

## Staff Summary for April 16-17, 2025

**6. Golden Mussel Emergency Regulation****Today's Item****Information** ☐**Action** ☒

Consider a 90-day extension of the emergency regulation adding golden mussel (*Limnoperna fortunei*) to the list of animals restricted from live importation, transportation and possession.

**Summary of Previous/Future Actions**

- Adoption hearing for emergency regulations to add golden mussel to the list of restricted animals December 11-12, 2024
- **Today consider adopting a 90-day extension of emergency regulations to retain golden mussel on the list of restricted animals** **April 16-17, 2025**

**Background**

On October 17, 2024, golden mussel, an invasive, freshwater bivalve native to rivers and creeks of China and Southeast Asia, was discovered in the Port of Stockton and soon after at additional sites in the Sacramento-San Joaquin Delta (Delta). The presence of the species poses a significant immediate threat to the ecological health of the Delta and all waters of the state, water conveyance systems, infrastructure, and water quality; its arrival in California is a state, national, and international concern, representing the first confirmed detection in North America. Immediate steps are necessary to stop the spread of golden mussel to prevent the translocation of this non-native, invasive species to other waterbodies in the state and beyond. See Exhibit 1 for additional background information.

On December 12, 2024, the Commission took emergency action to add golden mussel to the list of animals restricted for importation, transportation and possession. The emergency regulation went into effect December 19, 2024 and will expire on June 18, 2025 unless readopted.

Today, the Commission will consider readopting the emergency regulation to retain golden mussel on the list of restricted animals for an additional 90 days, which will reduce the potential for people to introduce and move golden mussels to other waters of the state and prevent damage to native wildlife and their habitats, protect agricultural interests of the state, and protect public health and safety.

As of March 31, 2025, golden mussels have been detected 43 times (see exhibits 6 and 7). Several of the detections occurred after the draft finding of emergency and statement of proposed emergency regulatory action (emergency statement, exhibit 3) was prepared. If the Commission takes action today to extend the emergency regulation, staff will provide an updated list of detections in the emergency statement before filing the rulemaking with the Office of Administrative Law.

**Significant Public Comments**

1. A fishing guide requests that the Commission support and encourage a standardized, transferable decontamination system that allows boaters to access all lakes after

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completing a one-time certification—provided they have not visited the Delta—to ensure that only those who have been in the Delta undergo additional decontamination, while preserving access for responsible boaters who pose no risk of contamination. (Exhibit 8)

### Recommendation

**Commission staff:** Find, pursuant to Section 399 of the Fish and Game Code, that adopting the proposed emergency regulation is necessary for the immediate conservation, preservation, and protection of birds, mammals, fish, amphibians, or reptiles, including, but not limited to, their nests or eggs and for the immediate preservation of the public peace, health and safety, or general welfare. Further determine, pursuant to Section 11346.1 of the Government Code, that an emergency situation exists and find the proposed regulation is necessary to address the emergency. Adopt a 90-day extension of the emergency regulation to amend Section 671, as recommended by the Department and authorize staff to update the emergency statement with the most current list of detections prior to filing the rulemaking with the Office of Administrative Law.

**Department:** Adopt a 90-day extension of the emergency regulation to amend Section 671 as proposed in Exhibit 4.

### Exhibits

1. [Staff summary from the December 11-12, 2024 meeting, Agenda Item 16 \(for background purposes only\)](#)
2. [Department memo, received March 26, 2025](#)
3. [Draft emergency statement, dated February 24, 2025](#)
4. [Proposed regulatory language for readoption](#)
5. [Draft economic and fiscal impact statement \(STD 399\) and addendum](#)
6. [List of detections of golden mussels through March 31, 2025](#)
7. [Map of detections of golden mussels through March 31, 2025](#)
8. [Email from Tom Mailey, Get the Net Guide Service, dated April 2, 2025](#)

### Motion

Moved by \_\_\_\_\_ and seconded by \_\_\_\_\_ that the Commission adopts the staff recommendations for items 3 through 6 on the consent calendar.

**Staff Summary for December 11-12, 2024**  
**For Background Purposes Only**

## 16. Golden Mussel Emergency Regulation

### Today's Item

Information ☐

Action ☒

Discuss and consider taking emergency action to add golden mussel (*Limnoperna fortunei*) to the list of animals restricted from live importation, transportation and possession.

### Summary of Previous/Future Actions

- Today's adoption hearing

**December 11-12, 2024**

### Background

On October 17, 2024, golden mussel, an invasive, freshwater bivalve native to rivers and creeks of China and Southeast Asia, was discovered in the Port of Stockton and soon after at additional sites in the Sacramento-San Joaquin Delta (Delta). The presence of the species poses a significant immediate threat to the ecological health of the Delta and all waters of the state, water conveyance systems, infrastructure, and water quality; its arrival in California is a state, national, and international concern, representing the first confirmed detection in North America. Immediate steps are necessary to stop the spread of golden mussel to prevent the translocation of this non-native, invasive species to other waterbodies in the state and beyond.

Golden mussels can tolerate a wider range of environmental conditions than the invasive quagga and zebra (dreissenid) mussels, including less calcium requirements and higher tolerances for salinity and water temperatures. Nearly all waters of California are conducive to golden mussel establishment. Without containment, golden mussels are likely to spread overland on trailered vessels and equipment to other fresh and brackish waterbodies throughout California, to other ports and inland waters of North America, and potentially abroad.

As ecosystem engineers, golden mussels can permanently change ecosystem function. Where golden mussels establish, they create large encrustations of reef-like structures in a stream or river. The increase in organic matter shifts varied microhabitats and their diversity to monocultures of species, slowly eliminating aquatic species diversity. In waterways where golden mussels are present, heavy encrustations of golden mussels block municipal and industrial water intakes, requiring ongoing removal; harm native species in the ecosystem; facilitate aquatic weed growth; and diminish water quality. Spread of golden mussels out of the Delta into fresh and brackish waters would cause infrastructure damage across the state and could threaten water delivery and electric power delivery from hydroelectric operations.

The proposed emergency regulation will add golden mussel to the list of restricted animals, which will prohibit importation, transportation, and possession of live golden mussels. Adding golden mussels to the list will reduce the potential for people to introduce and move golden mussels to other waters of the state and prevent damage to native wildlife and their habitats, protect agricultural interests of the state, and protect public health and safety.

**Staff Summary for December 11-12, 2024**  
***For Background Purposes Only***

As required by Section 2118 of the California Fish and Game Code, the California Department of Food and Agriculture has been notified and concurs with the proposed action to add golden mussel to the list of restricted animals (Exhibit 7).

A notice of proposed emergency action was distributed December 4, 2024 in order to facilitate filing the rulemaking with the Office of Administrative Law as quickly as possible should the Commission adopt the regulation today. Other pertinent documents are available in exhibits 1 through 6 and Exhibit 8.

### **Significant Public Comments (N/A)**

### **Recommendation**

**Commission staff:** Find that an emergency exists, find that the project is exempt from the California Environmental Quality Act, and adopt the proposed emergency regulation adding golden mussel to the list of restricted animals as proposed in Exhibit 3 and discussed today.

