

## STAFF SUMMARY FOR APRIL 17, 2019

**11. HAGFISH TRAPS (CONSENT)****Today's Item**Information Action 

Consider authorizing publication of notice of intent to amend commercial take of hagfish regulations, including use of barrel traps and buoy marking requirements for all trap types.

**Summary of Previous/Future Actions**

- **Today's notice hearing** **Apr 17, 2019; Santa Monica**
- Discussion/adoption hearing Jun 12-13, 2019; Redding

**Background**

In California, the open access commercial hagfish fishery is primarily managed via restrictions on the amount and type of gear allowed. The method for take is by one of three baited trap types: bucket trap, Korean trap, and, since 2015, barrel traps. Section 9000.5 and subdivision 9001.6(b) of Fish and Game Code define and authorize no more than a total of 500 Korean-style traps, or a total of 200 five-gallon bucket traps aboard a vessel or in the water or combination thereof. In Oct 2015, FGC approved the use of 25 barrel traps (of 40-gallon capacity) as an alternative trap type under subsection (b) of Section 180.6, Title 14, as a volumetric equivalent to the 200 five-gallon bucket trap limit.

In Aug 2016, Section 180.6, Title 14, was amended to redefine the 40 gallon volume to a dimension-based measurement for barrel trap size and, to streamline language regarding trap use by a vessel, stated that "...no permittee may possess more than 25 barrel traps aboard a vessel or in the water or combination thereof." However, as all participants engaged in hagfish fishing are required to have a general trap permit (pursuant to Fish and Game Code sections 9000.5 and 9001), the regulatory language inadvertently authorized the use of 25 barrel traps for each permittee aboard a vessel, rather than per vessel as intended. The proposed revision clarifies that the barrel trap limit is 25 per vessel, and adds a requirement for any hagfish trap buoy to be marked with the vessel's California commercial boat registration number.

The proposed changes to Section 180.6, Title 14, are:

- Remove the words "permittee may possess" from subsection (b), thus linking the 25 barrel trap limit to the vessel.
- Add subsection (c) requiring the use of the vessel's California commercial boat registration number to mark the buoy used to mark any hagfish trap (fishermen will continue to mark buoys with all fishermen L numbers operating the vessel, as required by Fish and Game Code subdivision 9006(b)).

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

**FGC staff:** Under a motion to adopt the consent calendar, authorize publication of the notice and request the effective date as recommended by DFW.

## STAFF SUMMARY FOR APRIL 17, 2019

**DFW:** Authorize publication of the notice as detailed in the draft initial statement of reasons (ISOR; Exhibit 2), and request that the Office of Administrative Law make the regulation effective on or before October 1, 2019 (Exhibit 1).

**Exhibits**

1. [DFW memo transmitting ISOR, received Mar 20, 2019](#)
2. [Draft ISOR](#)
3. [DFW report: \*Final Report: Evaluation of the Use of 40-gallon Barrel Traps for the Take of Hagfish\*, by Travis Tanaka, May 12, 2015](#)
4. [Draft economic and fiscal impact statement \(Std. 399\)](#)
5. [DFW memo regarding the California Environmental Quality Act, received Mar 20, 2019](#)
6. [Draft notice of exemption](#)

**Motion/Direction**

Moved by \_\_\_\_\_ and seconded by \_\_\_\_\_ that the Commission adopts the staff recommendations for items 4-11 on the consent calendar.

Date: March 20, 2019

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

From: Charlton H. Bonham  
Director

Subject: **Initial Statement of Reasons to amend Section 180.6, Re: Hagfish Traps**

The Department of Fish and Wildlife (Department) requests the Fish and Game Commission (Commission) authorize publishing notice of its intent to amend Section 180.6 of Title 14, California Code of Regulations (CCR), concerning the use of traps to take hagfish. Authorization of the request to publish notice will allow for discussion and possible adoption at the June 12-13, 2019 Commission meeting.

The proposed amendment to Section 180.6, Title 14, CCR will limit the number of barrel traps used to take hagfish to 25 per vessel, and will additionally require that the buoy used to mark any hagfish trap be marked with the vessel's California commercial boat registration number.

This proposal is intended to maintain the sustainability of California's hagfish fishery, reduce interaction with other bottom fishing gear, and reduce the potential for entanglement of marine mammals in vertical trap lines. The use of the vessel's California commercial boat registration number to mark the buoy used to mark any hagfish trap will help Law Enforcement Division staff determine, at sea, how many traps a vessel is utilizing and/or possessing, and meet concerns to enforce 25 traps per vessel.

The Department asks that the Commission request that the Office of Administrative Law make the regulation effective on or before October 1, 2019.

If you have any questions regarding this item, please contact Dr. Craig Shuman, Marine Regional Manager at (916) 445-6459. The public notice for this rulemaking should identify Environmental Scientist Travis Tanaka as the Department's point of contact. Mr. Tanaka can be reached at (831) 649-2881 or [Travis.Tanaka@wildlife.ca.gov](mailto:Travis.Tanaka@wildlife.ca.gov).

Melissa Miller-Henson, Acting Executive Director  
Fish and Game Commission  
March 20, 2019  
Page 2

ec: Stafford Lehr  
Deputy Director  
Wildlife and Fisheries Division  
[Stafford.Lehr@wildlife.ca.gov](mailto:Stafford.Lehr@wildlife.ca.gov)

Craig Shuman  
D. Env. Regional Manager  
Marine Region  
[Craig.Shuman@wildlife.ca.gov](mailto:Craig.Shuman@wildlife.ca.gov)

Bob Puccinelli  
Captain  
Law Enforcement Division  
[Robert.Puccinelli@wildlife.ca.gov](mailto:Robert.Puccinelli@wildlife.ca.gov)

Michelle Selmon  
Program Manager  
Regulations Unit  
[Michelle.Selmon@wildlife.ca.gov](mailto:Michelle.Selmon@wildlife.ca.gov)

Ona Alminas  
Senior Environmental Scientist  
Regulations Unit  
[Ona.Alminas@wildlife.ca.gov](mailto:Ona.Alminas@wildlife.ca.gov)

Elizabeth Pope  
Acting Marine Advisor  
Fish and Game Commission  
[Elizabeth.Pope@wildlife.ca.gov](mailto:Elizabeth.Pope@wildlife.ca.gov)

Kirsten Ramey  
Environmental Program Manager  
Marine Region  
[Kirsten.Ramey@wildlife.ca.gov](mailto:Kirsten.Ramey@wildlife.ca.gov)

Paul Reilly  
Senior Environmental Scientist  
Marine Region  
[Paul.Reilly@wildlife.ca.gov](mailto:Paul.Reilly@wildlife.ca.gov)

Travis Tanaka  
Environmental Scientist  
Marine Region  
[Travis.Tanaka@wildlife.ca.gov](mailto:Travis.Tanaka@wildlife.ca.gov)

STATE OF CALIFORNIA  
FISH AND GAME COMMISSION  
INITIAL STATEMENT OF REASONS FOR REGULATORY ACTION

Amend Section 180.6  
Title 14, California Code of Regulations  
Re: Hagfish Traps

I. Date of Initial Statement of Reasons: March 20, 2019

II. Dates and Locations of Scheduled Hearings

- (a) Notice Hearing: Date: April 17, 2019  
Location: Santa Monica, CA
  
- (b) Discussion/Adoption Hearing: Date: June 13, 2019  
Location: Redding, CA

III. Description of Regulatory Action

- (a) Statement of Specific Purpose of Regulation Change and Factual Basis for Determining that Regulation Change is Reasonably Necessary:

Unless otherwise specified, all section references in this document are to Title 14 of the California Code of Regulations (CCR).

