

STAFF SUMMARY FOR APRIL 14, 2021

20. PETITIONS FOR REGULATION CHANGE**Today's Item****Information** ☐**Action** ☒

This is a standing agenda item for FGC to act on regulation petitions received from the public at previous meetings. For this meeting:

- (A) Action on petitions received at the Feb 2021 meeting – *None scheduled*
- (B) Pending regulation petitions referred to staff or DFW for review

Summary of Previous/Future Actions

(A) N/A

(B)

- FGC received petition #2020-012 Oct 14, 2020; Webinar/Teleconference
- Petition #2020-012 referred to DFW Dec 9-10, 2020; Webinar/Teleconference
- **Today's action on petition Apr 14, 2021; Webinar/Teleconference**

Background

Regulation change petitions received at an FGC meeting are scheduled for consideration at the next regularly-scheduled business meeting under (A), unless the petition is rejected under 10-day staff review as prescribed in Title 14, subsection 662(b).

A petition may be (1) denied, (2) granted, or (3) referred to a committee, staff or DFW for further evaluation or information-gathering. Referred petitions are scheduled for action under (B) once the evaluation is completed and a recommendation made.

- (A) ***Petitions for regulation change.*** No petitions were received at the Feb 2021 meeting.
- (B) ***Pending regulation petitions.*** This is an opportunity for staff to provide recommendations on petitions previously referred to staff, DFW, or a committee for review. One petition previously referred to DFW is scheduled for action today:
 - I. Petition #2020-012: Protect great white shark nursery grounds at Padaro Beach in Carpinteria, California (Exhibit B1)

This petition requests to establish a marine protected area to protect juvenile white sharks aggregating near Padaro Beach in Carpinteria. The petition also proposes to post recreational fishing regulation signs, and require that boats entering the area be equipped with a propeller guard to avoid propeller strikes.

DFW's evaluation and recommendation is provided in Exhibit B2. During its review, DFW found no evidence that Padaro Beach has a particular value to juvenile white sharks over other locations or that white sharks are more at risk from human activity at Padaro Beach than throughout southern California. Additionally, due to the nature of white shark movements, establishing one specific area as a sanctuary would likely be ineffective as a means to protect juvenile white shark populations overall. DFW notes that white shark populations have been increasing, as have survival rates of juveniles, and thus human

STAFF SUMMARY FOR APRIL 14, 2021

interactions are more likely in general. For these reasons and more, as detailed in Exhibit B2, DFW recommends that establishing a sanctuary is not warranted at this time.

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

FGC staff: Deny petition #2020-012, as recommended by DFW.

DFW: Deny petition #2020-012 for the reasons described in Exhibit B2.

Exhibits

- B1. [Petition #2020-012, received Sep 1, 2020](#)
- B2. [DFW memo and evaluation regarding Petition #2020-012, received Mar 19, 2021](#)

Motion**Motion/Direction**

Moved by _____ and seconded by _____ that the Commission adopts the staff recommendation to deny petition #2020-012.

OR

Moved by _____ and seconded by _____ that the Commission takes the following action for petition #2020-012: _____



Tracking Number: 2020-012 AM1

To request a change to regulations under the authority of the California Fish and Game Commission (Commission), you are required to submit this completed form to: California Fish and Game Commission, (physical address) 1416 Ninth Street, Suite 1320, Sacramento, CA 95814, (mailing address) P.O. Box 944209, Sacramento, CA 94244-2090 or via email to FGC@fgc.ca.gov. Note: This form is not intended for listing petitions for threatened or endangered species (see Section 670.1 of Title 14).

Incomplete forms will not be accepted. A petition is incomplete if it is not submitted on this form or fails to contain necessary information in each of the required categories listed on this form (Section I). A petition will be rejected if it does not pertain to issues under the Commission's authority. A petition may be denied if any petition requesting a functionally equivalent regulation change was considered within the previous 12 months and no information or data is being submitted beyond what was previously submitted. If you need help with this form, please contact Commission staff at (916) 653-4899 or FGC@fgc.ca.gov.

