

State of California
Fish and Game Commission

Final Statement of Reasons for Regulatory Action
Amend Section 671, Title 14, California Code of Regulations

Re: Invasive Non-native Mussels (including golden, pond and axe-head mussels) and Green Crab

- I. Date of Initial Statement of Reasons: July 11, 2025
- II. Date of Final Statement of Reasons: October 28, 2025
- III. Dates and Locations of Scheduled Hearings:

(a) Notice Hearing:

Date: August 13-14, 2025

Location: Sacramento, Ca

(b) Discussion/Adoption Hearing:

Date: October 8-9, 2025

Location: Sacramento, Ca

IV. Update:

At its October 8-9, 2025 meeting, the California Fish and Game Commission (Commission) adopted the regulations as originally proposed. There have been no changes to the effect of the proposed regulations from the effects described in the Notice of Proposed Action. Assembly Bill 149 (2025) amended California Fish and Game Code sections 2301 and 2302, and added Section 2303 which are applicable laws as they pertain to invasive mussels. However, these updates are consistent with, and not in contrast to, the adopted amendments to Section 671.

The Initial Statement of Reasons mentioned that the Department of Fish and Wildlife (Department) announced a one-time \$1 million grant funding opportunity for nonprofit organizations, public agencies, and Tribal governments that own or operate boating facilities. The intention of the grant is to support one-time start-up costs for efforts to prevent the overland spread of invasive mussels from waters where they have been detected and prevent the introduction of invasive mussels to waters of California where they have not been detected. This information is updated to announce that all grant funds have been committed to prevention projects, and the grants have been awarded, or are in the process of being awarded.

Golden mussels have been detected in additional locations since the Notice of Proposed Action, and a map is included with detections as of October 27, 2025 (Figure 1, next page).

The Commission respectfully requests that the proposed regulations be effective upon filing with the Secretary of State in order to help prevent new introductions of species within, and continue ongoing control efforts of, the *Limnoperna*, *Sinanodonta*, and *Xenostrobus* genera to waterbodies of the state and the translocation of green crab, and members of the *Limnoperna* and *Xenostrobus* genera to other waterbodies in the state and beyond, thereby protecting native wildlife, and the agricultural interests of the state.

Pursuant to California Government Code Section 11346.2(b)(6), the Commission has determined that the proposed regulations avoid unnecessary duplication and do not conflict with federal regulations contained in the Code of Federal Regulations (CFR). The Commission has searched

V. Summary of Primary Considerations Raised in Support of or Opposition to the Proposed Actions and Reasons for Rejecting Those Considerations:

The League to Save Lake Tahoe, letter dated August 7, 2025, and Tahoe Regional Planning Agency, oral comments at August 13, 2025 meeting and letter dated August 13, 2025, supported the proposed regulations.

Response: Support noted.

VI. Description of Reasonable Alternatives to Regulatory Action:

(a) Alternatives to Regulatory Action:

No alternatives were identified by or brought to the attention of Commission staff that would have the same desired regulatory effect.

(b) No Change Alternative

Without the proposed changes in regulations, green crab, *Limnoperna genus*, *Sinanodonta genus*, and *Xenostrobus* genus would not be included on the restricted animals list and there would be no regulatory authority to help prevent the introduction and/or translocation of these non-native invasive species to waterbodies in the state and beyond. The proposed changes are sought to protect native wildlife and the agricultural interests of the state and public health and safety.

(c) Consideration of Alternatives:

In view of information currently possessed, no reasonable alternative considered would be more effective in carrying out the purposes for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law

VII. 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 determinations relative to the required statutory categories have been made:

(a) Significant Statewide Adverse Economic Impact Directly Affecting Businesses, Including the Ability of California Businesses to Compete with Businesses in Other States:

The proposed regulations are not expected to impact businesses, as adding a species to the list of restricted animals in Section 671 does not impose any actions that should be taken by businesses to comply, nor does it impose fees or fines upon them. Because these effects are economically neutral, it is not anticipated that any businesses will experience adverse economic impacts that would affect their ability to compete with businesses from other states as a result of these regulations. **However, upon the effective date of Assembly Bill 149, on September 17, 2025, any person, or federal, state, or local agency, district, or authority that owns or manages a reservoir, as defined, where recreational, boating, or fishing activities are permitted, except as specified, is required to develop and implement a program designed to prevent the introduction of invasive mussels. "Invasive mussel",**

per AB 149, is any nonnative detrimental mussel species that is capable of spreading in freshwater and is listed in a regulation (Title 14, Section 671) adopted by the Commission pursuant to Section 2118.

