

STAFF SUMMARY FOR FEBRUARY 8-9, 2023

25. COMMERCIAL KELP HARVEST PERMIT**Today's Item**Information ☐Action ☒

Consider approving the renewal of Lance (Jeff) Maassen's kelp harvest permit for commercial harvest of *Sargassum horneri* and consider adding a new harvesting site at Catalina Island, Los Angeles County.

Summary of Previous/Future Actions

- Commission approved application for permit to harvest *S. horneri* Oct 14, 2021
- Commission received request to renew permit to harvest *S. horneri* and approve a new, additional harvesting site Oct 12-13, 2022
- **Today consider approving permit renewal and consider adding a new harvesting site Feb 8-9, 2023**

Background

In October 2021, the Commission approved a request from Jeff Maassen for authorization to commercially harvest *S. horneri*, an invasive species of macroalgae not previously authorized. The Commission granted the approval under subsection (f) of Section 165, which allows the Commission to authorize an applicant to harvest any species of kelp not otherwise specified in Section 165, under defined permit conditions including species, harvest amounts and locations, and a royalty rate (see Exhibit 1 for additional background).

The Commission approved Mr. Maassen's commercial kelp harvesting and drying license for a period of one year (January 20, 2022 – December 31, 2022) for two sites – one at Anacapa Island and one at Santa Rosa Island in southern California – under stringent commercial harvest conditions and other provisions recommended by the Department (Exhibit 2) to minimize the risk of perpetuating or expanding *S. horneri* populations. The applicant agreed to work with the Department regarding the effectiveness and practicality of harvesting under the specified harvest conditions, and to make potential refinements if needed.

At its October 2022 meeting, the Commission received a request from Mr. Maassen to renew his annual license authorizing limited harvest of the algae *S. horneri* (Exhibit 3). Mr. Maassen explained that he had not yet harvested under his permit and provided reasons for the inactivity. He requested that the Commission approve an additional location at Toyon Bay, Catalina Island. The Commission referred the request to the Department for review and recommendation.

The Department has completed its review (Exhibit 4) and recommends that the Commission approve renewal of the harvest authorization consistent with 2022 permit conditions and authorized locations. However, the Department cautions against adding a new location at this time for the reasons detailed in Exhibit 4 and summarized here: (1) testing of "proof of concept" has not occurred due to lack of harvest activities; and (2) proposed removals of *S. horneri* via commercial harvest at Catalina Island are part of a larger proposed kelp restoration effort not

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yet communicated in detail with Department staff. Additionally, the Department suggests that the larger proposed kelp restoration effort should be evaluated for consistency with the state's planned kelp restoration and management plan, which is still under development, before allowing any additional harvest sites.

Significant Public Comments (N/A)

Recommendation

FGC staff: Approve the request from Mr. Maassen to renew his annual license, subject to annual renewal, for commercial harvest of *S. horneri*, under conditions consistent with the 2022 conditions, specified in Exhibit 3, including for harvest methods, quantity, and royalty amount, and at locations at Anacapa and Santa Rosa islands only, as recommended by the Department.

DFW: Approve the request from Mr. Maassen to renew his annual license for commercial harvest of *S. horneri* under conditions consistent with 2022 harvest conditions that specify harvest methods, amounts, and locations at Anacapa Island and Santa Rosa Island, subject to annual renewal. Do not authorize the additional location requested at Catalina Island until "proof of concept" and lessons learned from currently approved harvest locations are available to help evaluate whether to expand activities.

Exhibits

1. [Staff summary from October 14, 2021 Commission meeting, Agenda Item 24 \(for background purposes only\)](#)
2. [Department memo with harvest conditions for 2022, received August 2, 2021](#)
3. [Email from Jeff Maassen requesting to renew his permit to harvest *S. horneri*, received October 25, 2022](#)
4. [Department memo and recommendation, received January 23, 2023](#)

Motion

Moved by _____ and seconded by _____ that the Commission approves Jeff Maassen's request to renew the annual license to permit commercial harvest of *Sargassum horneri* at Anacapa Island, Ventura County, and Santa Rosa Island, Santa Barbara County, consistent with subsections (a) and (b) of section 165, in specified locations and amounts, and approves the same permit conditions and royalty amount consistent with the previous year's permit.

STAFF SUMMARY FOR OCTOBER 14, 2021*For background purposes only***24. COMMERCIAL KELP HARVEST PERMIT****Today's Item****Information** ☐**Action** ☒

Consider approving Lance (Jeff) Maassen's permit application for commercial harvest of *Sargassum horneri* (*S. horneri*) at Anacapa Island, Ventura County, and Santa Rosa Island, Santa Barbara County, including the permit conditions and royalty amount.

