

The Future of Hawaii's Blue Economy

November 16, 2017

Developing Sustainable Aquaculture in Hawaii

Aquaculture & Livestock
Support Services

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Aquaculture & Livestock Support Services (ALSS)

- Program goal is to provide essential support services to encourage further growth and diversification of the aquaculture and livestock industries
 - Hawaii's shrimp broodstock industries
 - Microalgae
 - Finfish, shellfish, sea asparagus, and ogo
 - Ornamental Fish
 - Aquaponics

The US Aquaculture Industry Overview

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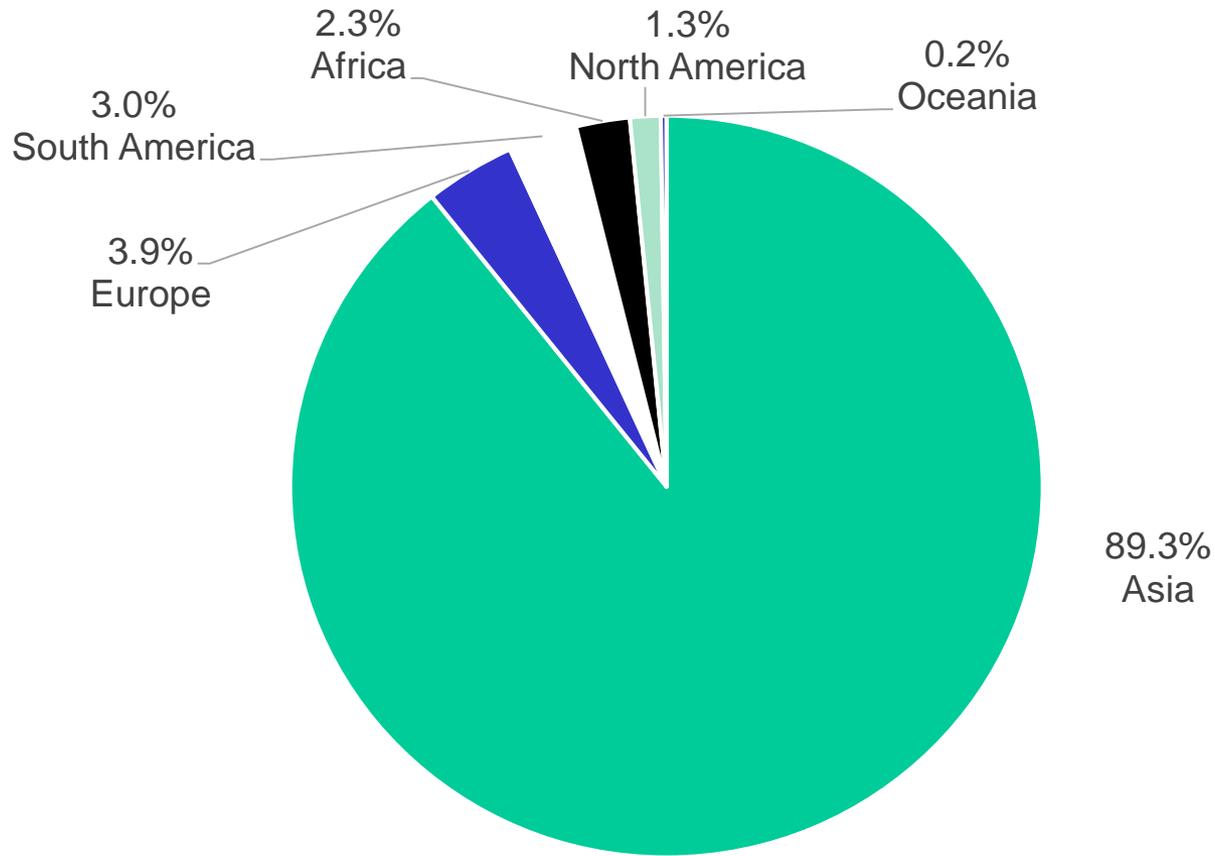
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US Aquaculture Production

2015 NOAA Statistics

- \$1.4 billion value
- 284 million metric tons
 - Freshwater
 - Marine

Aquaculture Production by Continent (mt)