Additionally, the bill requires any agencies that operate water supply system(s) to work with the Department to prevent, control, or eradicate invasive mussels within the system. The Department is currently working on a rulemaking to implement the provisions of AB 149. Thus, for purposes of this Commission regulation, while these provisions may induce economic and fiscal costs to entities or agencies that operate waterways, they are considered to be impacts caused by the legislation and not a direct result of the regulation.

- (b) Impact on the Creation or Elimination of Jobs within the State, the Creation of New Businesses or the Elimination of Existing Businesses, or the Expansion of Businesses in California; Benefits of the Regulation to the Health and Welfare of California Residents, Worker Safety, and the State's Environment:

The proposed regulations are not expected to impact businesses, as adding a species to the list of restricted animals in Section 671 does not necessitate that any actions should be taken by businesses to comply, nor does it impose fees or fines upon them. Because these effects are economically neutral, it is not anticipated that any businesses will experience adverse economic impacts that would affect the creation or elimination of jobs within the state, create new businesses or eliminate existing businesses, affect the expansion of existing businesses, or benefit worker safety as a result of these regulations. The proposed changes are sought to protect native wildlife and the agricultural interests of the state and public health and **welfare and the state's environment**.

The Commission anticipates benefits to the health and welfare of California residents from better protection of the state's natural resources. The proposed regulations will help to prevent the introduction and/or translocation of members of the *Limnoperna* (golden mussel), *Sinanodonta* and *Xenostrobus* genera to other waterbodies in the state and beyond, which may help to protect water conveyance and hydroelectric power systems.

The Commission anticipates benefits of the regulation to the state's environment. 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 new introductions of species within the *Limnoperna*, *Sinanodonta*, and *Xenostrobus* genera to waterbodies of the state and the translocation of green crab, and members of the *Limnoperna* and *Xenostrobus* genera to other waterbodies in the state and beyond, thereby protecting native wildlife, and the agricultural interests of the state.

(c) Cost Impacts on a Representative Private Person or Business:

The proposed regulations are not expected to create direct cost impacts for businesses or individuals, as adding a species to the list of restricted animals in Section 671 does not necessitate that any actions should be taken by businesses or individuals to comply, nor does it impose fees or fines upon them. **However, AB 149 would create cost impacts through the creation of invasive mussel infestation prevention fees due in the 2026 calendar year. The fees will be administered by the California Department of Motor Vehicles and California State Parks, Division of Boating and Waterways, and are subject to adjustment for inflation for each subsequent year. Thus, this fee creation is an impact caused by the legislation and not a direct result of proposed regulation.**

(d) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State:

Including the species and genera proposed 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 the Department or other state agencies as a result of this action. There may be future complementary authorities or requirements for managing the species proposed that will come from elsewhere, **such as the passage of AB 149 as noted under section VII a above, compelling costs associated with preventing the spread of these invasive species. However, for purposes of this Commission regulation, while these provisions may induce economic and fiscal costs to entities or agencies that operate waterways, they are considered to be impacts caused by the legislation and not a direct result of the regulation.**

(e) Nondiscretionary Costs/Savings to Local Agencies: None.

(f) Programs Mandated on Local Agencies or School Districts:

There are no programs mandated on local agencies or school districts with this proposed regulation. However, with the passage of AB 149, the mandate of the Department for reviewing plans to prevent and manage infestations of invasive mussels (not just dreissenid mussels) represents a mandate requiring compliance by entities or agencies that operate waterways; however, these impacts are caused by the legislation and not a direct result of the proposed regulation.

(g) 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:

While AB 149 reiterates that the Commission on State Mandates may determine that AB 149 contains costs so mandated by the state, reimbursement for those costs would be made pursuant to the statutory provisions noted therein. However, for purposes of this Commission regulation, such determinations of mandates are considered to be impacts caused by the legislation and not a direct result of the proposed regulation.

(h) Effect on Housing Costs: None.

Updated Informative Digest/Policy Statement Overview

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

Current regulations in Section 671 contain the list of restricted species that are unlawful for any person to import, transport, or possess except as authorized in a permit issued by the Department. Under emergency regulatory authority, golden mussel (*Limnoperna fortunei*) was added to the list of restricted animals in December 2024 (Office of Administrative Law File Number 2024-1213-03E).

The proposed changes will add green crab (*Carcinus maenas*), an invasive, non-native crustacean species, and the *Limnoperna*, *Sinanodonta* and *Xenostrobus* genera which are invasive, non-native bivalve species, to the list of restricted animals consistent with California Fish and Game Code sections 2118 and 2120.

