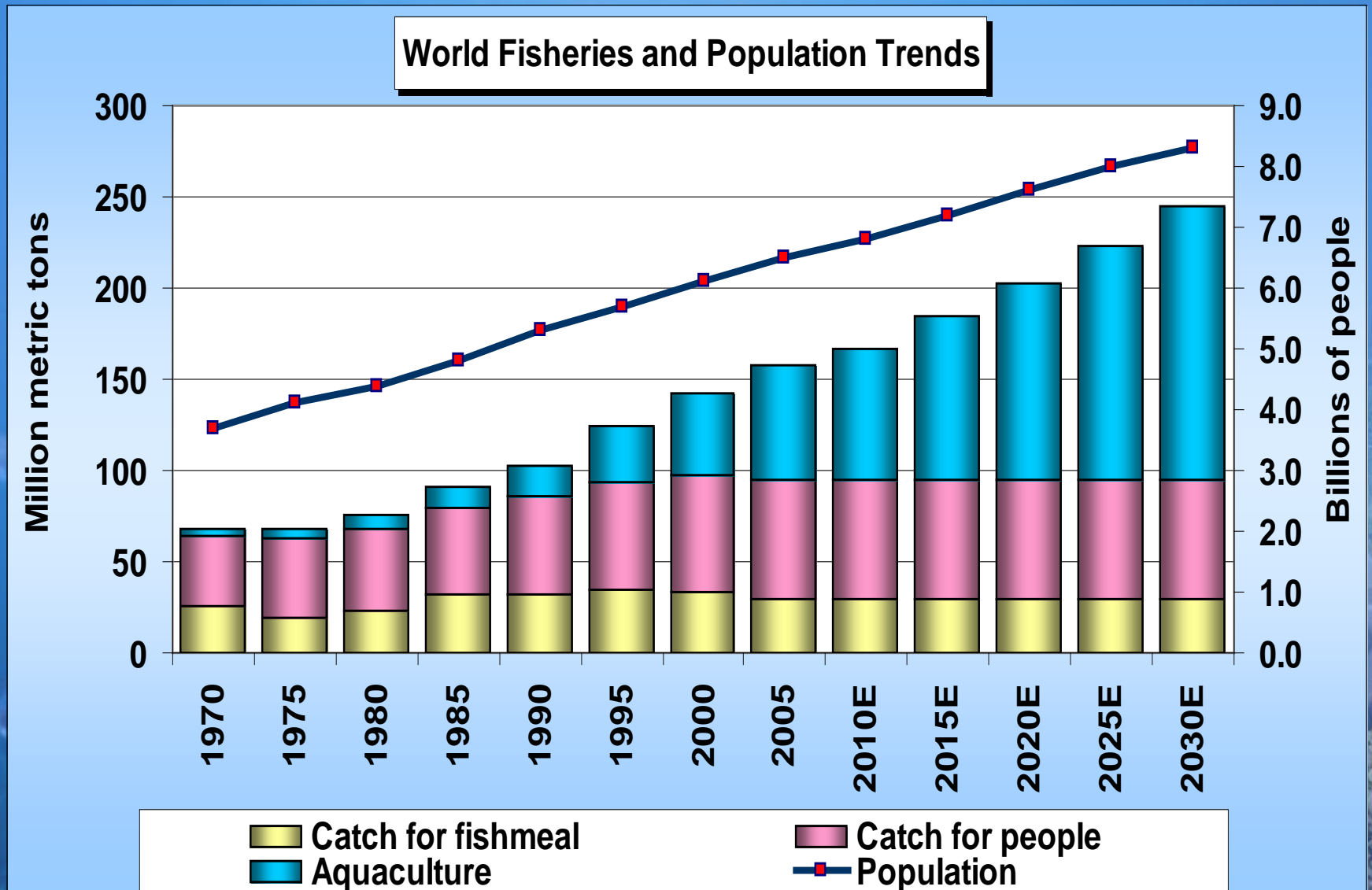
Human & Capital Resources (Direct Investments, Grants, Partner Investors)

**The Aquaculture Sector**  
-Marine plant, shellfish, and fish farming,  
open-air seafood markets, etc

**The Blue Technology Sector**  
- Renewable Energy, Clean Water Tech,  
Sub-Sea Tech, BiOmedicine, etc.



# Global Situation Outlook



# USA Opportunity

Bangladesh 1,308,515 (metric tonnes aquaculture)

