

Ballast Water Management Compliance and Enforcement in California

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Customer Service Meeting, February 22, 2017

Marine Invasive Species Program

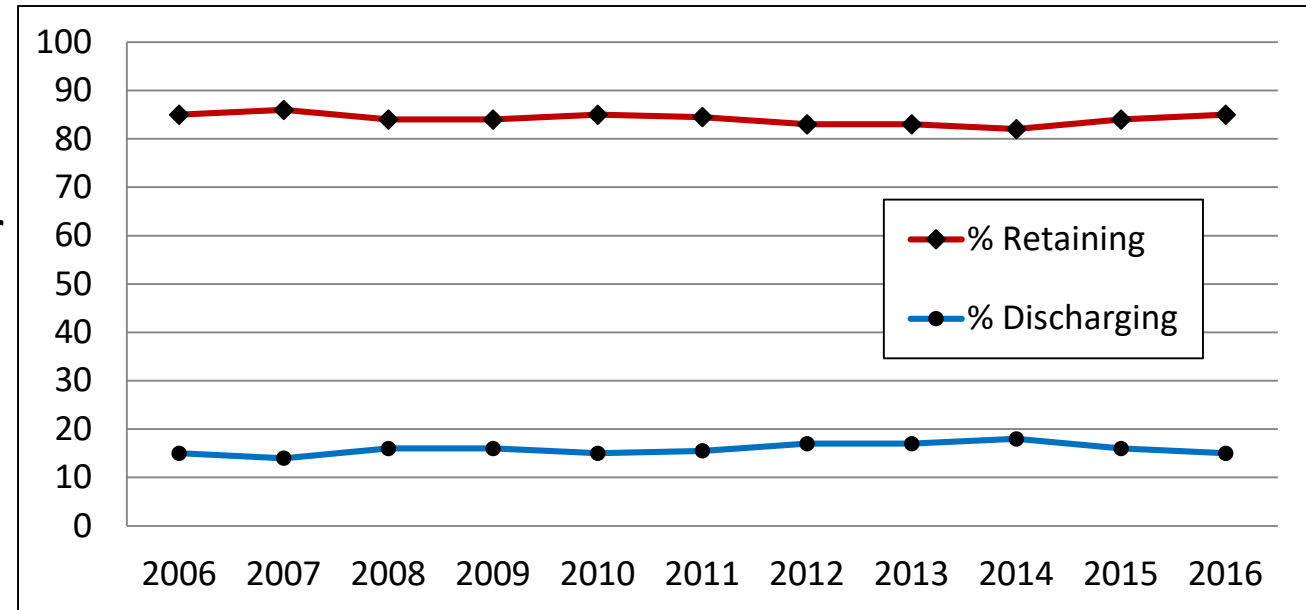
California State Lands Commission



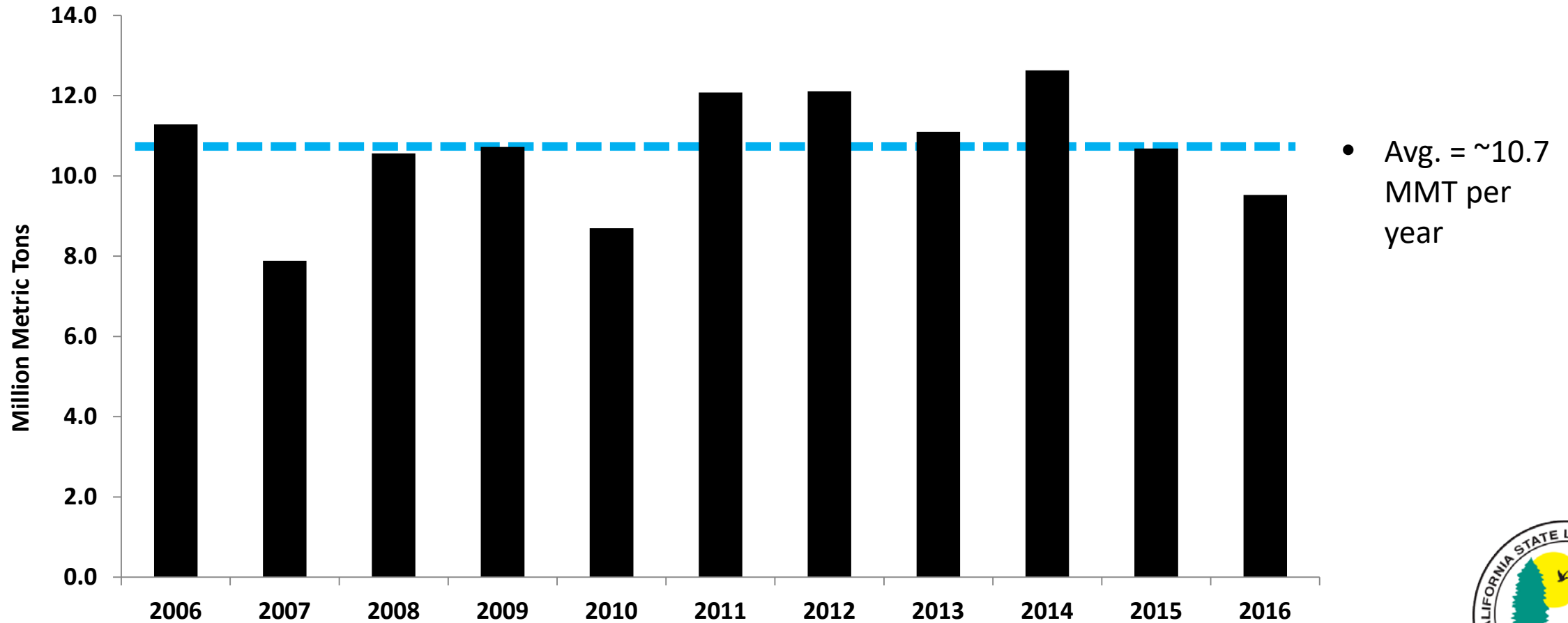


Ballast Water Management Options

- Retain all ballast on board/no discharge (~84%)
- Use of approved alternative ballast water management (e.g. AMS)
- Discharge to a shore-based reception facility (feasibility study expected mid-2017)
- Ballast water exchange

