# California's Marine Invasive Species Program: Overview and Current Activities

Lynn Takata

Prevention First Symposium

October 19, 2010

# Nonindigenous Species (NIS): Why The Concern?

Fisheries ● Aquaculture ● Ecology ● Human Health ● Municipalities ● Agriculture ● Recreation ● Tourism

***Zebra Mussel***

- Clogs municipalities
- Smothers other organisms
- Infests approx 50% of U.S. waterways (and spreading… reached California in 2008)
- ~$1 billion/year

***Clubbed Tunicate (Styela clava)***

- Fouls /smothers aquaculture (mussels, oysters, scallops, clams)
- Over $40 million/year (Canada)

*Styela clava*, *Ciona intestinalis*, and *Botrylloides violaceus*, respectively, on mussel ropes off Prince Edward Island, Canada

# Shipping "Vectors"
# Ballast Water & Vessel Fouling

***Shipping Vectors***

~ 79% Introductions to N. America

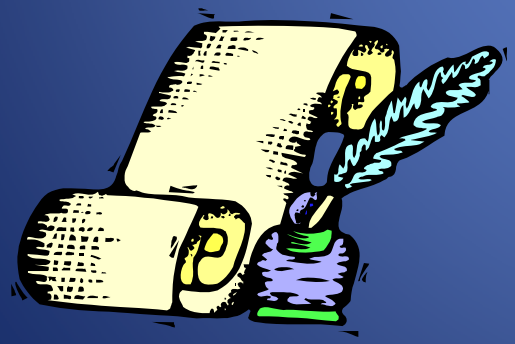
***Ballast Water***

- Potentially 21,100,000 organisms per discharge
- Up to 54% of shipping introductions

***Fouling***

- Up to 70% of shipping introductions

# California Marine Invasive Species Program (MISP) Authority & Origins



***1999 Ballast Water Management Control for Nonindigenous Species Act***

- Foreign ballast water management
- Reporting, record keeping, inspections
- Sunset January 1, 2004

***2003 Marine Invasive Species Act (Reauthorization & Expansion)***

- Coastal ballast water
- Vessel fouling
- Ballast water performance standards
- Extended sunset date: January 1, 2010

***2006 Coastal Ecosystems Protection Act***

- Deleted sunset date

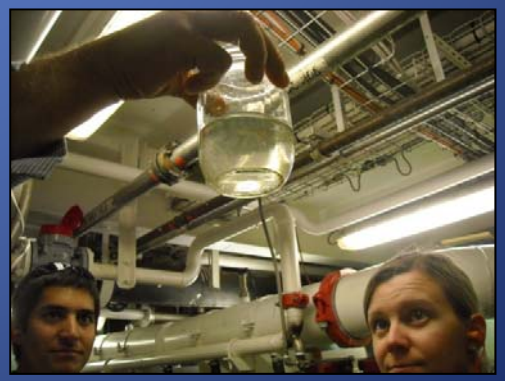
# Marine Invasive Species Program Components

***Partner Agencies & Roles***

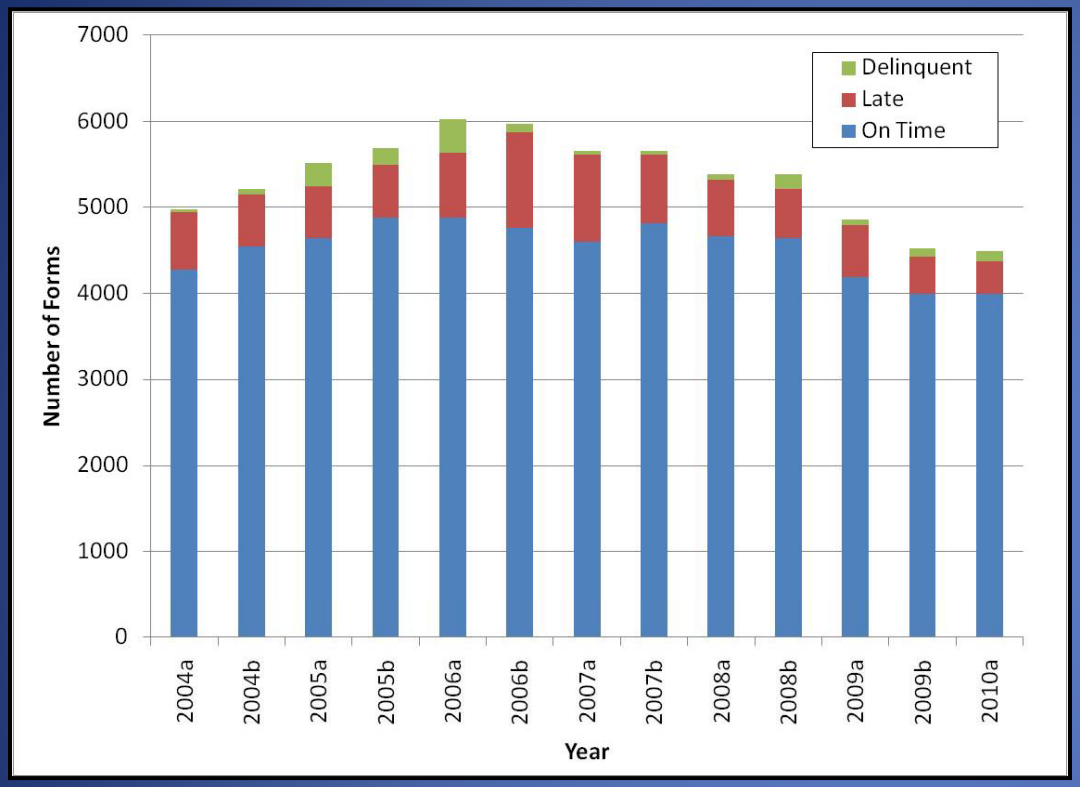
- BOE: Fee assessment and collection
- CDFG: Biological monitoring for NIS in California's coasts and estuaries
- State Water Board: Consultation/Advisory role