**Department:** Adopt the regulation as proposed in Exhibit 3.

### **Exhibits**

1. Department memo transmitting draft emergency statement, received November 26, 2024
2. Draft emergency statement and informative digest
3. Draft proposed regulatory language
4. Draft economic and fiscal impact statement (STD. 399)
5. Department news release, dated October 31, 2024
6. Department presentation
7. California Department of Food and Agriculture concurrence email, dated November 14, 2024
8. Department memo and draft notice of exemption, received November 26, 2024

### **Motion**

Moved by \_\_\_\_\_ and seconded by \_\_\_\_\_ that the Commission finds, pursuant to Section 399 of the California Fish and Game Code, that adopting the proposed emergency regulation is necessary for the immediate conservation, preservation, and protection of birds, mammals, fish, amphibians, or reptiles, including, but not limited to, their nests or eggs and for the immediate preservation of the public peace, health and safety, or general welfare.

The Commission further determines that this project is exempt from the California Environmental Quality Act as an action necessary to protect a natural resource and the environment pursuant to the guidelines in California Code of Regulations, Title 14, sections 15307 and 15308.

The Commission further determines, pursuant to Section 11346.1 of the California Government Code, that an emergency situation exists and finds the proposed regulation is necessary to address the emergency.

**Staff Summary for December 11-12, 2024**  
***For Background Purposes Only***

Therefore, the Commission adopts the emergency regulation to amend Section 671, as discussed today.

# Memorandum

Received March 26, 2025  
Original on file

**Date:** March 6, 2025

**To:** Melissa Miller-Henson  
Executive Director  
Fish and Game Commission

**From:** Charlton H. Bonham  
Director

**Subject:** **Item for April 16, 2025 Fish and Game Commission Meeting: Submittal of Emergency Statement and Regulatory Documents to Readopt the Amendment of Section 671, Title 14, California Code of Regulations, Re: Golden Mussels**

Please find attached the Findings of Emergency and Statement of Proposed Emergency Regulatory Action to Amend Section 671, of Title 14, California Code of Regulations (CCR).

On October 17, 2024, golden mussel, an invasive, freshwater bivalve, was discovered in the Port of Stockton and soon after at additional sites in the Sacramento-San Joaquin Delta (Delta). The presence of the species poses a significant immediate threat to the ecological health of the Delta and all waters of the state, water conveyance systems, infrastructure, and water quality. Its arrival is a state, national, and international concern. Immediate steps are necessary to stop the spread of this invasive species to prevent the translocation of this species to other waterbodies in the state and beyond.

The proposed emergency regulation will keep in place for an additional 90-day period the addition of golden mussel to the list of restricted animals in Title 14, Section 671. Including golden mussel on the list of restricted animals prohibits importation, transportation, and possession of live golden mussels, thereby reducing the potential for people to move them to other waters of the state and preventing damage to native wildlife and their habitats, protecting agricultural interests of the state, and protecting public health and safety.

The Department requests submission of this emergency action to the Office of Administrative Law after consideration at the April meeting. If you have any questions or need additional information, please contact Jay Rowan, Chief, Fisheries Branch at [fisheries@wildlife.ca.gov](mailto:fisheries@wildlife.ca.gov). The Department point of contact for this emergency regulation is Environmental Program Manager, Martha Volkoff. She can be reached at [Invasives@wildlife.ca.gov](mailto:Invasives@wildlife.ca.gov).

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Melissa Miller-Henson, Executive Director  
Fish and Game Commission  
March 6, 2025  
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Finding of Emergency and Statement of Proposed Emergency Regulatory Action

Readoption of Emergency Action to Amend Section 671  
Title 14, California Code of Regulations  
Re: Golden Mussel

Date of Statement: February 24, 2025

Throughout this document, CDFW refers to the California Department of Fish and Wildlife, and Commission refers to the California Fish and Game Commission. Unless otherwise specified, all section references in this document are to Title 14 of the California Code of Regulations (CCR).

## **I. Emergency Regulation in Effect to Date**

At its December 11, 2024 meeting, the Commission approved an emergency rulemaking to add golden mussel (*Limnoperna fortunei*) to the list of restricted animals in Section 671 (Office of Administrative Law File Number 2024-1213-03E).

### **Background**

On October 17, 2024, golden mussel, an invasive, freshwater bivalve native to rivers and creeks of China and Southeast Asia, was discovered in the Port of Stockton by California Department of Water Resources (DWR) staff while conducting routine operations. This was the first known occurrence of this highly invasive species in North America. Shortly after, golden mussels were detected at additional sites in the Sacramento-San Joaquin Delta (Delta). The presence of the species poses a significant immediate threat to the ecological health of the Delta and all waters of the state, water conveyance systems, infrastructure, and water quality; its arrival in California is a state, national, and international concern. Without actions to prevent further spread, golden mussel have the potential to be moved overland on trailered watercraft and equipment out of the Delta and to nearby and distant fresh and brackish waters, including rivers, lakes, and reservoirs within California and the rest of North America.

Golden mussels are known to be established outside of their native range in Hong Kong, Japan, Taiwan, Brazil, Uruguay, Paraguay, and Argentina. The initial introductions to these countries were likely the result of ships with biofouling on the hulls and/or ballast water release. Impacts in these invaded regions include heavy encrustations of golden mussels forming dense reef-like structures that block municipal and industrial water supplies, agricultural irrigation, and power plant operations, necessitating ongoing biofouling removal. In most cases, the invaded range has expanded upstream from the point of introduction, and inland from ports through local, human-mediated pathways. Within the invaded range, significant impacts resulting from the dense colonization of golden mussels on hard surfaces are widely documented.

Golden mussels have similar appearance, biology, and impact as quagga and zebra (dreissenid) mussels. Golden mussels are small, typically under 1.5 inches in length with shell color that is light golden to darker yellowish-brown to brown color. They firmly attach to hard to semi-hard surfaces. Adult golden mussel release eggs and sperm into the water column where fertilization occurs.



Fertilized eggs develop into planctonic larvae that remain suspended in the water column as they develop. Larva are microscopic and themselves cannot swim upstream, but can be carried by flowing water and human-mediated pathways such as water within watercraft. Once a suitable substrate is found, juvenile mussels settle and attach themselves to the substrate by strong fibers called byssal threads and develop into adults. Golden mussels can grow in dense colonies of hundreds of thousands of mussels per square meter.

Golden mussels can tolerate a wider range of environmental conditions than the invasive dreissenid mussels. Golden mussel can establish in waters with lower calcium and higher salinity and temperature than dreissenid mussels. Nearly all waters of California are conducive to golden mussel establishment.

Golden mussels were likely introduced to the Port of Stockton, San Joaquin County, by a ship traveling from an international port. Golden mussels are likely to spread throughout the interconnected Delta, upstream into Delta tributaries, as far west as the Suisun Bay, and southward via the State Water Project and Central Valley Project that draw water from the Delta. Additional discoveries of golden mussel have occurred throughout the Delta and adjacent regions, including Bethany Reservoir on December 30, 2024, and San Joaquin River on February 24, 2025.

Without containment, golden mussels are likely to spread overland on trailered vessels and equipment to other fresh and brackish waterbodies throughout California, and to other ports and inland waters of North America, and potentially abroad.

In response to the discovery of golden mussel, CDFW, in partnership with other agencies working in the Delta, began delineating the range of golden mussel in the Delta and throughout the state (Figure 1). Shortly thereafter CDFW executive leadership convened a Golden Mussel Task Force, comprised of a steering committee with members representing CDFW, DWR, State Parks-Division of Boating and Waterways, State Water Resources Control Board, California State Lands Commission, California Department of Food and Agriculture, US Bureau of Reclamation, and US Fish and Wildlife Service. The task force also formed eight task-oriented teams of staff from these same agencies, and others, to implement immediate monitoring and outreach efforts, and develop and inform the content of a response plan.