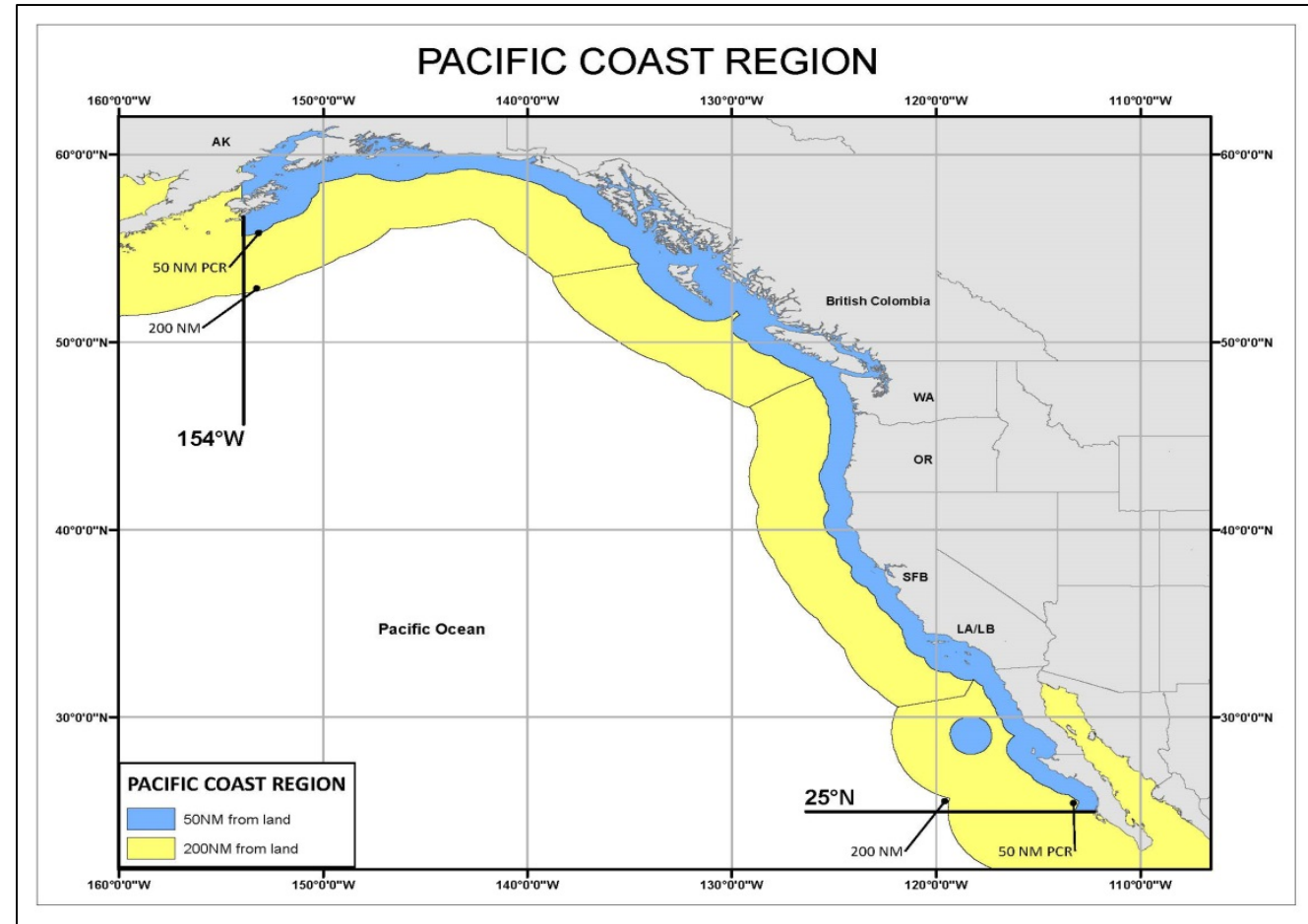


Total Ballast Water Discharge



• **Ballast Water Exchange Requirements:**

- Vessels needing to discharge ballast in CA must do so in accordance with the rules of the Pacific Coast Region (PCR)
- Arrivals from within PCR, ballast water from within: Exchange >50 nautical miles (NM)
- Arrivals from within PCR, ballast water from outside: Exchange >200 NM
- Arrivals from outside PCR: Exchange >200 NM



Assessing Compliance

Ballast Water Management Report:

- Forms contain information on source, exchange location and type, and discharge port
- Quality controlled database extending back to 2002

Onboard ship inspections:

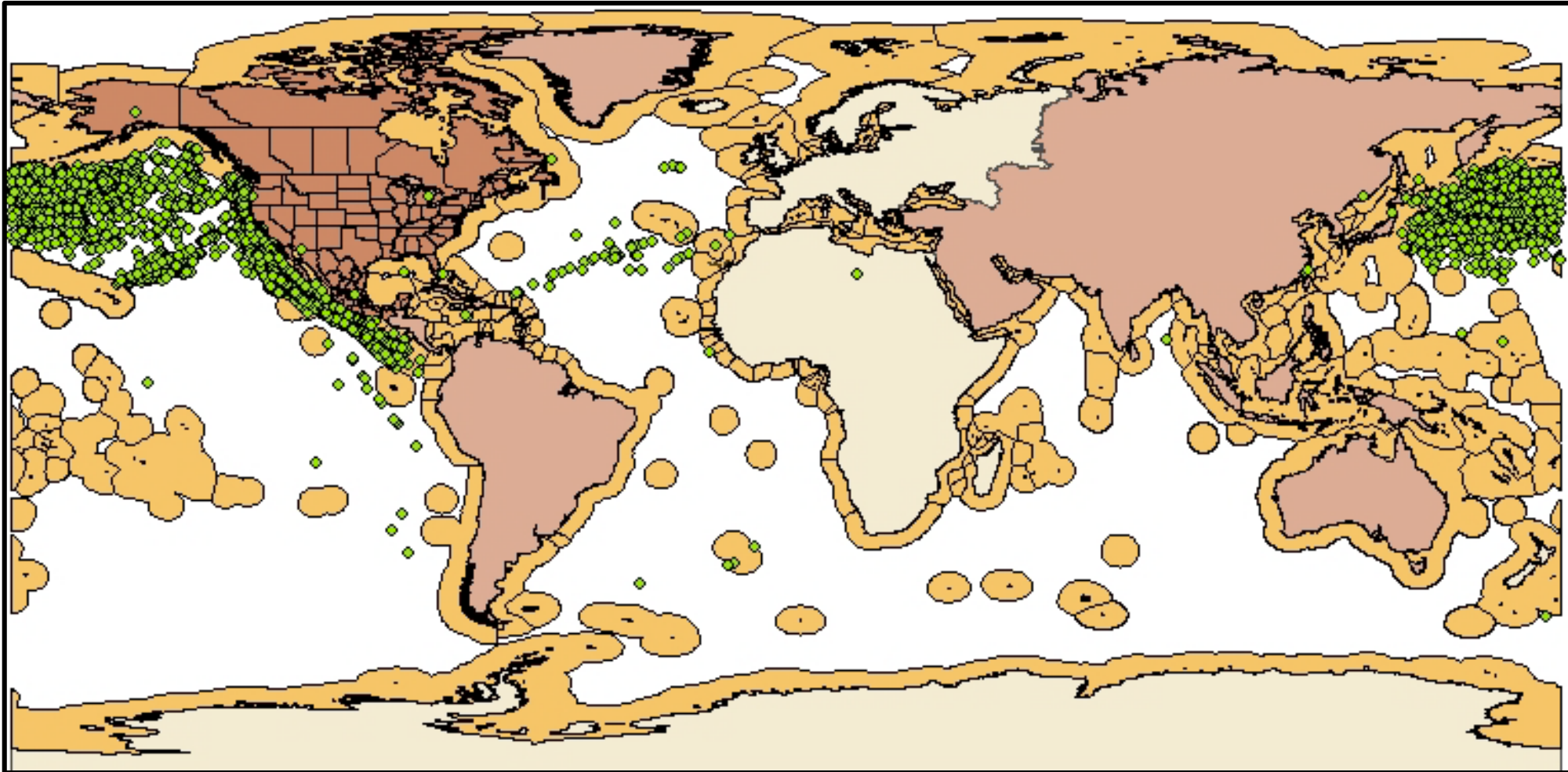
- The Commission is mandated to inspect at least 25% of all vessel arrivals
- Check Ballast Water Logs/Management Plan, verify exchange locations, test ballast salinity, perform outreach

Use of Geographic Information System software:

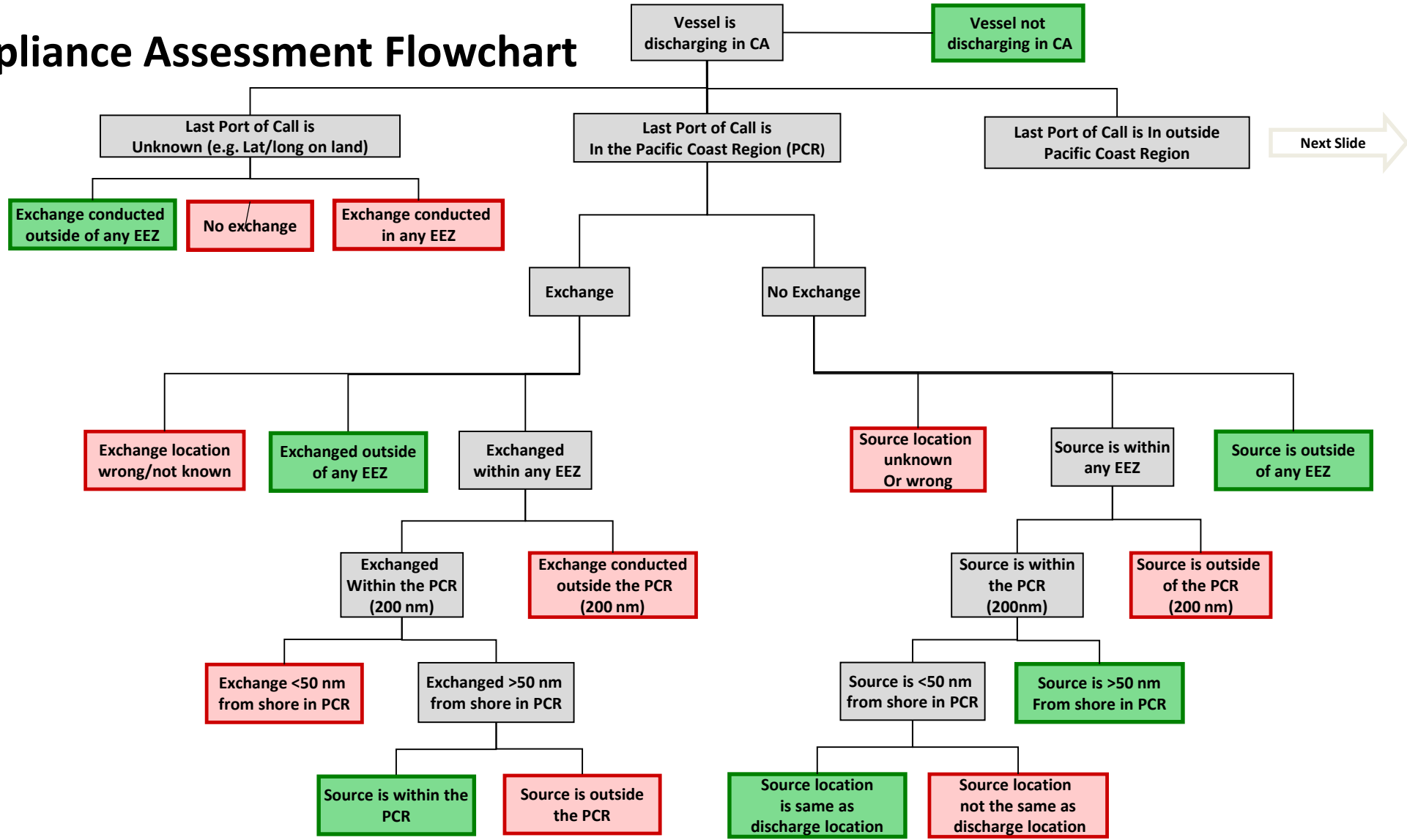
- Evaluates compliance with legal exchange distances
- Helps identify potential underlying reasons for violations
- Allows for analysis of very large datasets