***California State Lands Commission***

- Program Administration/Coordination
- Data Management
- Inspections & Enforcement

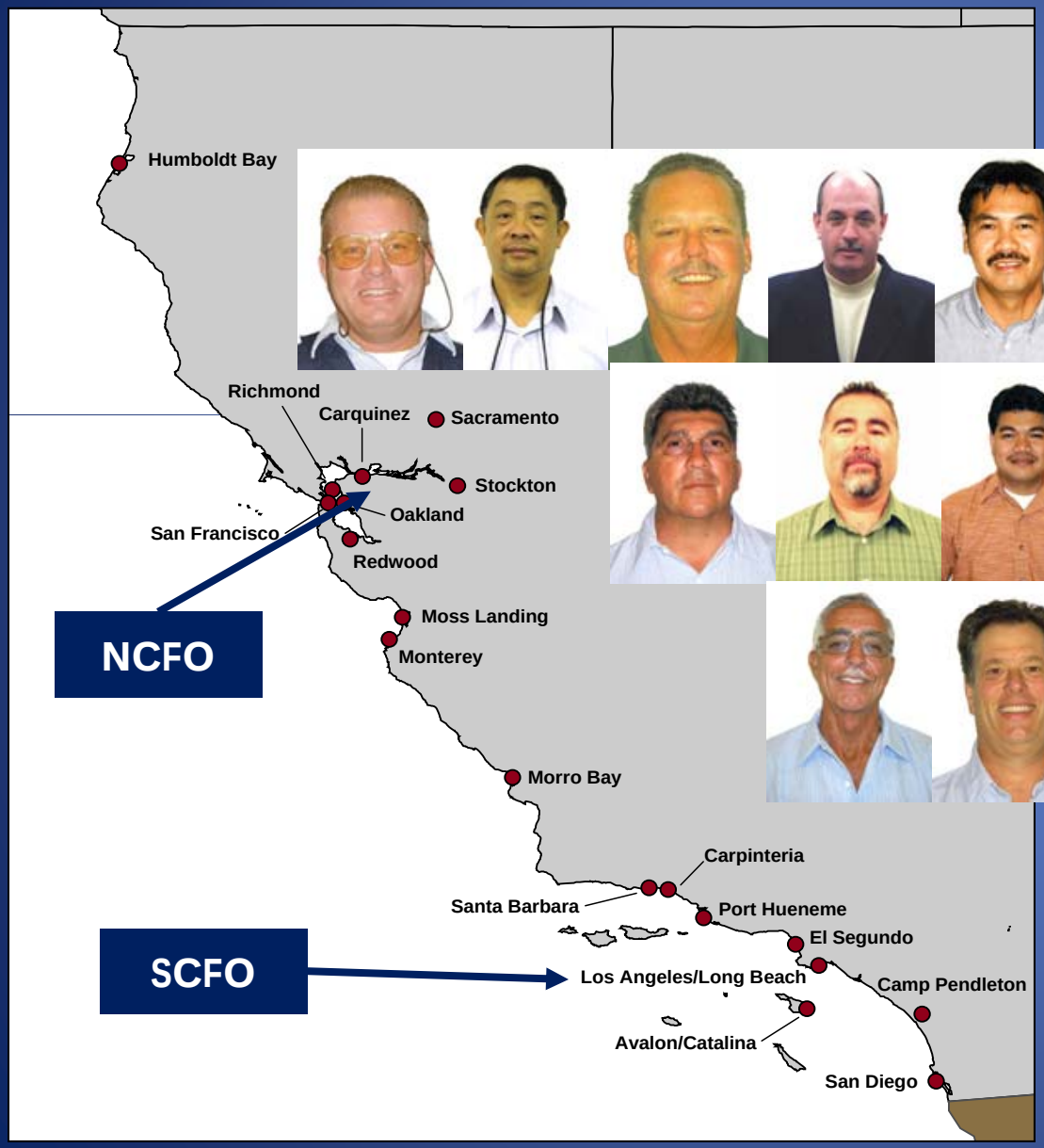


# Data Management

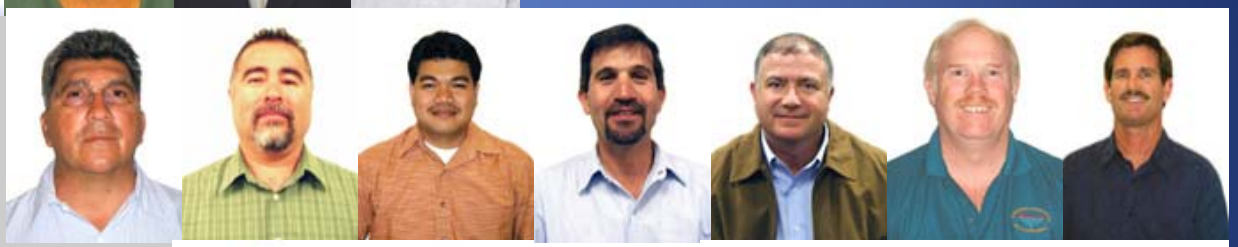


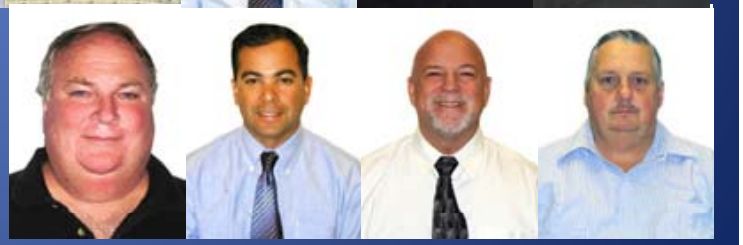
- Data entry (BW + Hull Husbandry)
- ~11K in 2009 (9210 BW + 1722 Hull Husbandry)
- Form QA/QC
- Delinquent BW form tracking & notification

