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GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
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**STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA**

P.O. BOX 621
HONOLULU, HAWAII 96809

May 1, 2026

Mary Alice Evans, Director
Environmental Review Program
Office of Planning and Sustainable Development
235 S. Beretania Street, Room 702
Honolulu, Hawai'i 96813

SUBJECT: Environmental Impact Statement Preparation Notice for the Proposed Collection of Marine Life for Commercial Aquarium Purposes on the Island of O'ahu Pursuant to Commercial Aquarium Permits and Commercial Marine Licenses

Dear Director Evans:

The Department of Land and Natural Resources has determined that an Environmental Impact Statement (EIS) is required for the above-referenced project. The determination was made in accordance with Hawaii Revised Statutes §343-5(e) and Hawaii Administrative Rules (HAR) § 11-200.1-14(d)(2), which state that an approving agency may authorize an applicant to prepare an EIS rather than an Environmental Assessment if, through its judgement and experience, it determines that an EIS is likely to be required. We hereby transmit this determination that an EIS is required for the Proposed Collection of Marine Life for Commercial Aquarium Purposes on the Island of O'ahu Pursuant to Commercial Aquarium Permits and Commercial Marine Licenses. The required publication forms and files, including an electronic copy of the EISPN in pdf format, have been provided via the OEQC online submission platform. Concurrently with the electronic filing, and as required by HAR §11-200.1-5(e)(4)(B), paper copies of the EISPN shall be submitted to the Hawai'i State Library and the Hawai'i Documents Center. The Department also respectfully request that the EISPN be published in the next edition of '*The Environmental Notice*.'

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

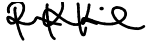
RYAN K.P. KANAKA'OLE
FIRST DEPUTY

CIARA W.K. KAHAHANE
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
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ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

If there are any questions, please contact David Sakoda at (808) 587-0104 or email at david.sakoda@hawaii.gov.

Mahalo,



Ryan K.P. Kanaka'ole, Acting Chairperson

Cc: Hawaii Fishers Association (Attn.: Randy Cates)

From: dbedt.opsd.erp@hawaii.gov
To: [DBEDT OPSD Environmental Review Program](#)
Subject: New online submission for The Environmental Notice
Date: Friday, May 1, 2026 2:45:23 PM

Action Name

Collection of Marine Life for Commercial Aquarium Purposes on the Island of O'ahu Pursuant to Commercial Aquarium Permits and Commercial Marine Licenses

Type of Document/Determination

Environmental impact statement preparation notice (EISPN)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds
- (2) Propose any use within any land classified as a conservation district

Judicial district

O'ahu - multiple districts

Tax Map Key(s) (TMK(s))

n/a

Action type

Applicant

Other required permits and approvals

HRS §188-31 Commercial Aquarium Fishing Permits, HRS §189-2 and §189-3 Commercial Marine Licenses

Discretionary consent required

HRS §188-31 Commercial Aquarium Fishing Permits

Agency jurisdiction

State of Hawai'i

Approving agency

Department of Land and Natural Resources

Agency contact name

David Sakoda

Agency contact email (for info about the action)

david.sakoda@hawaii.gov

Email address for receiving comments

david.sakoda@hawaii.gov

Agency contact phone

(808) 587-0104

Agency address

1151 Punchbowl St., Room 330
Honolulu, HI 96813
United States
[Map It](#)

Public Scoping Meeting information

Tuesday, May 26, 2026, 5:00pm-7:00pm BLNR Boardroom, 1151 Punchbowl St. Honolulu, HI, Room 132, Kalanimoku Building, 1st Floor

Accepting authority

State of Hawai'i Board of Land and Natural Resources

Applicant

Hawaii Fishers Association

Applicant contact name

Randy Cates

Applicant contact email

cms@hawaiiantel.net

Applicant contact phone

(808) 479-7104

Applicant address

24 Sand Island Access Road, Box 27
Honolulu, HI 96819
United States
[Map It](#)

Is there a consultant for this action?

No

Action summary

The purpose of the proposed action is to engage in the commercial collection of marine life from nearshore marine habitats around the island of O'ahu in a lawful, responsible, and environmentally sustainable manner consistent with applicable law. The proposed action includes implementation of a limited permit issuance aquarium fishery and limited collection of marine life for commercial aquarium purposes pursuant to the issuance of up to 15 commercial aquarium permits and corresponding commercial marine licenses, establishment of a White List of aquatic species approved for commercial aquarium collection, and implementation of species-specific catch quotas and/or total allowable catch limits for species on the proposed White List, to ensure all collection remains within thresholds determined by the Division of Aquatic Resources. The proposed action is programmatic in nature and would be implemented on an annual basis, with permits issued for a term not to exceed one year and subject to annual renewal. This action triggers environmental review under HRS Chapter 343 and the Environmental Impact Statement (EIS) will evaluate potential direct, indirect, and cumulative impacts of the proposed action and reasonable alternatives.

Attached documents (signed agency letter & EA/EIS)

- [OA_EISPN_Final1.pdf](#)
- [2026-05-01-OA-EISPN-Oahu-AQ-transmittal-letter-final1.pdf](#)

Action location map

- https://planning.hawaii.gov/erp/wp-content/uploads/sites/2/gravity_forms/2-9471f912f9423a4e8d621529fd0028f7/2026/05/O'ahu_only_with_3NMI_Boundary_SHP1.zip

Compliance certification (HRS §368-1.5):

The authorized individual listed below certifies that documents submitted are unlocked, searchable, and compliant with the Hawaii Electronic Information Technology Disability Access Standards (including, but not limited to transcripts, captions, and other descriptions accompanying audio/video files). The individual acknowledges that the submitter retains the responsibility for compliance after documents have been published and any compliance queries will be directed back to the agency and/or applicant.

Authorized individual

David Sakoda

Authorized individual email

david.sakoda@hawaii.gov

Authorized individual phone

(808) 587-0104

Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

Environmental Impact Statement Preparation Notice

Collection of Marine Life for Commercial Aquarium Purposes on the Island of O‘ahu Pursuant to Commercial Aquarium Permits and Commercial Marine Licenses



May 2026

Applicant

Hawai'i Fishers Association
24 Sand Island Access Road
Box 27
Honolulu, HI 96819

Approving Agency

Department of Land and Natural Resources
Division of Aquatic Resources
1151 Punchbowl Street, Room 330
Honolulu, HI 96813-3088

Accepting Authority

Board of Land and Natural Resources

Project Information Summary

Project Name:	Collection of Marine Life for Commercial Aquarium Purposes on the Island of O'ahu Pursuant to Commercial Aquarium Permits and Commercial Marine Licenses
Proposed Action:	Collection of marine life for commercial aquarium purposes from nearshore marine habitats around the island of O'ahu pursuant to commercial aquarium permits and commercial marine licenses, creation of a White List of aquarium species which may be collected, and implementation of species-specific catch quotas and/or total allowable catch limits for species on the proposed White List.
Applicant:	Hawaii Fishers Association 24 Sand Island Access Road, Box 27 Honolulu HI 96819 Contact: Randy Cates cms@hawaiiantel.net (808) 479-7104
Approving Agency:	Department of Land and Natural Resources Division of Aquatic Resources 1151 Punchbowl Street, Room 330 Contact: David Sakoda, Fisheries Management david.sakoda@hawaii.gov (808) 587-0104
Accepting Authority:	State of Hawai'i Board of Land and Natural Resources
Project Location:	In open fishing areas throughout the nearshore region (to 3-nautical miles from shore) on the island of O'ahu, except in areas designated as no collection zones such as Marine Life Conservation Districts (MLCDs).
District:	Various districts around the Island of O'ahu
Tax Map Keys:	N/A
Land Area:	N/A
Land Owner:	State of Hawaii
Permits Required:	HRS §188-31 Commercial Aquarium Fishing Permits HRS §189-2 and §189-3 Commercial Marine Licenses

**HRS Chapter 343
Triggers:**

- 1) Proposed use of State or County lands
- 2) Proposed use of any land classified as a Conservation District

Determination:

Preparation of an Environmental Impact Statement (EIS).

Pursuant to HAR §11-200.1-14(d), the Department of Land and Natural Resources (DLNR) has determined, through experience and judgement, that the proposed action may have a significant effect on the environment and an EIS is likely to be required. The DLNR has authorized the applicant to prepare an EIS beginning with preparation of this Environmental Impact Statement Preparation Notice (EISPN) to evaluate the potential environmental impacts of collection of marine life for commercial aquarium purposes in open fishing areas on the island of O'ahu pursuant to commercial aquarium permits and commercial marine licenses.

This EISPN has been prepared in accordance with HRS Chapter 343 and HAR Chapter §11-200.1. The State of Hawai'i Board of Land and Natural Resources (BLNR) have the authority to accept the EIS.

**Scoping Period and
Scoping Meeting:**

Pursuant to HAR §11-200.1-23(c), a 30-day public review and comment period follows publication of an EISPN in *The Environmental Notice*. Written comments regarding the environmental effects of the proposed action shall be received by the approving agency or applicant within the 30-day public comment period ending on June 8, 2026, and responses to substantive comments will be included in the Draft EIS. A comment is considered substantive if it addresses specific aspects of the proposed action, the document, or the process, and pertain to the scope of the EIS (OEQC 2019).

Pursuant to HAR §11-200.1-23(d), in preparation of the Draft EIS, a public scoping meeting shall be held within the public review and comment period on the island impacted by the proposed action. This provides an opportunity for agencies, local stakeholders, community groups, and individuals to be further informed on the proposed action and address the scope of the Draft EIS. A portion of the scoping meeting will be reserved for oral public comments that are required to be audio recorded and submitted to the Office of Planning and Sustainable Development (OPSD) with the Draft EIS.

Public Scoping Meeting Information:

Island: O'ahu

Date: Tuesday, May 26, 2026

Location: BLNR Boardroom
1151 Punchbowl St. Honolulu, HI, Room 132
Kalanimoku Building, 1st Floor

Time: 5:00pm-7:00pm

Written comments may be submitted to the applicant or approving agency by mail or email to:

Hawaii Fishers Association
Attention Randy Cates
24 Sand Island Access Rd
Box 27
Honolulu HI 96819
cms@hawaiiantel.net

DLNR Division of Aquatic Resources
Attention David Sakoda
1151 Punchbowl Street, Room 330
Honolulu, HI 96813-3088
david.sakoda@hawaii.gov

Project Summary:

The purpose of the proposed action is to engage in the commercial collection of marine life from nearshore marine habitats around the island of O‘ahu in a lawful, responsible, and environmentally sustainable manner consistent with applicable law.