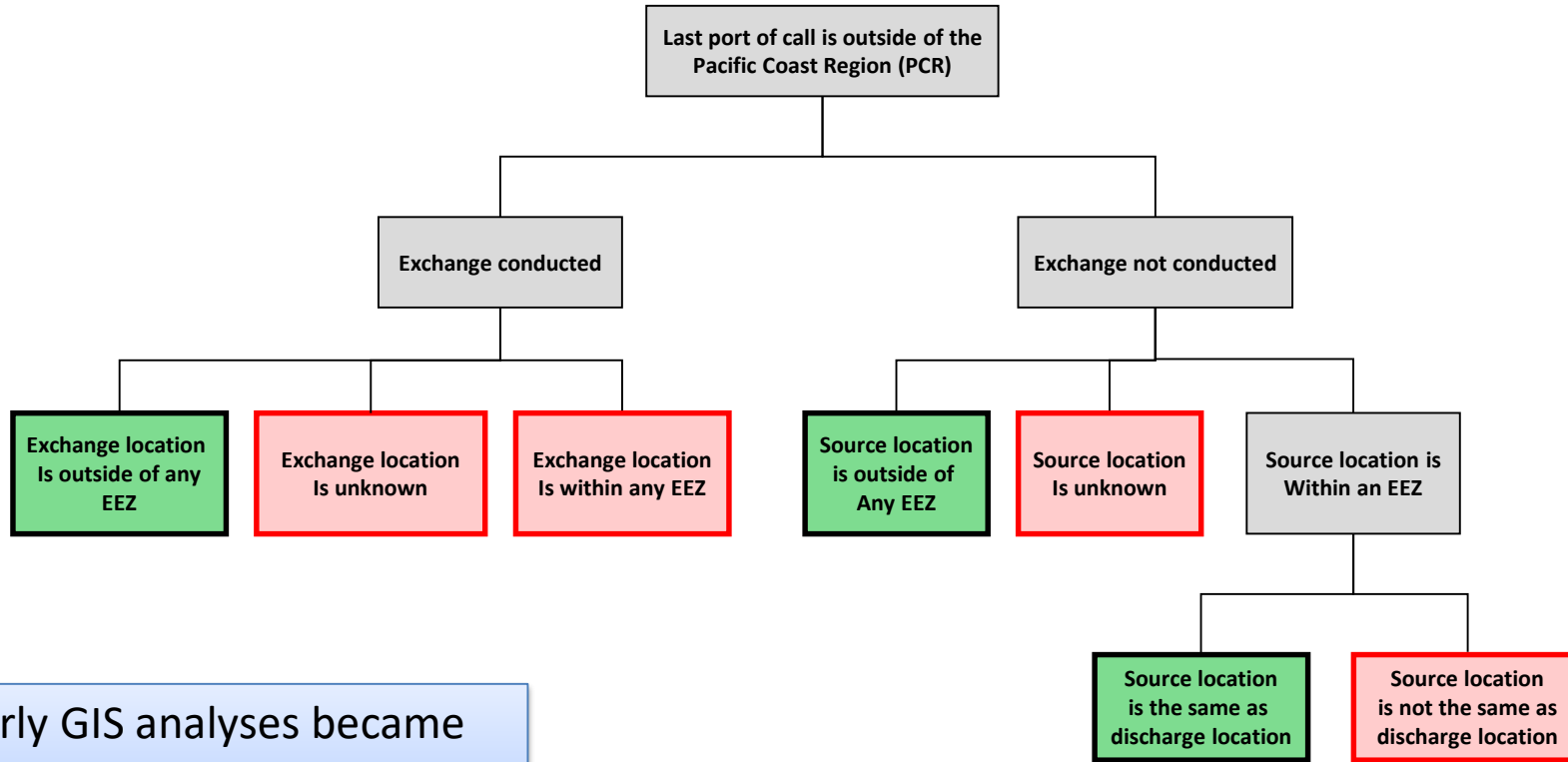
Using GIS to Assess Compliance



GIS Compliance Assessment Flowchart

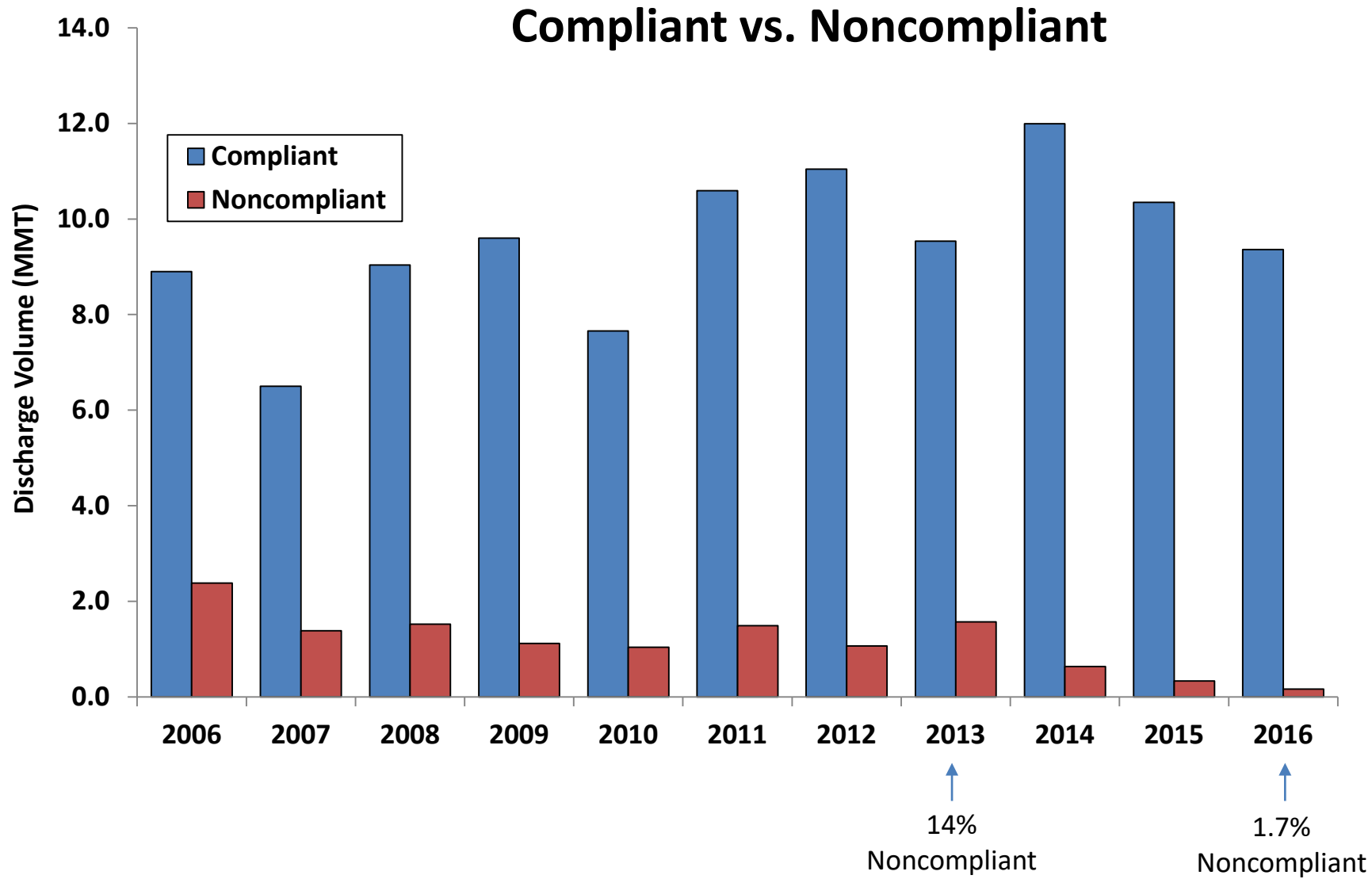


GIS Compliance Assessment Flowchart

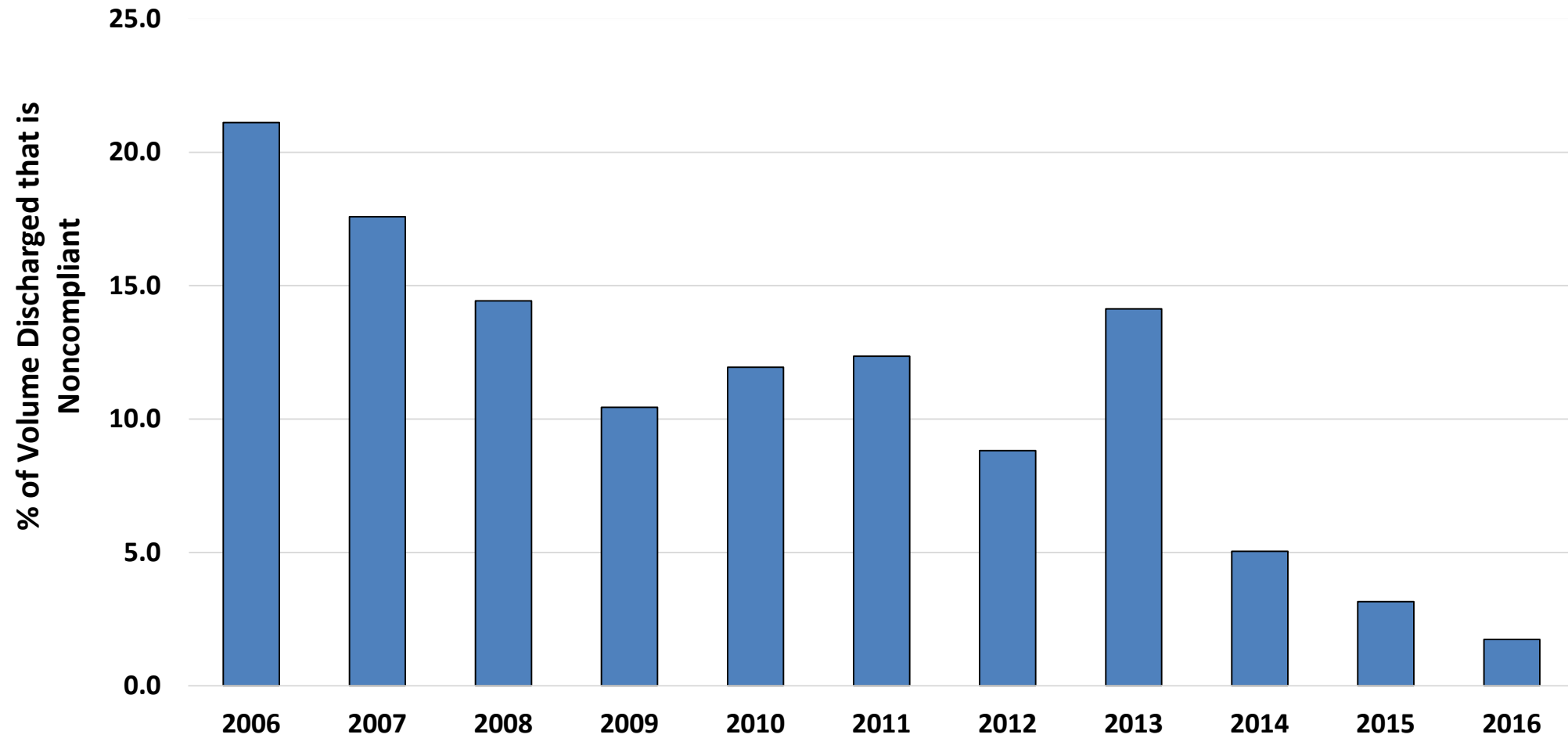


Data from quarterly GIS analyses became part of an enhanced enforcement and notification program in January 2014