Summary of Previous/Future Actions

- | | |
|--|---|
| • FGC received application for permit to harvest <i>S. horneri</i> | Oct 14, 2020; Webinar/Teleconference |
| • FGC referred application to DFW for review and recommendation | Dec 9-10, 2020; Webinar/Teleconference |
| • FGC received DFW recommendation and continued action to next meeting | Aug 18, 2021; Webinar/Teleconference |
| • Today consider approving application | Oct 14, 2021; Webinar/Teleconference |

Background

Section 165, Title 14 defines the provisions for commercially harvesting kelp and other marine aquatic plants. Subsections 165(a) and (b) provide general permitting and harvesting provisions, while subsections 165(c) – (e) define provisions specific to harvest of giant and bull kelp, specified agar-bearing marine plants, and specified edible seaweed species, respectively. For all other species of kelp not specified, subsection 165(f) provides a pathway for an applicant to apply to FGC for commercial harvest authorization for specific amounts and locations. FGC may set the conditions and royalty amount after reviewing the application.

In Oct 2020, FGC received an application from Lance (Jeff) Maassen requesting authorization pursuant to subsection 165(f) to commercially harvest *S. horneri*, a non-native, invasive marine algal species not specified in Section 165 (Exhibit 1). Mr. Maassen proposed to harvest by hand at Anacapa and Santa Rosa islands in Southern California. In applying for the permit, Mr. Maassen acknowledged the ecological impacts *S. horneri* has already had on native algal communities, and suggested commercial harvest to contribute to removal efforts for this invasive species. Mr. Maassen offered to collaborate closely with DFW staff to ensure the hand harvesting methods used are appropriate for removing an invasive species. He believes collaboration will “facilitate efficient scaling and enable measured ecological outcomes.” In Dec 2020, FGC referred the request to DFW for review and recommendation.

DFW Review

At its Aug 2021 meeting, FGC received DFW's review and recommendation for consideration and potential action (Exhibit 2). DFW noted it had conferred with the applicant regarding specific harvest conditions, amounts, and locations. DFW has identified seven precautionary harvest conditions to prevent the inadvertent spread or increased distribution of this species; with these measures in place, DFW does not consider the commercial harvest likely to increase the risk of perpetuating or expanding *S. horneri* populations, nor does it expect the

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proposed level of take to have any measurable impact on the species in the proposed harvest locations.

DFW recommends that harvest locations be defined through boundary coordinates, reporting be required via harvest logs, and the same royalty rate be set as for edible seaweed harvest, which is \$24 per wet ton. The royalty rate would be reviewed with rates for other kelp and seaweeds during the future review of marine algae regulations. If the application is approved, DFW intends to continue working closely with the applicant to evaluate the effectiveness and practicality of the harvest conditions, and notes that in the future it may be necessary to adaptively modify the permit conditions regarding harvest methods.

At its Aug 2021 meeting, FGC discussed the application and DFW's review. FGC continued action on this item to today, to allow time for further FGC deliberation after FGC staff responded to inquiries made at the meeting..

FGC Staff Analysis

FGC has previously considered and denied public petitions to authorize fisheries for non-native, invasive species. A notable example is Chinese mitten crab. In the late 1980s, late 1990s, and again in 2013, FGC received requests to commercially harvest Chinese mitten crab for economic gain while helping "to control/eradicate," and "to curb poaching/harvesting which otherwise could lead to illegal local sales." A highly prized delicacy in other areas of the globe, the species was spreading along the Pacific coast's waterways, damaging habitat, and causing ecological and economic devastation, resulting in an active West Coast-wide eradication effort. FGC received letters in strong opposition to opening a commercial fishery for Chinese mitten crab from the states of Oregon and Washington, academics, and the public. FGC denied the petitions to prevent risk of further inadvertent or intentional spread and avoid an expectation for DFW to maintain a fishery for which economic value has been established.

Today's consideration of a kelp harvest permit is similar in that it seeks to commercially harvest an invasive species, *S. horneri*. However, there are several important differences: (1) At the time of FGC's denial, eradication of mitten crab was still considered a possibility and being actively pursued. In contrast, *S. horneri* populations have already supplanted stressed native kelp and algae in vast areas through the Northern Channel Islands, and managers consider eradication there infeasible; the ecological consequences have already been realized. (2) There have been many recent, massive shifts in the ocean ecosystem. We are leveraging new approaches to help us adapt management practices and develop new management tools as we face unprecedented, and in many cases previously unimaginable, conditions or management responses. (3) Currently, there is minimal commercial market for *S. horneri*.

There are risks associated with potential approval of this permit. There is the risk of unintentional spread of the species. Additionally, there is a risk of developing a local commercial market for an invasive species that would increase demand for harvest, and potentially incentivize spread of the species to maintain the economic opportunity through harvest. However, staff believes the risks are relatively low and well mitigated through the measures proposed by DFW. The permit would allow for tightly-controlled harvest for a single individual, as opposed to a general commercial harvest regulation, and would not allow or set any precedent that would require FGC to allow general commercial harvest in the future. DFW has proposed tight sideboards for the

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project as described in the DFW review and analysis in Exhibit 2. Should monitoring reveal negative consequences, the permit can be canceled at any time.

Additionally, the project provides potential benefits. The project represents an opportunity to gather information about the feasibility of managing an invasive species in partnership with a commercial harvester. Outcomes may help inform potential future projects, policies or regulations, including approaches to apply in areas where eradication of *Sargassum* is still a possibility.