The proposed action includes implementation of a limited permit issuance aquarium fishery and limited collection of marine life for commercial aquarium purposes pursuant to the issuance of up to 15 commercial aquarium permits and corresponding commercial marine licenses, establishment of a White List of aquatic species approved for commercial aquarium collection, and implementation of species-specific catch quotas and/or total allowable catch limits for species on the proposed White List, to ensure all collection remains within thresholds determined by the Division of Aquatic Resources.

The proposed action is programmatic in nature and would be implemented on an annual basis, with permits issued for a term not to exceed one year and subject to annual renewal.

This action triggers environmental review under HRS Chapter 343 and the Environmental Impact Statement (EIS) will evaluate potential direct, indirect, and cumulative impacts of the proposed action and reasonable alternatives. Commercial aquarium collection activities on O‘ahu, including the issuance of commercial aquarium permits and commercial marine licenses for aquarium collection, may not resume until completion of an environmental review in compliance with HEPA.

The need for the applicant’s action is to allow for commercial aquarium collection to resume in a manner that complies with all applicable laws, rules, and regulations pertaining to the fishery.

Environmental Impact Statement Publication Notice (EISPN) Checklist

Hawai'i Administrative Rules (HAR) §11-200.1-23 (a) An EISPN, including one resulting from an agency authorizing the preparation of an EIS without first requiring an EA, shall indicate in a concise manner:

EISPN Content Requirement	Document Section
Identification of the proposing agency or applicant	Project Information Summary
Identification of the accepting authority	Project Information Summary
List of all required permits and approvals (state, federal, and county) and for applicants, identification of which approval necessitates Chapter 343, HRS, environmental review	Project Information Summary, Section 1.3
The determination to prepare an EIS	Project Information Summary, Section 1.3.3 Section 2
Reasons supporting the determination to prepare an EIS	Executive Summary, Section 1.3.3 Section 2
A description of the proposed action and location	Project Information Summary Section 1
A description of the affected environment, including regional, location, and site maps	Section 4, Figure 1
Possible alternatives to the proposed action	Section 3
The agency or applicant's proposed scoping process, including when and where any scoping meetings will be held	Executive Summary Section 6
The name, title, email address, physical address, and phone number of an individual representative of the proposing agency or applicant who may be contacted for further information	Project Information Summary Section 6

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Executive Summary

The commercial fishery in Hawai'i is regulated under a statutory and administrative framework under management of the Department of Land and Natural Resources (DLNR), including the issuance of Commercial Aquarium Permits (Aquarium Permits) and Commercial Marine Licenses (CMLs). Over time, the regulatory program governing commercial aquarium collection has been subject to judicial review, administrative actions, and environmental review requirements under the Hawai'i Environmental Policy Act (HEPA) and Hawai'i Administrative Rules (HAR) Chapter 11-200.1.

This Environmental Impact Statement Preparation Notice (EISPN) initiates a new environmental review for proposed commercial aquarium collection on O'ahu. The EIS is intended as a disclosure document that provides decision-makers and the public with a comprehensive, good-faith analysis of potential environmental, cultural, and socioeconomic effects associated with the proposed action and alternatives.

This EIS arises from the procedural and legal status of prior environmental review efforts and initiates a new, stand-alone environmental review for the commercial collection of marine life on O'ahu pursuant to commercial aquarium permits and commercial marine licenses.

Background

The requirement for environmental review of aquarium fishery permits is grounded in judicial precedent. In 2017, the Hawai'i Supreme Court held in *Umberger v The Department of Land and Natural Resources*, 140 Hawai'i 500, 403 P.3d. 277 (2017), that aquarium fish collection pursuant to statewide aquarium permits issued under HRS §188-31 is a discretionary agency action subject to environmental review under HRS Chapter 343, and that such review must be completed prior to issuance. On remand, the Circuit Court determined all existing statewide Aquarium Permits are invalid and that no new permits may be issued. As a result of those proceedings, the use and issuance of Aquarium Permits was suspended, pending completion of environmental review.

Two permits are required for all commercial aquarium collection within the West Hawai'i Regional Fishery Management Area (WHRFMA), the State of Hawai'i Aquarium Permit and the West Hawai'i Aquarium Permit. Suspension of Aquarium Permits resulted in the immediate closure of the aquarium fishery on the island of Hawai'i in 2017.

The DLNR continued to issue Commercial Marine Licenses (CMLs) used for commercial aquarium collection on O'ahu. Subsequent Court proceedings extended the requirement of environmental review to CMLs when used to authorize aquarium collection. At the time, the court declined to suspend existing CMLs used for aquarium purposes, citing the potential economic hardship upon aquarium fishers, their families, and associated businesses. However, the rulings resulted in DLNR administrative actions that imposed conditions on CMLs issued or renewed on or after November 27, 2020, to prohibit the take or possession of marine life for aquarium purposes, as well as possession of aquarium fishing gear, unless and until environmental review was completed¹. No commercial aquarium collection has occurred throughout the state since 2021.

Based on reported commercial landings data, the aquarium fishery was among the highest-valued segment of Hawai'i's commercial inshore fisheries prior to the closure. Commercial aquarium

¹DLNR News Release, December 8, 2020, <https://dlnr.hawaii.gov/blog/2020/12/08/nr20-192/>. Accessed November 2025.

collectors have historically participated in cooperative management efforts with state agencies, researchers, and community stakeholders.

Efforts to restore the commercial aquarium fishery through the environmental review process have produced mixed outcomes. In West Hawai'i, an initial Environmental Impact Statement (EIS) was rejected by the Board of Land and Natural Resources ("BLNR" or "the Board") in May of 2020. The document was updated, and the Revised Final EIS (RFEIS) was deemed accepted in 2021. That acceptance was immediately challenged. However, the Hawai'i Environmental Court and the Hawai'i Supreme Court each upheld the legal sufficiency of the West Hawai'i aquarium fishery RFEIS under HEPA². As a result, the Environmental Court partially lifted the statewide injunction that prohibited the issuance and renewal of commercial aquarium permits, thereby allowing for the reopening of the aquarium fishery within the WHRFMA only. The ruling did not automatically reopen the fishery; rather, management authority, and any decision to resume aquarium collection in the WHRFMA, remains subject to the discretion of the Department of Land and Natural Resources.

Pursuant to direction from the BLNR, the Division of Aquatic Resources (DAR) is establishing a regulatory permitting framework for commercial aquarium collection consistent with statutory authority under HRS §188-31, and in accordance with the accepted EIS and HEPA. DAR has subsequently advanced a proposed rules package that include the establishment of a statewide aquarium permit framework, potential geographic endorsements, species-specific management measures, and reporting requirements. Special terms and conditions of Aquarium Permits would be applicable to the geographical region of issuance, if approved by the BLNR. These efforts reflect ongoing regulatory development in consideration of agency conservation and management objectives.

A prior environmental review was undertaken for O'ahu. In September 2021, that process culminated in a Final Environmental Impact Statement (FEIS) for the proposed issuance of 15 commercial aquarium permits and CMLs on O'ahu. The FEIS identified a preferred alternative of limited permit issuance and management measures, including species restrictions and catch controls. In its written non-acceptance findings dated October 11, 2021, the BLNR concluded that the FEIS failed to provide sufficient information about anticipated environmental impacts and failed to identify adequate mitigation. In part, the Board found that the FEIS compared the proposed action to historical aquarium fishing rather than to a no-aquarium-fishing baseline; proposed annual catch limits using maximum historic take rather than average take over a twenty year time period; did not adequately discuss data quality, uncertainty, trend information, or the basis for claimed refugia effects; and relied on a preferred "White List" approach that had not been included in the draft EIS for public review³.

Following BLNR's non-acceptance determination, the prior O'ahu FEIS was not revised and recirculated as a Revised Draft EIS within the applicable regulatory timeframe, and the environmental review was terminated without completion. New rules implementing HEPA became effective August 2019, under HAR Chapter 11-200.1. The rules provide that when an EISPN predates the new rules and a final EIS has not been accepted within five years of the implementation date, Chapter 11-200 rules no longer apply, and the applicant must comply with new rules under HAR Chapter 11-200.1. The current rules also provide that a non-accepted EIS may be revised only through a revised draft

² *Kaupiko v. Board of Land & Natural Resources*, No. 1CCV-21-0000892 (Haw. Cir. Ct. [Env't. Ct.] [Aug. 16, 2022]) ("*Kaupiko II*"); *Kaupiko v. Board of Land & Natural Resources*, SCAP-22-000057 (Haw. Aug. 28, 2024).

³ BLNR Board of Land and Natural Resources (BLNR). 2021. *Notice of Non-Acceptance for the Final Environmental Impact Statement for the Commercial Aquarium Fishery, O'ahu*. Hawai'i Department of Land and Natural Resources. October 8, 2021. https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2021-10-23-OA-FEIS-Non-acceptance-Oahu-Commercial-Aquarium-Permits.pdf

EIS that fully addresses the reasons for non-acceptance. Because the O'ahu FEIS was not accepted and no revised draft EIS was completed within the applicable period, the prior O'ahu review does not carry forward as an operative disclosure document for present decision-making.

This EISPN therefore begins a new, independent review under the current HEPA rules rather than a continuation of the prior review process. Although prior environmental review documents remain on public record, they have no legal force beyond being a historical or informational artifact and cannot be relied on for HEPA compliance.

The forthcoming Draft EIS will carefully consider substantive deficiencies raised in BLNR's non-acceptance findings.

New Environmental Review

The DLNR Division of Aquatic Resources (DAR) has authorized preparation of a new EIS to evaluate the environmental effects of commercial aquarium collection in nearshore state waters around O'ahu. This EIS is not a continuation, revision, or supplement to any prior EIS.

All analyses presented herein are independently prepared, verified, and updated using current data, and best available scientific and technical information. Information contained in prior environmental review documents may be reviewed, referenced, or summarized, but does not substitute for independent analysis required under the HEPA process.

Any information pertaining to prior environmental review documents is limited to background context, historical description, technical source material and data, and identification of substantive issues, and does not constitute adoption, incorporation by reference, or reliance. Any overlap in subject matter reflects recurring statutory and regulatory requirements applicable to the environmental review process.

The forthcoming Draft EIS will evaluate potential environmental impacts, a range of reasonable alternatives, potential direct, indirect, and cumulative impacts, measures to mitigate adverse impacts, and substantive issues and concerns identified during the public scoping period. Completion and acceptance of an EIS will provide the environmental documentation necessary for the DLNR to consider subsequent actions and regulatory controls, subject to public review and approval of the BLNR.

