

# HAWAI'I BALLAST WATER RULES, STANDARDS, CURRENT ANALYSIS

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## Ballast Water Management Report

OMB number 1625-0069  
Exp. date: 31-Dec-2018

### Vessel Information

Vessel name   
ID number  IMO number   
Country of Registry  Select country   
Owner/operator   
Type  Select vessel type  Gross Tonnage   
Ballast water volume units  Select units   
Total ballast water capacity  Number of tanks on ship  22

Onboard BW Management System

### Voyage Information

Arrival port (port and state)  Hawaii   
Arrival date   
Last port (port and country)  Select country   
Next port (port and country)  Select country   
Total ballast water on board  Number of tanks in ballast

Number of tanks discharged

Alternative BW management conducted, per instructions from COTP

### Certificate of accurate information

By checking this box, I attest to the accuracy of the information provided and that ballast water management activities were in accordance with the ballast water management plan required by CFR 151.2050(g). ☐

Responsible Officer's name and title   
Report type  Select report type   
Submitted by  Contact information

### Ballast Water History

On the following page(s), provide the ballast water history for each tank discharged into the waters of the United States or to a reception facility, en route to or at the arrival port. Vessels entering the Great Lakes or Hudson River (north of George Washington Bridge) from beyond the US EEZ must also provide the history for empty tanks that underwent alternative management.

[Submit report via e-mail](#)

[Submit report on-line](#)

