CALIFORNIA COASTAL COMMISSION
45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200

F13b

Prepared June 9, 2010 (for June 11, 2010 hearing)

To: Coastal Commissioners and Interested Persons

From: Mark Delaplaine, Manager, Energy, Ocean Resources and Federal Consistency Division

Subject: STAFF REPORT ADDENDUM for Item F 13b

Consistency Determination CD-015-10, U.S. Coast Guard, Establishment of Ballast Water Discharge Standards, Statewide

The Commission staff proposes changes and clarifications to the staff recommendation. [Proposed new language is shown in underline text; language to be deleted is shown in ~~strikeout~~ text.]

Executive Summary, page 4, first paragraph on page, make the following change:

The Commission questions both of these assumptions, for the reasons discussed on pages 18-21 of this report. The Commission is also concerned over the ambiguity of the proposed Phase 2 discharges. The Coast Guard's federal register notice for the proposed rule states:

> *We propose incorporating a practicability review into the phase-in schedule for the phase-two BWDS. The purpose of the review is to determine whether technology to achieve the performance standard can practicably be implemented, in whole or in part, by the applicable compliance dates.* [FR Notice Aug. 28, 2009]

The same Coast Guard notice also includes, at least tentatively, Phase 2 standards (contained on page 4 of this addendum).

Due to the lack of clarity over the finalization of Phase 2 standards, the lack of a clearly established enforcement mechanism, and the fact that there is at least one difference between the Coast Guard's currently articulated Phase 2 standards and the SLC's

standards (i.e., the Coast Guard Phase 2 standard for organisms > 50 µm in diameter would be "< 1 per 100 m^3", whereas the SLC standard for this size organism requires "no detectable living organisms"), modification No. 3 below is needed.

Background/Regulatory Regime, Findings, page 9, last paragraph on page, make the following change:

C. California State Lands Commission (SLC) Actions. In 2003, Assembly Bill 433 reauthorized and enhanced California's Marine Invasive Species Act, which was designed to ~~limit and control~~ prevent the introduction of non-indigenous species into waters of the state or waters that may impact those waters and to manage ballast water.

Background/Regulatory Regime, Findings, page 9, first full paragraph on page, make the following changes (delete the paragraph):

~~This method to control the discharge of non-native invasive species into U.S. waters is ineffective in controlling the introduction of non-native invasive aquatic species for many reasons. For example, vessels with ballast water containing non-native aquatic species are not limited to those that operate outside the U.S. EEZ. Systems to remove alien species from ballast tanks are new, unapproved, and can vary in effectiveness. This method of controlling non-native species invasion in coastal waters is not enforceable.~~

Background/Regulatory Regime, Findings, page 10, second paragraph on page, make the following changes:

The SLC developed standards for the discharge of organisms in ballast water from vessels based on size class of organism and allowable concentration. These new regulations have standards for concentration of ~~invasive~~ all organisms to be discharged into California's waterbodies that far exceed the Coast Guard's proposed Phase 1 discharges.

Background/Regulatory Regime, Findings, page 11, numbered items 1-4, make the following changes:

Under these rules, if a ship discharges ballast water in California waters, the following must happen:

1. The discharger chooses how to comply with California's non-native invasive species laws. Available options are: (a) ballast water exchange; (b) no discharge of ballast water under the jurisdiction of SLC; (c) using an onboard ballast water treatment system; or (d) dumping into a discharge withholding site (such sites do not currently exist). [Note – alternative (a) would only be available for existing vessels until 2014 or 2016, depending on vessel size (see chart, page 8) – after that time ballast water exchange would be prohibited. For new vessels, ballast water exchange would be prohibited (a) for vessels built after Jan. 1, 2010, for vessels up to 5000 MT; and (b) for vessels built after Jan. 1, 2012, for vessels > 5000 MT.]

2. The discharger must submit both a per voyage form and a Ballast Water Treatment Technology Annual Reporting Form to SLC if they discharge in state waters.

3. Ships must install a monitoring port to access the ballast water for inspection by SLC.

4. Ships built in 2010 or later must have a ballast treatment system (of their choosing) installed, and older ships must be retrofitted by certain target years (see Exhibit 2). [Clarification – California is not mandating treatment systems per se, but rather compliance with discharge standards. Thus, the SLC standards can be met by: (1) complete retention of ballast water; (2) discharging ballast water to a reception facility; (3) utilizing potable fresh water; or (4) installation of a ballast water treatment system.]

Marine Resources and Water Quality Findings, page 20, second full paragraph, make the following change:

Concerning the availability of technology to treat ballast water to better than Phase 1 (Alternative 2) standards, the Commission notes that the SLC has conducted ~~researcha~~ review of ~~on~~ the availability of ballast water treatment systems in preparation for its new regulations for ballast water treatment.

Marine Resources and Water Quality Findings, page 20, first full paragraph, make the following change:

Finally, the Commission is concerned over the ambiguity of the proposed Phase 2 discharges, and the fact that~~because~~ the subject proposal does not spell out a monitoring component to determine whether the treatment systems to be approved are meeting the performance standards for the concentration of non-native species for specific size classes in ballast water discharged from vessels operating in waters of the U.S. The proposal does not provide enforcement mechanisms to bring vessels into compliance. ~~This concern could be remedied by Coast Guard agreeing to submit both a monitoring component, as well as the Phase 2 proposal once it has been fully developed, for future Commission federal consistency review.~~ The Commission notes that the Coast Guard's federal register notice for the proposed rule states:

> *We propose incorporating a practicability review into the phase-in schedule for the phase-two BWDS. The purpose of the review is to determine whether technology to achieve the performance standard can practicably be implemented, in whole or in part, by the applicable compliance dates.* [FR Notice Aug. 28, 2009]

The same Coast Guard notice also indicates the Phase 2 standards would be:

> *(1) For organisms larger than 50 microns in minimum dimension: Discharge less than 1 per 100 cubic meter of ballast water;*
>
> *(2) For organisms equal to or smaller than 50 microns and larger than 10 microns: Discharge less than 1 organism per 100 milliliter (ml) of ballast water;*
>
> *(3) For organisms less than 10 microns in minimum dimension:*
>
> > *(i) Discharge less than 10^3 living bacterial cells per 100 ml of ballast water; and*
> >
> > *(ii) Discharge less than 10^4 viruses or viral-like particles per 100 ml of ballast water; and*
>
> *(4) Indicator microorganisms must not exceed:*
>
> > *(i) For Toxicogenic Vibrio cholerae (serotypes O1 and O139): A concentration of <1 colony forming unit (cfu) per 100 ml;*
> >
> > *(ii) For Escherichia coli: A concentration of <126 cfu per 100 ml; and*
> >
> > *(iii) For intestinal enterococci: A concentration of <33 cfu per 100 ml.*

Due to the lack of clarity over the finalization of Phase 2 standards, the lack of an established enforcement mechanism, and the fact that there is at least one difference between the Coast Guard's currently articulated Phase 2 standards and the SLC's standards (i.e., the Coast Guard Phase 2 standard for organisms > 50 µm in diameter would be "< 1 per 100 m^3", whereas the SLC standard for this diameter organism require "no detectable living organisms," modification No. 3 below is needed so the Commission can review finalized Phase 2 standards, compare them with state standards, and review their enforceability.

CALIFORNIA COASTAL COMMISSION
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FAX (415) 904- 5400

F 13b

STAFF REPORT AND RECOMMENDATION ON CONSISTENCY DETERMINATION

Consistency Determination	**CD-015-10**
Filed:	3/29/10
Commission Staff:	MN/MPD-SF
60th Day:	5/28/10
75th Day:	6/12/10
Hearing Date:	6/11/10

FEDERAL AGENCY: **U. S. Coast Guard**

PROJECT LOCATION: Waters of the United States: California State Waters and offshore waters out to 12 nautical miles (nmi) from shore

PROJECT DESCRIPTION: Establishment of Ballast Water Discharge Standards applicable to all vessels, U.S. and foreign (with certain exceptions), equipped with ballast tanks, to prevent or reduce the number of nonindigenous species introduced into U.S. waters

SUBSTANTIVE FILE DOCUMENTS: See page 23.

Staff Recommendation: **Objection**. Motion is on page 13.

EXECUTIVE SUMMARY

The U.S. Coast Guard (Coast Guard) has submitted a consistency determination for the establishment of Ballast Water Discharge Standards applicable to all vessels, U.S. and foreign, equipped with ballast tanks, that operate in the waters of the United States. The Coast Guard has been developing these standards and guidance practices since 1990 under the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA) and, later, the National Invasive Species Act (NISA). Exhibit 3 shows the timeline for past Coast Guard implementation of voluntary and mandatory measures to address ballast water discharges. The Coast Guard's current proposal involves a two-phased approach, the second of which is still uncertain as it is

subject to future determinations, but which would presumably be far more stringent than the Phase 1 standards. One of the ultimate goals is to eliminate ballast water exchange (BWE) as a treatment option.

However during Phase 1, the Coast Guard proposes to allow BWE as one way to meet the Phase 1 standards. This option would be eliminated at Phase 2, when all vessels would "…be required to manage their ballast water through a Coast Guard approved ballast water management system (BWMS) and meet either the proposed phase-one or phase-two discharge standard, as applicable, or retain their ballast water onboard."

The phase 1 standards are considerably less stringent than California state standards promulgated by the State Lands Commission (SLC) under California's Ballast Water Management laws. The Coast Guard recognizes this situation, but maintains:

> *While the proposed phase-one BWDS* [Ballast Water Discharge Standards] *is practicable to achieve in the near term and will considerably advance environmental protection over the current exchange-based regime, we also recognize that it should not be the ultimate endpoint for protection of U.S. waters. We note that a number of states have already adopted BWDS using more stringent standards. We have considered information concerning whether technology to achieve this standard can practicably be implemented now or by the compliance dates under consideration. Although some technologies may be capable of achieving the phase-two standard, we believe there is not now a testing protocol capable of establishing that a technology achieves the phase-two standard and testing results under existing protocols do not provide sufficient statistical confidence to establish that technologies consistently meet the phase-two standard.*

The Coast Guard further states:

> *We've also left open the possibility that the practicability review might reveal that a more stringent standard between the proposed phase-one and the phase-two BWDS is achievable. We also allow for the possibility that technology might be capable of achieving a standard that is even more stringent than what we have proposed as the phase-two BWDS. In these cases, we would propose amending either the implementation timeline or the phase-two standard, or both, at the time that we publicize the results of our practicability review. Once the phase two standards are fully implemented, the Coast Guard would continue to review the standards every three years, as required by NISA, to ensure that they continue to ensure, to the maximum extent practicable, that aquatic nuisance species are not introduced and spread into U.S. waters.*

The proposed phase-one standard for allowable concentrations of living organisms in ships' ballast water would be as follows:

> *(1) For organisms larger than 50 microns in minimum dimension: Discharge less than 10 organisms per cubic meter of ballast water.*
>
> *(2) For organisms equal to or smaller than 50 microns and larger than 10 microns: Discharge less than 10 organisms per milliliter (ml) of ballast water.*
>
> *(3) Indicator microorganisms must not exceed:*
>
> *(a) For toxicogenic Vibrio cholerae (serotypes O1 and O139): A concentration of <1 colony forming unit (cfu) per 100 ml;*
>
> *(b) For Escherichia coli: A concentration of <250 cfu per 100 ml; and*
>
> *(c) For intestinal enterococci: a concentration of <100 cfu per 100 ml.*

The California standards adopted by the State Lands Commission will not allow the discharge of any organisms larger than 50 μm into California waters, and are as follows:

Organism Size Class	***California's Discharge Standard***
Larger than 50 μm (micrometer or one millionth of a meter) in minimum dimension	- No detectible living organisms
10-50 μm in minimum dimension	- Less than (<) 0.01 living organisms per ml (milliliter)
Less than 10 μm in minimum dimension:	- Less than 10^3(1,000) living bacteria per 100 ml - Less than 10^4(10,000) living viruses per 100 ml
E. coli	- Less than 126 cfu (colony forming units) per 100 ml
Intestinal enterococci	- Less than 33 cfu per 100 ml
Toxogenic *Vibriocholerae* (human Cholera)	- Less than 1 cfu per 100 ml OR - Less than 1 cfu per gram of wet weight biological material

The Coast Guard is not questioning whether there is a need for continually improving standards and technology to address ballast water concerns; rather, the issue appears to be the pace at which the improvements should occur and whether standards should lead technology or vice versa. The Coast Guard's proposal assumes that the phase-one standards would provide a greater degree of protection than the status quo (i.e., BWE), and as discussed above, the Coast Guard questions whether the technology is available to achieve stricter standards at this time.

The Commission questions both of these assumptions, for the reasons discussed on pages 18-21 of this report.

Further, the Commission has historically taken the position that federal agencies should adopt water quality standards for California offshore waters that are no less stringent than state standards. For example, in reviewing the Environmental Protection Agency's (EPA's) consistency determination (CD-042-08) for an NPDES Vessel General Permit (VGP), which included regulation and standards for ballast water discharges, the Commission determined that the permit could only be found consistent with the Coastal Act if EPA would modify the permit to adopt state standards, including regulating "…ballast water discharges in a manner which prohibits discharges currently violating state standards." EPA subsequently agreed to make these changes for California discharges.

While the intent of the Coast Guard's proposal is to benefit marine resources and improve water quality, it does not fully address the specific requirements of Sections 30230 and 30231 of the Coastal Act. Section 30230 requires: (a) not only maintenance, but also enhancement (and where feasible, restoration) of marine resources; (b) special protection for areas and species of special biological or economic significance; and (c) sustenance of the biological productivity of coastal waters and maintenance of healthy populations of all species of marine organisms. Section 30231 requires the maintenance, and where feasible restoration, of the biological productivity and quality of coastal waters through, among other means, minimizing adverse effects of waste water discharges.

The Commission is unable to find the currently-proposed two-phased proposal consistent with the requirements of Sections 30230 and 30231. In order to bring the proposal into compliance with these requirements, the Coast Guard would need to implement the following modifications:

1. **Discharge Standards.** The Standards for Phase 1 discharges shall be the same as those adopted by the State Lands Commission (see above chart, or Exhibit 2).

2. **Exemptions.** The single "Captain of the Port" (COTP) Zone exemption shall be eliminated (i.e., the exemption described on page 5).

3. **Resubmittal upon finalization of Phase 2 standards.** Once the Coast Guard has finalized Phase 2 standards, they shall be submitted to the Commission in the form of a follow-up consistency determination. This phase should include a finalized monitoring component adequate to assure compliance with its standards.

If the Coast Guard agrees to implement these changes, the proposal could be found consistent with Sections 30230 and 30231 of the Coastal Act and with the California Ocean Plan.

STAFF SUMMARY AND RECOMMENDATION:

I. Project Description. The U.S. Coast Guard has submitted a consistency determination for the establishment of Ballast Water Discharge Standards applicable to all vessels, U.S. and foreign, equipped with ballast tanks, that operate in the waters of the United States. Exceptions for vessels not subject to the standards are as follows:

> **33 CFR Part 151 *§ 151.2015 Exemptions.***
>
> *(a) The following vessels are exempt from the requirements of this subpart:*
>
> *(1) Department of Defense or Coast Guard vessels subject to the requirements of section 1103 of the Nonindigenous Aquatic Nuisance Prevention and Control Act as amended by the National Invasive Species Act, or any vessel of the Armed Forces, as defined in the Federal Water Pollution Control Act (33 U.S.C. 1322(a)) that is subject to the ''Uniform National Discharge Standards for Vessels of the Armed Forces'' (33 U.S.C. 1322(n)); and*
>
> *(2) Any warship, naval auxiliary, or other vessel owned or operated by a foreign state, and used, for the time being, only on government noncommercial service. However, each such foreign state shall ensure that such vessels act in a manner consistent, so far as is reasonable and practicable, with this subpart.*
>
> *(b) Crude oil tankers engaged in coastwise trade are exempt from the requirements of §§ 151.2025, 151.2060, and 151.2070 of this subpart.*
>
> *(c) A vessel that operates exclusively within one Captain of the Port (COTP) Zone is exempt from the requirements in §§ 151.2060 and 151.2070 of this subpart.*

The Coast Guard has been developing its standards and guidance practices since 1990 under the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA) and the National Invasive Species Act (NISA). Exhibit 3 shows the timeline for past Coast Guard implementation of voluntary and mandatory meaures to address ballast water discharges. The Coast Guard's current proposal involves a two-phased approach. The Coast Guard describes these phases as follows:

> *The proposed rule includes a phasein schedule for complying with both the phase-one and phase-two proposed BWDS based on each vessel's ballast capacity and build date. During the phase-in period for the phase-one standard, ballast water exchange (BWE) would remain as a ballast water management (BWM) option for vessels not yet required to meet the BWDS. At the end of the phase-one phase-in schedule, the option of using BWE would be eliminated. From that date forward, all vessels would be required to*

manage their ballast water through a Coast Guard approved BWMS and meet either the proposed phase-one or phase-two discharge standard, as applicable, or retain their ballast water onboard.

B. Phase-Two Ballast Water Discharge Standard (BWDS)

While the proposed phase-one BWDS is practicable to achieve in the near term and will considerably advance environmental protection over the current exchange-based regime, we also recognize that it should not be the ultimate endpoint for protection of U.S. waters. We note that a number of states have already adopted BWDS using more stringent standards. We have considered information concerning whether technology to achieve this standard can practicably be implemented now or by the compliance dates under consideration. Although some technologies may be capable of achieving the phase-two standard, we believe there is not now a testing protocol capable of establishing that a technology achieves the phase-two standard and testing results under existing protocols do not provide sufficient statistical confidence to establish that technologies consistently meet the phase-two standard.

The purpose of NISA, as already noted, is to ensure to the maximum extent practicable that NIS are not introduced and spread into U.S. waters. Our phase-two standard represents a standard that is potentially 1,000 times more stringent than the phase-one standard. We believe that setting this more stringent standard and establishing implementation dates for the phase-two BWDS will encourage technology vendors to develop technologies capable of meeting the phase-two standard. In addition, we expect to continue cooperative work to establish testing protocols that can establish that technologies meet the standard with adequate statistical confidence.

We propose incorporating a practicability review into the phase-in schedule for the phase-two BWDS. The purpose of the review is to determine whether technology to achieve the performance standard can practicably be implemented, in whole or in part, by the applicable compliance dates. This includes more than just looking at whether there is technology available to achieve the phase-two standard, as we discuss later in this preamble. The initial review would be completed in early 2013 and, in the event that some or all of the phase-two standard is found to be not practicable, the compliance date for those elements found not to be practicable would be extended in accordance with the findings of the practicability review. At the same time, a date for the next practicability review would be established, no later than two years after the completion of the first practicability review (i.e., no later than 2015). In establishing this time frame we are attempting to balance our intent to implement the phase-two standards as expeditiously as practicable with a consideration of how quickly progress in developing and testing technology may be likely to occur. We seek comment on whether one year or three years would be a more appropriate time limit for further practicability review, should one or more be needed.

The Coast Guard will seek public input in preparing the practicability review, and any decision to extend the compliance date of elements of the phase-two standards found not to be practicable would be subject to the requirements of the Administrative Procedure Act.

We've also left open the possibility that the practicability review might reveal that a more stringent standard between the proposed phase-one and the phase-two BWDS is achievable. We also allow for the possibility that technology might be capable of achieving a standard that is even more stringent than what we have proposed as the phase-two BWDS. In these cases, we would propose amending either the implementation timeline or the phase-two standard, or both, at the time that we publicize the results of our practicability review. Once the phase two standards are fully implemented, the Coast Guard would continue to review the standards every three years, as required by NISA, to ensure that they continue to ensure, to the maximum extent practicable, that aquatic nuisance species are not introduced and spread into U.S. waters.

The Coast Guard's proposed phase-one standards for allowable concentrations of living organisms in ships' ballast water would be:

(1) For organisms larger than 50 microns in minimum dimension: Discharge less than 10 organisms per cubic meter of ballast water.

(2) For organisms equal to or smaller than 50 microns and larger than 10 microns: Discharge less than 10 organisms per milliliter (ml) of ballast water.

(3) Indicator microorganisms must not exceed:

(a) For toxicogenic Vibrio cholerae (serotypes O1 and O139): A concentration of <1 colony forming unit (cfu) per 100 ml;

(b) For Escherichia coli: A concentration of <250 cfu per 100 ml; and

(c) For intestinal enterococci: a concentration of <100 cfu per 100 ml.

II. <u>Implementation</u>. The Coast Guard proposes the following implementation schedule:

Proposed Implementation Schedule

The proposed implementation schedule for meeting the proposed phase-one ballast water discharge standard is shown in Table 4. The proposed implementation schedule for meeting the proposed phase-two ballast water discharge standard is shown in Table 5. Our proposed implementation schedule would provide vessel owners and operators sufficient time to install the necessary equipment needed to comply with the phase-one discharge standard, without causing significant disruptions to vessels operations and

maritime commerce. Our phase-one implementation schedule is similar to the implementation schedule for the IMO Convention as they are both based on build date and ballast water capacity. An implementation schedule using build dates and ballast water capacities was determined by the Coast Guard and IMO to be an appropriate mechanism for giving both vessel owners and BWMS manufacturers enough time to have BWMS approved and installed while avoiding long delays at shipyards where these installations would take place. As there are limited numbers of shipyards around the world, vessel owners must schedule BWMS installations well in advance. An implementation schedule calling for faster installation would likely make it difficult for vessel owners to comply with the requirements in time.

TABLE 4—PROPOSED IMPLEMENTATION SCHEDULE FOR THE PHASE-ONE BALLAST WATER MANAGEMENT PROGRAM

Vessel's ballast water capacity (cubic meters, m^3)	Vessel's construction date	Vessel's compliance date
New vessels: All	On or after January 1, 2012	On Delivery.
Existing vessels:		
Less than 1500	Before January 1, 2012	First drydocking after January 1, 2016.
1500–5000	Before January 1, 2012	First drydocking after January 1, 2014.
Greater than 5000	Before January 1, 2012	First drydocking after January 1, 2016.

