

**MINUTE ITEM**  
This Calendar Item No. 88  
was submitted for information  
only, no action thereon  
being necessary.

Minute Item  
**88**

11/26/01  
W 9777.234  
M. Falkner  
G. Gregory

**CALIFORNIA STATE LANDS COMMISSION  
(PARTY)**

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**CALIFORNIA'S BALLAST WATER MANAGEMENT AND CONTROL PROGRAM  
PROGRESS REPORT – NOVEMBER 2001**

**EXECUTIVE SUMMARY**

Starting January 1, 2000, the Ballast Water Management for Control of Nonindigenous Species Act of 1999 (Act) established a statewide, multi-agency program to prevent or reduce the introduction and spread of nonindigenous aquatic species (NAS) into the state waters. This program is under the direction of the California State Lands Commission (CSLC) in consultation with other state and federal agencies. The total budget is \$6.67 million over four years, and includes a CSLC ballast water inspection and monitoring program, biological surveys to determine the extent of NAS introductions in state waters, conducted by California Department of Fish and Game (CDFG), and the evaluation of alternatives to mid-ocean exchange, conducted by State Water Resources Control Board (SWRCB). Funding for the Program is through the assessment of a \$400 fee for each qualifying voyage, which is collected by the Board of Equalization (BOE).

**BACKGROUND**

On October 8, 1999, California's Governor signed Assembly Bill 703, creating the Ballast Water Management for Control of Nonindigenous Species Act, which became effective on January 1, 2000. The Act addresses a problem that has become all the more urgent as international commerce increases resulting in a corresponding increase in the speed with which NAS are being introduced. The introduction of NAS has created ecological, operational, and engineering disasters in many areas of the United States and worldwide. Non-indigenous aquatic species are commonly reported in San Francisco, Los Angeles, San Diego and many smaller harbors and embayments throughout California.

The California Legislature recognized the significance of the problem and established, through passage of the Act, a state program that addresses the issue by making ballast water management mandatory. The law applies to all U.S. and foreign vessels that enter California waters after operating outside the U.S. Exclusive Economic Zone (EEZ). Vessels must either conduct a mid-ocean exchange of ballast water, retain

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all ballast water on board the vessel or manage their ballast water as specified in the Act. The program also assesses the current condition of the marine environment and evaluates alternative methodology for controlling NAS introduction.

The Act established a statewide multi-agency program with the intent to control the introduction and spread of NAS in the waters of the State. Responsible agencies identified in the law include the CSLC, CDFG, SWRCB and the BOE. Each agency is required to work in cooperation with the others in developing reports and conducting research into the extent of current invasions, and potential long-term solutions to the problem of NAS introductions.

The staff of the CSLC is responsible for developing and implementing the ballast water inspection and monitoring program and evaluating the effectiveness of the Act. The CSLC's program includes the establishment of a fee schedule for vessels operating in California waters, collection of vessel-specific ballast water management data, field inspection of ballast water and sediments from vessels, synthesis and analysis of monitoring and inspection information to evaluate the effectiveness of the program, and enforcement of the law, through the imposition of administrative civil penalties.

The CDFG, Office of Oil Spill Prevention and Response (OSPR) is responsible for conducting research to determine the location and extent of NAS populations in coastal and estuarine waters of the state. The SWRCB is responsible for conducting studies to evaluate alternatives for treating and otherwise managing ballast water to prevent the introduction and spread of NAS into the waters of the state. Finally, the BOE is responsible for the collection and deposition of fees into the "Exotic Species Control Fund", which will pay for the statewide programs.

**PROGRAM STATUS**

Shipping Routes

In the first 12 months of the Program, there were 6846 qualifying voyages, by 1997 different vessels entering California ports. Nearly 50% of these vessel calls were container vessels, 13% each were tank and bulk vessels, with general cargo, auto carriers and passenger vessels each constituting approximately 10% of the vessel calls. Nearly 40% of the vessel calls identify a last port of call (LPOC) as Far East ports such as Japan, China, and the Koreas. Twenty percent of the vessel calls originated from Pacific North American ports in Canada and Mexico, while 13% called at a South American port prior to arriving in California. Nearly eight million metric tons of ballast water was discharged into California waters during in 2000.