# Hawai'i Ballast Water Rules

## REPORT SUBMISSION

New - 24 hrs BEFORE arrival

Amended - BEFORE departing state waters

Completely filled out

# Management Methods

## 1 Mid-Ocean Exchange



flow-through  
300%

empty-refill

## 2 USCG Type Approved & Alternate Treatment Systems

PureBallast 3 System

Optimarin AS

## 3 Fresh Water Ballast

## 4 Permanent Ballast



Internal Transfer



## 5 No Discharge

# Management Methods

## 1 Mid-Ocean Exchange



★ FLOW THROUGH 300%

EMPTY - REFILL

# Management Methods

## 2 USCG Type-Approved & AM Treatment Systems

PureBallast 3 System



Optimarin AS



# Management Methods

## 3 Fresh Water Ballast

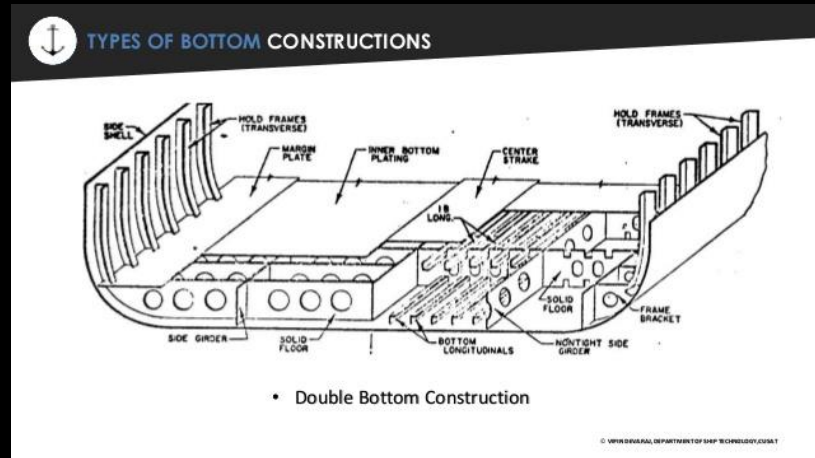


municipal fresh water sources

## 4 Permanent Ballast



Internal Transfer



double bottom tanks



# Management Methods

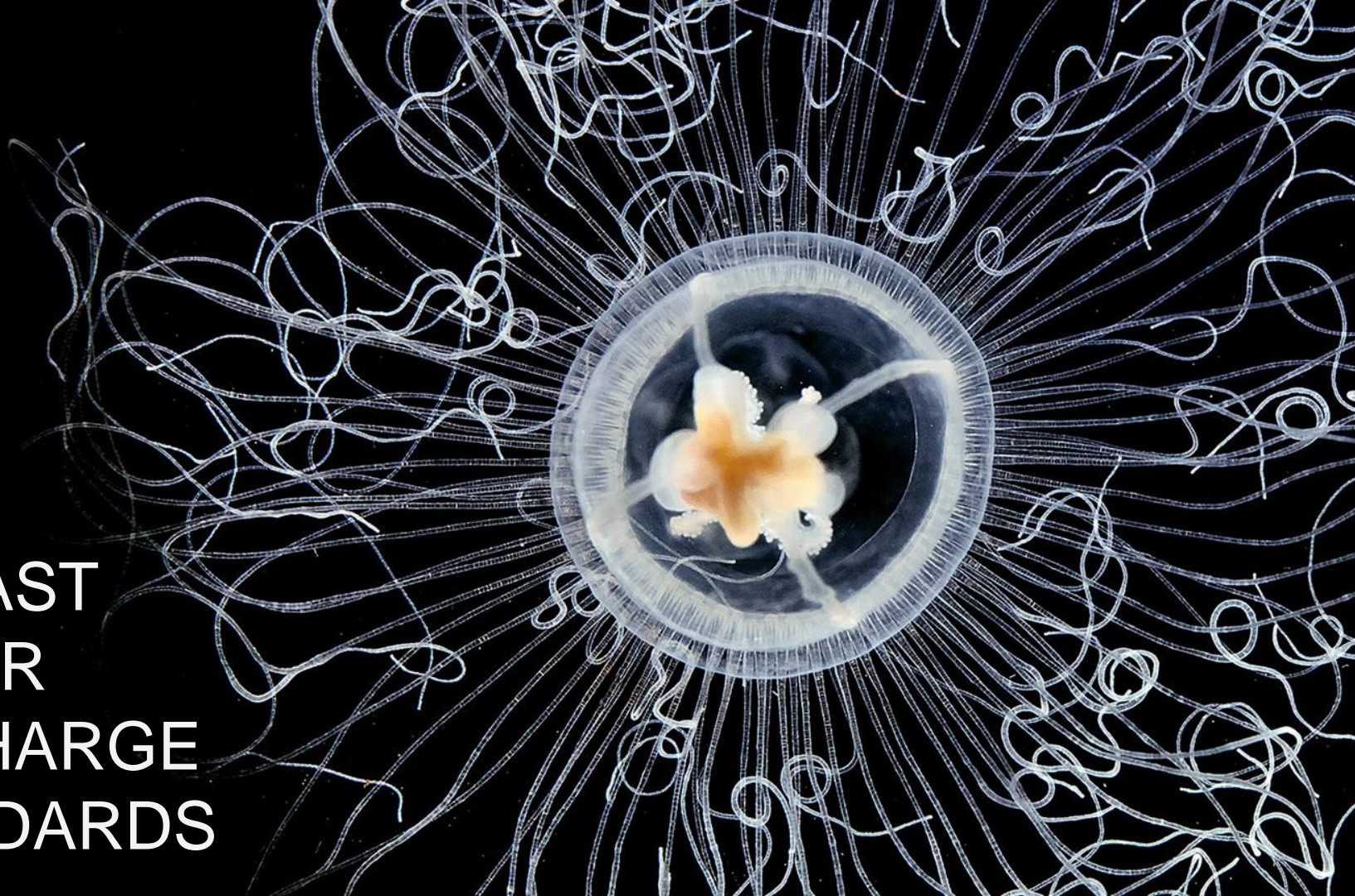
5 No Discharge



6 Discharge to Facility



# BALLAST WATER DISCHARGE STANDARDS





# MICRO-ORGANISM STANDARDS



## DENSITY LIMIT

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PLANKTON & OTHER ORGANISMS: **>50 $\mu$ m**

less than 10 living organisms / m<sup>3</sup>

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PLANKTON: **10-50 $\mu$ m**

less than 10 living organisms / mL

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BACTERIA: *Vibrio cholerae*

less than 1 CFU / 100 mL

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BACTERIA: *Escherichia coli*

less than 250 CFU / 100 mL

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BACTERIA: Intestinal Enterococci

less than 100 CFU / 100 mL

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# Davidson et al. 2014(a) Overview