In California, the Pacific Hagfish (*Eptatretus stoutii*) (hagfish) fishery is an open access commercial fishery administered by the Department of Fish and Wildlife (Department). Fishing is allowed year-round in all depths of State and federal waters, except in Marine Protected Areas. The hagfish fishery is primarily managed via restrictions on the amount and type of gear allowed. Section 9000.5 and subdivision 9001.6(b) of Fish and Game Code (FGC) define and authorize no more than a total of 500 Korean-style traps, or a total of 200, five-gallon bucket traps aboard a vessel, or in the water or combination thereof. The Fish and Game Commission (Commission) approved the use of 25 barrel traps (40-gallon capacity) as an alternative trap type under subsection (b) of Section 180.6, effective January 1, 2016 (rulemaking file number 2015-1116-01s). The 25-barrel trap limit was intended to be per vessel, and serve as a volumetric equivalent to the 200 five-gallon bucket trap limit prescribed by subdivision (b) of FGC Section 9001.6 (Tanaka 2015). Hagfish fishermen utilize barrel traps or bucket traps to take hagfish. It is unknown specifically how many fishermen use barrel traps because barrel and bucket traps were historically reported as gear code 21 for landing purposes. To inform fishery managers about trap type use in the hagfish fishery, gear codes specific to barrel and bucket traps were recently instituted on October 16, 2018.

Other than a general trap permit, pursuant to FGC sections 9000.5 and 9001, no special permits are required to commercially fish for hagfish. There are no daily, seasonal, or annual catch limits for hagfish. Further, the fishery has no reporting requirement, other than a landing receipt, and there is no minimum size limit, landing quota, or seasonal closure. There is no recreational fishery for hagfish. This open access fishery provides additional income to vessel owners and crewmembers who participate in other permitted fisheries. For those that do not have other permits or fishery opportunities, fishing hagfish serves as their sole source of income. This low profit, volume-based live fishery serves primarily as export only to South Korea, though hagfish dealers seek other markets, domestic and foreign, to sell live hagfish. Fishermen are often motivated to catch and deliver as much hagfish as possible per fishing trip to maximize profit.

The hagfish resource is considered data poor; the status or size of its biomass, and other aspects of its life history remain unknown. While individual hagfish are known to have a low fecundity rate with less than 30 eggs per spawn cycle (Barss 1993), it is unknown how many spawn cycles occur per year. Hagfish inhabit deep water, soft bottom (i.e., mud) habitat in ocean depths ranging from 30 to 2,400 feet (9 to 732 meters) (Miller and Lea 1972). In California, hagfish are usually captured in depths less than 1,800 feet (549 meters), and based on landings data, population numbers appear greater north of Point Conception. Approximately 79 percent of soft bottom habitat within fishable depths is available. However, the distribution of such available habitat is patchy along the California coastline, and fishermen often concentrate on those fishing locations known for adequate hagfish numbers to sustain their fishing effort. While there is limited knowledge about localized or broad movement of hagfish, they appear to alter their localized movement in response to food availability (decaying organisms, invertebrates, as well as baited traps). Thus, fishing has the potential to shift hagfish distribution by causing artificial movement toward an area due to baited traps (Martini 1998). Voluntary logbook data suggests that fishermen rotate trap set locations, eventually fishing the same areas after a period of rest. This information indicates that even while there may be localized depletion, hagfish will return to an unfished area after a certain amount of time (Tanaka 2015).

### **Existing Regulations**

The existing regulation, subsection (b) of Section 180.6, provides that each permittee can utilize up to 25 barrel traps (in the water, aboard a vessel, or in combination thereof) to take hagfish, spread on up to three ground lines or strings. FGC Section 9005 requires every trap or string of traps to be marked with a buoy, and FGC subdivision 9006(b) requires the buoy identifying traps used to take hagfish to be marked with the operator's (i.e., responsible fisherman's) commercial fishing license identification number only ("L

number”) with no prescribed lettering. Subdivision (b) of FGC Section 9001 requires all participants on a fishing vessel (i.e., vessel operator, crewmembers or deckhands) who operate, or assist in operating, any trap to take hagfish, or who possess or transport hagfish on any boat, barge, or vessel when any trap is aboard, to have a current general trap permit, and thus serve as “permittees.” Thus, a permittee may be any crewmember, or the vessel operator (who may also be the responsible fisherman under whose L number the vessel is operating). General trap permits are purchased over the counter and there is no cap on the number of general trap permits issued per year. The current regulations allow each vessel utilizing hagfish barrel gear to utilize and possess up to 25 barrel traps per permittee.

When Section 180.6 was last amended (rulemaking file number 2016-0920-02s, effective January 1, 2017) to shift barrel traps from a 40-gallon volume to a dimension-based measurement of barrel size, subsection 180.6(b) was amended in an attempt to simplify language regarding trap use by a vessel by stating that “...no permittee may possess more than 25 barrel traps aboard a vessel or in the water or combination thereof.” Due to the fact that a permittee can be the vessel operator, and/or any crewmember, the current language allows the use of 25 barrel traps per permittee, which goes against the original intent of the regulation effective January 1, 2016 to allow a maximum of 25 barrel traps per vessel (the volumetric equivalent to the 200 five-gallon bucket trap limit prescribed by subdivision (b) of FGC Section 9001.6).

There is no fishery management plan for hagfish. The Department collects dockside samples of hagfish on an *ad hoc* basis. Dockside sampling includes evaluating the catch for average weight. If time allows, randomly selected fish are taken and processed back at a Department office to obtain data on individual fish sex, length, weight, and spawning condition. At present, annual landing totals appear to be stable. In 2018, 49 fishermen made at least one landing of hagfish using either barrel or bucket traps. For vessels that used up to 25 barrel traps or 200 bucket traps, the average landing was 1,367 pounds of hagfish. One vessel was identified as using more than 25 barrel traps; this vessel averaged 14 times this amount (21,573 pounds) of hagfish per landing (it is unknown if these landings resulted from one or more days fished).

### **Proposed Regulation Amendment and Addition**

The proposed amendment to subsection (b) of Section 180.6 re-establishes the number of allowed barrel traps (25) per vessel, regardless of the number of permittees. The words “permittee may possess” will be deleted, thus linking the 25-barrel trap limit to the vessel.

New subsection 180.6(c) is proposed to be added to require buoys used to mark any hagfish traps (barrel traps, bucket traps and Korean style traps) to be marked with the vessel’s California commercial boat registration number in

addition to the fisherman's L number mandated by subdivision (b) of FGC Section 9006.