Figure 1. Golden mussel detections as of January 31, 2025 (map updated at <https://wildlife.ca.gov/Conservation/Invasives/Species/Golden-Mussel#map>).



Currently there are no federal prohibitions for possessing or moving golden mussels. It is unlikely that any person is intentionally in possession of golden mussel, as they are not known to be a species for human consumption, for aquaculture or in the aquarium trade. In the event someone were to be in possession, intentionally or unintentionally, those mussels should be euthanized based on the currently effective emergency regulation. Pursuant to Section 671.1, golden mussels could be possessed under a permit issued by CDFW for purposes as defined in the regulations, or other existing CDFW permitting processes.

The interagency Golden Mussel Task Force is currently working to develop a response plan that frames the state and partner strategy for moving forward. The scope will include containment within waters where they have been detected, prevention at uninfested waters, evaluation of existing authorities and gaps, existing funding opportunities and needs, and approach to partner and public engagement.

## II. Request for Approval of Readoption of Emergency Regulations

At its December 11, 2024 meeting, the Commission approved an emergency action that added golden mussel to the list of restricted animals.

The current emergency rule will expire on June 18, 2025, unless it is readopted for an additional 90 days. The continuation of the emergency action of adding golden mussel to the list of restricted animals is necessary to protect against the spread of this invasive species in California's waterways, which causes harm to native species and the ecosystems they depend on to survive, until a permanent regulation can be implemented.

## III. Statement of Facts Constituting the Need for Readoption of the Emergency Regulatory Action

In response to the emergency situation, the proposed regulatory action readopts the amendment of Section 671 to add golden mussel to the list of restricted animals. The proposed regulation for readoption is the same as the original emergency regulation.

The emergency action added the golden mussel (*Limnoperna fortunei*) species in new subsection 671(c)(10)(B). Readoption of the addition of golden mussel to the list of restricted animals will continue the prohibition of importation, transportation, and possession of live golden mussels, thereby deterring people from moving them to other waters of the state and providing enforceability if golden mussels are found in someone's possession.

The readoption will also indirectly continue to allow water managers operating mussel prevention programs grounds to refuse watercraft that are or suspected to be carrying golden mussels from launching into waterways, and law enforcement personnel to inspect watercraft and quarantine any vessels that are infested with golden mussels and/or detain vessels or equipment until such time as they no longer pose a threat to the environment. Fish and Game Code sections 2118 and 2120 provide broad authority for the restricted species list implemented in Section 671.

Cooperation with the California Department of Food and Agriculture is required for consideration of the addition or removal of classes, families, genera, and species from the list of restricted species (subdivisions 2118(j) and (k)). Given the ramifications for spread of golden mussel, its presence is considered, "...undesirable, and a menace to native wildlife or the agricultural interests of the state."

## IV. Existence of an Emergency and Need for Action

The Commission considered the following factors in determining that an emergency continues at this time.

### ***The magnitude of potential harm:***

In waterways where golden mussels are present, heavy encrustations of golden mussels have blocked municipal and industrial water intakes compelling ongoing biofouling removal (Xu et al. 2015; Zhao et al. 2019), harmed native species in the ecosystem (Boltovskoy and Correa 2015; Cataldo et al. 2012), facilitated aquatic weed growth, and diminished water quality (Zhang et al. 2022). Spread of golden mussel out of the Delta into fresh and brackish waters would cause infrastructural damage across the state and could threaten water delivery and electric power

delivery from hydroelectric operations (for example, O'Neill Forebay). As ecosystem engineers, golden mussels can permanently change ecosystem function. As large encrustations of reef-like structures grow in a stream or river, the increase in organic matter shifts varied microhabitats and their diversity to monocultures of species, slowly eliminating aquatic species diversity (Mouthino, 2021).

Given the very real harms presented by golden mussels, individuals within and entering California should not be importing, transporting, or possessing them, therefore, it is appropriate to maintain its restricted species status.

***The existence of a crisis situation:***

These discoveries in the Delta are the first known occurrences of golden mussels in North America. The further spread of the species poses a significant immediate threat to the ecological health of the Delta and all waters of the state, water conveyance systems, infrastructure, electric power delivery from hydroelectric operations, and water quality.

Because of rapid mussel colonization of infrastructure and water conveyances, this new invasion is a significant threat to the Delta and waterbodies statewide, nationally, and internationally. Impacts are far-reaching, from water transfers inclusive of the Central Valley Project and State Water Project, to water agencies and distributors, to recreationists. Adverse impacts could be felt to recreation, transportation and shipping, agriculture, and municipal water supplies.

***The immediacy of the need:***

There is a significant immediate need to continue limiting the spread of this invasive species to prevent the translocation of this species to other waterbodies in the state and beyond. There is an immediate need to conduct vessel inspections to reduce the spread of the aquatic invasive species. CDFW law enforcement needs to be able to inspect watercraft and quarantine any vessels that are infested with golden mussels. Water managers must be able to refuse vessels and equipment that are or suspected to be carrying golden mussels from launching into lakes, reservoirs, or other waterways where golden mussels are not known to be present.

Previous cases, such as in South America, have seen ultra-rapid expansion after the first infestation (e.g., Darrigran and Damborenea 2005), invading both natural areas and human infrastructure. Aside from natural mussel propagation, spread is assisted by human activities including commerce, fishing, and recreation. Any lapse in facilitating vessel inspections could allow the mussel's range to spread to new areas and compromise efforts to control it.

CDFW is continuing to work with state, local, and federal agencies to enhance monitoring efforts, communicate additional detection and response information, and coordinate on potential next steps. If the spread of this species is not prevented, more waterways will be infested, further increasing the threat to uninfested waters.

***Whether the anticipation of harm has a basis firmer than simple speculation:***

Ecosystem degradation, infrastructure biofouling, and water quality decreases are all documented potential effects from golden mussel invasion. Costs for maintenance, control, and surveillance have skyrocketed following its spread in other invaded areas (Darrigran and Damborenea 2005).

Golden mussel is also quite adaptable to a broad range of environmental conditions; it tolerates a wide range of temperatures, salinity, and other water quality factors, making its spread to disparate areas much more likely even than other bivalve invaders.

California's experience with dreissenid mussels over the last 17 years has demonstrated prevention and containment is effective to slowing the spread of mussels and avoiding widespread impacts resulting from invasive mussel establishment. This success would not have been achieved without the necessary authority.

## **V. Readoption Criteria**

### ***Same as or Substantially Equivalent***

Pursuant to Government Code subdivision 11346.1(h), a readoption may be approved only if the text is "the same as or substantially equivalent to an emergency regulation previously adopted by that agency." The language proposed for this rulemaking is the same as the language of the original emergency regulation.

### ***Substantial Progress***

Government Code subdivision 11346.1(h) specifies "Readoption shall be permitted only if the agency has made substantial progress and proceeded with diligence to comply with subdivision (e)" [sections 11346.2 through 11347.3, inclusive].

A regular rulemaking (certificate of compliance) is currently underway and will be presented to the Commission for public notice at its August 13-14, 2025 meeting.

### ***Proposed Action by the Commission***

The Commission proposed readoption of the emergency amendment to Section 671 is the same as previously effective.

