

Washington Ballast Water Sampling Program

Questions and Discussion

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Washington Department of
FISH & WILDLIFE

in Protecting Puget Sound from Invasive

Washington Department of Fish and Wildlife Contract 12-1212

Task 6 – Deliverable 6.1: Phase 3 Final Report

Results From WDFW/UW Ballast Water Sampling, 2001-2014



Ballast Water Efficacy Study 2015

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Washington Department of Fish and Wildlife

Funded by the Environmental Protection Agency
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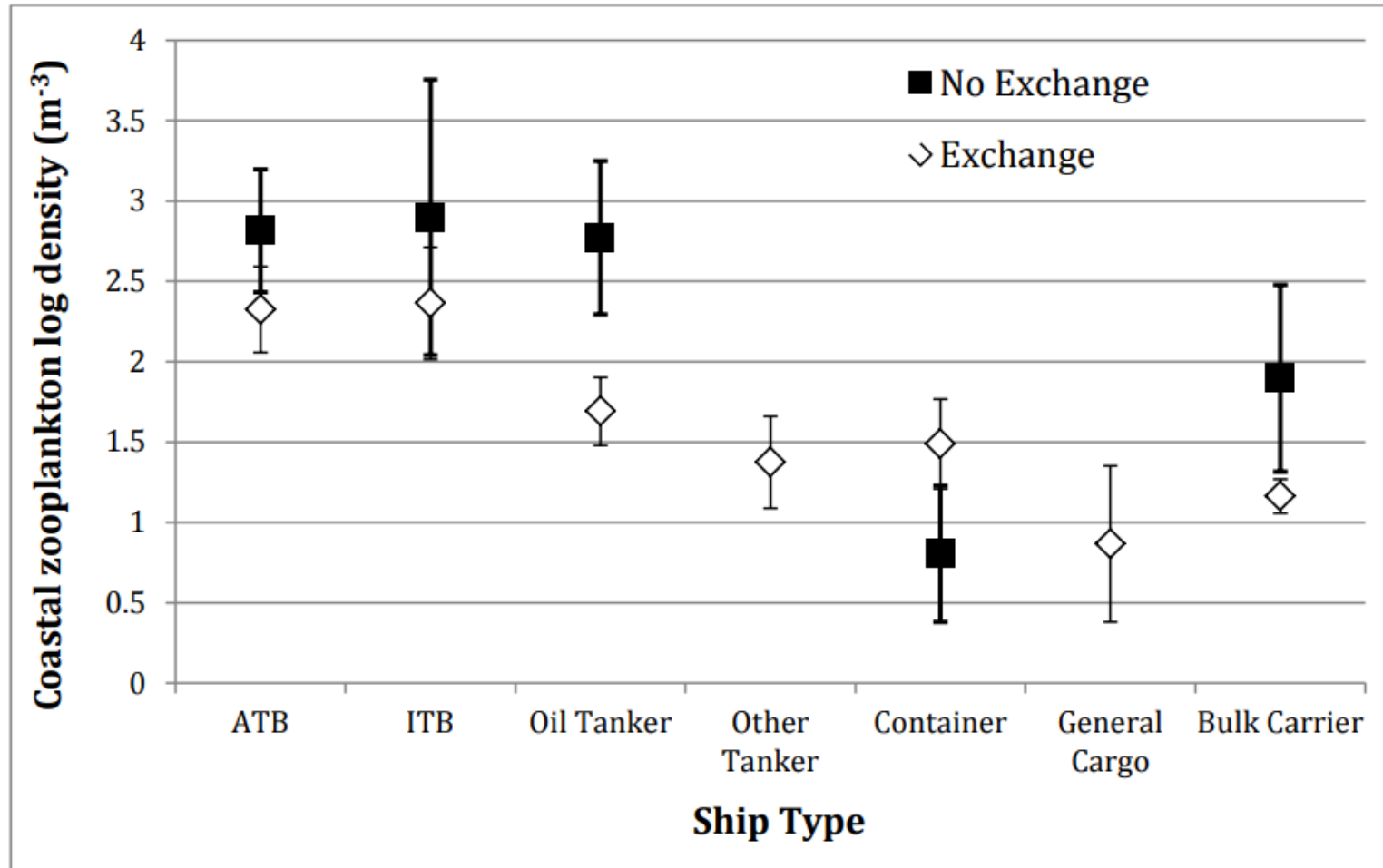


Figure 7. Average log density of coastal zooplankton per cubic meter (m^3) from exchanged and unexchanged (i.e. “no exchange” in graph) tanks by ship type; error bars indicate 95% confidence intervals. Abbreviations: ATB, articulated tug-barge; ITB, integrated tug-barge.