# Field Operations



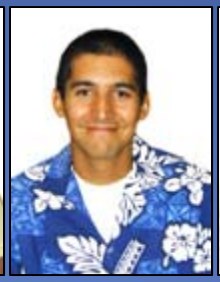




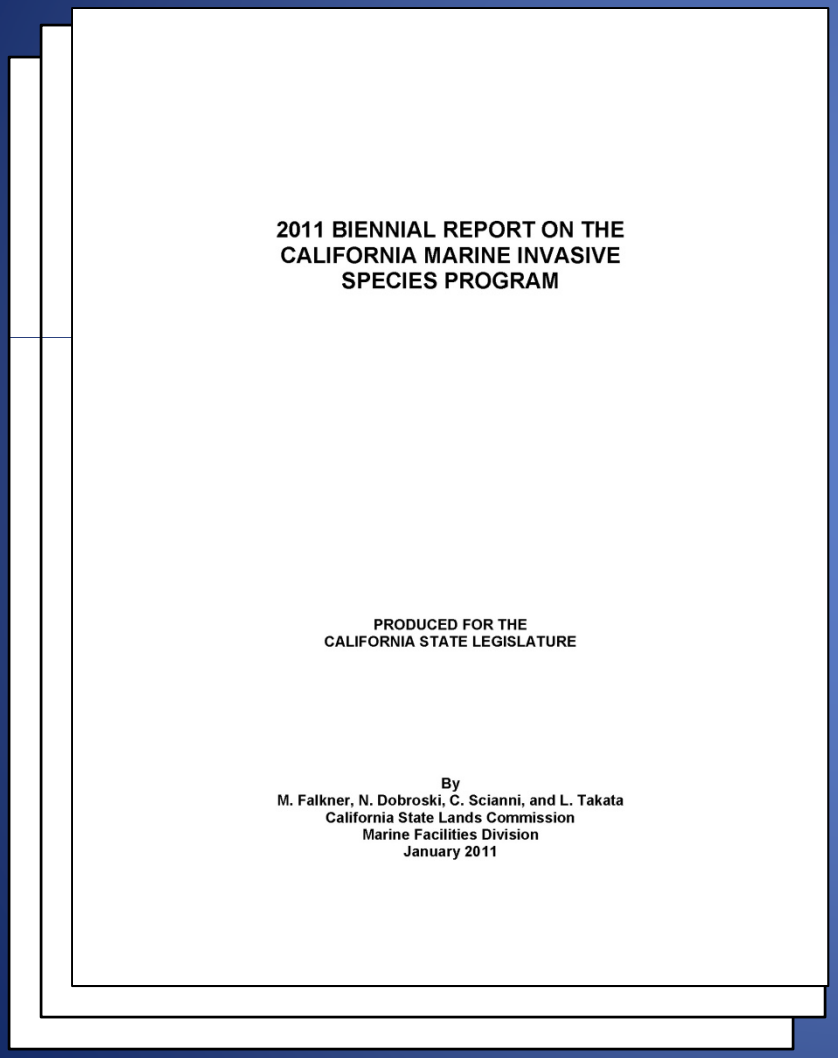
- Inspections & Enforcement
- Research access to vessels
- Outreach & Education

# Program Administration



- Program implementation
- Internal & external coordination
- Policy & regulations development
- Data analysis
- Identify/Coordinate priority research

# 2011 Biennial Report to the State Legislature



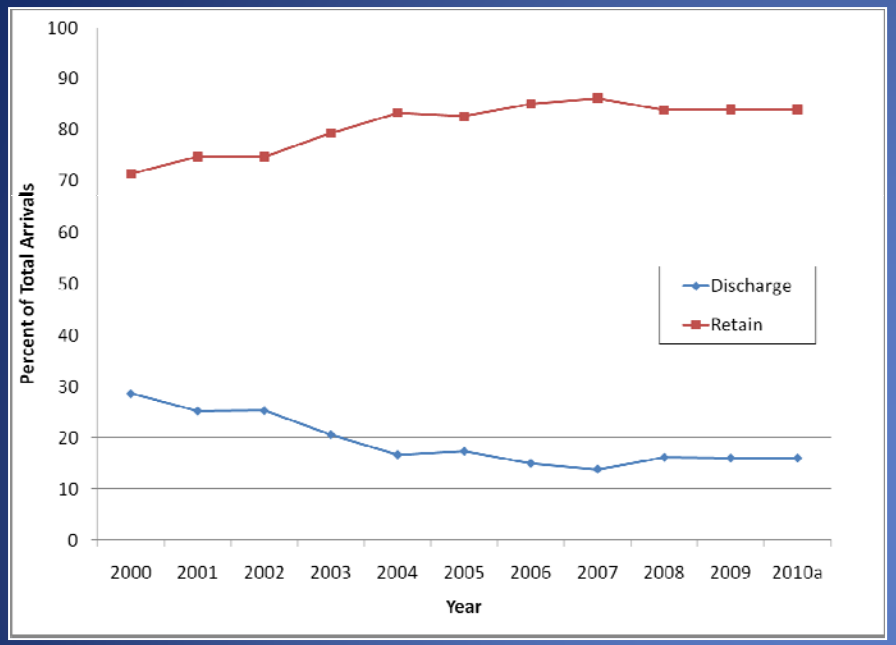
2011 BIENNIAL REPORT ON THE
CALIFORNIA MARINE INVASIVE
SPECIES PROGRAM

PRODUCED FOR THE
CALIFORNIA STATE LEGISLATURE

By
M. Falkner, N. Dobroski, C. Scianni, and L. Takata
California State Lands Commission
Marine Facilities Division
January 2011

