State Report

California's Marine Invasive Species Program

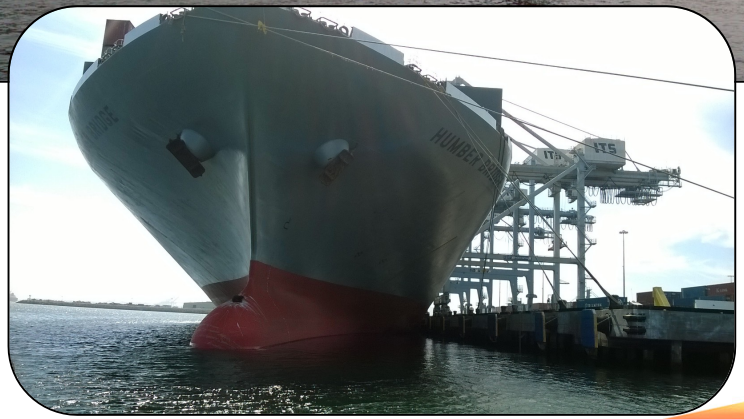
Pacific Ballast Water Group | February 6, 2021

Chris Scianni
California State Lands Commission

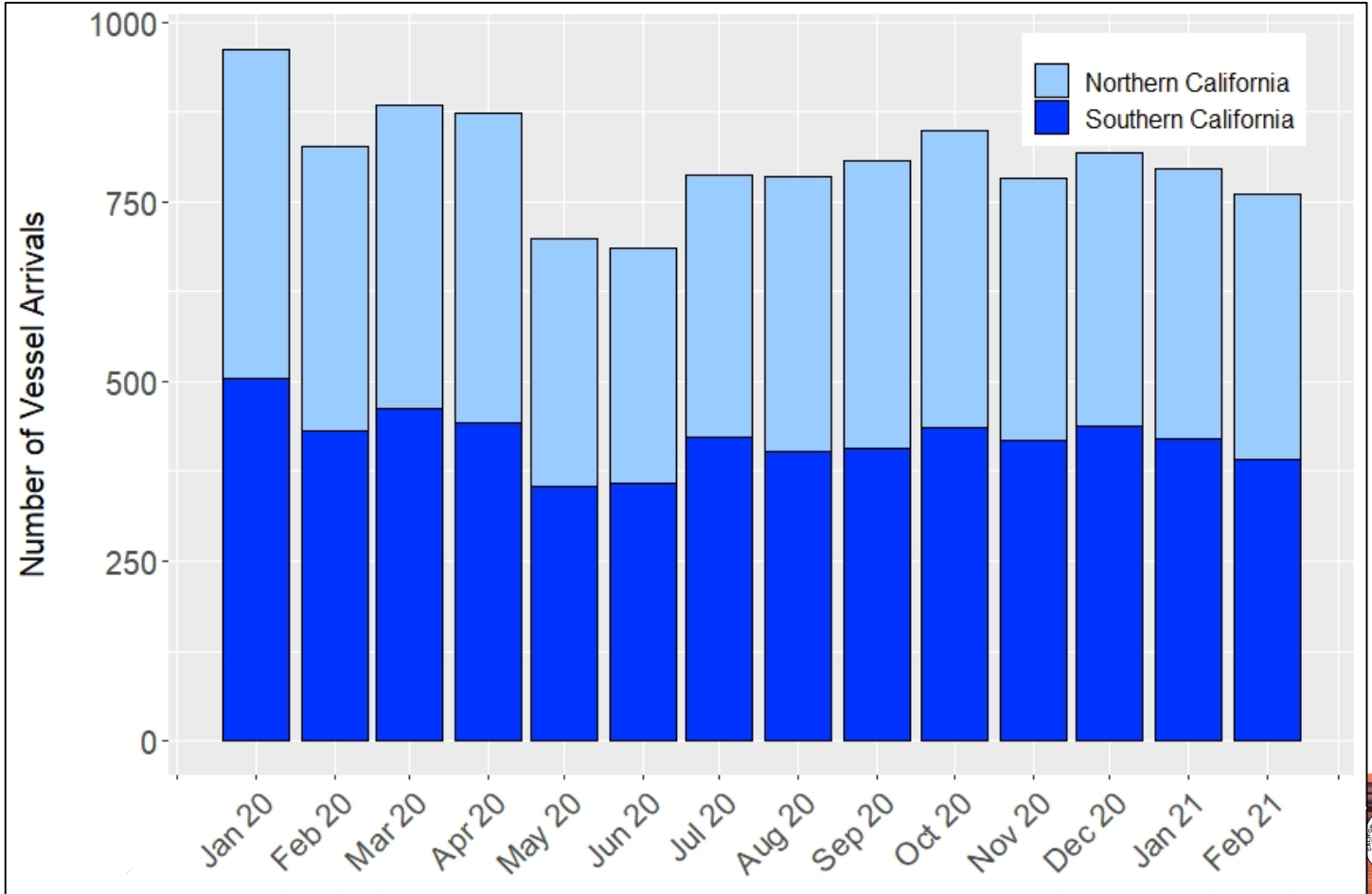
California State Lands Commission

TOPICS

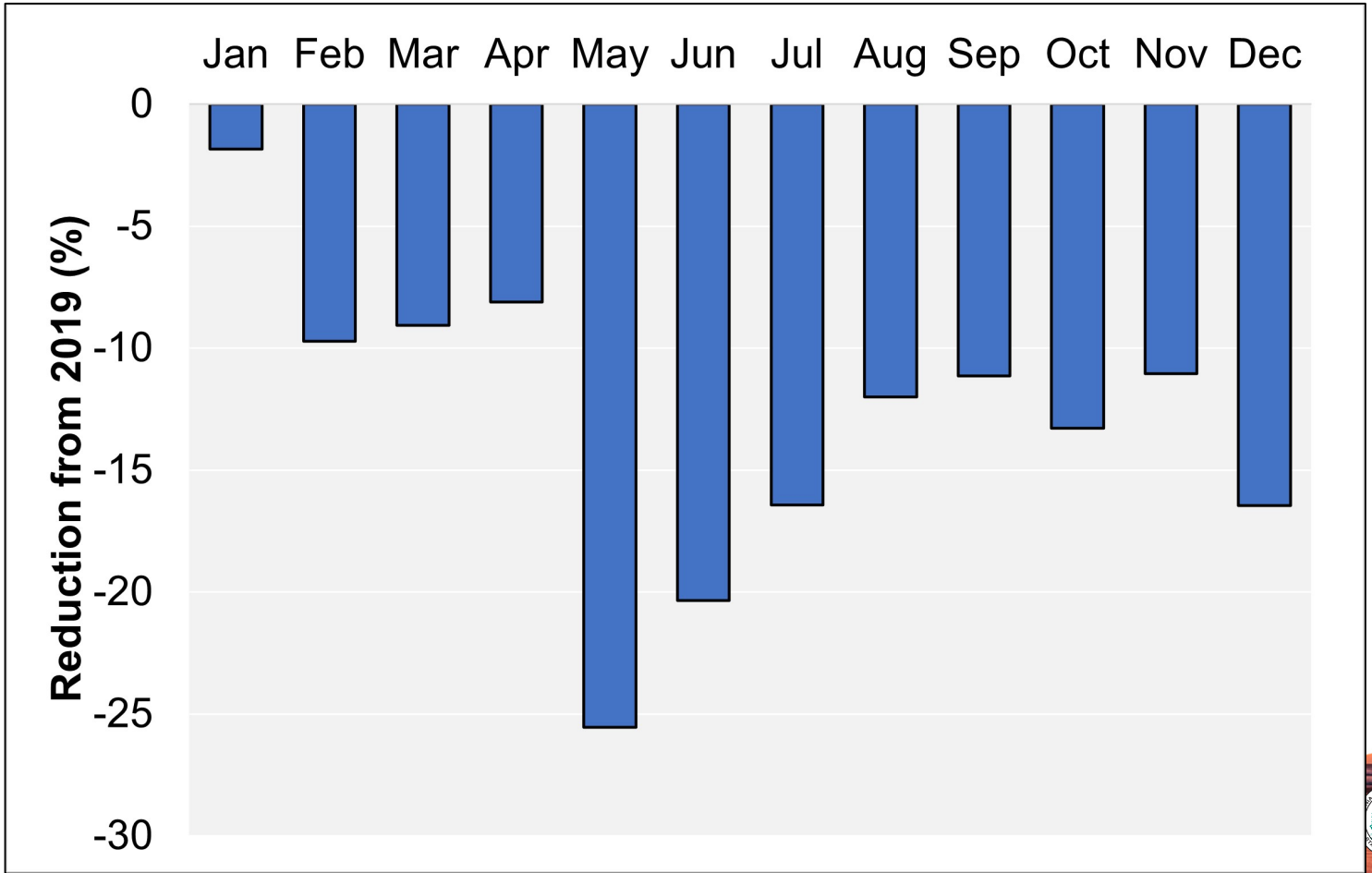
- 2020 vessel statistics
- 2021 Biennial Report
- Regulatory changes
- COVID-19 impacts
- Research/papers
- Looking ahead