Agency and public consultation will be conducted throughout the EIS process. Public scoping is an important component of an environmental review to provide individuals and community groups an opportunity to document concerns and provide feedback and recommendations. Participation is especially important for families with generational ties to sensitive areas in or near open fishing areas on O'ahu, and the scoping period is meant to gather generational knowledge from these sources.

Substantive input received during the public scoping period will inform the scope and content for analysis, and help identify issues, alternatives, and mitigation measures to be evaluated in the Draft EIS.

A comprehensive evaluation of impacts pertaining to potential cultural, biological, and socioeconomic impacts of the proposed action will be discussed in the Draft EIS. Conservation and management measures under consideration include species-specific harvest controls, spatial protections, enforcement mechanisms, and stakeholder consultation.

A Cultural Impact Assessment (CIA) evaluating the proposed action and its potential effects on Hawaiian cultural practices, values, and relationships with nearshore marine resources will be included with the Draft EIS.

The following alternatives are being considered for evaluation:

White List and Limited Collection (Preferred) Alternative:

- Issuance of up to 15 Aquarium Permits and CMLs, establishment of a White List of 35 marine species approved for collection, and species-specific catch quotas and total allowable catch (TAC) limits. Fine-mesh nets and other legal gear would be allowed for collection.

Other Alternatives:

- No Action (no permits issued, collection remains prohibited on O'ahu).
- CML-Only (issuance of CMLs, no species-specific quotas or White List, the use of fine-mesh nets would not be used for collection, but other legal gear would be allowed).

Abbreviations

AQ	Aquarium
BLNR	Board of Land and Natural Resources
CFR	Code of Federal Regulations
CML	Commercial Marine License
CREP	Coral Reef Ecosystems Program
CWCS	Hawai'i's Comprehensive Wildlife Conservation Strategy
CIA	Cultural Impact Assessment
DAR	Division of Aquatic Resources
DEIS	Draft Environmental Impact Statement
DLNR	Department of Land and Natural Resources
DOCARE	Division of Conservation and Resources Enforcement
EA	Environmental Assessment
EC	Environmental Council
EIS	Environmental Impact Statement
ENSO	El Niño Southern Oscillation
ERP	Environmental Review Program
ESA	Endangered Species Act
ESD	Ecosystem Sciences Division
EQC	Environmental Quality Commission
FEA	Final Environmental Assessment
FEIS	Final Environmental Impact Statement
FMA	Fisheries Management Area
FONSI	Finding of No Significant Impact
GDP	Gross Domestic Product

Environmental Impact Statement Preparation Notice

HEPA	Hawai'i Environmental Policy Act
HAR	Hawai'i Administrative Rule
HRS	Hawai'i Revised Statute
IUCN	International Union for the Conservation of Nature and Natural Resources
MHI	Main Hawaiian Islands
MLCD	Marine Life Conservation District
MMA	Marine Managed Area
MPA	Marine Protected Area
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NWHI	Northwestern Hawaiian Islands
OEQC	Office of Environmental Quality Control
OPSD	Office of Planning and Sustainable Development
PIFSC-ESD	Pacific Islands Fisheries Science Center Ecosystem Sciences Division
PIJAC	Pet Industry Joint Advisory Council
RDEIS	Revised Draft Environmental Impact Statement
RFEIS	Revised Final Environmental Impact Statement
SAWCS	Statewide Aquatic Wildlife Conservation Strategy
SCUBA	Self-contained Underwater Breathing Apparatus
SGCN	Species of Greatest Conservation Need
SWAP	State Wildlife Action Plan
TAC	Total Allowable Catch
USFWS	United States Fish and Wildlife Service
WHRFMA	West Hawai'i Regional Fishery Management Area

1 Introduction

Judicial decisions addressing the issuance of commercial aquarium permits have clarified that such permitting constitutes a state discretionary action that may not proceed absent completion of an environmental review under the Hawai'i Environmental Policy Act (HEPA). Considering these determinations, and because no prior environmental review was accepted or completed for the proposed action on O'ahu, a new environmental review process has been initiated. This environmental review is an independent evaluation, not a continuation, revision, or supplement to any prior EIS.

This Environmental Impact Statement Preparation Notice (EISPN) announces the preparation of a Draft EIS evaluating the environmental impacts of commercial aquarium collection on the island of O'ahu in compliance with State laws. The Department of Land and Natural Resources (DLNR), through its Division of Aquatic Resources (DAR), is the approving agency and the Board of Land and Natural Resources (BLNR) is the accepting authority.

The proposed action involves the potential issuance of commercial aquarium permits (Aquarium Permits) and associated Commercial Marine Licenses (CMLs) pursuant to Hawai'i Revised Statutes (HRS) §188-31 (Permits to take aquatic life for aquarium purposes), HRS §189-2 (Commercial marine licensing and commercial marine vessel license), HRS §189-3 (Monthly catch report), and associated administrative rules promulgated by DAR.

The applicant, Hawai'i Fishers Association (HFA), has prepared this EISPN on behalf of a group of local commercial aquarium fishers on the island of O'ahu and serves as the collective applicant for this environmental review. HFA is an organized association comprised of prospective commercial aquarium permit applicants and commercial marine license holders who may seek authorization, subject to applicable law, to collect approved aquarium fish species in open fishing areas surrounding O'ahu.

HFA's role in the preparation of this EIS is limited to procedural coordination and representation of its members and does not confer or influence regulatory authority, management measures, permit conditions, or discretionary decisions. All regulatory and discretionary authority remains exclusively with DLNR and BLNR. Acceptance of the Final EIS would constitute compliance with HEPA only and authorize agency review for issuance of Aquarium Permits or CMLs for commercial aquarium purposes.

HFA may maintain internal membership standards and compliance expectations; however, enforcement authority remains exclusively with the DLNR Division of Conservation and Resource Enforcement (DOCARE).

The objective of the proposed action is to engage in the commercial collection of aquarium species from nearshore marine habitats around the island of O'ahu in a lawful, responsible, and environmentally sustainable manner. The proposed action includes the issuance of up to 15 Aquarium Permits and corresponding Commercial Marine Licenses (CMLs), creation of a limited White List of aquarium fish species that may be collected, and implementation of catch controls, such as species-specific catch quotas and/or total allowable catch limits for species on the White List. The Draft EIS will evaluate the proposed action, reasonable alternatives, a range of probable environmental impacts, and mitigation measures identified during the public scoping period.

Members of HFA may be considered as potential applicants for issuance of Aquarium Permits and CMLs. Any subsequent discretionary actions would be subject to separate decision-making processes and public review, as required by law.

Absent completion and acceptance of an EIS, the BLNR may not consider, and DLNR may not issue, permits for commercial aquarium fishing on O‘ahu.

1.1 Past Environmental Reviews

HRS §188-31 provides that, except as otherwise prohibited by law, the DLNR, upon receipt of a written application, may issue an Aquarium Permit for a period not to exceed one year authorizing the use of fine-meshed traps or fine-meshed nets, other than throw nets, for the taking of marine or freshwater non-game fish and other aquatic life for aquarium purposes.

In *Umberger v. Department of Land and Natural Resources*, 140 Hawai‘i 500, 403 P.3d 277 (2017), the Hawai‘i Supreme Court held that the issuance of Aquarium Permits under HRS §188-31 involves the commercial extraction of marine resources from state waters which constitutes a discretionary government action subject to HEPA. Although aquarium fishing remains legal under statute, the decision implemented a procedural requirement for completion of an environmental review before permits may be legally issued again. The Court also noted that without defined statewide limits on the amount of marine life that could be extracted, the permitting system allowed for unlimited collection of aquarium species, and that ministerial issuance and renewal of permits could result in cumulative environmental impacts. This ruling determined environmental review must occur prior to authorizing commercial aquarium fishing through the state permitting process.

Pursuant to the Court’s ruling and a subsequent injunction, DLNR has not issued or renewed any Aquarium Permits since September 2017.

In 2018, two separate environmental review efforts were undertaken to evaluate commercial aquarium activities on O‘ahu and within the West Hawai‘i Reef Fishery Management Area (WHRFMA). Although both reviews involved the same general type of agency action—the issuance of Aquarium Permits—each constituted a distinct project due to differences in geographic scope, environmental conditions, and affected environmental resources.

The following subsections summarize the progression of environmental review efforts, relevant court decisions, and agency determinations to provide procedural and informational context.

1.1.1 Prior O‘ahu Environmental Review (Not Accepted)

An Environmental Assessment (EA) evaluating the impacts of issuing commercial aquarium permits programmatically on the island of O‘ahu was made available for public review and comment on April 8, 2018. The BLNR determined that the proposed action may have a significant effect on the environment and therefore required preparation of an Environmental Impact Statement (EIS). In part, the BLNR determined further analysis was necessary based on the following significance criteria under HAR 11-200-12:

Criteria (1) The take of aquarium fish as an irrevocable commitment to loss or destruction of natural or cultural resources and whether the annual take of cumulative numbers of fish results in irrevocable loss or destruction of fish populations.

Criteria (2) The manner in which the take of aquarium fish curtails uses of the environment regarding invasive algae control, the tourism industry, and integrity of diverse aquatic ecosystems.

Criteria (3) The extent to which the take of aquarium fish conflicts with the state’s long-term environmental goals.

Criteria (4) The impact of the take of aquarium fish on cultural practices

Criteria (8) Cumulative effects of commercial aquarium fishing in combination with impacts of:

- a) collection methods using fine-mesh nets in addition to other legal fishing methods;
- b) recreational aquarium collection; and
- c) commercial and non-commercial harvest of aquarium fish species for food.

The Draft EIS proposed issuing 20 Aquarium Permits programmatically on O‘ahu. The Preferred Alternative proposed reduced bag limits for collection of the Flame Wrasse to 10 fish per day and expansion of the Waikīkī Marine Life Conservation District (MLCD). A Cultural Impact Assessment was submitted with the Draft EIS, published on May 8, 2020, providing continued opportunities for public participation.

A Final Environmental Impact Statement (FEIS) was published on September 8, 2021, following a court ruling that held CMLs used for commercial aquarium purposes required HEPA review. The Final EIS proposed programmatic issuance of 15 Aquarium Permits and corresponding Commercial Marine Licenses (CMLs), creation of a White List of species for collection, and implementation of individual catch quotas for species on the White List. The Preferred Alternative was identified in consideration of agency and public comments received during the Draft EIS comment period. Public comments and responses were provided in Appendix C of the Final EIS.