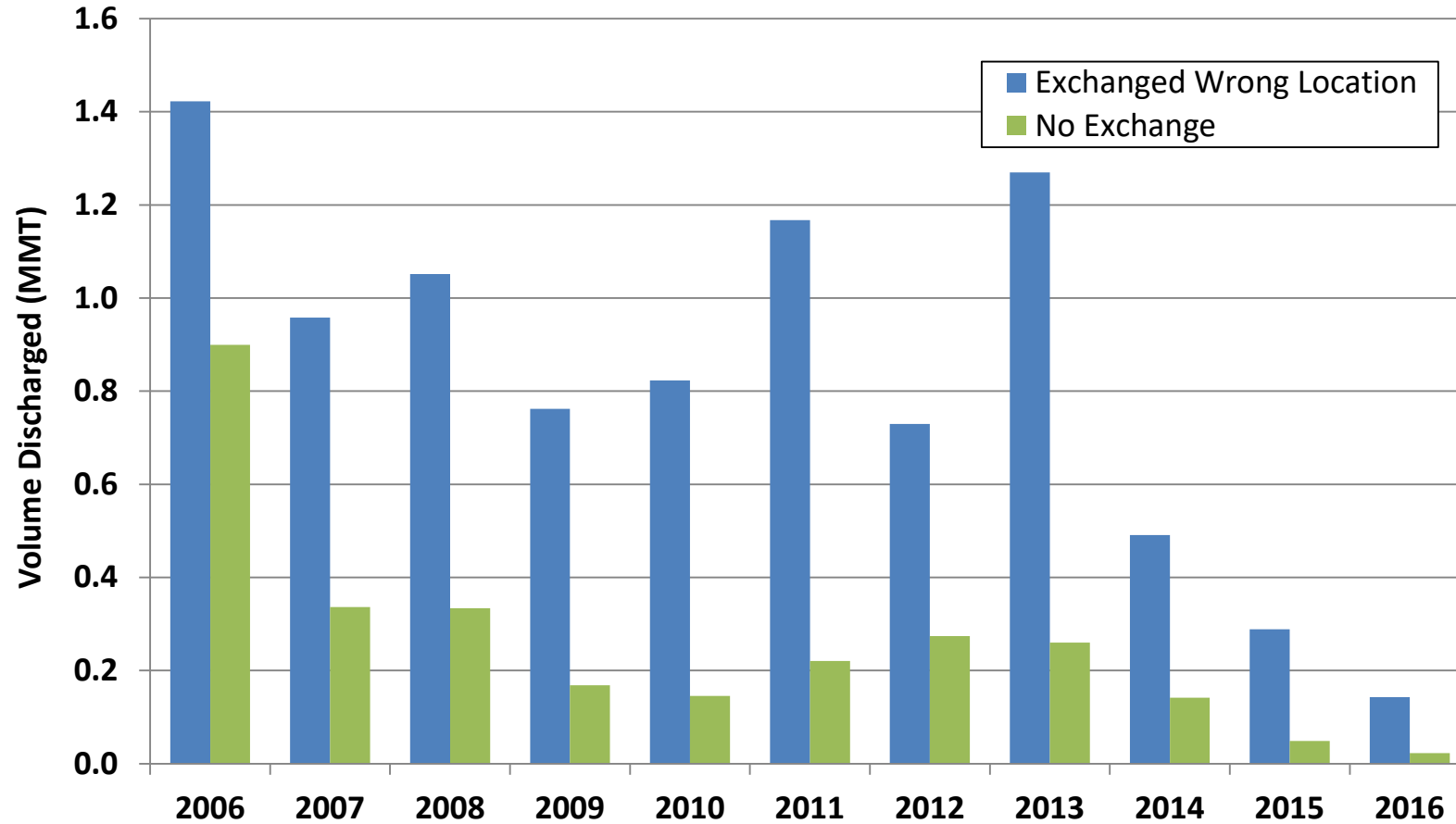




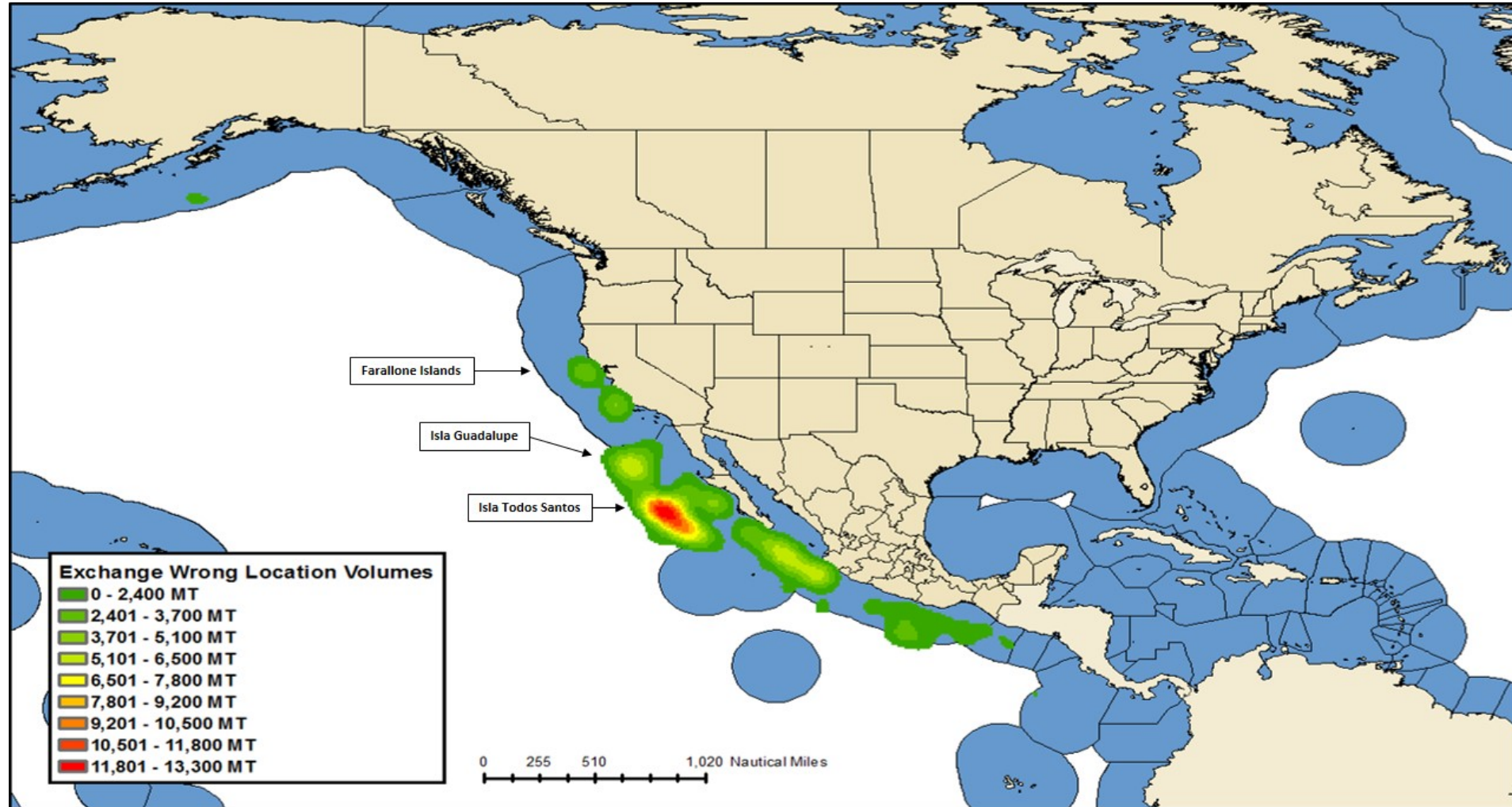
Noncompliant Discharge Proportion



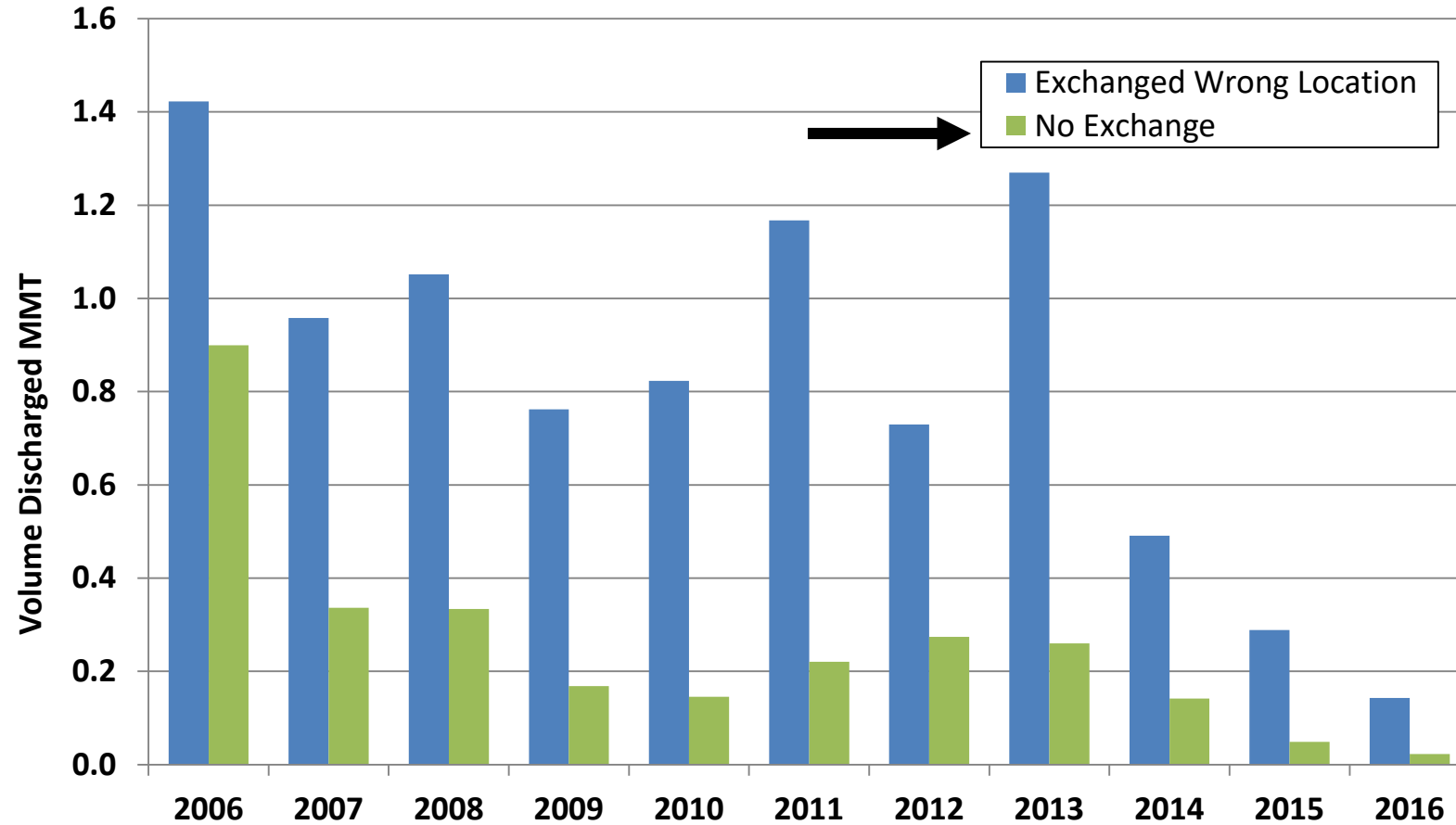
Noncompliant Discharge Type

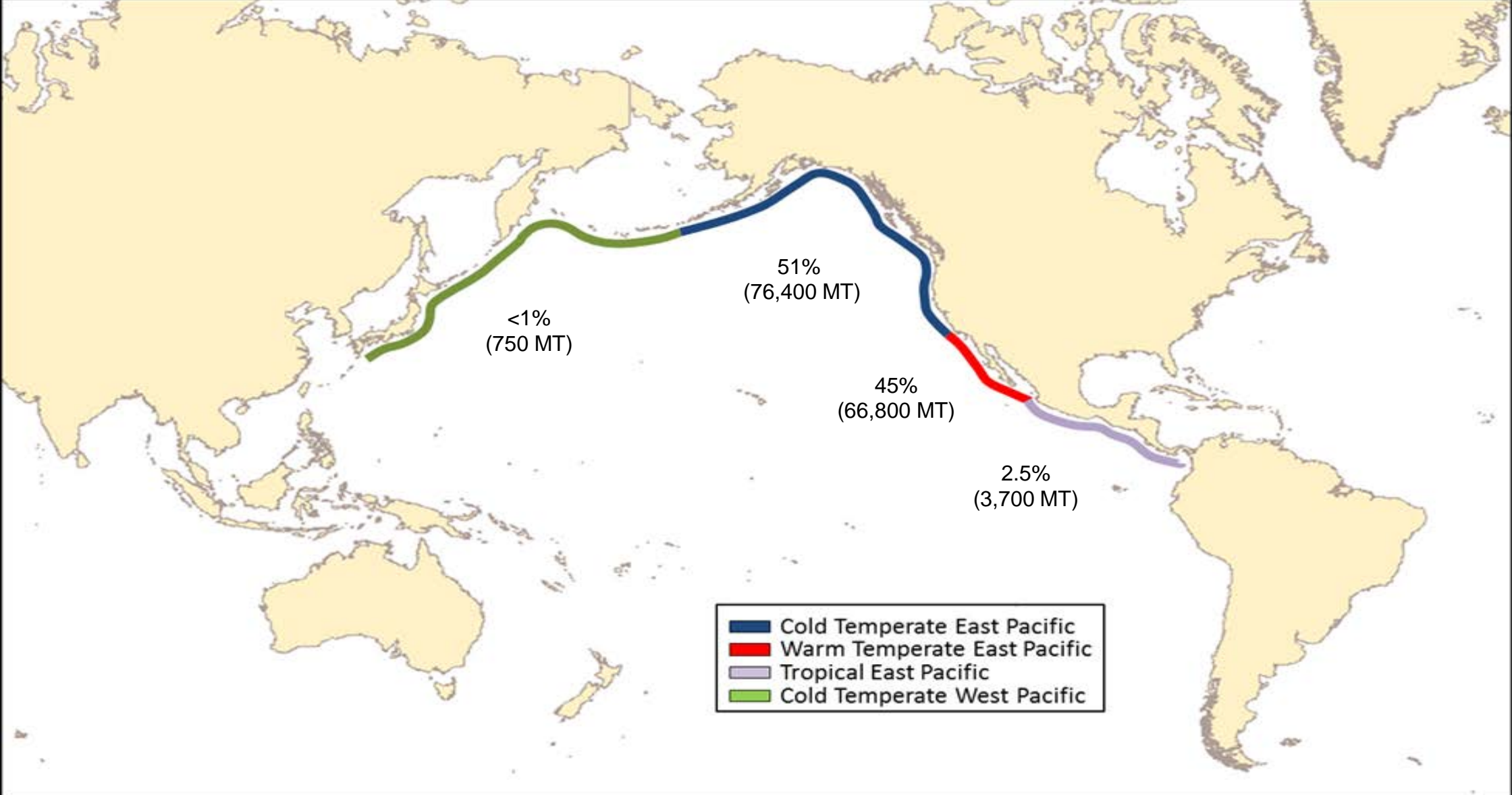


Exchange in Wrong Location 2014-2015

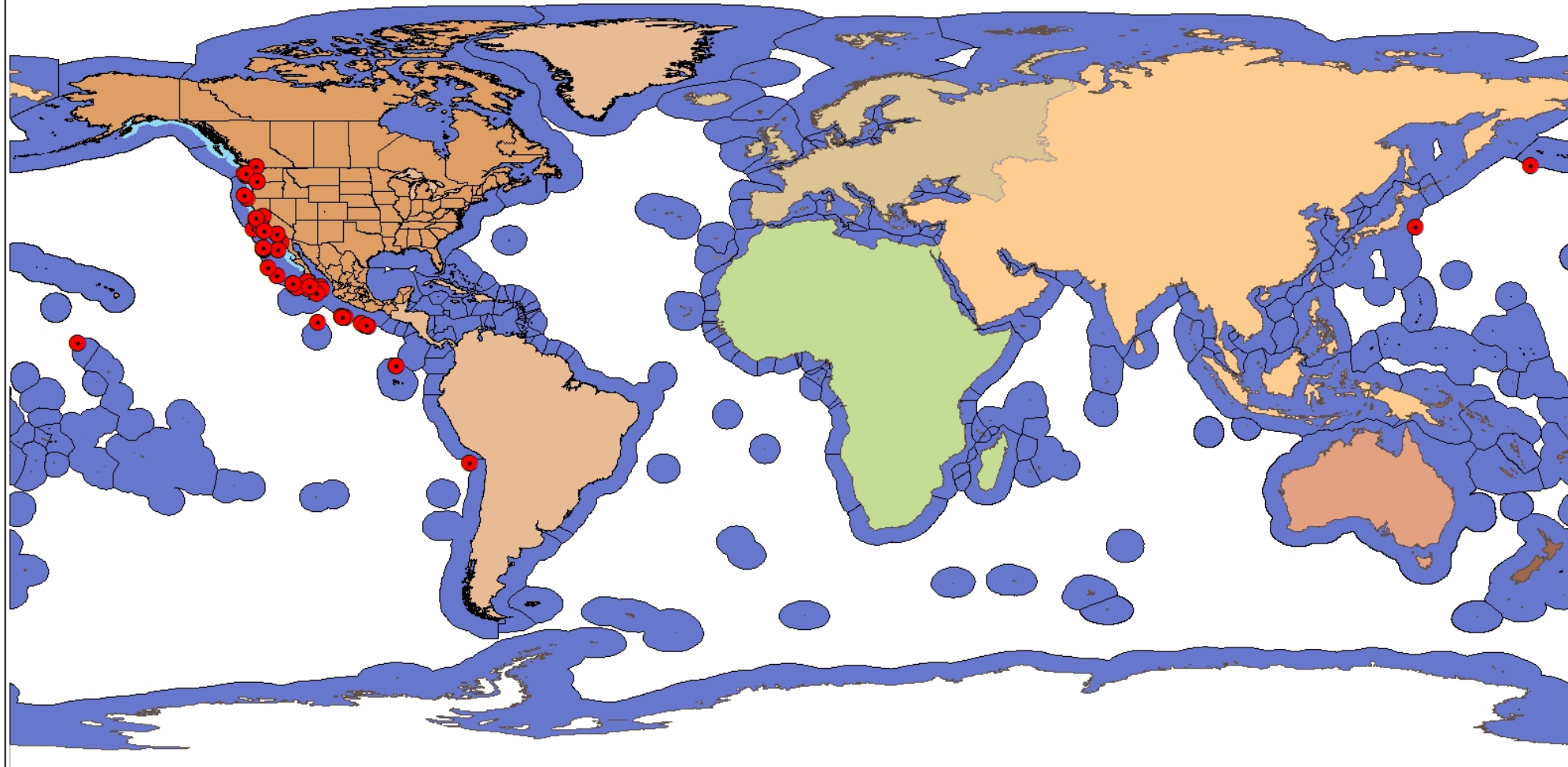