TABLE 5—PROPOSED IMPLEMENTATION SCHEDULE FOR THE PHASE-TWO BALLAST WATER MANAGEMENT PROGRAM

Vessel's ballast water capacity (cubic meters, m^3)	Vessel's construction date	Vessel's compliance date
New vessels: All	On or after January 1, 2016	On Delivery.
Existing vessels: All	Before January 1, 2016	First drydocking after January 1, 2016, UNLESS the vessel installed a BWMS meeting the phase-one standard before January 1, 2016, then 5 years after installation of the BWMS meeting the phase-one standard.

III. Background/Regulatory Regime.

A. Coast Guard Actions 1990 – 1996. The Coast Guard is the federal lead agency implementing regulations to prevent the introduction of non-native plant and animal species from ballast water discharged from ships through the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA). The National Invasive Species Act of 1996 (NISA) [P.L. 104-332] reauthorized and amended the NANPCA to issue Ballast Water Management guidelines and regulations for all U.S. waters. Pursuant to the requirements of NISA, the Coast Guard published a final rule for a Ballast Water Management program for all U.S. Waters on July 28, 2004 [69 Fed.Reg. 44952 (2004)]. Vessels that operate outside the U.S. Exclusive Economic Zone (EEZ) must use one of the following BWM practices: conduct mid ocean ballast water exchange 200 nautical miles from any shore, retain ballast water onboard, or use a Coast Guard-approved alternative method. Currently, alternative methods are new or still under

development; therefore, ballast water exchange and retention of ballast water are the only methods available. Some vessels may not be able to safely conduct ballast water exchange depending on vessel design, age, cargo, and weather.

This method to control the discharge of non-native invasive species into U.S. waters is ineffective in controlling the introduction of non-native invasive aquatic species for many reasons. For example, vessels with ballast water containing non-native aquatic species are not limited to those that operate outside the U.S. EEZ. Systems to remove alien species from ballast tanks are new, unapproved, and can vary in effectiveness. This method of controlling non-native species invasion in coastal waters is not enforceable.

B. Environmental Protection Agency (EPA) Actions 2005 – 2008. On March 30, 2005, the U.S. District Court for the Northern District of California ruled that the EPA regulation excluding discharges incidental to the normal operation of a vessel from NPDES permitting (40 C.F.R. 122.3(a)) exceeded the Agency's authority under the Clean Water Act. On September 18, 2006, the Court issued an order vacating that regulation as of September 30, 2008. EPA appealed the District Court's decision, and on July 23, 2008, the Ninth Circuit upheld the rule, leaving the September 30, 2008 end date in effect, but noting that EPA could seek an extension of the effectiveness of its existing regulation from the district court. EPA obtained such an extension, and the rule remained in effect until December. In December, 2008, the USEPA approved the National Pollutant Discharge Elimination System (NPDES) Vessel Discharge General Permit for Discharges Incidental to the Normal Operation of Vessels. This permit was issued pursuant to Section 402 of the Clean Water Act. This Vessel General Permit (VGP) regulates all vessel discharges, including ballast water, out to 3 n mi from shore. As noted on page 22, the Commission conditionally concurred with EPA's consistency determination for this permit on December 12, 2008.

EPA's VGP applies to vessels operating in a capacity as a means of transportation, except recreational vessels as defined in CWA §502(25), P.L. 110-288, that have discharges into waters subject to this permit incidental to their normal operations. With respect to (1) commercial fishing vessels of any size as defined in 46 U.S.C. § 2101 and (2) those non-recreational vessels that are less than 79 feet in length, the coverage under this permit is limited to ballast water discharges only and these vessels generally do not require permit coverage for other discharges.

C. California State Lands Commission (SLC) Actions. . In 2003, Assembly Bill 433 reauthorized and enhanced California's Marine Invasive Species Act, which was designed to limit and control the introduction of non-indigenous species into waters of the state or waters that may impact those waters and to manage ballast water. These laws gave the SLC regulatory oversight for the discharge of ballast water by commercial vessels in California to prevent introduction of non-native invasive species. In 2006, the Legislature passed the Coastal Ecosystems Protection Act of 2006, directing the SLC to adopt the recommended performance standards and implementation schedule, and conduct periodic technology assessments for ballast water.

The SLC determined that systems are now available to meet California's performance standards (see Dobroski et al. 2007, 2009a), or will be soon. Therefore, starting in 2010, the SLC is implementing California's performance standards for new vessels with a ballast water capacity of less than 5000 metric tons.

The SLC developed standards for the discharge of organisms in ballast water from vessels based on size class of organism and allowable concentration. These new regulations have standards for concentration of invasive organisms to be discharged into California's waterbodies that far exceed the Coast Guard's proposed Phase 1 discharges. The SLC standards would not allow the discharge of any organisms larger than 50 micrometers (μm) into California waters. These standards, also shown in Exhibit 2, are as follows:

Organism Size Class	***California's Discharge Standard***
Larger than 50 μm (micrometer or one millionth of a meter) in minimum dimension	- No detectible living organisms
10-50 μm in minimum dimension	- Less than (<) 0.01 living organisms per ml (milliliter)
Less than 10 μm in minimum dimension:	- Less than 10^3(1,000) living bacteria per 100 ml - Less than 10^4(10,000) living viruses per 100 ml
E. coli	- Less than 126 cfu (colony forming units) per 100 ml
Intestinal enterococci	- Less than 33 cfu per 100 ml
Toxogenic *Vibriocholerae* (human Cholera)	- Less than 1 cfu per 100 ml OR - Less than 1 cfu per gram of wet weight biological material

The California law regulating ballast water on vessels determines the concentration of organisms of certain sizes that can be discharged, and provides for monitoring of ballast water. The type of treatment system used on vessels to control ballast water will not be reviewed by the SLC. Dischargers can choose which method to use to prevent the discharge of alien species. For example, a vessel can choose to retain all ballast water in while in California's waters. The new California law also requires that ballast water discharge information be reported on the form developed by the SLC.

Public Resources Code (PRC) Section 71205(g)(1) authorizes the SLC to collect data on the installation and use of ballast water treatment technologies for vessels that discharge ballast water into the waters of the State. Section 71205(g)(2) of the PRC states the master, owner, operator, agent, or person in charge of a vessel must submit the information on the SLC's regulatory Ballast Water Treatment Technology Annual Reporting Form and the Ballast Water Treatment Supplemental Reporting Form. These forms collect data on installation and use of ballast water treatment technologies for vessels operating in the waters of California. The purpose of the form is to determine whether vessels using ballast water treatment systems

comply with California's performance standards for ballast water discharge, and to ensure effective implementation of the performance standards for the control of non-native aquatic species.

Under these rules, if a ship discharges ballast water in California waters, the following must happen:

1. The discharger chooses how to comply with California's non-native invasive species laws. Available options are: (a) ballast water exchange; (b) no discharge of ballast water under the jurisdiction of SLC; (c) using an onboard ballast water treatment system; or (d) dumping into a discharge withholding site (such sites do not currently exist).

2. The discharger must submit a Ballast Water Treatment Technology Annual Reporting Form to SLC if they discharge in state waters.

3. Ships must install a monitoring port to access the ballast water for inspection by SLC.

4. Ships built in 2010 or later must have a ballast treatment system (of their choosing) installed, and older ships must be retrofitted by certain target years (see Exhibit 2).

D. Coast Guard Actions 2009-2010/Alternatives. The Coast Guard's current proposal (i.e., covered under the subject consistency determination) includes a new ballast water discharge standard to prevent or reduce the concentration of non-native plant and animal species introduced into US waters. The Coast Guard's consistency determination is accompanied by a Draft Programmatic Environmental Impact Statement (DPEIS). The DPEIS analyzed five alternative standards for concentrations of alien organisms in ballast water, including assessing benefits and impacts. The Coast Guard also intends to and will approve ballast water treatment systems that will be used on vessels; however those approvals and systems are not included in the subject consistency determination, and will be determined and analyzed at a future date.

The five alternatives considered in the Coast Guard's DPEIS are as follows:

Alternative 1: No Action

This alternative would not establish a ballast water discharge standard. The mandatory ballast water management program established according to the directives in NISA would continue to be applicable to vessels entering U.S. waters. This ballast water management program requires all vessels carrying ballast water into U.S. waters after operating outside of the EEZ to do one of the following: conduct a mid-ocean exchange beyond the EEZ in an area more than 200 nautical miles from any shore; retain ballast water onboard, or use an environmentally sound method approved by the Coast Guard. A vessel is not required to deviate or delay its voyage, nor place itself at risk, to conduct a ballast water exchange. Additionally, those vessels that do not go beyond 200 nautical miles from shore are not required to conduct a ballast water exchange, except when entering the Great Lakes and Hudson River. Few vessels have the ability to retain

ballast water onboard, and environmentally sound methods have not yet been approved by the Coast Guard. Therefore, currently mid-ocean exchange is the only viable ballast water management option. If the Coast Guard did not establish a BWDS, then it would need to develop an approval program showing that the ballast water treatment technology used by a vessel would be at least as effective as mid ocean ballast water exchange for that same vessel.

Alternative 2 (i.e., proposed Phase 1 standard):
Under this alternative, the level of living organisms that could be discharged under this alternative (by size class) is:
• For organisms larger than 50 microns[1] in minimum dimension: discharge less than 10 per cubic meters of ballast water.
• For organisms equal to or smaller than 50 microns, and larger than 10 microns: discharge less than 10 per milliliter (ml) of ballast water.
• For bacteria, discharge of indicator microorganisms such that:
Toxigenic *Vibrio cholera* (Serotypes O1 and O139) occur at a concentration less than 1 colony forming unit (cfu) per 100 ml; *E. coli* occur at a concentration less than 250 cfu per 100 ml; and Intestinal *Enterococci* occur at a concentration less than 100 cfu per 100 ml.

Alternative 3
Under this alternative, the level of living organisms (per volume) that could be discharged under this alternative (by size class) is:
• For organisms larger than 50 microns in minimum dimension: discharge less than one per cubic meter of ballast water.
• For organisms equal to or smaller than 50 microns, and larger than 10 microns: discharge less than one per ml of ballast water.
• For bacteria, discharge of indicator microorganisms such that:
Toxigenic *Vibrio cholera* (Serotypes O1 and O139) occur at a concentration less than 1 cfu per 100 ml; *E. coli* occur at a concentration less than 126 cfu per 100 ml; and Intestinal *Enterococci* occur at a concentration less than 33 cfu per 100 ml.

Alternative 4
Under this alternative, the level of living organisms (per volume) that could be discharged under this alternative (by size class) is:
• For organisms larger than 50 microns in minimum dimension: discharge less than 0.1 per cubic meter of ballast water.
• For organisms equal to or smaller than 50 microns, and larger than 10 microns: discharge less than 0.1 per ml of ballast water.
• For bacteria, discharge of indicator microorganisms such that:
Toxigenic *Vibrio cholera* (Serotypes O1 and O139) occur at a concentration less than 1 cfu per 100 ml; *E. coli* occur at a concentration less than 126 cfu per 100 ml; and Intestinal *Enterococci* occur at a concentration less than 33 cfu per 100 ml.

[1] 1 micron = 1 micrometer = 1 μm = one millionth of a meter, or one thousandth of a millimeter.

Alternative 5
This is the elimination of all living organisms larger than 0.1 micron in ballast water. If implemented, this alternative would be the standard established for vessels that want their BWT technology approved by the Coast Guard. Vessels that had approved BWT technologies onboard that meet Alternative 5 performance standards would discharge virtually no living organisms into U.S. waters.

The following table provides the concentrations of non-native species for Alternatives 2 – 4.

Table ES-1: Allowable concentration of organisms in Ballast Water Discharge, by size, for Alternatives 2-4

	Large Organisms > 50 microns in size	Small Organisms >10 and ≤50 microns in size	Bacteria		
			Toxigenic *Vibrio cholerae* (O1 and O139)	*E. coli* Intestinal	*Enterococci*
Alternative 2	<10 per m^3	<10 per ml	<1 cfu per 100 ml	<250 cfu per 100 ml	<100 cfu per 100 ml
Alternative 3	<1 per m^3	<1 per ml	<1 cfu per 100 ml	<126 cfu per 100 ml	<33 cfu per 100 ml
Alternative 4	<0.1 per m^3	<0.1 per ml	<1 cfu per 100 ml	<126 cfu per 100 ml	<33 cfu per 100 ml

IV. **Federal Agency's Consistency Determination.** The U.S. Coast Guard has determined the proposed ballast water standards to be consistent with California's Coastal Management Program (CCMP).

V. Staff Recommendation and Motion: The staff recommends that the Commission adopt the following motion:

MOTION: I move that the Commission **concur** with consistency determination CD-015-10 that the project described therein is consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program (CCMP).

STAFF RECOMMENDATION:

Staff recommends a **NO** vote on the motion. Following this staff recommendation will result in an objection to the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

RESOLUTION TO OBJECT TO CONSISTENCY DETERMINATION:

The Commission hereby **objects** to the consistency determination made by the U.S. Coast Guard for the proposed project, finding that: (1) the project is not consistent with the California Coastal Management Program; (2) the project is not consistent to the maximum extent practicable with the California Coastal Management Program.

VI. Applicable Legal Authorities. Section 307 of the Coastal Zone Management Act (CZMA) provides in part:

> *(c)(1)(A) Each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs.*

A. Procedure if the Commission finds that the proposed activity is inconsistent with the CCMP.

Section 930.43(a) of the federal consistency regulations (15 CFR § 930.43(a)) requires that, if the Commission's objection is based on a finding that the proposed activity is inconsistent with the CCMP, the Commission must identify measures, if they exist, that would bring the project into conformance with the CCMP. That section states that:

> *(a) In the event the State agency objects to the Federal agency's consistency determination, the State agency shall accompany its response to the Federal agency with its reasons for the objection and supporting information. The State agency response shall describe: (1) How the proposed activity will be inconsistent with specific enforceable policies of the management program; and (2) The specific enforceable policies (including citations).(3) The State agency should also describe alternative measures (if they exist) which, if adopted by the Federal agency, would allow the activity to proceed in a manner consistent to the maximum extent practicable with the enforceable policies of the management program. Failure to describe alternatives does not affect the validity of the State agency's objection.*

As described in Section A (Marine Resources/Water Quality) of this report below, the proposed project is not consistent to the maximum extent practicable with the CCMP. Pursuant to the requirements of Section 930.43 of the federal regulations implementing the CZMA, the Commission is responsible for identifying measures, if they exist, that would bring the project

into compliance with the CCMP to the maximum extent practicable. The Commission finds that it would be possible to bring this project into compliance with the CCMP to the maximum extent practicable if the Coast Guard implements the following measures:

1. **Discharge Standards.** The Standards for Phase 1 discharges shall be the same as those adopted by the State Lands Commission (see chart on page 3, or Exhibit 2).

2. **Exemptions.** The single "Captain of the Port" (COTP) Zone exemption shall be eliminated (i.e., the exemption described on page 5).

3. **Resubmittal upon finalization of Phase 2 standards.** Once the Coast Guard has finalized Phase 2 standards, they shall be submitted to the Commission in the form of a follow-up consistency determination. This phase should include a finalized monitoring component adequate to assure compliance with its standards.

B. Consistent to the Maximum Extent Practicable. Section 930.32 of the federal consistency regulations provides, in part, that:

> *(a)(1) The term ''consistent to the maximum extent practicable'' means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the Federal agency.*

The Commission recognizes that the standard for approval of Federal activities is that the activity must be "consistent to the maximum extent practicable" (Coastal Zone Management Act Section 307(c)(1)). This standard allows a federal activity that is not fully consistent with the CCMP to proceed, if compliance with the CCMP is "*prohibited [by] existing Federal law applicable to the Federal agency's operations*" (15 C.F.R. § 930.32). The Coast Guard did not provide any documentation to support a maximum extent practicable argument in its consistency determination. Therefore, there is no basis to conclude that existing law applicable to the Federal agency prohibits full consistency. Since the Coast Guard has raised no issue of practicability, as so defined, the standard before the Commission is full consistency with the policies of the California Coastal Management Program (CPRC §§ 30200-30265.5).

C. Federal Agency Response to Commission Objection. Section C(a)(i) of Chapter 11 of the CCMP requires federal agencies to inform the Commission of their response to a Commission objection. This section provides:

> *If the Coastal Commission finds that the Federal activity or development project ... is not consistent with the management program, and the federal agency disagrees and decides to go forward with the action, it will be expected to (a) advise the Coastal Commission in writing that the action is consistent, to the maximum extent practicable, with the coastal management program, and (b) set forth in detail the reasons for its decision. In the event the Coastal Commission seriously disagrees with the Federal agency's consistency*

determination, it may request that the Secretary of Commerce seek to mediate the serious disagreement as provided by Section 307(h) of the CZMA, or it may seek judicial review of the dispute.

The federal consistency regulations reflect a similar obligation; 15 CFR §930.43 provides:

State agency objection. *...*

(d) In the event of an objection, Federal and State agencies should use the remaining portion of the 90-day notice period (see §930.36(b)) to attempt to resolve their differences. If resolution has not been reached at the end of the 90-day period, Federal agencies should consider using the dispute resolution mechanisms of this part and postponing final federal action until the problems have been resolved. At the end of the 90-day period the Federal agency shall not proceed with the activity over a State agency's objection unless: (1) the Federal agency has concluded that under the ''consistent to the maximum extent practicable'' standard described in section 930.32 consistency with the enforceable policies of the management program is prohibited by existing law applicable to the Federal agency and the Federal agency has clearly described, in writing, to the State agency the legal impediments to full consistency (See §§930.32(a) and 930.39(a)), or (2) the Federal agency has concluded that its proposed action is fully consistent with the enforceable policies of the management program, though the State agency objects.

(e) If a Federal agency decides to proceed with a Federal agency activity that is objected to by a State agency, or to follow an alternative suggested by the State agency, the Federal agency shall notify the State agency of its decision to proceed before the project commences.

VII. Findings and Declarations.

The Commission finds and declares as follows:

A. Marine Resources and Water Quality. Section 30230 of the Coastal Act provides:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 provides:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Additionally, Section 307(f) of the CZMA directs that federal, State and local provisions established pursuant to the Clean Water Act shall be incorporated into State coastal management programs and shall be the water pollution control requirements applicable to such program. The general water pollution control policies and objectives of the State for ocean waters are contained in the requirements of the California Ocean Plan.

The water quality objectives of the Ocean Plan (Chapter 2) include:

> *E. Biological Characteristics*
>
> 1. *Marine communities, including veterbrate, inveterbrate, and plant species, shall not be degraded.*
> 2. *The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.*
> 3. *The concentrations of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.*

The Ocean Plan's general requirements for management of waste discharge to the ocean include:

> a. *Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.*
>
> *…*
>
> *d. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that….*
>
> *…*
>
> *3. Maximum protection is provided to the marine environment.*

The Commission has a number of concerns over the adequacy of the Coast Guard's current proposal to minimze the release of non-native invasive aquatic species into California waters. The Commission's major concern is that concentrations of nonindingeous species allowed under

the Coast Guard's Phase 1 proposal are greater than what would be allowed under standards established by the SLC for ballast water discharges. The Commission does not disagree with the Coast Guard over the *need* for continually improving standards and technology to address ballast water concerns; rather, the issue appears to be the pace at which the improvements should occur and whether standards should lead technology or vice versa.

The Coast Guard acknowledges in the DPEIS: "Studies show that the rate of NIS introductions to U.S. waters is increasing (Carlton and Hodder 1995, Ruiz et al. 2000b). Furthermore, introduced NIS have been cited as the second largest threat to endangered species after habitat loss (Wilcove and Chen 1998)." Moreover, the document analyzing the viability of coastal resources, California's Living Marine Resources, A Status Report (California Department of Fish and Game, 2001), states that at least 234 non-native plant and animal species now live in San Francisco Bay, and one new recently introduced species is established in the bay and delta every 14 weeks. The report further asserts "It is widely accepted that the discharge of ballast water is the primary mechanism by which coastal invasive species are spread."

The alternatives considered by the Coast Guard are summarized on pages 11-13 above. Clearly, from the Coast Guard's own information, Alternatives 3-5 (with Alternative 5 as the most environmentally preferable alternative) would provide increasing marine resource and water quality benefits over the proposed (Alternative 2) approach. For example, Page 4-19 of the DPEIS provides the following conclusion regarding Alternative 5, "This alternative is expected to be considerably more beneficial than Alternatives 2-4." The Commission finds Alternative 5 and Alternative 4 to be preferable, because they would control the greatest concentration of invasive organisms. Alternative 5 would be the equivalent of an approach consistent with SLC-adopted state standards.

The Coast Guard nevertheless maintains that the proposed (Alternative 2) approach "… is practicable to achieve in the near term and will considerably advance environmental protection over the current exchange-based regime...". The Coast Guard also maintains that while California (and other states) have already adopted more stringent standards:

> *We have considered information concerning whether technology to achieve this standard can practicably be implemented now or by the compliance dates under consideration. Although some technologies may be capable of achieving the phase-two standard, we believe there is not now a testing protocol capable of establishing that a technology achieves the phase-two standard and testing results under existing protocols do not provide sufficient statistical confidence to establish that technologies consistently meet the phase-two standard.* [Emphasis added]

The Commission questions both Coast Guard assumptions that the Phase 1 benefits will significantly improve the status quo, and that existing technology is not available to justify stricter standards. Concerning the alleged benefits of the Phase 1 proposal, the Commission notes that California is requiring both: (a) the installation of a port to test ballast water in ships in

California waters; and (b) submittal of a standard ballast water reporting form for dischargers. SLC will also be monitoring ballast water for discharges, thereby regulating unauthorized ballast water releases in California waters.

