# STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES

### Division of Boating and Ocean Recreation Honolulu, Hawaii 96819

June 26, 2020

Chairperson and Members Board of Land and Natural Resources State of Hawaii Honolulu, Hawaii

### Land Board Members:

SUBJECT: ISSUANCE OF A RIGHT-OF-ENTRY PERMIT TO MAUI NUI

MARINE RESOURCE COUNCIL, INC., FOR OYSTER WATER QUALITY BIOREMEDIATION PILOT PROGRAM PURPOSES AT MAALAEA SMALL BOAT HARBOR, MAALAEA, WAILUKU, MAUI,

HAWAII, TAX MAP KEY: (2) 3-6-001:002 (POR)

**AND** 

DECLARE PROJECT EXEMPT FROM REQUIREMENTS OF CHAPTER 343, HRS AND TITLE 11, CHAPTER 200.1, HAWAII

ADMINISTRATIVE RULES.

### <u>APPLICANT</u>:

Maui Nui Marine Resource Council, Inc., ("Maui Nui") a Domestic Nonprofit Corporation, whose mailing address is, P.O. Box 331204, Kahului, Hawaii, 96733.

### LEGAL REFERENCE:

Sections 171-55, Hawaii Revised Statutes, as amended.

### LOCATION:

Portions of Government submerged lands situated at Maalaea Small Boat Harbor, Maalaea, Wailuku, Maui, Hawaii, Tax Map Key: (2) 3-6-001:002 (Por), hereinafter referred to as the "Premises" as shown on the site map labeled Exhibit A and attached hereto.

June 26, 2020

### **AREA**

Site Location Map labeled Exhibit A attached hereto

### ZONING:

State Land Use District: Urban

County of Maui: CZO: M-1Business Industrial

### TRUST LAND STATUS:

Section 5(b) lands of the Hawaii Admission Act:

DHHL 30% entitlement lands pursuant to the Hawaii State Constitution: NO

### **CURRENT USE STATUS:**

Encumbered by a 6-month Right-of-Entry ("ROE") issued to Maui Nui.

### **CHARACTER OF USE:**

To determine the effectiveness of the water filtering qualities of oysters to clean the coastal waters of Ma'alaea Small Boat Harbor.

### TERM OF RIGHT OF ENTRY

From June 1, 2020 to May 31, 2021.

### RENTAL:

Gratis

### **COLLATERAL SECURITY DEPOSIT:**

Waived

### DCCA VERIFICATION:

Place of business registration confirmed: YES Registered business name confirmed: YES Applicant in good standing confirmed: YES

### CHAPTER 343 – ENVIRONMENTAL ASSESSMENT:

In accordance with Hawaii Administrative Rule §11-200.1-15 and the Exemption List for the Department of Land and Natural Resources reviewed and concurred with by the Environmental Council on March 3, 2020, the subject request is exempt from the preparation of an environmental assessment pursuant to Exemption Class No. 1, Part 1, "Operations, repairs, or maintenance of existing structures, facilities, equipment, or topographical features, involving negligible or no expansion or change of use beyond that previously existing," Item 44 that states, "Permits, licenses, registrations, and rights-of-entry issued by the Department that are routine in nature, involving negligible impacts beyond that previously existing."

Staff consulted with DAR's Aquatic Resources, Maui District, Aquatic Biologist who concurred proposed use will probably have minimal or no significant effect on the environment and supports and approves of the Maui Nui efforts and their oyster pilot project.

### APPLICANT REQUIREMENTS:

- Provide a comprehensive written report every 6-months on the results of the research to DLNR, DOBOR staff.
- Maintain and provide DOBOR staff with necessary permit extensions from Division of Aquatic Resources and Department of Agriculture Plant Quarantine.

### **REMARKS**:

Maui Nui is a.501(c)3 not-for-profit organization, working in partnership with Oahu Waterkeeper, and with support from Pacific Aquaculture and Coastal Resources Center at the University of Hawaii Hilo, to ensure clean ocean waters, healthy coral reefs and an abundance of native fish throughout the islands of Maui county.

Maui Nui was issued a 6-month ROE, commencing December 1, 2019 and ending May 31, 2020, approved by the Chairperson pursuant to the Board action dated December 12, 2014, agenda item J-2, for an "Oyster Water Quality Bioremediation Pilot Program at Maalaea Small Boat Harbor" (see Exhibit B), The applicant is requesting to extend the project for an additional 1-year (see Exhibit C).

The purpose of this program is to determine if utilizing oysters is a sustainable, biologically effective and financially reasonable method to improve the water quality of small boat harbors. In support of this, Maui Nui has provided its findings for the first 6 months of operation in the Maalaea Small Boat Harbor reflecting positive results (see Exhibit C).

The Division of Aquatic Resources has issued Maui Nui a Special Activity Permit (Permit No. 2021-12) for certain activities involving aquatic organisms belonging to the people of Hawaii, under Section 187A-6, Hawaii Revised Statutes, and other applicable laws with the main objective to conduct a pilot project using oysters on Maui for water quality remediation in the

Maalaea Small Boat Harbor; and; A Possession Permit (Permit No. 21-01-M-A7763) from Department of Agriculture Plant Quarantine.

Maui Nui has not had a lease, permit, easement or other disposition of State lands terminated within the past five years due to non-compliance with such terms and conditions.

### RECOMMENDATION:

That the Board of Land and Natural Resources:

- 1. Declare that, after considering the potential effects of the proposed project as provided by Chapter 343, HRS, and Chapter 11-200.1, HAR, this project will probably have minimal or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment.
- 2. Authorize the issuance of a (1) year right-of-entry to Maui Nui Marine Resource Council, Inc., covering the subject area under the terms and conditions cited above, which are by this reference incorporated herein and further subject to the following:
  - a. The standard terms and conditions of the most current right-of-entry permit form, as may be amended from time to time; and
  - b. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.
- 3. Authorize the Chairperson to issue the Right of Entry Permit for good reason.

Respectfully Submitted,

EDWARD R. UNDERWOOD, Administrator

Division of Boating & Ocean Recreation

APPROVED FOR SUBMITTAL:

SUZANNE D. CASE, Chairperson

Sgame Q. Case

Board of Land and Natural Resources

### Attachments:

- A. Site MapB. (6) Month ROE
- C. Status Report & Request to Extend ROE

# Oyster Water Quality Bioremediation Pilot Program

Proposed Sites At: Maalaea Small Boat Harbor, Maui









## STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621 HONOLULU, HAWAII 96809

November 5, 2019

SUZÁNNE D. CÁSÉ CHAIRPERSON BOARD OF LAND AND NATURAL RESOURCES COMMISSION ON WATER RESOURCE MANA GEMENT

ROBERT K. MASUDA

M. KALEO MANUEL DEPUTY DIRECTOR - WATER

AGUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND COASTAL LANDS
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Maui Nui Marine Resource Council, Inc. P.O. Box 331204 Kahului, HI 96733

Dear Mr Stevens:

Subject:

Issuance of Right-of-Entry Permit to Maui Nui Marine Resource Council, Inc, here in after referred to as ("Maui Nui") for Oyster Water Quality Bioremediation Pilot Program, from December 1, 2019 to May 31, 2020, on portions of nearshore waters of Māalaea Harbor, Maui, Hawaii, Tax Map Key: (2) 3-6-001:002