The following alternative courses of action were considered:

- **No Action Alternative**, under which commercial aquarium collection would remain prohibited on the island of O‘ahu;
- **CML-Only Alternative**, which evaluated commercial aquarium collection conducted under CMLs using allowable gear and methods other than fine-mesh nets, with no issuance of Aquarium Permits.
- **Pre-Aquarium Collection Ban Alternative**, which analyzed issuance of an unlimited number of Aquarium Permits and CMLs, consistent with permitting practices in effect prior to the 2017 Hawaii Supreme Court decision.
- **Expanded Waikiki MLCD and Flame Wrasse Conservation Alternative**, which evaluated issuance of an unlimited number of Aquarium Permits and CMLs subject to existing regulations governing equipment, access to fishing areas, bag limits, and reporting requirements. This alternative proposed expanding the geographic boundaries of the Waikiki MLCD by more than ten times its existing size and limiting collection of the Flame Wrasse to a maximum of 10 fish per day.
- **Limited Permit Issuance Alternative**, which evaluated issuance of 15 Aquarium Permits and corresponding CMLs for commercial aquarium collection on O‘ahu. In addition to existing regulations, this alternative proposed a daily bag limit of 10 Flame Wrasse per permittee and expansion of the geographic boundaries of the Waikiki MLD.
- **Limited Permit Issuance and White List Alternative (Preferred)**, which evaluated issuance of 15 Aquarium Permits and CMLs and included a proposed White List of 35 aquatic species

eligible for collection, restriction of collection methods to fine mesh nets only, and implementation of species-specific catch quotas and total allowable catch limits across all 15 permittees.

Prior to consideration by the BLNR, the Division of Aquatic Resources (DAR) offered their recommendation of acceptance for the Final Environmental Impact Statement (FEIS). In that submittal, DAR concluded that the FEIS provided sufficient information to support informed decision-making, adequately disclosed the identifiable environmental impacts, and satisfied the procedural requirements for acceptance under Chapter 343 (HRS) and Chapter 11-200⁴ (HAR).

DAR further noted that acceptance would allow DLNR and the BLNR to consider whether to proceed with subsequent discretionary actions, including development of a management program, establishment of permit terms and conditions, and implementation of regulatory measures and administrative controls

Following its review, the BLNR issued a Notice of Non-Acceptance citing specific components of the EIS that required clarification and additional analysis prior to further consideration.

The prior Notice of Non-Acceptance has no legal effect on and does not govern the current environmental review process but was reviewed for procedural and informational context.

1.1.2 West Hawai'i Environmental Review

In 2021, a Revised Final Environmental Impact Statement (RFEIS) addressing issuance of Aquarium Permits within the West Hawai'i Regional Fishery Management Area (WHRFMA) on the island of Hawai'i was presented to the BLNR following Draft EIS and Final EIS revisions. At a public meeting on the Revised Final EIS (RFEIS), the BLNR considered extensive written submissions and oral testimony. After a tied vote, the RFEIS was deemed accepted by operation of law pursuant to HRS §343-5(e).

An action filed in circuit court in 2022 sought declaratory and injunctive relief challenging acceptance of the RFEIS. The circuit court upheld the acceptance determination, concluding that under the "rule of reason," the RFEIS satisfied the requirements of the HEPA and provided sufficient information to support informed decision-making. The decision was appealed and transferred to the Hawai'i Supreme Court and in August 2024, the Supreme Court affirmed the previous ruling, thereby upholding acceptance of the RFEIS (SCAP-22-0000557)⁵. Following the Supreme Court ruling, the Circuit Court lifted the injunction to allow reopening of the aquarium fishery within the WHRFMA.

1.2 Background

Prior to the closure of the commercial aquarium fishery, aquarium collection in Hawai'i occurred primarily on the islands of Hawai'i and O'ahu. Studies have estimated the combined value of Hawai'i's commercial and non-commercial fisheries at approximately \$10–\$16 million annually (Grafeld, 2017). In 2017, reported commercial aquarium fish landings on O'ahu exceeded \$513,000, a decline from

⁴ The EIS Preparation Notice was published in 2018, prior to adoption of HAR §11-200.1, and the environmental review was conducted pursuant to the HEPA rules in effect at that time.

⁵ Hawaii Supreme Court decision affirming acceptance of the Revised Final EIS for Aquarium Permits within the West Hawaii Regional Fishery Management Area, *Kaupiko v. Board of Land & Natural Resources* (Haw. Aug. 28, 2024), <https://www.courts.state.hi.us/wp-content/uploads/2024/08/SCAP-22-0000557>.

reported landings of approximately \$741,500 in 2015 (DAR 2018a). Within this broader fisheries sector, the commercial aquarium fishery represented a relatively small but identifiable component of nearshore commercial activity.

The commercial aquarium fishery in Hawai'i originated on O'ahu in the late 1940s and expanded substantially during the 1970s, when landings from O'ahu accounted for most of the State's commercial aquarium fish value. Over time, the proportion of statewide aquarium fish landings attributed to O'ahu declined, with more recent data indicating that O'ahu accounted for approximately 30 percent of total commercial aquarium fish value statewide prior to the closure (DAR 2018a).

Commercial aquarium fish collection in Hawai'i has been the subject of ongoing public discussion and regulatory review, reflecting differing perspectives on its management and sustainability. As early as 1973, public concern over collection activities prompted Hawai'i's DLNR, then the Division of Fish and Game, to suspend the issuance of Aquarium Permits for a week while issues were considered and addressed (DAR 2014a). As a result, Aquarium Permit holders were required to submit monthly catch reports; however, no studies were conducted and no 'sanctuary' areas were created at that time. The first sanctuary areas were created through a gentleman's agreement primarily between dive/snorkel operators and commercial aquarium fishers in 1987 and four of these sanctuaries were incorporated into the Kona Coast Fisheries Management Area (FMAs) on the island of Hawai'i in 1991 (DAR 2004).

The West Hawai'i Fisheries Council established Fishery Replenishment Areas (FRAs) to alleviate user conflict, primarily between tour operators and aquarium collectors, by delineating boundaries for the FRA network and creating a level of spatial separation between user groups. FRAs established fish replenishment reserves where no take is allowed to support sustainability of the fishery, however, disputes continued between stakeholders regarding the practice of aquarium collection (DAR, 2019).

Herbivorous reef fishes commonly targeted in Hawai'i's nearshore fisheries include parrotfishes (uhu), surgeonfishes (kole, manini, kala), and chubs (nenu). Concerns regarding the ecological role of herbivores in maintaining reef health led to statewide discussions on herbivore management. Initial scoping for potential management measures began in 2020 and included meetings held on multiple islands.

Following scoping, statewide public hearings were conducted to consider proposed rule amendments addressing the collection and sale of selected herbivorous marine species, minimum harvest sizes, bag limits, and annual catch limits. Updated statewide regulations governing herbivorous species were subsequently adopted under HAR §13-95 and went into effect on February 22, 2024.

The Division of Aquatic Resources (DAR) conducts ongoing monitoring and assessment of fish populations and other aquatic resources. Species abundance, ecosystem conditions, and environmental factors naturally fluctuate over time, and the timing and magnitude of such variability are not always predictable. Existing fisheries management is implemented through administrative rules adopted under HAR Chapter 91 and is supplemented by adaptive management authority provided under Act 49 (Session Laws of Hawai'i 2021). This authority enables the Board of Land and Natural Resources (Board; BLNR) to respond to changing environmental conditions, including population declines or impacts, by implementing temporary management measures without full administrative rulemaking.

Under Act 49 (2021), the Board may temporarily adopt, amend, or repeal any rule pertaining to bag limits, size limits, open or closed fishing seasons, or gear restrictions. Temporary rules adopted under this authority are effective for up to two years and may be extended on a year-to-year basis through additional Board action, providing a mechanism for timely and adaptive responses to fisheries management needs.

A recent example is a temporary fishing ban that prohibits the take of Pāku'iku'i (Achilles Tang) in West Hawai'i. The ban addressed a long-term decline of the Pāku'iku'i population and initiated a two-year moratorium starting December 19, 2022. The ban was extended, under Board discretion, to give DAR more time to study and develop a long-term management plan for the species.

Regulatory Framework for Commercial Aquarium Permitting

At its December 7, 2023 meeting, the BLNR considered a Petition requesting that the DLNR initiate rulemaking to prohibit statewide commercial aquarium collection⁶. The petition included proposed draft administrative rules intended to implement an aquarium ban. The Department of the Attorney General advised that HRS §188-31 expressly authorizes the Board to issue aquarium permits and that a statewide prohibition on commercial aquarium collection could not be accomplished through administrative rulemaking⁷.

The Board voted unanimously to reject the staff recommendation to deny the petition and directed DAR to initiate rulemaking consistent with applicable statutory authority and procedural requirements under HRS §188-31. Legislative proposals to prohibit commercial aquarium collection have been introduced in legislative sessions; however, no such measures have been enacted to date.

At the direction of the Board, DAR has developed proposed administrative rules regulating aquarium harvest, including a management framework based on a designated White List of limited aquatic species and associated annual catch limits. Under this approach, DAR would monitor reported aquarium collection and notify permit holders when catch limits for a particular species are reaching its threshold, at which point collection of that species would be closed for the remainder of the year.

Existing reporting requirements have provided baseline information for fisheries management. DAR's proposed rules package would expand and standardize permit conditions and reporting requirements to improve monitoring, accountability, and management of aquarium collection activities.

Rule amendments presented by DAR in 2025 propose consolidating existing aquarium-related regulations from HAR Chapters 13-60.4 and 13-75 into a new chapter, HAR 13-77.1, establishing a unified statewide permitting structure. The proposed framework includes a two-component permit

⁶ Department of Land & Natural Resources, *Petition for Rulemaking to Prohibit the Take of Marine Life for Commercial Aquarium Purposes*, BLNR Item F-3 (Dec. 7, 2023), <https://dlnr.hawaii.gov/wp-content/uploads/2023/12/F-3.pdf>.