SLC states (Exhibit 5, page 2):

> *Research indicates that the Phase I standard in the proposed rule is likely not an improvement over ballast water exchange (status quo), and in some cases unexchanged ballast water could meet the Phase I standard. For a significant proportion of vessels discharging in the U.S., Minton et al. (2005) estimated that, for at least the largest organism size class, approximately 17.2% of discharging vessels could meet the proposed Phase I standard through ballast water exchange, and 3.8% of vessels could meet the Phase I standard for zooplankton without performing ballast water exchange (BWE) at all. In 2003 the Study Group on Ballast Water and Other Ship Vectors (SGBOSV) performed a review of their collective data on organism concentrations in unexchanged ballast water, and found that even tanks that did not exchange often met an equivalent to the Phase I standard for the 10 – 50 µm size class of organisms (MEPC 2003, Annex 1). The SGBOSV is composed of an international group of scientists with extensive knowledge about the biology of ship-mediated invasions.*
>
> *Results of the modeling exercise included in the Draft Programmatic Environmental Impact Statement (DPEIS) for the proposed rule also provides support that the proposed Phase I standard may not decrease the risks of vessel-mediated introductions over the No Action Alternative (status quo). In relation to reducing successful introductions, page 4-16, paragraph 1 of the DPEIS states that for the single species case, ―Alternative 2 (proposed Phase I standard) is expected to range between no reduction and an 8% reduction, and no reduction and a 50% reduction for smaller and larger organisms, respectively.* [Emphasis added]

Further uncertainty over the benefits of the proposed approach is expressed in the Coast Guard's DPEIS itself, which notes (p. H-10):

> *As discussed earlier, the implementation of the Alternative 2 BWDS will be phased-in over several years. During the phase-in period of 2012-2016, there is considerable uncertainty as to how effective the measures will be in preventing invasions. This is because only a subset of ships will have implemented ballast water management in any of these years. There is also uncertainty as to the availability and effectiveness of ballast water management technologies in the early stages of implementation. For these reasons we conservatively assume that no invasions will be avoided before the end of this period (2012-2016), which may lead to an underestimate of potential benefits.* [Emphasis added]

The Commission therefore finds that Phase I performance standard may not result in a reduction of non-native species invasion from ballast water when compared to current standards.

Concerning the availability of technology to treat ballast water to better than Phase 1 (Alternative 2) standards, the Commission notes that the SLC has conducted research on the availability of ballast water treatment systems in preparation for its new regulations for ballast water treatment. The SLC determined that at least seven commercially available ballast water treatment systems (AlfaLaval, Ecochlor, Hamann Evonik Degussa, Hyde Marine, OceanSaver, OptiMarin, and Techcross) could comply with the proposed *Phase 2* standard. The seven systems have at least one testing replicate at either full-scale land-based or shipboard scale that demonstrates compliance with the standards. (Dobroski et al. 2009a, Dobroski et al. 2009b).

Concerning Coast Guard alternatives assumptions about costs estimates, SLC states:

> *Cost estimates – The cost estimates provided are without substantiation. Cost estimates are not provided for Alternatives 3 or 4, and the proposed Phase II standard was not included in any of the supporting documentation or analysis. The numbers that are provided are from estimates gathered in 2005, and the costs have changed significantly since that time due to additional research and identification of development costs. Without the proper supporting documentation, there is no valid reason provided for choosing the IMO standard (Alternative 2) over the other proposed Alternatives.*

Concerning the Coast Guard's proposal to exclude vessels operating in a single Captain of the Port (COTP) Zone, and the conclusion that such vessels would not be introducing invasive species, SLC states:

> *Exclusion of Vessels Operating in One COTP Zone - The statement in Section V of the proposed rule that, "…it is unlikely that vessels operating only within one COTP Zone would introduce invasive species (from outside of that COTP Zone)…" is inaccurate and misleading. Some COTP Zones contain multiple estuarine systems and several major ports, and vessels transiting within them can serve to spread invasive species from one port or estuary system to another. For example, the San Francisco COTP Zone includes the highly invaded San Francisco Bay as well as the much less invaded, less commercially active Humboldt and Crescent City port/estuarine systems to the north, and the Monterey Bay system to the south. Vessels operating within one Captain of the Port Zone should not be excluded from the requirements of any portion of the proposed rule.*

Concerning standards for pathogens, the Commission noted that the Coast Guard's proposed *E. coli* and intestinal enterococci standards are less stringent than EPA criteria for recreational water contact. People recreate in many different ways in waterbodies where ballast water will be discharged; therefore, it is unclear how standards can be less than those already established by the EPA for marine waters. For marine waters, the EPA states that no sample of *E. coli* may

exceed 35/100 ml; however, the proposed Coast Guard performance standards for *E. coli* are 250/100 ml. As proposed, the Coast Guard performance standards will result in the introduction of *E. coli* into recreational waters exceeding the EPA standards for recreational waters.

The Commission further notes that implementing a single rather than a dual-phased approach would reduce confusion, thus benefitting vessel owners, by establishing one standard for manufacturer's development of treatment systems, applying standards to all vessels equally, and eliminating the potential costs with installing more than one treatment method.

Finally, the Commission is concerned because the subject proposal does not spell out a monitoring component to determine whether the treatment systems to be approved are meeting the performace standards for the concentration of non-native species for specific size classes in ballast water discharged from vessels operating in waters of the U.S. The proposal does not provide enforment mechanisms to bring vessels into compliance. This concern could be remedied by Coast Guard agreeing to submit both a monitoring component, as well as the Phase 2 proposal once it has been fully developed, for future Commission federal consistency review.

As discussed in greater detail in the following section of this report, the Commission has historically taken the position that federal agencies should adopt water quality standards for California offshore waters that are no less stringent than state standards. For example, in reviewing the Environmental Protection Agency's consistency determination (CD-042-08) for an NPDES Vessel General Permit (VGP), which included regulation and standards for ballast water discharges, the Commission determined that the permit could only be found consistent with the Coastal Act if EPA would modify the permit to adopt state standards, including regulating "…ballast water discharges in a manner which prohibits discharges currently violating state standards." EPA subsequently agreed to make these changes for California discharges. (Like the Coast Guard's proposal, EPA's was similarly nationwide in scope.)

In conclusion, while the Conmission understands that the intent of the Coast Guard's proposal is to benefit marine resources and improve water quality, the subject proposal would not comply with existing state water quality standards and does not fully address the specific requirements of Sections 30230 and 30231 of the Coastal Act. Section 30230 requires: (a) not only maintenance, but also enhancement (and where feasible, restoration) of marine resources; (b) special protection for areas and species of special biological or economic significance; and (c) sustenance of the biological productivity of coastal waters and maintenance of healthy populations of all species of marine organisms. Section 30231 requires the maintenance, and where feasible restoration, of the biological productivity and quality of coastal waters through, among other means, minimizing adverse effects of waste water discharges and entrainment. The Commission concludes that the Coast Guard's currently-proposed two-phased proposal is inconsistent with the requirements of Sections 30230 and 30231 listed above. In order to bring the proposal into compliance with these requirements, the Coast Guard would need to implement the following modifications:

1. **Discharge Standards.** The Standards for Phase 1 discharges shall be the same as those adopted by the State Lands Commission (see chart, p. 3, or Exhibit 2).

2. **Exemptions.** The single "Captain of the Port" (COTP) Zone exemption shall be eliminated (i.e., the exemption described on page 5).

3. **Resubmittal upon finalization of Phase 2 standards.** Once the Coast Guard has finalized Phase 2 standards, they shall be submitted to the Commission in the form of a follow-up consistency determination. This phase should include a finalized monitoring component adequate to assure compliance with its standards.

If the Coast Guard agrees to make these changes, the proposal could be found consistent with Sections 30230 and 30231 of the Coastal Act and with the California Ocean Plan.

B. Related Commission Action. On December 12, 2008, the Commission conditionally concurred with the EPA's consistency determination (CD-042-08) for an NPDES Vessel General Permit (VGP) which included regulation and standards for ballast water discharges. The NPDES permit covered "…discharges incidental to the normal operation of commercial vessels greater than or equal to 79 feet in length, except commercial fishing vessels, which were only covered with respect to their ballast water discharges." Like the subject Coast Guard consistency determination, EPA's consistency determination was also a nationwide consistency determination. The Commission found the permit as submitted inconsistent with the marine resources and water quality policies of the Coastal Act. However, the Commission found that if EPA agreed to the following condition, the permit could be found consistent with the Coastal Act and the California Ocean Plan:

> **Condition 1: Graywater and Ballast Water Discharges.** EPA will revise the proposed NPDES permit to: (1) prohibit graywater discharges in state waters from large passenger ships and from other large oceangoing ships which have the holding capacity to store graywater until outside of the marine waters of the state; and (2) regulate ballast water discharges in a manner which prohibits discharges currently violating state standards.

EPA subsequently agreed to include this condition as part of its NPDES permit as it applied to California discharges.

On July 14, 2006, the Commission conditionally concurred with the National Oceanic and Atmospheric Administration's (NOAA's) consistency determination for a revised management plan for activities in the Channel Islands National Marine Sanctuary (CINMS). The Commission's condition, which NOAA eventually agreed to, required the Sanctuary regulations to comply with existing state water quality standards, by prohibiting vessels of 300 gross registered tons or more that have sufficient holding tank capacity from discharging sewage or graywater into the waters of the Sanctuary.

On January 9, 2001, the Commission concurred with EPA's consistency certification for a general NPDES permit for discharges from 22 California offshore oil and gas platforms (CC-126-00). The Commission noted:

> *Even though the proposed limits for the majority of the parameters are more stringent than the limits in existing NPDES permits for platform dischargers, the Commission, during its January 9, 2001, hearing on this matter, expressed concerns that some of these new limits are still less protective of the beneficial uses of the marine environment than those contained in the California Ocean Plan ("COP"). ... In response to these concerns, EPA agreed to modify the proposed general permit to provide as discharge effluent standards for produced water either the State water quality criteria set forth in the California Ocean Plan that is part of the State's Federally approved CCMP or the national 304(a) criteria, whichever is more protective of applicable beneficial uses.*

VIII. SUBSTANTIVE FILE DOCUMENTS:

1. U.S. Coast Guard/Dept. of Homeland Security, Draft Programmatic Environmental Impact Statement (DPEIS), BALLAST WATER DISCHARGE STANDARD, April 2008.

2. EPA consistency determination (CD-042-08) for an NPDES Vessel General Permit (VGP).

3. EPA consistency certification (CC-126-00) for offshore oil and gas platform discharges.

4. NOAA Consistency Determination (CD-036-06), Revised Management Plan, Channel Islands National Marine Sanctuary.

5. Senate Bills S. 2766 ("the Clean Boating Act of 2008") (Public Law (P.L.) No. 110-288), and S. 3298 (P.L. No. 110-299).

6. Calbet, A. and M.R. Landry. 2004. Phytoplankton growth, microzooplankton grazing, and carbon cycling in marine systems. Limnology and Oceanography 49(1): 51-57.

7. California's Living Marine Resources, A Status Report (California Department of Fish and Game, 2001).

8. Coutts, A.D.M., Moore, K.M., and Hewitt, C.L. 2003. Ships' sea-chests: an overlooked transfer mechanism for non-indigenous marine species? Marine Pollution Bulletin 46: 1504–1515.

9. Davidson, I., Sytsma, M., and Ruiz, G. 2009. Ship fouling: a review of an enduring worldwide vector of nonindigenous species. Produced for the California State Lands Commission.

10. Dobroski, N. 2005. Anatomy of an invader: Starvation response, foraging behavior and habitat expansion in the introduced Asian shore crab Hemigrapsus sanguineus. M.S. Thesis. University of Rhode Island.

11. Dobroski, N., L. Takata, C. Scianni, and M. Falkner. 2007. Assessment of the Efficacy, Availability and Environmental Impacts of Ballast Water Treatment Systems for Use in California Waters. Produced for the California State Legislature.

12. Dobroski, N., C. Scianni, D. Gehringer, and M. Falkner. 2009a. 2009 Assessment of the Efficacy, Availability, and Environmental Impacts of Ballast Water Treatment Systems for Use in California Waters. Produced for the California State Legislature.

13. Dobroski, N., C. Scianni, L. Takata, and M. Falkner. 2009b. October 2009 Update: Ballast Water Treatment for Use in California Waters.

14. Falkner, M., N. Dobroski, C. Scianni, D. Gehringer, and L. Takata. 2009. 2009 Biennial Report on the California Marine Invasive Species Program. Produced for the California State Legislature.

15. Fofonoff PW, Ruiz GM, Steves B, and Carlton JT. 2003. In ships or on ships? Mechanisms of transfer and invasion for nonnative species to the coasts of North America. In: Ruiz GM, Carlton JT (Eds.) Invasive species: vectors and management strategies. Island Press, Washington DC, pp 152-182.

16. IMO (International Maritime Organization). 2004. International Conference on Ballast Water Management for Ships. Consideration of the Draft International convention for the Control and Management of Ships' Ballast Water and Sediments, Submitted by the United States. BWM/CONF/14.

17. IMO (International Maritime Organization). 2005. Ballast Water Management Convention International Convention for the Control and Management of Ships' Ballast Water and Sediments. International Maritime Organization, London, p 138.

18. Lloyd's Register. 2008. Ballast water treatment technology. Current status. September 2008.

19. Minton, Mark S., Emma Verling, A. Whitman Miller, and Gregory M. Ruiz. 2005. Reducing propagule supply and coastal invasions via ships: effects of emerging strategies. Frontiers in Ecology. 3 (304-308).

20. Marine Environmental Protection Committee (MEPC). 2003. International Maritime Organization. Comments on draft regulation E-2. Concentrations of organisms delivered in

ships' ballast water in the absence of any treatment: Establishing a baseline for consideration of treatment efficacy. MEPC 49/2/1, Annex 1.

21. Wilcove, D.S., D. Rothstein, J. Dubow, A. Phillips, and E. Losos. 1998. Quantifying threats to imperiled species in the United States. Bioscience, 48: 607-615.

22. Woodfield, R. 2006. Invasive seaweed threatens California's coastline – an update. Ballast Exchange: Newsletter of the West Coast Ballast Outreach Project, 6:10-11.

Exhibits (attached):

1. Coast Guard Consistency Determination and accompanying Draft Programmatic Environmental Impact Statement: Standards for Living Organisms in Ship's Ballast Water Discharged in U.S. Waters (USCG Docket No. USCG-2001-10486).

2. Coast Guard Timeline, 2008, Ballast Water Requirements Implementation

3. SLC Summary and Chart: "Performance Standards for Ballast Water Discharge," California State Lands Commission, California's Marine Invasive Species Program.

4. California Captain of the Port Zones.

5. SLC November 30, 2009, letter to Coast Guard commenting on Draft Programmatic Environmental Impact Statement: Standards for Living Organisms in Ship's Ballast Water Discharged in U.S. Waters.

U.S. Department of Homeland Security

United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street, S.W., Stop 7126
Washington, DC 20593-7126
Staff Symbol: CG-5231
Phone: (202) 372-1479
Fax: (202) 372-1928
Email: Gregory.B.Kirkbride@uscg.mil

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MAR 29 2010

CALIFORNIA
COASTAL COMMISSION

Mr. Mark Delaplaine
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

Dear Mr. Delaplaine,

This letter is submitted to your State's Coastal Zone Management Program by the U.S. Coast Guard (USCG) as a consistency determination pursuant to section 307(c)(1) of the Coastal Zone Management Act (CZMA) and the regulations promulgated as 15 CFR part 930 subpart C, specifically 15 CFR 930.36(e). The USCG is pursuing its mandate under the National Invasive Species Act of 1996 (Pub. L. 104-332) by proposing to establish a nationwide ballast water discharge standard which vessel owners would comply with to prevent or reduce the introduction and spread of nonindigenous species in U.S. waters. The *Federal Register* Notice of Proposed Rulemaking for Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters was published on August 28, 2009 [74 FR 44632], and is provided as an attachment (CD-ROM).

The proposed rule would:

- Establish standards for the allowable concentration of living organisms in ships' ballast water discharged in U.S. waters;
- Establish an approval process for ballast water management systems; and
- Reduce and prevent the introduction and spread of nonindigenous species from ships discharging ballast water in U.S. waters.

Pursuant to section 307 of the CZMA, the USCG has determined that this regulatory action is consistent to the maximum extent practicable with the enforceable policies of California's approved Coastal Zone Management Program. This determination is supported by the attached Consistency Determination (enclosure 2) and by our Draft Programmatic Environmental Impact Statement (CD-ROM). The Coast Guard's Notice of Proposed Rulemaking and Draft Programmatic Environmental Impact Statement can be found in the public docket at http://www.regulations.gov, docket ID USCG-2001-10486.

EXHIBIT NO. 1
APPLICATION NO.

If we do not receive your comments regarding this consistency determination finding within 60 days, we will assume your concurrence.

If you have any questions, please contact Mr. Greg Kirkbride at (202) 372-1479 or Gregory.B.Kirkbride@uscg.mil.

Sincerely,

M. L. BLAIR,
Acting Chief, Office of Standards Evaluation and Development
U.S. Coast Guard

Enclosures:

1) CD-ROM:
   a. *Federal Register* Notice of Proposed Rulemaking for Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters
   b. Draft Programmatic Environmental Impact Statement for Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters (CD-ROM)

2) Consistency Determination

USCG COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY DETERMINATION

This document provides the California Coastal Management Program with the Coast Guard's Consistency Determination under CZMA Section 307(c)(1) and 15 CFR Part 930, subpart C for the Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters rulemaking. The information in this Consistency Determination is provided pursuant to 15 CFR Part 930 Section 930.39.

Description of Proposed Action

The Coast Guard proposes to amend its regulations on ballast water management (BWM) by establishing standards for the allowable concentration of living organisms in ships' ballast water discharged in U.S. waters. The Coast Guard also proposes to amend its regulations for approving engineering equipment by establishing an approval process for ballast water management systems (BWMS). These new regulations would aid in preventing and controlling the introduction and spread of nonindigenous species (NIS) from ships discharging ballast water in U.S. waters.

The proposed rule includes a phase-in schedule for complying with both phase one and phase two proposed ballast water discharge standards (BWDS) based on each vessel's ballast capacity and build date. During the phase-in period for the phase one standard, ballast water exchange (BWE) would remain as a BWM option for vessels not yet required to meet the BWDS. At the end of the phase one phase-in schedule, the option of using BWE would be eliminated. From that date forward, all vessels would be required to manage their ballast water through a Coast Guard approved BWMS and meet either the proposed phase one or phase two discharge standard, as applicable, or retain their ballast water onboard. This requirement is intended to meet the directives under NISA that requires the Coast Guard to ensure, to the maximum extent practicable, that NIS are not introduced and spread into U.S. waters, and it applies to all vessels equipped with ballast tanks that operate in U.S. waters.

The Coast Guard has determined that the rulemaking affects the land or water uses or natural resources of California in the following manner:

The implementation of the alternatives will result in a BWDS, thereby potentially affecting the number of NIS released into state waters.

Based upon the following information, data, and analysis, the Coast Guard finds that the project is consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program.

The analysis of potential environmental impacts in the attached DPEIS is based on the changes in the concentrations of NIS in a ballast water discharge (BWD). Compared to the No Action Alternative (NAA), under which the existing BWM regulatory regime will continue, the BWDS in EIS Alternatives 2 through 5 are intended to decrease the probability of NIS establishment by reducing the number of individual organisms that are introduced via

USCG COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY DETERMINATION

BWD. The potential impacts of Alternatives 2 through 4 are expected to have varying results and varying levels of reductions in the adverse ecological and associated socioeconomic impacts from NIS introduced via BWD; and Alternative 5 ensures prevention of NIS (that are larger than 0.1 micron) introduced via ballast water and their associated adverse impacts.

The Population Viability Analysis modeling results project that the implementation of Alternative 2 (preferred alternative) could be between 37% and 78% more effective, in the multiple species analysis, than the options under the NAA. Alternative 3 could be between 64% and 94% more effective in the multispecies analysis with respect to the NAA. Additionally, Alternative 4 could be between 85% and 100% more effective in the multiple species analysis relative to the NAA. Alternative 5 assures that no living organisms larger than 0.1 micron are released via ballast water. Impacts to marine, estuarine, freshwater, threatened and endangered species and essential fish habitat resources under Alternatives 2 through 4 are expected to be similar to each other, with proportional reductions in effects stemming from the reductions in discharged organisms. Under Alternative 5, impacts to those resources from introductions of organisms larger than 0.1 micron are expected to be eliminated.

Socioeconomic resources (listed in Chapter 3 of the DPEIS, sections, 3.9.4 through 3.9.10) would likely be improved if a BWDS is implemented. Minor to major reduction of NIS introductions would result from setting a BWDS that would lead to less fouling of the environment, fewer fishery disruptions, and less revenue lost from a decrease in tourism due to NIS impacts on the environment. Economic sectors dependent on the health of aquatic and coastal resources would benefit from overall healthier ecosystems with fewer invasive species.

As it is shown in the attached Draft Programmatic Environmental Impact Statement (DPEIS), the implementation of a BWDS would not have adverse impacts on environmental and socioeconomic resources. The impacts of implementing the BWDS defined under each alternative are determined by the respective reduction in the number of living organisms that are introduced. Consequently, impacts of each alternative on environmental and socioeconomic resources would be similar to each other in that their effects would likely be beneficial.

Based on the information above, and additional data and analysis found in Chapter 4 of the DPEIS, the Coast Guard finds that the project is consistent to the maximum extent practicable with the following enforceable policies of the California Coastal Management Program:

No applicable enforceable policies were found in California's CMP

Pursuant to 15 CFR Section 930.41, the California Coastal Management Program has 60 days from the receipt of this letter in which to concur with or object to this consistency determination, or to request an extension under 15 CFR Section 930.41(b). The state's concurrence will be presumed if the state's response is not received by the Coast Guard on the 60th day from receipt of this Determination. The state's response should be sent to:

USCG COASTAL ZONE MANAGEMENT ACT (CZMA)
CONSISTENCY DETERMINATION

Commandant (CG-5231)
United States Coast Guard
2100 2nd Street SW, Stop 7126
Washington, DC 20593-7126
Attn: Mr. Greg Kirkbride
(202) 372-1479
Gregory.B.Kirkbride@uscg.mil

California's Marine Invasive Species Program

California State Lands Commission, Marine Facilities Division

Performance Standards for Ballast Water Discharge

What are performance standards for ballast water discharge?