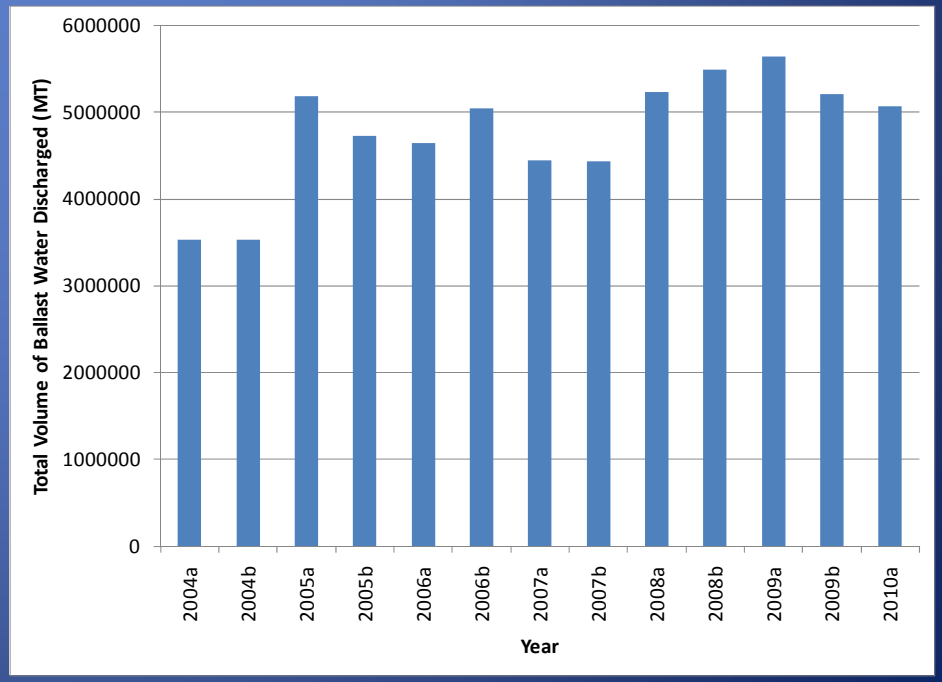
- Regulatory Overview: State, Federal & International
- MISP Program Activities
- Data Analysis
  - Ballast water discharge
  - Ballast water management compliance
  - Inspections & violations
  - Vessel Fouling
- Funded & collaborative research
- Review of scientific literature
- Recommendations for improvement