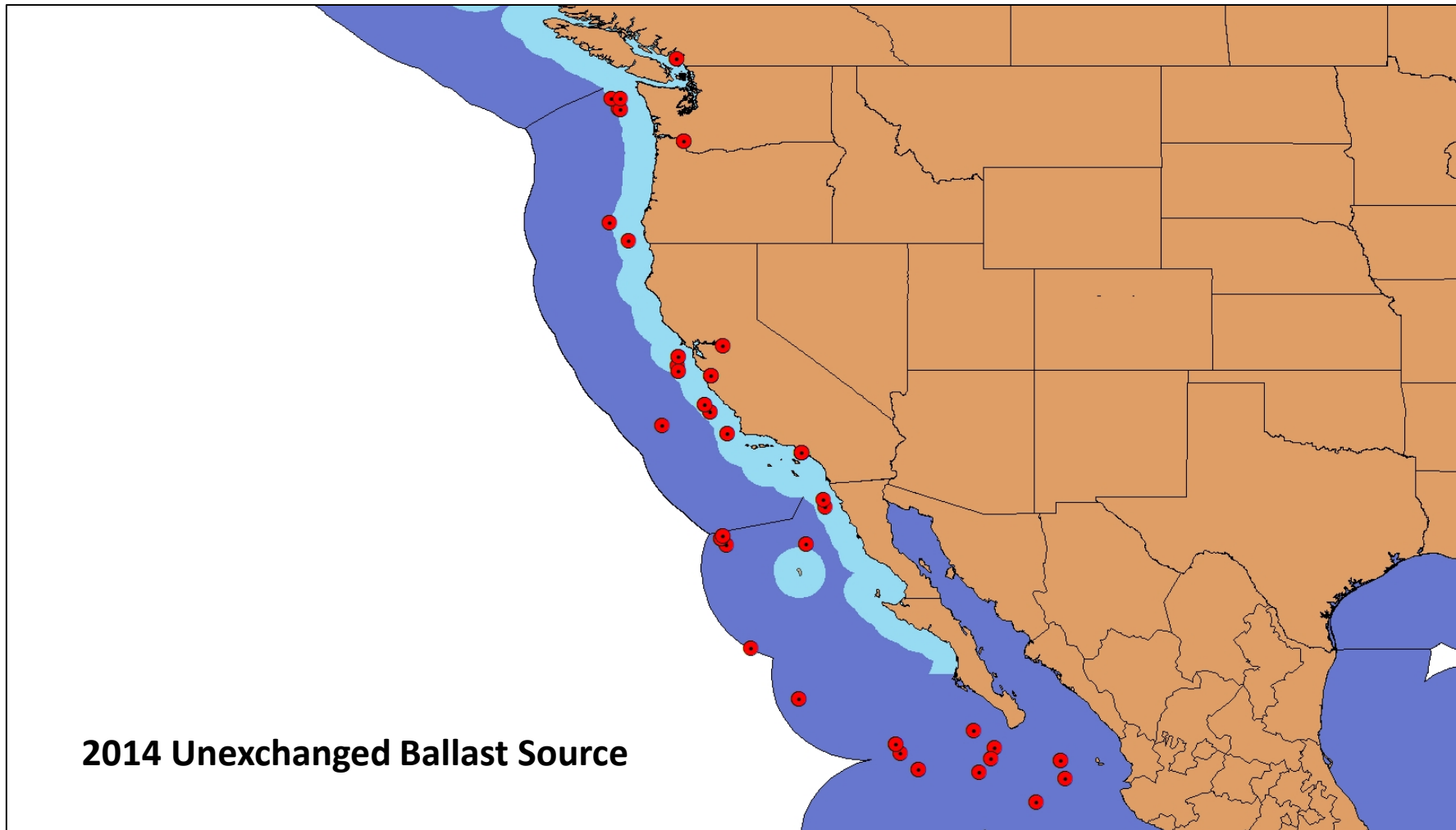
Noncompliant Discharge Type

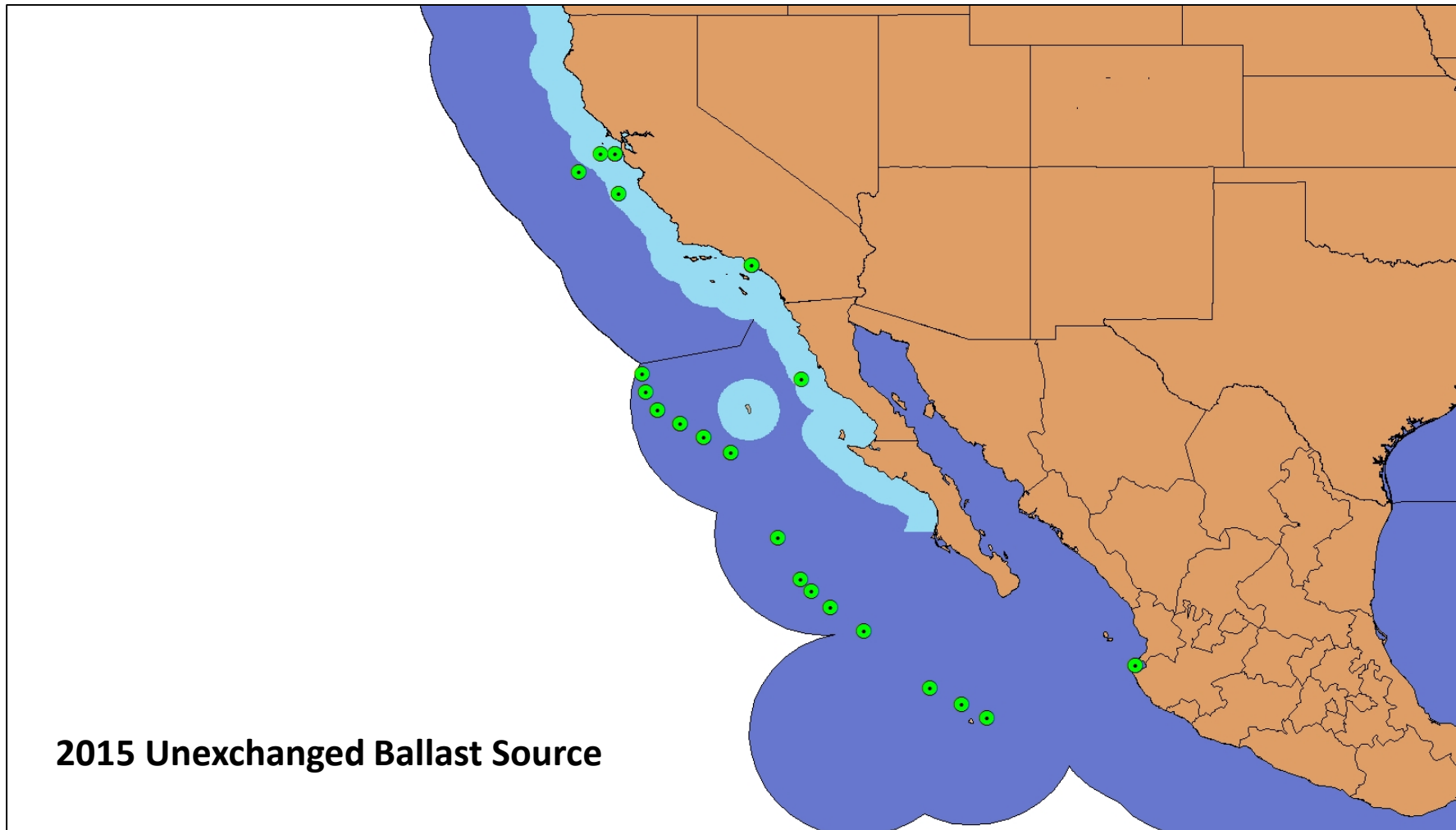


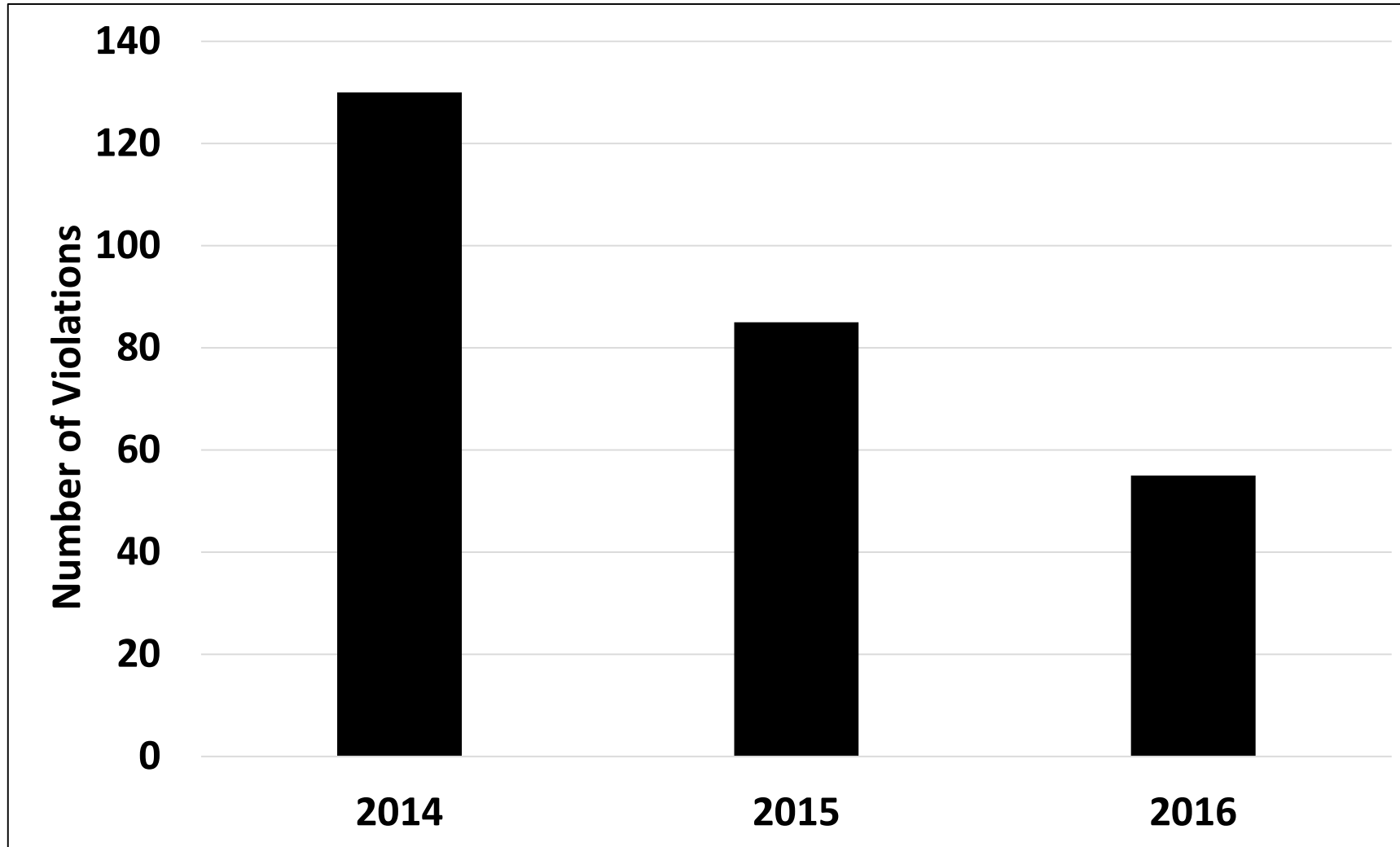


2014 Unexchanged Ballast Source





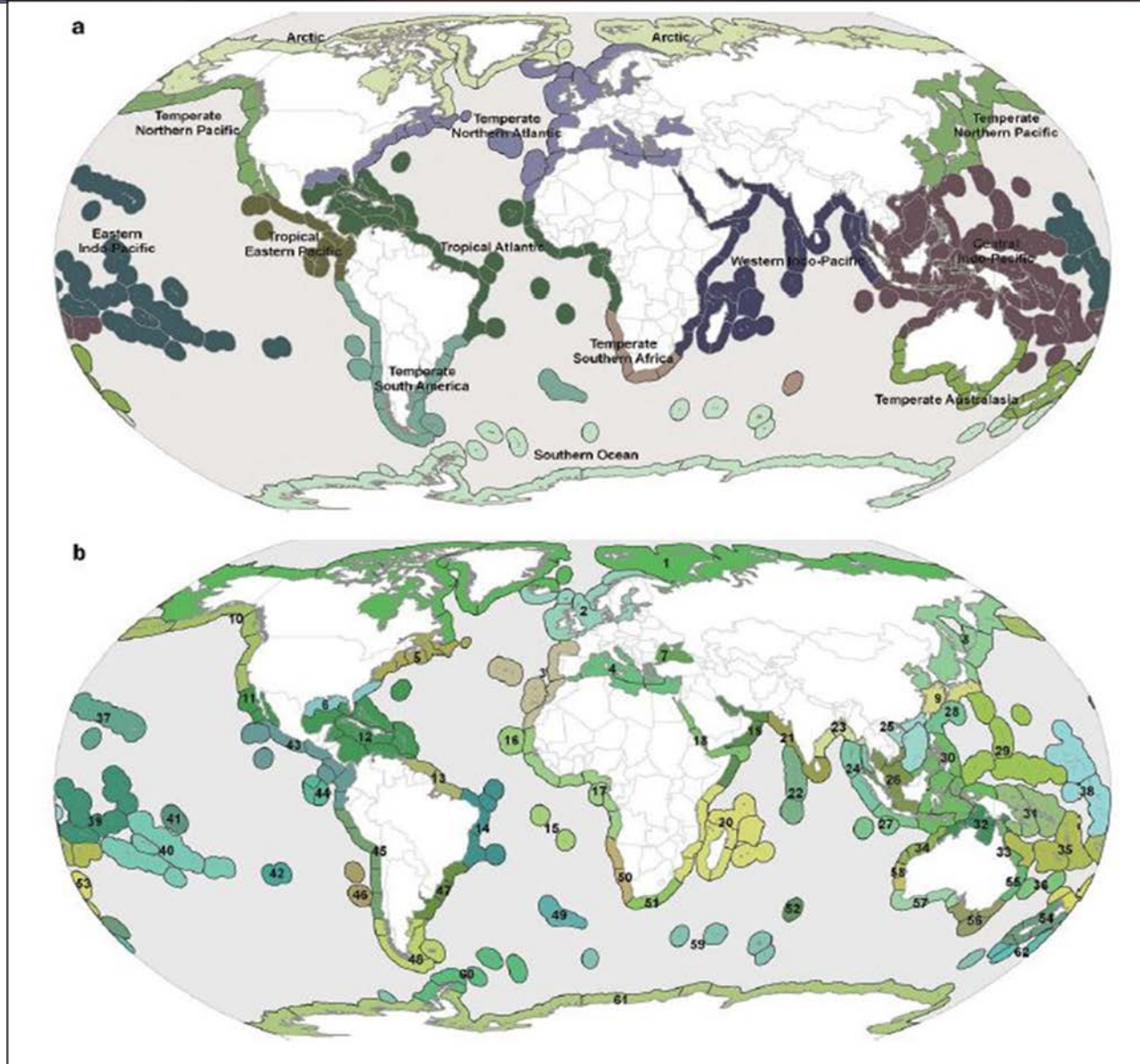




Next Steps: Enhance Risk Assessment Process