Performance standards set limits on how many organisms may be released in a specific volume of discharged ballast water. The specific limits are separated into organism size classes. ***California's standards are in the table to the right.***

Organism Size Class	*California's Discharge Standard*
Larger than 50 µm (micrometer or one millionth of a meter) in minimum dimension	No detectible living organisms
10-50 µm in minimum dimension	Less than (<) 0.01 living organisms per ml (milliliter)
Less than 10 µm in minimum dimension	Less than 10^3 (1,000) living bacteria per 100 ml Less than 10^4 (10,000) living viruses per 100 ml
E. coli *Intestinal enterococci* Toxogenic *Vibrio cholerae* (human Cholera)	Less than 126 cfu (colony forming units) per 100 ml Less than 33 cfu per 100 ml Less than 1 cfu per 100 ml OR Less than 1 cfu per gram of wet weight biological material

***Final discharge standard for California is zero detectable living organisms for all organism size classes, beginning January 1, 2020.*

Why is California implementing performance standards?

Performance standards will be more effective than ballast water exchange for minimizing the release of nonindigenous species. Studies have shown that the effectiveness of exchange can vary widely, depending on factors such as the biological richness of the source port and the configuration of ballast tanks. The state legislature therefore directed the Commission to implement performance standards for ballast water discharges to better protect California's waters from species introductions.

Ballast Water Capacity of Vessel	*Implementation for New Vessels (built on or after Jan 1 of years below)*	*Implementation for Existing Vessels*
Less than 1500 MT (metric tons)	2010	2016
1500-5000 MT	2010	2014
More than 5000 MT	2012	2016

When will the performance standards go into effect in California?

Implementation will be phased, and will depend on:

1) If the vessel is newly built or not, ***AND***
2) The ballast water capacity of the vessel

How will vessels meet California's performance standards?

There are many potential strategies. The most feasible options by 2010 will be:

1) Retention of all ballast water on board (most protective option)
2) Treat all ballast water to be discharged in California with a ballast water treatment system

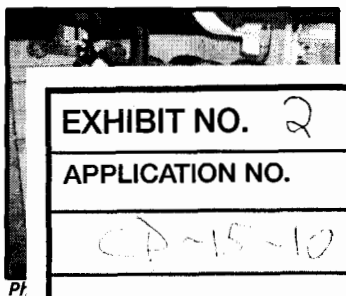


EXHIBIT NO. 2
APPLICATION NO.
CD-15-10

Revised 11/23/2009

California's Marine Invasive Species Program

California State Lands Commission, Marine Facilities Division

Performance Standards for Ballast Water Discharge (Cont.)

Will the California State Lands Commission approve ballast water treatment systems?

No. Vessel owners/operators should work closely with treatment system vendors to determine what system is most appropriate for the type and routing of their vessels.

When performance standards go into effect, California State Lands Commission Marine Safety Inspectors will check vessel discharges to ensure compliance with the performance standards. Treated discharges must also comply with all applicable environmental and water quality laws, regulations and permits.

Where can I find more information?

Internet: www.slc.ca.gov

- Click on the "Divisions" tab
- Select "Marine Facilities Division"
- Select "Marine Invasive Species Program"

Email: Dobrosn@slc.ca.gov • ***Telephone:*** 916-574-0742

Reports

Dobroski, N., C. Scianni, D. Gehringer, and M. Falkner. 2009. 2009 Assessment of the Efficacy, Availability and Environmental Impacts of Ballast Water Treatment Systems for Use in California Waters. Produced for the California State Legislature.

Dobroski, N., C. Scianni, and M. Falkner. 2008. Ballast Water Treatment Technology Testing Guidelines.

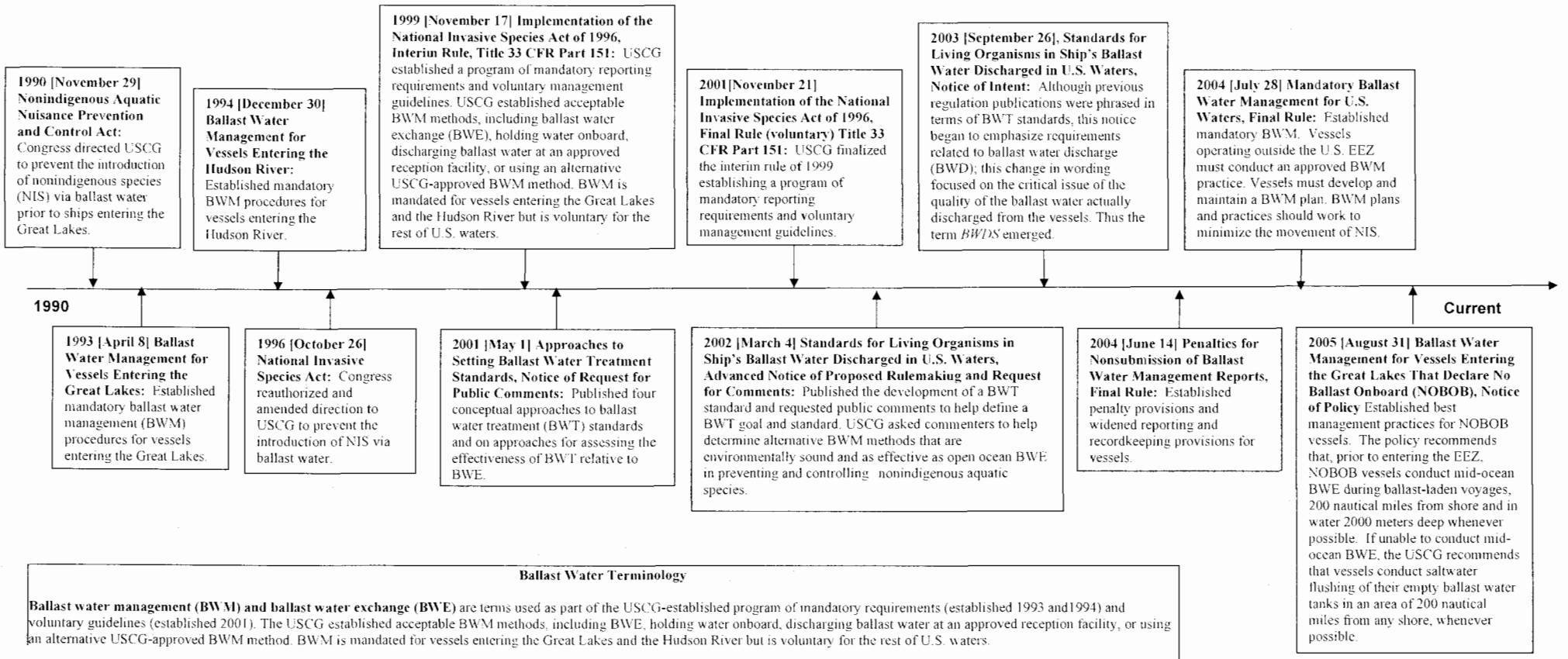
Falkner M., L. Takata, and S. Gilmore. 2006. California State Lands Commission Report on Performance Standards for Ballast Water Discharges in California Waters. Produced for the California State Legislature.

California Code of Regulations

Title 2, Division 3, Chapter 1, Article 4.7. Performance Standards for the Discharge of Ballast Water For Vessels Operating in California Waters

Revised 11/23/2009

APPENDIX I: TIMELINE OF BALLAST WATER REQUIREMENTS AND GUIDELINES



1990 [November 29] Nonindigenous Aquatic Nuisance Prevention and Control Act: Congress directed USCG to prevent the introduction of nonindigenous species (NIS) via ballast water prior to ships entering the Great Lakes.

1993 [April 8] Ballast Water Management for Vessels Entering the Great Lakes: Established mandatory ballast water management (BWM) procedures for vessels entering the Great Lakes.

1994 [December 30] Ballast Water Management for Vessels Entering the Hudson River: Established mandatory BWM procedures for vessels entering the Hudson River.

1996 [October 26] National Invasive Species Act: Congress reauthorized and amended direction to USCG to prevent the introduction of NIS via ballast water.

1999 [November 17] Implementation of the National Invasive Species Act of 1996, Interim Rule, Title 33 CFR Part 151: USCG established a program of mandatory reporting requirements and voluntary management guidelines. USCG established acceptable BWM methods, including ballast water exchange (BWE), holding water onboard, discharging ballast water at an approved reception facility, or using an alternative USCG-approved BWM method. BWM is mandated for vessels entering the Great Lakes and the Hudson River but is voluntary for the rest of U.S. waters.

2001 [May 1] Approaches to Setting Ballast Water Treatment Standards, Notice of Request for Public Comments: Published four conceptual approaches to ballast water treatment (BWT) standards and on approaches for assessing the effectiveness of BWT relative to BWE.

2001[November 21] Implementation of the National Invasive Species Act of 1996, Final Rule (voluntary) Title 33 CFR Part 151: USCG finalized the interim rule of 1999 establishing a program of mandatory reporting requirements and voluntary management guidelines.

2002 [March 4] Standards for Living Organisms in Ship's Ballast Water Discharged in U.S. Waters, Advanced Notice of Proposed Rulemaking and Request for Comments: Published the development of a BWT standard and requested public comments to help define a BWT goal and standard. USCG asked commenters to help determine alternative BWM methods that are environmentally sound and as effective as open ocean BWE in preventing and controlling nonindigenous aquatic species.

2003 [September 26], Standards for Living Organisms in Ship's Ballast Water Discharged in U.S. Waters, Notice of Intent: Although previous regulation publications were phrased in terms of BWT standards, this notice began to emphasize requirements related to ballast water discharge (BWD); this change in wording focused on the critical issue of the quality of the ballast water actually discharged from the vessels. Thus the term *BWDS* emerged.

2004 [June 14] Penalties for Nonsubmission of Ballast Water Management Reports, Final Rule: Established penalty provisions and widened reporting and recordkeeping provisions for vessels.

2004 [July 28] Mandatory Ballast Water Management for U.S. Waters, Final Rule: Established mandatory BWM. Vessels operating outside the U.S. EEZ must conduct an approved BWM practice. Vessels must develop and maintain a BWM plan. BWM plans and practices should work to minimize the movement of NIS.

2005 [August 31] Ballast Water Management for Vessels Entering the Great Lakes That Declare No Ballast Onboard (NOBOB), Notice of Policy Established best management practices for NOBOB vessels. The policy recommends that, prior to entering the EEZ, NOBOB vessels conduct mid-ocean BWE during ballast-laden voyages, 200 nautical miles from shore and in water 2000 meters deep whenever possible. If unable to conduct mid-ocean BWE, the USCG recommends that vessels conduct saltwater flushing of their empty ballast water tanks in an area of 200 nautical miles from any shore, whenever possible.

Ballast Water Terminology

Ballast water management (BWM) and ballast water exchange (BWE) are terms used as part of the USCG-established program of mandatory requirements (established 1993 and1994) and voluntary guidelines (established 2001). The USCG established acceptable BWM methods, including BWE, holding water onboard, discharging ballast water at an approved reception facility, or using an alternative USCG-approved BWM method. BWM is mandated for vessels entering the Great Lakes and the Hudson River but is voluntary for the rest of U.S. waters.

') is discussed in the May 1, 2001, Notice of Request for Public Comments which published four conceptual approaches to BWT standards and on approaches for WT relative to BWE.

') standard emerges in the September 26, 2003, Notice of Intent that states that, "Although the initial Federal Register publications were phrased in terms of BWT always been the quality of the ballast water actually discharged from the vessels. Therefore, beginning with this notice the emphasis will be on requirements related to 8 55560]. Thus the term *BWDS* emerged.

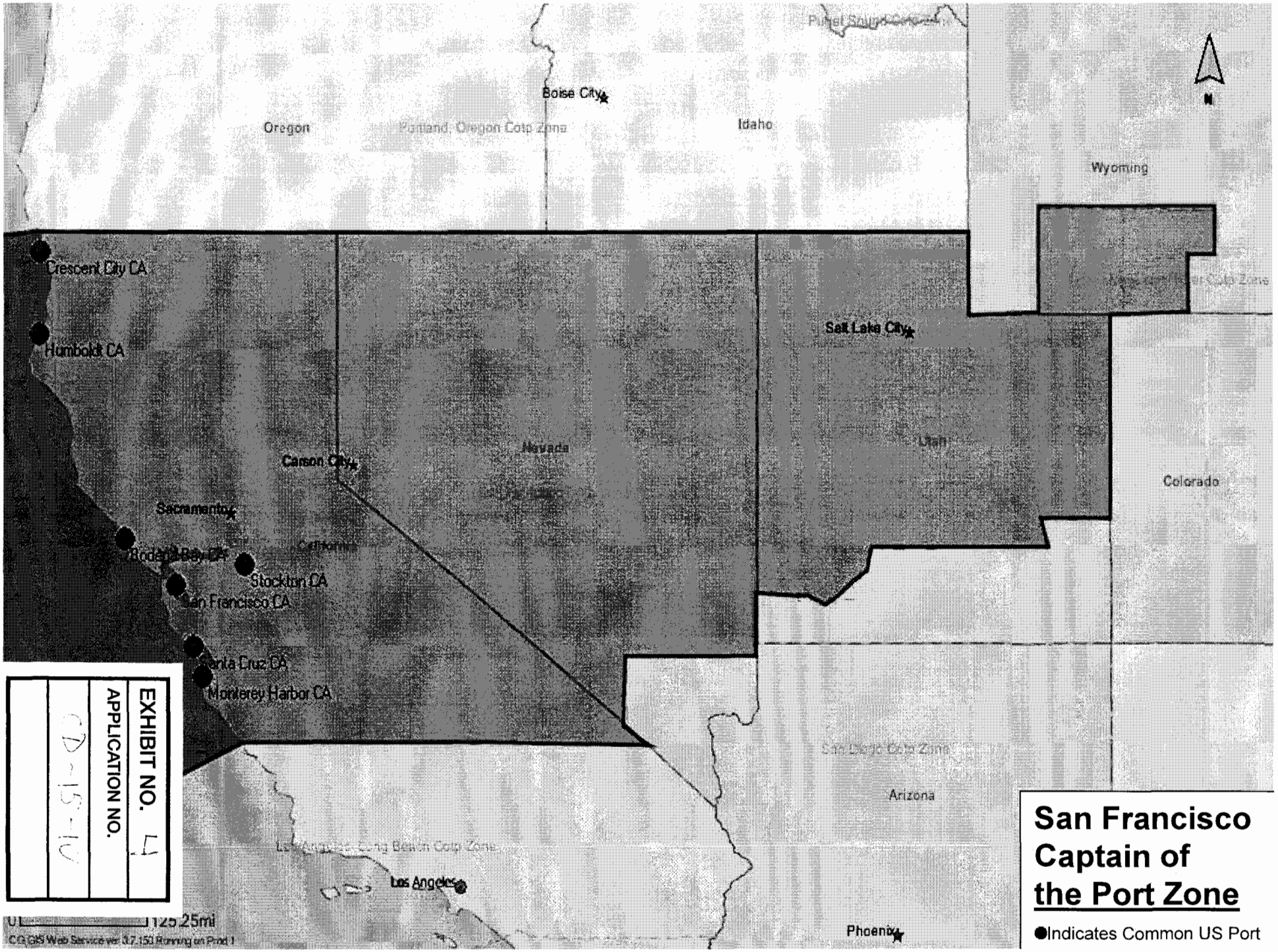

Boise City
Oregon
Portland, Oregon Cotp Zone
Idaho
Wyoming
Crescent City CA
Humboldt CA
Salt Lake City
Carson City
Nevada
Utah
Colorado
Sacramento
California
Stockton CA
San Francisco CA
Santa Cruz CA
Monterey Harbor CA
San Diego Cotp Zone
Arizona
Los Angeles
Phoenix
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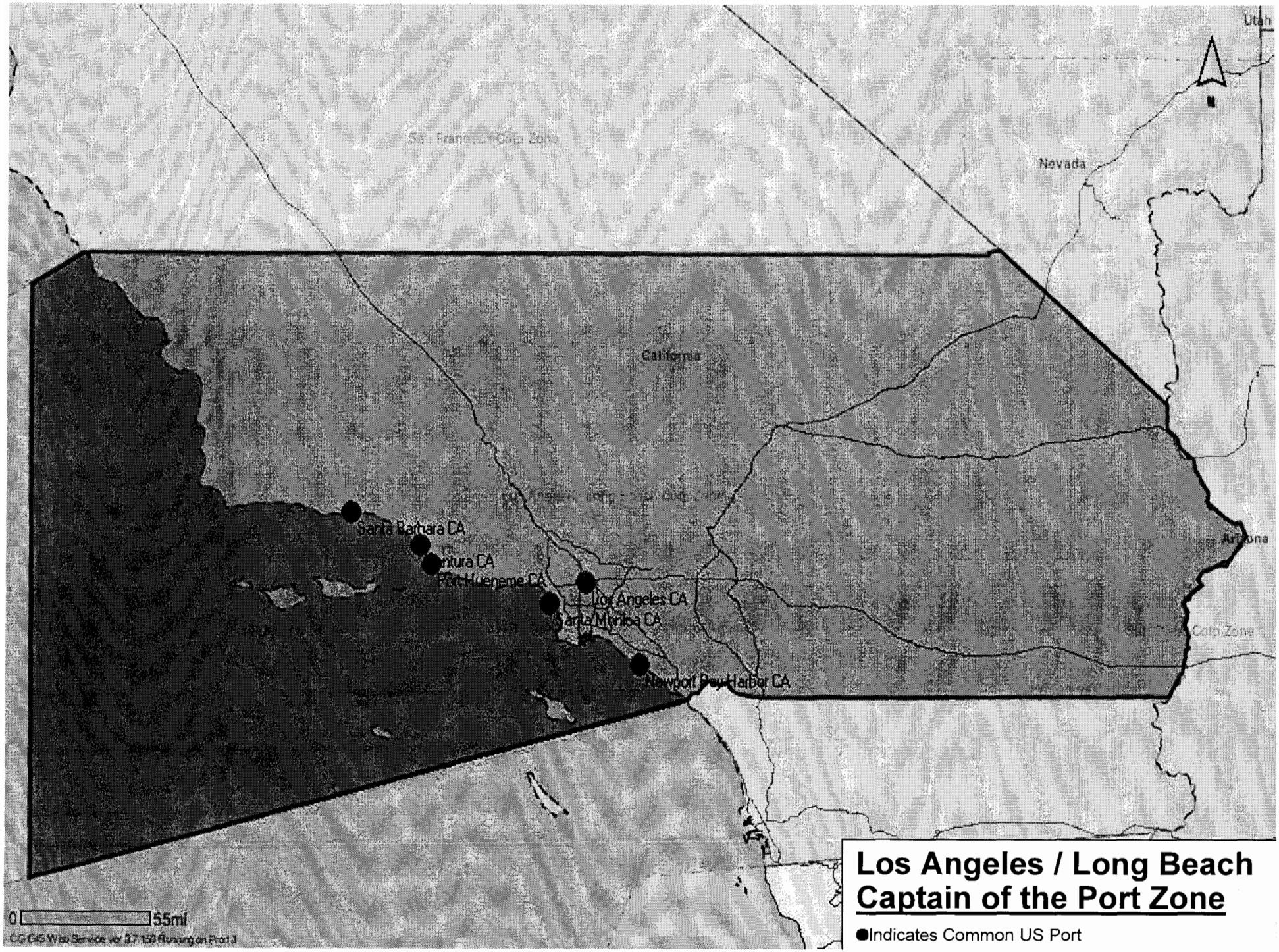
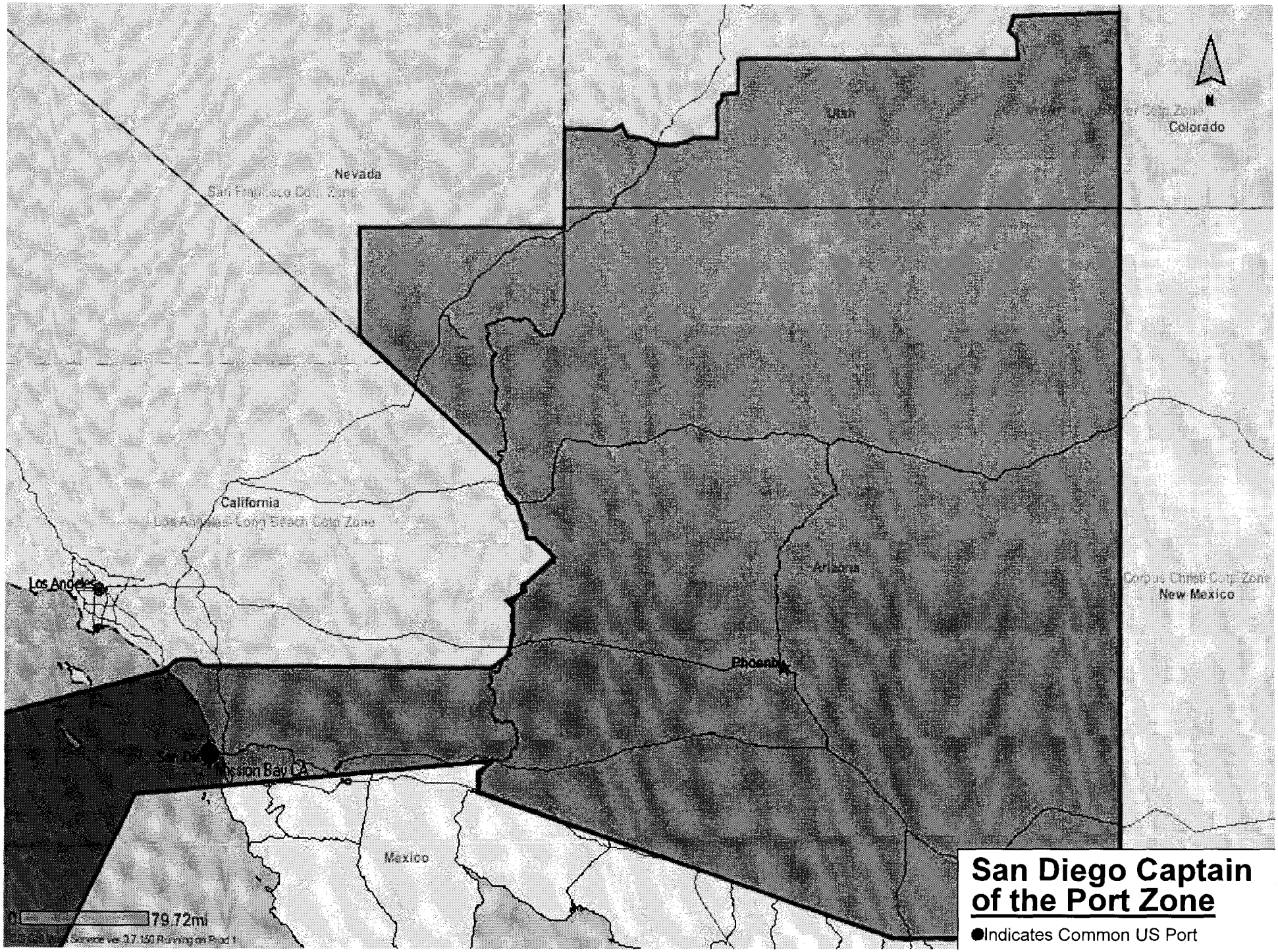
EXHIBIT NO. 4
APPLICATION NO. 2-15-10
San Francisco Captain of the Port Zone
●Indicates Common US Port



Los Angeles / Long Beach
Captain of the Port Zone

●Indicates Common US Port



San Diego Captain of the Port Zone

●Indicates Common US Port

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
California Relay Service from TDD Phone **1-800-735-2929**
from Voice Phone **1-800-735-2922**

Contact Phone: **(916) 574-2568**
Contact FAX: **(916) 574-1950**

November 30, 2009

File Ref: W9777.234
W9777.290

Docket Management Facility (M-30)
U.S. Department of Transportation
West Building Ground Floor
Room W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590-001

Re: Docket No. USCG-2001-10486 Comments on Notice of Proposed Rulemaking for Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters and related Draft Programmatic Environmental Impact Statement.