# Ballast Water Management & Discharge

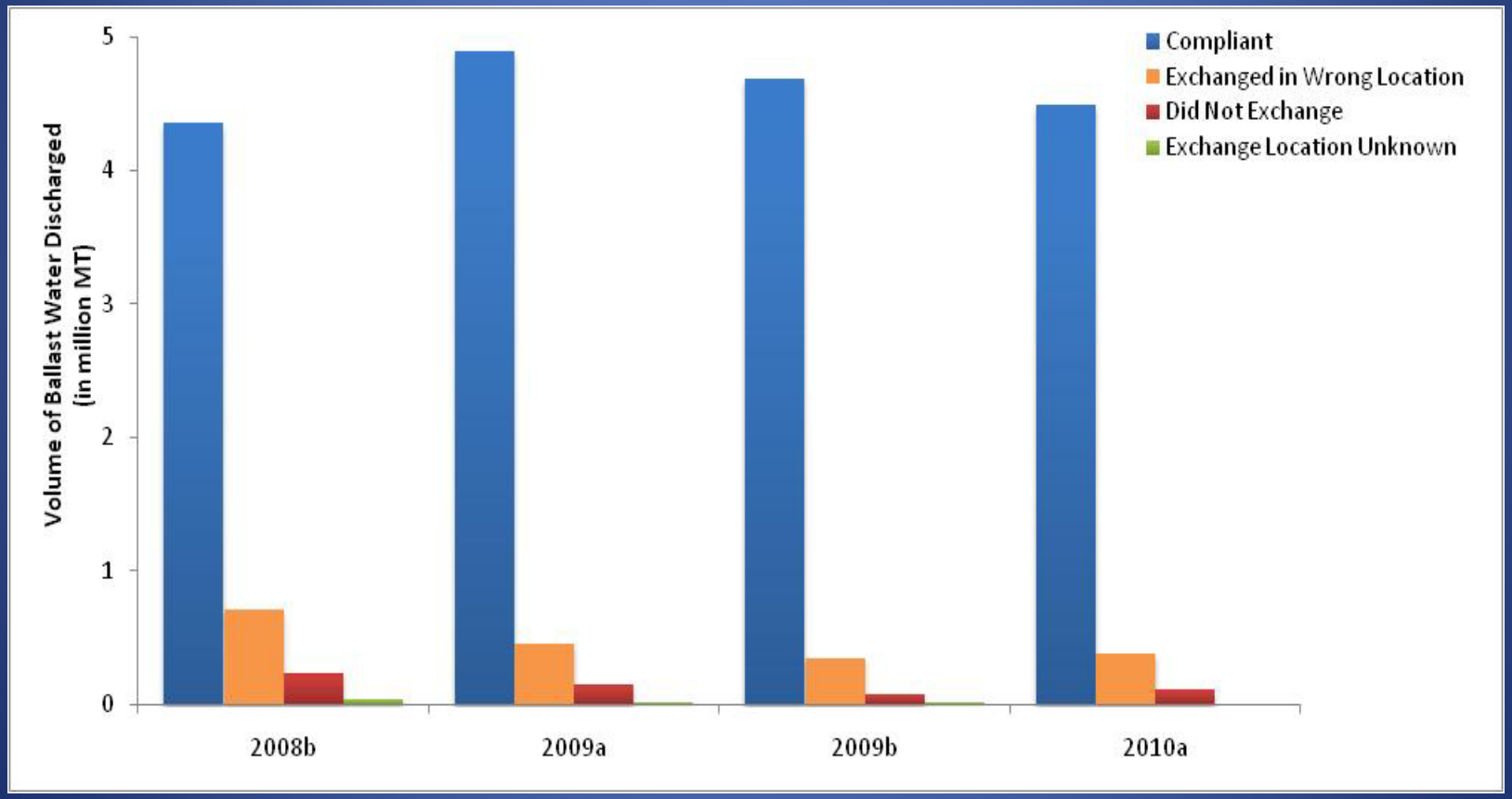



***Management Options***

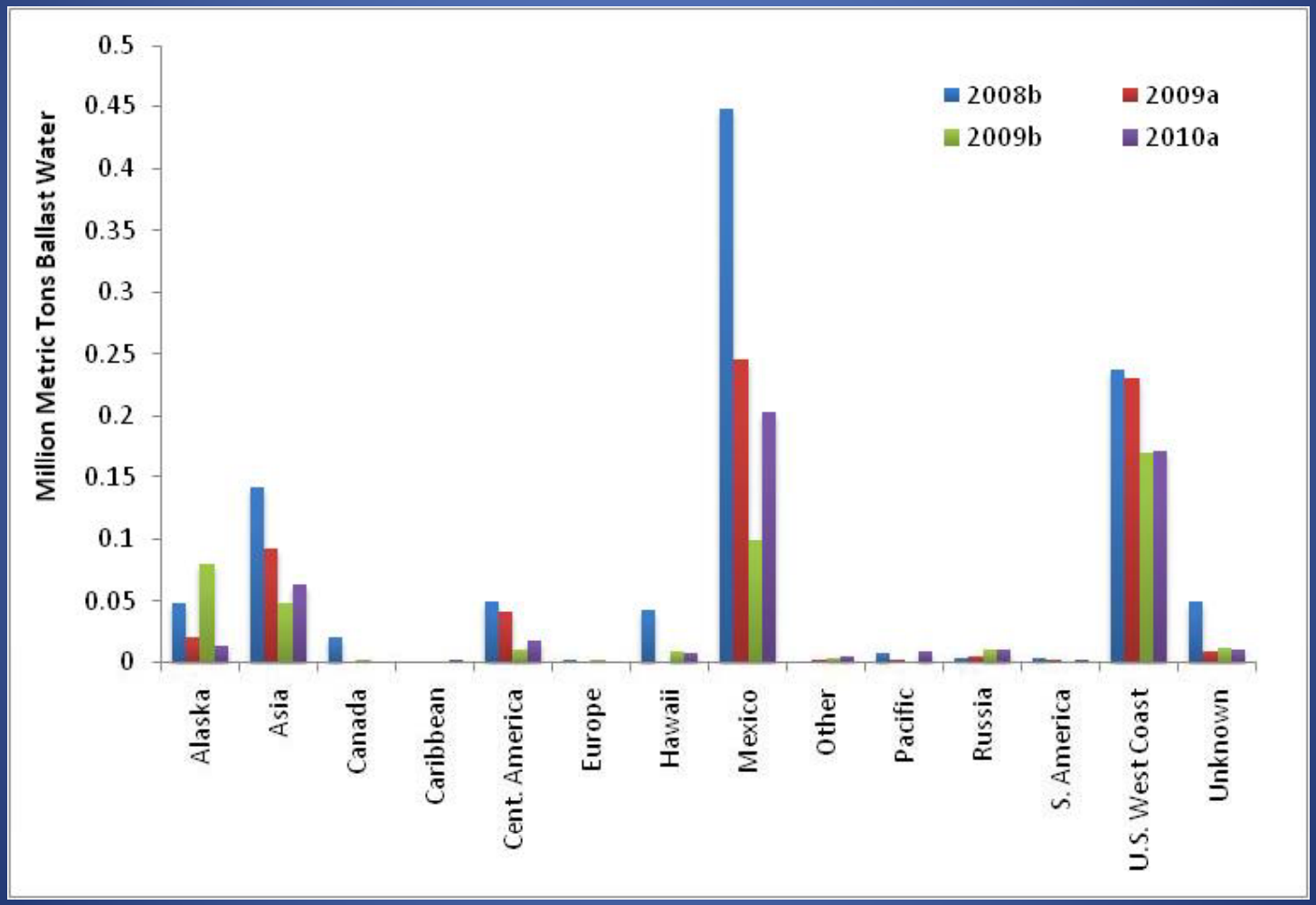
- Retention
- Ballast water exchange
- Discharge to a reception facility (none exist)
- Ballast water treatment (more later)