Pursuant to the authority granted by the Board of Land and Natural Resources ("BOARD") at its meeting of December 12, 2014, Item J-2, the State of Hawaii, Department of Land and Natural Resources, Division of Boating and Ocean Recreation ("DOBOR"), hereby grants a Right-of Entry Permit ("ROE") to Maui Nui Marine Resource Council, Inc., for Oyster Water Quality Bioremediation Pilot Program, on portions of nearshore waters of Māalaea Harbor, Maui, Hawaii, Tax Map Key: (2) 3-6-001:002

The right-of-entry is subject to the terms and conditions stated below:

- 1. Payment Gratis.
- Upon acceptance of the terms herein and the provision of the liability insurance required in paragraph 3, this right-of-entry permit shall be effective during the periods from December 1, 2019 to May 31, 2020.
- 3. Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall procure at its own expense, and maintain during the entire period of this right-of-entry, from an insurance company or companies licensed or authorized to do business in the State of Hawaii with an AM Best rating of not less than "A- VIII" or other comparable and equivalent industry rating, a policy or policies of comprehensive public liability insurance or its equivalent, in an amount of at least \$1,000,000 for each occurrence and \$2,000,000 aggregate, and with coverage terms acceptable to the Chairperson of the Board.

The policy or policies of insurance shall name the State of Hawaii as an additional insured and a copy shall be filed with the State of Hawaii, Department of Land and Natural Resources. The insurance shall cover the entire premises, including all buildings, improvements, and grounds and all roadways or sidewalks on or adjacent to the premises in the use or control of Maui Nui, its consultants, contractors and/or persons acting for or on its behalf. Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall furnish the Department with a certificate(s) showing the policy(s) to be initially in force, keep certificate(s) on deposit during the entire period and furnish a like certificate(s) upon each renewal of the policy(s). This insurance shall not be cancelled, limited to scope of coverage, or nonrenewed until written notice has been given to the Department. The Department shall retain the right at any time to review the coverage, form, and amount of the insurance required. If in the opinion of the Department, the insurance provisions in this right-of-entry do not provide adequate protection for the Department, the Department may require Maui Nui, its consultants, contractors and/or persons acting for or on its behalf to obtain insurance sufficient in coverage, form, and amount to provide adequate protection. The Department's requirements shall be reasonable but be designed to assure protection for and against the kind and extent of the risks which exist at the time a change in insurance is required. The Department shall notify Maui Nui, its consultants, contractors and/or persons acting for or on its behalf in writing of changes in the insurance requirements and Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall deposit copies of acceptable insurance policy(s) or certificate(s) thereof, with the Department incorporating the changes within receipt of the notice.

The procuring of the required policy(s) of insurance shall not be construed to limit Maui Nui its consultants, contractors and/or persons acting for or on its behalf, liability under this right-of-entry nor to release or relieve Maui Nui, its consultants, contractors and/or persons acting for or on its behalf of the indemnification provisions and requirements of this right-of-entry. Notwithstanding the policy(s) of insurance, Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall be obligated for the full and total amount of any damage, injury, or loss caused by Maui Nui, its consultants, contractors and/or persons acting for or on its behalf negligence or neglect connected with this right-of-entry.

- 4. At all times herein, Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall keep the right-of-entry area or premises in a clean, sanitary, orderly, and available condition.
- 5. Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall be responsible for cleaning and restoring the area or premises to its original condition or a condition satisfactory to the Department of Land and Natural Resources upon completion of the Oyster Water Quality Remediation Pilot Program. All trash and other material related to the Maui Nui shall be removed from the area or premises.
- Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall
  comply with all of the requirements of all laws, statutes, ordinances, rules and
  regulations of the Federal, State and County governments relative to the use of the

right-of-entry area, including those relating to public health.

- 7. Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall indemnify, defend, and hold the State of Hawaii, Department of Land and Natural Resources harmless from and against any claim or demand for loss, liability, or damage, including claims for bodily injury, wrongful death, or property damage, arising out of or resulting from any act or omission on the part of Maui Nui, under this approval or relating to or connected with the granting of this approval.
- 8. All equipment shall be placed within the right-of-entry area or premises described and shown on the attachments herewith.
- 9. Maui Nui will be responsible for providing its own security for their equipment and property within the permit area during its study.
- 10. Maui Nui shall supply to DOBOR a name and local telephone number of the contact person who can be reached at any time around the clock during this event.
- 11. There shall be no commercial activity in connection with the project.
- 12. Maui Nui shall work with all other tenants, and general public activities that use the Maalaea Harbor and insure that the project does not interfere with their activities, if any.
- 13. Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall not cause or permit the escape, disposal or release of any hazardous materials except as permitted by law. Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall not allow the storage or use of such materials in any manner not sanctioned by law or by the highest standards prevailing in the industry for the storage and use of such materials, nor allow to be brought onto the right-of-entry area or premises any such materials except to use in the ordinary course of Maui Nui, its consultants, contractors and/or persons acting for or on its behalf business, and then only after written notice is given to the State of Hawaii, Department of Land and Natural Resources of the identity of such materials and upon the Department's consent which consent may be withheld at the Department's sole and absolute discretion. If any lender or governmental agency shall ever require testing to ascertain whether or not there has been any release of hazardous materials by Maui Nui, its consultants, contractors and/or persons acting for on its behalf, then the Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall be responsible for the cost thereof. In addition, Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall execute affidavits, representations and the like from time to time at the Department's request concerning Maui Nui, its consultants, contractors and/or persons acting for or on its behalf best knowledge and belief regarding the presence of hazardous materials on the right-of-entry area or premises placed or released by Maui Nui, its consultants, contractors and/or persons acting for or on its behalf.

14. Maui Nui, its consultants, contractors and/or persons acting for or on its behalf agree to indemnify, defend and hold the State of Hawaii, Department of Land and Natural Resources harmless, from any damages and claims resulting from the release of hazardous materials on the right-of-entry area or premises occurring while Maui Nui, its consultants, contractors and/or persons acting for or on its behalf is/are in possession, or elsewhere if caused by Maui Nui, its consultants, contractors and/or persons acting for or on its behalf. These covenants shall survive the expiration or earlier termination of this right-of-entry.

For purposes of this right-of-entry, "hazardous material" shall mean any pollutant, toxic substance, hazardous waste, hazardous material, hazardous substance, or oil as defined in or pursuant to the Resource Conservation and Recovery Act, as amended, the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, the Federal Clean Water Act, or any other federal, state, or local environmental law, regulation, ordinance, rule, or by-law, whether existing as of the date hereof, previously enforced, or subsequently enacted.

