

# Private and Public Aquaculture

## Benefits of Aquaculture

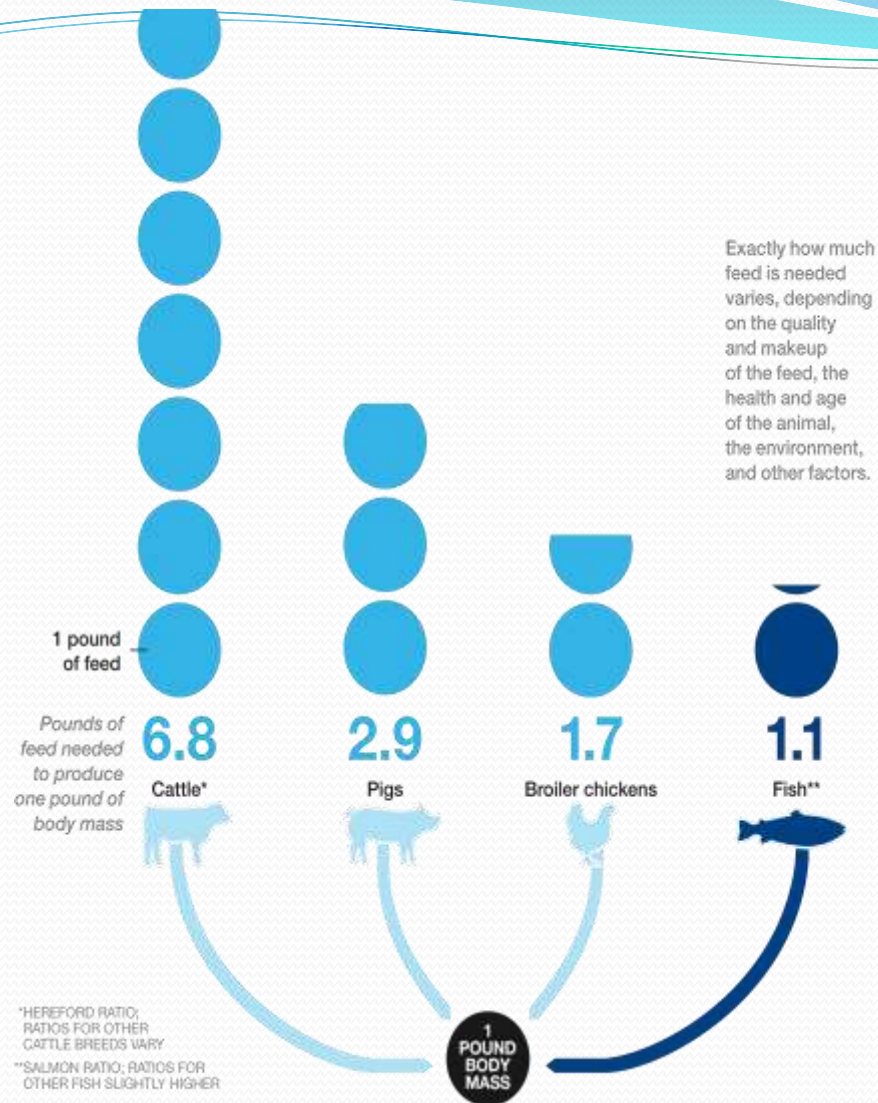
Food production, Recreation,  
Collaborations