## **VI. Impact of Regulatory Action**

The potential for significant statewide adverse economic impacts that might result from the proposed regulatory action has been assessed, and the following initial determinations relative to the required statutory categories have been made:

### **(a) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State:**

Continuing to include golden mussels on the list of restricted animals does not necessarily compel a requirement to act upon state agencies, but rather enables existing programs to include the species in their enforcement actions for detection and prevention. As such, the Commission does not anticipate any direct costs or savings to CDFW or other state agencies as a result of this emergency action. There may be future complementary authorities or requirements for managing golden mussels that will come from elsewhere, such as legislation, compelling costs associated with preventing the spread of golden mussels.



**(b) Nondiscretionary Costs/Savings to Local Agencies:**

None. Continuing to include golden mussel on the list of restricted animals will not have the potential for a fiscal effect on local governments, as the regulation only adds the species to the restricted animals list without prescribing specific enforcement actions to be taken by local government entities.

**(c) Programs Mandated on Local Agencies or School Districts:**

None. Continuing to include golden mussel on the list of restricted animals will not have the potential for a fiscal effect on local governments or school districts, as the regulation only adds the species to the restricted animals list without mandating specific enforcement actions or programs to be taken by local government entities.

**(d) Costs Imposed on Any Local Agency or School District that is Required to be Reimbursed Under Part 7 (commencing with Section 17500) of Division 4, Government Code: None.****(e) Effect on Housing Costs: None****VII. Technical, Theoretical, and/or Empirical Studies, Reports, or Documents Relied Upon:**

California Department of Fish and Game. 2008. [California Aquatic Invasive Species Management Plan](#); Draft Rapid Response Plan. State of California, Resources Agency. Available from: [California Aquatic Invasive Species Management Plan](#)

Smith, R. and L. McMartin. 2011. [Bay Delta Rapid Response Plan For Dreissenid Mussels](#). U.S. Fish and Wildlife Service developed for the California Department of Fish and Game #P0685514. Stockton, CA.

**VIII. Documents Providing Background Information**

Boltovskoy, D., E. Paolucci, H. J. MacIsaac, A. Zhan, Z. Xia, and N. Correa. 2022. What we know and don't know about the invasive golden mussel *Limnoperna fortunei*. Hydrobiologia. <https://doi.org/10.1007/s10750-022-04988-5>.

Boltovskoy, D., and N. Correa. 2015. Ecosystem impacts of the invasive bivalve *Limnoperna fortunei* (golden mussel) in South America. Hydrobiologia 746:81–95.

Cataldo, D., I. O' Farrell, E. Paolucci, F. Sylvester, and D. Boltovskoy. 2012. Impact of the invasive golden mussel (*Limnoperna fortunei*) on phytoplankton and nutrient cycling. Aquatic Invasions 7:91–100.

Darrigran, G. A., and M. C. Damborenea. 2005. A South American bioinvasion case history: *Limnoperna fortunei* (Dunker, 1857), the golden mussel. American Malacological Bulletin 20:105–112.

Moutinho, S. 2021. A Golden Menace. An invasive mussel is devastating ecosystems as it spreads through South American rivers, threatening the Amazon basin. Science 374: 390-

393. Available from: <https://www.science.org/content/article/golden-mussels-devastating-south-american-rivers-amazon-may-be-next>

Xu, M., Z. Wang, N. Zhao, and B. Pan. 2015. Growth, reproduction, and attachment of the golden mussel (*Limnoperna fortunei*) in water diversion projects. *Acta Ecologica Sinica* 35:70–75.

Zhang, J., M. Xu, L. Sun, D. Reible, and X. Fu. 2022. Impact of golden mussel (*Limnoperna fortunei*) colonization on bacterial communities and potential risk to water quality. *Ecological Indicators* 144:109499.

Zhao, N., M. Xu, K. Blanckaert, C. Qiao, H. Zhou, and X. Niu. 2019. Study of factors influencing the invasion of Golden Mussels (*Limnoperna fortunei*) in water transfer projects. *Aquatic Ecosystem Health & Management* 22:385–395.

## **IX. Authority and Reference**

Authority: Sections 2118 and 2120, Fish and Game Code.

Reference: Sections 1002, 2116, 2118, 2118.2, 2118.4, 2119, 2120, 2122, 2123, 2124, 2125, 2126, 2127, 2150, 2190 and 2271, Fish and Game Code.

## **X. Fish and Game Code Section 399 Finding**

Pursuant to Section 399 of the Fish and Game Code, the Commission finds that the readoption of this regulation is necessary for the immediate preservation of the public peace, health and safety, or general welfare.

## Informative Digest/Policy Statement Overview

On October 17, 2024, golden mussel, an invasive, freshwater bivalve native to rivers and creeks of China and Southeast Asia, was discovered in the Port of Stockton by California Department of Water Resources (DWR) staff while conducting routine operations. This was the first known occurrence of this highly invasive species in North America. As of February 24, 2025 golden mussel have been documented at multiple additional points downstream, or within close proximity to, the prior detection within the Sacramento-San Joaquin Delta (Delta) and State Water Project.

Golden mussels were likely introduced to the Port of Stockton by a ship traveling from an international port. Golden mussels are likely to spread throughout the interconnected Delta, upstream into Delta tributaries, as far west as the Suisun Bay, and southward via the State Water Project and Central Valley Project that draw water from the Delta. Without containment, golden mussels are likely to spread overland on trailered vessels and equipment to other fresh and brackish waterbodies throughout California, and to other ports and inland waters of North America, and potentially abroad.

Golden mussels are native to rivers and creeks of China and Southeast Asia. They are known to be established outside of their native range in Hong Kong, Japan, Taiwan, Brazil, Uruguay, Paraguay, and Argentina. Within the invaded range, significant impacts resulting from the dense colonization of golden mussels on hard surfaces are widely documented.

Golden mussels in the Delta pose a significant immediate threat to the ecological health of the Delta and all waters of the state, the operations of water conveyance systems, agricultural interests, hydroelectric power generation, infrastructure, water quality, and the economy. Their presence in California is of statewide, national, and international concern.

Golden mussels have similar appearance, biology, and impact as quagga and zebra (dreissenid) mussels. Golden mussels can tolerate a wider range of environmental conditions than dreissenid mussels, including less calcium, higher salinity, and warmer water temperatures. Nearly all waters of California are conducive to golden mussel establishment.

Golden mussels are ecosystem engineers and can profoundly change natural environments. They threaten California's infrastructure, recreation, municipal and industrial water supplies, the robust agricultural industry, and power plant operations. Millions of dollars are already spent annually to maintain infrastructure and prevent further spread of dreissenid mussels in California, and golden mussel are anticipated to increase these costs significantly.

Golden mussels can also impact recreation by limiting recreational opportunities, encrusting docks and beaches, and colonizing recreational equipment including watercraft hulls, engines, and steering components. Dreissenid mussel infestations resulted in the temporary and permanent closure of waterbodies to the public and have negatively impacted aquatic ecosystems.

The California Department of Fish and Wildlife (CDFW) and partners have been mobilizing a statewide response, including delineation of the infestation and implementing containment to prevent the further spread of golden mussels. Currently there are no federal prohibitions for possessing or moving golden mussels. Other than the currently effective emergency regulation, there are no other state prohibitions for possessing or moving golden mussels. Re-adopting the emergency regulations for golden mussel to remain on the list of restricted animals in Section 671



will continue to equip CDFW and local water managers with authority to take action to prevent the overland spread of golden mussels.