SECTION I: Required Information.

Please be succinct. Responses for Section I should not exceed five pages

1. Person or organization requesting the change (Required)

Name of primary contact person: HARRY RABIN

Address: [REDACTED]

Telephone number: [REDACTED]

Email address: hrabin@reefguardians.org

2. Rulemaking Authority (Required) - Reference to the statutory or constitutional authority of the Commission to take the action requested: Request for MPA expansion Added per Mr. Rabin's authorization: 200, 205(c), 1590, 2860, 2861, Fish and Game Code; and Sections 36725(a) and 36725(e), Public Resources Code

3. Overview (Required) - Summarize the proposed changes to regulations: Create a protected area for Padaro Beach, Carpinteria, CA white shark nursery.

4. Rationale (Required) - Describe the problem and the reason for the proposed change:

Padaro Beach is a proven habitat for white shark juveniles, YOY. They returned in April of 2014 and they continue to return each year. In August of this year an unprecedented population was documented at over 24 animals. Also new was the amount of injury done to these white sharks by boaters and fishermen. We have pictures and video to back up these claims and can submit the media if requested. We are proposing the following changes regarding boating and fishing which are listed below. In addition we have made educational safety and shark etiquette information available to the general public. Interactions occur daily in this area between the white sharks and prey and also with human activity. So it was essential to create and educational outreach for the public to protect both beach goers and sharks alike.

Boating regulations for this area:

Boaters are chumming to attract white sharks to their boats altering the normal behavior and hunting patterns of these juvenile sharks. Reef Guardians has observed and filmed these sharks approaching and remaining in close proximity to vessels entering the area. We have monitored these sharks since 2014 and this is new behavior.



Any boat entering this area (See attached map) should be required to have a propeller guard. We have seen 3 prop strikes on the white sharks and a very serious one on 8/26/2020 where the left pectoral fin was partially severed from underneath and is now bent vertically up against the shark's body. This was a Documented 7' healthy white shark ID: "Arrow" who spent his 3rd and now last season at this location. We searched for him for 6 days but never found him.

Fishing regulations:

We have also observed several torpedo sinkers and possibly non corrosive hooks on 3 of these sharks. Fishing rules and regs need to be posted and maintained in the area to keep these sharks safe. |

SECTION II: Optional Information

5. **Date of Petition:** |Click here to enter text.|

6. **Category of Proposed Change**

☒ Sport Fishing

☐ Commercial Fishing

☐ Hunting

☒ Other, please specify: |Marine protected area for white shark nursery.|

7. **The proposal is to:** *(To determine section number(s), see current year regulation booklet or <https://govt.westlaw.com/calregs>)*

COULD NOT FIND SECTIONS THAT APPLY TO MPA.

☐ Amend Title 14 Section(s): |Click here to enter text. |

☐ Add New Title 14 Section(s): |Click here to enter text. |

☐ Repeal Title 14 Section(s): |Click here to enter text. |

8. **If the proposal is related to a previously submitted petition that was rejected, specify the tracking number of the previously submitted petition** |Click here to enter text. |

Or ☐ Not applicable.

9. **Effective date:** If applicable, identify the desired effective date of the regulation. If the proposed change requires immediate implementation, explain the nature of the emergency: |APRIL 2021. They arrive mid-April each year and begin departing Nov-Dec of the same year|

10. **Supporting documentation:** Identify and attach to the petition any information supporting the proposal including data, reports and other documents: |

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We have also observed several torpedo sinkers and possibly non corrosive hooks on 3 of these sharks. Fishing rules and regulations need to be posted and maintained in the area to keep these sharks safe.



11. Economic or Fiscal Impacts: Identify any known impacts of the proposed regulation change on revenues to the California Department of Fish and Wildlife, individuals, businesses, jobs, other state agencies, local agencies, schools, or housing: [Beneficial to CDFW, Tourism, Santa Barbara Department of Aquatics, Health and Safety.]