Background

Green Crab (C. maenas)

The green crab (*C. maenas*), also known as the European green crab, native to the northeast Atlantic Ocean and northern Africa, is an invasive non-native species in California.

Green crab was first detected in California in 1989 in the southern San Francisco Bay. It is suspected that the green crab arrived in seaweed-wrapped bait shipments from the East Coast of the U.S. Since then, green crab has been identified in many California bays and estuaries including, but not limited to, San Francisco Bay and Bay Delta, Elkhorn Slough, Bolinas Lagoon, Bodega Bay, Tomales Bay, Morro Bay and Humboldt Bay. There is concern that green crab can continue to expand beyond currently established populations in California and cause extensive damage to recreational and commercial fishery resources, aquaculture, native fisheries, and sensitive habitat.

On July 7, 2017, the Commission received a petition for regulatory change (Petition 2017-006) from Mr. Joshua Russo, President of the Watermen's Alliance, requesting that regulations be adopted to list green crab as an invasive aquatic species. The Department evaluated the petition and provided a recommendation to the Commission to grant the petition.

At its April 2018 meeting, the Commission agreed with the Department's recommendation and granted the petition for consideration in a future rulemaking.

Golden Mussel (genus Limnoperna)

On October 17, 2024, golden mussel (*L. fortunei*), 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. Additional discoveries of golden mussel have occurred throughout the Delta and interconnected waters, including the lower reach of the San Joaquin River (San Joaquin County), and at several points in the California Aqueduct including, from north-to-south, Bethany Reservoir (Alameda County), O'Neill Forebay

(Merced County), Dos Amigos Pumping Plant (Merced County), Pleasant Valley Pumping Plant (Fresno County), Las Perillas Pumping Plant on the Coastal Branch Aqueduct (Kings County), and Check 24 (Kings County). **Golden mussels have been detected in additional locations since the Notice of Proposed Action, and an updated map, including detections as of October 27, 2025 was included in the Final Statement of Reasons.** Without actions to prevent further spread, golden mussel is also likely to spread 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 mussel is known to be established outside of its native range in Hong Kong, Japan, Taiwan, Brazil, Uruguay, Paraguay, and Argentina. 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.

At its December 11, 2024 meeting, the Commission approved an emergency rulemaking to add golden mussel (*L. fortunei*) to the list of restricted animals in Section 671 (Office of Administrative Law File Number 2024-1213-03E). The proposed rulemaking will serve as the certificate of compliance for the addition of *L. fortunei* to the list of restricted animals.

Beyond the immediate threat of *L. fortunei*, the other five species within the genus *Limnoperna* mussels have the potential to be inadvertently introduced to California, and likely to have similar negative impacts to California as *L. fortunei*. Other species within the genus *Limnoperna* include *L. siamensis*, *L. ngocngai*, *L. bogani*, *L. sambasensis*, and *L. taprobanensis*. *Limnoperna* mussels are native to Asia, primarily Southeast Asia. Most *Limnoperna* species can be found in freshwater to estuarine habitats, although it is hypothesized that *L. taprobanensis* is a marine species.

Outside of *L. fortunei*, there are few records of invasions outside of their native ranges by other species of *Limnoperna*; however, available literature indicates they may have similar biology and impacts as *L. fortunei*.

Pond Mussels (genus Sinanodonta)

Pond mussels (*Sinanodonta*) (also known as Asian pond mussels) are freshwater unionid bivalves of 26 species that are fast-growing and can reach high densities. Species within *Sinanodonta* are difficult to morphologically identify, which has led to extensive misidentification of species. Additionally, the molecular taxonomy within the genus is still being resolved.

Native to Eastern Asia including China and eastern Russia, Japan and Korea, three species of *Sinanodonta* (*S. woodiana*, *S. lauta*, and *S. pacifica*) have been documented to be invasive outside of their native ranges and have spread rapidly to other countries including Kazakhstan, Uzbekistan, Iran, South Korea, Myanmar, Indonesia, Malaysia, Philippines, Borneo, Dominican Republic, Costa Rica, Spain, France, Italy, Germany, Austria, Slovakia, Hungary, the Czech Republic, Poland, Croatia, Serbia, Romania, Moldova, Belgium, Ukraine and Sweden.

In 2010, *S. woodiana* was detected for the first time in the United States within aquaculture ponds in Franklin Township, New Jersey. Pond mussel has not been detected in California, or any other U.S. state with the exception of New Jersey.

Based on the establishment of *S. woodiana* in North America, potential vectors of introduction, and anticipated impacts to native species and the environment, prohibiting all species in the genus *Sinanodonta* is warranted.