- 15. Maui Nui, its consultants, contractors and/or persons acting for or on its behalf in the exercise of this right-of-entry shall use appropriate precautions and measures to minimize inconveniences to surrounding residents, landowners, and the public in general.
- 16. All costs associated with the construction within the right-of-entry area or premises shall be the sole responsibility of the Maui Nui, its consultants, contractors and/or persons acting for or on its behalf.
- 17. Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall maintain and employ debris, pollution and contamination control measures, safeguards and techniques to prevent debris, pollution or contamination to the ocean waters, streams or waterways resulting from Maui Nui, its consultants, contractors and/or persons acting for or on its behalf use, maintenance, repair and operation of the right-of-entry area or premises, and shall take immediate corrective action in the event of such pollution or contamination to immediately remove the cause of such pollution or contamination, and shall immediately clean the right-of-entry area or premises and its surrounding waters of such pollutant or contaminant and restore to the State of Hawaii, Department of Land and Natural Resources satisfaction the area affected by such pollution or contamination, all at Maui Nui, its consultants, contractors and/or persons acting for or on its behalf own cost and expense.
- 18. In the event any historic properties or burial sites, as defined in section 6E-2, Hawaii Revised Statutes, are found on the premises, Maui Nui, its consultants, contractors and/or persons acting for or on its behalf shall immediately stop all land utilization or work or both and contact the Historic Preservation Office in Kapolei at (808) 692-8015 immediately in compliance with chapter 6E, Hawaii Revised Statutes.
- 19. This right-of-entry is revocable and terminable for any breach of terms and, conditions herein at the sole and absolute discretion of the Chairperson.

- 20. This right-of-entry or any rights hereunder shall not be sold, assigned, conveyed, leased, sub-let, mortgaged or otherwise transferred or disposed.
- 21. The Department of Land and Natural Resources reserves the right to impose additional, but reasonable terms and conditions as it deems necessary while this right-of-entry is in force.
- 22. All disputes or questions arising under this right-of-entry shall be referred to the Chairperson of the Board of Land and Natural Resources for a determination and resolution of the dispute or question. The Chairperson's decision shall be final and binding on the parties herein.

Should you concur with the above terms and conditions, please acknowledge and return a signed copy of this letter together with the required liability insurance policy to DOBOR's Office at: 4 Sand Island Access Road., Honolulu, HI 96819.

If you have any questions, please feel free to contact my staff Teresa Bryant at (808) 587-2683.

Sincerely,

Suzanne D. Case

Chairperson

### ACCEPT AND CONCUR:

"Maui Nui Marine Resource Council, Inc.

**Attachments:** 

Oyster Sample Cage Types

**Areal Map of Proposed Site Locations** 

DAR Special Activity Permit with Amendment No 1

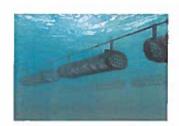
# Oyster Water Quality Bioremediation Pilot Program SAMPLE CAGE TYPES

Seapa 15L – 3mm to 6mm mesh size

Approx. 3ft 6 inches long, 2ft wide, 1 ft high

https://seapa.com.au/oyster-baskets/



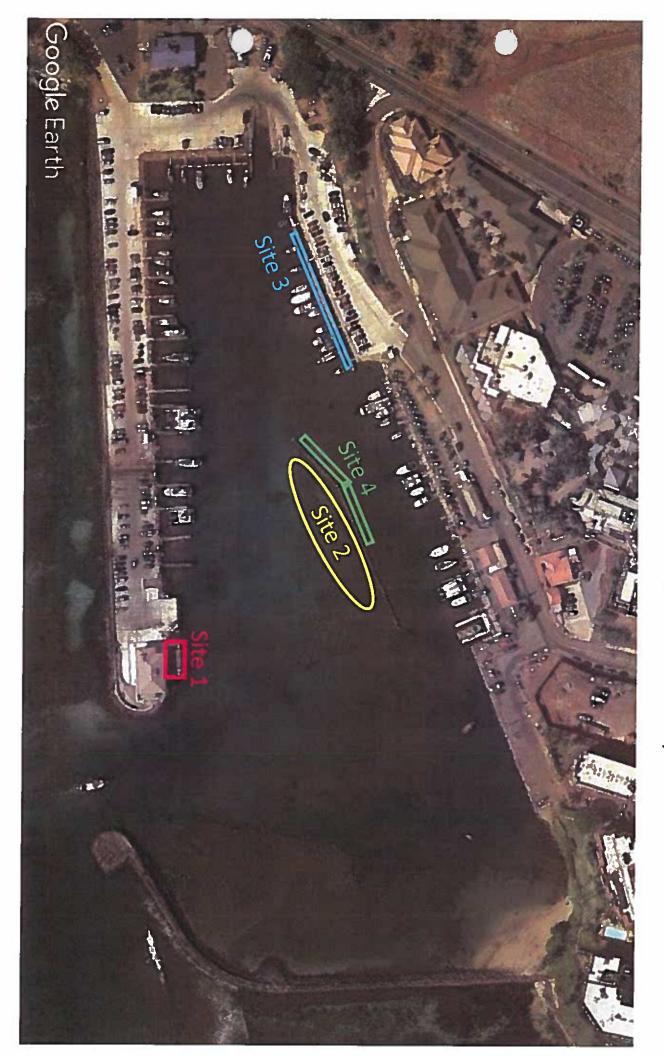






# **Oyster Water Quality Bioremediation Pilot Program**

Proposed Sites At: Maalaea Small Boat Harbor, Maui



Special Activity Permit No. 2020-10

Department of Land & Natural Resources **DIVISION OF AQUATIC RESOURCES** 1151 Punchbowl Street, Room 330 Honolulu, Hawaii 96813

Date Issued: March 13, 2019

Valid not longer than March 12, 2020

### SPECIAL ACTIVITY PERMIT

The Department of Land and Natural Resources hereby grants permission for certain activities involving aquatic organisms belonging to the people of Hawaii, under Section 187A-6, Hawaii Revised Statutes, and other applicable laws.

The Permittee is

Name:

Amy Hodges

Address: Maui Nui Marine Resources Council

Title:

18 1 mm 1

Principal Investigator

PO Box 331204

Affiliation: MNMRC

Kahului, HI 96733

This permit is issued, subject to the general and special conditions, for the collection, possession and transportation of regulated and non-regulated organisms (various spp. of oysters and clams) and the placement of temporary oyster cages anchored in sand or mud in Ma'alaea Harbor (Maui) for a water quality remediation project. The main objective is to conduct the first pilot project using oysters on Maui for water quality remediation in Ma'alaea Harbor, which currently has high levels of organic nutrients (from terrestrial sources) and Chlorophyll A, and will be undergoing harbor renovations soon, which may lead to increased sedimentation. This research will be supported by the University of Hawaii Hilo bivalve research program which has a small hatchery used to produce bivalve specimens for research (water quality remediation and aquaculture) and student training purposes.

