

STAFF REPORT

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A	Statewide	10/24/19 W 9777.234 W 9777.290 W 9777.295 L. Ceballos
S	Statewide	K. Forbes

**CONSIDER GRANTING AUTHORITY FOR THE EXECUTIVE OFFICER
TO ENTER INTO AN AGREEMENT WITH THE CALIFORNIA STATE UNIVERSITY
MARITIME ACADEMY TO COLLECT AND ANALYZE BALLAST WATER
DISCHARGE SAMPLES TO ASSESS THE PERFORMANCE OF
BALLAST WATER MANAGEMENT SYSTEMS**

PARTIES:

California State Lands Commission (Commission)

California State University Maritime Academy (Cal Maritime)

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,” by 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 trim and stability of large ocean-going vessels.

To reduce the potential of NIS being introduced to California coastal waters, vessels that intend to discharge ballast water in California must perform at least one of the management practices required by the Marine Invasive Species Act before discharging. The use of a ballast water management system on board to treat ballast water is a common and accepted management strategy to achieve compliance with ballast water discharge performance standards worldwide.

Performance standards set limits for the allowable concentration of living organisms in discharged ballast water. On October 2, 2019, Governor Gavin Newsom signed Assembly Bill 912 which, upon taking effect on January 1, 2020, will allow the Commission to enforce the federal ballast water discharge performance standards and collect ballast water and biofouling samples for research purposes.

The U.S. Coast Guard approves ballast water management systems that may be used by vessels to meet the federal ballast water discharge performance

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standards based on the results of complex performance tests. Unfortunately, there has been little follow-up research on the performance of these ballast water management systems in real-world operation after the initial approval testing.

Commission staff has determined that additional data is necessary to gauge the real-world performance of ballast water management systems and to enable staff to develop monitoring tools and protocols to assess the performance of these systems.

The Marine Invasive Species Act mandates that the Commission:

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, § 71213.)

PROPOSED ACTIVITY:

Utilizing funds from the Marine Invasive Species Control Fund, the Commission would undertake a collaborative research project with the Golden Bear Research Center within the California State University Maritime Academy (Cal Maritime) to collect and analyze the ballast water discharges of vessels with ballast water management systems installed on board. The purpose of the research is to collect data that enables the development of standardized protocols for compliance and performance assessment. Cal Maritime has demonstrated the capacity to perform these types of analyses and is currently one of only two facilities in the U.S. that is approved by the U.S. Coast Guard to test the efficacy of ballast water management systems.

Specifically, Cal Maritime has proposed to collect and analyze ballast water samples from commercial vessels arriving at California ports intending to discharge ballast water treated with a ballast water management system. A minimum of 10 vessels would be sampled, and Cal Maritime would enumerate living organisms in all the organism size classes specified in the federal performance standards. The proposal (Exhibit A) includes: 1) Scope of Work; 2) Deliverables; 3) Cost estimate per vessel sampled; and 4) Schedule.

Staff believes funding Cal Maritime to perform this research will help fulfill Commission mandates to fund pilot research necessary to develop and evaluate

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ballast water management strategies necessary to carry out the requirements of the Marine Invasive Species Act.

Staff proposes that the Commission grant authority to the Executive Officer to enter into contract with Cal Maritime for up to \$175,000 utilizing funds from the Marine Invasive Species Control Fund that are budgeted for conducting necessary research. If the contract is approved and entered into, Cal Maritime would provide the Commission with data and recommendations that would result in the development of standardized compliance assessment protocols and a submission of at least one peer reviewed scientific publication.

STAFF ANALYSIS AND RECOMMENDATION:

Authority:

Public Resources Code sections 6106 and 71213; State Administrative Manual section 1233; State Contracting Manual section 3.06 (rev. 01/18); Public Contract Code section 10340.

Public Trust and the State's Best Interests Analysis:

The proposed project will further the interests of the Public Trust by providing the Commission with necessary information and research data that will enhance California's protection against the introduction of nonindigenous species. Currently, the introduction of nonindigenous species to California's waters threatens Public Trust resources and values, including ecosystem preservation and the promotion and protection of fishing, water-related recreation, maritime commerce, and water-dependent tourism. Collecting data on ballast water discharges and the performance of ballast water management systems is a critical step for the development of compliance assessment protocols to satisfy the purpose of the Marine Invasive Species Act: *to move the state expeditiously toward elimination of the discharge of nonindigenous species into the waters of the state....* (Pub. Resources Code, § 71201, subd. (d).)

Thus, staff believes that granting authority to the Executive Officer to enter into an agreement with Cal Maritime to perform this collection and analysis of ballast water samples, as proposed, would further enhance and protect Public Trust resources and is in the State's best interests.

OTHER PERTINENT INFORMATION:

1. This action is consistent with Strategy 1.1 of the Commission's Strategic Plan to deliver the highest levels of public health and safety in the protection, preservation and responsible economic use of the lands and resources under the Commission's jurisdiction.