Tony Vaught  
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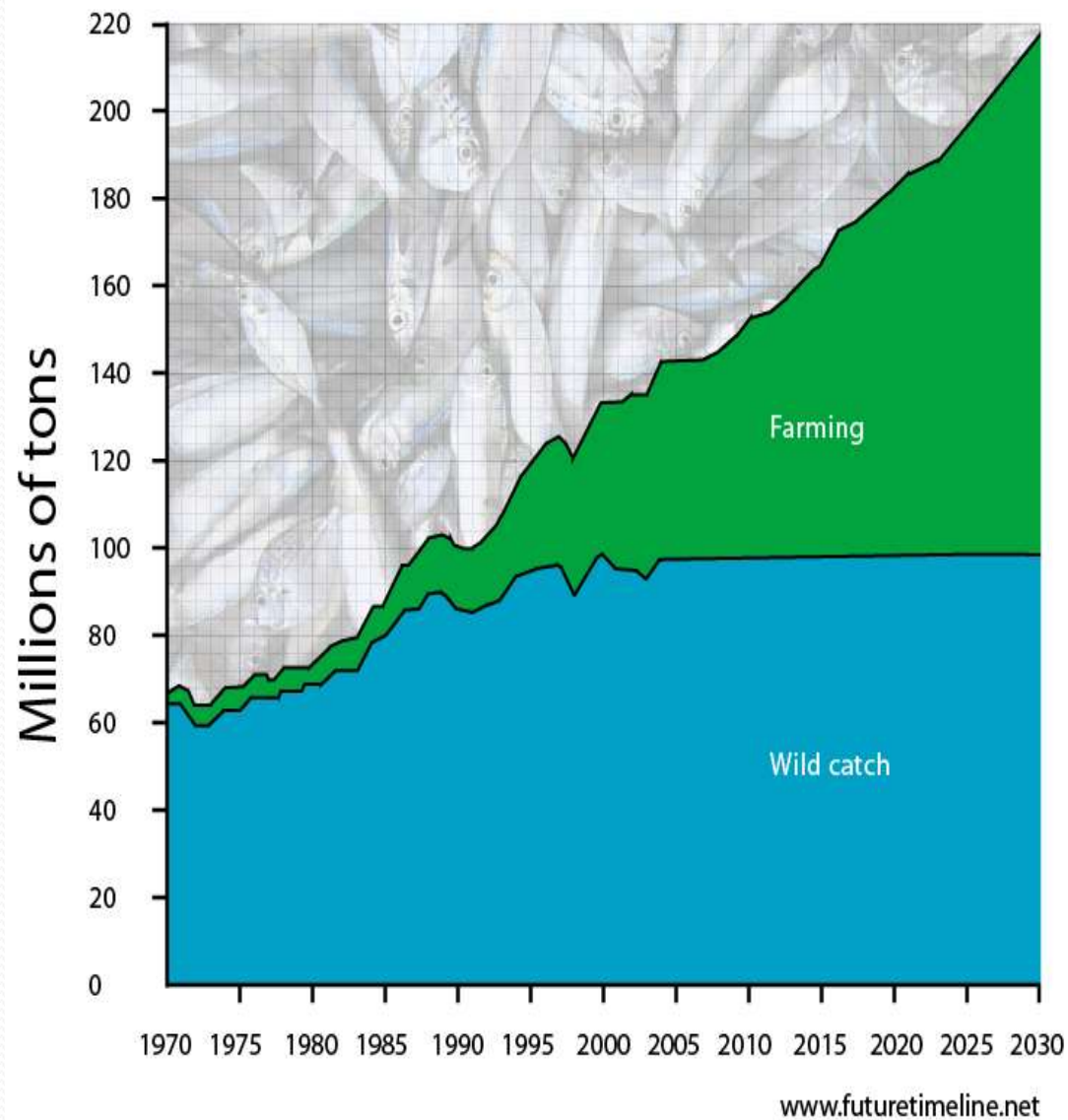


# Statistics

- About 50% of all seafood comes from aquaculture.
- In 2015, consumption of farmed seafood surpassed wild catch.
- The current world population of 7.3 billion is expected to reach 9.7 billion in 2050 (a 32.9% increase).
- About 32% of world fish stocks are overexploited, depleted or recovering and need to be urgently rebuilt.
- China has about 40% less land and water (area) than the U.S. but China produces (via aquaculture) about 73 times more fish than the U.S.



**It is projected that demand for animal protein will double within 30 years.**



Projected growth of farm raised fish

# How is the US doing?

- Over 90% of seafood consumed is imported.
- Sources of seafood consumed in U.S.
  - 2.5% U.S. farmed.
  - 6.5% U.S. wild caught.
  - 45% imported wild caught.
  - 46% imported farmed.