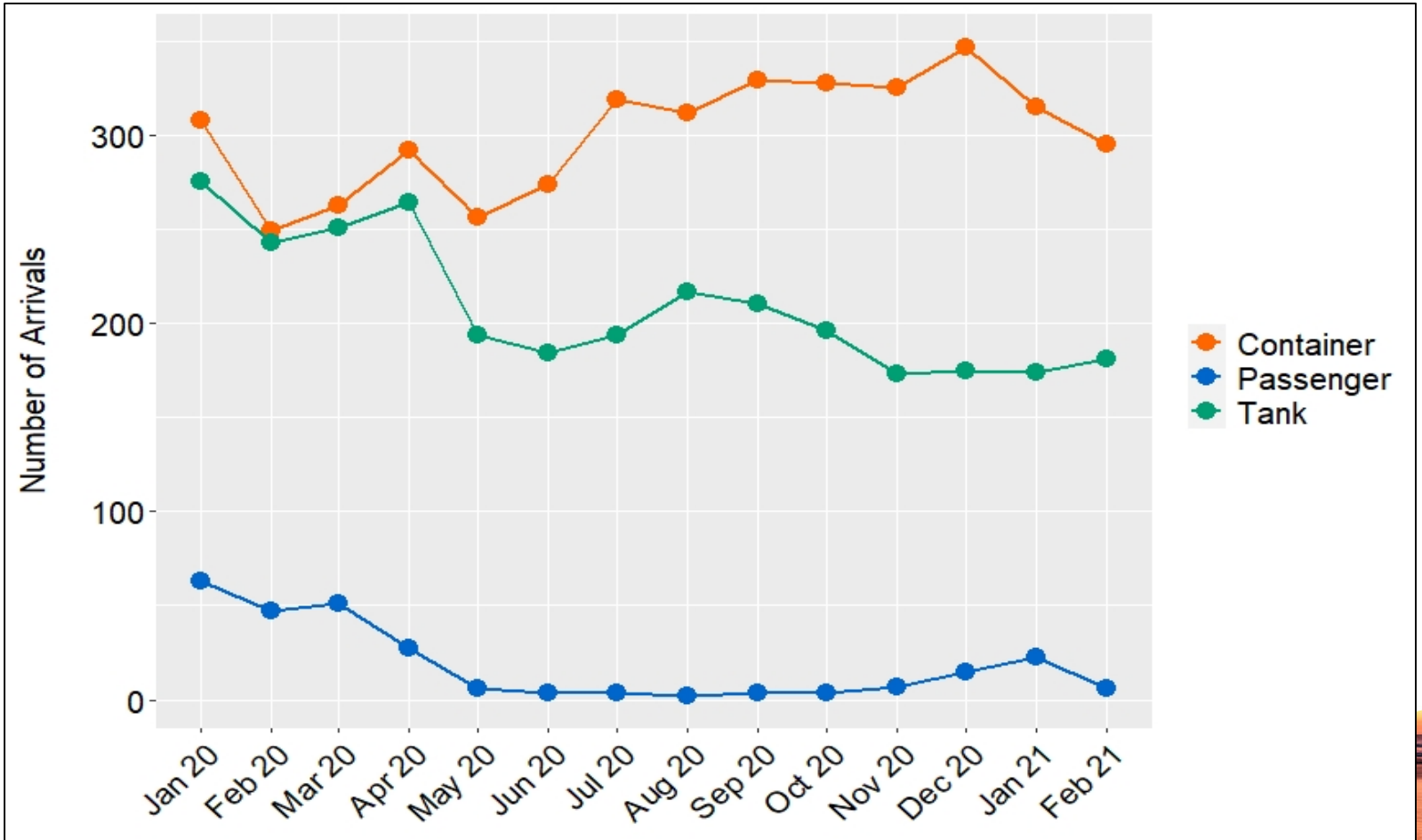
2020 Vessel Statistics - Arrivals



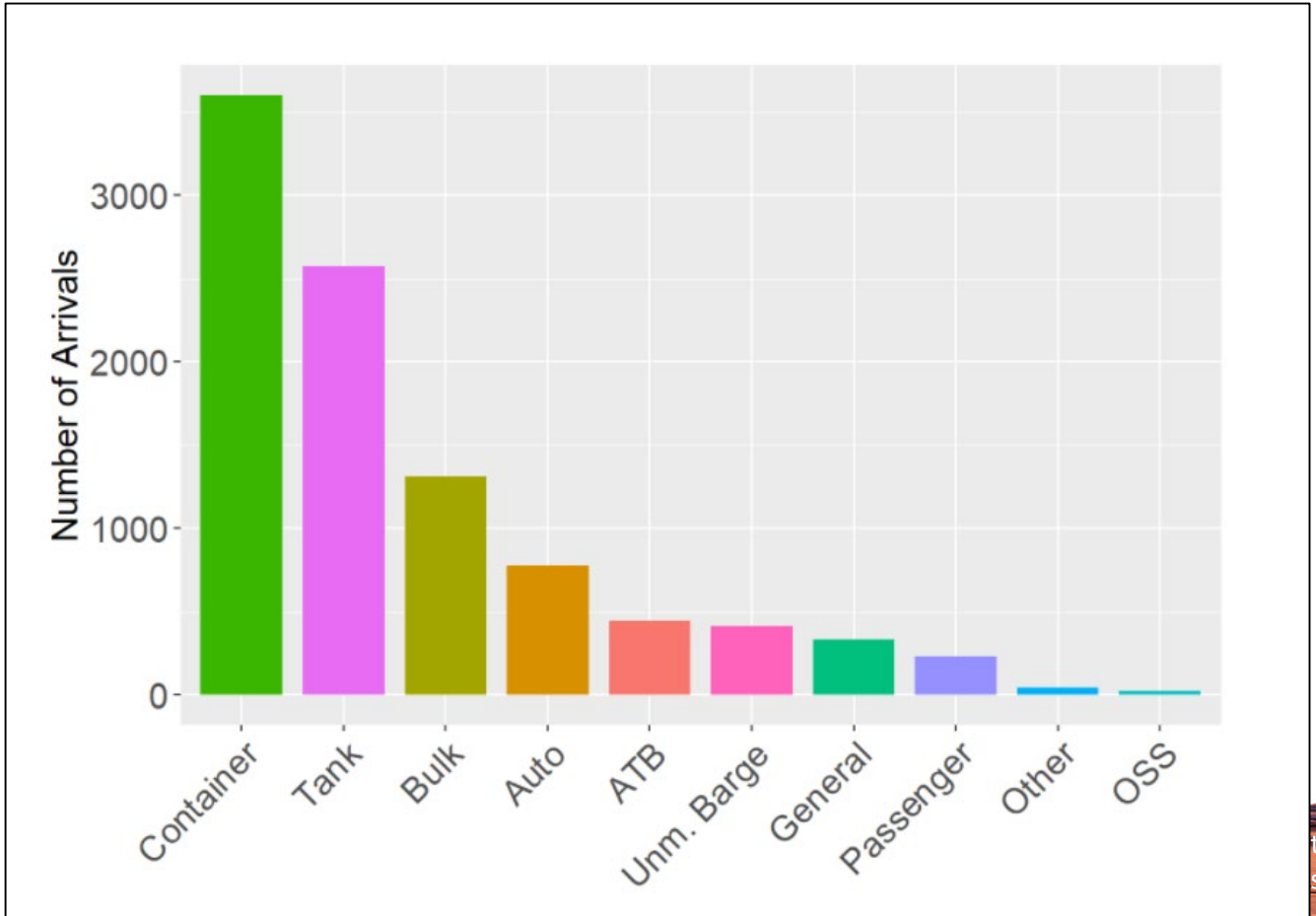
2020 Vessel Statistics - Arrivals



2020 Vessel Statistics - Arrivals



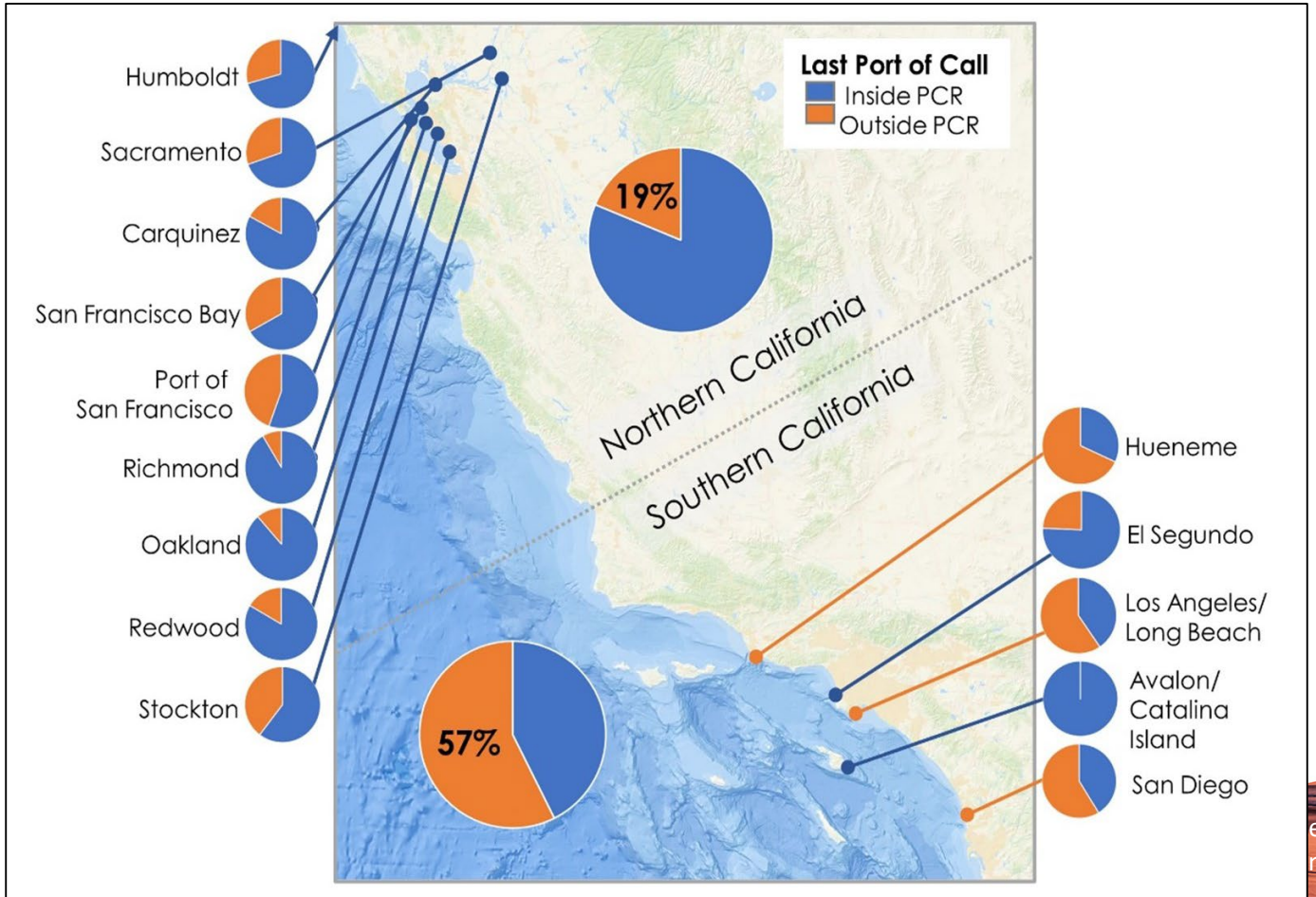
2020 Vessel Statistics – 2020 Arrivals



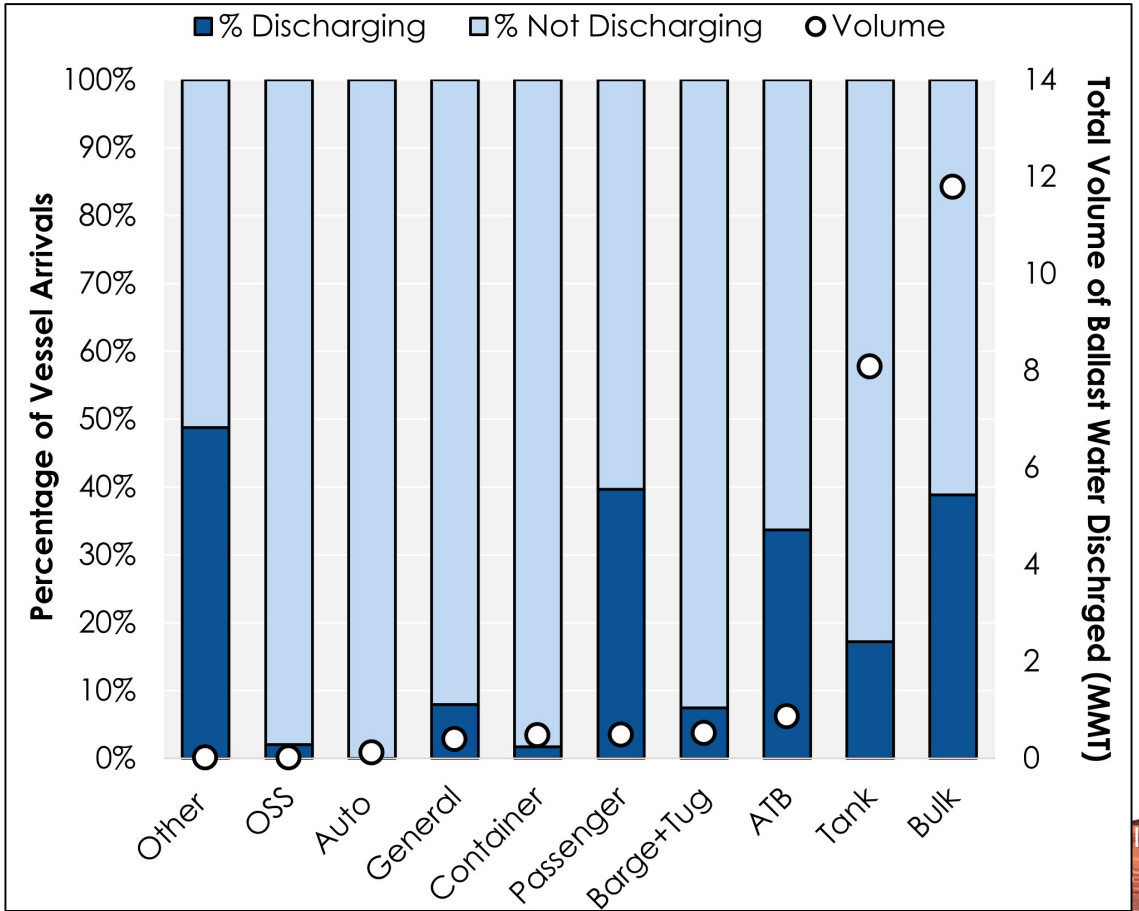
- MISP activities 2018-2019
- Summary of vessel-reported data
- Update on implementation of ballast water discharge performance standards
- Summary of recent research
- Accomplishments
- Next steps and Recommendations

https://slcprdwordpressstorage.blob.core.windows.net/wordpressdata/2021/01/MISPBiennial-2021.pdf