### **Necessity of Proposed Regulation**

Due to data deficiencies in hagfish population size, status, and other aspects of its life history, it is unknown whether the fishery can sustainably withstand an increase in fishing pressure attributed to vessels using more than 25 barrel traps. The proposed amendment to subsection (b) of Section 180.6 is necessary in order to clarify the original intent of the regulation effective January 1, 2016 restricting a vessel to utilize and possess no more than 25 barrel traps per vessel. This clarification will help ensure the sustainability of the hagfish fishery, and reduce excessive take. Limiting the number of traps deployed in proximate locations to one another also reduces the potential for user conflict among fishermen accessing the same area. In addition, restricting a vessel to 25 barrel traps reduces the potential for stray trap gear on the seafloor, and limits the number of vertical buoy lines to reduce potential impact to other marine life (Tanaka 2015).

The proposed addition of subsection (c) of Section 180.6 is necessary for the Department's Law Enforcement Division (LED) wildlife officers to effectively enforce the number of traps per vessel. When only the L number marks the buoy used to mark hagfish traps, officers are unable to determine which trap string belongs to which vessel, unless the officers can observe a vessel servicing (i.e., deploying or recovering) the traps.

#### **(b) Goals and Benefits of the Regulation:**

It is the policy of the State to encourage the conservation, maintenance, and utilization of the living resources of the ocean and other waters under the jurisdiction and influence of the State for the benefit of all the citizens of the State and to promote the development of local fisheries and distant-water fisheries based in California in harmony with international law respecting fishing and the conservation of the living resources of the oceans and other waters under the jurisdiction and influence of the State. The objectives of this policy include, but are not limited to, the maintenance of sufficient populations of all species of aquatic organisms to insure their continued existence, and the growth of local commercial fisheries taking into consideration the necessity of regulating the catch within the limits of maximum sustainable yields.

The proposed regulation will help ensure sustainability of the hagfish resource, reduce potential conflicts among fishermen using similar fishing grounds, and limit the number of vertical buoy lines to reduce potential impact to other marine life.

The proposed regulation will also require the use of the vessel's California commercial boat registration number to mark the buoy used to mark any hagfish trap to assist LED staff in determining, at sea, how many traps a vessel is utilizing and/or possessing and meet concerns to enforce 25 traps per vessel.

(c) Authority and Reference Sections from Fish and Game Code for Regulation:

Note: Authority cited: Sections 8403, and 9022, Fish and Game Code.  
Reference: Sections 8403, 9001.6, 9001.7, 9006, and 9022, Fish and Game Code.

(d) Specific Technology or Equipment Required by Regulatory Change:

None.

(e) Identification of Reports or Documents Supporting Regulation Change:

Tanaka, T. 2015. Final Report: Evaluation of the Use of 40-gallon barrel Traps for the Take of Hagfish. California Department of Fish and Wildlife, Marine Region (North-Central Finfish Research and Management Project).

(f) Identification of Reports or Documents Providing Background Information:

Barss, WH. 1993. Pacific Hagfish, *Eptatretus stoutii*, and Black Hagfish, *E. deani*: the Oregon fishery and port sampling observation, 1988-92. Marine Fisheries Review 55(4):19-30.

Martini, FH. 1998. The ecology of hagfishes. Pages 57-77 in J.M. Jorgensen, J.P. Lomholt, R.E. Weber and H. Malte, editors. The biology of hagfishes. Springer-Science, London, United Kingdom.

Miller, DJ, & Lea, RN. 1972. Guide to coastal marine fishes of California. California Department of Fish and Game. Fisheries Bulletin 157.

(g) Public Discussions of Proposed Regulations Prior to Notice Publication:

No public meetings are being held prior to the notice publication. The 45-day comment period provides adequate time for review of the proposed amendments.

IV. Description of Reasonable Alternatives to Regulatory Action

(a) Alternatives to Regulation Change:

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:

If the current regulations are retained, vessels may run multiple sets of 25 barrel traps, one each per permittee (crewmember), thus increasing overall take of hagfish beyond levels that are known to be sustainable. Annual landings are relatively stable and appear sustainable at the current level. However, if more vessels increase the number of traps used, overall take of hagfish would increase. The potential effect of the No Change Alternative on the entire hagfish population is unknown, but it is possible that significant, localized depletion would occur.

Under the No Change Alternative, fishermen will continue to mark the buoys used to mark hagfish traps with their L number as required by subdivision (b) of FGC Section 9006; however, without including the California commercial boat registration number, it would be difficult for LED to determine which traps are deployed by a given vessel.

V. Mitigation Measures Required by Regulatory Action

The proposed regulatory action will have no negative impact on the environment; therefore, no mitigation measures are needed.

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

The proposed action will not have a significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states. The California hagfish fishery is primarily a live export fishery. Currently, there is increased demand for California-caught hagfish due to the consistency of catch and lower dock price compared to hagfish fisheries in other states.

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

The Commission does not anticipate any impacts on the creation or elimination of jobs, the creation of new business, the elimination of existing businesses or the expansion of businesses in California. There are no anticipated benefits to the health and welfare of California residents and worker safety. However, clarifying the original intent of the regulation effective January 1, 2016 by limiting the number of barrel traps to 25 per vessel would benefit the environment by promoting sustainability of the hagfish resource, limit the amount of barrel gear on the seafloor, and limit the number of vertical buoy lines in the fishery that could potentially impact other marine life.

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

A vessel that may have deployed more than 25 barrel traps in the past could face a reduction in fishing income due to a reduction in the number of traps deployed per vessel. However, the regulation effective January 1, 2016 intended that only 25 barrels be used per vessel, and the majority of fishermen conform to this practice.

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

None.

(e) Nondiscretionary Costs/Savings to Local Agencies:

None.

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

None.

(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:

None.

(h) Effect on Housing Costs:

None.

VII. Economic Impact Assessment:

(a) Effects of the Regulation on the Creation or Elimination of Jobs Within the State:

None. The proposed regulatory action to clarify the original intent of the regulation effective January 1, 2016 restricting a vessel to utilize and possess no more than 25 barrel traps per vessel is not anticipated to affect the creation or elimination of jobs, which are primarily influenced by the foreign market demand for hagfish.

(b) Effects of the Regulation on the Creation of New Businesses or the Elimination of Existing Businesses Within the State:

None. The proposed regulatory action to clarify the original intent of the regulation effective January 1, 2016 is not anticipated to affect the creation of new businesses or elimination of existing businesses, which are primarily influenced by the foreign market demand for hagfish.

(c) Effects of the Regulation on the Expansion of Businesses Currently Doing Business Within the State:

None. The proposed regulatory action to clarify the original intent of the regulation effective January 1, 2016 is not anticipated to affect the expansion of businesses currently doing business within the state. Entry to or exit from the open access hagfish fishery is predominately driven by the hagfish export market demand and opportunity in other more profitable fisheries (such as ocean salmon or Dungeness crab). Approximately 50 percent of hagfish fishery participants (vessel owners or operators) hold permits in other fisheries and may pursue hagfish to fill gaps in between seasons. There are some vessel operators and crewmen who rely on the hagfish fishery as their only source of income. Since crew identity is not documented as part of Department landing requirements, it is unknown exactly how many crewmembers solely rely on hagfish.

(d) Benefits of the Regulation to the Health and Welfare of California Residents:

None. The proposed regulatory action is not anticipated to benefit the health and welfare of California residents.

(e) Benefits of the Regulation to Worker Safety:

None. The proposed regulatory action is not anticipated to benefit worker safety.