12. Forms: If applicable, list any forms to be created, amended or repealed:

[Click here to enter text.]

SECTION 3: FGC Staff Only

Date received: [September 1, 2020]

FGC staff action:

- ☒ Accept - complete
☐ Reject - incomplete
☐ Reject - outside scope of FGC authority

Tracking Number

Date petitioner was notified of receipt of petition and pending action: [_____]

Meeting date for FGC consideration: [_____]

FGC action:

- ☐ Denied by FGC
☐ Denied - same as petition [_____]
Tracking Number
☐ Granted for consideration of regulation change

M e m o r a n d u m

Date: March 17, 2021

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

From: Charlton H. Bonham
Director

Subject: **Petition #2020-012AM1: Request to protect great white shark nursery grounds at Padaro Beach, Carpinteria, California**

Background

In December 2020, the California Fish and Game Commission (Commission) referred Petition #2020-012 to the California Department of Fish and Wildlife (Department) for review and recommendation. The petitioner requests a Marine Protected Area addition in section 632, Title 14, California Code of Regulations to create a sanctuary for juvenile white sharks at Padaro Beach in Carpinteria, California. The petition cites three observed injuries to white sharks in this area assumed to be propeller strikes, including one shark with a partially severed fin that was unable to be located following the injury after having been seen for three consecutive seasons. The petition also proposes additional postings of fishing rules and regulations to mitigate chumming to attract white sharks.

Recommendation

The Department has reviewed the above referenced petition and determined that a regulation change or establishment of a sanctuary is not warranted at this time. There is no evidence that Padaro Beach has a particular value to juvenile white sharks over other locations or that white sharks are more at risk from human activity at Padaro Beach than throughout Southern California. White shark populations in California appear to have been increasing since the implementation of regulations enacted in the 1990s, which prohibited the take of white sharks and moved set gill nets farther offshore. These existing regulations have dramatically improved survival rates for young of the year and juvenile white sharks, which will inevitably lead to increased human interactions.

Melissa Miller-Henson, Executive Director
Fish and Game Commission
March 17, 2021
Page 2 of 2

Due to the nature of white shark movements, establishing one specific area as a sanctuary would likely be ineffective as a means to protect overall juvenile white shark populations. Additional information on the Department's recommendation is attached.

The Department notes that additional outreach, signage, and public education in key areas where white sharks are commonly encountered may be warranted. The Department will continue to work with constituents to help develop and distribute these materials.

If you have any questions or need additional information, please contact John Ugoretz by telephone at (562) 338-3068, or via email at John.Ugoretz@wildlife.ca.gov.

Enclosure

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Department Evaluation - Petition #2020-012AM1

Petition Information

In December 2020, the California Fish and Game Commission (Commission) referred Petition #2020-012 (Petition) to the California Department of Fish and Wildlife (Department) for review and recommendation. The petitioner requests a Marine Protected Area addition in section 632, Title 14, California Code of Regulations to create a sanctuary for juvenile white sharks at Padaro Beach in Carpinteria, California. The petition cites three observed injuries to white sharks in this area assumed to be propeller strikes, including one shark with a partially severed fin that was unable to be located following the injury after having been seen for three consecutive seasons. The Petition also proposes additional postings of fishing rules and regulations to mitigate chumming to attract white sharks.

To evaluate the petitioner's request, the Department reviewed current research on white shark habitats, movements, and population status in California. The Department also reviewed California Recreational Fisheries Survey (CRFS) and commercial passenger fishing vessel (CPFV) logbooks between 2005 and 2020 for instances of incidental recreational white shark catch.