Common	Scientific Name	Number Specimen	Location
Name		•	See Special
			Conditions II.B.
		Regulated organis	sms
Black-lipped	Pinctada	50 individuals	Collected from the wild (Maui, Oahu,
Pearl Oyster	margaritifera	(10 and 30 cm each)	Hawaii) or produced in the UH Hilo hatchery;
			Placed in cages in Ma'alaea Harbor (Maui)
8		Non-regulated organ	nisms
Hawaiian	Dendostrea	200 individuals	Collected from the wild (Maui, Oahu,
Oyster	sandvicensis	(2 - 50 mm each)	Hawaii) or produced in the
-,		(2 00	UH Hilo hatchery;
			Placed in cages in Ma'alaea Harbor (Maui)
		Continued on next p	nna e

Non-regulated organisms				
Hawaiian Clams	Tellina palatum	200 individuals (2 – 50 mm each)	Collected from the wild (Maui, Oahu, Hawaii) or produced in the UH Hilo hatchery;  Placed in cages in Ma'alaea Harbor (Maui)	
Rayed Pearl Oyster	Pinctada radiata	50 individuals (5 - 20 cm each)	Collected from the wild (Maui, Oahu, Hawaii) or produced in the UH Hilo hatchery;  Placed in cages in Ma'alaea Harbor (Maui)	
Oyster Cages	Plastic mesh cages	≈12 cages per location; 3 locations = maximum of 36 cages total;  (Dimensions: each 30-cm diameter x 1 m long)  Oyster cages will be attached to double anchor lines; cages will be raised and monitored every two weeks.	Placed in Ma'alaea Harbor (Maui)  Placement of cages in Ma'alaea Harbor is pending approval of Memorandum of Understanding (MOU) with Division of Boating and Ocean Recreation (DOBOR)	

### I. GENERAL CONDITIONS:

- A. This permit does not make the Department of Land and Natural Resources or the State of Hawaii liable in any way for any claim of personal injury or property damage to the permittee or assistants which may occur during any activity conducted under this permit; moreover, the permittee and all assistants agree to hold the State harmless against any and all claims of personal injury, death or property damage resulting from activities of the permittee or any assistant.
- B. This permit conveys a privilege to engage in only those activities under the jurisdiction of the Department of Land and Natural Resources. The permittee is responsible for complying with all applicable County, State, and Federal requirements. The permit does not convey any privilege of access over or through private property.
- C. The permittee and each assistant are individually responsible and accountable for their actions while conducting activities authorized under this permit; additionally, the permittee is responsible and accountable for the actions of the permittee's assistants.

- D. This permit is not transferable or assignable. Any person whose name does not appear on this permit and is conducting any activity described herein is subject to prosecution for violation of State laws.
- E. The permittee may request changes to the permit. Any such request to make changes to the permit must be made in writing and received by the Department at least thirty days prior to the change. The addition of new assistants will require each individual to sign the Attachment on page 11, 12 or 13 stating that they have read, understood, and agree to abide by all general and special permit conditions. No change may be implemented without written approval from the Department.
- F. The permittee may request to:
  - 1. Add assistants to the permit;
  - 2. Add another permittee or replace an existing permittee in the manner stated above; and
  - 3. Change the activities authorized under this permit.
- G. The permittee or their assistant(s) must have with them a copy of this permit while conducting activities authorized by this permit.
- H. This permit authorizes collection of organisms protected by Federal law only with prior appropriate Federal authority, which must be described on Page 1 of this permit (if applicable).
- I. This permit does not authorize the sale of any collected organism.
- J. This permit expires on the date indicated on Page 1. If no renewal is needed, the permittee must return this permit with al signature sheets (to the address listed on the upper left corner of page 1, c/o Cathy Gewecke) and additionally email a PDF version of a final report (to catherine.a.gewecke@hawaii.gov) with complete information on all activities authorized under this permit (see Special Conditions, Section I. Annual Report) within three months (90 days) after the expiration date. If renewal is needed, permittee must submit a PDF version of a final report to the Division one month (30 days) prior to the expiration date for DAR biologists to review, in addition to turning in expired permit with signatures no later than the regular three months (90 days) after expiry date.
- K. The permittee and assistants agree to provide access to data obtained under authority of this permit upon request of the Division of Aquatic Resources, and to provide to the Division a copy of each report, published for distribution, prepared with data obtained under this permit. The permittee agrees to provide the Division of Aquatic Resources access to organisms obtained and held under this permit for on-site inspection.
- L. The permittee agrees to notify the island office of the Division of Conservation and Resources Enforcement at least 24 hours prior to any authorized activity being conducted in the field. Please provide the permittee name, the permit number, the date, time, and location of the planned activity, and contact information.
- M. A violation of any terms or condition of this permit or any violation of State law not covered by this permit may result in revocation of the permit and other penalties as provided by law. In addition, the Department may consider any such violation as grounds for denying any future application for this or any other permit issued by the Department.

### II. SPECIAL CONDITIONS

- A. General Statement: This permit authorizes the possession and transportation of regulated and non-regulated oysters and clams in Maui, Oahu and Hawaii and the placement of temporary oyster cages anchored in sand or mud in Ma'alaea Harbor, Maui, as listed in Table 1 on Page 1, and subject to the other conditions of this permit.
- B. Locations: All activity will occur in the waters of Maui, Oahu and Hawaii, as listed in Table 1 on Page 1. Researcher may collect, transport and outplant various species of regulated and non-regulated oysters and clams (as listed in Table 1) in temporary oyster cages to Ma'alaea Harbor (Maui). Activities under this permit is limited to waters of the State of Hawaii and is expressly prohibited at the following locations:

Island of O'AHU	Island of HAWAI'I
Ala Wai Canal FMA	Hilo Harbor
Coconut Island MLR <sup>4</sup>	Kealakekua Bay MLCD
Diamond Head SFMA	Kailua Bay FMA
Haleiwa Harbor FMA	Kawiahae Harbor FMA
Hanauma Bay MLCD	Old Kona Airport MLCD
Heiea Kea FMA	Lapakahi Bay MLCD
Kapalama Canal FMA	Puako FMA
Paiko Lagoon Wildlife Refuge	Waiakea PFA <sup>5</sup>
Pupukea MLCD	Wailea Bay MLCD
Waialua Bay FMA	Wailuku River FMA
Waikiki MLCD	Wailoa River FMA
Waikiki FMA	Waiopae Tidepools MLCD
	West Hawaii Regional
	Ala Wai Canal FMA  Coconut Island MLR <sup>4</sup> Diamond Head SFMA  Haleiwa Harbor FMA  Hanauma Bay MLCD  Heiea Kea FMA  Kapalama Canal FMA  Paiko Lagoon Wildlife Refuge  Pupukea MLCD  Waialua Bay FMA  Waikiki MLCD

### Special Activity Permit No. 2020-10

Hanamaulu Bay FMA	-	Fishery Management Area
Kapaa Canal FMA		(comprising 9 Fish
Waikaena Canal FMA		Replenishment Areas)
Waimea Pier & Bay FMA		

FMA<sup>1</sup> = Fisheries Management Area, MLCD<sup>2</sup> = Marine Life Conservation District, NAR<sup>3</sup> = Natural Area Reserve (DOFAW), MLR<sup>4</sup> = Marine Laboratory Refuge, PFA<sup>5</sup> = Public Fishing Area

