

**CALENDAR ITEM
C29**

A Statewide

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**CONSIDER REQUEST FOR AUTHORIZATION TO ENTER INTO A CONTRACT TO
CONDUCT RESEARCH ON BALLAST WATER EXCHANGE VERIFICATION
METHODOLOGIES**

PARTY:

California State Lands Commission
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BACKGROUND:

In coastal marine ecosystems, ships are considered the transfer mechanism responsible for most historical and recent invasions by nonindigenous aquatic species (Cranfield et al. 1998, Hewitt et al., 1999, 2004; Ruiz et al., 2000, Fofonoff et al. 2003). Today, ballast water is considered the largest single vector whereby organisms are transported from points of origin and released variously at subsequent ports of call (e.g., Carlton and Geller 1993, Carlton et al. 1995).

In recent years, state, federal and international policies have emerged that require ballast water management. California passed the Marine Invasive Species Act of 2003, which established a program for the management and control of ballast water carried into and discharged into State waters. The Act requires ballast water exchange (BWE) or an alternate approved treatment for all vessels intending to discharge ballast from foreign and most coastwise sources. In 2004, the U.S. Coast Guard established mandatory regulations for management of ballast for all vessels delivering foreign ballast to any U.S. port.

Most recently, California's Coastal Ecosystems Protection Act took ballast water management to a new level by requiring the implementation of performance standards for the discharge of ballast water. Performance standards have also been proposed at the federal level, and the International Maritime Organization (IMO) has a convention awaiting ratification that specifies standards for the maximum concentrations of organisms allowed in ballast water discharge, as a target for ballast water treatment.

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California's performance standards will be implemented on a graduated time schedule beginning in 2009; however, full implementation of the final zero detectable organism discharge standard will not take effect until January 1, 2020.

Although existing California and proposed federal legislation, and the IMO Convention, focus on ballast water treatment, especially new technologies, few alternatives to BWE have been approved for widespread application. While treatment technologies are being developed to meet the requirements of the California's new performance standards, a full 12 years will pass between now and the implementation of California's final discharge standard. Thus, BWE will remain a dominant ballast water management technique for many more years.

Despite the widespread application of BWE, a critical gap exists between the legislative mandate to eliminate the discharge of nonindigenous species into the waters of the state and enforcement of ballast management practices in the field. To bridge this gap, since 2001 the Commission's Marine Facilities Division has assisted the U.S. Coast Guard and Smithsonian Environmental Research Center (SERC) on research to identify indicators of BWE in order to verify whether a vessel has undertaken mid-ocean exchange. The results of SERC's research have been extremely encouraging thus far and indicate that several trace elements, colored dissolved organic matter (CDOM), and radium isotopes can distinguish between open-ocean (exchanged) and coastal (unexchanged) water (Murphy et al. 2002, 2004). The results of this research have been used in the development of a prototype hand-held device (the Ballast Exchange Assurance Meter (BEAM)) that uses CDOM to verify ballast water exchange. However, this prototype still requires extensive real-world testing and additional research is required to map CDOM concentrations from major coastal ports and open ocean regions.

The Marine Invasive Species Act of 2003 requires the State Lands Commission (SLC) 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, the Commission's Marine Facilities Division, has determined that additional research is necessary to address informational gaps in our knowledge of chemical tracers in exchanged and unexchanged ballast water and to develop commercially available methods to verify ballast water exchange.

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Therefore, Staff proposes to advance the aforementioned agreement with SERC by contracting for additional research to test the application of Ballast Water Exchange verification (BWEv) methodologies for vessels arriving to the U.S. West Coast. The proposed research evaluates the application of measuring chemical tracers for BWEv, primarily using the hand-held BEAM, to measure CDOM on vessels arriving to California and other west coast states.

The specific goals of this project are to: 1) Measure chemical tracer concentrations in ballast water of arriving vessels, 2) Compare the measured tracer concentrations to the expected concentrations of the source water, 3) Compare the results of laboratory and field-based measurements of the BEAM, and 4) Evaluate the effect of ballast tank access location on tracer concentrations. These data will advise testing and modification of the BEAM, and the results of this analysis will facilitate implementation of BWEv in California by providing a full evaluation of the performance of BWEv methodologies and illuminating any potential sources of error. This funding opportunity would allow for CSLC staff to gain experience using the BEAM, which could be used for inspection and enforcement of ballast water exchange in California ports.

STATUTORY AND OTHER REFERENCES:

- A. A. Public Resources Code section 6106 (Delegation to Execute written instruments)
- B. Coastal Ecosystems Protect Act of 2006, Chapter 292, Statues 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:

- 1. 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 the 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.

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RECOMMENDED ACTION:

IT IS RECOMMENDED THAT THE COMMISSION:

1. FIND THAT THE ACTIVITY IS EXEMPT FROM THE REQUIREMENTS OF THE 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.
2. AUTHORIZE THE EXECUTIVE OFFICER OR HIS DESIGNEE TO AWARD AND EXECUTE A CONTRACT, IN ACCORDANCE WITH STATE POLICIES AND PROCEDURES, IN AN AMOUNT NOT TO EXCEED \$150, 000 WITH SMITHSONIAN ENVIRONMENTAL RESEARCH CENTER, TO SUPPORT AND ADVANCE BALLAST WATER EXCHANGE VERIFICATION RESEARCH.
3. AUTHORIZE AND DIRECT THE EXECUTIVE OFFICER OR HIS DESIGNEE TO TAKE WHATEVER ACTION IS NECESSARY AND APPROPRIATE TO IMPLEMENT THE PROVISIONS OF THE CONTRACT WITH SMITHSONIAN ENVIRONMENTAL RESEARCH CENTER.