⁷ In October 2024, Earthjustice filed a Petition for Declaratory Ruling with the Board of Land & Natural Resources, seeking a declaratory ruling that (1) HRS §190-3 authorizes rulemaking to prohibit commercial aquarium collection statewide, and (2) HRS §188-31 and HRS §13-74-2(4) provide discretion to deny commercial aquarium permits and related commercial marine licenses without conflicting with the Board's rulemaking power under HRS §190-3. In September 2025, the Board issued its Order Denying Petition for Declaratory Ruling, concluding that HRS §190-3 does not authorize rulemaking to prohibit commercial aquarium collection and that such a rule would conflict with the Board's discretionary permitting authority under HRS §188-31. Petitioners appealed to the Circuit Court, and on April 6, 2026 the Environmental Court reversed the Board's order, holding that HRS §190-3 does authorize rulemaking to prohibit commercial aquarium collection statewide and that such a rule would not impermissibly nullify or conflict with BLNR's discretionary permitting authority under HRS §188-31, as that statute would remain effective as the basis for issuing permits as exemptions from any general prohibition. *Kalanihale v. Board of Land & Natural Resources*, Civil No. 1CCV-25-0001709, Dkt. 65 (Haw. 1st Cir. Apr. 6, 2026). The Court's reversal of the Order does not affect the current rulemaking process or BLNR's rulemaking authority.

system consisting of a State of Hawai'i Aquarium Permit and a geographic endorsement authorizing collection within a specified region, subject to HEPA compliance.

The proposed amendments include applicant eligibility criteria such as the absence of aquatic resource violations within the prior five years, compliance with the Hawai'i Environmental Policy Act, and enhanced reporting requirements for both collectors and aquarium dealers, including electronic at-sea reports prior to landing and final catch reports within one day of an aquarium collection trip.

If approved, the proposed rule changes would apply only to the West Hawai'i region, with any expansion to other regions requiring separate future rulemaking.

Marine Managed Areas

Management of marine life and habitats are implemented through statutes or administrative rules and designation of Marine Managed Areas (MMAs), Fisheries Management Areas (FMAs), and Marine Protected Areas (MPAs). Provisions governing MMAs range from areas that are open to sustainable fishing and harvest to strict "no take" areas.

Scientific studies of Marine Life Conservation Districts in Hawai'i have indicated that permanently protected no-take zones generally support higher fish biomass and species diversity relative to adjacent open areas, consistent with the conservation objectives of the MLCD system. On the island of O'ahu, there are three Marine Life Conservation Districts (MLCD) where fishing activities are prohibited or strictly regulated (Figure 1).

Hanauma Bay is located near Koko Head at the eastern end of Honolulu, which extends from the highwater mark seaward to a line across the bay's mouth from Palea Point on the left to Pai'olu'olu Point on the right. Research leveraging natural experiments, such as periods of reduced human visitation during the COVID-19 pandemic, has shown that reduced human presence can lead to improvements in water clarity and changes in fish behavior and abundance, underscoring the sensitivity of reef ecosystems to human-induced pressure (University of Hawaii News, 2025). Because Hanauma Bay MLCD is highly protected and subject to extensive access controls and enforcement, its ecological conditions differ substantially from general nearshore areas where fishing and other ocean-related activities are permitted. As such, it is often used as a comparative reference point in analyses of protected-area outcomes and reef conditions rather than as a representative baseline for open-access fishing areas in environmental impact assessments (Department of Parks and Recreation, Honolulu, 2022).

Pūpūkea MLCD is located on the north shore of O'ahu near the town of Waimea, extending offshore from the highwater mark seaward 100 yards along a line extending due west of Kulalua Point, then south to the most seaward exposed rock of the Wānana Paoa Islets on the south side of Waimea Bay. The take of marine life is generally prohibited except for limited, authorized activities under state rule, including seasonal shore-based fishing and akule netting in Waimea Bay and limited limu collection. Scientific and community-supported monitoring efforts have documented changes in reef fish assemblages and habitats within the Pūpūkea MLCD in comparison to nearby reef areas. Between 2010 and 2019, surveys found fish abundance, biomass, and species richness declined significantly across multiple depth zones within the MLCD. Some individual species groups increased, while other groups decreased. Overall, in-water human use doubled between 2010-2019, increasing tenfold in the zone outside of Shark's Cove to Kulalua point, while shore-based human use tripled in the tidepool area (Stamoulis, 2019). Broader research indicates that marine protected areas generally support higher values of fish assemblage characteristics compared with adjacent areas, indicating the ecological value of MLCDs.

Waikīkī MLCD is located at the Diamond Head end of Waikīkī Beach, extending from the groin at the end of Kapahulu Avenue to the west wall of the Natatorium, extending seaward from the highwater mark to a minimum of 500 yards, or to the edge of the fringing reef, whichever is greater. The take of marine life, including eggs, or possession of any device used for taking marine life, geological features, or specimens is prohibited without a permit for scientific, propagation or other authorized purposes. Collectively, recreational intensity, adjacent fishing pressure, shoreline modification, and near proximity to large populations and land-based pollution constitute the primary human influences affecting the Waikīkī MLCD. The presence of these stressors underscores the role of the Waikīkī MLCD as a protected refuge within an otherwise heavily impacted coastal environment.

In addition, other marine locations that implement state fishing restrictions include:

- Waikīkī -Diamond Head Shoreline Fisheries Management Area
- Maunalua Bay Fisheries Management Area
- Paikō Lagoon
- Ala Wai Canal
- Kapālama Canal
- Moku o Lo'e (Coconut Island) – Hawai'i Marine Laboratory Refuge
- He'eia Kea Wharf
- Honolulu Harbor
- Pōka'i Bay
- Waialua Bay
- Ewa Limu Management Area

Moku o Lo'e or Coconut Island, is in Kāne'ohe Bay and does not allow take of any aquatic life within the boundaries of the refuge, from the highwater mark on the island seaward to twenty-five feet beyond the outer edges of the reefs.

The most recently established FMA is in Maunalua Bay, extending from Kawaihoa Point (Spitting Caves) to the Diamond Head buoy and prohibits night-time spearfishing and the take of certain invertebrates. The other nine areas have specific permit restrictions on the number of fish allowed to be taken, type of equipment used, time of day, or time of year. None of these locations specifically prohibit collection under Aquarium Permits; however, most of those habitats are not conducive to aquarium fish collection (e.g., canal, harbor, wharf).

Federal property law allows for controlled access of Naval Defense Sea Areas (NDSA) and reserved access areas around military bases to prevent dangerous encroachment. Primary naval defense and restricted areas on O'ahu include the Marine Corp Base Hawai'i (MCBH) in Kāne'ohe, Joint Base Pearl Harbor-Hickam (JBPHH), Bellows Airforce Station in Waimānalo, and portions of Kalaeloa. Fishing and boating are subject to restrictions in certain areas due to active live-fire exercises and surface danger zones. During active exercises, boat traffic is subject to coordination with and approval from range control. Personal and commercial collection of nearshore reef fish for aquarium purposes are strictly prohibited in reserved access areas of MCBH.

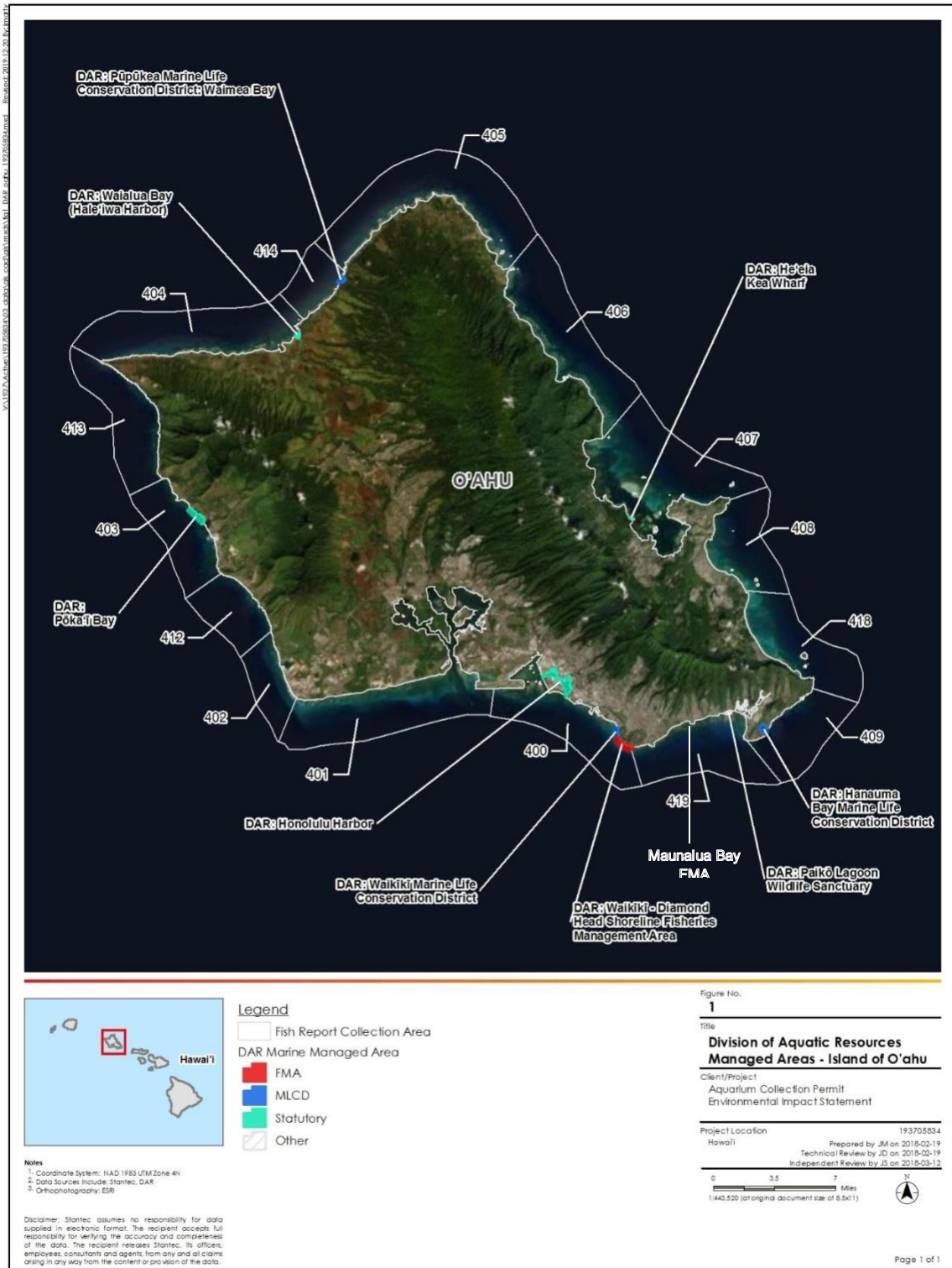


Figure 1. Division of Aquatic Resources Managed Areas - Island of O'ahu

1.2.1 Status of Aquarium Permits

In October 2012, Earthjustice filed a complaint in the Circuit Court of the First Circuit under the Hawai'i Environmental Policy Act (HEPA) on behalf of four individuals and three non-governmental organizations. The complaint sought declaratory and injunctive relief requiring the State to comply with HEPA by evaluating the environmental effects of commercial aquarium fish collection prior to issuance of collection permits. The complaint also requested that the court halt collection under existing commercial aquarium permits and enjoin the Department of Land and Natural Resources (DLNR) from issuing new permits pending completion of environmental review (Earthjustice 2012).