During the first nine months of 2001, there were 4929 qualifying voyages, by 1725 different vessels entering California ports. In this same period, over 5.5 million metric tons of ballast water was discharged into California waters. If current trends

continue, there will be an estimated 4% decrease in vessel calls and an associated 0.2% decrease in ballast water discharge.

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decrease in ballast water discharged into California waters, relative to last year. Year 2 (2001) data indicates similar shipping patterns as those seen during year 2000.

Compliance

Under Section 71205(a) of the Act, ship agents, along with the master, owner, operator or person in charge are responsible for submitting the ballast water reporting form for each voyage prior to the vessel leaving the first port of call in California. Letters were sent to nearly 80 ship agents in December 1999 explaining their responsibility under the new law. Despite our initial outreach letters and focused letters of concern, compliance during the first half of 2000 was unsatisfactory (<60%). Beginning in May 2000, enforcement letters were sent to nine ship agents for violations of Section 71205(a). As a result of those letters, subsequent meetings with the ship agents and the initiation of a monthly electronic notification system, further enforcement action has not been necessary. Current compliance regarding form submission exceeds 90%.

Under Section 71204(a), the master, operator, or person in charge of a vessel shall follow one of the prescribed ballast water management practices (e.g. retention, mid-ocean exchange, treatment by approved system) for ballast water carried into the waters of the state from areas outside the EEZ. Data submitted over the past 21 months indicate that the majority (~75%) of all vessel voyages to California ports are retaining their ballast water on board. Furthermore, the majority of vessels that do discharge ballast water are conducting the required mid-ocean exchange. Due to shipping patterns and operational conditions, vessels engaged in coastal trade from Mexico and Canada into California are unable to conduct a mid-ocean exchange. This has been a particular problem with regards to passenger vessels. Throughout much of 2000, Commission staff attempted to work with the cruise lines to find a solution to this problem, primarily through the identification of an alternative exchange zone. Early in 2001, the cruise lines elected to discontinue their pursuit of identifying an alternative exchange zone and are looking for other means of compliance. Depending on their future activity and willingness to comply, Staff may need to come to the Commission regarding formal penalty action, per Section 71216(a).

Inspections

The two CSLC Marine Facilities Division Field Offices have boarded and inspected approximately 25% (~2900) of the qualifying voyages during the first 21 months of the Program. Inspections have been conducted on over 1550 different vessels. Each vessel is boarded, paperwork is evaluated, tanks are sampled for compliance and educational material is provided to the ship crew. A report, summarizing the results of the inspection, is provided to the vessel crew. The majority (75%) of those vessel boarded comply with the law. Violations noted are primarily associated with administrative components of the law (incomplete ballast water management plans, no IMO guidelines on board, etc.). Less than 5% of the violations

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noted during inspections are associated with the required mid-ocean exchange of ballast water.

Outreach/Education

Communication among the maritime industry, CSLC and other regulating entities is vital to the success of the California program. Staff has initiated several outreach and educational programs over the past 21 months to improve communication among the stakeholders. For example, an updated ballast water web page is found on the CSLC web site. Information on the law, new regulations, and synopsis of meetings, notification of upcoming events, and links to other related web pages can be accessed easily. Additionally Staff, in conjunction with state and federal agencies and the maritime industry, has participated in or hosted over 25 workshops/conferences on ballast water management since the Act's inception.

In July 2000, the staff initiated a monthly email procedure to notify the maritime industry of vessels that have not submitted the required ballast water report forms. Currently, 46 agents receive monthly electronic updates. This procedure has been well received by the maritime industry and has resulted in compliance exceeding 90%. Additionally, our close relationship and our ability to communicate directly and immediately with the maritime industry has resulted in better and more accurate data submissions.

Finally, the formation, in January 2000, of a Technical Advisory Group (TAG) made up of members of the maritime industry and state agencies has proved beneficial in determining an appropriate fee amount and addressing issues related specifically to the implementation of the California law. The TAG meets quarterly to assess the effectiveness of the Program and the status of the Fund.