(f) Benefits of the Regulation to the State's Environment:

The proposed regulation is anticipated to benefit the environment by clarifying the original intent of the regulation effective January 1, 2016 of limiting the number of barrel traps to 25 per vessel, which is expected to promote the sustainability of the hagfish fishery, limit the amount of barrel gear on the

seafloor, and limit the number of vertical buoy lines in the fishery that could potentially impact other marine life.

DRAFT

## Informative Digest/Policy Statement Overview

In California, Pacific Hagfish (*Eptatretus stoutii*) (hagfish) is an open access commercial fishery administered by the Department of Fish and Wildlife (Department). Fishing is allowed year-round in all depths of State and federal waters, except in Marine Protected Areas. The hagfish fishery is primarily managed via restrictions on the amount and type of gear allowed. The method for take is by one of three baited trap types: bucket trap, Korean trap, and more recently, barrel traps. Section 9000.5 and subdivision 9001.6(b) of Fish and Game Code (FGC) define and authorize no more than a total of 500 Korean-style traps, or a total of 200, five-gallon bucket traps aboard a vessel, or in the water or combination thereof. The Fish and Game Commission (Commission) approved the use of 25 barrel traps (40-gallon capacity) as an alternative trap type under subsection (b) of Section 180.6, Title 14, California Code of Regulations (CCR) effective January 1, 2016. The 25-barrel trap limit was intended to be per vessel, and serve as a volumetric equivalent to the 200 five-gallon bucket trap limit prescribed by subdivision (b) of FGC Section 9001.6.

There are no daily, seasonal, or annual catch limits for the hagfish fishery. Further, the fishery has no reporting requirement, other than a landing receipt, and there is no minimum size limit, landing quota, or seasonal closure. There is no recreational fishery for hagfish. Pursuant to FGC sections 9000.5 and 9001, all participants on a fishing vessel (i.e., vessel crewmembers) are required to have a current general trap permit, and thus serve as “permittees.” FGC Section 9005 requires every trap or string of traps to be marked with a buoy, and FGC subdivision 9006(b) requires the buoy identifying traps used to take hagfish to be marked with the operator’s (i.e., responsible fisherman’s) commercial fishing license identification number only (“L number”) with no prescribed lettering.

When Section 180.6, Title 14, CCR was last amended (effective January 1, 2017) to shift from a 40 gallon volume to a dimension-based measurement of barrel trap size, subsection 180.6(b) was amended in an attempt to simplify language regarding trap use by a vessel by stating that “...no permittee may possess more than 25 barrel traps aboard a vessel or in the water or combination thereof.” Due to the fact that a permittee can be the vessel operator, and/or any crewmember, the current language allows the use of 25 barrel traps per permittee, which goes against the original intent of the regulation effective January 1, 2016 to allow a maximum of 25 barrel traps per vessel (the volumetric equivalent to the 200 five-gallon bucket trap limit prescribed by subdivision (b) of FGC Section 9001.6).

### Proposed Regulation

The proposed amendment to subsection (b) of Section 180.6, Title 14, CCR re-establishes the number of allowed barrel traps (25) per vessel, regardless of the number of permittees aboard the vessel. In addition to the commercial fishing license identification number, hagfish fishermen will also be required to mark buoys used to mark any hagfish traps with the vessel’s California commercial boat registration number.

The following is a summary of the changes proposed for Section 180.6, Title 14, CCR:

- Remove the words “permittee may possess” from subsection (b), thus linking the 25 barrel trap limit to the vessel.
- Add subsection (c) requiring the use of the vessel’s California commercial boat registration number to mark the buoy used to mark any hagfish trap (fishermen will continue to mark buoys with all fishermen L numbers operating the vessel, as required by FGC subdivision 9006(b)).

### **Benefits of the Proposed Regulation**

Linking the maximum number of barrel traps utilized and possessed to the vessel instead of the permittee will limit the fishing capacity of vessels that utilize this gear. Since there are no other management measures that limit hagfish fishing capacity, limiting the number of barrel traps by vessel will help ensure sustainability of the hagfish resource, reduce potential conflicts between fishermen using similar fishing grounds, and limit the number of vertical buoy lines to reduce potential impact to other marine life.

By requiring the use of the vessel’s California commercial boat registration number to mark the buoy used to mark any hagfish trap, Law Enforcement Division (LED) staff will be able to determine, at sea, how many traps a vessel is utilizing and/or possessing. This requirement would apply to all trap types authorized for the take of hagfish.

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

Section 20, Article IV, of the State Constitution specifies that the Legislature may delegate to the Fish and Game 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 commercial take of finfish using traps (FGC sections 8403 and 9022). No other State agency has the authority to promulgate commercial fishing regulations. The Commission has reviewed its own regulations and finds that the proposed regulations are neither inconsistent nor incompatible with existing State regulations. The Commission has searched the CCR for any regulations regarding the use of traps for the commercial take of hagfish and has found no such regulation; therefore the Commission has concluded that the proposed regulations are neither inconsistent nor incompatible with existing State regulations.

## PROPOSED REGULATORY LANGUAGE

Section 180.6, Title 14, CCR, is amended to read:

§ 180.6. Hagfish Traps.

(a) All openings in traps used to take hagfish, excluding the entrance funnel, shall have a minimum diameter of 9/16 inch in any dimension.

(b) Hagfish may be taken in barrel traps, if attached to a ground line. No ~~permittee may possess~~ more than a total of 25 barrel traps per vessel may be possessed aboard a ~~the~~ vessel or in the water or combination thereof. Each barrel trap shall be no greater than 45 inches in total length and have an outside diameter no greater than 25 inches at its widest point. Barrels may be attached to a maximum of three ground lines. If using barrel traps, no other hagfish trap type may be used or possessed aboard the vessel. When barrel traps are used or possessed aboard a vessel, no species of finfish other than hagfish shall be taken, possessed, or sold. Popups shall not be used on buoy lines attached to barrel traps.

(c) Every hagfish trap, or string of traps, shall be marked with a buoy that identifies the operator's commercial fishing license identification number, as well as the vessel's California commercial boat registration number.

Authority cited: Sections 8403, and 9022, Fish and Game Code.

Reference: Sections 8403, 9001.6, 9001.7, 9006, and 9022, Fish and Game Code.



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Marine Region  
20 Lower Ragsdale Drive, ste 100  
Monterey, CA 93940  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

*EDMUND G. BROWN JR., Governor*  
*CHARLTON H. BONHAM, Director*



## **Final Report: Evaluation of the Use of 40-gallon Barrel Traps for the Take of Hagfish**



**Travis Tanaka  
California Department of Fish and Wildlife  
Marine Region  
North-Central Finfish Research and Management Project**

**May 12, 2015**

*Conserving California's Wildlife Since 1870*

## INTRODUCTION

In February 2013, the Fish and Game Commission (Commission) was petitioned by two Bodega Bay commercial fishermen requesting Experimental Gear Permits to use individually floated, 40-gallon barrels as a method of take for Pacific hagfish. Under statute, hagfish may be taken in either 5-gallon bucket traps or Korean-style hagfish traps. While legal in other states, the use of barrels to take hagfish in California is prohibited. The 40-gallon barrel is a standard readily available to the fishing industry and currently in use in other jurisdictions such as Oregon. They suggested that the use of this gear was a way to decrease potential for negative gear interactions with other commercial benthic fisheries (e.g. Dungeness crab) and to improve catch quality by reducing dead loss or damage to captured fish through crowding.