- Risk-based evaluation of ballast water source ports
- Expansion of MISP ports database (n=~5,000)
- Classify by:
 - Marine Ecoregions
 - Latitude & Longitude
 - General Salinity Levels
 - Marine
 - Brackish
 - Fresh
 - Other environmental data as available





Spalding, M. D., et al. (2007, July/August). Marine Ecoregions of the World: A Bioregionalization of Coastal and Shelf Areas. *Bio Science*, 57(7). doi:10.1641/B570707

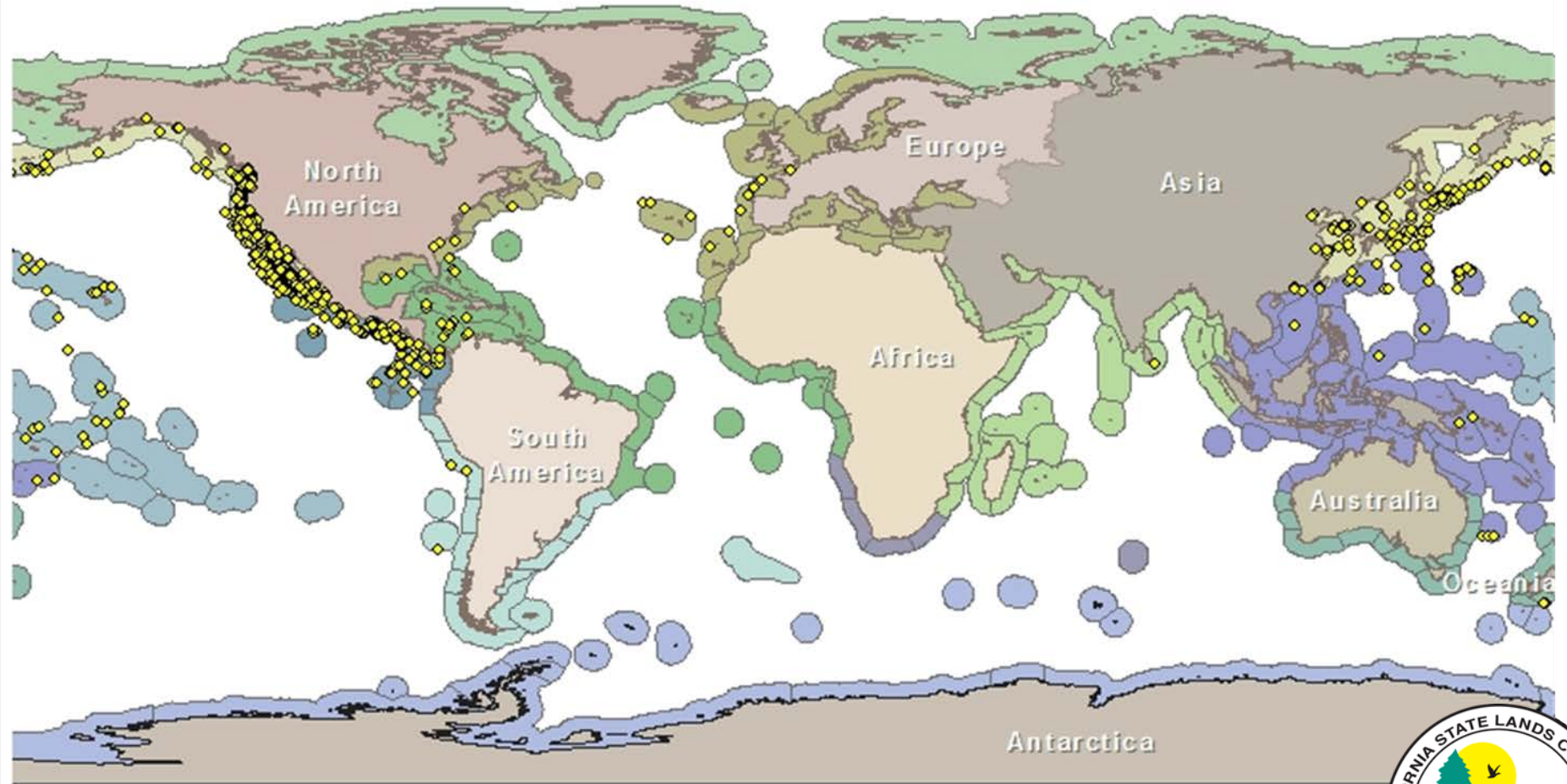


Legend

Marine_EcoRegions

REALM

- Arctic
- Central Indo-Pacific
- Eastern Indo-Pacific
- Southern Ocean
- Temperate Australasia
- Temperate Northern Atlantic
- Temperate Northern Pacific
- Temperate South America
- Temperate Southern Africa
- Tropical Atlantic
- Tropical Eastern Pacific
- Western Indo-Pacific



Questions?

For more information:

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