Approval as recommended would represent an opportunity to test a novel approach to addressing non-native invasive algal species in specific defined geographies, rather than representing a shift in policy or a departure from FGC and DFW's long-standing actions to disincentivize perpetuating the spread of invasive species. Should FGC choose to approve this approach, it is doing so as a pilot project with no assurance of a long-term commercial fishing opportunity for this species.

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

FGC staff: Approve the application for commercial harvest of *S. horneri* on an annual basis, subject to renewal, as recommended by DFW, and notify FGC's executive director of any changes to harvest methods specified in permit conditions.

DFW: Approve the application for commercial harvest of *S. horneri* with permit conditions, authorized harvest locations and amounts, and royalty amounts as specified in Exhibit 2. Authorize DFW to work with the applicant to develop more specific harvest areas with boundaries represented by coordinates, and authorize DFW to adaptively modify the harvest conditions as necessary.

Exhibits

1. Email and application from Lance (Jeff) Maassen, including attachment and addendum, received Oct 1 and 10, 2020
2. DFW memo, received Aug 2, 2021

Motion

Moved by _____ and seconded by _____ that the Commission approves the application for a commercial permit to harvest *Sargassum horneri* at Anacapa Island, Ventura County, and Santa Rosa Island, Santa Barbara County, consistent with 165 (a) and (b) and in specific locations and amounts specified, approves the permit conditions and royalty amount as recommended by the Department, and authorizes the Department to make modifications to harvest methods as needed, in consultation with the permittee and with notification to the Commission's executive director.

Memorandum

Date: July 28, 2021

Original on file
Received 8/2/21

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

From: Charlton H. Bonham
Director

Subject: **Response to application to allow commercial harvest of marine alga, *Sargassum horneri***

Background

On December 9, 2020, the California Fish and Game Commission (Commission) referred an application requesting permission to commercially harvest the invasive brown marine alga, *Sargassum horneri*, to the California Department of Fish and Wildlife (Department) for review and recommendation. Current regulations pursuant to Title 14, California Code of Regulations (CCR), Section 165(f)(1) allow for an applicant to apply to the Commission, outlining the species to be harvested, amount and location. The Commission may set conditions and the royalty amount due after review of the application. Mr. Maassen (Applicant) requests the ability to commercially harvest *S. horneri* by hand, including approximately 800-1,200 pounds (lb) per trip from depths approximately 20-30 feet in the vicinity of Arch Rock, east end (Anacapa Island) and approximately 1,000-1,400 lbs per trip from depths approximately 15-25 feet in the vicinity of Brockway Point (Santa Rosa Island). The expected ports of landing are Oxnard and Santa Barbara.

Department Recommendation

The Department has reviewed the above referenced application and a subsequent addendum and recommends approving the application for commercial harvest of *S. horneri* with several conditions. *S. horneri* is an invasive alga that when established can impact the diversity and abundance of native algal communities. As such, the Department is concerned about the risks of inadvertently spreading this species due to harvest and expanding its distribution to new locations. However, with the following harvest conditions in place, the Department does not consider commercial harvest likely to increase the risk of perpetuating or expanding *S. horneri* populations in the proposed harvest locations. Further, the Department intends to work closely with the Applicant to determine the effectiveness and practicality of the harvest conditions and recommends the Commission authorize the Department to adaptively modify the conditions as necessary.

Sargassum horneri Harvest Conditions

- 1) Only non-reproductive *S. horneri* may be harvested as determined by visual inspection for the absence of reproductive receptacles. Department approved materials for the identification of reproductive receptacles will be provided.

- 2) *S. horneri* may only be harvested by hand, or with hand tools such as dive knives, scissors, or clippers, and placed in sealed non-permeable bags underwater at the point of harvest, before being transferred to a vessel.
- 3) To limit potential for dispersal, *S. horneri* may not be transported greater than 500 feet underwater from the point of harvest to the vessel.
- 4) On the vessel, bags of harvested *S. horneri* must be placed within additional containment, such as fish totes, other similar hard-sided containers, or heavy duty brailer bags to limit distribution on the deck and reduce accidental spillage of *S. horneri* while transferring from the boat to the dockside. The secondary containers, such as fish totes or brailer bags may only be washed out at upland sites or into municipal wastewater systems where appropriate.
- 5) Any debris from harvesting activity must be washed from the deck or fish hold before leaving the harvest location. Fish holds shall not be openly connected to surrounding seawater while harvesting or transporting *S. horneri*. Fish holds used to transport *S. horneri* must be sterilized with a 10% bleach solution before reconnection to seawater.
- 6) To reduce the risk of spreading to new locations, *S. horneri* may only be harvested and possessed at approved harvest and landing locations and direct routes in between, as defined by the Department.
- 7) To reduce take of incidental species, epibionts and other species should be removed from *S. horneri* prior to placement in sealed non-permeable bags and care should be taken to not remove or disturb native species while harvesting.

All general license and harvesting provisions in Section 165 also apply.