2021 Biennial Report (data from 2018-19)

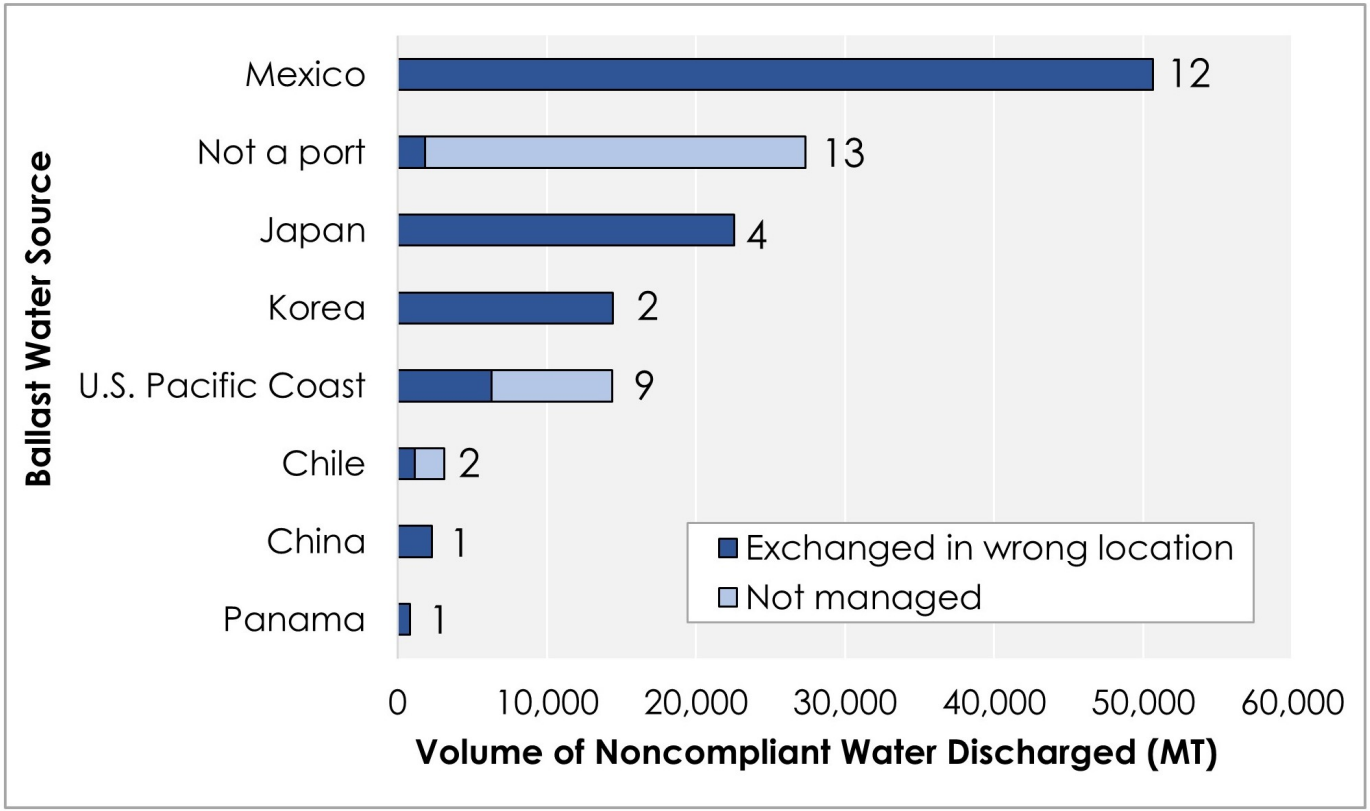


2021 Biennial Report (data from 2018-19)



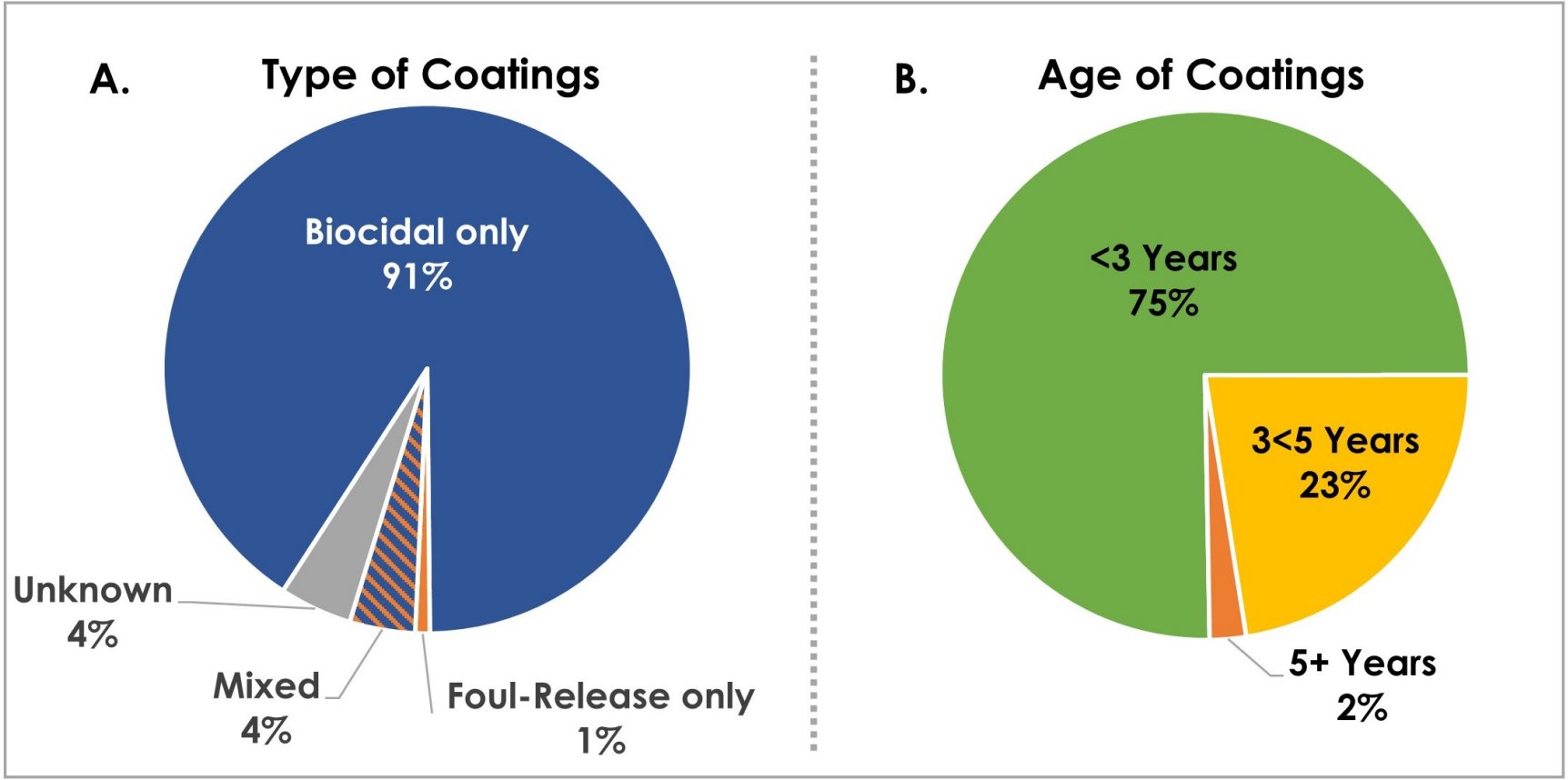
85% of all arrivals do not discharge

2021 Biennial Report (data from 2018-19)

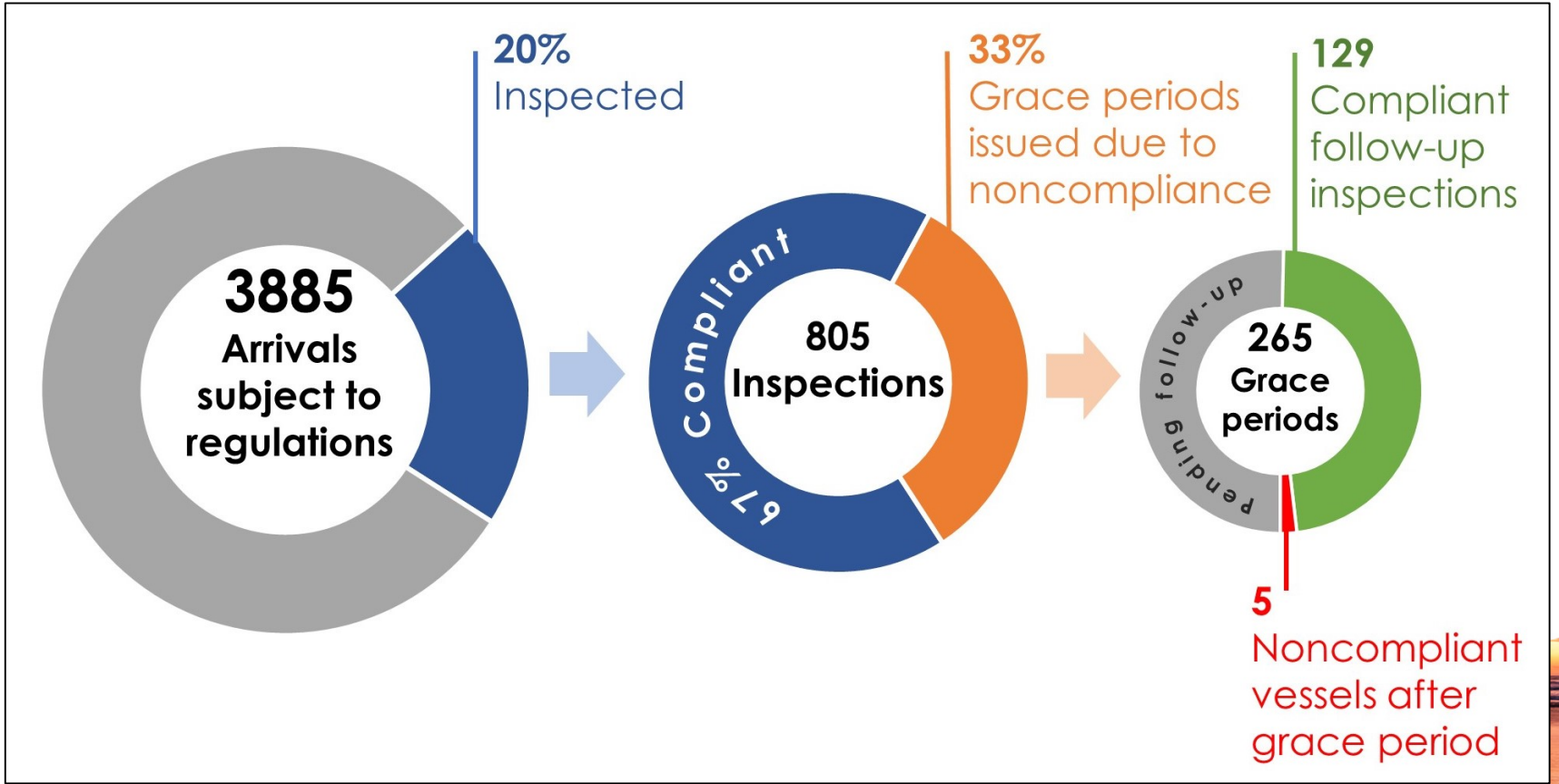


99% of discharged ballast water was compliant

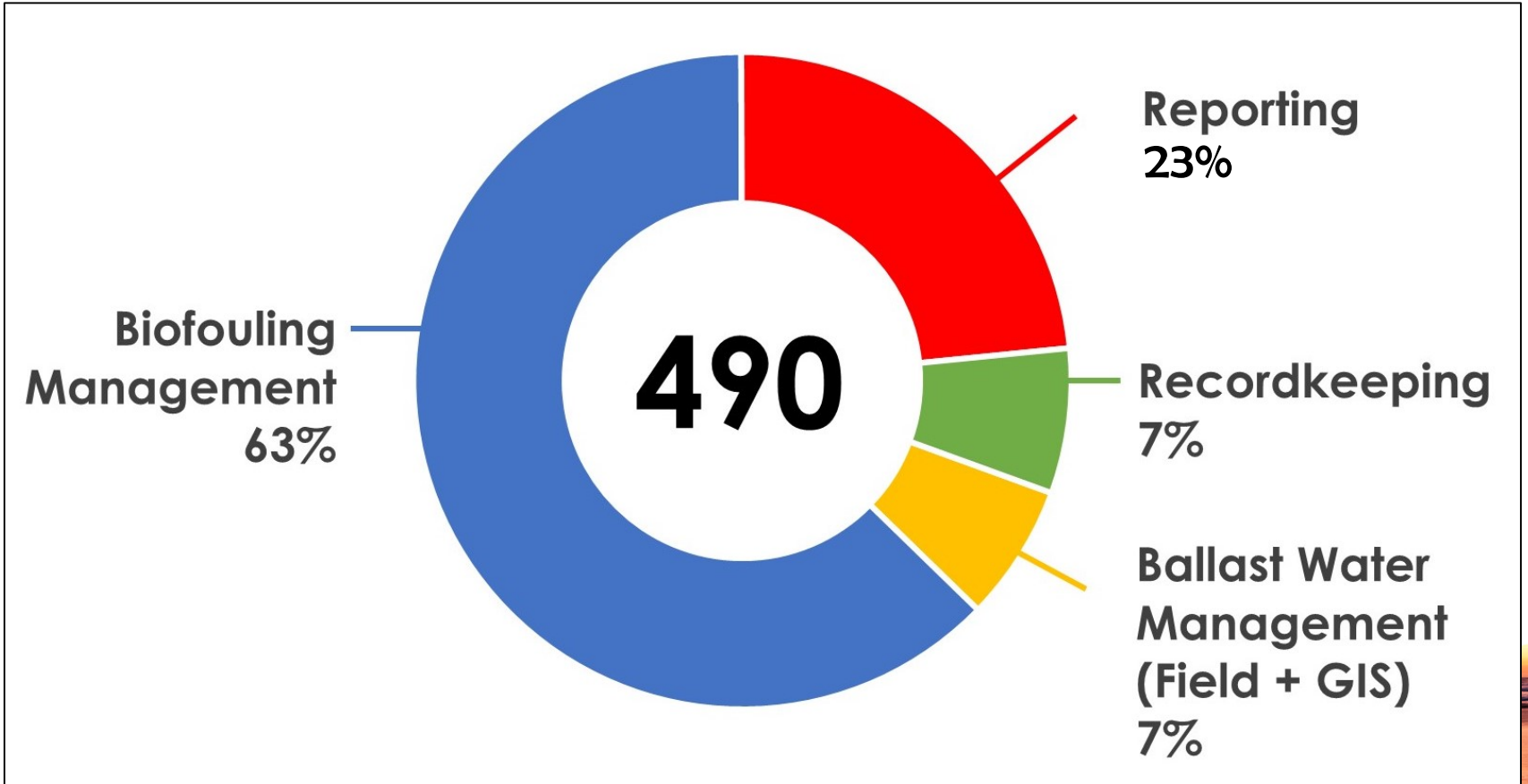
2021 Biennial Report (data from 2018-19): Antifouling coatings data



2021 Biennial Report (data from 2018-19): Biofouling inspection data



2021 Biennial Report (data from 2018-19): Violation breakdown



Regulatory Changes

Regulatory Changes – Article 4.8 Annual Vessel Reporting Forms

What: Requires submission of the Annual Vessel Reporting Form via the web-based platform MISP.IO