The Commission accepted the Department's recommendations and approved the Experimental Gear Permits with the conditions including that the use of the gear be observed by the Department. The Department, working with the permitted fishermen, sought to evaluate the proposed method as possible legal gear to take hagfish. At the time of the application, while there were no requirements of the fishery to have a minimum hole diameter on hagfish traps, a 1/2-in. diameter minimum was a requirement identified in the permit. The permittees were allowed to design their traps in any fashion, provided Department regulations regarding destruct devices were followed. As the study progressed, minimum hole diameter was increased to 9/16 in. to comply with a regulatory requirement which became effective January 1, 2015.

## METHODS

The proposal to the Commission stated that barrel traps would minimize negative gear interactions with other fisheries, improve the quality of trapped hagfish and reduce dead loss due to crowding. To evaluate this gear, the Department required both permit holders to submit accurate logs documenting gear interactions, number of traps, soak duration, total catch per trip, and bycatch by species. Onboard observation trips (minimum of 3 days per permit) performed by Department staff were required to verify logbook information and to document any interaction with wildlife or other fisheries. Each permit holder was allowed to fish up to 40 traps (Fig. 1), with all traps having a minimum hole diameter of 1/2 in. The minimum hole diameter was increased to 9/16 in. in January 2015 and the permit holders modified their experimental barrel traps accordingly. The period of evaluation began September 2013 and ended April 2015.



Figure 1. 40-gallon barrel trap in the intended orientation as fished on the bottom

#### **ONBOARD OBSERVATIONS**

Staff observed fishing activities documenting any interactions with either marine mammals or other commercial fisheries, and species caught as bycatch. Staff evaluated average size of catch by taking a bucket sample per barrel or sampling the entire barrel. In the former case, a 5-gallon bucket was filled about halfway with fish from each barrel. The bucket was weighed and fish were counted to calculate the average count-per-pound (CPP). If the entire barrel was sampled, all fish were weighed in aggregate and counted. Randomly selected hagfish were retained for laboratory dissection to establish sex ratio, spawning status, and average length and weight per fish by sex.

#### **FISHERMEN LOGBOOKS**

Using trap logs supplied by the Department, both permitted fishermen were required to maintain accurate records of their fishing activity. Information requested included: fishing date, number of traps fished, soak duration, number of traps lost, hagfish dead loss quantity, gear interactions with other fisheries or marine mammals, incidental species, and total estimated catch.

#### **LABORATORY DISSECTION**

A random sample was retained from each on-board observation to obtain representative information regarding length, weight, sex, and spawning status for fish caught during the trip.

## DEAD LOSS

In a separate but related fishery independent study to evaluate dead loss in bucket traps, in 2014 Department staff deployed 80 baited 5-gallon bucket traps (1/2 and 9/16-in. diameter holes, 40 each) in Monterey Bay for an overnight soak. Traps were baited with the same amounts used in the commercial fishery. Traps were retrieved the following day. Captured hagfish were counted, weighed, and assessed for condition. Live hagfish were released and dead hagfish were retained for laboratory dissection. The percentage of dead loss due to crowding in each bucket trap was determined.

## RESULTS

### ONBOARD OBSERVATIONS

*1/2-in. diameter holes*- Three fishing trips were observed documenting the use of 1/2-in holes in 40-gallon barrel traps in 2014. On two of the three trips, the catch per barrel was sampled by taking a random bucket sample. These samples were taken after a short soak. The entire content of selected barrels was accounted for during the trip in August because traps were pulled after a short soak and there were small catch quantities in each trap. The primary incidental catch was *Octopus spp.* One *Cancer spp* crab was also observed.

Associated data for observed trips:

Month	Year	Hole diameter(in.)	Barrels pulled	Sample unit	# samples	Mean (CPP)	Range (CPP)
February	2014	1/2	32	bucket	32	4.99	3.93-6.31
August	2014	1/2	32	barrel	14	4.41	2.35-5.89
September	2014	1/2	28	bucket	28	4.07	3.39-4.97

*9/16-in. diameter holes*- Three additional fishing trips were observed documenting the use of 9/16-in holes in 40-gallon barrel traps in 2015. On all three trips, traps were soaked overnight. During the trip in March, six of the 28 traps were pulled after a short soak (3.5 hr). The average weight of fish captured per barrel relative to the total number during this short soak was less than the average weight for the barrels soaked overnight, thus increasing the average mean CPP for the entire trip. The primary incidental catch was *Octopus spp.* No finfish or finfish remains were observed.

Associated data for observed trips:

Month	Year	Hole diameter(in.)	Barrels pulled	Sample unit	# samples	Mean (CPP)	Range (CPP)
March	2015	9/16	33	bucket	33	4.72	4.00-6.50
April	2015	9/16	33	bucket	33	4.61	3.56-6.25
April	2015	9/16	28	bucket	28	4.52	3.95-5.45

For all barrels, regardless of hole diameter, no negative gear interactions with other commercial fisheries or marine mammals were observed. No incidental finfish or finfish remains were observed.

### FISHERMEN LOGBOOKS

*1/2-in. diameter holes-* A total of 118 fishing days for both permittees combined were reported for traps with 1/2-in holes. Average catch per barrel was 33.9 lb, with a range of 17.9 - 57.1 lb per barrel. The average number of traps used per fishing trip was 33. Traps were pulled between 1 and 4 times per fishing day with an average pull rate of 1.8. One trap was reported as lost due to a bottom snag. Reported incidental catch were small *Octopus spp.* No negative gear interactions were reported.

*9/16-in. diameter holes-* A total of 63 fishing days for both permittees combined were reported for traps with 9/16-in holes. Average catch per barrel was 34.5 lb, with a range of 17.9-77.8 lb per barrel. The average number of traps used per fishing trip was 31.5. Traps were pulled between 1 and 3 times per fishing day with an average pull rate of 1.8. Reported incidental catch were small *Octopus spp.* No negative gear interactions were reported.

Both fishermen noted a better average size of hagfish with the increased hole diameter.

### LABORATORY DISSECTION

Randomly selected hagfish were retained from each observation trip. These fish were later dissected in fresh condition.

#### *1/2-in diameter holes-*

Sex	Number	Average weight (g)	Weight range (g)	Average length (mm)	Length range (mm)
Female	100	79.5	12.6-172.2	368.5	210-500
Male	102	97.5	37.1-255.9	396.4	295-527
Unknown	33	51.3	21.9-132-5	316.0	252-447

*9/16-in diameter holes-*

Sex	Number	Average weight (g)	Weight range (g)	Average length (mm)	Length range (mm)
Female	82	108.2	46.2-262.7	411.6	326-527
Male	108	122.1	53.9-207.4	429.3	310-556
Unknown	12	63.1	47.8-81.0	342.7	304-380

**DEAD LOSS IN SEPARATE DEPARTMENT STUDY**

Two strings of 40 5-gallon bucket traps (20 each of 1/2 and 9/16-in. diameter holes) were deployed.