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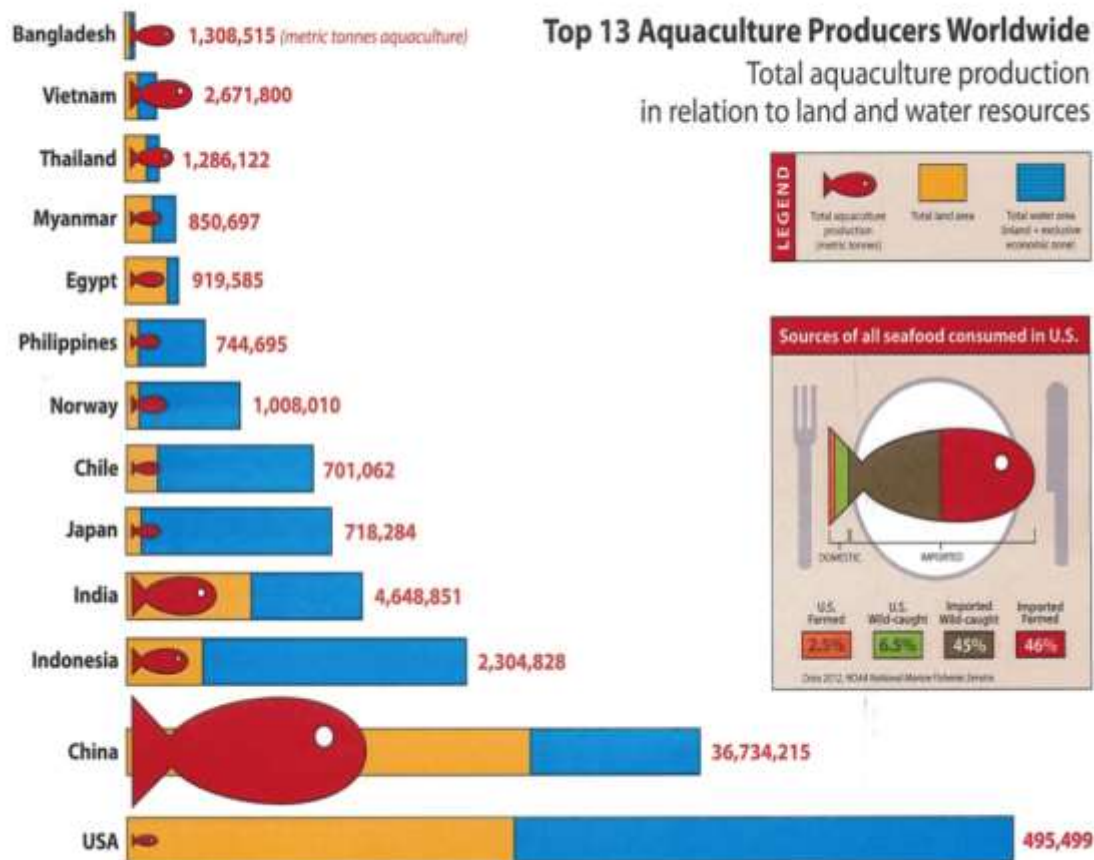
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- We have a responsibility to grow this increased demand for food rather than harvest or import.
- Food safety. A clean and reliable product.



# USA Potential for Greater Production



2016, UN Food and Agriculture Organization

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



# Western U.S.

Climate, resources, science, and markets converge.





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- Increased efficiency will free up space for working with endangered or threatened species.