To Whom It May Concern:

The staff of the Marine Invasive Species Program of the California State Lands Commission (Commission) appreciates the opportunity to review and comment on the draft rulemaking regarding "Standards for Living Organisms in Ships' Ballast Water" and associated documents as proposed by the U.S. Coast Guard (USCG).

The Commission has significant experience working to prevent and control the establishment of nonindigenous species (NIS) via ballast water discharges. The 1999 Ballast Water Management for Control of Non-indigenous Species Act (California Assembly Bill 703, Chapter 849, Statutes of 1999) charged the Commission with oversight of the nation's first state-wide mandatory program to prevent NIS introductions through the discharge of ballast water by commercial vessels in state waters. In 2003, Assembly Bill 433 (Chapter 491, Statutes of 2003) was passed, reauthorizing and enhancing the 1999 legislation. The Act directed the Commission to recommend performance standards for the discharge of ballast water. In 2006, the Legislature passed the Coastal Ecosystems Protection Act of 2006 (Chapter 292, Statutes of 2006), directing the Commission to adopt the recommended standards and implementation schedule as well as conduct periodic technology assessments. The Commission's recent assessments indicate systems are or will soon be available to meet California's performance standards (see Dobroski et al. 2007, 2009a). As such, the Commission is preparing to implement California's performance standards for new vessels with a ballast water capacity of less than 5000 metric tons in 2010.

EXHIBIT NO.
APPLICATION NO.

Based on our experiences in California, we offer the following comments, questions, and recommendations. These are categorized into comments specific to the Notice of Proposed Rulemaking (NPRM) and those specific to the Draft Programmatic Environmental Impact Statement (DPEIS).

GENERAL COMMENTS - NPRM

Phase-In of BWDS – We believe the adoption of two different standards is unnecessary, overly complicated and costly to implement. A single phase-in standard will ensure uniform application to all vessels, will reduce costs associated with the need to install multiple systems, and will set a clear standard that manufacturer's can strive to meet. A single standard and a single phase-in schedule will also eliminate uncertainty concerning when a possible Phase II standard will be implemented. A single standard and implementation schedule would be the most advantageous approach to reduce the introduction of NIS in US waters.

Selection of Standard – Proposed Phase I Standard is Not an Improvement Over Ballast Water Exchange, and is Not Biologically Protective - The proposed Phase I standard will not, "...markedly decrease the risks of vessel-mediated introductions of NIS into U.S. waters relative to the status quo as stated in the proposed rule" (Section V, Discussion of Proposed Rule), and will not provide adequate biological protection from NIS in the United States. Direct implementation of a Phase II standard would provide biological protection that is a scientifically defensible improvement over the current status quo.

Research indicates that the Phase I standard in the proposed rule is likely not an improvement over ballast water exchange (status quo), and in some cases unexchanged ballast water could meet the Phase I standard. For a significant proportion of vessels discharging in the U.S., Minton et al. (2005) estimated that, for at least the largest organism size class, approximately 17.2% of discharging vessels could meet the proposed Phase I standard through ballast water exchange, and 3.8 % of vessels could meet the Phase I standard for zooplankton without performing ballast water exchange (BWE) at all. In 2003 the Study Group on Ballast Water and Other Ship Vectors (SGBOSV) performed a review of their collective data on organism concentrations in unexchanged ballast water, and found that even tanks that did not exchange often met an equivalent to the Phase I standard for the 10 – 50 µm size class of organisms (MEPC 2003, Annex 1). The SGBOSV is composed of an international group of scientists with extensive knowledge about the biology of ship-mediated invasions.

Additional support for the biological inadequacy of the proposed Phase I standard originates from the United State's position in discussions during the development of Regulation D-2, of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (IMO 2004). The United States argued that, for a single hypothetical vessel discharging 10,000 m^3, a standard at the Phase I level could reasonably result in a discharge of some 4,000+ zooplankton (approx. >50 µm) into a harbor or estuary. The position document further states, "Given that many ports and estuaries receive multiple vessel visits from the same regions over the course of days and weeks, the cumulative number of organisms introduced will be quite a bit larger. For these reasons the United States urges the Conference to adopt less than 0.01/m3 as the concentration standard for Zooplankton." For smaller organisms (protists, including phytoplankton, 10-50 µm), the paper states, "Protists broadly have the ability to reproduce asexually, thus there is the potential for one propagule, one organism, to establish a population. This circumstance argues for very low concentrations. For these reasons, the United States proposes the standard for protists less than 0.01/ml" (IMO 2004).

Results of the modeling exercise included in the Draft Programmatic Environmental Impact Statement (DPEIS) for the proposed rule also provides support that the proposed Phase I standard may not decrease the risks of vessel-mediated introductions over the No Action Alternative (status quo). In relation to reducing successful introductions, page 4-16, paragraph

1 of the DPEIS states that for the single species case, "Alternative 2 (proposed Phase I standard) is expected to range between no reduction and an 8% reduction, and no reduction and a 50% reduction for smaller and larger organisms, respectively."

These studies, reviews and expert recommendations provide evidence that the proposed Phase I standard is, in numerous cases, less effective than BWE (status quo) - contradicting the claim that the proposed Phase I standards would lead to, "...a reduction in the concentration of all organisms leading to lower number of these organisms being introduced per discharge" (Section VII of the proposed rule). The evidence also strongly indicates that the proposed Phase I standard would violate the directive in NISA that alternative ballast water management must be at least as effective as BWE at preventing or reducing the introduction of nonindigenous species into U.S. Waters (16 U.S.C. 4711(c)(D)(iii)).

For the reasons outlined above, we strongly encourage the USCG to eliminate the proposed Phase I standard and adopt the Phase II standard for implementation.

Cost estimates – The cost estimates provided are without substantiation. Cost estimates are not provided for Alternatives 3 or 4, and the proposed Phase II standard was not included in any of the supporting documentation or analysis. The numbers that are provided are from estimates gathered in 2005, and the costs have changed significantly since that time due to additional research and identification of development costs. Without the proper supporting documentation, there is no valid reason provided for choosing the IMO standard (Alternative 2) over the other proposed Alternatives.

Reporting/Record keeping – It is important that the USCG clarify the requirements for reporting of ballast water treatment. Existing reporting requirements using the "Ballast Water Reporting Form" are insufficient and will be confusing for crews trying to report treatment once the BWDS is implemented. Without a change to or clarification of the reporting requirements, the USCG will miss the opportunity to gather important data about treatment system installation and usage, and USCG will have little opportunity to track whether or not vessels are using approved systems.

Exclusion of Vessels Operating in One COTP Zone - The statement in Section V of the proposed rule that, "...it is unlikely that vessels operating only within one COTP Zone would introduce invasive species (from outside of that COTP Zone)..." is inaccurate and misleading. Some COTP Zones contain multiple estuarine systems and several major ports, and vessels transiting within them can serve to spread invasive species from one port or estuary system to another. For example, the San Francisco COTP Zone includes the highly invaded San Francisco Bay as well as the much less invaded, less commercially active Humboldt and Crescent City port/estuarine systems to the north, and the Monterey Bay system to the south. Vessels operating within one Captain of the Port Zone should not be excluded from the requirements of any portion of the proposed rule.

Lack of Criteria and Supporting Analyses for "Practicality" and "Adequate Statistical Confidence" Claims - Section V, B of the proposed rule suggests that it is not "practicable" to move directly to the implementation of the proposed phase-two standard. However, there is no information, references, criteria, or statistical analyses in the proposed rule or supporting documents (DPEIS) justifying the claim, "...there is not now a testing protocol capable of establishing that a technology achieves the Phase II standard and testing results under existing protocols do not provide sufficient statistical confidence to establish that technologies meet the phase-two standard." No information, analyses, or statistical criteria is provided to support why the proposed Phase I standard is any more "practicable" in comparison. Criteria and a definition for "practicable" must be provided and justified. Additionally, if "adequate statistical confidence" is

to be used to justify delayed implementation of a more biologically protective proposed Phase II standard, definitions and criteria for the term must be provided.

Technologies Currently Exist That Meet Both Phase-One and Phase-Two Standards
The proposed Phase I standard is the same as the IMO D-2 standard. Six systems (AlfaLaval (Norway), Hyde Marine (United Kingdom), Hamann Evonik Degussa (Germany), OceanSaver (Norway), OptiMarin (Norway) and Techcross (Korea)) have received Type Approval from flag state administrations, and thus are documented to meet the IMO/Phase One standard. Based on work done by the Commission, at least seven ballast water treatment systems (AlfaLaval, Ecochlor, Hamann Evonik Degussa, Hyde Marine, OceanSaver, OptiMarin, and Techcross) have demonstrated the capability to comply with the proposed Phase II standard. All seven systems are commercially available at this time. The seven systems have at least one testing replicate at either full-scale land-based or shipboard scale that demonstrates compliance with the standards. (Dobroski et al. 2009a, Dobroski et al. 2009b).

The existence of treatment systems that can already meet the more stringent, biologically protective, proposed Phase II standard underlies the need to bypass the proposed Phase I standard.

SPECIFIC COMMENTS - NPRM
§151.1504 – *Build Date* – Recommend using the same definition for Build Date as the IMO used for "Constructed" to maintain international consistency. Therefore Build Date should be amended to "Build date means the date when *the keel is laid;* construction identifiable with the specific vessel begins; or assembly of the vessel has commenced comprising at least 50 tons or 1 percent of the estimated mass of all structural material, whoever is less; or the ship undergoes a major conversion."

Note: Major conversion is not defined by the USCG in this regulation, but is defined by the IMO (see IMO 2005) and used by California (California Code of Regulations, Title 2, Division 3, Chapter 1, Article 4.7) as well. Suggest adding definition for Major Conversion.

> *Major Conversion means a conversion of a ship which changes its ballast water carrying capacity by 15 percent or greater; or which changes the ship type; or which in the opinion of the [USCG] is projected to prolong its life by ten years or more; or which results in modifications to its ballast water system other than component replacement-in-kind. Conversion of a ship to meet the provisions of [the USCG regulations] shall not be deemed to constitute a major conversion for the purpose of this [section].*

§151.1511(a)(1) – The standard does not include language necessary for differentiation between living and nonliving organisms. Suggest changing to: "Discharge less than 10 LIVING ORGANISMS per cubic meter of ballast water".

§151.1511(a)(2) – The standard does not include language necessary for differentiation between living and nonliving organisms. Suggest changing to: "Discharge less than 10 LIVING ORGANISMS per milliliter (ml) of ballast water".

§151.1511(a)(3) – For each of the subparts (I, ii, iii), the standards indicate that the discharges must not exceed LESS THAN a given quantity. For example, the standard for *E. coli* states that the discharge "must not exceed...< 250 cfu per 100 ml". However, less than 250 can be any number from 0 through 249. Therefore, this standard can be interpreted to require discharges that "must not exceed" 0 cfu per 100 ml. Suggest removal of "<" for each subpart so that each

U.S. Department of Homeland Security

United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street, S.W., Stop 7126
Washington, DC 20593-7126
Staff Symbol: CG-5231
Phone: (202) 372-1479
Fax: (202) 372-1928
Email: Gregory.B.Kirkbride@uscg.mil

MAR 24 2010

16452

RECEIVED

MAR 29 2010

CALIFORNIA
COASTAL COMMISSION

Mr. Mark Delaplaine
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

Dear Mr. Delaplaine,

This letter is submitted to your State's Coastal Zone Management Program by the U.S. Coast Guard (USCG) as a consistency determination pursuant to section 307(c)(1) of the Coastal Zone Management Act (CZMA) and the regulations promulgated as 15 CFR part 930 subpart C, specifically 15 CFR 930.36(e). The USCG is pursuing its mandate under the National Invasive Species Act of 1996 (Pub. L. 104-332) by proposing to establish a nationwide ballast water discharge standard which vessel owners would comply with to prevent or reduce the introduction and spread of nonindigenous species in U.S. waters. The *Federal Register* Notice of Proposed Rulemaking for Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters was published on August 28, 2009 [74 FR 44632], and is provided as an attachment (CD-ROM).

The proposed rule would:

- Establish standards for the allowable concentration of living organisms in ships' ballast water discharged in U.S. waters;
- Establish an approval process for ballast water management systems; and
- Reduce and prevent the introduction and spread of nonindigenous species from ships discharging ballast water in U.S. waters.

Pursuant to section 307 of the CZMA, the USCG has determined that this regulatory action is consistent to the maximum extent practicable with the enforceable policies of California's approved Coastal Zone Management Program. This determination is supported by the attached Consistency Determination (enclosure 2) and by our Draft Programmatic Environmental Impact Statement (CD-ROM). The Coast Guard's Notice of Proposed Rulemaking and Draft Programmatic Environmental Impact Statement can be found in the public docket at http://www.regulations.gov, docket ID USCG-2001-10486.

EXHIBIT NO. 1
APPLICATION NO.

If we do not receive your comments regarding this consistency determination finding within 60 days, we will assume your concurrence.

If you have any questions, please contact Mr. Greg Kirkbride at (202) 372-1479 or Gregory.B.Kirkbride@uscg.mil.

Sincerely,

M. L. BLAIR,
Acting Chief, Office of Standards Evaluation and Development
U.S. Coast Guard

Enclosures:

1) CD-ROM:
   a. *Federal Register* Notice of Proposed Rulemaking for Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters
   b. Draft Programmatic Environmental Impact Statement for Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters (CD-ROM)

2) Consistency Determination

USCG COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY DETERMINATION

This document provides the California Coastal Management Program with the Coast Guard's Consistency Determination under CZMA Section 307(c)(1) and 15 CFR Part 930, subpart C for the Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters rulemaking. The information in this Consistency Determination is provided pursuant to 15 CFR Part 930 Section 930.39.

Description of Proposed Action

The Coast Guard proposes to amend its regulations on ballast water management (BWM) by establishing standards for the allowable concentration of living organisms in ships' ballast water discharged in U.S. waters. The Coast Guard also proposes to amend its regulations for approving engineering equipment by establishing an approval process for ballast water management systems (BWMS). These new regulations would aid in preventing and controlling the introduction and spread of nonindigenous species (NIS) from ships discharging ballast water in U.S. waters.

The proposed rule includes a phase-in schedule for complying with both phase one and phase two proposed ballast water discharge standards (BWDS) based on each vessel's ballast capacity and build date. During the phase-in period for the phase one standard, ballast water exchange (BWE) would remain as a BWM option for vessels not yet required to meet the BWDS. At the end of the phase one phase-in schedule, the option of using BWE would be eliminated. From that date forward, all vessels would be required to manage their ballast water through a Coast Guard approved BWMS and meet either the proposed phase one or phase two discharge standard, as applicable, or retain their ballast water onboard. This requirement is intended to meet the directives under NISA that requires the Coast Guard to ensure, to the maximum extent practicable, that NIS are not introduced and spread into U.S. waters, and it applies to all vessels equipped with ballast tanks that operate in U.S. waters.

The Coast Guard has determined that the rulemaking affects the land or water uses or natural resources of California in the following manner:

The implementation of the alternatives will result in a BWDS, thereby potentially affecting the number of NIS released into state waters.

Based upon the following information, data, and analysis, the Coast Guard finds that the project is consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program.

The analysis of potential environmental impacts in the attached DPEIS is based on the changes in the concentrations of NIS in a ballast water discharge (BWD). Compared to the No Action Alternative (NAA), under which the existing BWM regulatory regime will continue, the BWDS in EIS Alternatives 2 through 5 are intended to decrease the probability of NIS establishment by reducing the number of individual organisms that are introduced via

USCG COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY DETERMINATION

BWD. The potential impacts of Alternatives 2 through 4 are expected to have varying results and varying levels of reductions in the adverse ecological and associated socioeconomic impacts from NIS introduced via BWD; and Alternative 5 ensures prevention of NIS (that are larger than 0.1 micron) introduced via ballast water and their associated adverse impacts.

The Population Viability Analysis modeling results project that the implementation of Alternative 2 (preferred alternative) could be between 37% and 78% more effective, in the multiple species analysis, than the options under the NAA. Alternative 3 could be between 64% and 94% more effective in the multispecies analysis with respect to the NAA. Additionally, Alternative 4 could be between 85% and 100% more effective in the multiple species analysis relative to the NAA. Alternative 5 assures that no living organisms larger than 0.1 micron are released via ballast water. Impacts to marine, estuarine, freshwater, threatened and endangered species and essential fish habitat resources under Alternatives 2 through 4 are expected to be similar to each other, with proportional reductions in effects stemming from the reductions in discharged organisms. Under Alternative 5, impacts to those resources from introductions of organisms larger than 0.1 micron are expected to be eliminated.

Socioeconomic resources (listed in Chapter 3 of the DPEIS, sections, 3.9.4 through 3.9.10) would likely be improved if a BWDS is implemented. Minor to major reduction of NIS introductions would result from setting a BWDS that would lead to less fouling of the environment, fewer fishery disruptions, and less revenue lost from a decrease in tourism due to NIS impacts on the environment. Economic sectors dependent on the health of aquatic and coastal resources would benefit from overall healthier ecosystems with fewer invasive species.

As it is shown in the attached Draft Programmatic Environmental Impact Statement (DPEIS), the implementation of a BWDS would not have adverse impacts on environmental and socioeconomic resources. The impacts of implementing the BWDS defined under each alternative are determined by the respective reduction in the number of living organisms that are introduced. Consequently, impacts of each alternative on environmental and socioeconomic resources would be similar to each other in that their effects would likely be beneficial.

Based on the information above, and additional data and analysis found in Chapter 4 of the DPEIS, the Coast Guard finds that the project is consistent to the maximum extent practicable with the following enforceable policies of the California Coastal Management Program:

No applicable enforceable policies were found in California's CMP

Pursuant to 15 CFR Section 930.41, the California Coastal Management Program has 60 days from the receipt of this letter in which to concur with or object to this consistency determination, or to request an extension under 15 CFR Section 930.41(b). The state's concurrence will be presumed if the state's response is not received by the Coast Guard on the 60th day from receipt of this Determination. The state's response should be sent to:

USCG COASTAL ZONE MANAGEMENT ACT (CZMA)
CONSISTENCY DETERMINATION

Commandant (CG-5231)
United States Coast Guard
2100 2nd Street SW, Stop 7126
Washington, DC 20593-7126
Attn: Mr. Greg Kirkbride
(202) 372-1479
Gregory.B.Kirkbride@uscg.mil

California's Marine Invasive Species Program

California State Lands Commission, Marine Facilities Division

Performance Standards for Ballast Water Discharge

What are performance standards for ballast water discharge?

Performance standards set limits on how many organisms may be released in a specific volume of discharged ballast water. The specific limits are separated into organism size classes. ***California's standards are in the table to the right.***

Organism Size Class	*California's Discharge Standard*
Larger than 50 µm (micrometer or one millionth of a meter) in minimum dimension	No detectible living organisms
10-50 µm in minimum dimension	Less than (<) 0.01 living organisms per ml (milliliter)
Less than 10 µm in minimum dimension	Less than 10^3 (1,000) living bacteria per 100 ml Less than 10^4 (10,000) living viruses per 100 ml
E. coli *Intestinal enterococci* Toxogenic *Vibrio cholerae* (human Cholera)	Less than 126 cfu (colony forming units) per 100 ml Less than 33 cfu per 100 ml Less than 1 cfu per 100 ml OR Less than 1 cfu per gram of wet weight biological material

***Final discharge standard for California is zero detectable living organisms for all organism size classes, beginning January 1, 2020.*

Why is California implementing performance standards?

Performance standards will be more effective than ballast water exchange for minimizing the release of nonindigenous species. Studies have shown that the effectiveness of exchange can vary widely, depending on factors such as the biological richness of the source port and the configuration of ballast tanks. The state legislature therefore directed the Commission to implement performance standards for ballast water discharges to better protect California's waters from species introductions.