Harvest Quantity and Locations

The Department recommends the Applicant be permitted to harvest up to 1,500 lbs of *S. horneri* per trip from all approved harvest locations. The Department also recommends the Applicant be permitted to harvest from the following locations: 1) in the vicinity of Arch Rock (N 34° 01.001, W 119° 21.318) (Anacapa Island) and 2) in the vicinity of Brockway Point (N 34° 01.743, W 120° 08.674) (Santa Rosa Island), with the recommended approved ports of landing being Oxnard and Santa Barbara, respectively. However, the Department recommends the Commission authorize the Department to work with the Applicant to develop more specific harvest areas with defined boundaries represented by coordinates.

Harvest Logs and Royalty Fee

Harvesting kelp, agar, or edible seaweed for commercial purposes requires an annual Commercial Kelp Harvesting License. License holders must submit harvest logs and harvest royalty payments monthly to the Department (Title 14, CCR, subsection 165(b)). The Department recommends that the Applicant report commercial *S. horneri* harvest monthly using the Edible Seaweed/Agarweed Aquatic

Plant Harvester's Monthly Report. The monthly harvest log must be submitted by the 10th of the month for the preceding month's harvest. In addition, the Department recommends commercial *S. horneri* harvest royalty payments, regardless of end use (edible or non-edible), be equivalent to the royalty rate for edible seaweed harvest, which is \$24.00 per wet ton (\$0.012 per wet lb) (Title 14, CCR, Section 165). However, the Department also recommends that revising royalty rates for commercial *S. horneri* harvest be explored as part of the future review of marine algae regulations.

If you have any questions regarding this item, please contact Senior Environmental Scientist Specialist James Ray by email [REDACTED]

ec: Garry Kelly, Acting Deputy Director
Wildlife and Fisheries Division
[REDACTED]

Craig Shuman, D. Env., Regional Manager
Marine Region
[REDACTED]

Susan Ashcraft, Marine Advisor
Fish and Game Commission
[REDACTED]

Mike Stefanak, Assistant Chief
Law Enforcement Division
[REDACTED]

Kirsten Ramey, Env. Program Manager
Marine Region
[REDACTED]

Adam Frimodig, Sr. Env. Scientist Supervisor
Marine Region
[REDACTED]

James Ray, Sr. Env. Scientist Specialist
Marine Region
[REDACTED]

Lindsay Orsini, Environmental Scientist
Marine Region
[REDACTED]

Rebecca Flores Miller, Environmental Scientist
Marine Region
[REDACTED]

From: Jeff Maassen [REDACTED]
Sent: Tuesday, October 25, 2022 9:24 PM
To: FGC <FGC@fgc.ca.gov>
Cc: Elsmore, Kristen [REDACTED] Sergey Nuzhdin
[REDACTED]
Subject: Invasive harvest permit renewal (Sargassum Horneri)

Dear Commissioners and Melissa Miller Henson,

I am writing to renew my permit to harvest the invasive kelp Sargassum Horneri that you issued to me earlier this year as per Conditions Letter dated 1-20-2022.

I would also like to also ask your consideration to include another Sargassum h. harvest area within my existing permit to facilitate a Macrocystis Kelp restoration project in development that is a collaboration with USC (University of Southern California) at Catalina Island. (Map and coordinates attached....proposal coming soon!)

Please see attached request with background information, support letter from USC and Conditions Letter.

Thank you very much,

Lance Maassen (aka Jeff)

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Lance Maassen (aka- Jeff)

To: California Fish and Game Commission

Re: Commercial Kelp harvest conditions for invasive Sargassum Horneri.

Dear Commissioners,

I am writing to request an annual permit extension (with some modifications) of my annual conditional Kelp harvesting license for the invasive Sargassum horneri that I was issued January 20 2022.

This year, the Sargassum was not as severe as preceeding years and I was not inclined to complete a harvest due to market unavailability and cost of harvest constraints. After acquiring my permit in January- it became evident that the densities and volume would not be there as in the preceeding several years. In my market research subsequent to receiving my conditional permit I have contacted universities, "Urchinomics", farms (chicken, pig and marijuana) NGOs and other entities that are interested in experimenting in utilizing it. It appears that there is limited initial interest as all would like to try a sample and test out and assess if could be utilized on a broader scale. Should the Sargassum continue to be a persistent problem in the future - even with density ebbs and flows- I believe that my preliminary groundwork will serve to be useful in both scaled removals utilizing Sea Urchin divers and hopefully utilization of as a food, feed or fertilizer.