When: Effective as of January 1, 2021

Why: Improve data quality and MISP efficiency

Guidance: Series of webinars in October and December 2020 at https://www.slc.ca.gov/marine-invasive-species-program/changes-to-the-annual-vessel-reporting-form-submission-requirements/

Regulatory Changes – Article 4.7 BWD Performance Standards

What: Require ballast water discharges to meet the federal performance standards

When:

- Proposed on November 20, 2020
- Commission meeting on April 27, 2021 (www.slc.ca.gov)
- Proposed effective date on January 1, 2022

Why: Align with federal requirements and improve on existing exchange requirements

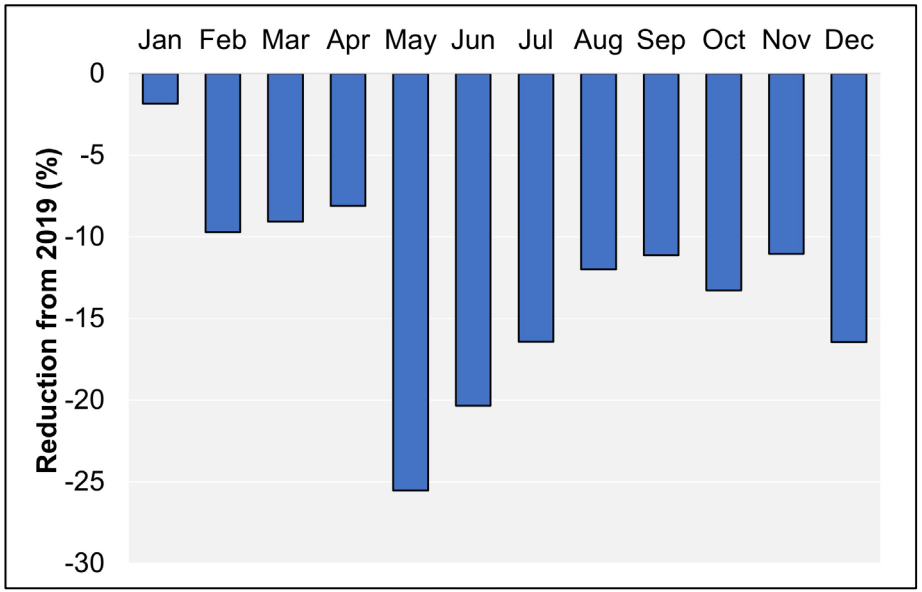
Regulatory Changes – Article 4.9 Enforcement Regulations