C. Activities. Permittee is authorized for the collection, possession and transportation of regulated and non-regulated organisms (various spp. of oysters and clams) and the placement of temporary oyster cages, anchored in sand or mud as listed in Table 1. using hand collection and hand placement techniques (e.g.: hand placement of cement blocks or anchors with chains or lines and oyster cages and small floating buoys attached; hand collection of oysters and clams, dive knife, chisel, etc.). The objective of the research is to conduct the first pilot project using oysters on Maui for water quality remediation in Ma'alaea Harbor, which currently has high levels of organic nutrients (from terrestrial sources) and Chlorophyll A, and will be undergoing harbor renovations soon, which may lead to increased sedimentation. This research will be supported by the University of Hawaii Hilo bivalve research program which has a small hatchery used to produce bivalve specimens for research (water quality remediation and aquaculture) and student training purposes. Oysters and clams will be collected from the wild (Hawaii, Maui, or Oahu) and then used for spawning in the UH Hilo hatchery. After spawning, the progeny from the oysters will be placed in cages in Ma'alaea Harbor. Colonization of the oyster cages by other marine organisms will additionally be monitored. The following species will be collected in the following amounts and sizes from Hawaii, Molokai or Oahu: Regulated organisms: Black-lipped Pearl Oyster (50 individuals; 10 and 30 cm each), in addition to the following nonregulated organisms: Hawaiian Oyster (200 individuals; 2 - 50 mm each), Hawaiian Clams (200 individuals; 2 - 50 mm each) and Rayed Pearl Oyster (50 individuals; 5 - 20 cm each). Pearl oysters used for brood-stock will also be returned to the collection area. When returning the pearl oyster, it is tied to substrate with thin cotton thread (i.e. biodegradable); in most cases the pearl oyster rapidly reattaches to the substrate. Any site where bivalves are held will be inspected and maintained on a regular basis. Placement of cages in Ma'alaea Harbor is pending approval of Memorandum of Understanding (MOU) with Division of Boating and Ocean Recreation (DOBOR). Oyster cage set-up consists of two vertical anchor lines positioned in a 4 m x 4 m area with one horizontal line spanning the distance between the two. Approximately twelve (~12) cages will be placed per location, at three (3) locations total, for a maximum of thirty-six (36) cages. Researcher will start the project by testing two (2) cages per location, at three (3) locations total, for a maximum of six (6) cages. Cage dimensions: each 30-cm diameter x 1m long. Oyster cages will be attached to double anchor lines; cages will be raised and monitored every two weeks. All lines, anchors and cages will be submerged to between 3ft. to 15ft. below the surface to avoid interfering with any surface activities. In areas where no boating activity occurs, cages may be suspended at shallower depths (e.g. 3-5 feet below the surface). Efforts will be made by permittee and authorized assistants to utilize best management practices to eliminate any potential for entanglement of any marine organism. Efforts will be made by permittee and authorized assistants to ensure that placement of anchors is conducted in such a manner as the process does not result in any additional harm to the surrounding organisms or environment; placement of anchors for the oyster cages will be in sand, mud or soft-bottom (ONLY). No structures will be positioned in the ship channel in Ma'alaea Harbor, other ship channels or in other water areas that might impact boating. Permittee will mitigate for the spread of disease between the UH Hilo hatchery and Hawaii, Molokai or

Oahu by utilizing best management practices including but not limited to sterilization of gear between collection and out-planting areas and inspections of organisms before they leave the hatchery to detect disease, parasites or other anomalies. Permittee will mitigate for the spread of invasive species between the areas of collection (see Special Conditions H. Other Collection Guidelines: Aquatic Invasive Species.) Permittee will avoid collection of organisms in Kaneohe Bay to mitigate for the spread of invasive species or will ensure that all organisms collected in Kaneohe Bay are absent of any algae fragments or basal attachments of the invasive alga Kappaphycus spp., Eucheuma denticulatum or Avrainvillea amadelpha and keep these organisms in a quarantine, transporting organisms to only after observation for AIS. Collection equipment will be disinfected between sampling different areas to mitigate for the spread of disease or parasitic organisms. Efforts will be made by permittee and authorized assistants to ensure that collection of samples is conducted in such a manner as the process does not result in any additional harm to surrounding organisms or environment. Efforts will be made by permittee and authorized assistants to distribute collection activities across shoreline/reef flat/benthic areas, so as not to consolidate the impacts of collection in one location. Discretion should be used to avoid conflicts with fishers and others during authorized activities. Efforts will be made by permittee and authorized assistants to communicate with the public that have inquiries about the collection activities or methodology. Permittee and authorized assistants will clearly state the overall objective of the project, that these activities require permits, and that the methods the researchers are employing are not approved for recreational fishing but research or education ONLY.

- D. Gear. Permittee and authorized assistants will use hand placement techniques to deploy oyster cages (e.g.: hand placement of cement blocks or similar anchors, with chains or lines with oyster cages and small floating buoys attached). All lines, anchors and cages will be submerged to between 3ft. to 15ft. below the surface to avoid interfering with any surface activities. In areas where no boating activity occurs, cages may be suspended at shallower depths (e.g. 3-5 feet below the surface).
- E. Collection and Out-planting. Oysters and clams will be collected from the wild (Hawaii, Maui, or Oahu) and then used for spawning in the UH Hilo hatchery. After spawning, the progeny from the oysters will be placed in cages in Ma'alaea Harbor. Care will be taken not to injure the specimen during collection. Pearl oysters used for brood-stock will be returned to the collection area. When returning the pearl oyster, it is tied to substrate with thin cotton thread (i.e. biodegradable); in most cases the pearl oyster rapidly re-attaches to the substrate. Bivalve juveniles ("spat") will be held at the various sites and their growth and survival monitored for one year. In some cases, the researcher may deploy adult specimens to first assess survival in different environments. This will provide basic information as to whether growth rates and survival are adequate to conduct larger-scale trials to test the use of bivalves for water quality mitigation. Based on the changes in wet weight biomass, the researcher will be able to obtain an estimate of the amount of nutrients from the water column converted to tissue weight. This study will also assess whether these aggregated bivalves attract other fauna, thus potentially providing habitat.
- F. Entanglement Prevention. Efforts will be made by permittee and authorized assistants to utilize best management practices to eliminate any potential for entanglement of any marine organism. Entanglement prevention practices will include but are not limited to: keeping anchor lines with submerged buoys secured underwater to the sand (or soft bottom) with anchors, ensuring that buoy rope/line remains taut with no slack at all times from anchor attachment point to buoy attachment point and ensuring that anchor lines with submerged buoys have no structures or components that may potentially cause entanglement. Oyster cages will be secured to the anchor line in a manner that minimizes potential entanglement of marine organisms. Permittee will immediately notify DAR and the appropriate agency to report the entanglement of any protected species if incidental entanglement occurs.

- G. Coral Activities: Activities under this permit shall abide by the following conditions.
  - 1. Coral the Permittee must notify DAR Oahu (587-2270) within 24 hours of:
    - i. Any instance of major damage caused to coral or other marine natural resources as a result of collection or other research activities conducted under this permit.
  - 2. Fragmentation This permit does not authorize fragmentation of coral colonies.
  - 3. Rare Species The following Porites species require special permission from the Division prior to collection under this permit: Porites pukoensis, Porites duerdeni, Porites studeri. The following Montipora species require special permission from DAR prior to collection under this permit: Montipora dilitata. The following Pocillopora species require special permission from DAR prior to collection under this permit: Pocillopora ligulata, Pocillopora molokensis.
  - 4. No impact-causing activities will be conducted on (or immediately adjacent to) any intact, attached coral colony measuring larger than 1 m x 1 m x 1 m. Specific efforts will be made to avoid damage to any large colonies of living coral.