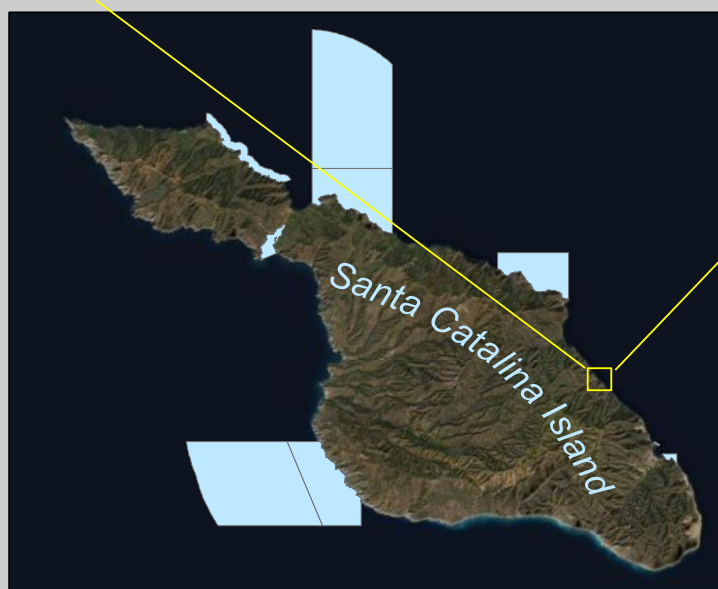
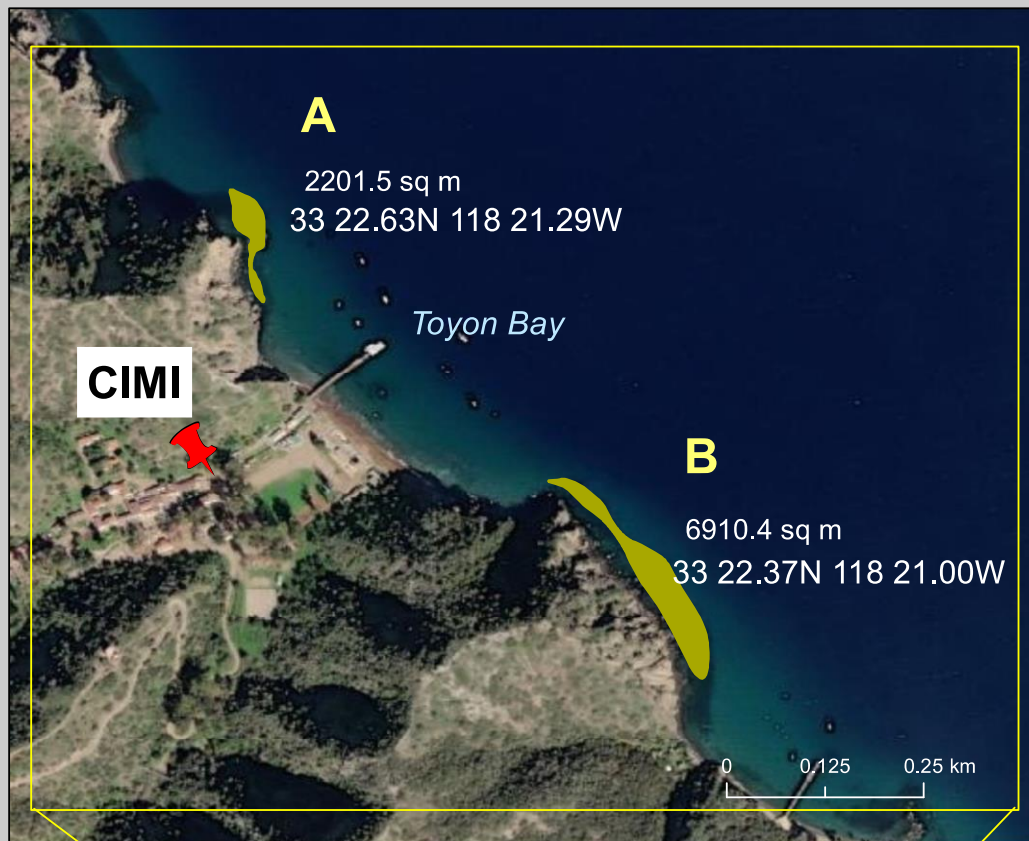
Within the context of Sargassum removals and research on Kelp Forest ecosystem regeneration- I wanted to inform you that I am collaborating on an upcoming project proposal with the Dr Sergey Nuzhdin lab at the USC Dornsife school (University of Southern California) to provide Sargassum removal services at the CIMI camp, Toyon bay at Catalina Island (Two coves up from Avalon). This exciting project could stimulate and perhaps incorporate camp students to inspire, collaborate and as well as provide easy accessability by CDF&W personnel and other interested parties to come visit and monitor efficacy and progress in restoring the Kelp forest at that site.

In Summary; It is my hope that you will renew my conditional Sargassum permit for another year. Attached, please find the proposed Catalina Island restoration site at Toyon Bay.

Best Regards,

Lance Maassen

Appendix 1. Locations for Kelp Beds Restoration Project.



Legend

- BIO_CA_Kelp_2013
- Area_of_Interest
- NOAA_MPAI_Catalina



To Jeff Maassen,

10/23/2022

Dear Jeff,

This letter is to express my strong support to your application for the sargassum commercial harvest renewal and extending your permit to the Catalina Island area.

As you know, Catalina shore is overtaken by sargassum, and we plan on efforts to restore native kelp beds, with hopeful funding by Builders Foundation. Prior to enhancing kelp recruitment, we need to make sure that sargassum is not overabundant in restoration area, else kelps will be shaded and not efficiently recruited.