Hole Diameter (inch)	Total Live	Total Dead	Total Weight (lbs)(Live and Dead)	CPP (Live and Dead)	# of Traps w/ Dead Loss	Average weigh per bucket (lbs)	Weight range (lbs)	Buckets with zero catch
1/2	1,484	61	449.0	3.44	5	14.0	1.0-41.0	7
9/16	1,297	7	402.5	3.24	7	11.2	0.5-23.5	4

Dead hagfish comprised 2% by count of the total catch. Of the 61 dead hagfish found in the 1/2-in traps, 56 came from one trap which was filled to capacity. Incidental catch included one sablefish (*Anoplopoma fimbria*) and *Octopus spp.* All incidental catch was released alive with no evidence of dead incidentals.

**DISCUSSION****ONBOARD OBSERVATION**

After observing fishing activities of both vessels over the course of six trips, staff concluded the following regarding the use of this gear. Individually floated barrel traps may be fished in high traffic areas with minimal chance of interacting negatively with gear from other fisheries. Both permitted fishermen were able to set their traps on the same grounds fished by the Dungeness crab fleet. Traps were set far enough apart such that salmon trollers could fish the bottom in the same proximity of these traps with minimal chance of snagging them.

The hagfish trap fishery (bucket or barrel) is a clean finfish trap fishery, with very little to no capture of incidental species. Two fishery-independent Department bucket trap

surveys, one performed as part of this evaluation, confirmed this. It is thought that any incidental species would be consumed by retained hagfish given enough time in the trap. The remains of octopus and one cancer crab were present. No skeletal remains of finfish were encountered.

A 5-gallon bucket trap at capacity, without bait or a bait jar can hold approximately 40 lb of hagfish. Using this metric, a 40-gallon barrel trap could theoretically hold up to 320 lb of hagfish. Log data indicate that after an overnight soak, barrel traps would average over 30 lb. The observation trip in August 2014 corroborated this data. Barrels pulled on a short soak were filled to similar capacities; however, average size of individual fish was noticeably smaller. Korean hagfish importers desire a minimum of eight-nine hagfish/kg (Tanaka and Crane 2014). Small hagfish (CPP of 10 hagfish/kg or greater) typically are undesirable by Korean importers and fishermen are encouraged to cull these from their catch prior to landing. This market-driven requirement could force fishermen to soak their traps longer, allowing more immature hagfish to escape, and providing an ecological benefit while improving the quality of their catch (Tanaka and Crane 2014).

#### **FISHERMEN LOGBOOKS**

Both fishermen documented total catch for each trip, gear interactions, incidental catch, and number of sets per trip. The information provided by both fishermen was corroborated through fishing trips observed by Department staff. If traps could not be serviced within 24 hours due to expected inclement weather, all traps were pulled and brought to shore.

Traps were typically pulled after an overnight soak or after 8-10 hr of deployment which allowed smaller hagfish to escape through the holes. At the beginning of the evaluation period, both fishermen conducted more short soaks to get the total landing weight required to meet expenses per trip. They confided that their culling efforts of small hagfish at the dock were greater due to this practice. With longer soaks, including overnight, the average size increased, thus reducing the need to cull immature hagfish at the dock. Once all the barrels were modified to accommodate the 9/16-in hole diameter requirement, dockside culling was eliminated.

Both fishermen reported no incidents of negative gear interaction with other fisheries or marine mammals. Only one trap was lost throughout the entire evaluation period. This trap was stuck on the bottom and the vertical line snapped. Since logs are not required for the hagfish trap fishery, the Department has limited logbook data, mostly submitted on a voluntary basis. This log data show that during the barrel trap evaluation period (September 2013-April 2015), the bucket trap fishery lost 141 buckets. The reasons cited for trap loss included cut ground line, lost trap string, or traps cut off by another

vessel. The Department has video stills of a lost bucket trap taken during a Department ROV survey (Fig 2).



Figure 2. Lost bucket trap documented by DFW's ROV project off the coast of San Diego. Note intact snap and attached trap lid. The attached lid could indicate failure or lack of the required destruct device.

### **LABORATORY DISSECTION**

The random samples collected during observation trips show the direct relationship and effect that changing the minimum trap hole diameter has on average fish weight. When using the 9/16-in. diameter, average weight and length for males and females increased indicating that smaller hagfish were able to escape the trap. There was also a decrease in the number of hagfish with unknown sex. Typically, fish of unknown sex are smaller and sexually immature.

When compared with samples from the 2015 bucket trap fishery, dissected hagfish sampled from barrel traps show that barrel caught fish are slightly larger. This could be the result of the consistently long soak time employed by the permit holders.

Laboratory dissection data from Department samples (all fish combined) taken from the 2015 bucket trap fishery (Morro Bay and Eureka) and barrel trap observation trips (hole diameter for all traps is 9/16 inch):

Fishery	Length range (mm)	Length average (+/- s.d.) (mm)	Weight range (mm)	Average weight (+/- s.d.)(g)	Average CPP (+/- s.d.)
Bucket	310-500	396.8 +/- 43.3	43.4-109.2	95.7 +/- 64.5	4.66 +/-0.79
Barrel	304-556	417 +/- 49.5	46.2-262.7	113.0 +/-39.0	4.67 +/- 0.17

## DEAD LOSS

In their petition to the Commission, both permittees stated that catch quality may be better in barrel traps due to reduction in crowding which sometimes occurs in bucket traps. Other hagfish fishermen also claimed to have lost catch due to crowding in buckets, especially after an extended soak time beyond 24 hr. After soaking bucket traps provided by the permittees and those constructed by the Department and examining the resulting catch, staff could not replicate the amount of dead loss experienced by both fishermen. Staff did note however that there was a higher percentage of dead loss in buckets that were filled to capacity. On the observed trips with barrel traps, no traps were filled to capacity and no dead loss observed. However, the greater trap volume and large number of holes allows for better water circulation, which may improve survivorship.

## CONCLUSION

Department staff consider that allowing barrels as a legal method of take will allow the sustainable use of the Pacific hagfish resource, especially when limitations on their deployment are implemented.

An existing regulation (Title 14, §180.6) requires that all trap holes, which would include barrels, be at least 9/16-in. diameter. This requirement reduces the take of immature hagfish.

Another existing regulation (FGC §9003) requires the use of a destruct device in all traps. The larger barrel surface area, depending upon the design used by the fisherman, could allow a more effective destruct device. Bucket trap lids are typically secured with cotton and rubber strapping; however in the event the lid snaps to the bucket, it will never open. Due to the nature of the entrance funnel, the bucket trap fishery and barrel trap fishery have approximately the same type of incidental catch. During the Department's dead loss study, other researchers were able to record on camera finfish and Dungeness crabs attempting to interact with a baited bucket trap. Fish and crabs were seen approaching the funnel, but none were observed entering.

A barrel trap limit would ensure resource sustainability by lessening the theoretical impact of increasing trap size and therefore overall catch weight. The states of Washington and Oregon have trap limits of 100 and 200, respectively, for any legal type of trap (WAC 2015, OAR 2015). Fishermen in Oregon and Washington have the option as to the size of their traps; however the majority utilizes 40 to 55-gallon barrels fished on a ground line.