### H. Other Collection Guidelines:

- Collecting generally the Permittee must give notice, in form specified by the Department (email or phone call), to DAR (808-587-2270) and to the Department's Division of Conservation and Resources Enforcement (DOCARE, 808-643-3567), at least 24 hours prior to initial commencement of any series of collection activities taken place under this permit.
- 2. An Aquatic Invasive Species (AIS) Mitigation Plan will be filed with the Division prior to conducting any collection under this permit. The Plan will include methods and protocols to minimize AIS or disease movement through gear, supplies and activities of the permittee. Permittee must take actions to verify that collection tools have been disinfected before use if previously used in collection activities.

Permittee will avoid collection of organisms in Kaneohe Bay or Maunalua Bay to mitigate for the spread of invasive species or will ensure that all organisms collected in Kaneohe Bay are absent of any algae fragments or basal attachments of the invasive alga Kappaphycus spp., Eucheuma denticulatum or Avrainvillea amadelpha and keep these organisms in a quarantine, transporting organisms only after observation for AIS.

If collecting in Kaneohe Bay or Maunalua Bay: Kaneohe Bay: All collection gear deployed in Kaneohe Bay must be visually checked for invasive algae or sponges (Kappaphycus spp., Eucheuma denticulatum, Gracilaria salicornia and Mycale grandis/armata) and disinfected with 10% bleach solution for 10 minutes before deployment in alternate location other than Kaneohe Bay. Maunalua Bay: All collection gear deployed in Maunalua Bay must be visually checked for invasive algae (Avrainvillea amadelpha and Gracilaria salicornia) and disinfected with 10% bleach

solution for 10 minutes before deployment in alternate location other than Maunalua Bay. If collection gear cannot be bleached, gear must be thoroughly rinsed with fresh water and dried in sun for 24 hours before deployment in alternate location other than Kaneohe Bay. The following species remain a concern to the division: Alien invasive algae (Kappaphycus spp., Eucheuma denticulatum, Gracilaria salicornia, Acanthophora spicifera, Hypnea musciformis and Avrainvillea amadelpha), Coral disease (Montipora White Syndrome, Porites trematodiasis, Montipora white syndrome, Porites tissue loss syndrome, and Porites and Montipora tumors), Orange keyhole sponge (Mycale armata/grandis).

- 3. No organism other than those listed on this permit will be collected or impacted by any activities conducted under this permit.
- Collecting and transport activities under authority of this permit must be supervised directly, on site, by either the permittee or their authorized assistants (who must be a signatory of this permit
- 5. Gear and Methods: Use of any chemical substances pursuant to Section 188-23, Hawai'i Revised Statutes, electrical shocking devices, or explosives remains expressly prohibited.
- 6. Use of Organisms: Organisms collected under authority of this permit may not be used for personal consumption or sale; organisms collected under this permit may not be traded, bartered or loaned to other individuals, institutions or entities;
  - a. Written approval must be obtained from the Division prior to
    - i. Purchasing or any other acquisition of regulated organisms (regardless of origin) alive from any other party,
    - ii. Exchanging or donating any organisms collected under this permit to any other person, party or organization (unless authorized by this permit);
- I. Annual Report: Upon 90 days post expiration of the permit or 30 days prior to expiration of the permit (depending on renewal or non-renewal status), the permittee must provide to DAR a final written report summarizing the results of the collection activity carried out under this permit and (if available/applicable) analysis of the data.
  - The annual report should provide a written explanation as to how the collection
    of or activities with a fully protected or regulated marine species for scientific,
    education, management or propagation purposes is benefiting the State of
    Hawai'i in general and specifically, the improved management of the species or
    related species.
  - 2) The final report must include;

- a. Genus-species and total quantities and sizes, of all regulated and non-regulated specimens or resources collected under this permit.
- b. Results of chemical, genetic, physiological, histological, pathological or statistical analysis of data (if available/applicable).
- c. GPS coordinates of location of each sample taken or action conducted. Multiple samples collected in one single area can be geo-referenced by single GPS point.
- d. Photo-documentation of a representative example of an oyster cage and set-up (if possible), photo-documentation of a representative example of each species of oyster or clam out-planted and photo-documentation of a representative example of each sampling or project method utilized (deployment of cages, reattaching black lipped oysters back to substrate, etc.). Each representative example should include the following photos: For oyster cage, photo-documentation should include: one (1) photo of an oyster cage and set-up (if possible), with scale for size; For each species of oyster or clam out-planted, photo-documentation should include: one (1) photo of each species of oyster or clam out-planted, with scale for size and; For sampling or project method example, photo-documentation should include: one (1) photo of surveyors demonstrating each type of deployment or attachment method.
- e. Dispositions of the samples (e.g. on display; released/returned to the ocean/stream; died/composted).
- 3) An inventory of the regulated organisms (dead or alive) kept by the permittee, or any assistant, at the end of the report period, must accompany the annual report.
- 4) The annual report is due at the Division's Honolulu office one month (30 days) before expiration of the permit <u>if renewal is needed</u> or within three months (90 days) after expiration of the permit <u>if renewal is not needed</u> or as otherwise instructed by the Division.
- J. OWNERSHIP OF BIOGENETIC RESOURCES. The State holds legal title to the natural resources and biogenetic resources gathered from state lands, including submerged lands. See Haw. Op.Atty.Gen. Opinion No. 03-03 (April 11, 2003). Biogenetic resources refer to the genetic material or composition of the natural resources and other things connected to, or gathered from public lands. See <u>Davis v. Green</u>, 2 Haw. 327 (1861); United States v. Gerber, 999F.2d 1112 (7<sup>th</sup> Cir. 1993).
- K. Use of Tissue Samples and Biogenetic Resources. Use of Tissue Samples, Organisms, Parts of Organisms or Biogenetic Resources (collected under this permit). The permittee may not convey in any fashion (including, but not limited to, selling, trading, or giving) any tissue samples, organisms, parts of organisms or biogenetic resources to any person or party in Hawai'i that does not already have a permit from the Department authorizing possession of same resources and without written approval from DAR. Organisms taken under authority of this

permit may be used for scientific study or educational purposes ONLY, except as authorized by prior written approval of DAR.

- a. This permit authorizes Amy Hodges and authorized assistants to transport oysters and clams as listed in Table 1 out of Hawai'i to the following institutions and authorizes the following institutions to receive oysters and clams as listed in Table 1 from Amy Hodges and authorized assistants:
  - i. University of Hawaii Hilo (UHH) Pacific Aquaculture and Coastal Resources Center, Hilo, Hawaii
  - ii. Ma'alaea Harbor, Maui
  - iii. Maui (locations to be specified in final report)
  - iv. Oahu (locations to be specified in final report)
  - v. Hawaii (locations to be specified in final report)

SUZÁNNE D. CASE, Chairperson

Department of Land and Natural Resources

cc: (x) DOCARE

- (x) DAR Maui
- (x) DAR Oahu
- (x) DAR Hawaii (Hilo/Kona)

### SIGNATURES AND AGREEMENT

By my signature below, I acknowledge receipt and understanding of the general and special conditions of this Special Activity Permit. Further, I agree to abide by all of these conditions when conducting activities authorized by this permit.