Collaborating with you is the most sure way of accomplishing this goal.

Yours





State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Marine Region
32330 N. Harbor Dr.
Fort Bragg, CA 95437
[Redacted]

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



January 20, 2022

Mr. Lance Maassen
[Redacted]

Subject: Conditions for Commercial Kelp Harvesting License

Dear Mr. Maassen:

Please find attached the Condition Letter to allow commercial harvest of *Sargassum horneri*. This condition letter must be attached to your Commercial Kelp Harvesting License and must be shown upon request to any person authorized to enforce California Fish and Wildlife regulations. This condition letter does not relieve the holder of the responsibility to obtain any other required permits, or comply with any other Federal, State, or local laws and regulations.

If you have any questions or need further information, please contact me at
[Redacted]

Sincerely,

A handwritten signature in black ink, appearing to read "Kristen Elsmore".

Kristen Elsmore, Environmental Scientist
Nearshore and Bay Management Project
Department of Fish and Wildlife

January 20, 2022

Subject: Conditions for Commercial Kelp Harvesting License

Authority: This license is issued by the California Department of Fish and Wildlife (Department) pursuant to California Fish and Game Code Sections 6650-6653, 6656, 6680, and 15202, and California Code of Regulations (CCR), Title 14, Section 165, and serves as authorization to collect and transport the marine alga species approved for commercial purposes.

Project Manager:

Name: Mr. Lance Maassen



Authorized Collector:

Name: Mr. Lance Maassen



Effective Date and Expiration Date:

This authorization shall be valid from **01/20/2022** through **12/31/2022**, or earlier if collection of approved species has ceased (e.g., due to emergence of *S. horneri* reproductive structures) or the take limit per trip of the approved species is reached, whichever is earlier.

Collection Location(s):

The vegetative tissue of the approved marine alga species may be collected within two nautical miles of Arch Rock (N 34°01.001, W 119°21.318) (Anacapa Island) from depths of approximately 20-30 feet and within two nautical miles of Brockway Point (N 34°01.743, W 120°08.674) (Santa Rosa Island) from depths of approximately 15-25 feet, with the approved ports of landing being Oxnard and Santa Barbara, respectively.

Authorized Species:

This authorization covers *Sargassum horneri*.

Conditions of Authorization:

The Department's issuance of this condition letter is subject to the Project Manager's compliance with and implementation of the following conditions of authorization:

- 1) This condition letter authorizes the collection of up to 1,500 pounds wet weight of *S. horneri* from a single approved harvest location per trip (Table 1).
- 2) Approved locations of harvest, depths, and ports of landing include:

Table 1. List of approved harvest locations and corresponding landing ports for the harvest of <i>S. horneri</i> .				
Harvest Location	Latitude, Longitude	Harvest Vicinity Radius	Harvest Depth Range	Landing Port
Arch Rock, Anacapa Island	N 34°01.001, W 119°21.318	within two nautical miles of coordinates	20-30 feet	Oxnard
Brockway Point, Santa Rosa Island	N 34°01.743, W 120°08.674	within two nautical miles of coordinates	15-25 feet	Santa Barbara

3) Only non-reproductive *S. horneri* may be harvested as determined by visual inspection for the absence of reproductive receptacles. Department-approved materials for the identification of reproductive receptacles are provided with this condition letter.

4) *S. horneri* may only be harvested by hand, or with hand tools such as dive knives, scissors, or clippers, and placed in sealed non-permeable bags underwater at the point of harvest, before being transferred to a vessel.

5) To reduce take of incidental species, epibionts (organisms living on or among *S. horneri*), and other species should be removed from *S. horneri* prior to placement in sealed non-permeable bags and care should be taken to not remove or disturb native species while harvesting.

6) All Commercial Kelp Harvesting License, harvesting and reporting provisions in CCR, Title 14, Section 165 apply.

7) To limit potential for dispersal, *S. horneri* may not be transported greater than 500 feet underwater from the point of harvest to the vessel.

8) On the vessel, bags of harvested *S. horneri* must be placed within additional containment, such as fish totes, other similar hard-sided containers, or heavy duty brailer bags to limit distribution on the deck and reduce accidental spillage of *S. horneri* while transferring from the boat to the dockside. The secondary containers, such as fish totes or brailer bags may only be washed out at upland sites or into municipal wastewater systems where appropriate.

9) Any debris from harvesting activity must be washed from the deck or fish hold before leaving the harvest location. Fish holds shall not be openly connected to surrounding seawater while transporting *S. horneri*. Fish holds used to transport *S. horneri* must be sterilized with a 10% bleach solution before reconnection to seawater.

10) To reduce the risk of spreading to new locations, *S. horneri* may only be harvested and possessed at approved harvest and landing locations and direct routes in between, as defined by the Department.

11) To reduce the risk of spreading to new locations during land-based transit, *S. horneri* must remain in sealed non-permeable bags throughout transport from landing locations to approved recipient locations adjacent to or connected with State waters (e.g., aquaria) (Table 2).