Ballast Water Capacity of Vessel	*Implementation for New Vessels (built on or after Jan 1 of years below)*	*Implementation for Existing Vessels*
Less than 1500 MT (metric tons)	2010	2016
1500-5000 MT	2010	2014
More than 5000 MT	2012	2016

When will the performance standards go into effect in California?

Implementation will be phased, and will depend on:

1) If the vessel is newly built or not, ***AND***
2) The ballast water capacity of the vessel

How will vessels meet California's performance standards?

There are many potential strategies. The most feasible options by 2010 will be:

1) Retention of all ballast water on board (most protective option)
2) Treat all ballast water to be discharged in California with a ballast water treatment system

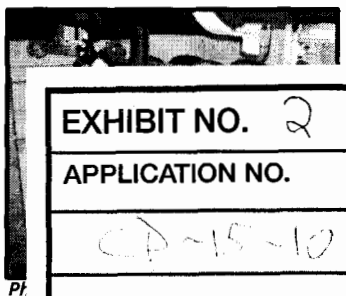


EXHIBIT NO. 2
APPLICATION NO.
CD-15-10

Revised 11/23/2009

California's Marine Invasive Species Program

California State Lands Commission, Marine Facilities Division

Performance Standards for Ballast Water Discharge (Cont.)

Will the California State Lands Commission approve ballast water treatment systems?

No. Vessel owners/operators should work closely with treatment system vendors to determine what system is most appropriate for the type and routing of their vessels.

When performance standards go into effect, California State Lands Commission Marine Safety Inspectors will check vessel discharges to ensure compliance with the performance standards. Treated discharges must also comply with all applicable environmental and water quality laws, regulations and permits.

Where can I find more information?

Internet: www.slc.ca.gov

- Click on the "Divisions" tab
- Select "Marine Facilities Division"
- Select "Marine Invasive Species Program"

Email: Dobrosn@slc.ca.gov • ***Telephone:*** 916-574-0742

Reports

Dobroski, N., C. Scianni, D. Gehringer, and M. Falkner. 2009. 2009 Assessment of the Efficacy, Availability and Environmental Impacts of Ballast Water Treatment Systems for Use in California Waters. Produced for the California State Legislature.

Dobroski, N., C. Scianni, and M. Falkner. 2008. Ballast Water Treatment Technology Testing Guidelines.

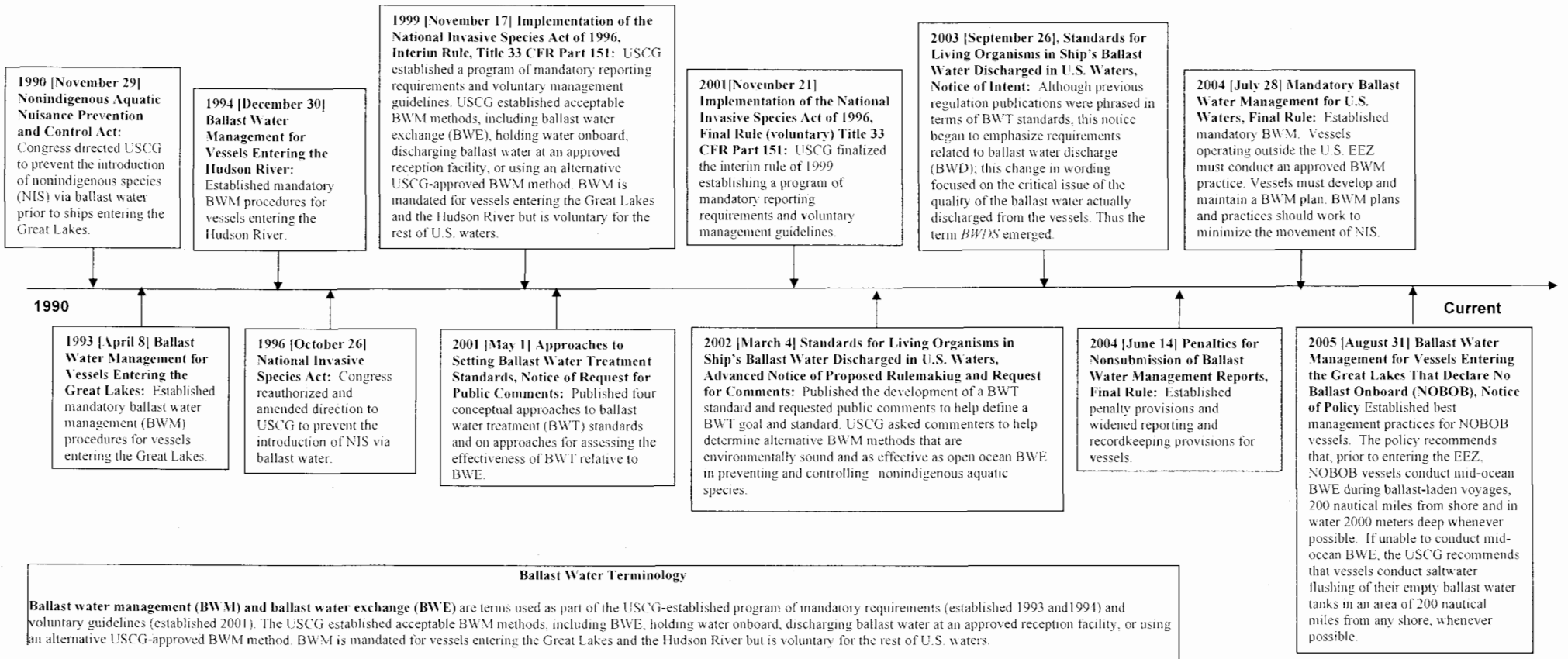
Falkner M., L. Takata, and S. Gilmore. 2006. California State Lands Commission Report on Performance Standards for Ballast Water Discharges in California Waters. Produced for the California State Legislature.

California Code of Regulations

Title 2, Division 3, Chapter 1, Article 4.7. Performance Standards for the Discharge of Ballast Water For Vessels Operating in California Waters

Revised 11/23/2009

APPENDIX I: TIMELINE OF BALLAST WATER REQUIREMENTS AND GUIDELINES



1990 [November 29] Nonindigenous Aquatic Nuisance Prevention and Control Act: Congress directed USCG to prevent the introduction of nonindigenous species (NIS) via ballast water prior to ships entering the Great Lakes.

1993 [April 8] Ballast Water Management for Vessels Entering the Great Lakes: Established mandatory ballast water management (BWM) procedures for vessels entering the Great Lakes.

1994 [December 30] Ballast Water Management for Vessels Entering the Hudson River: Established mandatory BWM procedures for vessels entering the Hudson River.

1996 [October 26] National Invasive Species Act: Congress reauthorized and amended direction to USCG to prevent the introduction of NIS via ballast water.

1999 [November 17] Implementation of the National Invasive Species Act of 1996, Interim Rule, Title 33 CFR Part 151: USCG established a program of mandatory reporting requirements and voluntary management guidelines. USCG established acceptable BWM methods, including ballast water exchange (BWE), holding water onboard, discharging ballast water at an approved reception facility, or using an alternative USCG-approved BWM method. BWM is mandated for vessels entering the Great Lakes and the Hudson River but is voluntary for the rest of U.S. waters.

2001 [May 1] Approaches to Setting Ballast Water Treatment Standards, Notice of Request for Public Comments: Published four conceptual approaches to ballast water treatment (BWT) standards and on approaches for assessing the effectiveness of BWT relative to BWE.

2001[November 21] Implementation of the National Invasive Species Act of 1996, Final Rule (voluntary) Title 33 CFR Part 151: USCG finalized the interim rule of 1999 establishing a program of mandatory reporting requirements and voluntary management guidelines.

2002 [March 4] Standards for Living Organisms in Ship's Ballast Water Discharged in U.S. Waters, Advanced Notice of Proposed Rulemaking and Request for Comments: Published the development of a BWT standard and requested public comments to help define a BWT goal and standard. USCG asked commenters to help determine alternative BWM methods that are environmentally sound and as effective as open ocean BWE in preventing and controlling nonindigenous aquatic species.

2003 [September 26], Standards for Living Organisms in Ship's Ballast Water Discharged in U.S. Waters, Notice of Intent: Although previous regulation publications were phrased in terms of BWT standards, this notice began to emphasize requirements related to ballast water discharge (BWD); this change in wording focused on the critical issue of the quality of the ballast water actually discharged from the vessels. Thus the term *BWDS* emerged.

2004 [June 14] Penalties for Nonsubmission of Ballast Water Management Reports, Final Rule: Established penalty provisions and widened reporting and recordkeeping provisions for vessels.

2004 [July 28] Mandatory Ballast Water Management for U.S. Waters, Final Rule: Established mandatory BWM. Vessels operating outside the U.S. EEZ must conduct an approved BWM practice. Vessels must develop and maintain a BWM plan. BWM plans and practices should work to minimize the movement of NIS.

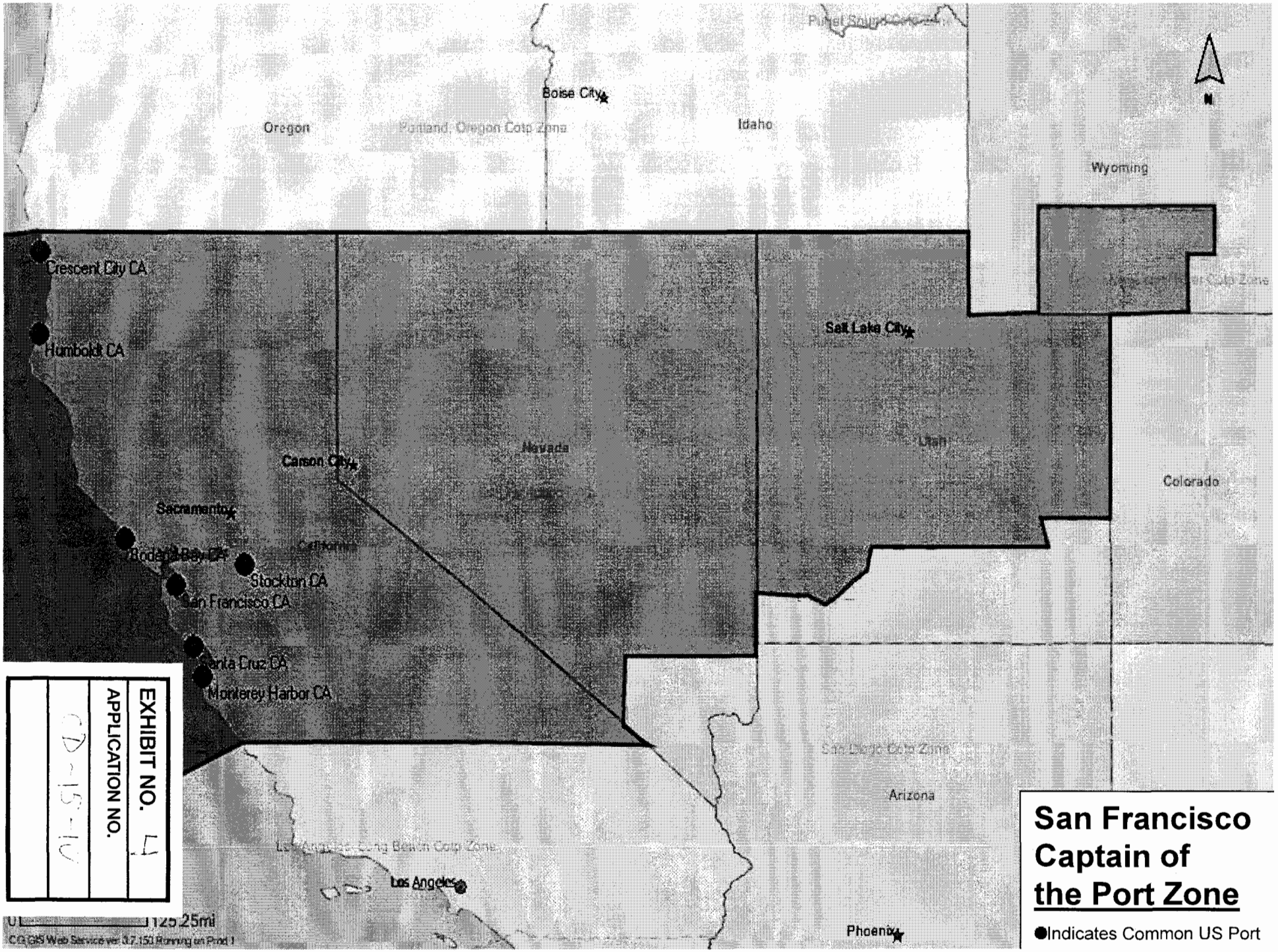
2005 [August 31] Ballast Water Management for Vessels Entering the Great Lakes That Declare No Ballast Onboard (NOBOB), Notice of Policy Established best management practices for NOBOB vessels. The policy recommends that, prior to entering the EEZ, NOBOB vessels conduct mid-ocean BWE during ballast-laden voyages, 200 nautical miles from shore and in water 2000 meters deep whenever possible. If unable to conduct mid-ocean BWE, the USCG recommends that vessels conduct saltwater flushing of their empty ballast water tanks in an area of 200 nautical miles from any shore, whenever possible.

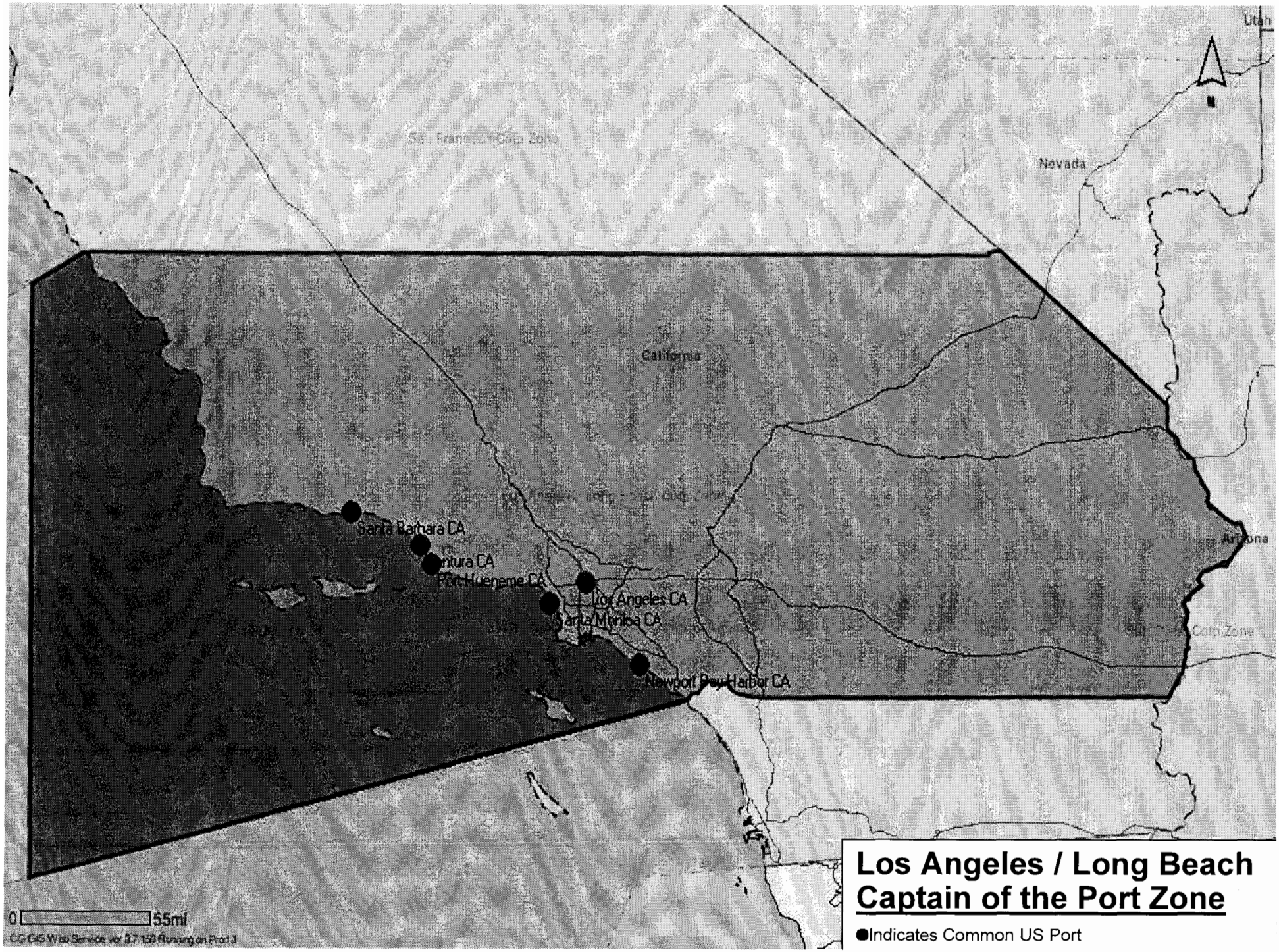
Ballast Water Terminology

Ballast water management (BWM) and ballast water exchange (BWE) are terms used as part of the USCG-established program of mandatory requirements (established 1993 and1994) and voluntary guidelines (established 2001). The USCG established acceptable BWM methods, including BWE, holding water onboard, discharging ballast water at an approved reception facility, or using an alternative USCG-approved BWM method. BWM is mandated for vessels entering the Great Lakes and the Hudson River but is voluntary for the rest of U.S. waters.

') is discussed in the May 1, 2001, Notice of Request for Public Comments which published four conceptual approaches to BWT standards and on approaches for WT relative to BWE.

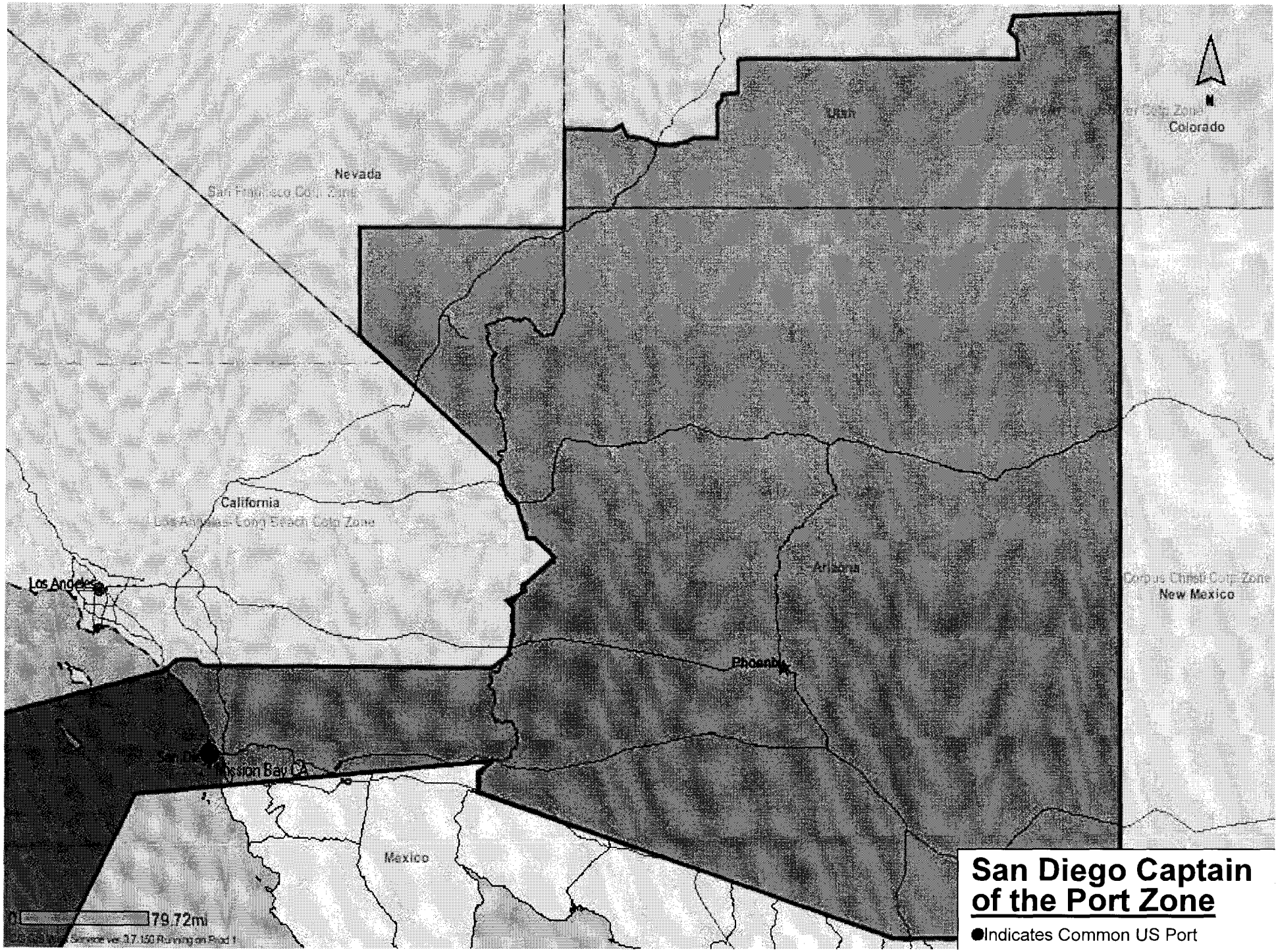
') standard emerges in the September 26, 2003, Notice of Intent that states that, "Although the initial Federal Register publications were phrased in terms of BWT always been the quality of the ballast water actually discharged from the vessels. Therefore, beginning with this notice the emphasis will be on requirements related to 8 55560]. Thus the term *BWDS* emerged.