On June 24, 2013, the Circuit Court of the First Circuit issued an Order Granting DLNR's Motion for Summary Judgment and Denying Plaintiffs' Motion for Summary Judgment, followed by a Final Judgment in favor of DLNR. The court concluded that issuance of Aquarium Permits under the applicable statutes did not constitute a discretionary action subject to HEPA. In August 2016, the Hawai'i Intermediate Court of Appeals affirmed the circuit court's decision. During this period, issuance of commercial aquarium permits by DLNR's Division of Aquatic Resources (DAR) continued.

Following further appeal, the case was reviewed by the Hawai'i Supreme Court. On September 6, 2017, the Supreme Court held that commercial aquarium collection using fine-meshed traps or nets constitutes a discretionary State action subject to environmental review under HEPA (SCWC-13-0002125). The matter was remanded to the circuit court for further proceedings.

This was further clarified by the Circuit Court noting on October 27, 2017, that all existing statewide permits are illegal and invalid and that no new permits may be issued until the environmental review process is complete. DLNR has not issued new or additional commercial aquarium permits since the Supreme Court's September 2017 decision (DAR 2017). Since all aquarium collection in West Hawai'i requires a statewide aquarium permit, the West Hawai'i fishery has been completely closed since 2017.

1.2.2 Status of Commercial Marine Licenses

In January 2020, Earthjustice filed a complaint on behalf of three individuals and two non-governmental organizations seeking to enforce prior court rulings and require commercial aquarium collection to comply with the environmental review requirements of the Hawai'i Environmental Policy Act (HEPA). The complaint alleged that, notwithstanding the October 2017 court rulings, the Department of Land and Natural Resources (DLNR) continued to allow commercial aquarium collection by issuing or renewing Commercial Marine Licenses (CMLs) to aquarium collectors. A motion filed in May 2020 asserted that aquarium collection conducted pursuant to CMLs should be subject to the same HEPA review requirements applicable to collection under Aquarium Permits.

On November 27, 2020, the Circuit Court issued an order declaring DLNR's issuance of CMLs for aquarium collection are illegal and invalid. Following the order, DLNR announced that it would not issue or renew CMLs without conditions prohibiting the taking of marine life for commercial aquarium purposes until an environmental review was complete. The November 27, 2020 order did not enjoin existing CMLs, allowing commercial aquarium collection to continue for current license holders until expiration of their licenses, which are valid for one year.

In a subsequent ruling, the Circuit Court determined that all existing CMLs authorizing commercial aquarium collection were invalid, thereby halting all commercial aquarium collection activities. Following this ruling, the Division of Aquatic Resources (DAR) updated its Commercial License and

Permit–Specific Terms and Conditions⁸ and notified existing CML holders of the court’s determination, suspending all commercial aquarium collection activities statewide.

An environmental review was completed for West Hawai’i and the injunction has been lifted for areas within the WHRFMA, but the fishery has not re-opened as DLNR has not issued any Aquarium Permits pending public hearings, rulemaking approvals, and ongoing litigation pertaining to the aquarium fishery.

1.2.3 Non-Accepted HEPA Documents for AQ Permits on O’ahu

This EISPN, and EIS documents hereafter, will provide an independent evaluation of the proposed action. Information contained in prior environmental review documents may be reviewed or summarized for background and historical information and context. Valuable information, including public comments in support and opposition, agency comments, and responses, are publicly available on the Hawai’i Office of Planning and Sustainable Development website.

The following is a list of documents, publication dates, and links for the prior environmental review for O’ahu that was terminated without completion:

- Draft Environmental Assessment (DEA) Issuance of Commercial Aquarium Permits for the island of O’ahu (PIJAC, 2018), April 8, 2018.
https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2018-04-08-OA-DEA-Oahu-Commercial-Aquarium-Permits.pdf
- Final Environmental Assessment (FEA-EISPN) Issuance of Commercial Aquarium Permits for the Island of O’ahu (PIJAC, 2018) August 8, 2018.
https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2018-08-08-OA-FEA-EISPN-Oahu-Commercial-Aquarium-Permits.pdf
- Draft Environmental EIS (DEIS) Issuance of Commercial Aquarium Permits and Commercial Marine Licenses for the Island of O’ahu (PIJAC, 2018), May 8, 2020.
https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2020-05-08-OA-DEIS-Oahu-Commercial-Aquarium-Permits.pdf
- Final Environmental Impact Statement (FEIS) Issuance of Commercial Aquarium Permits and Commercial Marine Licenses for the Island of O’ahu (PIJAC, 2021), September 8, 2021.
https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2021-09-08-OA-FEIS-Oahu-Commercial-Aquarium-Permits.pdf
- Non-Acceptance Determination (BLNR), October 23, 2021.
https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2021-10-23-OA-FEIS-Non-acceptance-Oahu-Commercial-Aquarium-Permits.pdf
- Determination of whether the FEIS complies with applicable law and adequately discloses the environmental impacts of proposed issuance of commercial aquarium permits and

⁸ https://dlnr.hawaii.gov/dar/files/2021/09/CML_updated_specific_Terms_Conditions_083121.pdf

commercial marine licenses for the island of O‘ahu, for the purpose of accepting the FEIS (DAR, 2021), October 8, 2021. <https://dlnr.hawaii.gov/wp-content/uploads/2021/10/F-1.pdf>

1.3 Current Policies and Controls

Under Hawai‘i Revised Statutes (HRS) and Hawai‘i Administrative Rules (HAR), the Department of Land and Natural Resources (DLNR) is authorized to regulate recreational and commercial fisheries through administrative rules, statutes, and programmatic management measures facilitated through the Division of Aquatic Resources (DAR).

Management of the commercial fisheries in Hawai‘i include statewide and fishery-specific regulations, multiple licensing requirements, limits on catch, and ongoing monitoring to maintain sustainable fish populations. The Division of Aquatic Resources noted that the primary way to regulate fisheries is through implementation of the following (DAR, 2022):

- Bag limits
- Size limits (i.e., allow fish to grow to reproductive age)
- Closed seasons (e.g., spawning seasons)
- Gear regulations
- Slot limits (i.e., protect larger fish who are more reproductive)
- Place-based regulations (which can include any of the above as well)

Monitoring and adaptive management enables the Division of Aquatic Resources (DAR) to evaluate environmental conditions, assess the effectiveness of existing management measures, and propose adjusted management strategies in response to observed changes. This approach is intended to support timely, science-based decision-making while maintaining regulatory oversight.

In coordination with other government agencies and academia monitoring reef ecosystems and habitat through data collection and surveys—together with commercial catch report data—provides information to evaluate efficacy of management strategy. These data sources inform fish population trends, assess commercial and recreational fishing pressure, and ecosystem condition.

The following sections summarize existing administrative rules applicable to commercial aquarium collection. However, rule changes may be implemented during, or after, this environmental review and are subject to change during this environmental review process.

1.3.1 Hawaii Revised Statute (HRS) §188-31 - Commercial Aquarium Permits

HRS §188-31 (TITLE 12 – Conservation and Resources; 188 – Fishing Rights and Regulations; §188-31 – Permits to take aquatic life for aquarium purposes) states that:

Except as prohibited by law, the department, upon receipt of a written application, may issue an aquarium fish permit, not longer than one year in duration, to use fine-meshed traps, or fine-meshed nets other than throw nets, for the taking of marine or freshwater nongame fish and other aquatic life for aquarium purposes.

Except as prohibited by law, the permits shall be issued only to persons who can satisfy the department that they possess facilities to and can maintain fish and other aquatic life alive and in reasonable health.

It shall be illegal to sell or offer for sale any fish and other aquatic life taken under an aquarium fish permit unless those fish and other aquatic life are sold alive for aquarium purposes. The department may adopt rules pursuant to HRS chapter 91 for the purpose of this section.

1.3.2 Hawai'i Revised Statute (HRS) §189-2 and §189-3, Commercial Marine License

HRS §189-2 (TITLE 12 - Conservation and Resources; 189 - Commercial Fishing; §189-2 - Commercial Marine License) states that:

- (a) No person shall take marine life for commercial purposes whether the marine life is caught or taken within or outside the State, without first obtaining a commercial marine license as provided in this section.
- (b) Additionally, any person providing vessel charter services in the State for the taking of marine life in or outside of the State shall obtain a commercial marine license.
- (c) The department may adopt rules pursuant to chapter 91 necessary for the purpose of this section and to set fees for commercial marine licensing.

The fees for commercial marine licenses and duplicate commercial marine licenses shall be established by the department by rules adopted in accordance with chapter 91.

The department shall suspend, shall refuse to renew, reinstate, or restore, or shall deny any license issued under this section if the department has received certification from the child support enforcement agency pursuant to section 576D-13 that the licensee or applicant is not in compliance with an order of support or has failed to comply with a subpoena or warrant relating to a paternity or child support proceeding. The department shall issue, renew, reinstate, or restore an affected license only upon receipt of authorization from the child support enforcement agency, the office of child support hearings, or the family court.

HRS §189-3 (Title 12 – Conservation and Resources; 189 – Commercial Fishing; §189-3 – Monthly Catch Report) states that:

- a) Upon the demand of the department, every commercial marine licensee shall furnish to the department a report or reports with respect to the marine life taken and any other information the department may require for the purposes of this section.
- b) Any information submitted to the department by any person in compliance with any requirement under this section shall be confidential and shall not be disclosed, except when required under court order or pursuant to subpoena issued by the department of the attorney general, or with the prior written consent of the person submitting the information, or under cooperative agreements with government agencies of the United States for exchange and use of the information specifically to manage marine life. The department, by rule, may establish procedures necessary to preserve the confidentiality, except that the department may release or make public any of the information in the aggregate or summary form which does not directly or indirectly disclose the identity of any person who submits information.