Table 2. List of facilities approved by the Department to receive, hold, and dispose of <i>S. horneri</i> transferred from the Project Manager (only includes facilities adjacent to or connected with State waters).				
Facility	Point of Contact	Date Approved	System	Effluent Treatment & Disposal Plan
SDSU Coastal and Marine Institute Laboratory 4165 Spruance Rd, Suite 100 San Diego, CA 92101	Name: Renee E. Angwin, Lab Manager Email: [REDACTED] [REDACTED]	01/20/22	closed system (RAS)	Effluent: RAS waters are disposed of in the municipal sewer system Disposal: solid waste will be bagged and disposed of in the trash
Urchinomics 565 Shell Harbor Ln, Port Hueneme, CA 93041	Name: Peter Struffnegger, Operations Manager Email: NA [REDACTED]	01/20/22	closed system (RAS)	Effluent: RAS waters are disposed of in the municipal sewer system Disposal: solid waste will be bagged and disposed of in the trash

12) Recipient locations for transport by the Project Manager must be pre-approved by the Department (Table 2). Additional facilities adjacent to or connected with State waters must be requested for Department staff consideration by providing the following information to Kristen Elsmore [REDACTED] at least two weeks prior to initial proposed delivery date:

12a) Facility name and address

12b) Point of contact for recipient facility (name, email, and phone number)

12c) Description of facility's *S. horneri* holding and disposal plan (effluent and degraded/unused *S. horneri*)

13) To reduce the risk of potential disease transmission and physical spreading to new locations, facilities receiving *S. horneri* from the Project Manager must hold *S. horneri* in closed/recirculating systems. Effluent water from closed/recirculating systems (e.g., when cleaning or disposing of any recirculated seawater) must be treated with UV sterilization, Ozone, or chlorination. Effluent that flows directly into municipal wastewater systems do not need to be treated.

14) To reduce the risk of potential disease transmission and physical spreading to new locations, facilities receiving *S. horneri* from the Project Manager must dispose of *S. horneri* waste (e.g., unused, or degraded algae) such that it does not come into contact with the ocean or waters leading to the ocean.

15) Approved species **may not** be collected in marine protected areas or other marine conservation areas.

16) The Project Manager must avoid collecting the approved species in areas where researchers may have study sites, specifically the following study areas must be avoided (coordinates are for the centroid of the areas) when collecting *S. horneri*:

Near Anacapa Island:

34.018, -119.364

34.010, -119.388

34.013, -119.389

34.006, -119.394

17) The Project Manager shall not take or possess any other species of invertebrate, fish, or other marine algae while on a trip or when taking *S. horneri* under the authority of this condition letter.

18) No *S. horneri* specimen shall be returned to the waters of the State.

19) *S. horneri* taken under this license may be inspected periodically by the Department. Such inspection shall be coordinated by Department staff.

20) A copy of the valid Commercial Kelp Harvesting License, this condition letter, *Sargassum* Identification Guide, and a valid driver's license or DMV identification must be in the Project Manager's possession at all times while collecting or transporting under the authority of this condition letter.

21) The Project Manager shall comply with all applicable State, Federal, and local laws in existence on the effective date of this condition letter.

Notification and Reporting:

1) The Project Manager shall via email notify Fish and Wildlife Assistant Chief, Eric Kord at [REDACTED] and Kristen Elsmore [REDACTED] of intent to collect or transfer possession *S. horneri*, including intended collection date, collection location, landing port, and facility transfer location(s), at least **24 hours prior** to any collection activities and transfer of possession to recipient facilities.

2) The Project Manager shall maintain an accurate, current record of all *S. horneri* collected and maintained under this license. Such records shall include the latitude/longitude coordinates of location of take and describe the total landed weight, number and range of length of individuals collected, date of collection, destination, use, and disposal of *S.*

horneri. This information shall be provided via a summary report to be submitted by **January 31, 2023**, or within one month of ceasing collections of *S. horneri* approved for take to Kristen Elsmore [REDACTED]

3) Per CCR, Title 14, Section 165, following the collection of *S. horneri* pursuant to the Commercial Kelp Harvesting License, the Project Manager shall record the required information in the Commercial Edible Seaweed/Agarweed Aquatic Plant Harvester's Monthly Report, (DFW 113A).

4) Per CCR, Title 14, Section 165, monthly reports of harvest with harvest royalty fees, \$24.00 per wet ton (\$0.012 per pound wet weight) harvested, shall be submitted to the address specified on the report, on or before the 10th day of each month, following the month to which the records pertain.

5) Intent to renew this condition letter shall be provided by the Project Manager to the Fish and Game Commission at least 60 days prior to the expiration of this condition letter.

This condition letter, *Sargassum horneri* ID guide, valid Commercial Kelp Harvesting License, and a valid driver's license or DMV identification must be in possession of the Project Manager when conducting any activity authorized by this letter and must be shown upon request to any person authorized to enforce Fish and Wildlife regulations. This condition letter does not relieve the Project Manager of the responsibility to obtain any other required permit(s), or comply with any other Federal, State, or local laws and regulations.