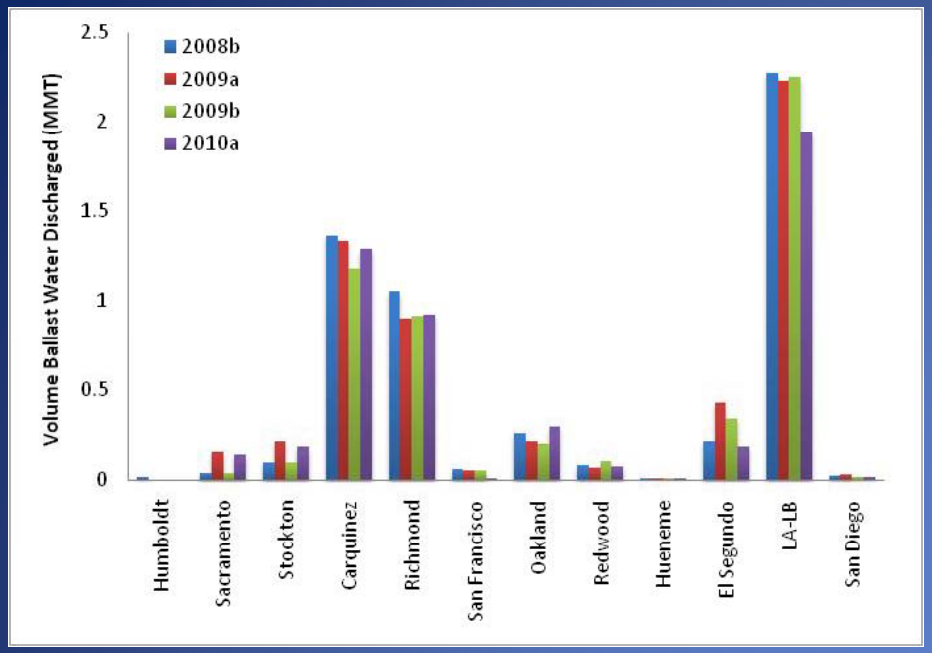


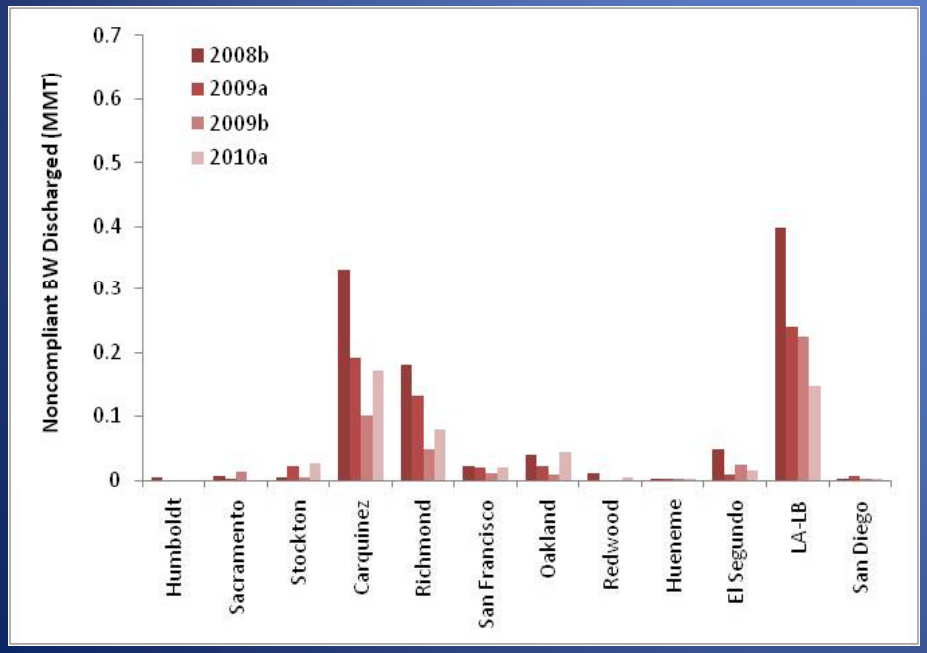
# Ballast Water Management Compliance & Noncompliance



# Noncompliant Ballast Water: Where is it coming from?






# Noncompliant BW: Where is it Discharged?

***Data & Report Utility***

- Publicly accessible: Inform Legislature, NGOs, shipping community etc.
- Target inspections & outreach - improve compliance
- Supplement biological research
- Inform management decisions

# Performance Standards for Ballast Water Discharge

***Limitations of Ballast Water Exchange***

- Safety
- Deviation & delay
- Variable efficacy (70-98%)

***Treatment Technologies***

- Potential for better protection
- Eliminate deviations & delays
- Reduce some safety issues

***Lack of a target, or "Performance Standard" = Little technology development***

***2003 MISA directed CSLC to identify Performance Standards for Ballast Water Discharge by January 31, 2006***

# Vessel Fouling

***2003 MISA Mandate:*** Evaluate risk & provide recommendations (2006)

***Recommendations to the Legislature (April 2006)***

- Address high risk vessels
- Fill biological & hull husbandry information gaps
- Revisit - develop potential regulations by 1/1/2012

***Assembly Bill 740 (2007)***

- "Regular" removal of fouling
- Collection of hull husbandry information
- Regulations by 1/1/2010