In response to the emergency situation, the proposed regulatory action readopts the amendment of Section 671 adding the golden mussel (*Limnoperna fortunei*) species to the list of restricted animals in new subsection 671(c)(10)(B). The proposed regulation for readoption is the same as the original emergency.

Continuing to include golden mussels on the list of restricted animals will keep in place the prohibition on importation, transportation, and possession of live golden mussels, thereby deterring people from moving them to other waters of the state and providing enforceability if golden mussels are found in someone's possession. Continuing to include golden mussels on the list of restricted animals will also allow water managers operating mussel prevention programs grounds to refuse vessels and equipment that are or suspected to be carrying golden mussels from launching into lakes, reservoirs, or other waterways where golden mussels are not known to be present. Additionally, it will allow law enforcement personnel to inspect watercraft and quarantine any vessels that are infested with golden mussels and/or detain vessels or equipment until such time as they no longer pose a threat to the environment.

#### ***Benefits of the Regulation:***

The California Legislature has declared that some wild animals are a threat to native wildlife or the agricultural interests of the state and that some wild animals are a threat to public health and safety. It is the Legislature's intention that the importation, transportation and possession of wild animals be regulated to protect the native wildlife and agricultural interests of the state against damage from the existence at large of certain wild animals and to protect the health and safety in this state. The proposed regulations will help to prevent the translocation of this golden mussel to other waterbodies in the state and beyond, thereby protecting native wildlife, the agricultural interests of the state and public health and safety.

#### ***Consistency and Compatibility with Existing Regulations***

Article IV, Section 20 of the State Constitution specifies that the Legislature may delegate to Commission such powers relating to the protection and propagation of fish and game as the Legislature sees fit. The Legislature has delegated to the Commission the power to regulate the importation, transportation and possession of wild animals to protect the native wildlife, agricultural interests of the state, and the health and safety in this state (Fish and Game Code Section 2118). The Commission has reviewed its own regulations and finds that the proposed regulations are consistent with other regulations in Title 14, CCR, and therefore finds that the proposed regulations are neither inconsistent nor incompatible with existing state regulations. The Commission has searched the California Code of Regulations and finds no other state agency regulations pertaining to adding golden mussel to the list of restricted animals.

## Proposed Re-adoption Regulatory Language

Section 671, Title 14 CCR, was amended to read:

### **§ 671. Importation, Transportation and Possession of Live Restricted Animals.**

(a) It shall be unlawful to import, transport, or possess live animals restricted in subsection (c) below except under permit issued by the department. Permits may be issued by the department as specified herein and for purposes designated in Section 671.1 subject to the conditions and restrictions designated by the department. Except for mammals listed in Fish and Game Code Section 3950 or live aquatic animals requiring a permit pursuant to Fish and Game Code Section 2271, no permit is required by this section for any animal being imported, transported, or possessed pursuant to any other permit issued by the department. Cities and counties may also prohibit possession or require a permit for these and other species not requiring a state permit.

(b) The commission has determined the below listed animals are not normally domesticated in this state. Mammals listed to prevent the depletion of wild populations and to provide for animal welfare are termed “welfare animals”, and are designated by the letter “W”. Those species listed because they pose a threat to native wildlife, the agriculture interests of the state or to public health or safety are termed “detrimental animals” and are designated by the letter “D”. The department shall include the list of welfare and detrimental wild animals as part of DFG MANUAL NO. 671 (2/25/92) IMPORTATION, TRANSPORTATION AND POSSESSION OF RESTRICTED SPECIES, to be made available to all permittees and other interested individuals.

(c) Restricted species include:

[...No changes to subsections (c)(1) through (c)(9)(D)1...]

(10) Class Bivalvia-Bivalves

(A) All members of the genus *Dreissena* (zebra and quagga mussels) (D).

(B) *Limnoperna fortunei* (golden mussel) (D).

(11) Transgenic Aquatic Animals.

Includes freshwater and marine fishes, invertebrates, amphibians, and reptiles (D).

NOTE: Unpermitted transgenic aquatic animals are determined to be detrimental to native wildlife, therefore the exemption provided for in Fish and Game Code Section 2150(e) is not applicable.

NOTE: Authority cited: Sections 2118 and 2120, Fish and Game Code.

Reference: Sections 1002, 2116, 2118, 2118.2, 2118.4, 2119, 2120, 2122, 2123, 2124, 2125, 2126, 2127, 2150, 2190 and 2271, Fish and Game Code.

**ECONOMIC AND FISCAL IMPACT STATEMENT  
(REGULATIONS AND ORDERS)**

STD. 399 (Rev. 10/2019)

**ECONOMIC IMPACT STATEMENT**

DEPARTMENT NAME <b>California Fish and Game Commission</b>	CONTACT PERSON <b>David Thesell</b>	EMAIL ADDRESS <b>fgc@fgc.ca.gov</b>	TELEPHONE NUMBER <b>916 201-6201</b>
DESCRIPTIVE TITLE FROM NOTICE REGISTER OR FORM 400 <b>Readopt Emerg. Action to Amend Section 671, Title 14, CCR, Re: Add Golden Mussel to List of Rstd. Animals</b>			NOTICE FILE NUMBER <b>Z</b>

**A. ESTIMATED PRIVATE SECTOR COST IMPACTS** *Include calculations and assumptions in the rulemaking record.*

1. Check the appropriate box(es) below to indicate whether this regulation:

- |  |   |
|--|---|
| <input type="checkbox"/> a. Impacts business and/or employees  | <input type="checkbox"/> e. Imposes reporting requirements                |
| <input type="checkbox"/> b. Impacts small businesses           | <input type="checkbox"/> f. Imposes prescriptive instead of performance   |
| <input type="checkbox"/> c. Impacts jobs or occupations        | <input type="checkbox"/> g. Impacts individuals                           |
| <input type="checkbox"/> d. Impacts California competitiveness | <input checked="" type="checkbox"/> h. None of the above (Explain below): |

**Emergency action: No economic assessment is required, only a fiscal impact*****If any box in Items 1 a through g is checked, complete this Economic Impact Statement.******If box in Item 1.h. is checked, complete the Fiscal Impact Statement as appropriate.***2. The \_\_\_\_\_ estimates that the economic impact of this regulation (which includes the fiscal impact) is:  
(Agency/Department)

- ☐ Below \$10 million
- ☐ Between \$10 and \$25 million
- ☐ Between \$25 and \$50 million
- ☐ Over \$50 million *[If the economic impact is over \$50 million, agencies are required to submit a [Standardized Regulatory Impact Assessment](#) as specified in Government Code Section 11346.3(c)]*

3. Enter the total number of businesses impacted: \_\_\_\_\_

Describe the types of businesses (Include nonprofits): \_\_\_\_\_

Enter the number or percentage of total businesses impacted that are small businesses: \_\_\_\_\_

4. Enter the number of businesses that will be created: \_\_\_\_\_ eliminated: \_\_\_\_\_

Explain: \_\_\_\_\_

5. Indicate the geographic extent of impacts: ☐ Statewide  
☐ Local or regional (List areas): \_\_\_\_\_

6. Enter the number of jobs created: \_\_\_\_\_ and eliminated: \_\_\_\_\_

Describe the types of jobs or occupations impacted: \_\_\_\_\_

7. Will the regulation affect the ability of California businesses to compete with other states by making it more costly to produce goods or services here? ☐ YES ☐ NO