What: Include violations of biofouling management requirements and ballast water discharge performance standards

When: Still in development

Why: Set up transparent process for assessing penalties for biofouling and ballast water discharge performance standards violations

COVID-19 Impacts

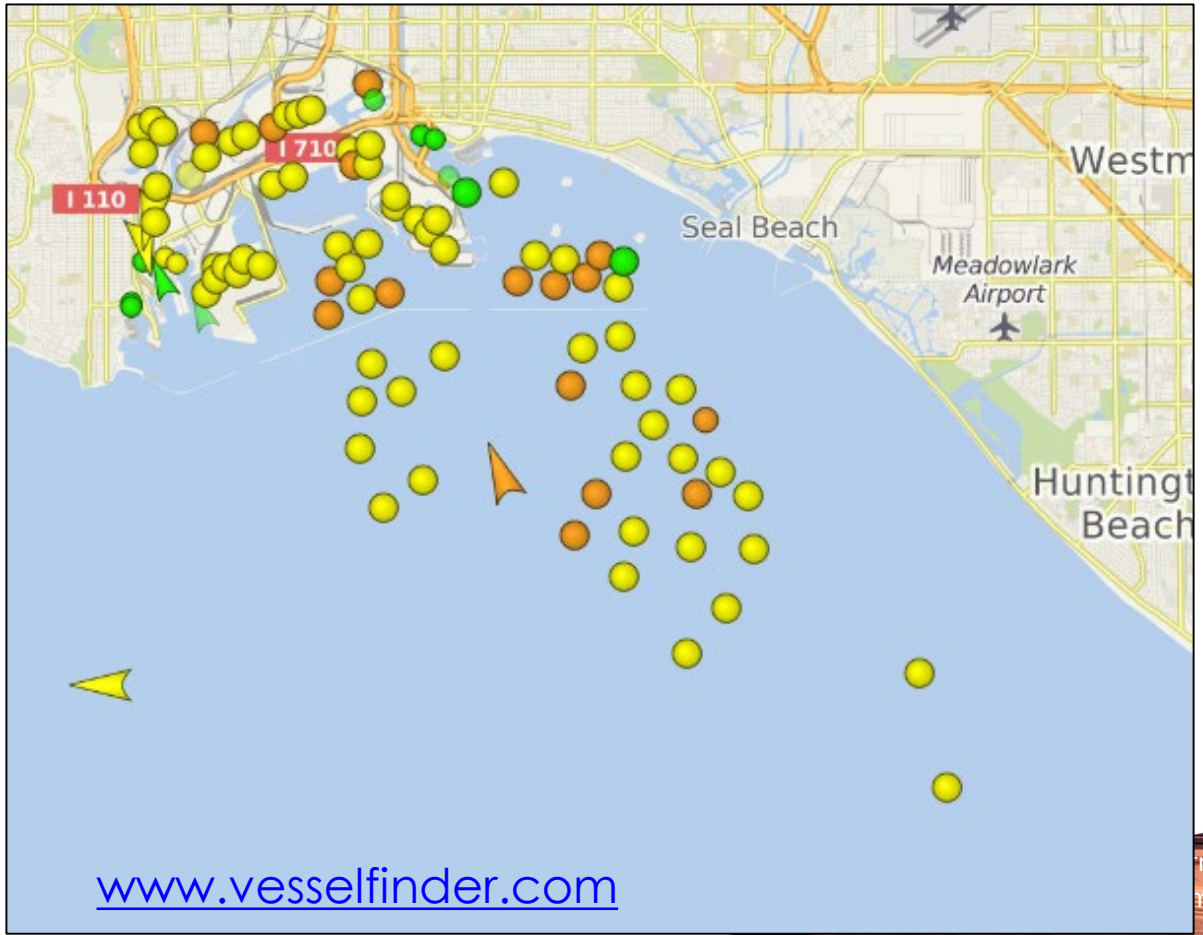


Arrivals

Inspections?

Idle periods

COVID-19 Impacts

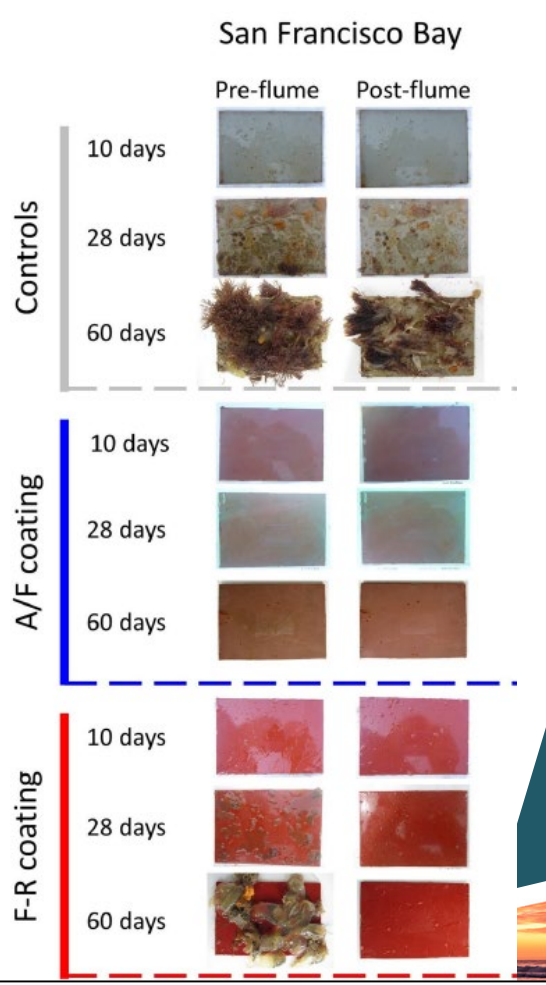


Southern California

3/25/21

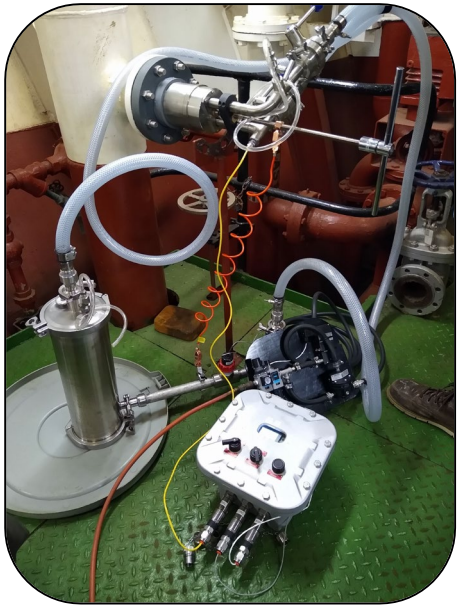
COVID-19 Impacts

www.vesselfinder.com



Davidson et al. 2020. Biofouling.
https://doi.org/10.1080/08927014.2020.1769612

Research

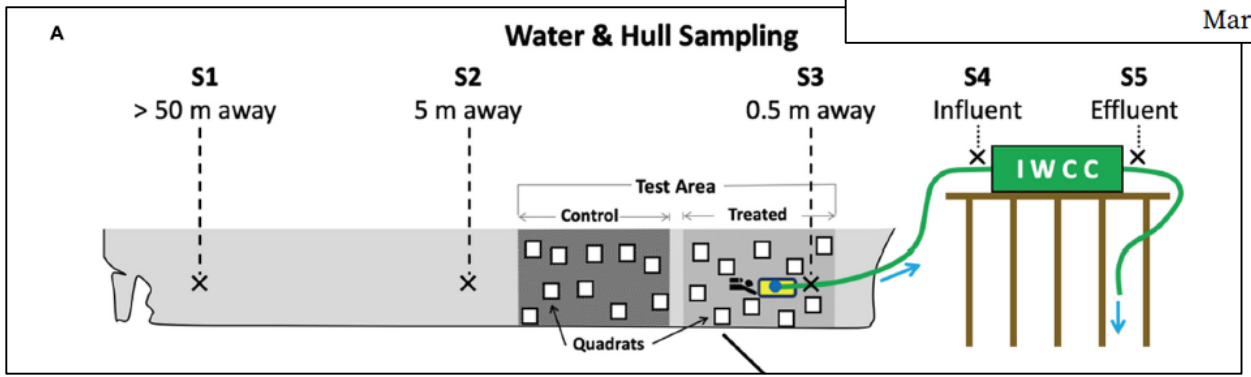


Historical Shipping Patterns and Links to Transport of Non-Native Species in the San Francisco Bay Region

