

# Aquatic Invasive Species in Hawai`i



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# How Do Invasive Species Get Here?



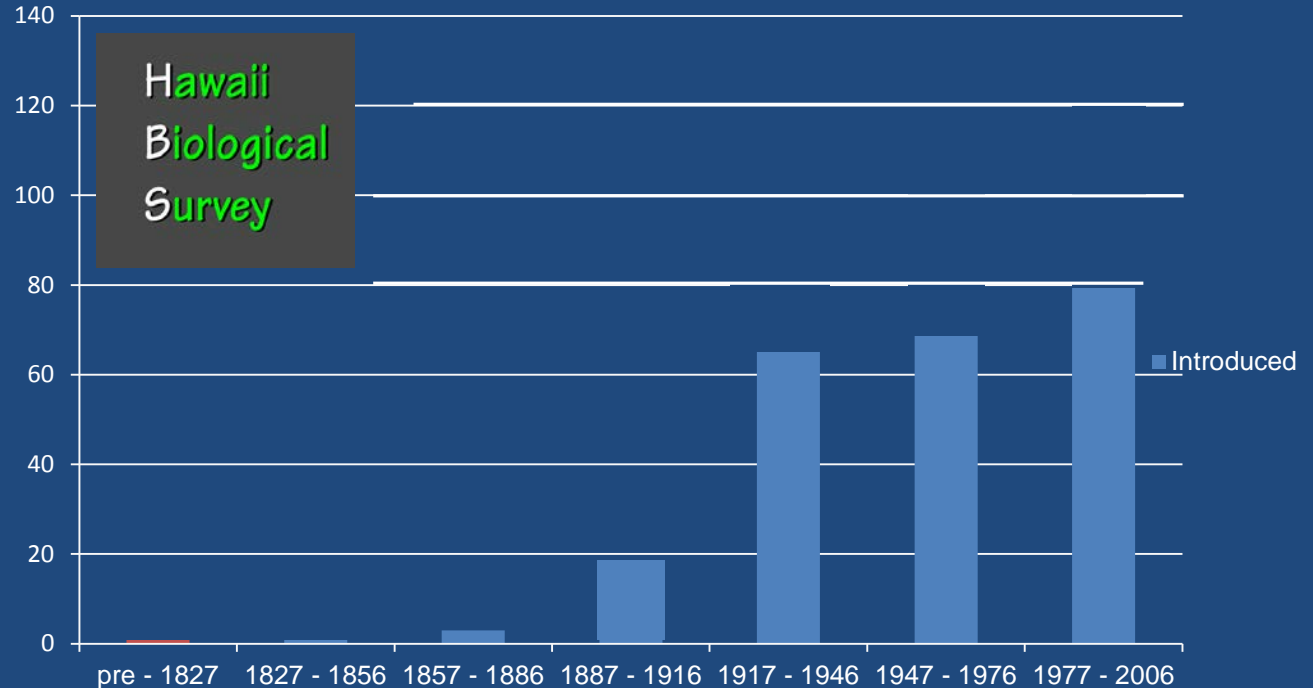
Shipping: Hull Fouling and Ballast Water



Intentional Introductions



Aquaculture





# Why is it Important to Manage Invasive Species?

- Economic
  - Clean-up costs
  - Tourism
- Ecosystems
- Food Security: fishing
- Public Health
- Social and cultural



# Why is it Important to Manage Invasive Species?

- Resilience to Effects of Climate Change



2014: Coral Bleaching Event

# Aquatic Invasive Species Program

## DLNR-DAR

**GOAL: Minimize Adverse Impacts  
from Aquatic Invasive Species**

**Prevention**

**Rapid  
Response**

**Management  
and Control**

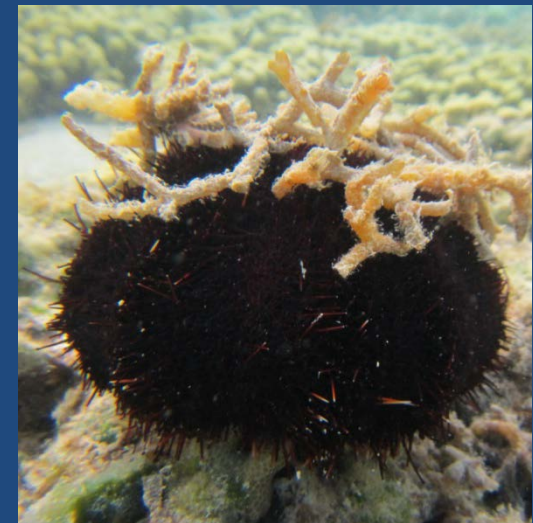
- **New Civil-Service DAR Aquatic Invasive Species Team**



# Program Overview: Super Sucker and Urchin Hatchery

## Progress:

- Successfully cleared invasive algae from 13 acres of reef in Kāne`oh Bay
- Produced and outplanted over 250,000 urchins





# Program Overview: Rapid Response



- Marine Debris
- Citizen Science: Early Detection



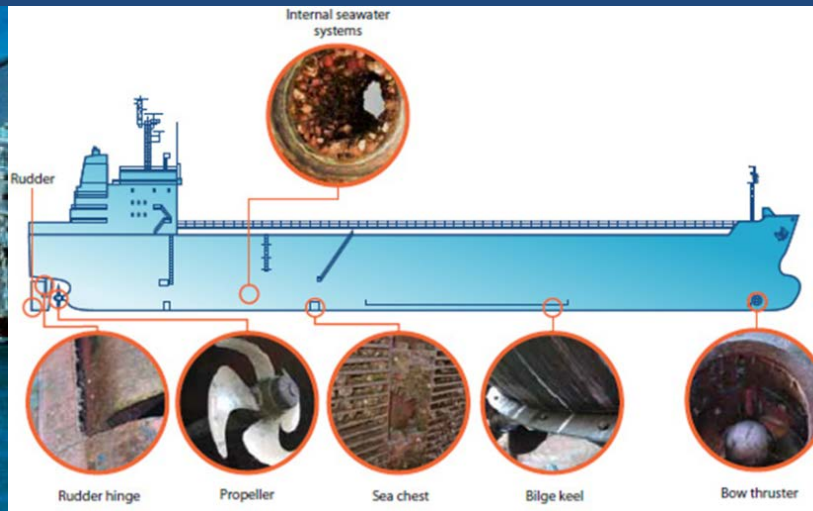
# Program Overview: Ballast Water and Hull Fouling

Vessels are RISKY for invasions

## Ballast Water



## Biofouling



## In-Water Cleaning



## Goals:

1. Update our ballast water rules
2. Cleaner ships via a biofouling rule
3. Improved understanding of in-water cleaning practices



# Program Overview: Ballast Water and Hull Fouling

## Progress

- Biofouling
  - Data gathering
  - Policy drafting and consultation (2015)
- In-water cleaning
  - Consultation with industry
  - Baseline data collection (2015)
- Ballast Water
  - AG approved Ramseyer draft, ready for submission to BLNR
  - New CGAPS legal fellow



# Program Needs:

## We need support for:

- Ballast water administrative rule amendments
- In-Water cleaning policy development
- Biofouling rule development & implementation
- A cost recovery program via inspection fees
- Long-term capacity for Ballast Water/Biofouling Coordinator





# Additional Program Needs:

- Continued support of the DLNR-DAR AIS Program
- Increased capacity for work on outer islands
  - Rapid response
  - Gorilla Ogo in Molokai
  - Hypnea on Maui
  - Invasive mullet on Big Island
- Support of Policy
  - Regulating sale and distribution of invasive species
  - Aquaculture