If YES, explain briefly: \_\_\_\_\_

**ECONOMIC AND FISCAL IMPACT STATEMENT  
(REGULATIONS AND ORDERS)**

STD. 399 (Rev. 10/2019)

**Draft Document****ECONOMIC IMPACT STATEMENT (CONTINUED)****B. ESTIMATED COSTS** *Include calculations and assumptions in the rulemaking record.*

1. What are the total statewide dollar costs that businesses and individuals may incur to comply with this regulation over its lifetime? \$ \_\_\_\_\_

a. Initial costs for a small business: \$ \_\_\_\_\_ Annual ongoing costs: \$ \_\_\_\_\_ Years: \_\_\_\_\_

b. Initial costs for a typical business: \$ \_\_\_\_\_ Annual ongoing costs: \$ \_\_\_\_\_ Years: \_\_\_\_\_

c. Initial costs for an individual: \$ \_\_\_\_\_ Annual ongoing costs: \$ \_\_\_\_\_ Years: \_\_\_\_\_

d. Describe other economic costs that may occur: \_\_\_\_\_

2. If multiple industries are impacted, enter the share of total costs for each industry: \_\_\_\_\_

3. If the regulation imposes reporting requirements, enter the annual costs a typical business may incur to comply with these requirements.  
*Include the dollar costs to do programming, record keeping, reporting, and other paperwork, whether or not the paperwork must be submitted.* \$ \_\_\_\_\_4. Will this regulation directly impact housing costs? ☐ YES ☐ NO

If YES, enter the annual dollar cost per housing unit: \$ \_\_\_\_\_

Number of units: \_\_\_\_\_

5. Are there comparable Federal regulations? ☐ YES ☐ NO

Explain the need for State regulation given the existence or absence of Federal regulations: \_\_\_\_\_

Enter any additional costs to businesses and/or individuals that may be due to State - Federal differences: \$ \_\_\_\_\_

**C. ESTIMATED BENEFITS** *Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*

1. Briefly summarize the benefits of the regulation, which may include among others, the health and welfare of California residents, worker safety and the State's environment: \_\_\_\_\_

2. Are the benefits the result of: ☐ specific statutory requirements, or ☐ goals developed by the agency based on broad statutory authority?

Explain: \_\_\_\_\_

3. What are the total statewide benefits from this regulation over its lifetime? \$ \_\_\_\_\_

4. Briefly describe any expansion of businesses currently doing business within the State of California that would result from this regulation: \_\_\_\_\_

**D. ALTERNATIVES TO THE REGULATION** *Include calculations and assumptions in the rulemaking record. Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*

1. List alternatives considered and describe them below. If no alternatives were considered, explain why not: \_\_\_\_\_

**ECONOMIC AND FISCAL IMPACT STATEMENT  
(REGULATIONS AND ORDERS)**

STD. 399 (Rev. 10/2019)

**Draft Document****ECONOMIC IMPACT STATEMENT (CONTINUED)**

2. Summarize the total statewide costs and benefits from this regulation and each alternative considered:

Regulation: Benefit: \$ \_\_\_\_\_ Cost: \$ \_\_\_\_\_

Alternative 1: Benefit: \$ \_\_\_\_\_ Cost: \$ \_\_\_\_\_

Alternative 2: Benefit: \$ \_\_\_\_\_ Cost: \$ \_\_\_\_\_

3. Briefly discuss any quantification issues that are relevant to a comparison of estimated costs and benefits for this regulation or alternatives: \_\_\_\_\_

4. Rulemaking law requires agencies to consider performance standards as an alternative, if a regulation mandates the use of specific technologies or equipment, or prescribes specific actions or procedures. Were performance standards considered to lower compliance costs? ☐ YES ☐ NO

Explain: \_\_\_\_\_

**E. MAJOR REGULATIONS** *Include calculations and assumptions in the rulemaking record.****California Environmental Protection Agency (Cal/EPA) boards, offices and departments are required to submit the following (per Health and Safety Code section 57005). Otherwise, skip to E4.***1. Will the estimated costs of this regulation to California business enterprises **exceed \$10 million**? ☐ YES ☐ NO***If YES, complete E2. and E3******If NO, skip to E4***

2. Briefly describe each alternative, or combination of alternatives, for which a cost-effectiveness analysis was performed:

Alternative 1: \_\_\_\_\_

Alternative 2: \_\_\_\_\_

*(Attach additional pages for other alternatives)*

3. For the regulation, and each alternative just described, enter the estimated total cost and overall cost-effectiveness ratio:

Regulation: Total Cost \$ \_\_\_\_\_ Cost-effectiveness ratio: \$ \_\_\_\_\_

Alternative 1: Total Cost \$ \_\_\_\_\_ Cost-effectiveness ratio: \$ \_\_\_\_\_

Alternative 2: Total Cost \$ \_\_\_\_\_ Cost-effectiveness ratio: \$ \_\_\_\_\_

4. Will the regulation subject to OAL review have an estimated economic impact to business enterprises and individuals located in or doing business in California exceeding \$50 million in any 12-month period between the date the major regulation is estimated to be filed with the Secretary of State through 12 months after the major regulation is estimated to be fully implemented?

☐ YES ☐ NO*If YES, agencies are required to submit a [Standardized Regulatory Impact Assessment \(SRIA\)](#) as specified in Government Code Section 11346.3(c) and to include the SRIA in the Initial Statement of Reasons.*

5. Briefly describe the following:

The increase or decrease of investment in the State: \_\_\_\_\_

The incentive for innovation in products, materials or processes: \_\_\_\_\_

The benefits of the regulations, including, but not limited to, benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency: \_\_\_\_\_

**ECONOMIC AND FISCAL IMPACT STATEMENT  
(REGULATIONS AND ORDERS)**

STD. 399 (Rev. 10/2019)

**Draft Document****FISCAL IMPACT STATEMENT****A. FISCAL EFFECT ON LOCAL GOVERNMENT** *Indicate appropriate boxes 1 through 6 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

- ☐ 1. Additional expenditures in the current State Fiscal Year which are reimbursable by the State. (Approximate)  
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

\$ \_\_\_\_\_

- ☐ a. Funding provided in \_\_\_\_\_  
Budget Act of \_\_\_\_\_ or Chapter \_\_\_\_\_, Statutes of \_\_\_\_\_

- ☐ b. Funding will be requested in the Governor's Budget Act of \_\_\_\_\_  
Fiscal Year: \_\_\_\_\_

- ☐ 2. Additional expenditures in the current State Fiscal Year which are NOT reimbursable by the State. (Approximate)  
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

\$ \_\_\_\_\_

*Check reason(s) this regulation is not reimbursable and provide the appropriate information:*

- ☐ a. Implements the Federal mandate contained in \_\_\_\_\_
- ☐ b. Implements the court mandate set forth by the \_\_\_\_\_ Court.

Case of: \_\_\_\_\_ vs. \_\_\_\_\_

- ☐ c. Implements a mandate of the people of this State expressed in their approval of Proposition No. \_\_\_\_\_

Date of Election: \_\_\_\_\_

- ☐ d. Issued only in response to a specific request from affected local entity(s).