# Commonality of Resource and Private Aquaculture

		RESOURCE	PRIVATE
Husbandry		X	X
Pathology		X	X
Water Quality	*	X	X
Reproduction		X	X
Nutrition	*	X	X
Severe Weather		X	X
Bird predation		X	X
Public Opinion	*	X	X
Fish Transport		X	X
Production Quotas		X	X
Budget Restraints		X	X
Labor		X	X
Genetics	*	X	X



# Water Quality

Water in and water out is the limiting factors for many fish facilities

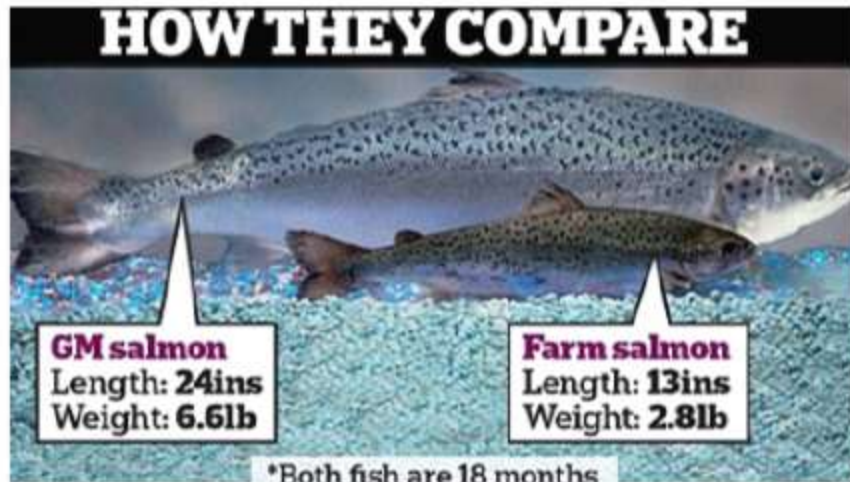


# Nutrition





# Genetics



# Public Opinion

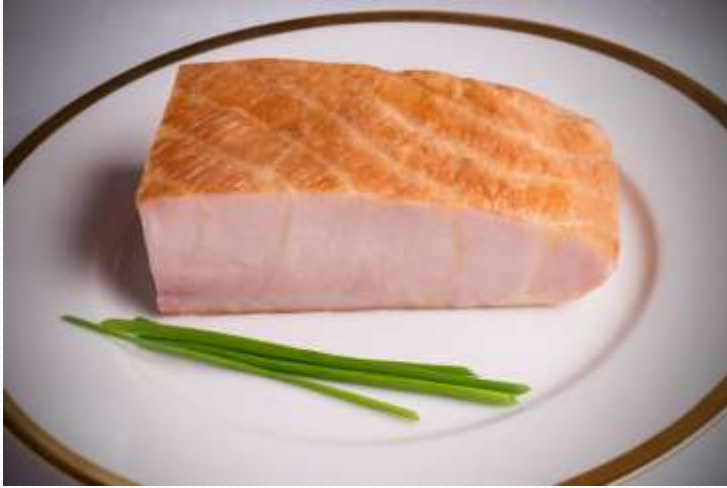




# Examples of Collaboration



# Products





# Striped Bass



# How Do We Proceed?

- **Have a plan and launch it.**
- The California Aquaculture Development Act of 1979 found and declared the practice of aquaculture to be in the interest of the people of the state, and that it should be encouraged to augment food supplies, expand employment, promote economic activity, increase native fish stocks, enhance commercial and recreational fishing, and protect and better use the land and water resources of the state. It further established a policy and program toward improving the science and practice of aquaculture as a means of expanding aquaculture industry and related economic activity in the state.

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- **The department shall, in consultation with the Aquaculture Development Committee, prepare programmatic environmental impact reports for existing and potential commercial aquaculture operations in both coastal and inland areas of the state. It was to address:**
- Appropriate areas for siting.
- The effects on other plant and animal species
- The effects of interactions with marine mammals and birds
- The effects of feed, fish meal, and fish oil on marine ecosystems.
- The effects of escaped fish on wild fish stocks and the marine environment.
- The design of facilities and farming practices so as to avoid adverse environmental impacts, and to minimize any unavoidable impacts.

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- Insist that groups opposing aquaculture use sound science as a basis.

# Thank You

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