Hawaii's Aquaculture Industry

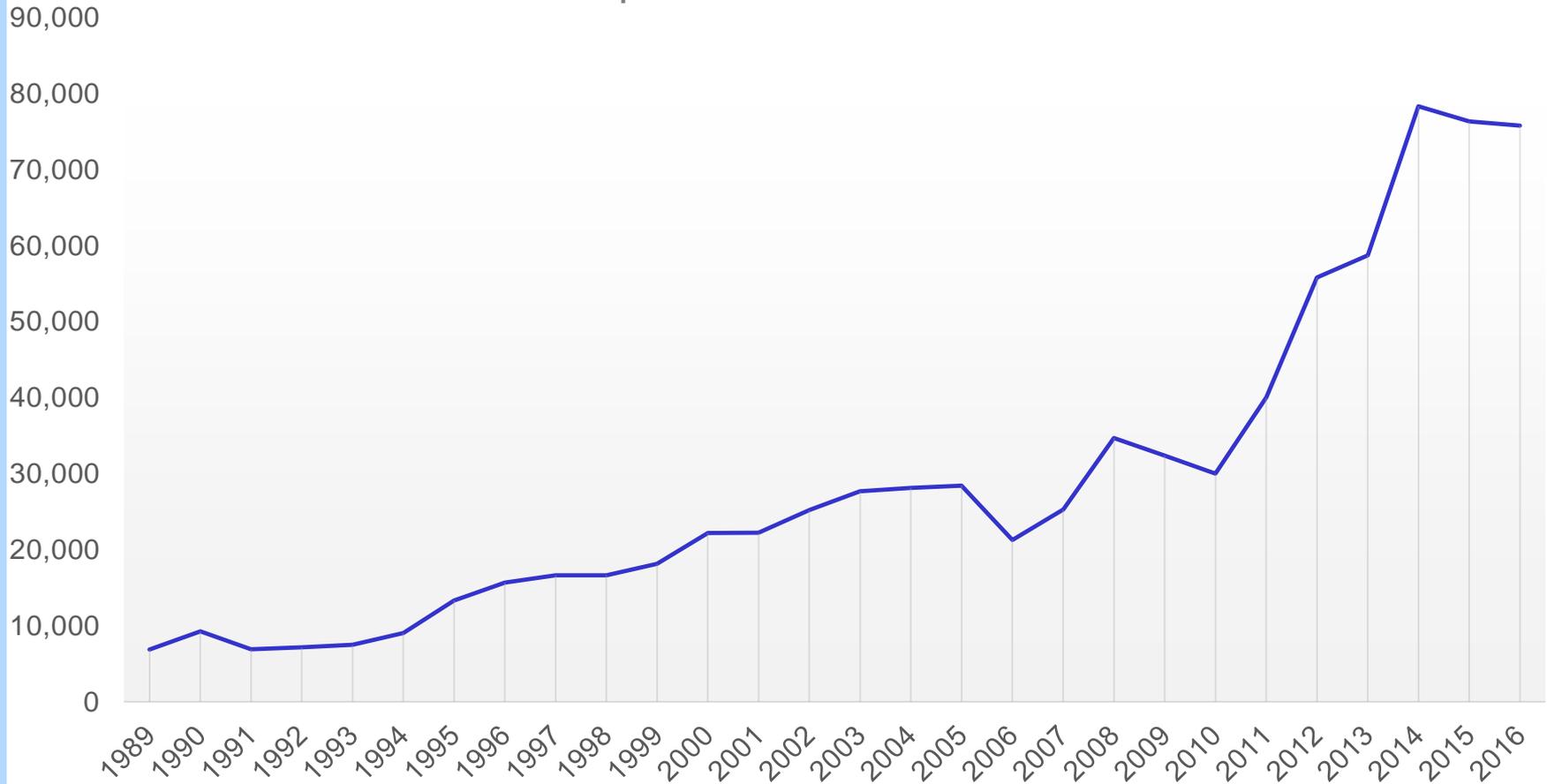
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Hawaii State Aquaculture Value (up to 2016)

