

Science, Service, Stewardship



US Marine Aquaculture: Economic Opportunities and Constraints

WHOI Colloquium

May 25, 2011

Dr. Michael Rubino

Manager

NOAA Aquaculture Program

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Today's Talk

- What is US marine aquaculture?
- Opportunities and constraints
- Economic analysis to inform US policy





Current US aquaculture contribution to seafood supply

- 85% of US seafood consumption imported
- 5% from US aquaculture production
 - ~ 500,000 tons (75% freshwater, 25% marine)
 - 40% of Alaska salmon harvest from hatcheries (~ 125,000 tons)
- Equipment, technology, investment, feed, and seed stock to world market





Stock Enhancement & Restoration Aquaculture Supporting...

Commercial Fisheries – Salmon, oysters, king crab

Recreational Fisheries – Pacific rockfishes,
Gulf redfish, California white sea bass

Habitat – Oysters, grasses



Pacific Rockfish



King Crab

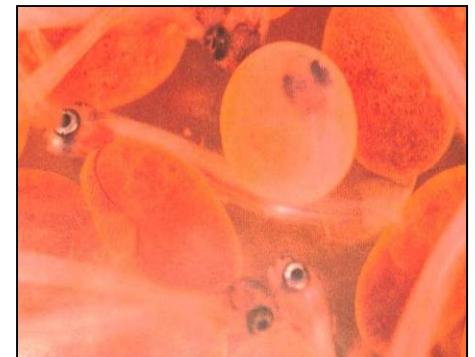


Chesapeake Oysters

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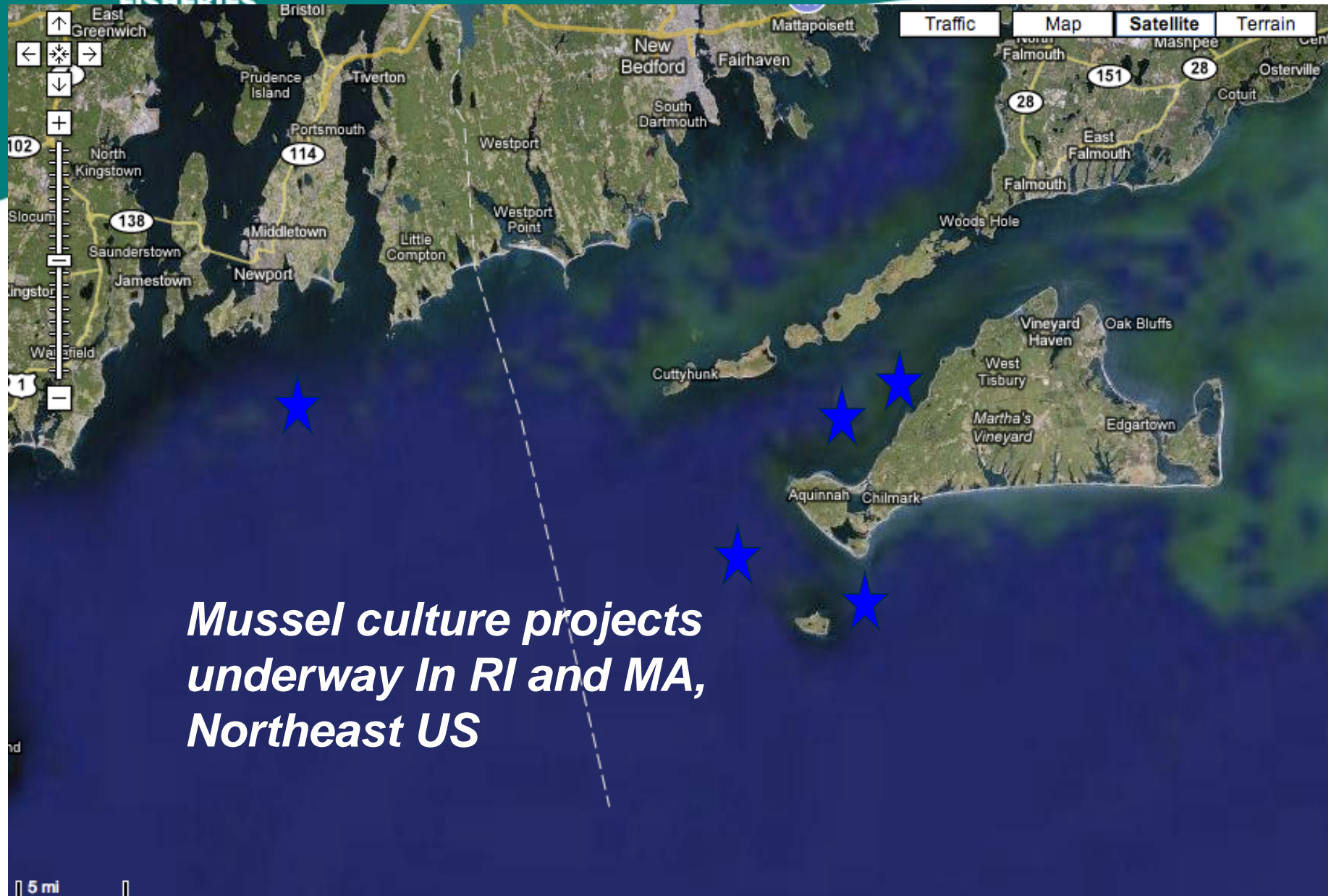
Maine