Vietnam 2,671,800

Thailand 1,286,122

Myanmar 850,697

Egypt 919,585

Philippines 744,695

Norway 1,008,010

Chile 701,062

Japan 718,284

India 4,648,851

Indonesia 2,304,828

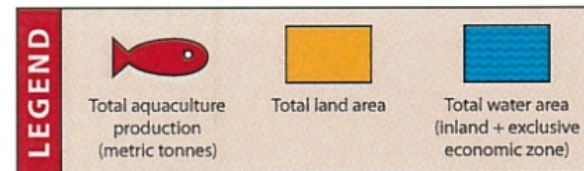
China 36,734,215

USA 495,499

2010, UN Food and Agriculture Organization

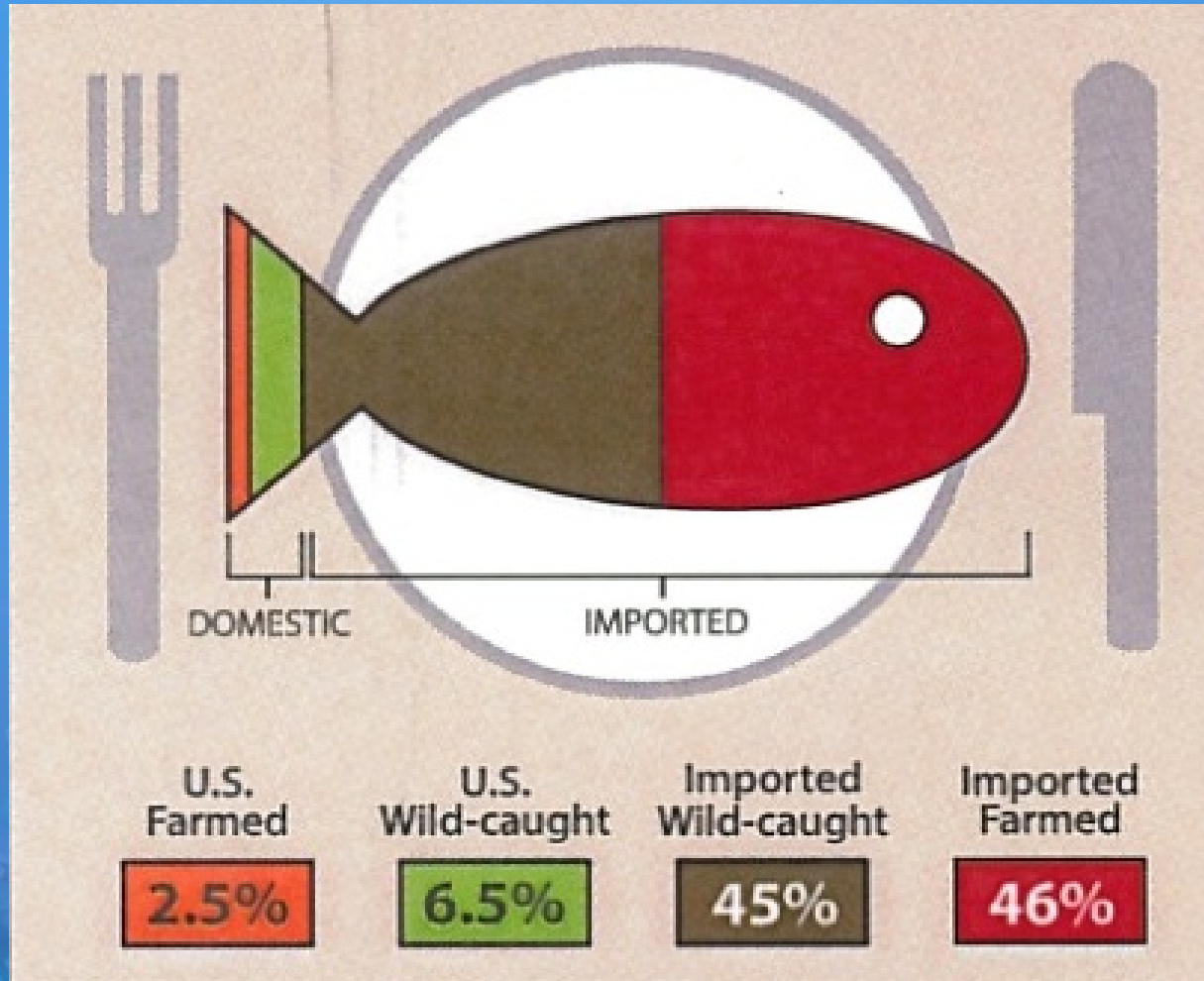
David J. Landkamer, Ed.D., Aquaculture Extension Specialist, Oregon Sea Grant Extension Program. Infographic by Patricia Andersson, Oregon Sea Grant