4 year analysis (2010-13)

Annual Arrivals: 1302-1434

352 locations

30% interisland

85% of overseas arrivals  
from NE & NW Pacific



# Davidson et al. 2014(a) Overview

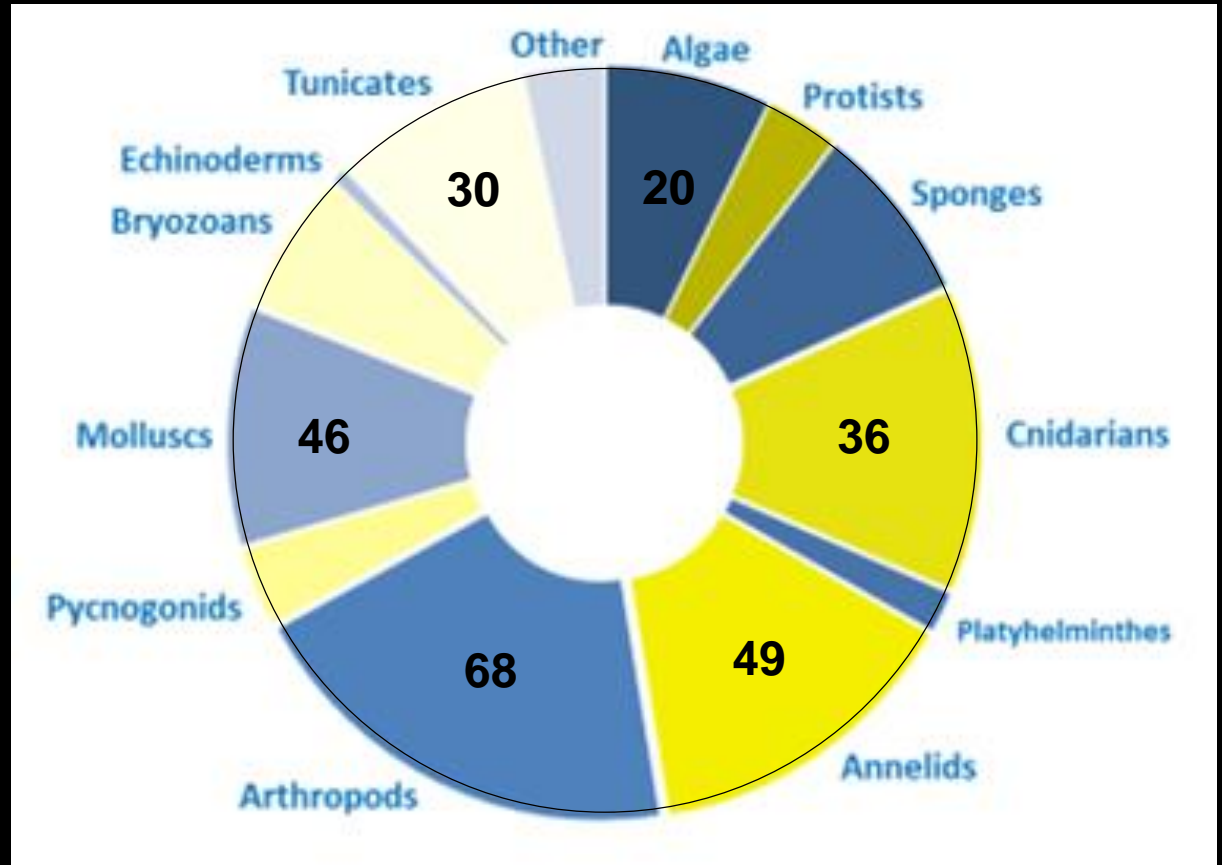


Figure 1. The taxonomic breakdown of Hawai'i's non-indigenous and cryptogenic marine algae and invertebrates (n = 346 species).