New England





*Mussel culture projects
underway in RI and MA,
Northeast US*

Rhode Island, Massachusetts



Chesapeake Bay







Florida





Mississippi





Louisiana

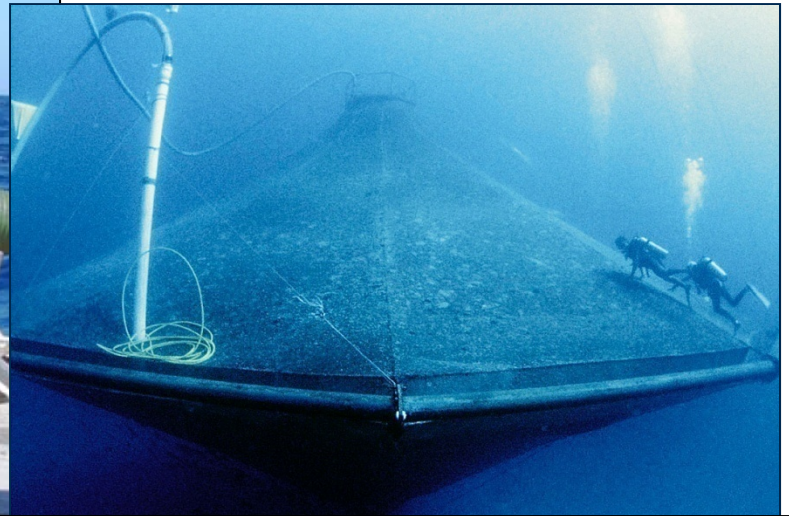




California



Hawaii



Washington



Alaska





Common Features of Commercial U.S. Marine Aquaculture



- ✓ Owner/operators: U.S. seafood businesses, fishing families
- ✓ Local support
- ✓ Working waterfronts
- ✓ Range of technologies
- ✓ Synergies with commercial and recreational fishing
- ✓ Innovative
- ✓ Best management practices



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Eat More Fish!!!!
Support Ocean Farmed Seafoods!!!!
Support Maine's Working Waterfronts!!!!!!







*With earth's burgeoning
human population to feed
we must turn to the sea
with new understanding
and new technology.
We need to farm it
as we farm the land.*

Jacques Cousteau, 1973



US Marine Aquaculture: Opportunities

Demand for seafood, health benefits, dietary guidelines

Supply constraints, complement wild catch

Product form

Demand for local

Food security

Jobs, working waterfronts





Constraints

- Regulatory uncertainty, costs
- Competition for use of marine commons: tourism, leisure, real estate development
- Competition with commercial fishing
- Environmental concerns
- Globalization