Local entity(s) affected: \_\_\_\_\_  
\_\_\_\_\_

- ☐ e. Will be fully financed from the fees, revenue, etc. from: \_\_\_\_\_

Authorized by Section: \_\_\_\_\_ of the \_\_\_\_\_ Code;

- ☐ f. Provides for savings to each affected unit of local government which will, at a minimum, offset any additional costs to each;

- ☐ g. Creates, eliminates, or changes the penalty for a new crime or infraction contained in \_\_\_\_\_

- ☐ 3. Annual Savings. (approximate)

\$ \_\_\_\_\_

- ☐ 4. No additional costs or savings. This regulation makes only technical, non-substantive or clarifying changes to current law regulations.

- ☒ 5. No fiscal impact exists. This regulation does not affect any local entity or program.

- ☐ 6. Other. Explain \_\_\_\_\_  
\_\_\_\_\_

**ECONOMIC AND FISCAL IMPACT STATEMENT  
(REGULATIONS AND ORDERS)**

STD. 399 (Rev. 10/2019)

**Draft Document****FISCAL IMPACT STATEMENT (CONTINUED)****B. FISCAL EFFECT ON STATE GOVERNMENT** *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*☐ 1. Additional expenditures in the current State Fiscal Year. (Approximate)

\$ \_\_\_\_\_

*It is anticipated that State agencies will:*☐ a. Absorb these additional costs within their existing budgets and resources.☐ b. Increase the currently authorized budget level for the \_\_\_\_\_ Fiscal Year☐ 2. Savings in the current State Fiscal Year. (Approximate)

\$ \_\_\_\_\_

☒ 3. No fiscal impact exists. This regulation does not affect any State agency or program.☐ 4. Other. Explain \_\_\_\_\_  
\_\_\_\_\_**C. FISCAL EFFECT ON FEDERAL FUNDING OF STATE PROGRAMS** *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*☐ 1. Additional expenditures in the current State Fiscal Year. (Approximate)

\$ \_\_\_\_\_

☐ 2. Savings in the current State Fiscal Year. (Approximate)

\$ \_\_\_\_\_

☒ 3. No fiscal impact exists. This regulation does not affect any federally funded State agency or program.☐ 4. Other. Explain \_\_\_\_\_  
\_\_\_\_\_

FISCAL OFFICER SIGNATURE

DATE

*The signature attests that the agency has completed the STD. 399 according to the instructions in SAM sections 6601-6616, and understands the impacts of the proposed rulemaking. State boards, offices, or departments not under an Agency Secretary must have the form signed by the highest ranking official in the organization.*

AGENCY SECRETARY

DATE

*Finance approval and signature is required when SAM sections 6601-6616 require completion of Fiscal Impact Statement in the STD. 399.*

DEPARTMENT OF FINANCE PROGRAM BUDGET MANAGER

DATE



## STD 399 Addendum

### **Readoption of Emergency Action to Amend Section 671 Title 14, California Code of Regulations Re: Add Golden Mussel to List of Restricted Animals**

#### **Background**

On October 17, 2024, golden mussel, an invasive, freshwater bivalve native to rivers and creeks of China and Southeast Asia, was discovered in the Port of Stockton by California Department of Water Resources (DWR) staff while conducting routine operations. This was the first known occurrence of this highly invasive species in North America. Shortly after, golden mussels were detected at additional sites in the Sacramento-San Joaquin Delta (Delta).

Golden mussels in the Delta pose a significant immediate threat to the ecological health of the Delta and all waters of the state, the operations of water conveyance systems, agricultural interests, hydroelectric power generation, infrastructure, water quality and the economy; its presence in California is of statewide, national, and international concern.

Golden mussels can tolerate a wider range of environmental conditions than dreissenid mussels, meaning they are able to establish in environments where dreissenid mussels are unable to invade. Because they require less calcium to survive and reproduce than dreissenid mussels, nearly every waterbody in California is at risk of becoming infested with golden mussels if they are introduced. Golden mussels tolerate higher salinity than dreissenid mussels, making the brackish parts of estuaries, such as Suisun Bay, suitable for golden mussel establishment. They also tolerate warmer temperatures compared to dreissenid mussels. Golden mussels can grow in dense colonies of hundreds of thousands of mussels per square meter.

Like dreissenid mussels, golden mussels pose an environmental threat to California since they are ecosystem engineers and can profoundly change the food web of an invaded ecosystem. They can impact native species and sports fish by competing for food sources. They can also increase water clarity due to intense filter feeding, resulting in degraded water quality, algal blooms, and increased aquatic vegetation growth that requires control to maintain navigation.

Like dreissenid mussels, golden mussels pose an economic threat to California's infrastructure and recreation industries. Heavy encrustations of golden mussels form dense reef-like structures that block municipal and industrial water supplies, agricultural irrigation, and power plant operations, necessitating ongoing biofouling removal. Millions of dollars are spent annually to maintain infrastructure and efforts to prevent the further spread of dreissenid mussels in California.

Golden mussels can also impact recreation by limiting recreational opportunities, encrusting docks and beaches, and colonizing recreational equipment including watercraft hulls, engines, and steering components. Dreissenid mussel infestations resulted in the



temporary and permanent closure of waterbodies to the public and have negatively impacted aquatic ecosystems.

Golden mussels were likely introduced to the Port of Stockton, San Joaquin County, by a ship traveling from an international port. Golden mussels are likely to spread throughout the interconnected Delta, upstream into Delta tributaries, as far west as the Suisun Bay, and southward via the State Water Project and Central Valley Project that draw water from the Delta. Without containment, golden mussels are also likely to spread overland on trailered vessels and equipment to other fresh and brackish waterbodies throughout California, and to other ports and inland waters of North America, and potentially abroad.

In response to the discovery of golden mussel, the California Department of Fish and Wildlife (CDFW), in partnership with other agencies working in the Delta, began deliniating the range of golden mussel in the Delta and throughout the state (Figure 1). Shortly thereafter CDFW executive leadership convened a Golden Mussel Task Force, comprised of a steering committee with members representing CDFW, DWR, State Parks-Division of Boating and Waterways, State Water Resources Control Board, California State Lands Commission, California Department of Food and Agriculture, US Bureau of Reclamation, and US Fish and Wildlife Service. The task force also formed eight task-oriented teams of staff from these same agencies, and others, to implement immediate monitoring and outreach efforts, and develop and inform the content of a response plan.

Figure 1. Golden mussel detections as of January 31, 2025.



In response to this emergency situation, the proposed regulatory action readopts the amendment to Section 671 retaining golden mussel on the list of restricted animals. Including golden mussel on the list of restricted animals prohibits importation, transportation, and possession of live golden mussels, thereby deterring people from moving them to other waters of the state and providing enforceability if golden mussels are found in someone's possession. Including golden mussel on the list of restricted species also allows water managers operating mussel prevention programs the grounds to refuse watercraft from launching into waterways. Additionally, it allows law enforcement personnel to detain vessels or equipment infested with golden mussels until such time as they no longer pose a threat.

## **Economic Impact Statement**

### **Estimated Private Sector Cost Impacts**

1. Answer: h. None of the above.

Emergency regulations do not require an economic impact statement; only fiscal impacts must be evaluated (California Government Code Section 11346.1).

## **Fiscal Impact Statement**

### **A. Fiscal Effect on Local Government**

Answer: 5. No fiscal impact.

None. The proposed regulations to readopt emergency amendments to Section 671, Title 14, CCR, to add golden mussel to the list of restricted animals will not have the potential for a fiscal effect on local governments, as the regulation only adds the species to the restricted animals list without prescribing specific enforcement actions to be taken by local government entities.