PRINCIPAL PERMITTEE:

Amy Hodges

### **DESIGNATED ASSISTANTS:**

Signature:		Signature:	
Print Name:		Print Name:	
Signature:		Signature:	
Print Name:		Print Name:	
Signature:		Signature:	
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Print Name:		Print Name:	

### ATTACHMENT FOR DESIGNATED ASSISTANTS ONLY

Primary Permittee: Amy Hodges	
I, being the primary permittee, designated assistants.	hereby acknowledge the addition of the following
Amy Hodges	Date
ADDITIONAL DESIGNATED ASSIS	TANTS
We, the undersigned, have read, unders Special Activity Permit.	tand, and agree to all conditions stipulated in the above
Signature	Print Name:

### ATTACHMENT FOR DESIGNATED ASSISTANTS ONLY

Primary Permittee: Amy Hodges	
I, being the primary permittee, I designated assistants.	hereby acknowledge the addition of the following
Amy Hodges	Date
ADDITIONAL DESIGNATED ASSIST	TANTS
We, the undersigned, have read, underst Special Activity Permit.	and, and agree to all conditions stipulated in the above
Signature	Print Name:

State of Hawaii
Department of Land & Natural Resources
Division of Aquatic Resources
1151 Punchbowl Street, Room 330
Honolulu, Hawaii 96813

## AMENDMENT NO. 1 TO SPECIAL ACTIVITY PERMIT NO. 2020-10

Date Issued: April 24, 2019

Valid Not Longer Than March 12, 2020

The Department of Land and Natural Resources hereby amends Special Activity Permit No. 2020-10, previously issued under the authority of Section 187A-6, Hawaii Revised Statutes, and all other applicable laws, to: (name, title, affiliation and address of primary permittee)

Amy Hodges ("Permittee") Maui Nui Marine Resources Council PO Box 331204 Kahului, HI 96733

for the additional collection, possession or transportation activities of regulated organisms (Pacific Oysters-Crassostrea gigas) for the purposes of outplanting into temporary oyster cages, anchored in sand or mud in Ma'alaea Harbor (Maui), for a water quality remediation project. This research will be supported by the University of Hawaii Hilo bivalve research program which has a small hatchery, Pacific Aquaculture and Coastal Resources Center ("PACRC"), which is used to produce bivalve specimens for research (water quality remediation and aquaculture) and student training purposes. Permittee will obtain two hundred (200) individuals (2 mm - 50 cm each) of Crassostrea gigas from PACRC. The brood stock of these individuals of Crassostrea gigas are sourced from Washington State and grown out at the PACRC and spawned. The progeny of these individuals will be outplanted into Ma'alaea harbor, in temporary oyster cages. The main objective is to conduct the first pilot project using oysters on Maui for water quality remediation in Ma'alaea Harbor, which currently has high levels of organic nutrients (from terrestrial sources) and Chlorophyll A, and will be undergoing harbor renovations soon, which may lead to increased sedimentation. Crassostrea gigas is a non-native oyster species to Hawaii, and was first introduced to Oahu from 1926 to 1939 at Kalihi, Kane'ohe Bay, Mokapu, and Pearl Harbor. Crassostrea gigas has also been reported in Maui in Kahului Harbor, Ma'alaea Harbor and Ma'alaea Reef and in Kauai at Nāwiliwili Harbor and Port Allen Harbor, and is likely present in other areas within the state. The fecundity of this species of oysters is considered to be low in Hawai'i and environmental parameters may not be ideal for successful reproduction. However, there is still natural reproduction occurring and the current abundance and overall distribution of Crassostrea gigas throughout Hawai'i is not readily available. Therefore, although diploids of Crassostrea gigas may be utilized if necessary, DAR recommends the use of triploid organisms (if possible or when they become available), in order to prevent further wild propagation of a non-native species. DAR requests if non-triploids are used, that efforts be made to survey or monitor the surrounding area in order to document existing pre-existing populations that may exist, or postoutplanting populations that may develop. Surveys may include, but are not limited to, documenting presence and quantifying abundance of Crassostrea gigas on the outside of the oyster cages, attached to the cage rope, attached or settled onto the substrate below the oyster cages, attached to the pier or dock pilings nearest to the oyster cages, etc. Permittee will make efforts photo-document these potential oyster habitats (cages, rope, substrate and pilings) to supplement surveys. If increased presence of Crassostrea gigas is documented during these surveys then permittee will notify DAR immediately. Permittee is responsible for any type of removal effort that may be required if increased population of Crassostrea gigas is detected. DAR may require permittee to remove oyster cages and oysters if increased populations are determined to be of concern. Permittee is required to remove oyster cages and associated components after project has ended, if requested by DAR. This amendment (hereafter referred to as Amendment No. 1) is also subject to the same GENERAL CONDITIONS and SPECIAL CONDITIONS as the Special Activity Permit. Amendment No. 1 shall be made a part of the Special Activity Permit indicated above and must be carried by the permittee(s) while engaged in activities authorized under the permit.

Amendment No. 1 shall become valid upon the completion of the following:

1. The primary permittee must sign Page 3 of both copies of Amendment No. 1.

- 2. All persons whose names are listed on the Special Activity Permit must also sign Page 3 of both copies of Amendment No. 1.
- 3. Both complete and signed copies of Amendment No. 1 must be returned to the Division of Aquatic Resources. Upon approval of Amendment No. 1, as indicated by the Chairperson's signature below, the Department will return one copy to the primary permittee and will keep the other for our records.

Suzanne D. Case Chairperson

Date

cc: (X) DOCARE (X) DAR (Maui)

# AMENDMENT NO. 1 TO SPECIAL ACTIVITY PERMIT NO. 2020-10

Primary Permittee: Amy Hodges

I, being the primary permittee, acknowledge my understanding and agreement to Amendment No.1 made to my Special Activity Permit.

Cong Hodges

Amy Hodges

### ADDITIONAL DESIGNATED ASSISTANTS (if applicable):

We, the undersigned, have read, understand and agree to the amendments stipulated in Amendment No. 1.

Signature		Signature	
Print Name		Print Name	
Signature	-	Signature	
Print Name		Print Name	
Signature		Signature	
Print Name		Print Name	
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Print Name		Print Name	
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Signature		Signature	51-0°-171-0-1-0-1-0-1-0-1
Print Name		Print Name	

# AMENDMENT NO. 1 TO SPECIAL ACTIVITY PERMIT NO. 2020-10

Primary Permittee: Amy Hodges

I, being the primary permittee, acknowledge my understanding and agreement to Amendment No.1 made to my Special Activity Permit.

Amy Hodges

### ADDITIONAL DESIGNATED ASSISTANTS (if applicable):

We, the undersigned, have read, understand and agree to the amendments stipulated in Amendment No. 1.

Signature		Signature	- TATION TO
Print Name		Print Name	
Signature		Signature	
Print Name		Print Name	
Signature		Signature	T0.000
Print Name		Print Name	<del></del>
Signature		Signature	
Print Name		Print Name	
Signature		Signature .	
Print Name		Print Name	
Signature		Signature .	
Print Name		Print Name	
Signature		Signature _	
Print Name		Print Name	

Date: May 5, 2020



To: Division of Boating and Ocean Recreation
Department of Land and Natural Resources
4 Sand Island Access Road
Honolulu, Hawai'i 96819

From: Amy Hodges, Programs and Operations Manager

Maui Nui Marine Resource Council, Inc.