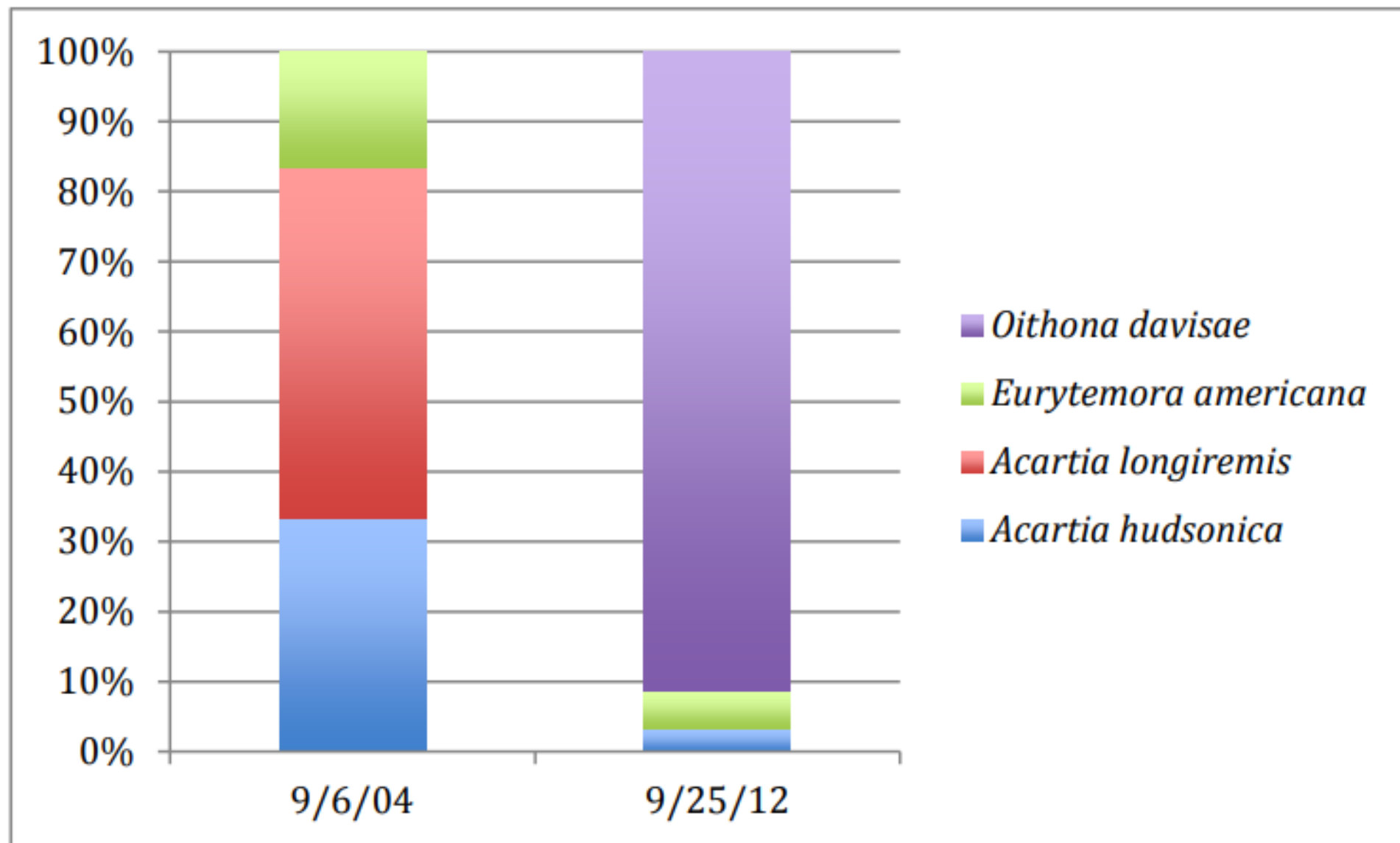


Figure 17. Percent composition of copepod species at Samish Bay, Washington, September 2004 and 2012. *Acartia* and *Eurytemora* are calanoid copepod species native to the Pacific Northwest, *Oithona davisae* is a cyclopoid copepod native to Asia.