Boise City
Oregon
Portland, Oregon Cotp Zone
Idaho
Wyoming
Crescent City CA
Humboldt CA
Salt Lake City
Carson City
Nevada
Utah
Colorado
Sacramento
California
Stockton CA
San Francisco CA
Santa Cruz CA
Monterey Harbor CA
San Diego Cotp Zone
Arizona
Los Angeles
Phoenix
N
EXHIBIT NO. 4
APPLICATION NO. 2-15-10
San Francisco Captain of the Port Zone
●Indicates Common US Port



Los Angeles / Long Beach
Captain of the Port Zone

●Indicates Common US Port



San Diego Captain of the Port Zone

●Indicates Common US Port

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
California Relay Service from TDD Phone **1-800-735-2929**
from Voice Phone **1-800-735-2922**

Contact Phone: **(916) 574-2568**
Contact FAX: **(916) 574-1950**

November 30, 2009

File Ref: W9777.234
W9777.290

Docket Management Facility (M-30)
U.S. Department of Transportation
West Building Ground Floor
Room W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590-001

Re: Docket No. USCG-2001-10486 Comments on Notice of Proposed Rulemaking for Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters and related Draft Programmatic Environmental Impact Statement.

To Whom It May Concern:

The staff of the Marine Invasive Species Program of the California State Lands Commission (Commission) appreciates the opportunity to review and comment on the draft rulemaking regarding "Standards for Living Organisms in Ships' Ballast Water" and associated documents as proposed by the U.S. Coast Guard (USCG).

The Commission has significant experience working to prevent and control the establishment of nonindigenous species (NIS) via ballast water discharges. The 1999 Ballast Water Management for Control of Non-indigenous Species Act (California Assembly Bill 703, Chapter 849, Statutes of 1999) charged the Commission with oversight of the nation's first state-wide mandatory program to prevent NIS introductions through the discharge of ballast water by commercial vessels in state waters. In 2003, Assembly Bill 433 (Chapter 491, Statutes of 2003) was passed, reauthorizing and enhancing the 1999 legislation. The Act directed the Commission to recommend performance standards for the discharge of ballast water. In 2006, the Legislature passed the Coastal Ecosystems Protection Act of 2006 (Chapter 292, Statutes of 2006), directing the Commission to adopt the recommended standards and implementation schedule as well as conduct periodic technology assessments. The Commission's recent assessments indicate systems are or will soon be available to meet California's performance standards (see Dobroski et al. 2007, 2009a). As such, the Commission is preparing to implement California's performance standards for new vessels with a ballast water capacity of less than 5000 metric tons in 2010.

EXHIBIT NO.
APPLICATION NO.

Based on our experiences in California, we offer the following comments, questions, and recommendations. These are categorized into comments specific to the Notice of Proposed Rulemaking (NPRM) and those specific to the Draft Programmatic Environmental Impact Statement (DPEIS).

GENERAL COMMENTS - NPRM

Phase-In of BWDS – We believe the adoption of two different standards is unnecessary, overly complicated and costly to implement. A single phase-in standard will ensure uniform application to all vessels, will reduce costs associated with the need to install multiple systems, and will set a clear standard that manufacturer's can strive to meet. A single standard and a single phase-in schedule will also eliminate uncertainty concerning when a possible Phase II standard will be implemented. A single standard and implementation schedule would be the most advantageous approach to reduce the introduction of NIS in US waters.

Selection of Standard – Proposed Phase I Standard is Not an Improvement Over Ballast Water Exchange, and is Not Biologically Protective - The proposed Phase I standard will not, "...markedly decrease the risks of vessel-mediated introductions of NIS into U.S. waters relative to the status quo as stated in the proposed rule" (Section V, Discussion of Proposed Rule), and will not provide adequate biological protection from NIS in the United States. Direct implementation of a Phase II standard would provide biological protection that is a scientifically defensible improvement over the current status quo.

Research indicates that the Phase I standard in the proposed rule is likely not an improvement over ballast water exchange (status quo), and in some cases unexchanged ballast water could meet the Phase I standard. For a significant proportion of vessels discharging in the U.S., Minton et al. (2005) estimated that, for at least the largest organism size class, approximately 17.2% of discharging vessels could meet the proposed Phase I standard through ballast water exchange, and 3.8 % of vessels could meet the Phase I standard for zooplankton without performing ballast water exchange (BWE) at all. In 2003 the Study Group on Ballast Water and Other Ship Vectors (SGBOSV) performed a review of their collective data on organism concentrations in unexchanged ballast water, and found that even tanks that did not exchange often met an equivalent to the Phase I standard for the 10 – 50 µm size class of organisms (MEPC 2003, Annex 1). The SGBOSV is composed of an international group of scientists with extensive knowledge about the biology of ship-mediated invasions.

Additional support for the biological inadequacy of the proposed Phase I standard originates from the United State's position in discussions during the development of Regulation D-2, of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (IMO 2004). The United States argued that, for a single hypothetical vessel discharging 10,000 m^3, a standard at the Phase I level could reasonably result in a discharge of some 4,000+ zooplankton (approx. >50 µm) into a harbor or estuary. The position document further states, "Given that many ports and estuaries receive multiple vessel visits from the same regions over the course of days and weeks, the cumulative number of organisms introduced will be quite a bit larger. For these reasons the United States urges the Conference to adopt less than 0.01/m3 as the concentration standard for Zooplankton." For smaller organisms (protists, including phytoplankton, 10-50 µm), the paper states, "Protists broadly have the ability to reproduce asexually, thus there is the potential for one propagule, one organism, to establish a population. This circumstance argues for very low concentrations. For these reasons, the United States proposes the standard for protists less than 0.01/ml" (IMO 2004).

Results of the modeling exercise included in the Draft Programmatic Environmental Impact Statement (DPEIS) for the proposed rule also provides support that the proposed Phase I standard may not decrease the risks of vessel-mediated introductions over the No Action Alternative (status quo). In relation to reducing successful introductions, page 4-16, paragraph

1 of the DPEIS states that for the single species case, "Alternative 2 (proposed Phase I standard) is expected to range between no reduction and an 8% reduction, and no reduction and a 50% reduction for smaller and larger organisms, respectively."

These studies, reviews and expert recommendations provide evidence that the proposed Phase I standard is, in numerous cases, less effective than BWE (status quo) - contradicting the claim that the proposed Phase I standards would lead to, "...a reduction in the concentration of all organisms leading to lower number of these organisms being introduced per discharge" (Section VII of the proposed rule). The evidence also strongly indicates that the proposed Phase I standard would violate the directive in NISA that alternative ballast water management must be at least as effective as BWE at preventing or reducing the introduction of nonindigenous species into U.S. Waters (16 U.S.C. 4711(c)(D)(iii)).

For the reasons outlined above, we strongly encourage the USCG to eliminate the proposed Phase I standard and adopt the Phase II standard for implementation.

Cost estimates – The cost estimates provided are without substantiation. Cost estimates are not provided for Alternatives 3 or 4, and the proposed Phase II standard was not included in any of the supporting documentation or analysis. The numbers that are provided are from estimates gathered in 2005, and the costs have changed significantly since that time due to additional research and identification of development costs. Without the proper supporting documentation, there is no valid reason provided for choosing the IMO standard (Alternative 2) over the other proposed Alternatives.

Reporting/Record keeping – It is important that the USCG clarify the requirements for reporting of ballast water treatment. Existing reporting requirements using the "Ballast Water Reporting Form" are insufficient and will be confusing for crews trying to report treatment once the BWDS is implemented. Without a change to or clarification of the reporting requirements, the USCG will miss the opportunity to gather important data about treatment system installation and usage, and USCG will have little opportunity to track whether or not vessels are using approved systems.

Exclusion of Vessels Operating in One COTP Zone - The statement in Section V of the proposed rule that, "...it is unlikely that vessels operating only within one COTP Zone would introduce invasive species (from outside of that COTP Zone)..." is inaccurate and misleading. Some COTP Zones contain multiple estuarine systems and several major ports, and vessels transiting within them can serve to spread invasive species from one port or estuary system to another. For example, the San Francisco COTP Zone includes the highly invaded San Francisco Bay as well as the much less invaded, less commercially active Humboldt and Crescent City port/estuarine systems to the north, and the Monterey Bay system to the south. Vessels operating within one Captain of the Port Zone should not be excluded from the requirements of any portion of the proposed rule.

Lack of Criteria and Supporting Analyses for "Practicality" and "Adequate Statistical Confidence" Claims - Section V, B of the proposed rule suggests that it is not "practicable" to move directly to the implementation of the proposed phase-two standard. However, there is no information, references, criteria, or statistical analyses in the proposed rule or supporting documents (DPEIS) justifying the claim, "...there is not now a testing protocol capable of establishing that a technology achieves the Phase II standard and testing results under existing protocols do not provide sufficient statistical confidence to establish that technologies meet the phase-two standard." No information, analyses, or statistical criteria is provided to support why the proposed Phase I standard is any more "practicable" in comparison. Criteria and a definition for "practicable" must be provided and justified. Additionally, if "adequate statistical confidence" is

to be used to justify delayed implementation of a more biologically protective proposed Phase II standard, definitions and criteria for the term must be provided.

Technologies Currently Exist That Meet Both Phase-One and Phase-Two Standards
The proposed Phase I standard is the same as the IMO D-2 standard. Six systems (AlfaLaval (Norway), Hyde Marine (United Kingdom), Hamann Evonik Degussa (Germany), OceanSaver (Norway), OptiMarin (Norway) and Techcross (Korea)) have received Type Approval from flag state administrations, and thus are documented to meet the IMO/Phase One standard. Based on work done by the Commission, at least seven ballast water treatment systems (AlfaLaval, Ecochlor, Hamann Evonik Degussa, Hyde Marine, OceanSaver, OptiMarin, and Techcross) have demonstrated the capability to comply with the proposed Phase II standard. All seven systems are commercially available at this time. The seven systems have at least one testing replicate at either full-scale land-based or shipboard scale that demonstrates compliance with the standards. (Dobroski et al. 2009a, Dobroski et al. 2009b).

The existence of treatment systems that can already meet the more stringent, biologically protective, proposed Phase II standard underlies the need to bypass the proposed Phase I standard.

SPECIFIC COMMENTS - NPRM
§151.1504 – *Build Date* – Recommend using the same definition for Build Date as the IMO used for "Constructed" to maintain international consistency. Therefore Build Date should be amended to "Build date means the date when *the keel is laid;* construction identifiable with the specific vessel begins; or assembly of the vessel has commenced comprising at least 50 tons or 1 percent of the estimated mass of all structural material, whoever is less; or the ship undergoes a major conversion."

Note: Major conversion is not defined by the USCG in this regulation, but is defined by the IMO (see IMO 2005) and used by California (California Code of Regulations, Title 2, Division 3, Chapter 1, Article 4.7) as well. Suggest adding definition for Major Conversion.

> *Major Conversion means a conversion of a ship which changes its ballast water carrying capacity by 15 percent or greater; or which changes the ship type; or which in the opinion of the [USCG] is projected to prolong its life by ten years or more; or which results in modifications to its ballast water system other than component replacement-in-kind. Conversion of a ship to meet the provisions of [the USCG regulations] shall not be deemed to constitute a major conversion for the purpose of this [section].*

§151.1511(a)(1) – The standard does not include language necessary for differentiation between living and nonliving organisms. Suggest changing to: "Discharge less than 10 LIVING ORGANISMS per cubic meter of ballast water".

§151.1511(a)(2) – The standard does not include language necessary for differentiation between living and nonliving organisms. Suggest changing to: "Discharge less than 10 LIVING ORGANISMS per milliliter (ml) of ballast water".

§151.1511(a)(3) – For each of the subparts (I, ii, iii), the standards indicate that the discharges must not exceed LESS THAN a given quantity. For example, the standard for *E. coli* states that the discharge "must not exceed...< 250 cfu per 100 ml". However, less than 250 can be any number from 0 through 249. Therefore, this standard can be interpreted to require discharges that "must not exceed" 0 cfu per 100 ml. Suggest removal of "<" for each subpart so that each

refers to an absolute value that must not be exceeded. Additionally, the indicator microorganism standards do not meet the U.S. Environmental Protection Agency's standards for contact water quality (recreation). As ballast water will be discharged into bodies of water used for recreation and fishing, the proposed standards are not protective of U.S. citizens and should be changed to meet the EPA standards (E. coli: <126 cfu per 100 ml, intestinal enterococci: <33 cfu per 100 ml).

§151.1511(b)(1) – See comment for §151.1511(a)(1).

§151.1511(b)(2) – See comment for §151.1511(a)(2).

§151.1511(b)(3) – The standards presented for bacterial cells should be 10^3 (=1000), and not 103 as printed in the Federal Register. Additionally the standard for viruses should be 10^4 (=10000), and not 104 as printed in the Federal Register. This typo would result in a change to the standard by several orders of magnitude and therefore must be corrected.

§151.1511(b)(3)(ii) - The standard for viruses is likely not achievable because even viruses that are no longer active may still be identified as a "virus like particles." These particles will continue in the discharge stream even after they are de-activated, and the law would provide no way to differentiate between active vs. non-active viruses. There are no technologies available now (or expected in the near future) that would be able to filter out these virus like particles.

§151.1511(b)(4) – See comment for §151.1511(a)(3).

§151.1511(c)(1) – Insufficient information is presented regarding the contents of the practicability review. First and foremost, the definition of "practicable" is not presented anywhere in the rulemaking. This term must be defined. Additionally, there is no information as to who will compile and put together the data for the review. Will a panel of experts be involved? Where will the data come from? How will the review be structured? How will the review be made available to the public? The nature of the information gathered and the methods of analysis could strongly bias the conclusions generated by the review. These issues must be addressed in the rulemaking to assure the public that a thorough unbiased review will be undertaken.

§151.1511(c)(2) – The NPRM states that the USCG has the authority to extend the initial compliance date of the Phase II standards dependent on the determinations in the practicability review. There are no upper limits presented as to how far the USCG may extend the compliance dates. Thus the dates could be extended indefinitely. The rulemaking should place an upper limit on how long the implementation date can be extended at any given time.

§151.1511(c)(4) – This section needs clarification to indicate whether or not revisions to the applicable requirements of this subpart must be made through the APA or without the need for public comment. Any revisions should be made through the APA to allow the public to provide input.

§151.1512(a) – Not all vessels will need to install a BWMS onboard. The proposed requirements for vessels to install a system will hinder the development of barge-mounted treatment systems, and may ultimately cost vessels significant sums of money to install systems that they won't regularly use. Unless a vessel discharges on a regular basis, a barge-mounted ballast water treatment system or system cooperative may be more effective (particularly in enclosed systems such as San Francisco Bay) than having

all vessels install ballast water treatment systems. Additionally, if BWMS aren't regularly used, they may build up bacteria and other microorganisms (based on preliminary data collection by Moss Landing Marine Laboratory) and actually discharge higher concentrations of organisms than would otherwise be present if a system was operated regularly. Vessels should have the option of using onboard systems, barge-mounted systems or land-based systems to treat ballast water. The key is to prevent the introduction of nonindigenous species, and this can occur through the use of any of these technologies.

Table 151.1512(b) – The column headers do not match up with the information presented beneath. The column headers must all be shifted to the right by one column in order for the table to make sense.

§151.2005(b) – See comment for definition of *Build date* for §151.1504 including addition of definition for *Major conversion*.

§151.2010 – The section states that the subpart does not apply to §151.2020. Suggest adding §151.2015 as well.

§151.2015(b) – Suggest referring to the relevant section of NISA that exempts crude oil tankers from the requirements of this subpart. It appears that this exemption could be changed based on a rulemaking alone, but this is not the case.

§151.2015(c) – Vessels that operate within one COTP still have the potential to transfer species between coasts and among habitats. The San Francisco COTP zone includes both San Francisco and Humboldt Bays (among others). Many species that are established in San Francisco are not yet present in Humboldt Bay. It is imperative that vessels conduct ballast water management when transiting between these ports to prevent the northward spread of nonindigenous species. The proposed rule would do nothing to prevent the movement of species in such instances. The rule could be changed to require management within COTP zones, but not within water bodies considered single biological entities.

For example, San Francisco Bay is considered one "place" by the Commission for ballast water management purposes. Vessels do not need to conduct management when moving between ports in San Francisco Bay. However, when vessels transit from SF Bay to Humboldt Bay they are moving from one biological water body to another, and California requires management in such cases.

§151.2030(a)(1) – See comment for §151.1511(a)(1).

§151.2030(a)(2) – See comment for §151.1511(a)(2).

§151.2030(a)(3) – See comment for §151.1511(a)(3).

§151.2030(b)(1) – See comment for §151.2030(a)(1).

§151.2030(b)(2) – See comment for §151.2030(a)(2).

§151.2030(b)(3)(ii) - See comments for §151.1511(b)(3)(ii).

§151.2030(b)(4) – See comment for §151.2030(a)(3).

§151.2030(c)(1) – See comments for §151.1511(c)(1).

§151.2030(c)(2) - See comments for §151.1511(c)(2).

§151.2035(a) – See comments for §151.1512(a).

Table 151.2035(c) – The 5-year grandfathering period for vessels that installed systems in compliance with the Phase I standards is likely insufficient because of lack of available dry dock space to outfit both new vessels to meet the Phase II standard and existing vessels that must be retrofitted after having already had one system installed. The plumbing changes required for the installation of a first system may preclude the choice of many systems for the second system. Also, the cost may be prohibitive, particularly for smaller companies. We would recommend a single standard using the proposed Phase II standard.

§151.2050(c) – Please define regularly as in, "Clean the ballast tanks regularly to remove sediments." Vessels owners/operators may have many different conceptions of what "regularly" means.

§151.2050(f) – Please define regular basis as in, "Remove fouling organisms from hull, piping, and tanks on a regular basis." Vessels owners/operators may have many different conceptions of what "regular basis" means.

§151.2050(g) – The Ballast Water Management Plan should also include information about the BWMS including operation manuals, logs, training schedules, plans for malfunctions of the system etc… The plan is incomplete if a system is on board and this information is not included.

§151.2070(4) – The section provides insufficient information on how to report use of a BWMS using the existing ballast water reporting form. A BWMS would be considered an alternative treatment, and the instructions require the vessel to submit the "type of method used." Does this mean the name of the manufacturer of the system? The model number? The mode of action (i.e. UV + filtration)? The instructions must include more detail if the USCG is to collect information in a consistent, useful manner. Additionally, unless vessels specify which system they are using, the USCG will have no way of knowing if vessels are using an approved system – unless that vessel is boarded.

§151.2075(c) – The NBIC should be given regular dates for reporting information obtained by submitted reports. Regular publication of reports will allow the public to review the progress and impacts of USCG regulations.

Appendix to Subpart D of Part 151 – Ballast Water Reporting Form and Instructions for Ballast Water Reporting Form –

- §151.2060 requires a vessel to report regardless of whether that vessel operated outside of the EEZ. However, Section 2 of the form instructions (Last Port) and Section 3 of the instructions (Volume, Number of Tanks in Ballast)) require vessels to report information upon arrival into the waters of the US EEZ. Therefore it appears that vessels do not need to report information about ballast water on board when transiting between ports within the US EEZ. This is contradictory to §151.2060. The instructions should be changed (particularly with the implementation of the BWDS) to require vessels to report when moving from port to port regardless of whether the vessel has entered or left the EEZ. Therefore significantly more data will be collected, aiding the USCG in developing future regulations.

- Section 4 of the instructions requires vessels to report ballast water management activities, but the section provides no detail as to how vessels should report use of a BWMS, or what information related to the use of a BWMS should be included in the Ballast Water Management Plan. See comments for §151.2050(g) and §151.2070(4). Without detailed data about the installation and use of BWMS in US waters, the USCG will have no basis to make future changes to the regulations.
- Section 5 of the instructions should require vessels to "Follow each tank across the page listing all source(s), exchange events, *treatment events* (or wording to that effect), and/or discharge events separately." Once the BWDS is implemented, the requirement to list exchange events will be out-of-date, and yet there is no information regarding how to list treatment events. Does the USCG wish to collect information about the location (lat/long) of treatment? Length (timing) of treatment? Type/method of treatment? Volume of ballast treated? The instructions need to be more specific for treatment events otherwise the forms will be confusing at best and at worst will miss out on collecting useful treatment information.

§162.060-1 – See comments for §151.1512(a).

§162.060-3 – *Independent Laboratory (IL)* – The definition should be modified to include academic institutions as acceptable facilities. These do not necessarily fall under the categories of government agencies or commercial testing laboratories. Some of the best analyses of system performance to date have been performed by academic research labs.

§162.060-3 – *Representativeness* – Please define adequately as in, "...a sample that can be expected to adequately reflect the properties of interest..." This definition is not very useful as the meaning of "adequately" will change from party to party.

§162.060-3 – Suggest adding "Test Report" to the definitions section, as it is used in multiple places, but not defined until much later in the document.

§162.060-10(a)(1) – Suggest requiring contact information in addition to Manufacturer's name.

§162.060-10(a)(2) – BWMS manufacturers should be able to use multiple Independent Laboratories as necessary for different phases of the system testing. Throughout the document Independent Laboratory is always used in the singular; we suggest changing all instances to Independent Laboratory(ies) to indicate that more than one lab may be used for testing purposes.

§162.060-10(a)(3) – Define "type of BWMS." Do you mean the mode of action (i.e. UV + filtration) or is something else being requested? Not clear.

§162.060-10(a)(5) – Suggest allowing systems to be tested on multiple vessels, in which case this item should be changed to "Name and type of vessel(s) for shipboard testing."

§162.060-10(d) – There is no timeframe provided for how long the USCG will have to evaluate the applications for approval. Thus USCG is granted indefinite time which will benefit neither the USCG nor the vendor. An allowable time for application review must be included here.

§162.060-10(e) – Define "novel processes."

§162.060-10(f) – Is the Test Report provided by the IL? Not clear as stated.

§162.060-10(g)(2) – Does the system need to demonstrate that it consistently meets the phase one or phase two standards or both? Not clear as written.

§162.060-10(h) – See comments for §162.060-10(d). A time frame should be included for how long the Coast Guard's Marine Safety Center has to review and return a copy of the Test Report. Additionally, "Test Plan" requires definition.

§162.060-12(a) – How will the USCG make an equivalency determination for systems approved by Foreign Administrations? The proposed rulemaking should provide a framework for how the determination will be made. Also, suggest using an advisory panel of independent scientists and agency representatives to conduct such an equivalency determination.