Suisun Bay Reserve Fleet

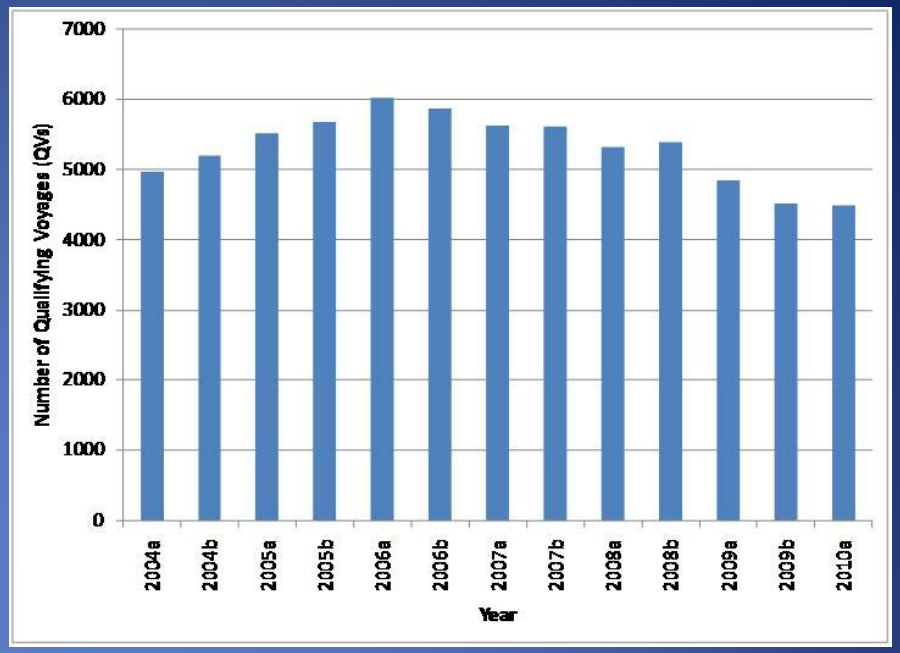
# Questions?

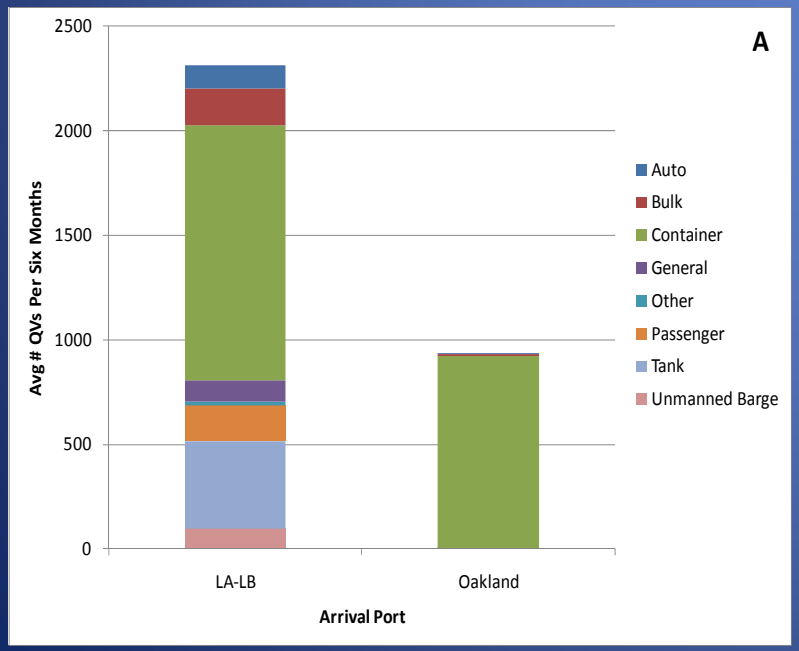
Lynn Takata
Takatal@slc.ca.gov
916-574-0236

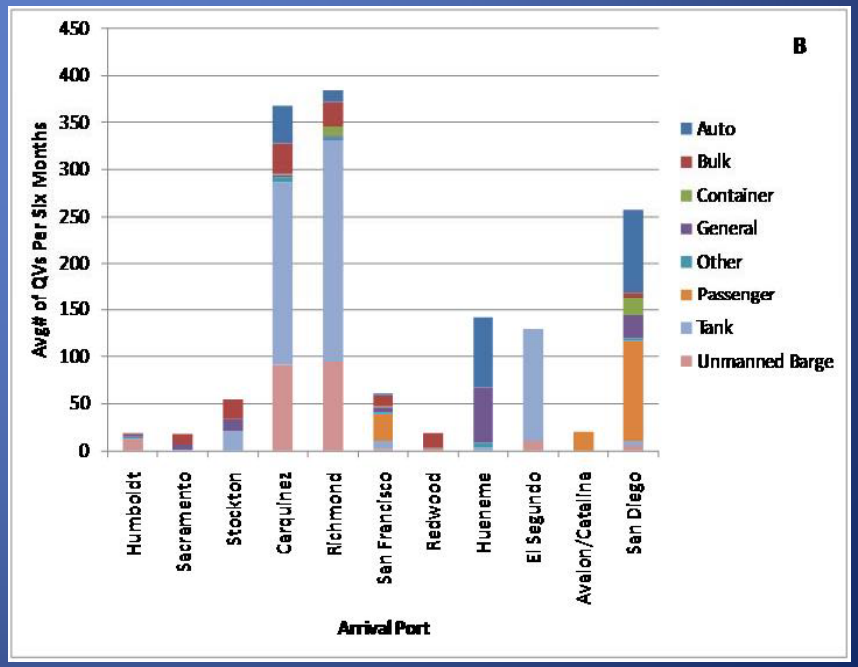
California's Marine Invasive Species Program Website:
www.slc.ca.gov
Click "Divisions" Tab
"Marine Facilities Division" link
and
"Marine Invasive Species Program" link