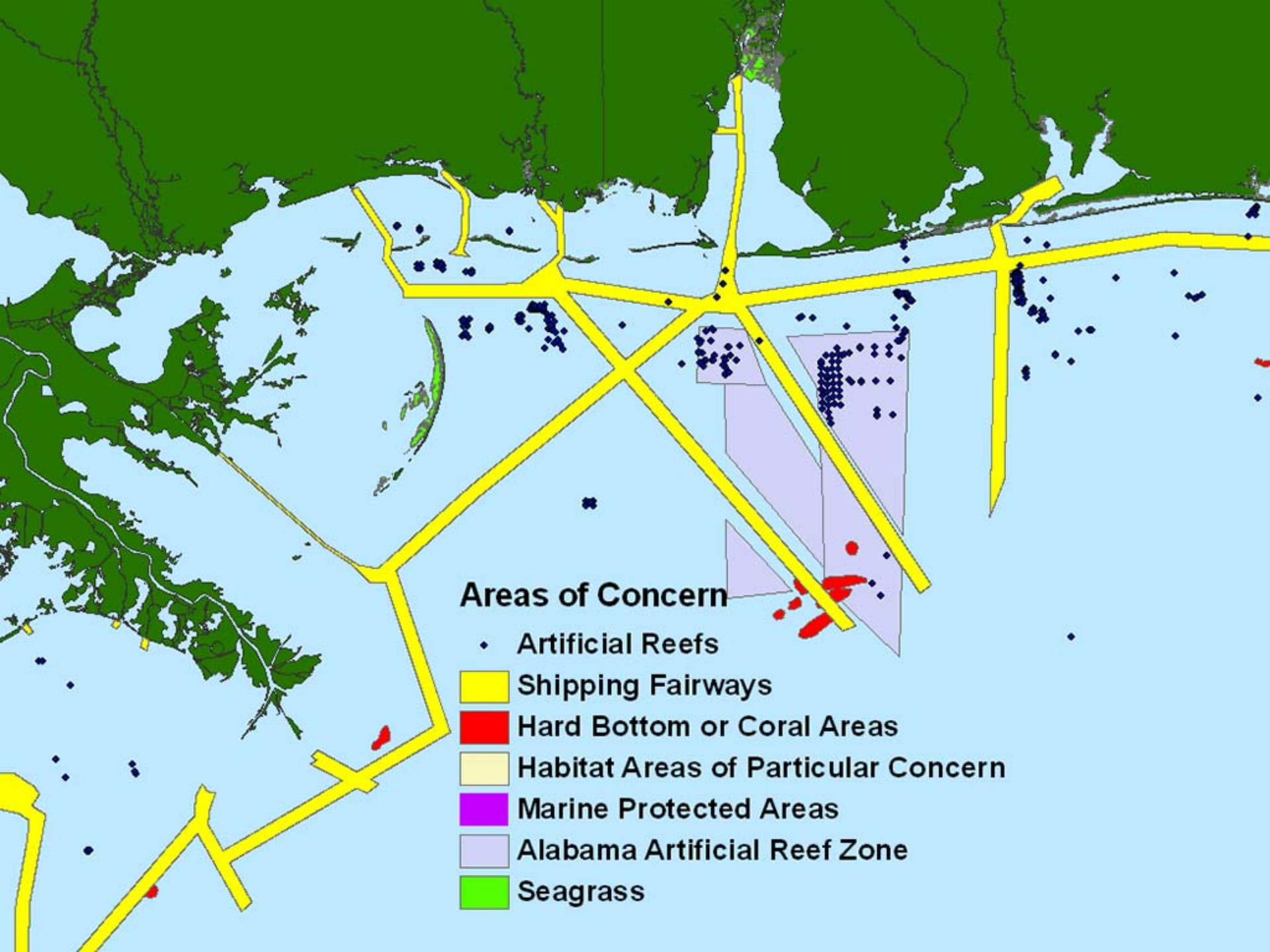


Crowded Coastlines









Areas of Concern

- Artificial Reefs
- Shipping Fairways
- Hard Bottom or Coral Areas
- Habitat Areas of Particular Concern
- Marine Protected Areas
- Alabama Artificial Reef Zone
- Seagrass



Global Market





Marine Stewardship at NOAA

- Multiple mandates
- Ecosystem approach
- End overfishing
- New aquaculture policy