PO Box 331204

Kahului, Hawai'i 96733 amy@mauireefs.org

Subject: Request for twelve-month Revocable Permit in lieu of six-month Right-of-Entry Permit renewal for Maui Nui Marine Resource Council Inc.'s Oyster Water Quality Bioremediation Pilot Program at Mā'alaea Harbor, Maui, HI

On November 5, 2019, the DLNR Division of Boating and Ocean Recreation (DOBOR) granted a six-month Right-of-Entry (ROE) to Maui Nui Marine Resource Council, Inc. (MNMRC) for our Oyster Water Quality Bioremediation Pilot Program at Mā'alaea Harbor, Maui Hawai'i, effective December 1, 2019 to May 31, 2020. Tax Map Key: (2) 3-6-001:002. In lieu of renewal of a six-month ROE, MNMRC respectfully requests a twelve-month revocable permit, gratis status, for continued access to the harbor for the oyster program. As our current ROE expires on May 31st 2020 we ask that the permit be dated effective June 1, 2020 and this request be processed as soon as possible.

Justification: The purpose of the oyster program is to utilize the water filtering qualities of oysters to clean the coastal waters of Mā'alaea Harbor. While oysters are very effective filters, it takes a larger quantity of oysters to make a noticeable difference in the water quality of the harbor (estimated volume estimated 51.6million gallons) than MNMRC has yet installed. MNMRC installed its first batch of Pacific species oysters on January 30<sup>th</sup> 2020 and has added 2 additional small batches for a current total of just over 2000 oysters installed at the harbor. A renewable twelve-month permit allows time for MNMRC to install additional oysters to achieve a quantity that will be more effective in having an impact on water quality. This saves time and energy both for MNMRC and DLNR by not having to request a ROE every six months. MNMRC is currently in the process of contracting with the UH Hilo Pacific Aquaculture and Coastal Resources Center (PACRC) for the production of native species of oysters from Maui broodstock. These native oysters will be added to the Mā'alaea Harbor project in late 2020 but the production process for setup, spawning, and growing to transferable restoration size will take several months. Additionally, the oyster project is meant to stay in place at the harbor for as long as is needed for water quality improvement, is biologically and financially reasonable, and is desired by all parties involved.

MNMRC holds the following active permits for the oyster program:

- Special Activity Permit from DLNR Division of Aquatic Resources valid 3/12/20 3/11/21
   Permit No.: 2021-12
- Possession Permit from Department of Agriculture Plant Quarantine Branch dated 1/11/20
   Permit No.: 21-01-M-A7763



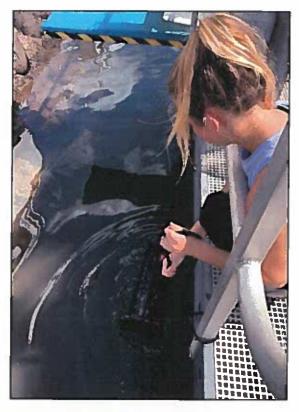
### Program status and results:

MNMRC has added three batches of oysters since January 2020, installed in a total of 17 cages between Sites 1 and 2 on the map below. During the first 30 days after the initial install, MNMRC staff performed "health check" monitoring of all oysters twice a week which included counting of all oysters in each cage, tracking of alive/deceased, as well as visual checking for predation or disease/parasite presence. After viability of the oysters was established in the first 30 days, MNMRC staff decreased monitoring frequency to once a week and then to once every 10-14 days as it was determined the oysters and cages were able to be unattended and remain unaffected for that period of time. Monitoring sessions also included maintaining cages and associated infrastructure. MNMRC staff is also performing "full measurements" monitoring which includes weighing of each cage's oysters at full wet weight, a random sampling of 35 oysters' wet weight, and length/width/girth measurements of each of the 35 randomly selected oysters. At first MNMRC performed these measurements weekly, and now does so once a month. MNMRC will continue to perform health check monitoring twice a month and full measurement monitoring once a month for the duration of the program. Dates of performed monitoring included below. Please note that measurements of the most recently added batch of oysters have not yet been performed.











Above photos (top to bottom, left to right): Oyster cages being deployed at Site 1 and Site 2, and suspended underwater at Site 1.



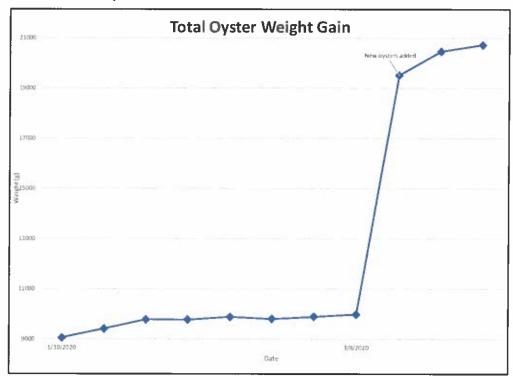
### MARINE RESOURCE COUNCIL

Install Date	# Oysters added
1/30/2020	518
3/19/2020	881
4/29/2020	644
subtotal	2043
deceased	-35
Total as of 4/29/20	2008

MNMRC continues to monitor the oysters and collect water samples to establish baselines and track changes in the water conditions as oyster numbers increase. Eventually we predict to see

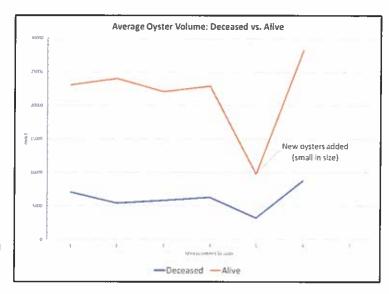
MNMRC Oyster Monitoring Schedule				
Date	Health Check	Full Measurements		
1/30/2020	х			
2/3/2020	×	x		
2/17/2020	×	х		
2/20/2020	х			
3/2/2020	X	х		
3/9/2020	х			
3/17/2020	x	х		
3/24/2020	х	х		
3/31/2020	х			
4/8/2020	х			
4/22/2020	х	х		

improvements in water quality as sufficient numbers of oysters are added in conjunction with our mauka efforts to mitigation runoff in the area. Meanwhile, we know that the oysters are benefitting the environment by the fact that we have a very high survival rate and they are growing. For oysters to be alive and grow, they must eat by filtering their food out of the water column and with that comes filtering of undesirable sediment and contaminants. Below is the chart tracking growth (weight gain) of our first two batches of oysters.





MNMRC has a 98.3% survival rate for the oysters, with 1.7% mortality. There are various reasons for mortality including transport related, predation, disease or environmental variability. We have found no evidence of disease or obvious predation from our visual monitoring. MNMRC measures each deceased oyster's shell size. Deceased oysters average 72% smaller in volume than surviving oysters. We feel that our mortality is likely transport-stress relatedly as it typically occurs in the week following transport from Hilo where the oysters are out of water for 24+ hours and moving from controlled



aquaculture to a varying ocean environment. It seems to affect the smallest size of oysters that we receive, suggesting they are more susceptible to stress impact from transport. Below is a chart comparing the volume of deceased oysters against surviving oyster that supports this theory.

MNNMRC is grateful to DOBOR and the Mā'alaea Harbor staff for embracing our oyster program. We hope that this partnership will be able to continue into 2020 and beyond. Please do not hesitate to contact me with any questions.

Sincerely,

Amy Hodges 808.866.8563

amy@mauireefs.org

amy Hodges