The Department recommends that California commercial hagfish vessels be allowed to fish 25 or fewer barrels (25 barrels equates to 200 buckets in volume) at the discretion of the operator, as an alternative to buckets or Korean traps. This study focused on the experimental use of a single line/single trap format, but multiple barrels may be fished on a ground line. Whether using one barrel with a single vertical line or several barrels on a ground line, this gear would fish the same and yield similar catch results. Barrels could be an efficient, alternative for fishermen that would reduce the number of traps and length of ground line on the seafloor.

Acknowledgments- I acknowledge the following for their help in completing this project: Department staff- K. Lesyna, N. Rodriguez, B. Bailie, J. Preffer, J. Ames; Commercial fishermen- N. Hofland, T. Maricich, and C. Thomsson.

## REFERENCES

Oregon Fish and Wildlife. 2015. Hagfish fishery. Pages 26-27 *in* Oregon commercial fishing regulations-Synopsis.

Tanaka, T.H. and K. Crane. 2014. Influence of bucket trap hole diameter on retention of immature hagfish. *Calif. Fish and Game* 100(2):310-318.

Washington State Legislature. 2015. Hagfish fishery. Title 220:chapter 220-88E.

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

STD. 399 (REV. 12/2013)

**ECONOMIC IMPACT STATEMENT**

DEPARTMENT NAME <b>Fish and Game Commission</b>	CONTACT PERSON <b>Margaret.Duncan</b>	EMAIL ADDRESS <b>@wildlife.ca.gov</b>	TELEPHONE NUMBER <b>916-653-4676</b>
DESCRIPTIVE TITLE FROM NOTICE REGISTER OR FORM 400 <b>Amend Sec. 180.6, Title 14, CCR, Hagfish Traps</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:

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

*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 Fish and Game Commission 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: 40-50

Describe the types of businesses (Include nonprofits): Commercial fishermen who trap Pacific Hagfish

Enter the number or percentage of total businesses impacted that are small businesses: 100%

4. Enter the number of businesses that will be created: 0 eliminated: 0

Explain: Clarification of the intent of the reg. w/no effect on fishery that is primarily influenced by foreign market demand.

5. Indicate the geographic extent of impacts:  Statewide  
 Local or regional (List areas): Ocean waters from Crescent City to San Diego

6. Enter the number of jobs created: 0 and eliminated: 0

Describe the types of jobs or occupations impacted: Commercial fishermen and deckhands

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. 12/2013)

**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? \$ 0
- a. Initial costs for a small business: \$ 0 Annual ongoing costs: \$ 0 Years: 1
- b. Initial costs for a typical business: \$ 0 Annual ongoing costs: \$ 0 Years: 1
- c. Initial costs for an individual: \$ 0 Annual ongoing costs: \$ 0 Years: 1
- d. Describe other economic costs that may occur: This regulatory action clarifies the original intent of the regulation (effective Jan 1, 2016) that restricts a vessel to utilize and possess no more than 25 barrel traps, to ensure full compliance.

2. If multiple industries are impacted, enter the share of total costs for each industry: 100% commercial fishing

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.* \$ N/A

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: Hagfish is a state managed and regulated fishery.
- Enter any additional costs to businesses and/or individuals that may be due to State - Federal differences: \$ N/A

**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: The proposed regulation is anticipated to benefit the environment by clarifying the intent of the current regulation, which is expected to aid the sustainability of the hagfish fishery, limit the amount of barrel gear on the seafloor, and limit the number of vertical buoy lines in the fishery that could impair other marine life.
2. Are the benefits the result of:  specific statutory requirements, or  goals developed by the agency based on broad statutory authority?
- Explain: Fish and Game Code Section 1700
3. What are the total statewide benefits from this regulation over its lifetime? \$ not quantifiable
4. Briefly describe any expansion of businesses currently doing business within the State of California that would result from this regulation: N/A

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

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

STD. 399 (REV. 12/2013)

**ECONOMIC IMPACT STATEMENT (CONTINUED)**

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

Regulation: Benefit: \$ sustainability\* Cost: \$ 0

Alternative 1: Benefit: \$ N/A Cost: \$ N/A

Alternative 2: Benefit: \$ N/A Cost: \$ N/A

3. Briefly discuss any quantification issues that are relevant to a comparison of estimated costs and benefits for this regulation or alternatives: \*Difficult to quantify: benefits of limiting vessel fishing capacity are increased sustainability, reduced conflicts among fishermen, and limiting hazards to other marine life from buoy lines.

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: Specific prescriptive regulations regarding number of traps per vessel control harvest rate most effectively.

**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. 12/2013)

**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. 12/2013)

**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



Date: March 20, 2019

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

From: Craig Shuman, D. Env.  
Marine Regional Manager

Subject: **Hagfish Traps Regulation Amendment; California Environmental Quality Act (CEQA) Overview**

In California, Pacific Hagfish (*Eptatretus stoutii*) (hagfish) is an open access commercial fishery administered by the Department of Fish and Wildlife (Department). Fishing is allowed year-round in all depths of State and federal waters, except in Marine Protected Areas. The hagfish fishery is primarily managed via restrictions on the amount and type of gear allowed. Section 9000.5 and subdivision 9001.6(b) of Fish and Game Code (FGC) define and authorize no more than a total of 500 Korean-style traps, or a total of 200, five-gallon bucket traps aboard a vessel, or in the water or combination thereof. The Fish and Game Commission (Commission) approved the use of 25 barrel traps (40-gallon capacity) as an alternative trap type under subsection (b) of Section 180.6, Title 14, California Code of Regulations (CCR), effective January 1, 2016 (rulemaking file number 2015-1116-01s). The 25-barrel trap limit was intended to be per vessel, and serve as a volumetric equivalent to the 200 five-gallon bucket trap limit prescribed by subdivision (b) of FGC Section 9001.6. This regulation was later amended (rulemaking file number 2016-0920-02s, effective January 1, 2017) to reflect a dimensional trap limit. When amended to shift from a 40-gallon volume to a dimension-based measurement of barrel size, subsection 180.6(b), Title 14, CCR was amended in an attempt to simplify language regarding trap use by a vessel by stating that "...no permittee may possess more than 25 barrel traps aboard a vessel or in the water or combination thereof." Due to the fact that a permittee can be the vessel operator, and/or any crewmember, this allows the use of 25 barrel traps per permittee, which goes against the original intent of the regulation effective January 1, 2016 to allow a maximum of 25 barrel traps per vessel (the volumetric equivalent to the 200 five-gallon bucket trap limit prescribed by subdivision (b) of FGC Section 9001.6)..

Amendment to subsection (b) of Section 180.6, Title 14, CCR will limit the number of allowable barrel traps to the vessel. This proposal is intended to promote the sustainability of California's hagfish fishery, reduce interaction with other bottom

fishing gear, and reduce the potential for entanglement of marine mammals in vertical trap lines. An additional amendment will require the use of the vessel's California commercial boat registration number to mark the buoy used to mark any hagfish trap. This will enable Law Enforcement Division (LED) staff to enforce vessel based trap limits. The purpose of this memo is to describe Department staff's analysis of use of a categorical exemption under the California Environmental Quality Act (CEQA).