§162.060-12(d) – The wording of this section makes it seem like systems approved by Foreign Administrations must have participated in some kind of testing program. This may not always be the case, and thus the wording is confusing for manufacturer's not involved in specific test programs. Additionally, this section needs to be expanded to discuss in more detail the type of results and findings that are necessary and how these results will be assessed by the USCG. As written, this subsection provides too much leeway for both the manufacturer and the USCG.

§162.060-14(a)(7) – What types of approvals are being referred to - US agency, foreign administration, classification society, other? This needs clarification.

§162-060-16(a) – The NPRM requires the USCG Commanding Officer to receive written notification of any change in the design of the system. Clarify what is meant by "change in design." See comments for §151.1504 "Major conversion" as guidance for how to define change in design of the system.

§162-060-16(c) – See comments for §162.060-10(d) relative to the lack of time limits for the USCG to respond to changes of approved systems.

§162-060-20(b)(6) – We commend the USCG for requiring automated storing of data on ballast water treatment. This information will ease vessel inspections and limit the ability of vessels to falsify data.

§162.060-26(m)(1) – The language does not differentiate between living and nonliving organisms in the influent water. Suggest clarifying that influent water must include at least 10^5 LIVING individuals per cubic meter.

§162.060-26(m)(2) – The language does not differentiate between living and nonliving organisms in the influent water. Suggest clarifying that influent water must include at least 10^4 LIVING individuals per liter.

§162.060-26(q) – How will system performance be assessed if none of the bacteria in 1-4 are present in influent waters? Will systems be granted approvals if no organisms are present in the influent and none are present in the discharge? This issue has come up in multiple testing programs thus far, and needs to be definitively addressed.

§162.060-26(s)(2)(v) – The NPRM states that ball valves must be used. However, both the draft version of the EPA's Environmental Technology Verification (ETV) protocol and

the final version of the IMO Guidelines for Ballast Water Sampling (G2) states that ball valves should be avoided as they may cause shear forces leading to organism mortality. The USCG requirement is contraindicated based on existing documentation and research.

§162.060-26(t) – The item requires triplicate sampling during discharge but does not state if that sampling should be spread out over the beginning, middle, and end of discharge or if the samples may be taken all at once.

§162.060-28(c)(1) – Systems should demonstrate that they work well under both high and low capacity conditions – as would be experienced by vessels throughout the range of cargo operations.

§162.060-28(c)(2)(i-ii) – The requirements for systems to be tested on vessels that visit three geographic regions and be available for 12 months of sampling could severely limit the pool of vessels available for testing purposes. USCG should reconsider this time period (IMO only requires testing over a 6 month period) or consider allowing testing on more than one vessel at a time.

§162.060-28(e) – Ten test cycles on board vessels is very demanding both in terms of time and money. Are this many cycles necessary to achieve the desired results?

§162.060-28(e)(i) – How long must the ballast water be stored on the ship? No directions are given.

§162.060-28(f)(1) – Three replicate samples are required, but there is no indication of the required volume for each sample, such as was provided for §162.060-26(t). This volume is necessary to ensure confidence in the representativeness of the samples.

§162.060-40(e) – No time limit is provided for how long the USCG has to review evaluations provided by ILs. A time limit is necessary to ensure the review does not drag on indefinitely.

GENERAL COMMENTS - DPEIS

The "Draft Programmatic Environmental Impact Statement for the Standards for Living Organisms in Ship's Ballast Water Discharged in U.S. Waters" provides an assessment of potential environmental impacts associated with the implementation of a national ballast water discharge standard (BWDS). The document as a whole requires further refinement at all levels. The information presented is out-of-date at times, and the lack of references for key facts undermines the ability of the USCG to present the costs and benefits of the Alternatives for preventing the introduction of nonindigenous species in U.S. waters. Issues with grammar, punctuation and clarity further hamper the reader's efforts to assess the accuracy of the information presented.

The DPEIS also fails to provide a set of criteria or rubric for how each of the Alternatives was compared in order to arrive at Alternative 2 as the preferred alternative. Based on the information presented, Alternatives 3 and 4 are more protective of the environment. Furthermore, insufficient cost data is provided to support the USCG's argument that Alternatives 3 and 4 are prohibitively expensive. Therefore Alternatives 3 and 4 should be more seriously considered as the preferred alternatives in order to prevent the introduction of nonindigenous species into U.S. waters.

The Federal Register Notice officially requested comment on the following additional items:

Alternatives Analyzed - The DPEIS does not evaluate the Phase II standard presented in the Notice of Proposed Rulemaking. This glaring omission cannot be ignored. The rulemaking package and DPEIS are incomplete without an assessment of the environmental impacts of this standard.

Additionally, insufficient attention is paid to ballast water retention as the most protective management strategy for the prevention of species introductions. Retention will remain a ballast water management option under all of the proposed Alternatives. The DPEIS should make it clear that while a BWDS is more protective than ballast water exchange, ballast water retention is even more protective than a BWDS.

Methodologies - The use of Population Viability Analysis (PVA) is concerning in this instance. USCG provides insufficient evidence/references to support the use of this model in a marine or aquatic situation with invertebrates and/or microorganisms. PVA is commonly used in situations with vertebrates and on single-species conservation issues. The use of this model is based on broad assumptions that undermine the integrity of the arguments based on this analysis.

Sources of Data not included in DPEIS - There are several sources of up-to-date information that should be included in the DPEIS (see Literature Cited). The information presented in the DPEIS is generally out-of-date and requires updating in order to present readers with a real picture of the status of the field of ballast water treatment. The field is developing rapidly. In the last two years alone, we have seen an almost 70% increase in the number of ballast water treatment systems under development (see Dobroski et al. 2007, Dobroski et al. 2009b). Additionally, cost estimates have changed for the installation and operation of ballast water treatment systems, and thus the economic analysis is likely not accurate (see Lloyd's Register 2008, Dobroski et al. 2009a).

More important than the inclusion of new data, however, much of the existing data presented in the DPEIS is not properly cited. It is incumbent upon the authors to ensure that all scientific information and data is properly attributed to its source. This is the basis of the scientific method. The reader cannot verify the accuracy of statements or formulate thoughtful comments on the development of a BWDS without access to sourced information.

SPECIFIC COMMENTS ON DPEIS

Pg 1-4, line 19 – It should be noted that the existing ballast water management strategy (mid-ocean exchange) is not enforceable to any degree of accuracy. Thus, we believe it is important to move ahead with measures to protect the environment even if not all aspects of the standards are currently enforceable.

Pg 1-7, line 16 – Update IMO Convention status. As of October 31, 2009, 18 countries representing 15.36% of the world's shipping tonnage have signed the Convention.

Pg 2-2, line 31 – The authors need to define the use of the term "microorganism." This term is often used in a vague manner to refer to organisms that are microscopic. However, the specific definition in terms of planktonic organisms (microplankton) refers to organisms within the size range of 20-200 micrometers.

Pg 2-4 to 2-7, Section 2.2 – The proposed Phase II standard in the NPRM is not included as one of the alternatives in this analysis. This omission limits our ability to evaluate the effectiveness of the NPRM in its entirety. The Phase II standard must be included in the Final PEIS.

Pg 2-5, lines 14-16 – We disagree with the statement that few vessels have the ability to retain ballast on board. In California, over 80% of arriving vessels retain all ballast on board (see

Falkner et al. 2009). Vessels may conduct internal transfers of ballast to regulate stability or may alter cargo handling operations to reduce the need to de-ballast. Retention is the most protective ballast water management strategy. The DPEIS should include further discussion of the merits of retention.

Pg 2-5, line 19 – This paragraph needs one further sentence discussing that a vessel by vessel approach (as mentioned) is not practical, and that using exchange as the benchmark for system effectiveness is not sufficiently protective of US waters.

Pg 2-5, line 20 – The DPEIS gives no explanation or rubric for assessing how the USCG determined that Alternative 2 is the preferred alternative. Given that Alternative 2 is not the most environmentally protective strategy, USCG must further discuss *why* this alternative is preferred over all others.

Pg 2-5, lines 30-31 – The proposed *E. coli* and intestinal enterococci standards are less stringent than the U.S. Environmental Protection Agency's (EPA) criteria for recreational water contact. Given that vessels will be discharging ballast into waters that are used by U.S. citizens for many types of recreation, this standard is not strong enough to provide the protection required by EPA.

Pg 3-2, lines 16-31 – Habitat destruction should be included as one of the bulleted stressors impacting marine, estuarine and freshwater environments. Habitat destruction has been implicated as the greatest threat to imperiled species (Wilcove et al. 1998). The remainder of the stressors and the examples of these stressors needs to include citations for the references used.

Pg 3-4, line 1 – Define "dead zones," or, use the terms "anoxia" or "hypoxia" to better describe the situation.

Pg 3-10, line2 – The fact presented here (that over 200 NIS are identified in SFB) should remain consistent with facts previously presented on page 3-2, line 26. While both may be technically correct, there are inconsistencies in the presentation.

Pg 3-13, line 17 – Discuss what is meant by "increased competition." The birds are not facing competition from the invertebrates. Perhaps reduced resource availability would be more appropriate.

Pg 3-14, line 27 – As this DPEIS represents the entire U.S., it would be appropriate to include a major western freshwater system in this list. The Columbia River and its watershed is a very significant freshwater system in western states.

Pg 3-23, line 6 – The information presented in this line is from 1995. Given the recent downturn in the economy, it would be appropriate to include an updated figure here, and for all of the economic information presented in Section 3.9.2.

Pg 3-23, lines 18-21 – This statement is misleading. These figures do not reflect recent job growth within the last decade, rather job growth between 1990 and 2000. Also, Colgan (2003, as cited in DPEIS) describes growth in marine construction employment, not only in tourism and recreation.

Pg 3-25, line 28 – Pimentel et al. 2005 is not included in the Literature Cited.

Pg 3-26, lines 1-8 – Are more recent figures available? California's Marine Invasive Species Program did not exist in 1999 and is thus not reflected in the cost estimate. Additionally, many

other state programs have come into existence or received funding for invasive species management in the last 10 years. This section should be updated.

Pg 3-26, bullets – Update cost estimates. Many are out of date. For example, control and monitoring of *Caulerpa taxifolia* in southern California topped $7 million by 2006 (Woodfield 2006).

Pg 3-36, 37 – Public health and shipping safety should be separated into two sections. They are both important topics that deserve separate attention. In particular, the shipping safety section should be expanded. The combined section doesn't flow well.

Pg 4-3, lines 1-8 – There is an eighth category that is not mentioned - nektonic organisms (e.g. fish). Water column organisms that may be entrained into ballast tanks include both planktonic and nektonic organisms, which may be capable of avoiding uptake but not always.

Pg 4-3, line 9 – The BWDS does address organisms classified in categories 4-7. Ballast water treatment will prevent these other organism categories from reproducing and releasing larvae into the environment. Thus the BWDS and BW treatment are preventing the introduction of species from multiple categories of organisms.

Pg 4-3, lines 17-21 – Confusing. Please clarify.

Pg 4-7, lines13-16 – This statement suggests that vessels may be able to meet the Preferred Alternative (Alternative 2) BWDS for organisms greater than 50 micrometers without exchange or treatment.

Pg 4-7, lines 22-25 – Heterotrophic bacteria may also bloom within a ballast tank as a result of the increased substrate (i.e. phyto- and zooplankton that may die during transit).

Pg 4-8, lines 24-27 – This statement is incorrectly cited. This pattern was observed and recorded by Dobroski (2005).

Pg 4-12, line 23 – It is confusing to include treatment under the No Action Alternative (NAA). Did the authors intend to say that treatment equal to or better than exchange, without the development of a BWDS, is part of the NAA? Please clarify.

Pg 4-12, line 25-26 – Ballast water retention, which is included under the NAA, would eliminate the introduction of species via ballast water discharges. Thus it is not appropriate to say that the NAA options will not eliminate the introduction and spread of species. Retention should be promoted as the best ballast water management strategy because it ensures that no organisms are discharged.

Pg 4-11, Line 21 – This section discusses three options within the NAA: BWE, retaining BW on board, and treatment. There is no mention of the fact that under current regulations many vessels do not have to take any management actions and can release raw coastal ballast water.

Pg 4-16, line 9 – *q(m)* should be defined in the text, not just in the appendix. Additionally, N_e requires definition.

Pgs 4-12 – 4-15 – The Table and Figure headings should be on the same page as the Table or Figure to ease understanding.

Pg 4-14, line 3 – Should be listed as "Figure 4-2" not "Table 4-2."

Pg 4-18, lines 22-23 – This vague language is unnecessary. Should read "Alternative 3 is expected to be more environmentally beneficial than Alternative 2."

Pg 4-18, lines 31-32 - This vague language is unnecessary. Should read "Alternative 4 is expected to be more environmentally beneficial than Alternative 3."

Pg 4-19, line10 – Smaller living organisms may still be released (as opposed to "would still be released"), since treatment to kill or inactivate larger organisms may also treat organisms smaller than 0.1 micrometers.

Pg 4-19, line 14 – Setting a BWDS will not result in fewer existing invasive species, but fewer introductions in the future. This sentence is misleading.

Pg 4-19, lines 20-28 – Please provide references for the data presented in this section.

Pg 4-19, lines 22-22 – Are the costs based on installation of treatment systems on U.S.-flagged vessels or all vessels that will be discharging in U.S. waters? In Appendix H it appears that the costs, including installation and operation, include both U.S. and foreign vessels. Please clarify.

Pg 4-19, line 34 – The 3% and 7% discount rates are not commonly understood by individuals outside of finance. Please explain.

Pg 4-20, lines 10-18 – The argument that capital and operation costs will double and quadruple for Alternative 3 and Alternative 4, respectively, is not accurate based on data presented in Lloyd's Register (2008) and Dobroski et al. (2009a). The authors need to present up-to-date facts and figures to clearly demonstrate that such an increase in costs will be observed in the event that these Alternatives are implemented. Without these figures there are no real justifications to forgo either Alternative 3 or 4 as the BWDS as both are obviously more protective of the environment than Alternative 2.

Pg 4-21, lines 6-24 – The benefits presented for Alternative 2 should also be presented for Alternatives 3-5. The lack of information on Alternatives 3-5 prevents valid comparison of the Alternatives. According to the bulleted benefits, Alternatives 3-5 will be functionally more beneficial than Alternative 2.

Pg 4-22, lines 21-22 – Recent evidence suggests that hull fouling may be as important, if not more important, than ballast water for species introductions from shipping. Fofonoff et al. (2003) have shown that 36% of the coastal marine NIS established in the continental North America can been attributed to hull fouling as the sole vector (72% for hull fouling as one of several potential vectors), while only 20% have been attributed to ballast water as the sole vector (57% for ballast water as one of several vectors). Davidson et al. (2009) have shown that the fouling vector was associated with an average of 70% of total NIS incursions per decade across eight temperate locations around the world (including Los Angeles/Long Beach, San Francisco Bay, and Puget Sound) between the years 1900 and 2000.

Pg 4-22, lines 26-28 – After discussing this statement with Dr. Carlton, he indicated that he never intended to create a link between the economics of development of a BWDS and an increase in hull fouling. This statement is not accurate and should be removed. A BWDS should have no impact on hull fouling. Vessels are cleaned of fouling on a regular basis to reduce drag, increase fuel efficiency and save money. Hull cleaning is also necessary for hull inspections during classification society approval renewals. Thus hull cleaning will continue regardless of the implementation of a BWDS.

Pg 4-22, lines 28-35 – These statements overlook the fact that many fouling organisms are associated with sea chests and other protected areas of a ship and therefore are sheltered from most of the deleterious effects occurring during transit (see Coutts et al. 2003).

Pg 4-22, lines 33-35 – The risk of species introductions from hull fouling is likely not lower than the risk of introductions via ballast water under the existing management regime. In fact the risk may be higher from hull fouling. Not all vessels discharge ballast in port. However, all vessels have hulls exposed to the environment, and those hulls may accumulate organisms. Thus every vessel poses a risk for hull fouling introductions, but only discharging vessels pose a threat for introductions via ballast water.

Pg 4-23, line 2 – Please clarify. Aren't NEPA analyses required for USCG approval of any treatment technology? This sentence appears to state that they are not required.

Pg 4-23, line 34 – Add the following phrase in quotations for clarity: The numbers of invasions are likely to be reduced "with the implementation of a federal BWDS."

Pg A-4, lines 8-9 – The threat of species introductions comes not only from foreign vessels, but also from vessel operating in the coastal waters of the U.S. See Falkner et al. (2009) – a majority of vessel traffic to California ports comes from other California ports.

Pg A-12, lines 4-5 – This sentence is incorrectly attributed to USGS (2006). Please cite Dobroski (2005).

Pg A-20, lines 17-21 –The fact that predicting the introduction and establishment of species is complex (and the fact that there is a lack of necessary detailed information) does not make it appropriate to default to a generic data-poor approach.

Pg A-22, lines 20-22 – Since PVA is "typically used to assess the...status of a particular population and therefore typically involves the development of a model...of each population of interest separately," how is it appropriate or useful to use it for an unknown (but large) number of different species at once?

Pg A-23, line 11 – The majority of the literature presented in support of PVA is for vertebrate populations. Additional literature involving invertebrate populations is necessary to support the use of this type of model on populations present in ballast water.

Pg A-23, lines 7-16 – In general the authors need to present greater evidence to support the use of PVA for invertebrate planktonic species present in ballast water. These species have different life history strategies than those typical vertebrate populations modeled by PVA for conservation purposes. How is this model useful for these populations given the great number of assumptions that must be made?

Pg A-23, lines 22-23 – How is it appropriate to use "a routine tool for assessing the dynamics and extinction properties of a single population" to evaluate the extinction properties of countless populations that may be present within a ballast tank, each with differing characteristics and dynamics?

Pg A-28, lines 7-9 – This statement needs to be included as a disclaimer in the main body of the DPEIS when PVA is first introduced.

Pg A-32, line 21 – The basis for this range of *c* values needs to be discussed. The author states that *c* values will range from taxon to taxon and will vary depending on environmental conditions, and that existing *c* values have usually been determined for large organisms.

However, instantaneous growth rates for many planktonic organisms are well-known (see Calbet and Landry 2004) and others can easily be determined experimentally.

Pg A-39, Table 5-6 – The data presented in the table is extremely variable, how can these values be trusted to give a good representation of the number of organisms discharged from a typical ballast tank? The coefficient of variation for both Alternative 1A and 1B is 416%.

Pg A-39, lines 16-19 – This is an extremely huge set of assumptions to make. There is no reasoning behind the decision to use the value of "12 new species" per discharge event. The value comes from a study evaluating organisms of a different size class than what the alternatives are proposing (i.e. >80 microns vs. >50 microns), a large number of species may have been missed by this evaluation. There also is no presentation of variation around the mean of 12 new species pulled from Smith (1999, as cited in DPEIS). Reviewers cannot make an informed decision about whether this is an appropriate value to use for these calculations without knowing how precise the data are.

Pg A-39, line 16 through Pg A-40, line 22 – There are many assumptions that we are expected to make here, each without much reasoning behind them. For example, we are to assume that 12 new species are discharged per event; that the dominant species accounts for 50 % of the organisms; that all of the other 11 species abundances will fall in line geometrically; that the values of *c* fall in line with the range presented (even though no rationale is presented); that *c* is the same for all species; that the extinction threshold for all of the species is known. These are all difficult assumptions to make without proper descriptions of the rationale behind them.

Pg H-5, paragraph3, line 2 – What is the source for the estimate that BWMS cost 2-4x the cost of using mid-ocean BWE?

Pg H-6, Table H-3 – What is the source of the cost estimates for installation and operation of ballast water treatment systems? What year was this data compiled? Costs have varied widely for ballast water treatment systems in recent years, and many more systems are available now than even a few years ago. Without a year and source for this data, there is no good way to assess the accuracy or appropriateness of this data. Some recent cost data can be found in Lloyd's Register (2008) and Dobroski et al. (2009a).

Pg H-6, paragraph 2 – Please provide some basis for why USCG believes that the costs for Alternative 3 would be double those of Alternative 2 and that the costs for Alternative 4 would be quadruple those for Alternative 2. Cost data presented in recent reports by Lloyd's Register (2008) and the California State Lands Commission (Dobroski et al. 2009a) do not agree with USCG estimates.

Pg H-7, paragraph 1 – Do these conclusions hold based on the recent economic downturn? Is there any evidence to show that costs won't be passed on to consumers?

Pg H-8, last paragraph – The calculations to determine the number of invasions that would be reduced and the economic damage that would be reduced seems excessively convoluted and inappropriate. Shipping-based invasion rates of invertebrates are projected into the future and are used to estimate the number of plant and fish invasions based on historical relationships between the three groups (even though there is no mention whether the relationships used take into account that the shipping-based invert invasions are only a portion of the overall invert invasions). These values are then adjusted back to account for only those invasions that are attributable to ballast water (even though this type of data involves a great deal of uncertainty—See Fofonoff et al. 2003). These values are then adjusted again to account for those invasions that cause economic harm.

Pg H-10, paragraph 3 – What are the resulting damages avoided by implementing Alternatives 3-5? This information needs to be presented so that all Alternatives can be compared on equal footing.

Pg H-11, Figure H-1 – The range of quantified benefits and annual costs need to be presented for Alternatives 3-5 to allow comparison among the Alternatives. The data is incomplete as presented.

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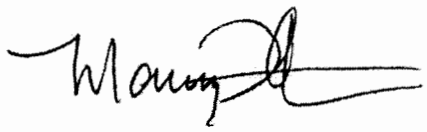
In closing we wish to express our support for a strong federal ballast water discharge standard that protects our nation's aquatic ecosystems from future NIS invasions. We strongly encourage the U.S. Coast Guard to establish the Phase II standard and move to implement that standard as quickly as possible.

Thank you again for the opportunity to provide comments on the Proposed Regulations and associated documents. Please do not hesitate to let us know if you have any questions.

Sincerely,



Maurya B Falkner
Marine Invasive Species Program Manager

Cc:
G. Gregory, Chief, Marine Facilities Division