Existing White Shark Regulations

Since 1994, white sharks have been protected in California under Title 14, California Code of Regulations Section 28.06, which expressly prohibits recreational take and possession of white shark except by permit issued by the Department under Section 1002 of the Fish and Game Code (FGC) for either scientific or educational purposes. Similarly, FGC Section 5517 prohibits recreational take of white shark except under permits issued pursuant to Section 1002. Additionally, FGC Section 8599 prohibits any take of white shark for commercial purposes, except by permit for educational or scientific purposes. FGC Section 8599 subsection (b) allows an exception for incidental take in certain commercial fisheries using set gill nets, drift gill nets or roundhaul (e.g., purse seine) nets. Additional regulation of offshore drift net fisheries under FGC Section 8610 also provides some level of protection for white sharks.

Federal regulations implemented in 2004 applying to all West Coast states also prohibit white shark take and possession. Bans at both the federal and state levels prohibit shark finning, as well as the possession and sale of shark fins.

White sharks also received protection through the California Marine Resources Protection Act of 1990 (Stats. 1992, Ch. 94). This constitutional amendment banned the use of set gill nets within 3 nautical miles of the mainland coast and in waters less than 70 fathoms or within one mile of the Channel Islands, whichever is less.

White Shark Habitat and Behavior

White sharks in the Northeastern Pacific Ocean are believed to be born in the warm shallow nearshore waters within the Southern California Bight (SCB) and offshore Baja California. It is largely recognized that these coastal waters are used as nursery areas

by neonates, young-of-the-year (YOY) and juvenile white sharks (Oñate-González, 2017; Klimley, 1985). Because of their smaller size, juvenile white sharks have a harder time regulating body temperature in colder waters. The thermal range for juvenile white sharks is relatively narrow, generally spanning from the Southern tip of the Baja peninsula to the Southern California Bight (White, 2019). This theory is supported by incidental catch records of recreational and commercial fisheries within this range, which indicate the presence of juvenile white sharks (Weng *et al.* 2007; Domeier *et al.* 2012; Domeier and Nasby-Lucas 2006). As white sharks grow, research indicates that their increasing body size allows them to better tolerate cooler water temperatures and migrate to colder habitats farther offshore, or off the coast of Northern and Central California, which typically occurs between 3 and 4 years of age (Weng *et al.* 2007).

A white shark nursery habitat is a location with a higher concentration of YOY and newborn white sharks than surrounding localities, and where immature white sharks display a tendency to either return to, or remain in, for extended amounts of time (Heupal *et al.*, 2007). Throughout Southern California, white sharks often alternate between temporary residency at known aggregation sites before moving on to other known resource “hotspots” along the California coast. Between 2010 and 2018, YOY and juvenile white sharks formed aggregation or nursery locations in multiple nearshore locations in Southern California. These included north and south of Santa Monica, Redondo Beach, Manhattan Beach, Long Beach, Carpinteria and from Huntington Beach south along the coast to Dana Point (Lowe, 2021). Juvenile sharks are also regularly seen off San Diego area beaches. Research has suggested that these coastal nursery habitats change seasonally, potentially in response to availability of prey, or changes in water temperature. (Weng *et al.* 2007; Domeier *et al.* 2012; Domeier and Nasby-Lucas 2006). This indicates that white shark nursery locations are not necessarily consistent year to year and may change in response to external conditions.

A recently published study by Tanaka, *et al.* (2021) indicates that the thermal boundary believed to keep juvenile sharks in the warmer waters of the SCB shifted dramatically since 2014. A mass of warmer surface water entering Southern California in 2014 created consistently warm water conditions and sea surface temperatures that are altering the known habitats of juvenile white sharks, pushing them farther north. This would also explain the recent increased presence of juvenile white sharks in Monterey Bay, an area beyond what has previously been considered the northern border for juvenile white sharks by approximately 600 km of linear coastline (Tanaka, *et al.*, 2021). Warmer water moving up the California coast has resulted in increasing habitat range at the north edge of the California Current, and a reduction of thermally suitable habitat for juvenile white sharks in Southern waters (Tanaka, *et al.*, 2021).