#### Categorical Exemption to Protect the Environment

The Commission's adoption of these regulations is an action subject to CEQA. The review effort by Department staff pursuant to CEQA Guidelines section 15061 led Department staff to conclude that adoption of the regulations would fall within Class 7 and Class 8 categorical exemptions (CEQA Guidelines sections 15307 and 15308). These exemptions are related to agency actions to protect natural resources and the environment, and to promote sustainability. This regulatory amendment will limit the number of allowable barrel traps to the vessel, thus promoting sustainability of the resource, and limit the number of barrel traps on the seafloor and vertical lines in the water attached to the traps. The change in buoy marking requirements will allow LED staff to enforce vessel hagfish trap limits, further promoting sustainability of the resource. In Department staff's view, the Commission's adoption of regulations is an activity that is the proper subject of CEQA's Class 7 and Class 8 categorical exemptions.

#### No Exceptions to Categorical Exemptions Apply

As to the exceptions to categorical exemptions set forth in CEQA Guidelines section 15300.2, including the prospect of unusual circumstances and related effects, the Department's review was guided by the California Supreme Court's decision in *Berkeley Hillside Preservation v. City of Berkeley*. Department staff have reviewed all of the available information possessed by the Department relevant to the issue, and does not believe adoption of the amendments to the existing regulations poses any unusual circumstances that would constitute an exception to the categorical exemptions set forth above. Compared to the activities that fall within Class 7 and Class 8 generally, which include natural resource enhancement activities such as the regulatory effort here, there is nothing unusual about the adopted amendments to the existing hagfish regulations.

In addition, even if there were unusual circumstances, no potentially significant effects on either a project-specific or cumulative basis are expected. The amendments to the regulations are intended to improve the management and sustainability of California's hagfish resource and limit the potential of significant depletion.

Therefore, the Department does not believe that its reliance on Class 7 and Class 8 categorical exemptions are precluded by the exceptions set forth in CEQA Guidelines

Melissa Miller-Henson, Acting Executive Director  
Fish and Game Commission  
March 20, 2019  
Page 2

section 15300.2.

If you have any questions regarding this item, please contact Travis Tanaka, Environmental Scientist, at (831) 649-2881 or [Travis.Tanaka@wildlife.ca.gov](mailto:Travis.Tanaka@wildlife.ca.gov).

ec: Stafford Lehr,  
Deputy Director  
Wildlife and Fisheries Division  
[Stafford.Lehr@wildlife.ca.gov](mailto:Stafford.Lehr@wildlife.ca.gov)

Bob Puccinelli,  
Captain  
Law Enforcement Division  
[Robert.Puccinelli@wildlife.ca.gov](mailto:Robert.Puccinelli@wildlife.ca.gov)

Michelle Selmon,  
Program Manager  
Regulations Unit  
[Michelle.Selmon@wildlife.ca.gov](mailto:Michelle.Selmon@wildlife.ca.gov)

Ona Alminas,  
Senior Environmental Scientist  
Regulations Unit  
[Ona.Alminas@wildlife.ca.gov](mailto:Ona.Alminas@wildlife.ca.gov)

Elizabeth Pope,  
Acting Marine Advisor  
Fish and Game Commission  
[Elizabeth.Pope@wildlife.ca.gov](mailto:Elizabeth.Pope@wildlife.ca.gov)

Kirsten Ramey,  
Environmental Program Manager  
Marine Region  
[Kirsten.Ramey@wildlife.ca.gov](mailto:Kirsten.Ramey@wildlife.ca.gov)

Paul Reilly,  
Senior Environmental Scientist  
Marine Region  
[Paul.Reilly@wildlife.ca.gov](mailto:Paul.Reilly@wildlife.ca.gov)

Travis Tanaka,  
Environmental Scientist  
Marine Region  
[Travis.Tanaka@wildlife.ca.gov](mailto:Travis.Tanaka@wildlife.ca.gov)

# Notice of Exemption

# Appendix E

**To:** Office of Planning and Research  
P.O. Box 3044, Room 113  
Sacramento, CA 95812-3044

County Clerk  
County of: \_\_\_\_\_

\_\_\_\_\_  
N/A

**From:** (Public Agency): CA Fish and Game Commission  
P.O. Box 944209  
Sacramento, CA 94244

(Address)

Project Title: Amend Section 180.6, Title 14, CCR, Re: Hagfish Traps

Project Applicant: N/A

Project Location - Specific:  
Ocean waters from Crescent City to San Diego

Project Location - City: N/A Project Location - County: N/A

Description of Nature, Purpose and Beneficiaries of Project:  
Amendment to subsection (b) of Section 180.6, Title 14, CCR changes barrel trap number in possession and use from the permittee to the vessel. Addition of subsection (c) will require that hagfish traps buoys be marked with the vessel's California commercial boat registration number.

Name of Public Agency Approving Project: California Fish and Game Commission

Name of Person or Agency Carrying Out Project: California Department of Fish and Wildlife

**Exempt Status: (check one):**

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. State type and section number: Cal Code Regs., Title 14 §§ 15307, 15308
- Statutory Exemptions. State code number: \_\_\_\_\_

Reasons why project is exempt:  
See attached.

Lead Agency  
Contact Person: \_\_\_\_\_ Area Code/Telephone/Extension: 916-653-4899

**If filed by applicant:**

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project?  Yes  No

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ Title: \_\_\_\_\_

Signed by Lead Agency  Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.  
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: \_\_\_\_\_

**ATTACHMENT TO NOTICE OF EXEMPTION**  
**Adoption of Amendments to Section 180.6**  
**Title 14, California Code of Regulations (CCR)**  
**RE: Hagfish Traps**

The California Fish and Game Commission (Commission) has taken final action under the Fish and Game Code (FGC) and the Administrative Procedure Act (APA) with respect to the project mentioned on June 13, 2019. In taking its final action for the purposes of the California Environmental Quality Act (CEQA, Pub. Resources Code, § 21000 *et seq.*), the Commission adopted the amendment to subsection (b) and addition of subsection (c) of Section 180.6, Title 14, CCR relying on the categorical exemptions for “Actions by Regulatory Agencies for Protection of Natural Resources” and “Actions by Regulatory Agencies for Protection of the Environment” contained in CEQA Guidelines sections 15307 and 15308. (Cal. Code Regs. tit. 14, §§ 15307, 15308.)

**Categorical Exemptions to Protect Natural Resources and the Environment**

In adopting the amendment to subsection (b) and addition of subsection (c) of Section 180.6, Title 14, CCR, the Commission relied, for purposes of CEQA, on Class 7 and Class 8 categorical exemptions. In general, these exemptions apply to agency actions taken to benefit natural resources and the environment. This amendment anticipates a benefit to the environment by limiting the allowable number of barrel traps to the vessel, rather than by the number of general trap permittees aboard the vessel. This amendment will limit the take of hagfish, and limit the number of traps on the seafloor with vertical lines attached to the traps that could potentially impact other marine life. The proposed addition of subsection (c) of Section 180.6, Title 14, CCR requiring the vessel’s California commercial boat registration number to be marked on the buoy marking any hagfish trap will allow California Department of Fish and Wildlife (Department) law enforcement staff to monitor and enforce vessel trap limits. Therefore, the activity is one that is the proper subject of CEQA’s Class 7 and Class 8 categorical exemptions.