# **BALLAST WATER REPORTING FORM ANALYSIS**

Using data from January 1, 2016 – January 1, 2017



# VESSEL ARRIVALS

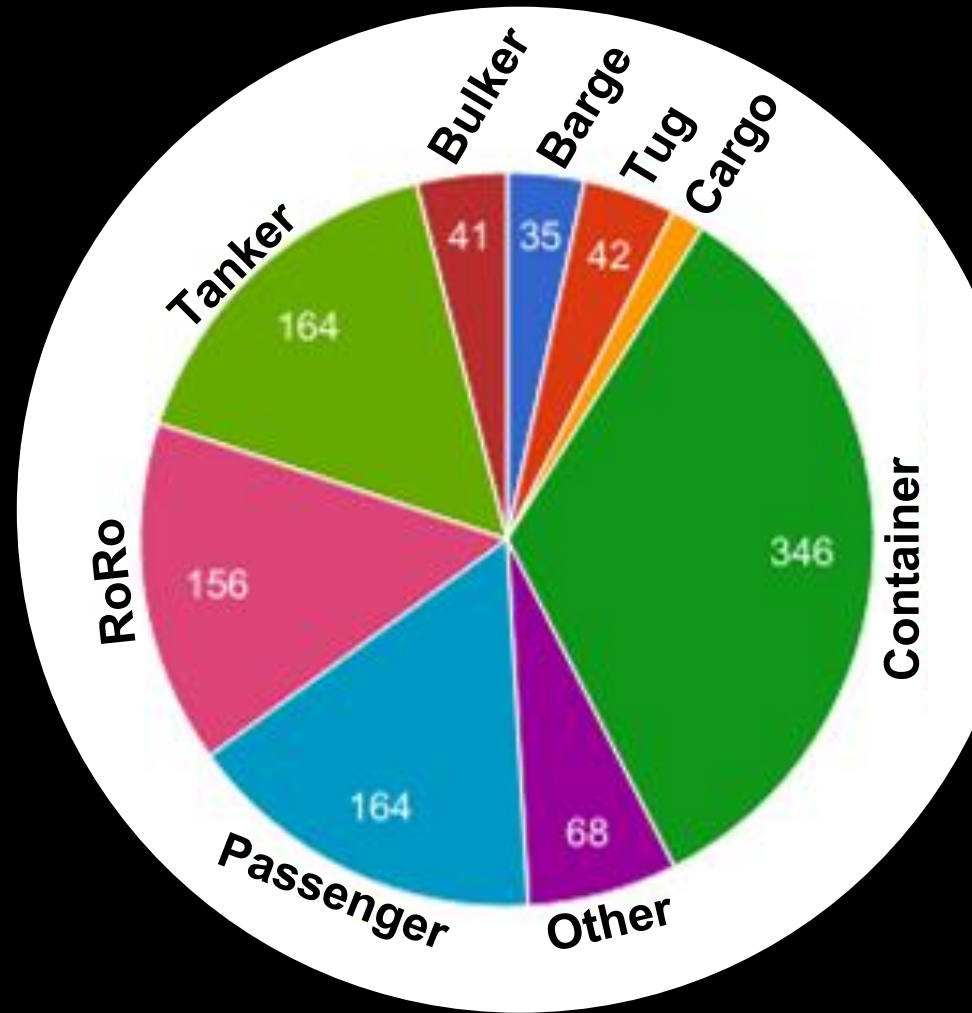
January 1, 2016 - January 1, 2017

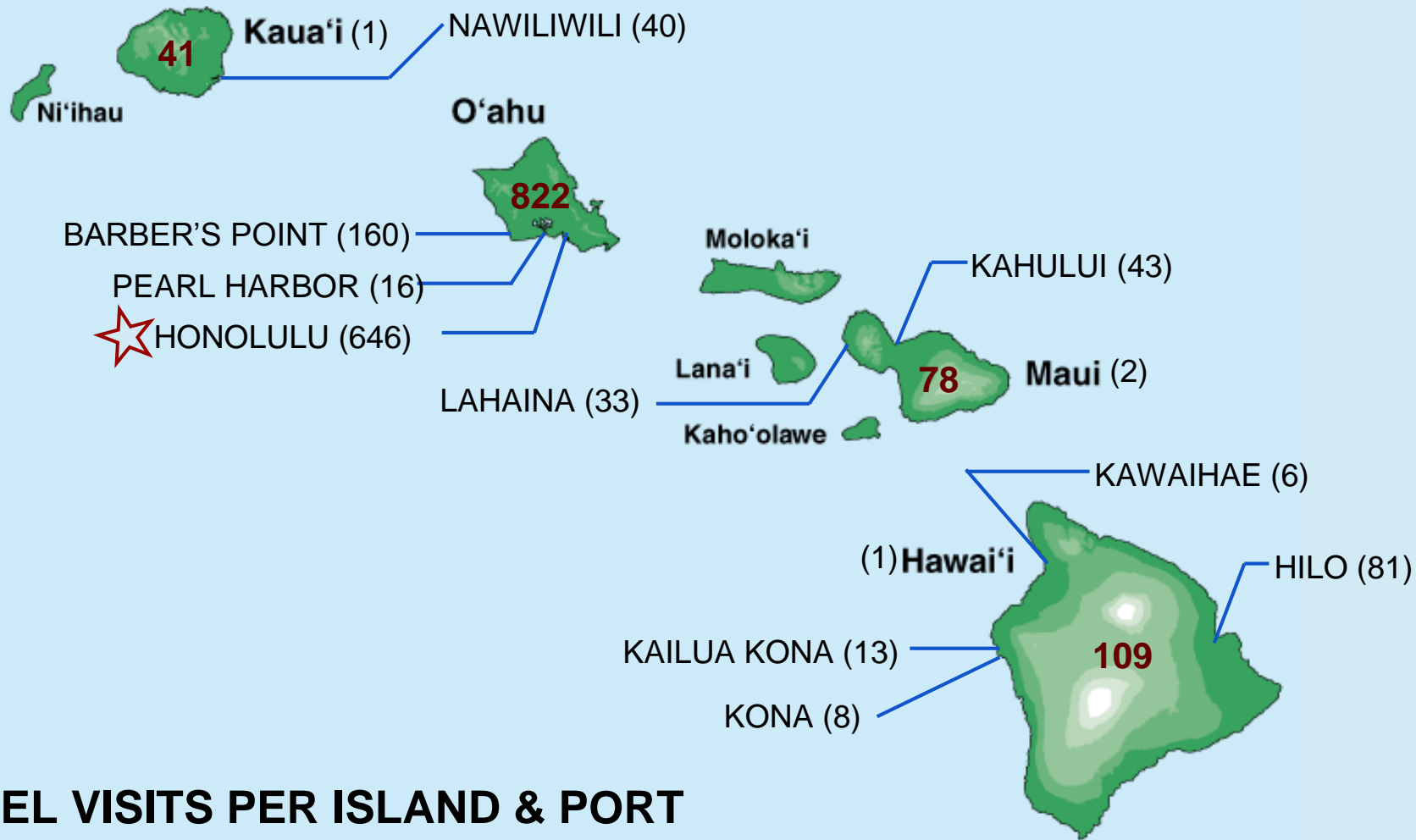
**TOTAL ARRIVALS: 1047**

118 locations

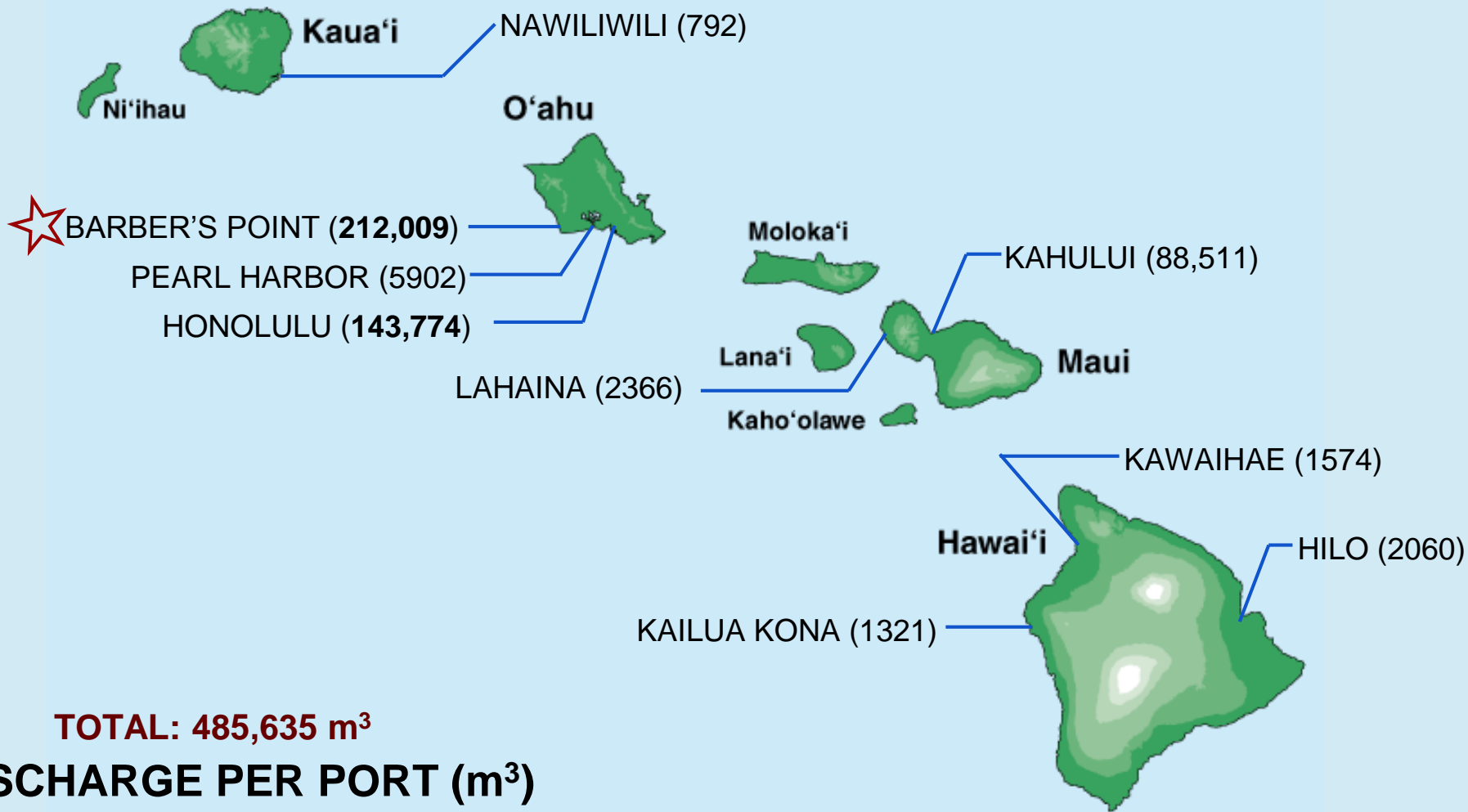