The Petition notes that one injured shark moved out of the Padaro Beach area after its injury. This was, however, after having been seen at the same beach for at least three seasons. As noted above, juvenile white sharks are known to leave coastal areas as they get older and larger. Additionally, Tanaka *et al.* (2021) indicated that suitable habitat may be shifting and decreasing. Either of these could explain unexpected white shark migrations out of known juvenile and YOY nursery areas in the SCB. While this habitat reduction does not appear to pose a threat to white sharks, it may result in an

increased density of juveniles in certain locations and decreases in others. Due to the current and future uncertainty of environmental conditions and their impact on white shark habitats, creating one specific area with additional regulations would likely be ineffectual in protecting such a highly migratory species.

Population Data and Fisheries Interactions

CESA Status Review

White sharks were proposed for listing under the California Endangered Species Act in 2012. In 2014, the Commission determined that based on the best available science, listing the northeastern Pacific population of white shark as threatened or endangered was not warranted. There are currently multiple estimates of the northeastern Pacific white shark population ranging from just a few hundred to greater than 3,000 individuals. Reviews at that times indicated that the higher estimates were more likely correct.

Commercial Incidental Catch

Lowe et al. (2012) conducted a comprehensive review of commercial white shark fishing records, including but not limited to logbook records provided by the Department and the National Oceanic and Atmospheric Administration from commercial drift gill net (DGN) and set gill net (SGN) fisheries, and data from the NOAA Fisheries Southwest Region Drift and Set Gillnet Observer Program. Ultimately, the study examined 369 fishery-dependent records of white shark captures between 1936 and 2009 in the SCB. Data were also collected from the Monterey Bay Aquarium Juvenile White Shark Tagging Program and California Department of Fish and Game (CDFG; now California Department of Fish and Wildlife) shark tagging program, as well as the CDFG and NOAA Fisheries and joint shark longlining and tagging cruises. The study found that despite decreases in gill net fishing, total incidental catch of YOY and juvenile white sharks increased during the study period. The study found that this may be an indication of an overall increase in white shark population throughout the SCB. (Lowe et al. 2012).

Lowe et al. (2012) associates these fishery interactions with rising white shark populations as a direct result of regulatory protections put in place in the 1990s. This includes both the federal and state prohibitions on white shark take, and increasingly restrictive regulations on nearshore gill net fishing and gear described above. It is likely that these existing regulations have significantly lowered the rate of incidental take of white sharks in gill net fisheries and increased survivor rates for juveniles and YOY in Southern California. Commercial incidental catch since the Lowe et al. study has decreased, with almost 1/3 the number of sharks landed incidentally between 2011 and 2020 compared to 2001 to 2010 (21 compared to 60).

Recreational Incidental Catch

Concerning the threat to white sharks from recreational fishing, the Department reviewed the CRFS and CPFV logbook data for instances of white shark caught and released between 2005 and 2020. There are six recorded incidents of white shark catch

in the CPFV logbooks within this timeframe: one per year in 2006, 2010, 2015, 2018, 2019 and 2020. The CRFS records did not contain any records for beach/bank and man-made (piers, jetties) white shark catch between the years of 2015-2017, or man-made for 2014 and the 2018-2019 periods. The Department acknowledges that some incidental white shark catch from recreational fishing may not be reflected in these data, due to the sampling framework used to cover fishing effort in these areas. The Department is also aware of current reports and social media postings of white shark being caught by recreational anglers on piers and beaches.

As the population of white sharks and number of people in and around the ocean in California increases, it is likely that white shark/human interactions will also increase, including incidental catch in recreational fisheries. At the same time, relatively new technology such as small video cameras and unmanned aerial vehicles have made it easier for people to document white shark sightings. Social media also plays a role in the increase in reported human/white shark interactions, as people are both more aware of white sharks in the water and more inclined to immediately share video or photographs of such interactions online. As such, it is also likely that the number of reported sightings and interactions with fisheries will continue to increase. These interactions, however, do not appear to be having a negative impact on the white shark population.

