

**CALENDAR ITEM
C75**

A	Statewide	09/01/11 W9777.234 W9777.290 W9777.295 C2010-054
S	Statewide	N. Dobroski D. Brown

**REQUEST AUTHORITY TO ENTER INTO AGREEMENT TO SUPPORT THE
DEVELOPMENT OF A MONITORING TOOL TO VERIFY VESSEL COMPLIANCE
WITH CALIFORNIA'S PERFORMANCE STANDARDS FOR THE DISCHARGE OF
BALLAST WATER**

BACKGROUND:

In coastal and estuarine environments, the ballast water of commercial ships has long been recognized as one of the most important mechanisms, or "vectors," through which nonindigenous species (NIS) are moved to new locations throughout the world. Ballast water is used as a balancing and weight distribution tool, necessary for the navigation, stability, and propulsion of large seagoing ships. Vessels may take on, discharge or redistribute ballast water during cargo loading and unloading, as they encounter rough seas, or as they transit through shallow waterways. Typically, a vessel takes on ballast water after cargo is unloaded in one port to compensate for the weight imbalance, and will later discharge that ballast water when cargo is loaded in another port. This transfer of ballast water from "source" to "destination" ports results in the movement of thousands of species throughout the globe on a daily basis.

Currently, vessels utilize ballast water exchange (BWE) as the primary management method for reducing the potential that NIS will be introduced to coastal areas at destination ports. During exchange, the biologically rich water that is loaded while a vessel is in port or near the coast is exchanged with the comparatively species-poor waters of the open ocean. Coastal organisms adapted to the conditions of bays, estuaries and shallow coasts are not expected to be able to survive or reproduce in the open ocean due to differences in biology and oceanography between the two regions. Likewise, open ocean organisms are not expected to survive in coastal areas.

BWE is considered an interim management tool, however, because it suffers from widely varying efficacy and poses operational issues for ships. Scientific research indicates that ballast water exchange generally eliminates between 50% and 99% of organisms originally taken into a ballast tank while a vessel is at or near port. A proper

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exchange can take many hours to complete, and in some circumstances, may compromise ship or personnel safety in adverse sea conditions or on vessels with antiquated design. Some vessels must deviate or delay from the most direct route to exchange at required distances offshore.

Because of these limitations, state, federal and international regulatory agencies have adopted, or are in the process of adopting, performance standards for the discharge of ballast water. These standards set limits for the concentration of living organisms in discharged ballast water. While retention of all ballast water on board a vessel will remain the most protective management strategy available, for those vessels that must discharge ballast, these standards are seen as a significant step forward to protect coastal waters from species introductions.

The Marine Invasive Species Act mandated the California State Lands Commission (Commission) to recommend to the Legislature performance standards for the discharge of ballast water (Public Resources Code Section 71204.9). In 2006, the Legislature passed the Coastal Ecosystems Protection Act (Chapter 292, Statutes of 2006), directing the Commission to adopt the recommended performance standards and implementation schedule in regulation, which was completed in 2007. The first implementation date passed on January 1, 2010 for newly built vessels with a ballast water capacity of 5000 metric tons or less. Unless the Commission finds that treatment technologies are not available to meet California's performance standards for remaining vessel categories, all newly built and existing vessels will be required to meet California's performance standards by January 1, 2016.

The majority of vessels that will discharge ballast in California will need to install shipboard ballast water treatment systems in order to treat ballast water to levels in compliance with the performance standards. To encourage the development of novel ballast water management techniques and treatment technologies, the Marine Invasive Species Act requires the Commission to:

"...sponsor pilot programs for the purpose of evaluating alternatives for treating and otherwise managing ballast water. The goal of this effort shall be the reduction or elimination of the discharge of nonindigenous species into the coastal waters of the state...Priority shall be given to projects to test and evaluate treatment technologies that can be used to prevent the introduction and spread of nonindigenous aquatic species into coastal waters of the state by ship-mediated vectors." (Public Resources Code Section 71210)

Accordingly, the Commission has supported several pilot projects over the past 10 years that encouraged the installation of experimental treatment systems and evaluated their effectiveness on vessels operating in California waters. In 2008, the Commission provided funds to The Glosten Associates to support the development of a ballast water treatment technology testing and evaluation facility on the California Maritime

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Academy's Training Ship *Golden Bear*. The Golden Bear Facility is now fully operational, and is the only ballast water test facility on the West Coast of the U.S.