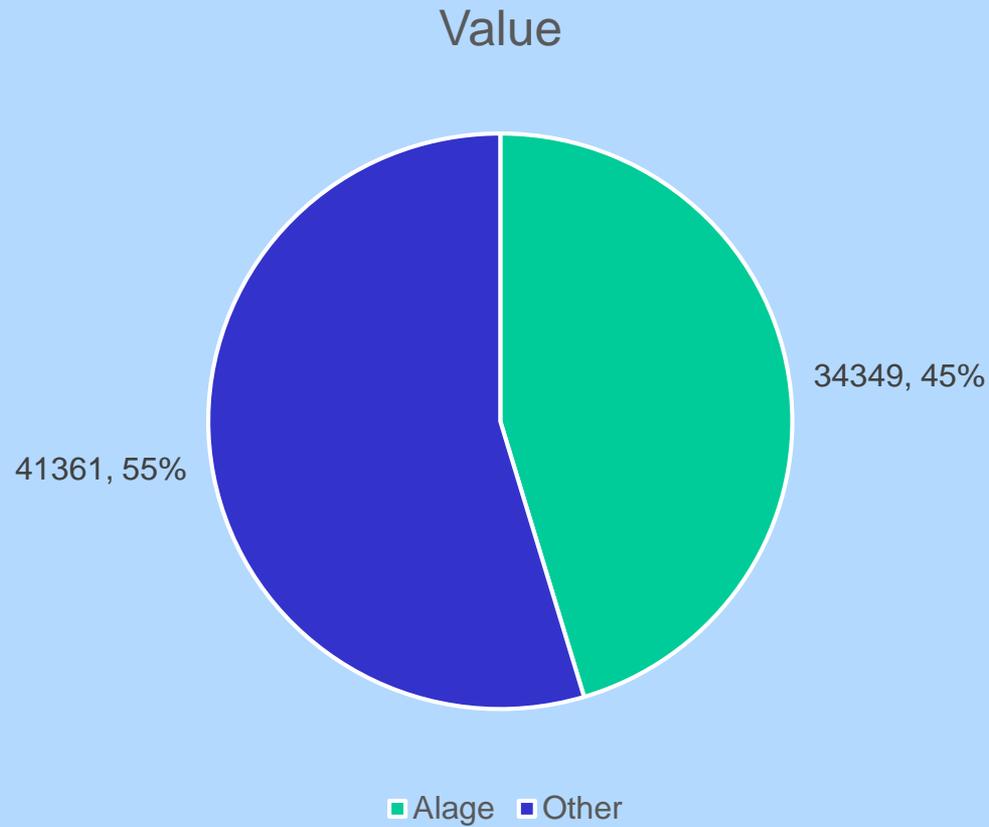
HI Aquaculture Production



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Value Distribution



Hawaii's Seafood Consumption

- Americans avg of 14.9 edible pounds of seafood per person/yr in 2016.
- Hawaiians consume an avg of 43.5 edible pounds of seafood per person/yr in 2015.
- Hawaii imports 63% of seafood
 - 6% originating from US
 - 57% from foreign countries
- US imports 86% of seafood
 - Over half farmed

Hawaii's Farmed Seafood

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ALSS Strategic Focus

- Partner with the most experienced countries, research institutes and aquaculture operations.
- Welcome global investors to invest in Hawaii.
- Sustained Intensification.
- Build Hawaii into the Silicon Valley for Aquaculture in America.

Intensification Example – Aquaponics Acre

- Validate the viability of commercial aquaponics and explore methods and systems to improve efficiency.
- Over six distinct system designs
- Operator continues to implement design improvements to boost productivity.
- Will release a ROI report soon.



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Looking Forward

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HDOA Targets

- Intensify land production
 - Tilapia, Chinese Catfish (*Clarias fuscus*), *Pangasius*
 - RAS Saltwater Systems
 - Aquaponics
- Increase shellfish production (oysters, clams, freshwater prawns and shrimp)
- Increase ogo production
- Strengthen Hawaii's shrimp broodstock and microalgae industries' leadership
- Introduce Integrated Multi-Trophic systems
- Expand open ocean cage production
- Workforce development
- Food Safety & Traceability



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