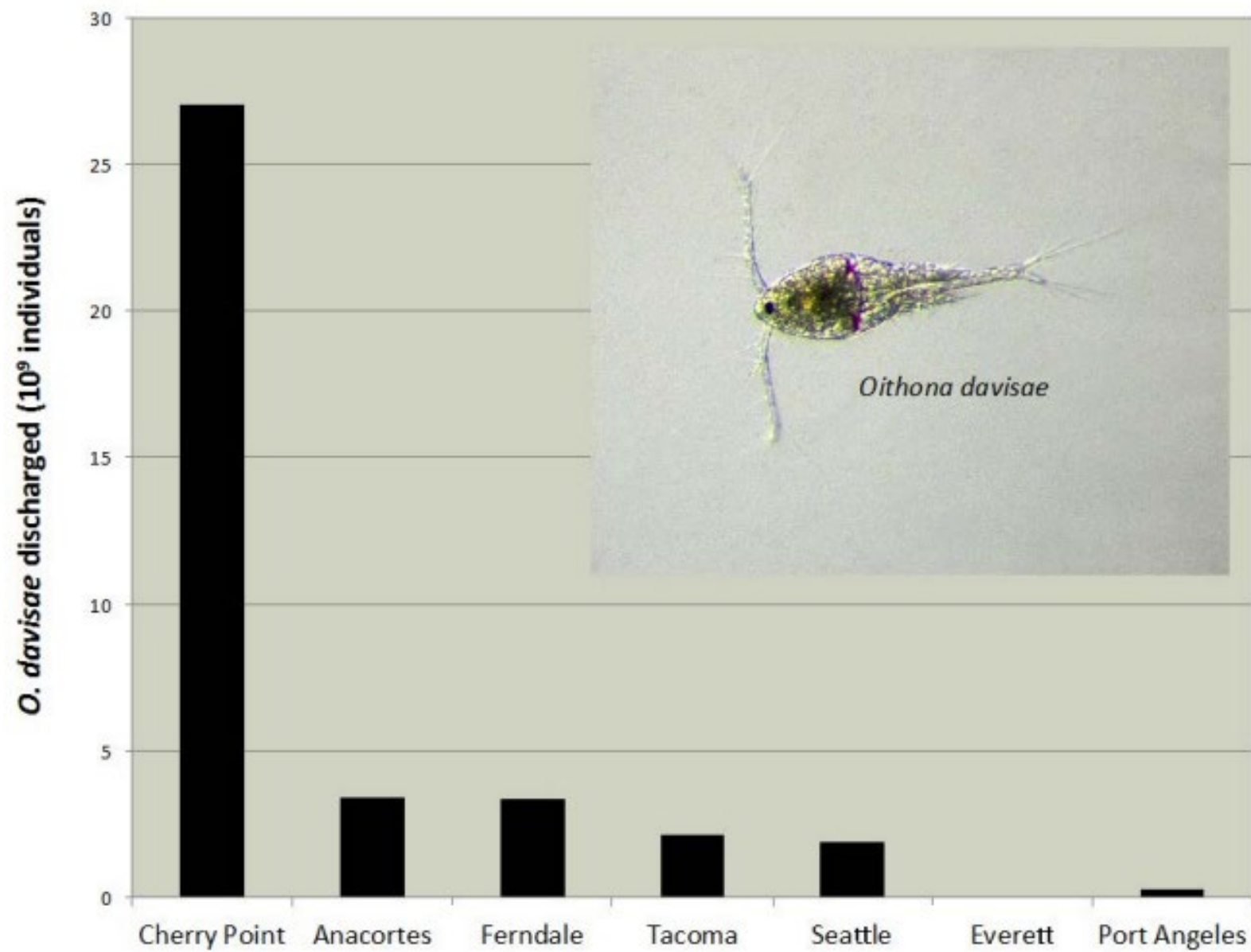


Figure 18. Estimated total *Oithona davisae* propagules discharged into main port areas of Puget Sound 2004-2014 based on data from NBIC and WDFW-UW ballast plankton sampling.

Ballast Water Strategic Plan 2017



WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

SIX-YEAR STRATEGIC PLAN: BALLAST WATER MANAGEMENT

PREPARED FOR
WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
OLYMPIA, WASHINGTON

JUNE 2017
FILE NO. 16050.01
REV. A



Washington Department of
FISH & WILDLIFE

Action Item #4

Table 21 Strategic plan action items (FY 2017 - 2019)

No.	Element	Strategic Objective	Detail
4	Restart ballast water exchange sampling for regulatory management	Evolve Methods	<ul style="list-style-type: none">• Provides insight into management effectiveness over time, as treatment is phased in.



The Future?

- Budget available, hiring permanent staff support position
 - Staff Biologist/Operations Manager
 - Executes Data Program goals, supervises staff
 - Develops biological sampling program
- Early, collaborative approach to setting sampling program goals on limited resources



Possible Directions (can't have it all...yet)



Compliance Assessment

- Sampling at discharge
- Unclear what is happening in tanks
- Does not address relative efficacy of exchange vs. treatment

Environmental Baselines and Ballast Discharge Comparisons

- Could be informed by compliance assessment
- Also requires statewide environmental sampling effort

Follow-up to 2015 Cordell et al. Study

- Requires sampling from tanks (safety and relevancy)
- Does not address current compliance

Sampling Questions



State partner goals and data needs?

Where do our partners see data needs developing in the next 5-10 years?

What are your concerns about vessels that bring Washington ballast water to your state?