Axe-Head Mussel (genus Xenostrobus)

Axe-head mussel (*X. securis*), a small, non-native, invasive, biofouling brackish water bivalve, was discovered on December 6, 2024, just north of the Port of Long Beach and Port of Los Angeles in the lower reaches of Dominguez Channel, Los Angeles County. This detection was made by Department staff conducting early detection monitoring for invasive mussels. This is the first known occurrence of the invasive species in North America. Shortly after, axe-head mussels were detected in high densities at additional sites including the lower reaches of San Gabriel River (February 21, 2025) and Los Angeles River (February 27, 2025).

Axe-head mussel is one of eight extant species of the genus *Xenostrobus*. These species include *X. pulex* and *X. securis* from Australia and New Zealand, *X. inconstans* from Australia, *X. balani*, *X. mangle* and *X. sambasensis* from Southeast Asia, *X. hepatica* from Fiji, and *X. atratus* from Japan, Korea, and China. Axe-head mussel (*X. securis*) has been introduced and established outside of its native ranges in Japan, China, Korea, Hong Kong, Italy, France, and Spain.

Globally axe-head mussel was likely introduced by ballast water discharge and biofouling on ships. Without containment, axe-head mussel is likely to spread via watercraft in the marine environment to other estuaries, brackish waters, and ports of California, other U.S. states and territories, and internationally, and overland on trailered vessels and equipment in North America.

Beyond the immediate threat of axe-head mussel, the other seven species of *Xenostrobus* mussels have the potential to be inadvertently introduced to California, and are likely to have similar negative impacts to California as axe-head mussel.

Proposed Changes

The proposed regulations add green crab, and the *Limnoperna*, *Sinanodonta*, and *Xenostrobus* genera to the list of live animals restricted from importation, transportation and possession:

Section 671. Importation, Transportation and Possession of Live Restricted Animals.

Amend subsection (c)(8) from Class Crustacea to Class Malacostraca to update and correct the Class for the species in this subsection. The Class Crustacea has been reclassified by The International Commission on Zoological Nomenclature to a higher level and is now a subphylum of the phylum Arthropoda.

Add subsection (c)(8)(C) *Carcinus maenas* (green crab) (D).

Adding green crab, which causes harm to native species and the ecosystems they depend on to survive, to the list of restricted animals is necessary to protect against the spread of this invasive species in California. Prohibiting importation, transportation, and possession of this species will prevent further introductions and slow the spread within and outside of California.

Amend subsection (c)(10) Class Bivalvia-Bivalves to move “All members of the genus *Dreissena* (zebra and quagga mussels) (D).” under subsection (A) to allow for the addition of other species under this class.

Add subsection (c)(10)(B) All members of the genus *Limnoperna* (golden mussel) (D).

Adding all members of the genus *Limnoperna* (golden mussel), which can cause harm to native species and the ecosystems they depend on to survive, as well as infrastructure, to the list of restricted animals is necessary to protect against the spread of these invasive species in California. Prohibiting importation, transportation, and possession of the species will prevent further introductions and slow the spread within and outside of California.

Add subsection (c)(10)(C) All members of the genus *Sinanodonta* (pond mussel, Asian pond mussel) (D).

Adding all members of the genus *Sinanodonta* (pond mussel), which can cause harm to native species and the ecosystems they depend on to survive, to the list of restricted animals is necessary to protect against the spread of these invasive species in California. Prohibiting importation, transportation, and possession of the species will prevent further introductions and slow the spread within and outside of California.

Add subsection (c)(10)(D) All members of the genus *Xenostrobus* (axe-head mussel) (D).

Adding all members of the genus *Xenostrobus* (axe-head mussel), which can cause harm to native species and the ecosystems they depend on to survive, as well as infrastructure, to the list of restricted animals is necessary to protect against the spread of these invasive species in California. Prohibiting importation, transportation, and possession of the species will prevent further introductions and slow the spread within and outside of California.

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 new introductions of species within the *Limnoperna*, *Sinanodonta*, and *Xenostrobus* genera to waterbodies of the state and the translocation of green crab, and members of the *Limnoperna* and *Xenostrobus* genera 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 species on the list of restricted animals.

Update:

At its October 7-8, 2025 meeting, the Commission adopted the changes as proposed. There have been no changes to the effect of the proposed regulations from the effects described in the Notice of Proposed Action. Assembly Bill 149 (2025) amended California Fish and Game Code sections 2301 and 2302, and added Section 2303, which are applicable laws as they pertain to invasive mussels. However, the adopted amendments to Section 671 are consistent with, and not in contrast to, these updates to California Fish and Game Code sections 2301, 2302, and 2303.