Part 2: Trends in Trade between Asia and San Francisco Bay, 1970–2003

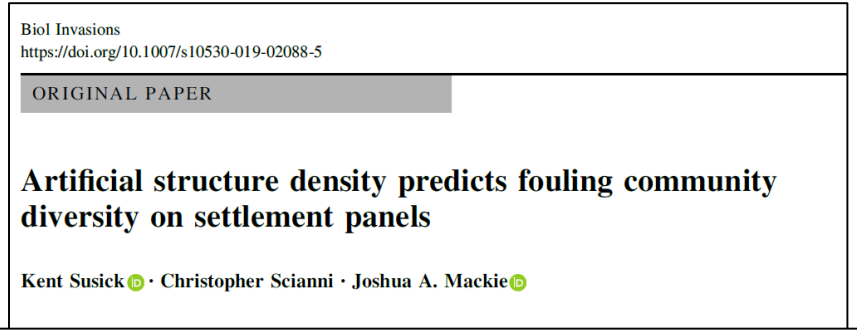
Report to the California State Lands Commission

Andrew L. Chang, Julia C. Blum, Danielle E. Verna, Gregory M. Ruiz, Mark S. Minton



Tamburri et al., 2020. Frontiers in Marine Science https://doi.org/10.3389/fmars.2020.00437

Research - Papers



Biol Invasions
https://doi.org/10.1007/s10530-019-02088-5

ORIGINAL PAPER

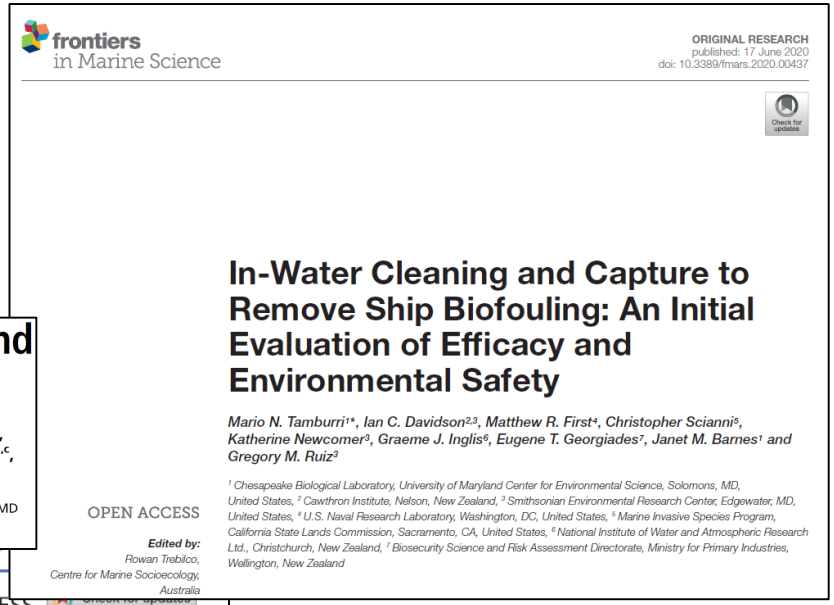
Artificial structure density predicts fouling community diversity on settlement panels

Kent Susick · Christopher Scianni · Joshua A. Mackie

Stage-specific overcompensation, the hydra effect, and the failure to eradicate an invasive predator

Edwin Grosholz[a,1], Gail Ashton[b], Marko Bradley[c], Chris Brown[b], Lina Ceballos-Osuna[b], Andrew Chang[b], Catherine de Rivera[c], Julie Gonzalez[a], Marcella Heineke[a], Michelle Marraffini[b], Linda McCann[b], Erica Pollard[a,c], Ian Pritchard[a], Gregory Ruiz[b], Brian Turner[c], and Carolyn Tepolt[d]

[a]Department of Environmental Science and Policy, University of California, Davis, CA 95616; [b]Smithsonian Environmental Research Center, Edgewater, MD 21037; [c]Department of Environmental Science and Management, Portland State University, Portland, OR 97207; and [d]Woods Hole Oceanographic Institution, Woods Hole, MA 02543



frontiers in Marine Science

ORIGINAL RESEARCH
published: 17 June 2020
doi: 10.3389/fmars.2020.00437

In-Water Cleaning and Capture to Remove Ship Biofouling: An Initial Evaluation of Efficacy and Environmental Safety

Mario N. Tamburri[1], Ian C. Davidson[2,3], Matthew R. First[4], Christopher Scianni[5], Katherine Newcomer[3], Graeme J. Inglis[6], Eugene T. Georgiades[7], Janet M. Barnes[1] and Gregory M. Ruiz[3]*

[1] Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science, Solomons, MD, United States, [2] Cawthron Institute, Nelson, New Zealand, [3] Smithsonian Environmental Research Center, Edgewater, MD, United States, [4] U.S. Naval Research Laboratory, Washington, DC, United States, [5] Marine Invasive Species Program, California State Lands Commission, Sacramento, CA, United States, [6] National Institute of Water and Atmospheric Research Ltd., Christchurch, New Zealand, [7] Biosecurity Science and Risk Assessment Directorate, Ministry for Primary Industries, Wellington, New Zealand

OPEN ACCESS

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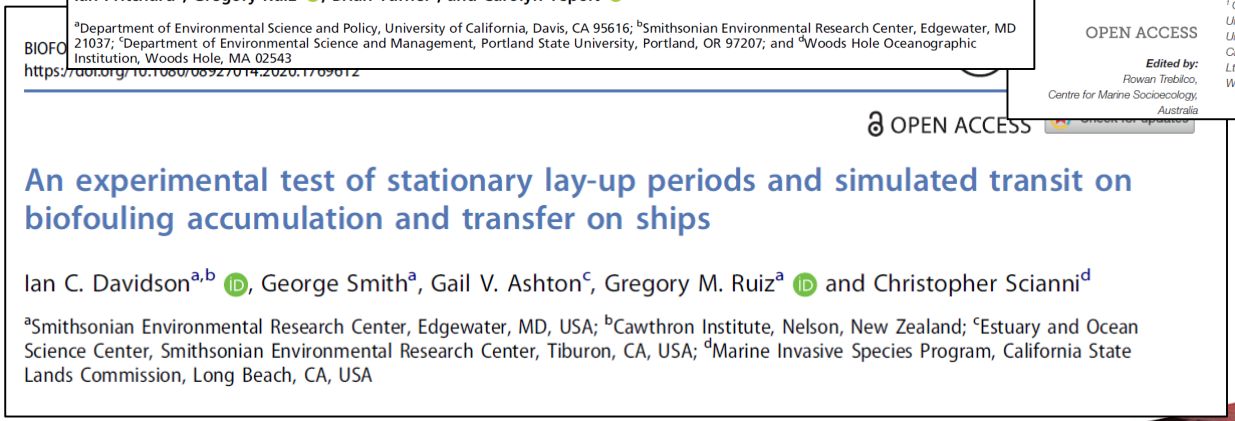

BIOFO
https://doi.org/10.1080/08927014.2020.1769612

OPEN ACCESS

An experimental test of stationary lay-up periods and simulated transit on biofouling accumulation and transfer on ships

Ian C. Davidson[a,b], George Smith[a], Gail V. Ashton[c], Gregory M. Ruiz[a] and Christopher Scianni[d]

[a]Smithsonian Environmental Research Center, Edgewater, MD, USA; [b]Cawthron Institute, Nelson, New Zealand; [c]Estuary and Ocean Science Center, Smithsonian Environmental Research Center, Tiburon, CA, USA; [d]Marine Invasive Species Program, California State Lands Commission, Long Beach, CA, USA