Attachments:

Sargassum horneri Identification Guide

Commercial Edible Seaweed/Agarweed Aquatic Plant Harvester's Monthly Report,
(DFW 113A)

Sincerely,



Kristen Elsmore, Environmental Scientist
Nearshore and Bay Management Project
Department of Fish and Wildlife

cc: Eric Kord, Assistant Chief
Southern Enforcement District
Department of Fish and Wildlife
[REDACTED]

Jason Kraus, Lieutenant
Southern Enforcement District
Department of Fish and Wildlife
[REDACTED]

Kirsten Ramey, Program Manager
State Managed Finfish and Nearshore Ecosystem Program
Department of Fish and Wildlife
[REDACTED]

Rebecca Flores Miller, Environmental Scientist
Nearshore and Bay Management Project
Department of Fish and Wildlife
[REDACTED]

Lindsay Orsini, Environmental Scientist
Southern California Invertebrate Management Project
Department of Fish and Wildlife
[REDACTED]

Memorandum

Date: January 10, 2023

Received January 23, 2023
Original signed copy on file

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

From: Charlton H. Bonham
Director

Subject: **California Department of Fish and Wildlife Recommendation Re: Application to renew license to commercially harvest marine alga, *Sargassum horneri***

Background

The California Fish and Game Commission staff received a request on October 25, 2022, from Mr. Lance (Jeff) Maassen to: 1) renew the Commercial Kelp Harvesting License and associated letter of conditions allowing the applicant to commercially harvest a limited quantity of the invasive brown marine alga, *Sargassum horneri*, at two locations: one near Arch Rock, Anacapa Island and one near Brockway Point, Santa Rosa Island, and 2) to consider an additional harvest location near Toyon Bay, Catalina Island.

S. horneri is an invasive alga that can impact the diversity and abundance of native algal communities. As such, the California Department of Fish and Wildlife (Department) is concerned about the risks of inadvertently spreading this species due to harvest and expanding its distribution to new locations. To address this concern, the Department developed a set of commercial harvest conditions that, when followed, are considered unlikely to increase the risk of perpetuating or expanding *S. horneri* populations.

On October 14, 2021, the California Fish and Game Commission (Commission) approved the initial application for commercial harvest of *S. horneri* with several conditions. Mr. Maassen received the letter of conditions and accompanying materials, including the *Sargassum horneri* ID Guide and Commercial Edible Seaweed/Aqarweed Aquatic Plant Harvester's Monthly Report (DFW 113A), from the Department on January 20, 2022, with an expiration date of December 31, 2022. Following receipt of the aforementioned documents from the Department, Mr. Maassen purchased a 2022 Commercial Kelp Harvesting License and was able to begin commercial harvest of *S. horneri* under the permissions described within the letter of conditions and pursuant to Title 14, California Code of Regulations, Section 165.

Over the course of the calendar year, Mr. Maassen remained in communication with the Department regarding plans for initial attempts at commercial harvest of *S. horneri*

to facilitate observation by Department staff. However, no commercial harvest of *S. horneri* occurred within the timeframe defined by the condition letter (January 20, 2022, through December 31, 2022). The applicant attributes this to lower density and volume of *S. horneri* as well as limited initial interest for a commercial market. As such, no new information regarding the effectiveness and practicality of harvest conditions was able to be gleaned. Renewal of the letter of conditions for the previously approved sites at Anacapa Island and Santa Rosa Island would provide additional opportunity to assess commercial harvest of *S. horneri*. The Department considers “proof of concept” at the existing approved harvest locations to be critical before consideration of allowing potential additional harvest site(s).

Department Recommendation

The Department recommends that the Commission approve the request to renew the applicant’s annual Commercial Kelp Harvesting and Drying License and associated letter of conditions, allowing the applicant to commercially harvest a limited quantity of the invasive brown marine alga, *Sargassum horneri* at two locations: one near Arch Rock, Anacapa Island and one near Brockway Point, Santa Rosa Island.

The Department recommends that the Commission deny the request to add any new harvest locations at this time for the following reasons: 1) testing of “proof of concept” has not occurred due to lack of harvest activities; and 2) the proposed removals of *S. horneri* via commercial harvest at Toyon Bay, Catalina Island are part of a larger proposed kelp restoration effort that has not yet been communicated in detail with Department staff. The Department recommends confirmed “proof of concept” and lessons learned from currently approved harvest locations be used to inform consideration of any further expansion of activities. Additionally, the Department would need to evaluate a comprehensive proposal for the proposed restoration work to assess risk and appropriateness within the state’s broader restoration efforts under the developing Kelp Restoration and Management Plan.

If you have any questions on this item, please contact Dr. Craig Shuman, Marine Region Manager, at (916) 215-9694 or R7RegionalMgr@wildlife.ca.gov.

ec: Chad Dibble, Deputy Director
Wildlife and Fisheries Division

Craig Shuman, D. Env. Regional Manager
Marine Region

Eric Kord, Assistant Chief
Law Enforcement Division

Melissa Miller-Henson, Executive Director
Fish and Game Commission
January 10, 2023
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Kirsten Ramey, Environmental Program Manager
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