Specific terms and conditions for Commercial Marine Licenses

Terms and Conditions were updated on January 13, 2021, and state:

1. Licenses issued to individuals are non-transferable and cannot be used by anyone else.
2. It is illegal to take fish or marine life with intent to sell without a valid commercial marine license. I must be a U.S. citizen or be legally admitted into the United States of America, or be in compliance with U.S. Customs and Border Protection, Dept. of Homeland Security landing permit requirements in order to qualify for the license.
3. Although the Federal Privacy Act of 1974 was amended to allow disclosure of Social Security Number for federal and state Child Support Enforcement investigation, DLNR has not amended the Hawaii Administrative Rules to require disclosure for licensing purposes. I may, however, voluntarily provide this information.
4. I must pay an individual resident license fee of \$100.00 for resident or non-resident.
5. Unless exempted from the report requirement, I must complete and submit fishing reports to DLNR until my license expires.
 - a. Submit fishing reports on all fishing activities except for bottom fish fishing trips (refer to "b") during a month by the tenth day of the following month, for example, the May fishing report must be submitted by June 10th.
 - b. Submit the 'MHI "Deep 7" Bottomfish Fishing Trip Report' within 5 days after the end of any fishing trip where a Deep 7 bottomfish species (Opakapaka, Onaga, Ehu, Kalekale, Gindai, Lehi, and Hapu'upu'u) was landed, released, or lost to predation.
6. Submit the "Did Not Fish" report postcard to DLNR by the tenth day of the following month, if you did not fish during a month.
7. It is illegal and a violation of this commercial marine license to:
 - a. take marine life for commercial aquarium purposes,
 - b. possess marine life that has been taken for commercial aquarium purposes, or
 - c. possess aquarium collecting gear in state marine waters,

without first completing the required environmental review process under the Hawai'i Environmental Policy Act (HEPA), HRS Chapter 343.

1.3.3 Hawaii Environmental Policy Act (HEPA)

HEPA requires State agencies to consider the impact of governmental actions on the environment because humanity's activities have broad and profound effects upon the interrelations of all components of the environment, and an environmental review process would integrate the review of environmental concerns with existing planning processes of both the State and county governments. The HEPA includes the following statutes and administrative rules: a) HRS Chapter 343, Environmental Impact Statements; b) Hawai'i Administrative Rule (HAR) 11-200.1, Environmental Impact Statement Rules; and c) HAR 11-201, Environmental Council Rules of Practice and Procedure (OEQC 2012).

The authorities governing the HEPA process include:

1. The text of the statute (Chapter 343, HRS) and its implementing administrative rules (Chapters 11-200.1, and 11-201, HAR, Department of Health);
2. The State Environmental Policy (Chapter 344, HRS);
3. The enumerated and written advisory opinions of the Attorney General of the State of Hawai'i;

4. The declaratory rulings of the Environmental Review Program (ERP) and the Environmental Advisory Council (EAC); and
5. The appellate rulings of the Intermediate Court of Appeals and the Supreme Court of the State of Hawai'i.

The HEPA process also alerts decision makers to significant environmental effects that may result from the implementation of certain actions (HRS §343-1). The specific instances when an applicant must prepare an EIS (for an action not declared exempt under HAR Section 11-200.1-8), derive from Section 343-5(a) HRS and are listed in Table 1-1.

Table 1–1 Statutory Triggers for the Hawaii Environmental Policy Act (HEPA)

	Instances	Responsible Agency
1.	Use of State or County lands or use of State or County funds, other than funds to be used for feasibility or planning studies for possible future programs or projects that the agency has not approved, adopted, or funded, or funds to be used for the acquisition of unimproved real property; provided that the agency shall consider environmental factors and available alternatives in its feasibility or planning studies; provided further that an EA for proposed uses under Section 205-2(d)(11) or 205-4.5(a)(13) shall only be required pursuant to Section 205-5(b).	The agency with title to the land or is using funds.
2.	Use of any land classified as conservation district by the state land use commission under Chapter 205.	Office of Conservation and Coastal Lands of the DLNR.
3.	Use within a shoreline area as defined in Section 205A-41. The shoreline area in question is defined by county ordinance and consists of a predetermined distance going inland from the certified shoreline. In the City and County of Honolulu, this is 40 feet; however, beginning July 1, 2024 the shoreline setback will be 60 feet in urban Honolulu and 60-130 feet outside urban Honolulu.	The respective county planning department.
4.	Use within any historic site as designated in the National Register or Hawai'i Register, as provided for in the Historic Preservation Act of 1966, Public Law 89-665, or Chapter 6E.	The respective county planning department.
5.	Use within the Waikiki area of O'ahu, the boundaries of which are delineated in the land use ordinance as amended, establishing the "Waikiki Special District".	The Department of Planning and Permitting of the City and County of Honolulu.
6.	Any amendments to existing county general plans where the amendment would result in designations other than agriculture, conservation, or preservation, except actions proposing any new county general plan or amendments to any existing county general plan initiated by a county.	The respective county planning department.
7.	Any reclassification of any land classified as a conservation district by the state land use commission under Chapter 205.	The Land Use Commission, except in cases involving less than fifteen-acres (which cases are processed by the respective county planning department).

	Instances	Responsible Agency
8.	<p>Any construction of new or the expansion or modification of existing helicopter facilities within the State, that may affect:</p> <ul style="list-style-type: none"> A. Any land classified as a conservation district by the state land use commission B. A shoreline area C. Any historic site as designated in the National Register or Hawai'i Register 	<p>The respective county planning department where the project is located processes the clearance of this trigger.</p>
9.	<p>Propose any:</p> <ul style="list-style-type: none"> A. Wastewater treatment unit, except an individual wastewater system or a wastewater treatment unit serving fewer than fifty single family dwellings or the equivalent B. Waste-to-energy facility C. Landfill D. Oil refinery E. Power-generating facility 	<p>The agencies of the State or County government that issue discretionary approvals for the listed items.</p>

The Supreme Court of Hawai'i ruled (SCWC-13-0002125) that an environmental review of the Aquarium Permit process is warranted based on the first (1) the use of state lands, and second (2) the use of land classified as a conservation district, statutory triggers.

Actions that do not meet any of the exemption criteria or are not excluded by statute must proceed through the HEPA environmental review process. Typically, the environmental review process begins with preparation of a draft environmental assessment (EA) to determine whether the proposed action may result in significant environmental impacts. If impacts are not significant, the approving agency may issue a Finding of No Significant Impact (FONSI) that is filed with the Environmental Review Program (ERP), thereby concluding the review. If the approving agency determines a proposed action may have a significant effect, the applicant must prepare and complete the environmental review through the preparation and processing of an EIS.

Pursuant to HRS §343-5(e), an approving agency may authorize an applicant to proceed directly to preparation of an EIS if the agency determines, through its judgement and experience, the proposed action may affect sensitive environmental or cultural resources, and an EIS is likely to be required.

HAR §11-200.1-14(d) similarly permits an approving agency to determine, through its judgement and experience, that an EIS is likely to be required. Applicants can proceed beginning with the preparation of an EISPN, known as the Direct-to-EIS pathway. This pathway is appropriate when significance criteria outlined in HAR §11-200.1-13 may be significantly impacted, including effects to natural, cultural, and public trust resources, or Native Hawaiian traditional and customary practices.

To determine whether a proposed action may have a significant effect on the environment, an agency must review the proposed action under the significance criteria defined in HAR §11-200.1-13(b). In most cases, an agency determines an EIS is required if it meets any of the following 13 criteria:

1. Irrevocably commit a natural, cultural, or historic resource;

2. Curtail the range of beneficial uses of the environment;
3. Conflict with the State's environmental policies or long-term environmental goals established by law;
4. Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State;
5. Have a substantial adverse effect on public health;
6. Involve adverse secondary impacts, such as population changes or effects on public facilities;
7. Involve a substantial degradation of environmental quality;
8. Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;
9. Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat;
10. Have a substantial adverse effect on air or water quality or ambient noise levels;
11. Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;
12. Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies; or
13. Require substantial energy consumption or emit substantial greenhouse gases.

The Draft EIS will include a review of the significance criteria relevant to Aquarium Permits, with the understanding that agencies and the accepting authority will base findings on their own evaluations.

Since its inception, the HEPA process has bifurcated into two separate procedural tracks (OEQC 2012):

1. Agency actions (set forth in HRS Section §343-5(b); refers to those proposed by a government agency; and
2. Applicant actions (set forth in HRS Section §343-5(e); refers to those that are initiated by a private party and “triggers” an environmental review.

The need for this Environmental Impact Statement (EIS) is based on the proposed action—collection of marine life for commercial aquarium purposes pursuant to commercial Aquarium Permits and corresponding Commercial Marine Licenses—and the agency determination that an EIS is required due to possible significant impacts on the environment.

The environmental review process described in the findings and purpose section of Chapter 343, HRS, necessitates integrating citizen concerns into the planning process and forewarning decision makers of potential significant environmental effects should implementation take place. The Hawai'i OEQC finds that the process of reviewing environmental effects is desirable because environmental consciousness is enhanced, cooperation and coordination are encouraged, and public participation during the review process benefits all parties involved and society as a whole (OEQC 2012)⁹.

⁹ Act 152 (2021) transferred and renamed the Office of Environmental Quality Control (OEQC) to the Environmental Review Program (ERP) within the Office of Planning and Sustainable Development (OPSD).

1.3.4 Hawai'i Administrative Rule Chapter 13-77 - O'ahu Aquarium Life Management

Hawaii Administrative Rules chapter 13-77 regulates the collection of aquatic life for an aquarium purpose within 3 nautical miles of the O'ahu shoreline. The rule proposal was developed by commercial aquarium fishers from O'ahu and presented to DAR in August 2011. A Public Hearing on the proposed rule was held on December 5, 2012. The Administrative Rule was adopted on October 24, 2014, and applies to the collection of aquatic life for an aquarium purpose from the waters of O'ahu while using fine or small mesh traps or fine or small mesh nets but not throw nets. While governing the taking of aquatic life intended for live aquarium displays, HAR Chapter 13-77 shall not apply to the use of nets to take aquatic life for food, bait, or other consumptive purposes.

From HAR Chapter 13-77:

1. It is unlawful for any person in or on the waters of O'ahu (3 nautical miles from the shore), possessing a small mesh net authorized under a commercial aquarium fish permit or recreational aquarium fish permit, to possess a small mesh net that is more than 30 feet long; provided that 2 or more permittees may join 2 nets, each no more than 30 feet long, for a total net length of no more than 60 feet long; or more than 6 feet in height. Restriction regarding net length and height took effect after July 1, 2015.
2. It is unlawful for any person, while possessing, using, or having used a small mesh net authorized under a commercial aquarium fish permit and in or on the waters of O'ahu, to possess a small mesh net and take or possess a daily bag limit of more than:
 - One hundred (100) Yellow Tang (*Zebrasoma flavescens*);
 - Seventy-five (75) Kole (Goldring Surgeonfish; *Ctenochaetus strigosus*);
 - Fifty (50) Potter's Angelfish (*Centropyge potteri*);
 - Fifty (50) Orangespine Unicornfish (= Naso Tang; Clown Tang; *Naso lituratus*); or
 - Twenty-five (25) Moorish Idol (*Zanclus cornutus*).