Looking ahead to 2021 and beyond

- Finalizing Article 4.7 amendments: Adopting federal ballast water discharge performance standards
  - Implementation and outreach plans
- Initiating Article 4.9 amendments: Adding enforcement language for biofouling and ballast water discharge performance standards
- VIDA?

www.slc.ca.gov

THANK YOU & QUESTIONS

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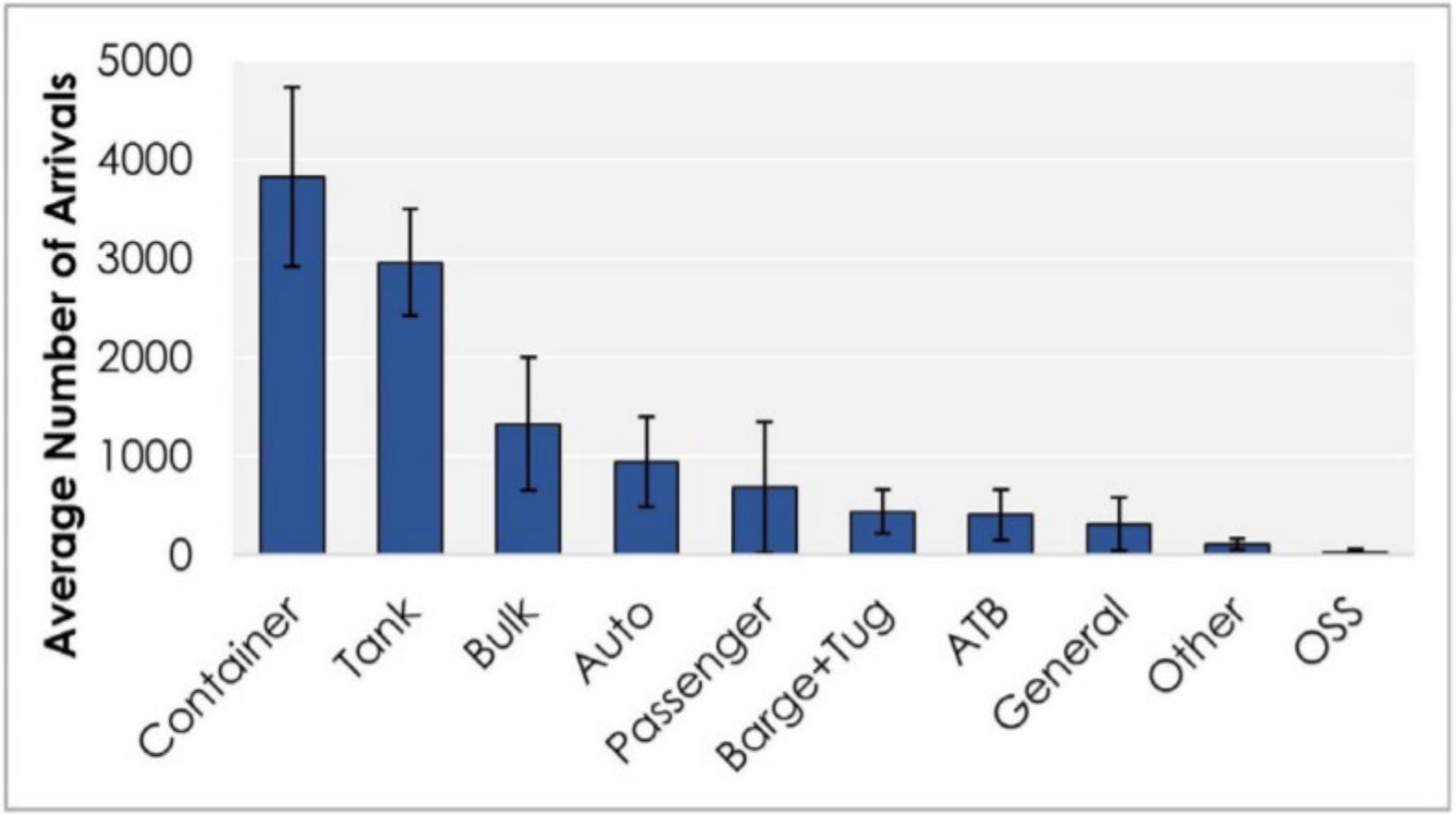
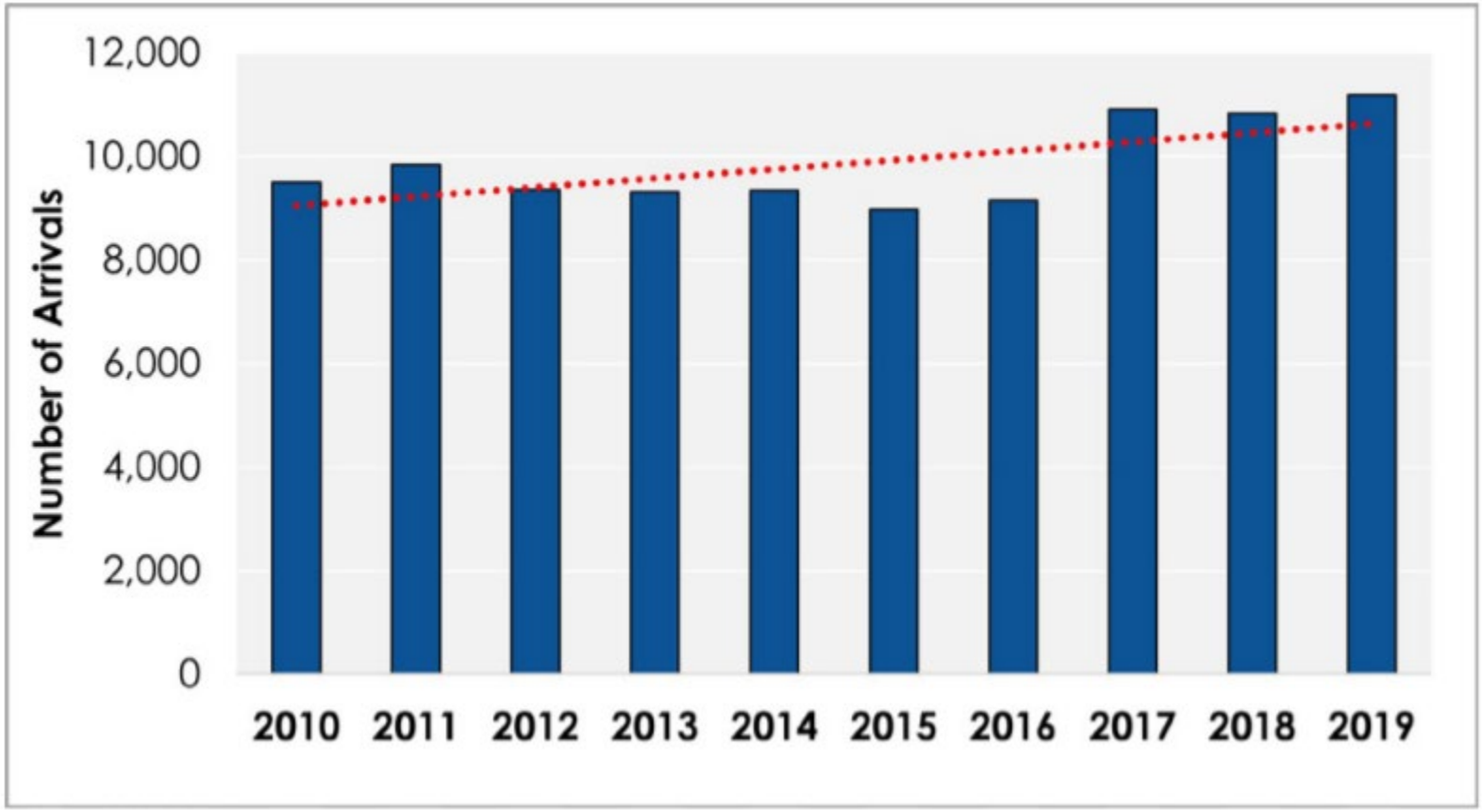


Figure 4-6. Average number of vessel arrivals per year by vessel type at California ports during 2018 and 2019. The description of vessel type categories is presented in Table 4-1. Error bars represent the standard deviation.


12,000
10,000
8,000
6,000
4,000
2,000
0
Number of Arrivals
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019