The installation of treatment technologies on vessels, however, is only one-half of the equation necessary to implement California's performance standards. Commission staff must also have monitoring tools and verification protocols in place to ensure that vessel discharges are complying with those standards. Worldwide, no government entity has yet developed monitoring tools and/or methods for verifying vessel compliance with ballast water standards. Ideally, the assessment of vessel compliance should utilize tools and methods that are relatively rapid, portable, work with a variety of evaluation metrics to account for the many designs of ballast water treatment systems, and be cost-effective and practical for use by scientists and non-scientists alike.

The Marine Invasive Species Act mandates the Commission to,

“ . . . identify and conduct any other research determined necessary to carry out the requirements of this division. The research may relate to the transport and release of nonindigenous species by vessels, the methods of sampling and monitoring of the nonindigenous species transported or released by vessels, the rate or risk of release or establishment of nonindigenous species in the waters of the state and resulting impacts, and the means by which to reduce or eliminate a release or establishment . . . ” (Public Resources Code Section 71213).

PROPOSED ACTIVITY:

To meet this mandate, staff has determined that the development of rapid, easy to use, and accurate method(s) for assessment of organisms in ballast water is necessary. Utilizing funds from the Marine Invasive Species Control Fund budgeted for conducting necessary research, Staff proposes entering into an agreement with the marine engineering firm, The Glosten Associates (Glosten), to research, design and develop a monitoring tool to verify vessel compliance with California's performance standards for the discharge of ballast water.

Specifically, Glosten has proposed a project including: 1) A thorough feasibility study of all available methods to assess discharge compliance; 2) Three-dimensional modeling and prototype design; and 3) Construction and testing of the prototype at the Golden Bear Facility. CSLC staff and Glosten have discussed moving forward with Phase One of the project (covering Objectives 1 and 2) and proceeding with Phase Two (covering Objective 3) based on the outcome of the initial work. Staff believes funding Glosten to engage in the design and development of the compliance monitoring prototype will help fulfill Commission mandates to fund pilot research necessary to develop and evaluate alternative methods of ballast water management and to identify and conduct any research necessary to carry out the requirements of the division.

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Staff proposes that the Commission grant authority to enter into a contract with Glostén, as principal investigator to design and develop a ballast water compliance monitoring tool. CSLC staff will be provided with data, reports and a prototype design for a tool to be used to by the Commission's marine safety personnel to inspect discharged ballast water for compliance with California's performance standards. Subject to the results of Phase One, and the availability of funding, Glostén would then be engaged for Phase Two to construct and test the prototype, The development of a monitoring tool is critical for the implementation of California's performance standards for the discharge of ballast water, and in order for the Commission to continue to move the state expeditiously towards the elimination of the discharge of nonindigenous species into California waters. At its meeting on June 23, 2011, the Commission approved an item to go forward with a proposal for Phase One with a cost estimate of \$151,000. Phase Two costs will be dependent on Phase One findings and are expected not to exceed \$300,000. Staff request the delegation be increased to a total \$450,000.

STATUTORY AND OTHER REGULATIONS:

- A. Public Resources Code Section 6106 (Delegation to execute written instruments)
- B. Coastal Ecosystems Protect Act of 2006, Chapter 292, Statutes of 2006
- C. Marine Invasive Species Act of 2003, Chapter 491, Statutes of 2003
- D. State Administrative Manual Section 1200
- E. State Contracting Manual (rev 10/05)

OTHER PERTINENT INFORMATION:

Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (Title 14, California Code of Regulations, section 15061), the staff has determined that this activity is exempt from the requirements of CEQA as a categorically exempt project. The project is exempt under Class 6, Information Collection; Title 14, California Code of Regulations, section 15306.

Authority: Public Resources Code section 21084 and Title 14, California Code of Regulations, section 15300.

IT IS RECOMMENDED THAT THE COMMISSION:

1. Find that the activity is exempt from the requirements of CEQA pursuant to Title 14, California Code of Regulations, section 15061 as a categorically exempt project, Class 6, Information Collection; Title 14, California Code of Regulations, section 15306.

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2. Authorize the executive officer or his designee to award and execute a contract with The Glosten Associates in accordance with state policies and procedures in an amount not to exceed \$450,000 to support the development of a monitoring tool to verify vessel compliance with California's performance standards for the discharge of ballast water.
3. Authorize and direct the executive officer or his designee to take whatever action is necessary and appropriate in accordance with State policies and procedures to implement the provisions of the contract with The Glosten Associates.