**23%** inter-island

**72%** of overseas arrivals  
from NE & NW Pacific



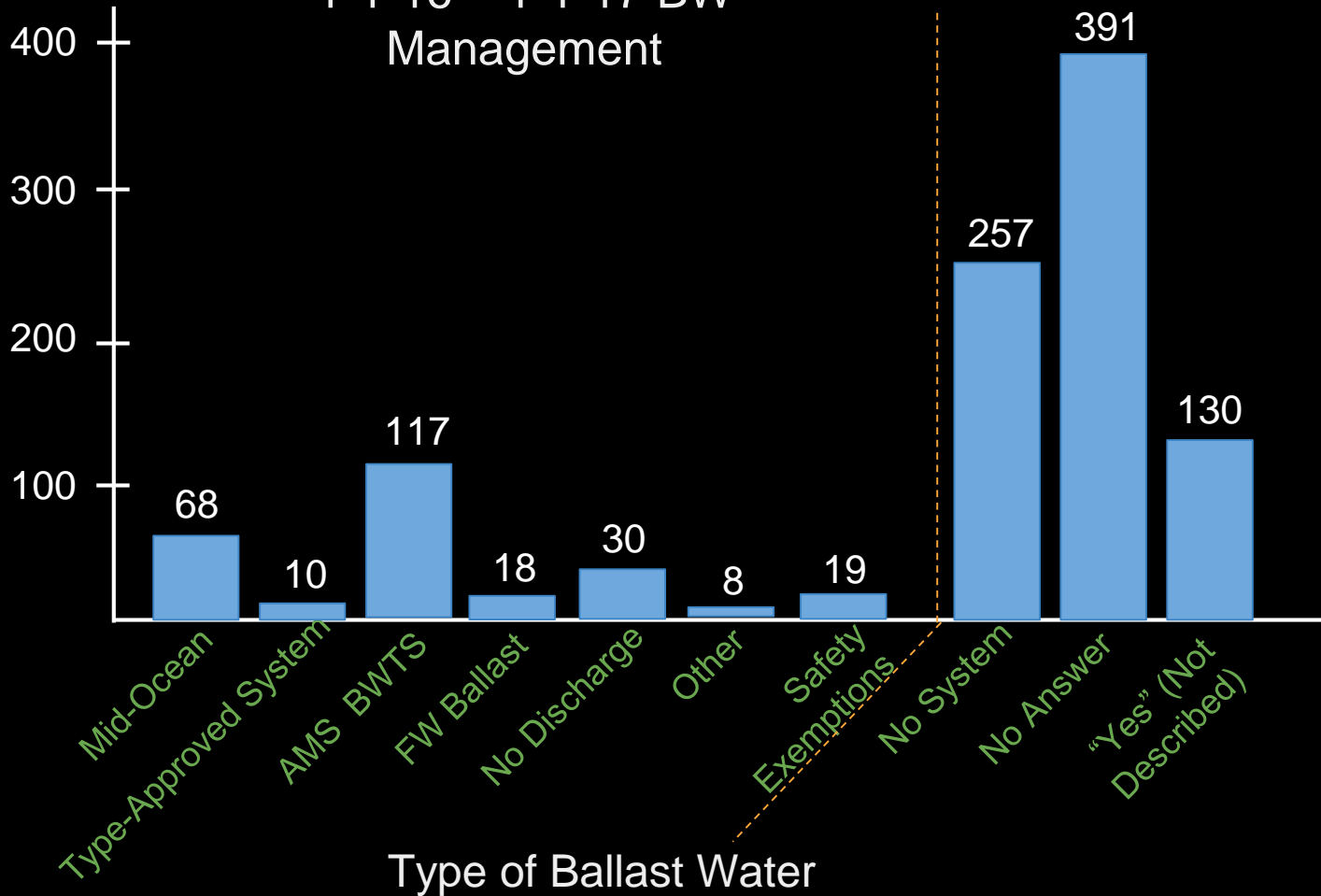


## VESSEL VISITS PER ISLAND & PORT

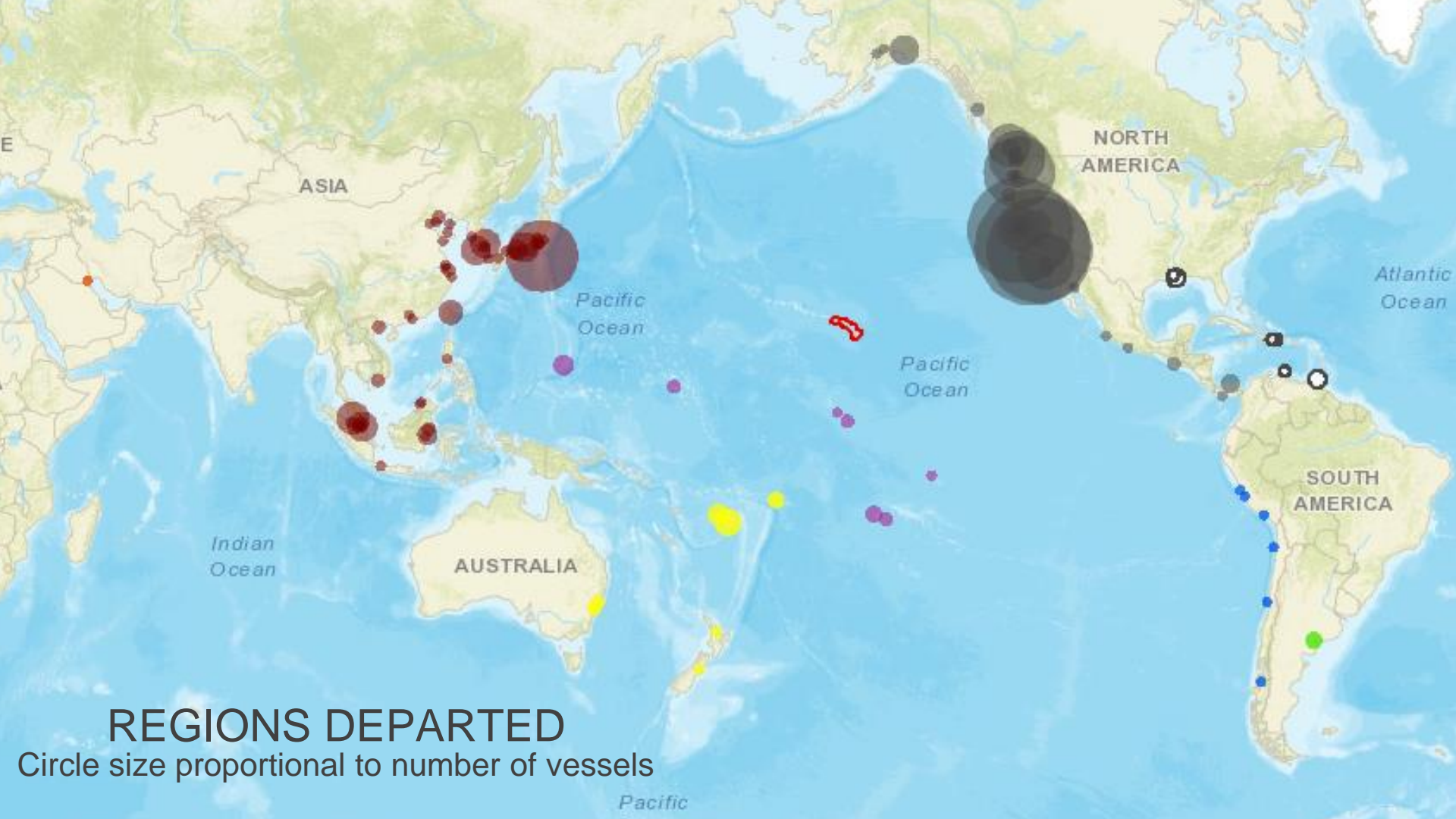


1-1-16 – 1-1-17 BW  
Management

Number of Vessels







# Hawai'i Administrative Rules

Ch. 13-76