Listening Sessions for New NOAA Aquaculture Policy

Farm more seafood in the US

Protect wild stocks and the marine environment

Science knowledge

Local and regional solutions

Aquaculture supports local culture

Integrate fishing and aquaculture to sustain coastal communities

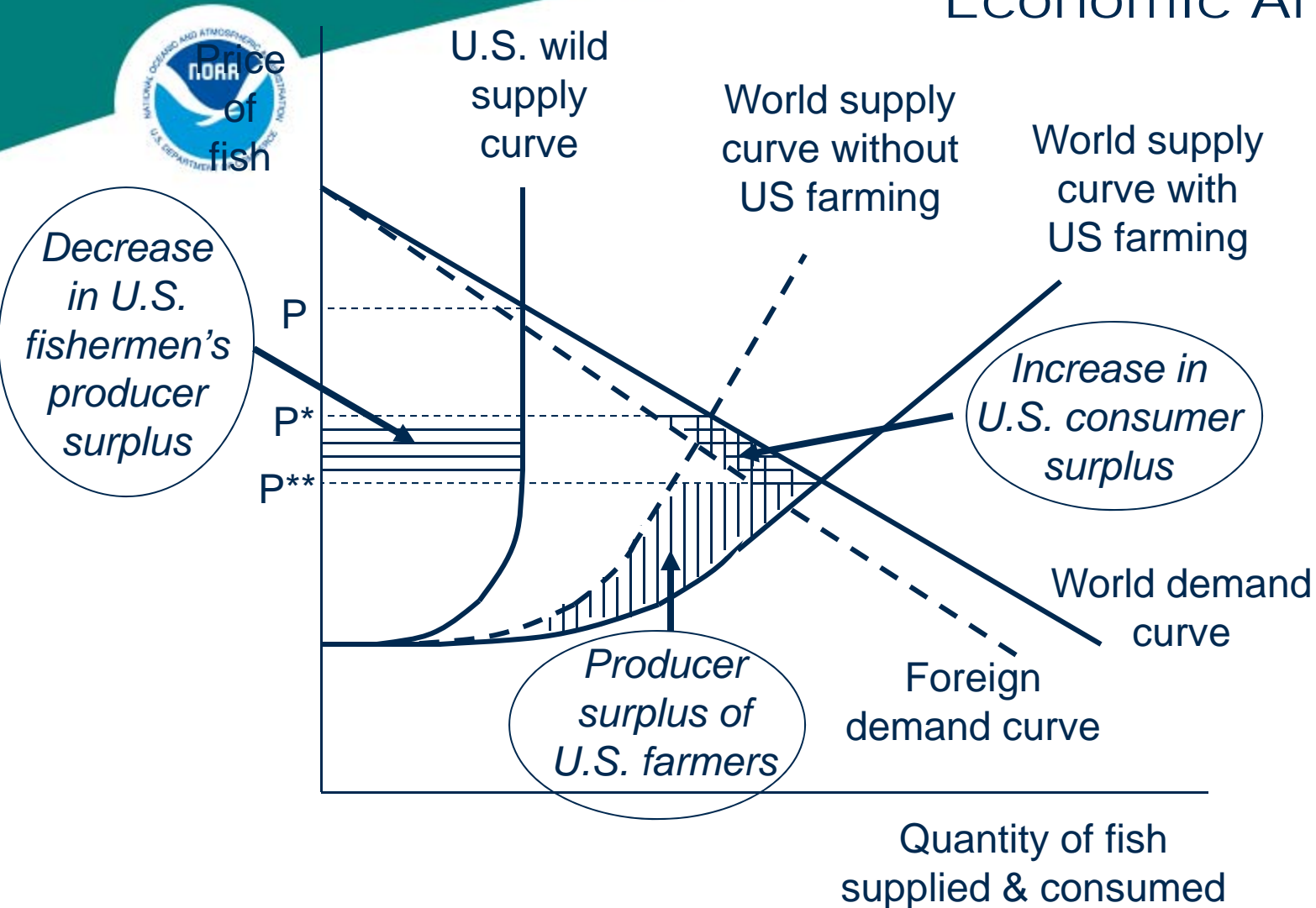
Address competition between fishing and aquaculture

Foster innovative sustainable designs

More shellfish

Pro and con offshore aquaculture

Economic Analysis





Economic Analysis to Inform Public Policy

- Job creation
- Investment drivers
- New business models, innovation
- Synergies with fishing, energy and other uses
- Monetize ecosystem services
- Level the playing field (globalization)
- Environmental and social concerns





Questions?

<http://aquaculture.noaa.gov>