Partnerships

In January 2001, CSLC and the U.S. Coast Guard formalized a Cooperative Agreement to streamline our respective programs. Our goals are to reduce duplicative inspections; data share at the regional and national level; and cooperate in research programs addressing new verification techniques and ballast water treatment technology. We are also active members in several ballast water related groups, including the Ballast Water and Shipping Committee of the Aquatic Nuisance Species Task Force, the Ballast Outreach Advisory Team, Oregon's Ballast Water Management Task Force, the Pacific Ballast Water Working Group and the Pacific Ballast Water Pilot Project. Participants work toward consistent ballast water management regulations on a national and regional level while sharing data and feasible treatment technologies.

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Research

In August 2000, the California State Lands Commission (CSLC) was awarded a \$150,000.00 grant from the US Fish and Wildlife Service (USFWS), to implement the West Coast Demonstration Project. The grant proposal calls for the CSLC to identify a "volunteer" vessel, contract with a marine engineering firm to conduct full scale engineering designs for the retrofit of an on-board, flow-through ballast water treatment system, financially assist the vessel owner by providing a portion of the cost of the ballast water treatment system, and in conjunction with the California State Water Resources Control Board (SWRCB), evaluate the effectiveness of the particular system under operational conditions. In December 2000, the Port of Oakland agreed to match the USFWS funds, doubling the funds available for this project. The Port of Oakland funds are being used to bring an additional vessel into the West Coast Demonstration Project and assist in the evaluation of the effectiveness of the treatment system on board the vessel.

Three vessels (*R.J. Pfeiffer*, *Sea Princess*, and *Polar Endeavor*) were initially considered for participation in the Demonstration Project. Due to concerns regarding overall capitol costs and intrinsic safety, Polar Tankers, owner of the *Polar Endeavor*, declined to participate in the Project. The two remaining ships, the *R.J. Pfeiffer* and the *Sea Princess*, will be installing the Hyde Marine, Inc. Optimar Ballast System. This system was selected because it has undergone testing and evaluation with documented results and was requested by the ship owners. The system is a two-staged treatment system. The first stage includes an in-line cyclonic separator that removes material heavier than seawater. This stage is used during ballasting operations where separated particles can be discharged back into the source waters. The second stage treatment uses Ultraviolet light that has been shown to kill or deactivate biological organisms, including bacteria and viruses. This second stage treatment is performed during ballast and deballasting operations.

The operational effectiveness of a vessel's treatment system will be evaluated in partnership with the SWRCB. The SWRCB will support this portion of the project using funds appropriated from the California Exotic Species Control Fund. The SWRCB has developed a Research Team utilizing the scientific expertise from San Jose State University Foundation, San Francisco State University and California State University, Moss Landing Marine Laboratories. The Research Team has developed an overall experimental design, along with sampling and analysis protocols. The protocol development was carried out in consultation with Dr. Greg Ruiz, Smithsonian Environmental Research Center, Ms. Allegra Cangelosi, Northeast-Midwest Institute, and members of Washington state's Pacific Ballast Water Treatment Project, Research Team.

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Contracts with the owner's of both vessels have been finalized. The *Sea Princess* was retrofitted with the treatment system in late summer 2001 and has undergone preliminary at-sea evaluations. Results of those evaluations are expected in early 2002. The *R.J. Pfeiffer* will complete her retrofit in late 2001, with shipboard evaluations expected in early 2002.

**OTHER STATE AGENCY ACTIVITY**

Board of Equalization - provided by S. Rudd and L. Bartolo

The BOE is responsible for the collection and deposition of fees in the "Exotic Species Control Fund". During the first year of the program, 5795 billings were issued with compliance exceeding 90%. In 2001, a return (self-reporting) process was initiated by BOE to reduce the overall number of billings, though not the amount of revenue collected. With the assistance of industry representatives, a return form was developed allowing the larger owner/operator/agents to self-report their vessel voyages. Eight major shipping companies have opted to utilize the self-reporting format since July 2001. An additional 30 more accounts could benefit from the return process, in lieu of individual billings for each of their voyages.

Accounts receivable levels have remained fairly constant during the calendar year, although the outstanding delinquent liabilities are 50% less than in July 2000. While the number of operator/owner combinations continues to grow and adds some complexity to the registration and billing process, things are running smoothly. This is evidenced by a compliance rate approaching 94%.

