**TITLE 2. ADMINISTRATION**
**DIVISION 3. STATE PROPERTY OPERATIONS**
**CHAPTER 1. STATE LANDS COMMISSION**
**ARTICLE 4.7. PERFORMANCE STANDARDS AND COMPLIANCE ASSESSMENT FOR THE DISCHARGE OF BALLAST WATER FOR VESSELS OPERATING IN CALIFORNIA WATERS**

**ADDENDUM TO THE FINDING OF EMERGENCY**

1. *How is the introduction of golden mussels and ballast water discharge "most likely linked"? Is there any supporting evidence, such as sampling results?*

   Unless the introduction is intentional, biological invasions rarely have a direct evidentiary link to the introduction vector (e.g., ballast water). Typically, the detection of a new species in an area occurs after a variable lag time after the actual introduction when the population is large enough to be detected. The standard approach in biological invasion ecology is to assess the likely introduction vectors that are active in the area at the time of detection, and that can transport the species across its different life history stages and across the distances from the native and introduced ranges (Asia and South America). Golden mussels, and other freshwater invasive mussels like zebra and quagga mussels, have floating planktonic larval development stages and attached, stationary adult stages. Aside from intentional introduction, the two main vectors or ways for transporting these freshwater invasive mussels are through ballast water (for the floating, planktonic larval stages) and hull biofouling of boats or ships (for the attached, stationary adult stages). Hull biofouling is unlikely as a possible vector because a vessel carrying golden mussels on its hull from the native or introduced ranges (Asia and South America) would have had to transit through full salinity ocean water for long durations, and full saline water is deadly for freshwater organisms. The most likely vector, therefore, is ballast water, where floating larvae can be entrained into internal ballast tanks and protected from saltwater prior to being released at the port of destination. This is why we are proposing to add saltwater into these tanks, to kill the freshwater organisms prior to discharge in California's fresh and brackish water ports.

   Additionally, ballast water has been identified as the likely vector for the introduction of golden mussels into Argentina in the 1990's (Darrigran and Pastorino, 1995), and for zebra and quagga mussels (Roberts, 1990) into the

Great Lakes. A Canadian risk assessment (Mackie and Brinsmead, 2017) identifies ballast water as the likely vector for future introductions of golden mussels into Canadian waters.

2. *Why did the Commission wait approximately 8 months from the discovery of golden mussels in October 2024 in the Stockton port to file this emergency action?*

   While the initial detection occurred in late October 2024, it took another week or two to survey other sites throughout the region to delineate the population and determine, at the time, that it was centralized around the Port of Stockton. Once staff were certain that the population was centered around the port, staff and others (including Department of Fish and Wildlife staff) concluded that ballast water was the likely introduction vector.

   It took additional time to determine the least burdensome solution, draft the regulations, and internally review the proposed regulations. Before the rulemaking could be filed, it had to be presented to the Commission for review at a public meeting. Staff brought the proposed rulemaking to the first available meeting, which was the February 2025 meeting. During the February 2025 Commission meeting, staff received recommended amendments to add a safety exemption to the proposed text from a public attendee. Commission staff spent time working with the commenter on possible amended text, but all parties agreed in the end that it was not necessary to include the safety exemption in the proposed text because the statute already contained a broad safety exemption that clearly applies in this case.

   Additional time was necessary to coordinate with staff at Oregon Department of Environmental Quality to try to align our proposed amendments with similar requirements in Oregon and to align with adopted, but not yet implemented, requirements at the federal level that the Commission will have to be consistent with in the next few years. Because these ships travel between states, Commission staff worked to ensure alignment to promote better compliance across the region.

3. *Why did the Commission wait approximately 5 months from Commission approval of this emergency regulatory action in February to file with the OAL?*

   As stated above, during the February 2025 Commission meeting, staff received recommended amendments to add a safety exemption to the proposed text from a public attendee. Commission staff spent time working with the commenter on possible amended text, but all parties agreed in the end that it was not necessary to include the safety exemption in the proposed text because the statute already contained a broad safety exemption that clearly applies in this case.

   Additional time was necessary to coordinate with staff at Oregon Department of Environmental Quality to try to align our proposed amendments with similar requirements in Oregon and to align with adopted, but not yet implemented, requirements at the federal level that the Commission will have to be consistent with in the next few years. Because these ships travel between states, Commission staff worked to ensure alignment to promote better compliance across the region, as well as to make sure the proposed regulations could be efficiently and effectively implemented by the regulated community.

4. *Please put in context the statement in the Commission meeting staff report that 63-79 vessels are subject to the emergency regulations when the Finding of Emergency states that about 24 vessels discharge ballast water into California ports and need to comply with the proposed regulations. Is it that out of the 63-79 vessels, these regulations will affect about 24 of those vessels?*

   The range of 63-79 vessels represented the number of vessels expected, based on previous data, to discharge fresh or brackish ballast water into the California ports described in the proposed text. Upon further analysis of that dataset after the February 2025 Commission meeting, staff determined that many of the vessels that discharged fresh or brackish water in these ports had sourced that water in the same location and would be exempt from ballast water management requirements, as specified in 2 CCR § 2280. After removing those vessels from consideration, the final estimate was 24 vessels.

5. *Please add a statement explaining why salinity must be less than 18 parts per thousand in section 2293(b).*

   Generally, 18 parts per thousand is an upper threshold for categorizing waters where ambient organisms may be able to survive in freshwater. More specifically, the federal Vessel Incidental Discharge Act (VIDA), specifically 40 CFR 139.10(g)(2), identifies *low salinity* ballast water as less than 18 parts per thousand, and includes specific requirements for vessels carrying low salinity ballast water into *low salinity* ports in the Pacific Region (similar requirements exist for vessels arriving at Great Lakes ports). The proposed amendments are aligned with the final VIDA regulations adopted by the U.S. Environmental Protection Agency (USEPA). Once the USEPA VIDA regulations are implemented within the next few years (dependent on U.S. Coast Guard adopting implementing regulations), states will not be able to enforce requirements that are not aligned with the federal rules.

**Additional Technical, Theoretical, and Empirical Studies, Reports or Similar Documents Relied Upon**

Darrigran, G., and Pastorino, G. 1995. The recent introduction of a freshwater Asiatic bivalve, *Limnoperna fortunei* (Mytilidae) into South America. The Veliger, 38(2): 171-175.

Mackie, G. L. and Brinsmead, J. K. 2017. A risk assessment of the golden mussel, *Limnoperna fortunei* (Dunker, 1857) for Ontario, Canada. Management of Biological Invasions, 8(3): 383-402.

Roberts, L. 1990. Zebra mussel invasion threatens U.S. waters. Science, 249(4975): 1370-1372.