“Non-Indigenous Aquatic Species”

## 13-76-1: Purpose.

“This chapter governs rules aimed at preventing [...] the introduction and spread of non-indigenous aquatic species into State waters. Such [...] species are potentially harmful to the environment and economy of Hawai'i because they may replace or destroy native species and alter their habitats.”

# FUTURE DIRECTION

## Amend Hawai'i Administrative Ballast Water Rules

DEPARTMENT OF LAND AND NATURAL RESOURCES

Adoption of Chapter 13-76  
Hawaii Administrative Rules

August 10, 2007

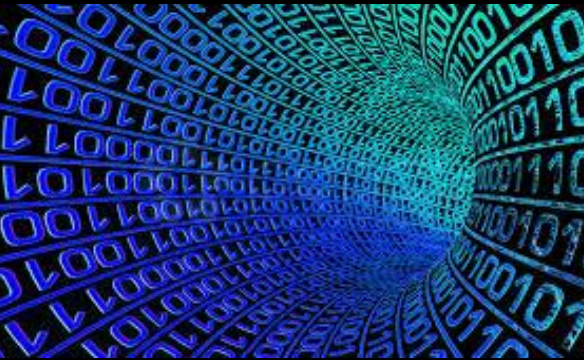
### SUMMARY

Chapter 13-76, Hawaii Administrative Rules,  
entitled "Non-Indigenous Aquatic Species", is adopted.

# FUTURE DIRECTION

BW risk assessment &  
compliance monitoring

Database



Test Kit







# BIG MAHALO!



Julie Kuo, Andrew Porter, & DLNR DAR crew



# Funding Sources and Other Acknowledgements





QUESTIONS?