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2. Staff recommends that the Commission find that this activity is exempt from the requirements of the California Environmental Quality Act (CEQA) as a categorically exempt project. The project is exempt under Class 6, Information Collection; California Code of Regulations, title 14, section 15306.

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

EXHIBIT:

- A. Proposal for Sampling of Commercial Vessels Discharging Treated Ballast Water at California Ports

RECOMMENDED ACTION:

It is recommended that the Commission:

CEQA FINDING:

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

PUBLIC TRUST AND STATE'S BEST INTERESTS:

Find that granting authority for the Executive Officer to enter into an agreement with Cal Maritime for the proposed sampling project will not substantially interfere with the public rights to navigation or fishing or Public Trust needs and values at this time; is consistent with the common law Public Trust Doctrine; and is in the best interests of the State.

AUTHORIZATION:

1. Authorize the Executive Officer or her designee to award and execute an agreement with Cal Maritime in accordance with state policies and procedures in an amount not to exceed \$175,000 to support the collection and analysis of ballast water discharges to assess vessel compliance with the performance standards and ballast water management system's efficacy.
2. Authorize and direct the Executive Officer or her designee to take whatever action is necessary and appropriate to implement the provisions of the agreement with Cal Maritime.

EXHIBIT A



6 September 2019
File No. 090619CSLC

Ms. Nicole Dobroski
Assistant Chief
Marine Environmental Protection
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825-8202

Subject: Sampling of Commercial Vessels Discharging Treated Ballast Water at California Ports

Dear Nicole,

Cal Maritime and Golden Bear Research Center (GBRC) are pleased to propose work with the California State Lands Commission (CSLC) to sample the ballast water discharge of active vessels operating ballast water management systems (BWMS). We believe this work will serve three purposes: (1) provide CSLC with information regarding the feasibility and effort required to sample a discharging vessel for a full compliance assessment, (2) collect important data currently missing on the efficacy of installed, in-use BWMS in regards to their compliance with discharge standards, and (3) assist CSLC with current regulatory efforts to define the best sampling protocols for compliance assessments. We propose to sample a minimum of ten different vessels, inclusive of different vessel and BWMS types to gain as robust a dataset as possible.

GBRC will be responsible for all sampling design and biological testing, except for microbiology, which will be sub-awarded to BioVir Laboratories. GBRC will consult with CSLC on which vessels are available or targeted for sampling.

Scope of Work

We propose to board and sample commercial vessels, subject to the MISA, arriving to CA ports intending to discharge ballast water treated with a BWMS. CSLC will choose the vessels to be sampled in collaboration with GBRC. GBRC proposes to sample at least one, but not more than two vessels per week. Samples will be collected from the ship's ballast water sample port using a previously designed and fabricated collection tool that allows for representative sampling of ballast water discharge with minimal disruption to vessel operations. All sampling and organism enumerations will be performed in accordance with GBRC's Standard Operating Procedures and the ETV protocol. All biological assays will be completed within 6 hours after collection (except for microbiology, which require longer incubation/grow-out times). Organism enumerations will consist of all size classes as defined by the USCG Final Rule (46 CFR § 162.060). Enumerations will be conducted as follows:

- Organisms $\geq 50 \mu\text{m}$ (zooplankton) - A minimum 3 m^3 will be collected through a $50 \mu\text{m}$ plankton net and concentrated to allow for the entire contents to be analyzed and counted under a dissecting microscope.

- Organisms $\geq 10 \mu\text{m}$ and $< 50 \mu\text{m}$ (phytoplankton) – A minimum of 1L will be collected as a whole water sample. At least six 1 ml aliquots will be enumerated using the FDA/CMFDA staining method under an epifluorescent microscope.
- Organisms $< 10 \mu\text{m}$ (microbes) – A minimum of 1L will be collected as a whole water sample and delivered to BioVir Laboratories, an ISO17025 certified microbiology laboratory. Enumerations of *Escherichia coli*, intestinal enterococci, and toxigenic *Vibrio cholerae* (serotypes O1 and O139) will be conducted using EPA Standard Methods.

Deliverables

Deliverables include all test data and results and a final report or peer-reviewed manuscript in collaboration with CSLC.

Cost and Terms

We propose to complete the tasks here in for a fixed fee cost of \$15,015 per vessel sampled. This proposal is valid for 90 days.

Cost Estimate:

Personnel (all sampling operations, sample collections, biological assays (except microbiology) report preparation): \$12,000

Sub-award for microbiology: \$1,000

Indirect (25%): \$2,015

(Additional travel costs will apply if vessels to be samples are outside of the SF Bay Area)

Total Cost Estimate: \$15,015/ship

Schedule:

Sampling will be conducted as vessels are identified by CSLC beginning in early 2020. We are prepared to begin planning this work on receipt of your contract or purchase order, or your signature below indicating your acceptance of the terms provided. We estimate the final deliverable will take twelve (12) to eighteen (18) months to complete, depending on the determined number of vessels to selecting for sampling.

I will be your main point of contact at Cal Maritime.

Kind regards,



Christopher Brown
Director
Golden Bear Research Center
California State University Maritime Academy

cc: Bill Davidson
Eric Hoppe