# General Vessel Arrival Patterns

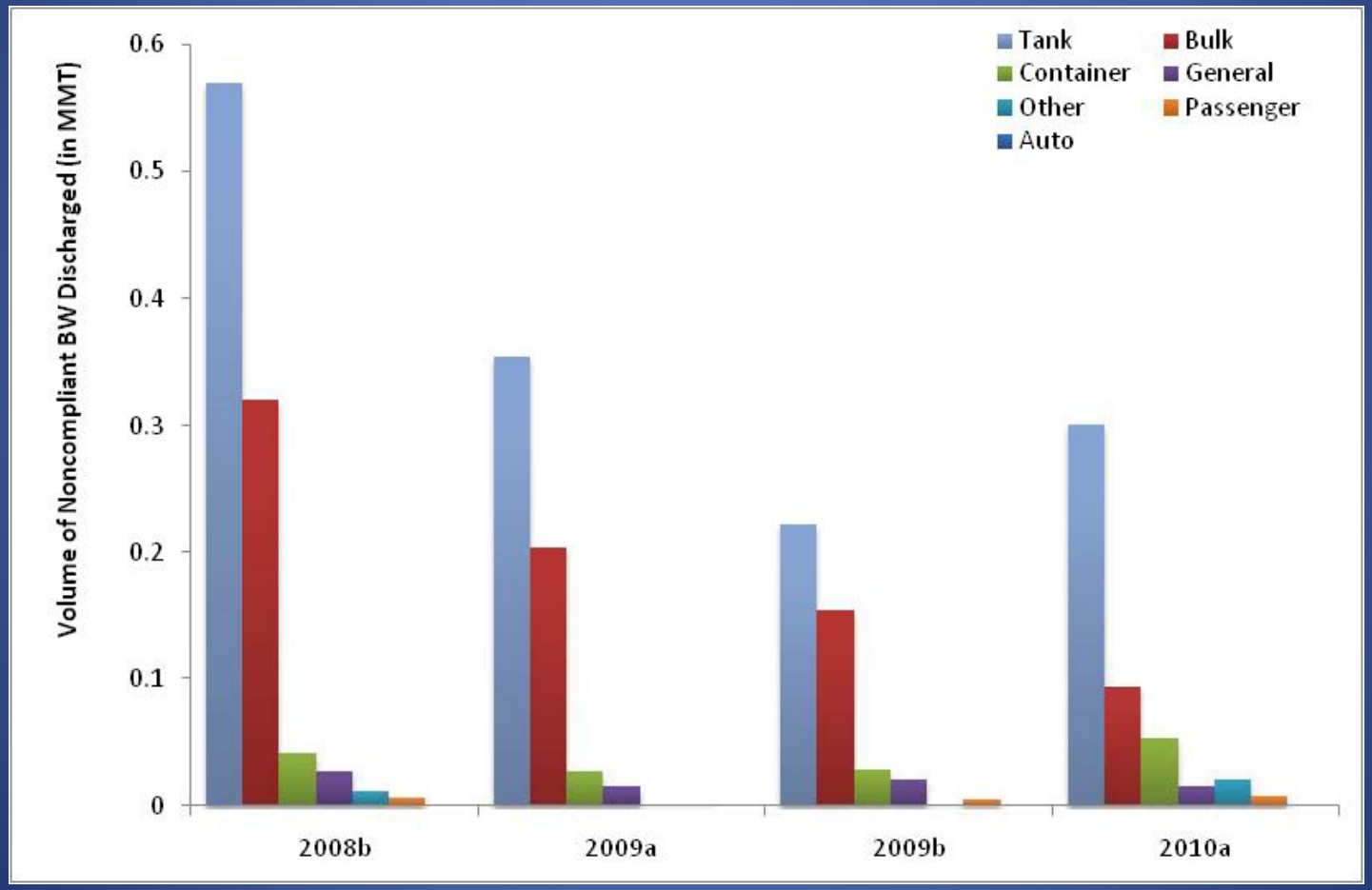
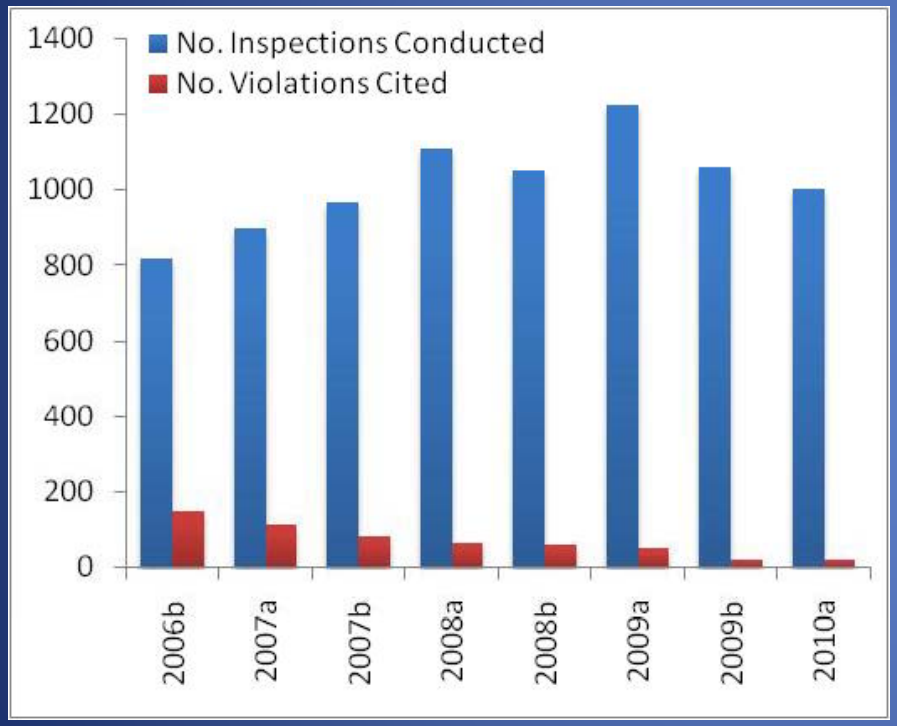
***Arrivals Per 6 Month Interval***



# Noncompliant BW Discharge by Vessel Type



# Inspection Statistics