CDFG - Office of Spill Prevention and Response - provided by M. Ashe and M. Sowby

The CDFG-OSPR is responsible for conducting research to determine the location and extent of NAS populations in coastal and estuarine waters of the state. The field-sampling portion of the biological survey is nearing completion. The survey work and habitat types sampled along the coast were categorized as either primary or secondary survey sites. The primary survey sites were chosen because they are the major ports along the California coast and therefore the areas most likely to harbor non-native species discharged from the ballast of large ocean-going vessels. The primary sites include: Humboldt Bay, San Francisco Bay, the Ports of Sacramento, Stockton, Los Angeles, Long Beach and San Diego. Historic data, where available were used to determine and augment actual sampling, but in general samples from benthic, fouling, fish and plankton communities were collected at all primary sites.

The secondary sites are those that may have been impacted by invasions of non-native species; either from the ballast of smaller vessels or as a result of other pathways that may serve to transport introduced species from larger harbors to other coastal areas. cursory examination of the fouling community was conducted at all secondary

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sites to examine the geographical distribution of exotic species inhabiting this community. The secondary sites were sampled to the degree allowed by available time and funding and included Noyo Harbor, Bodega Bay, Tomalas Bar, Elkhorn Slough, Monterey Bay, Morro Bay, Santa Barbara Harbor, Ventura Harbor, Marine Del Ray, Newport Harbor, Dana Point Harbor, and Ocean Harbor. In addition, a cursory examination of the benthic community was conducted in Tomalas Bay, specifically around the oyster farming areas.

It is anticipated that all the sampling and most of the identification work will be completed by June of 2002, at which time the CDFG-OSPR will compile the data and complete work on the Legislative report due by December 2002.

State Water Resources Control Board - provided by F. LaCaro

Section 71210 and 71213 of the Public Resources Code requires that the SWRCB in consultation with other State and federal agencies and stakeholders carry out two major tasks in connection with the established ballast water management program. The first task (Section 71210(a and b)) requires that the SWRCB carry out an evaluation of alternative methods and technologies for treating or managing the discharge of nonindigenous aquatic organisms into receiving waters of the State. The results of this evaluation will be completed and compiled in a report to be submitted to the Legislature and made available to the public by December 31, 2002. Gathering and evaluating information on current treatment technologies has been and continues to be an ongoing process. Many of the treatment technologies currently proposed have had limited laboratory testing and only a few have been tested under real life conditions onboard ship. Many others are still in the conceptual phase of development.

The second task (Section 71213) requires the SWRCB along with the California State Lands Commission (CSLC) and the California Department of Fish and Game (CDFG) to conduct any research determined necessary to assess methodologies for treating or otherwise managing ballast waters to reduce or eliminate the discharge or establishment of nonindigenous species. To this end, the SWRCB established two research contracts to carry out a collaborative effort to evaluate the efficacy of ballast water treatment techniques under real-time conditions aboard ship. The contracts are with the following institutions: The Moss Landing Marine Laboratories, San Jose State University Foundation (Principal Investigators: Nick Welschmeyer; contract terms: May 1, 2001 - June 30, 2002, \$147,500) and the Romburg Tiburon Center for Environmental Studies, San Francisco State University (Principal Investigator: Stephen Bollens; contract terms May 1, 2001 - June 30, 2002, \$132,500). The work plan briefly calls for biological testing of ballast water plankton treated by UV exposure and Hydro-cyclone elimination in conjunction with CSLC's West Coast Demonstration Project.

Two cruises with identical routes (Los Angeles - Puerto Vallarta, Mexico - Los Angeles) have been carried out on board the *Sea Princess* (October 6 - 13 and October

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27 - November 3, 2001). Two other sampling cruises aboard *R.J. Pfeiffer* (Honolulu - Oakland) are planned for November/December 2001. It is anticipated that the final report of this research will not be completed before the Legislative report is due. For this reason, preliminary results of the testing will be reported to the SWRCB for insertion into the Legislative report. Results will ultimately be published in technical peer review journals.

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