### **B. Fiscal Effect on State Government**

Answer: 3. No fiscal impact exists. This regulation does not affect any state Agency or program.

Adding golden mussels to the restricted species list does not necessarily compel a requirement to act upon state agencies but rather enables existing programs to include the species in their enforcement actions for detection and prevention. As such, the Commission does not anticipate any direct costs or savings to CDFW or other state agencies as a result of this readoption. There may be future complementary authorities or requirements for managing golden mussels that will come from elsewhere, such as legislation, compelling costs associated with preventing the spread of golden mussels.

### **C. Fiscal Effect on Federal Funding of State Programs**

Answer: 3. No fiscal impact.

The proposed readoption will not have the potential for a fiscal effect on the federal funding of state programs.

# Timeline of Detections of Golden Mussels

## Through March 31, 2025

Waterbody	Location description	Date	Latitude	Longitude
San Joaquin River	Rough & Ready Island	10/17/2024	37.963	-121.365
Victoria Canal	Middle River Pump Station	10/17/2024	37.86669	-121.544
Turner Cut	Continuous water quality monitoring station	10/23/2024	37.99312	-121.454
O'Neill Forebay	San Luis Creek State Recreation Area substrate plates	10/25/2024	37.08384	-121.059
Middle River	Opposite Bullfrog Marina	10/31/2024	37.94363	-121.534
California Aqueduct	O'Neill Forebay Outlet/Check 13	10/31/2024	37.07402	-121.015
San Joaquin River	Upstream of San Joaquin River Railroad Bridge and downstream of Stockton Swing Bridge/Highway 4	11/5/2024	37.93508	-121.33
Calaveras River	Upstream from SYC	11/5/2024	37.97399	-121.348
Old River	Old River Upstream of Mountain House Creek (CDEC ID: ORM)	11/7/2024	37.79384	-121.517
Old River	Old River near Tracy (CDEC ID: OLD)	11/7/2024	37.80481	-121.45
San Joaquin River	City of Stockton Ladds launch ramp	11/12/2024	37.97664	-121.375
Calaveras River	Boat house and dock floats hydrohoist	11/14/2024	37.9766	-121.345
Old River	At Contra Costa Water District's intake pumps	11/14/2024	37.88734	-121.577
Contra Costa Canal	At the Check 2 structure just east of the end of Tabora Dr.	11/14/2024	37.98001	-121.823
Middle River / Victoria Canal	At Contra Costa Water District's intake pumps	11/14/2024	37.86634	-121.544
San Joaquin River	Riverpoint Marina	11/15/2024	37.97689	-121.378
White Slough	King Island Marina Resort - Tinsley Island Launch Dock	11/21/2024	38.05543	-121.459
Dutch Slough	Bethel Island Marina	11/21/2024	38.01257	-121.641
Clifton Court Forebay	Skinner Fish Facility Louvers	11/22/2024	37.82639	-121.595
Old River	Rivers End Marina	11/25/2024	37.81015	-121.56
Italian Slough	Lazy M Marina Boat Launch Docks	11/25/2024	37.83784	-121.603
San Joaquin River	Orwood Resort	11/25/2024	37.93885	-121.611
Rock Slough	Holland Riverside Marina	11/25/2024	37.97245	-121.583
Turner Cut	Tiki Lagoon Resort and Marina Dock	11/26/2024	37.97866	-121.473
Windmill Cove - San Joaquin River	Windmill Cove Marina	11/26/2024	37.9906	-121.407
Sand Mound Slough	Emerald Point Marina	12/3/2024	38.01211	-121.617
Burns Cutoff	Farmers pipe	12/7/2024	37.96292	-121.377
San Joaquin River	Easy C's near Happy Harbor Marina	12/9/2024	38.10403	-121.592
Old River	Webb Tract Ferry	12/9/2024	38.05703	-121.647
Fisherman's Cut	Boat dock (floating)	12/9/2024	38.0619	-121.649
Disappointment Slough	Paradise Point Marina	12/10/2024	38.04353	-121.418
Little Connection Slough	H1 Eight Mile Rd ferry	12/10/2024	38.05939	-121.5
Columbia Cut	Clavius Club	12/10/2024	38.02416	-121.508

Waterbody	Location description	Date	Latitude	Longitde
San Joaquin River	Delta Yacht Club Dock	12/10/2024	38.02669	-121.477
Big Break	Big Break Marina	12/17/2024	38.01286	-121.733
Clifton Court Forebay Intake Channel	The Skinner fish facility louvers	12/17/2024	37.82544	-121.596
Old River	Tracy Fish Facility louvers	12/18/2024	37.81671	-121.558
Bethany Reservoir	Settlement plates at the boat dock	12/30/2024	37.78108	-121.616
Coastal Aqueduct	Las Perillas Pumping Plant	2/12/2025	35.84332	-119.908
Discovery Bay	Discovery Bay Marina Boat Launch Docks	2/18/2025	37.9057	-121.587
White Slough	Village West Marina	2/24/2025	38.00123	-121.369
San Joaquin River	Hogan's Haven Acres Dock	2/24/2025	37.85042	-121.322
Threemile Slough	Brannan Island State Recreation Area Boat Launch	3/17/2025	38.11522	-121.688

## Golden Mussel Detections as of March 31, 2025



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## golden mussel mitigation

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From Thomas Mailey <[REDACTED]>  
Date Wed 04/02/2025 07:20 AM  
To FGC <FGC@fgc.ca.gov>

I am writing to express my deep concern about the recent restrictions on boating and fishing in California's lakes due to the recent discovery of the golden mussel in the Stockton Deep Water Ship Channel. While I fully support measures to prevent the spread of invasive species, the current decontamination policies differ from lake to lake and are, right now, a confusing and unpragmatic mess.

The current lake-by-lake decontamination requirements, which vary depending on the water agency that controls the lake, is already limiting access and effectively restricts boaters to a single lake unless they undergo expensive and time-consuming procedures for each new location. Camanche and Pardee? No boats, period. Berryessa? Either get your vessel inspected and then quarantine it for a month, or undergo a steam cleaning that, starting April 7th, will cost up to \$200 (and at only one launch location). Scotts Flat and Rollins? No boats until at least May 1st and maybe longer. And I just heard Folsom and Oroville will likely be closed by the middle of the month for an indeterminate amount of time. Everyone is doing something different and boaters and fishers are the ones being punished.

A more pragmatic and effective approach - which I assume the Fish and Game commission will be a part of - would be a standardized, transferable decontamination system that allows boaters to access all lakes after completing a one-time certification—provided they have not visited the Delta. This ensures that only those who have been in the Delta undergo additional decontamination, while preserving access for responsible boaters who pose no risk of contamination. Washington state already does this. Utah already does this.

I urge your commission, if it in fact does get involved, to advocate for a common-sense solution that balances environmental protection with the right to access California's waterways. Please support and encourage a *unified, transferable decontamination* system that will not unfairly restrict recreational boating and fishing.

Full disclosure: I am a fishing guide based out of Roseville. But I am writing this email not just for myself and the threat posed to my business. There are literally *thousands* of boaters and fishers in northern California who are and/or will be adversely affected by a varied, uncoordinated approach to decon efforts. I am sure local communities and park systems will be too.

I appreciate your leadership in protecting our state's natural resources while ensuring fair and reasonable access for all Californians. I look forward to your response and any updates on this matter.

Tom Mailey

Roseville CA

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