Propeller Strikes on White Sharks

The Petition cites three observed injuries to white sharks in the Padaro Beach area from assumed propeller strikes. It recommends that vessels operating within the proposed sanctuary be required to use propeller guards. At this time, boat strikes on white sharks are not known to be a common occurrence. In most cases, juvenile white sharks are occupying areas where motor vessels are unlikely to operate – close to shore in shallow water along the open coast. While juvenile sharks been observed briefly investigating surfboards or boats, they appear to be very aware of their surroundings and no other reports of vessel strikes have been received.

Recommendation & Next Steps

The Department has reviewed the Petition and determined that a regulation change or establishment of a sanctuary is not warranted at this time. There is no indication that the YOY and juvenile white sharks found at Padaro Beach are more at risk from human activity than white sharks elsewhere in Southern California. White shark populations in California appear to have been increasing for several decades. Existing regulations have dramatically improved survival rates for YOY and juvenile white sharks in the SCB.

Due to the nature of juvenile and YOY white shark movements, establishing one specific area as a sanctuary would likely be ineffective as a means to protect overall juvenile white shark populations. As warming waters of the California coast continue to expand the thermal territory range of juvenile white sharks north, it is likely that their movement will become even more complex. As such, establishing a sanctuary for white sharks specifically at Padaro Beach would be inconsistent with the known data regarding white sharks, their behavior, and successful protection strategies.

Restrictions or other requirements for boaters, especially the requirement to use propeller guards are not supported by direct evidence of a benefit to the white shark population.

The Department concludes that existing protections are adequate to continue to protect white sharks in California. The Department currently has regulatory signage posted throughout the state, but not consistently. The Department agrees that additional white shark specific signage in key locations could be beneficial. The Department will continue to work to improve signage in collaboration with cities or stakeholder groups who seek to protect white shark populations.

References:

Domeier, ML. A New Life-History Hypothesis for White Sharks, *Carcharodon carcharias*, in the Northeastern Pacific. In: Domeier ML, editor. *Global Perspectives on the Biology and Life History of the White Shark*. Boca Raton, FL: CRC Press. Pp. 199 – 223 (2012).

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Heupal et al. (2007). Shark Nursery Areas: Concepts, definition, characterization, and assumptions. *Marine Ecology Progress Series* 337:287-297 DOI: [10.3354/meps337287](https://doi.org/10.3354/meps337287) (2007).

Klimley, A. P. The areal distribution and autoecology of the white shark, *Carcharodon carcharias*, off the west coast of North America. *Mem. Southern Calif. Acad Sci* 9, 15–40 (1985).

Lowe, C. G. et al. Historic fishery interactions with white sharks in the Southern California Bight. *Global Perspectives on the Biology and Life History of the White Shark*. (Ed. ML Domeier.) pp. 169–186 (2012).

Lowe, C.G. et al. Interannual Nearshore Habitat Use of Young of the Year White Sharks Off Southern California. *Front. Mar. Sci.* 8:645142. DOI: [10.3389/fmars.2021.645142](https://doi.org/10.3389/fmars.2021.645142) (2021, Unpublished).

Oñate-González, E. C. et al. Importance of Bahia Sebastian Vizcaino as a nursery area for white sharks (*Carcharodon carcharias*) in the Northeastern Pacific: a fishery dependent analysis. *Fish. Res.* 188, 125–137 (2017).

Tanaka, et al. North Pacific Warming Shifts the Juvenile Range of a Marine Apex Predator. *Sci Rep* 11, 3373 (2021). <https://doi.org/10.1038/s41598-021-82424-9> (2021).

Weng, K. C. et al. Movements, behavior, and habitat preferences of juvenile white sharks *Carcharodon carcharias* in the eastern Pacific. *Mar. Ecol. Prog. Ser.* 338, 211–224 (2007).

White, C. F. et al. Quantifying habitat selection and variability in habitat suitability for juvenile white sharks. *PLoS ONE* 14, e0214642. <https://doi.org/10.1371/journal.pone.0214642> (2019).