## Top 13 Aquaculture Producers Worldwide



Total aquaculture production in relation to land and water resources

## *Sources of all seafood consumed in U.S.*

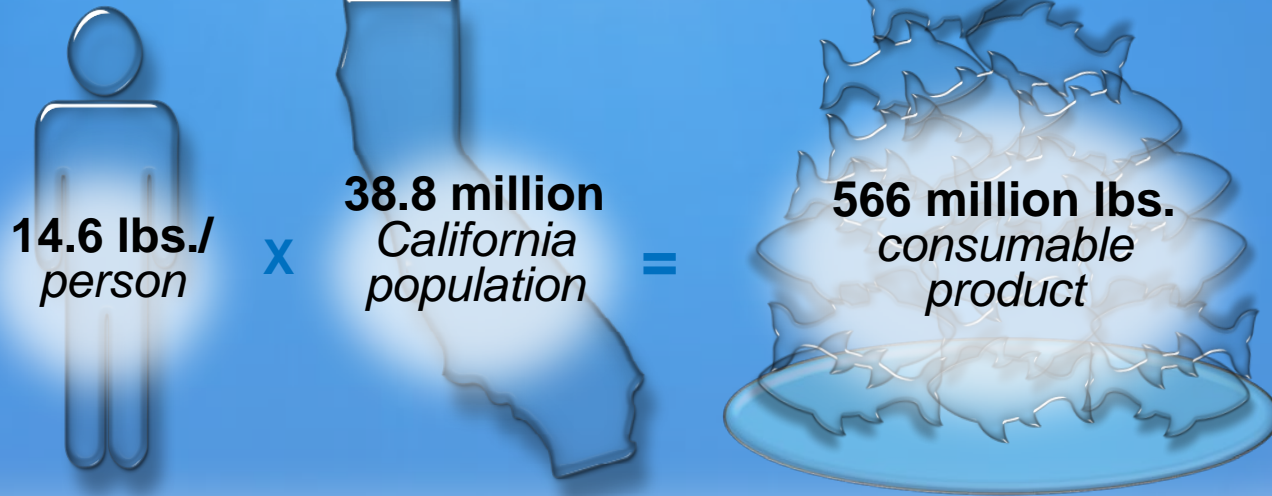


Data 2012, NOAA National Marine Fisheries Service





## *Opportunity for California*



### • **Potential Value:**

- At \$6/kg of landed value  $\Rightarrow$  \$3 billion in annual sales
- At 43 jobs/1000MT = 21,500 CA jobs
- Total economic benefit to CA economy  $\Rightarrow$  \$6 billion (*50% of CA livestock sales (from 0.5%)*)

# *Potential Uses of Aquaculture at Port*

## **Companion Business Lines**



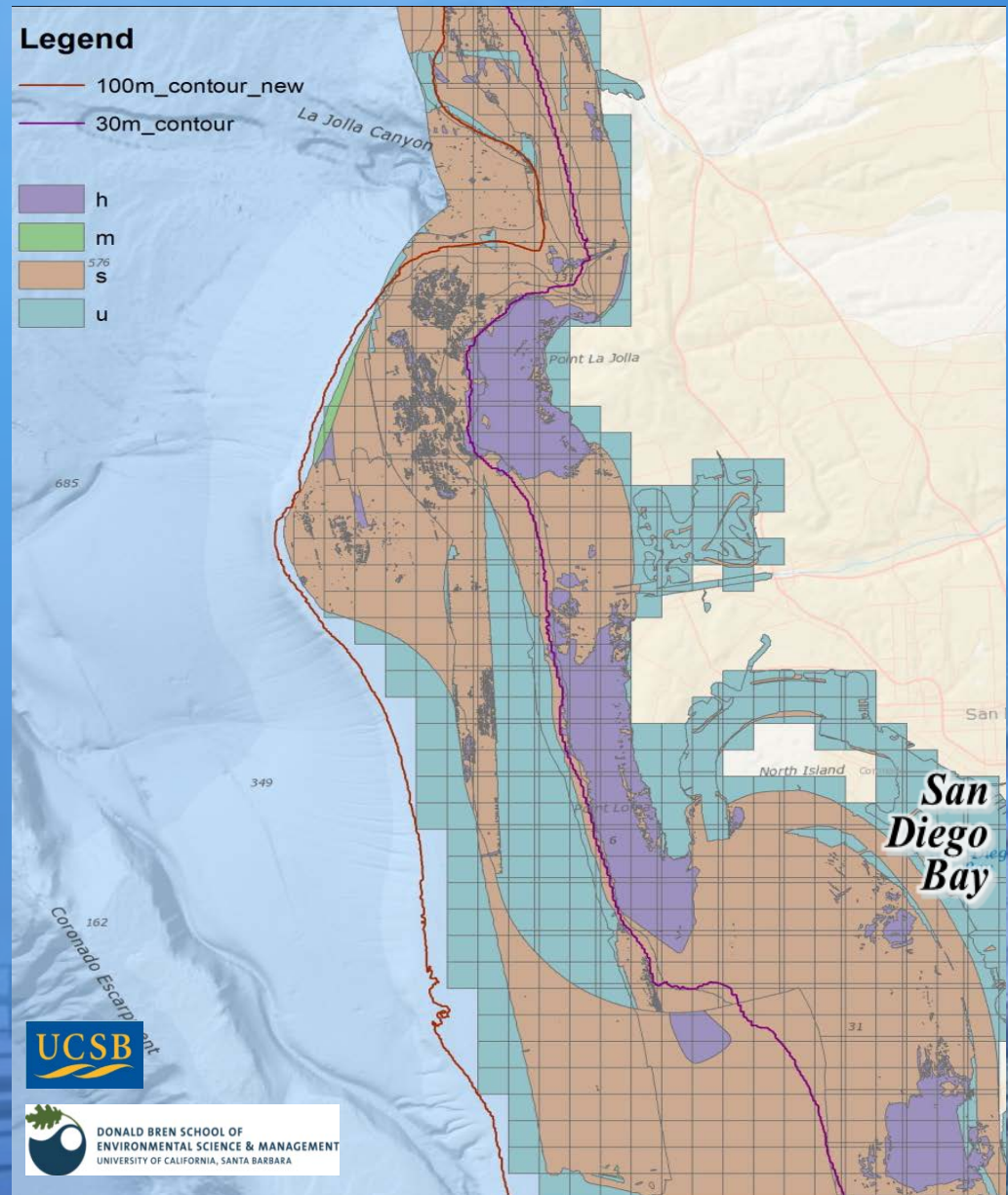
## **Co-Benefits/Secondary Business Lines**



# Potential Port Locations for Aquaculture

## Opportunities:

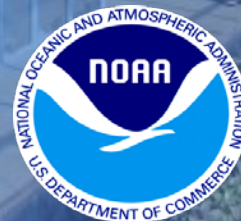
- Land Based
- Ocean Based
- Aquaculture Parks/Business Incubators
- Integrates/complements existing businesses and Blue Technologies

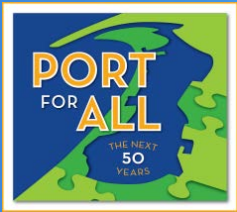




## Example Tools for Marine Spatial Planning

- **Engaged NOAA-CAPES (Coastal Aquaculture Planning and Environmental Sustainability Program)**
  - Initial work on development of aquaculture tools to inform future marine spatial planning efforts
- **Includes:**
  - Opportunity analyses - determine species of algae, shellfish and fish; what type of aquaculture and where
  - Geospatial analysis - mapping and visualization; determines environmental and social capacity
  - Exclusion analyses – minimize user conflicts





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