A daily bag limit includes the cumulative number of regulated aquatic life taken or possessed by a person on any day.

3. It is unlawful for any person while possessing, using, or having used a small mesh net authorized under a commercial aquarium fish permit and in or on the waters of O'ahu, to possess a small mesh net and to take or possess more than six of any of the following per day:
 - Yellow Tang less than one and one-half inches in length;
 - Yellow Tang more than five inches in length;
 - Kole more than five inches in length.
4. It is unlawful for any person while possessing, using, or having used a small mesh net authorized under a commercial aquarium fish permit and in or on the waters of O'ahu, to take or possess more than two Bandit Angelfish that are longer than five and a half inches in length, per day.
5. It is unlawful for any person while possessing, using, or having used a small mesh net authorized under a commercial aquarium fish permit, to operate a vessel on the waters of O'ahu with:
 - More than the daily bag limits as provided above, and for the number of permittees on board the vessel; or

- More than three times the number of any daily bag limit, regardless of the number of permittees on board.
6. It is unlawful for any person, while possessing a small mesh net authorized under a commercial aquarium fish permit or recreational aquarium fish permit while in or on the waters of O‘ahu, to take or possess any of the following species:
- Ornate Butterflyfish (*Chaetodon ornatissimus*)
 - Oval Butterflyfish (*Chaetodon lunulatus*); and
 - Reticulated Butterflyfish (*Chaetodon reticulatus*).

1.3.5 Hawai‘i Administrative Rule Chapter 13-95 - Protected Marine Fisheries Resources

Hawaii Administrative Rules Chapter 13-95 regulates the taking and selling of certain marine resources. In February 2024, this chapter was amended to include new and updated regulations for select herbivorous fish species. Initial scoping sessions were held for the islands of O‘ahu, Maui, Kaua‘i, East Hawai‘i, and West Hawai‘i in November 2020 to gather feedback and comments on herbivorous fish and invertebrates. Subsequent statewide public hearings were held on the proposed rule amendments of select species of herbivorous fish, including changes to minimum harvest size and changes in bag limits. The Administrative Rule was adopted on February 22, 2024, and included among other things:

It is unlawful for any person to take, possess, or sell the following:

- Kole less than five inches in length
2. It is unlawful for any person to take, break, damage, or sell the following:
- Stony coral; or
 - Live rocks

1.3.6 Stony Corals and Live Rock

Hawai‘i Administrative Rules §13-95-70 and §13-95-71 prohibit the taking, breaking, damaging, or sale of stony corals and live rock in state waters, including damage caused by sedimentation, pollution, or other negligent activities. Limited exceptions are provided for minor, inadvertent impacts below specified thresholds.

No liability shall be imposed for inadvertent breakage, damage, or displacement of an aggregate area of less than one half square meter of coral if caused by a vessel with a single anchor damage incident, in an area where anchoring is not otherwise prohibited, and not more frequently than once per year; or by accidental physical contact by an individual person.

Limited exceptions allow for the sale of imported coral fragments for jewelry or dead coral obtained through authorized dredging, but otherwise, all extraction and commercial use of live stony coral and live rock is prohibited unless specifically authorized by law. Violations are subject to civil, administrative, or criminal penalties under HRS Chapter 187A.

1.3.7 Enforcement/Compliance

Enforcement and compliance are within the purview of the Division of Conservation and Resource Enforcement (DOCARE). DOCARE is responsible for enforcement activities and has full police powers to enforce all State laws and rules involving State lands, State Parks, historic sites, forest reserves, aquatic life and wildlife areas, coastal zones, Conservation districts, State shores, as well as county ordinances involving county parks.

General penalties for violations under Title 12 (Conservation Resources), 187A (Aquatic Resources) is as follows:

§187A-13 General penalty; community service.

(a) Any person violating this chapter or any rule adopted thereunder for which a penalty is not otherwise provided, shall be guilty of a petty misdemeanor and, in addition to any other penalties, shall be fined not less than:

- (1) \$250 for a first offense,
- (2) \$500 for second offense, and
- (3) \$1,000 for a third or subsequent offense.

(b) A fine in addition to the fine under subsection (a) may be levied for each specimen of aquatic life taken, killed, or injured in violation of this chapter or any rule adopted thereunder as follows:

- (1) For a first offense, up to \$250 or the retail market value of the specimen, whichever is higher;
- (2) For a second offense, up to \$500 or the retail market value of the specimen, whichever is higher;
- (3) For a third or subsequent offense, up to \$1,000 or the retail market value of the specimen, whichever is higher.

(c) The court may require the defendant to complete an aquatic resources educational class administered by the department in addition to or in lieu of paying all or part of any monetary fine authorized by this section.

(d) The court may direct the defendant to perform community service as administered by the department in lieu of paying any monetary fine authorized by this section; provided that if community service is ordered pursuant to this subsection, the department may recommend to the court an order of community service that benefits the recourse that was damaged.

(e) The department may recommend to the court that the defendant be sentenced to probation with probationary terms and conditions consistent with sections 706-623 and 706-624, including but not limited to restrictions on:

- (1) Entering specific geographical areas within waters of the State where aquatic resources may be found, including ocean waters, estuaries, rivers, and streams;
- (2) Engaging in certain fishing activities;
- (3) Handling, operating, or possessing certain fishing gear or boating equipment; and

(4) Taking or possessing certain species of aquatic life. [L 1985, c 94, pt of §1; am L 1999, c 195, §3; am L 2016, c 67, §1; am L 2022, c 35, §3]

In addition to any criminal penalty, any violation of rules shall also be subject to civil and administrative penalties as provided by section §187A-12.5:

§187A-12.5 General administrative penalties.

(a) Except as otherwise provided by law, the board is authorized to set, charge, and collect administrative fines and to recover administrative fees and costs, including attorney's fees and costs, or bring legal action to recover administrative fines, fees, and costs, including attorney's fees and costs, or payment for damages or for the cost to correct damages resulting from a violation of subtitle 5 of title 12 or any rule adopted thereunder.

(b) For violations involving threatened or endangered species, the administrative fines shall be as follows:

(1) For a first violation, a fine of not more than \$5,000;

(2) For a second violation within five years of a previous violation, a fine of not more than \$10,000; and

(3) For a third or subsequent violation within five years of the last violation, a fine of not more than \$15,000.

(c) For all other violations the administrative fines shall be as follows:

(1) For a first violation, a fine of not more than \$1,000;

(2) For a second violation within five years of a previous violation, a fine of not more than \$2,000; and

(3) For a third or subsequent violation within five years of the last violation, a fine of not more than \$3,000.

(d) A fine in addition to the fine under subsection (b) may be levied for each specimen of threatened or endangered aquatic life taken, killed, or injured in violation of subtitle 5 of title 12 or any rule adopted thereunder as follows:

(1) For a first violation, up to \$5,000 or the retail market value of the specimen, whichever is higher;

(2) For a second violation, up to \$10,000 or the retail market value of the specimen, whichever is higher; and

(3) For a third or subsequent violation, up to \$15,000 or the retail market value of the specimen, whichever is higher.

(e) A fine in addition to the fine under subsection (c) may be levied for each specimen of all other aquatic life taken, killed, or injured in violation of subtitle 5 of title 12 or any rule adopted thereunder as follows:

(1) For a first violation, up to \$1,000 or the retail market value of the specimen, whichever is higher;

(2) For a second violation, up to \$2,000 or the retail market value of the specimen, whichever is higher; and

(3) For a third or subsequent violation, up to \$3,000 or the retail market value of the specimen, whichever is higher.

(f) Any criminal penalty for any violation of subtitle 5 of title 12 or any rule adopted thereunder shall not be deemed to preclude the State from recovering additional administrative fines, fees, and costs, including attorney's fees and costs. [L 1998, c 243, §1; am L 2022, c 35, §2]

2 Purpose and Need

2.1 Purpose for Applicant's Action

The purpose of the action is to engage in collection of marine life for commercial aquarium purposes from the nearshore marine habitats around the island of O'ahu in a lawful, responsible, and environmentally sustainable manner consistent with applicable law.

Completion of this environmental review is intended to provide the Department of Land and Natural Resources (DLNR) and the Board of Land and Natural Resources (BLNR) with sufficient information to consider, at their discretion, whether to authorize aquarium activities on O'ahu through the issuance of up to 15 Aquarium Permits and corresponding CMLs.

2.2 Need for Applicant's Action

The need for the Applicant's action is to allow for commercial aquarium collection in compliance with all applicable laws, administrative rules, and regulatory requirements pertaining to the industry. The Applicant's action arises from the requirement that DLNR may not issue commercial aquarium permits or authorize aquarium collection activities unless environmental review has been completed. Because no prior environmental review for commercial aquarium permitting on O'ahu was accepted or completed, DLNR is currently unable to consider or issue Aquarium Permits or CMLs for aquarium purposes on O'ahu.

From the applicant's perspective, the proposed action addresses the need for a transparent and predictable permitting pathway that allows individually qualified fishers to operate in compliance with applicable laws and administrative rules. In addition, the proposed action responds to the absence of an approved, island-specific permitting framework for O'ahu and would allow the agency to evaluate whether a limited-entry, species-restricted, and monitored aquarium fishery could be implemented without significant adverse environmental impacts.

2.3 Purpose for Approving Agency's Action

The purpose of the DLNR's action is to determine the level of significance that issuing 15 Aquarium Permits and CMLs for the island of O'ahu may have on the environment.

The purpose of an environmental review process under the HEPA is to provide the Approving Agency (DLNR) with the framework necessary for reviewing the proposed action and the environmental effects of issuing Aquarium Permits and corresponding CMLs for O'ahu. The BLNR, as the accepting authority, will determine whether the EIS satisfies the procedural and informational requirements for acceptance pursuant to HAR §11-200.1-28. The environmental review process also provides an opportunity for public participation prior to decision-making. The DLNR can also use a properly conducted HEPA analysis to review and improve plans, functions, programs, and resources under its jurisdiction. Furthermore, this EIS is the mechanism for recording the results of comprehensive planning and decision-making surrounding the proposed action.

The final determination will be either acceptance or non-acceptance of the EIS.

2.4 Scope of Analysis

The Draft Environmental Impact Statement (EIS) will use accepted scientific methods, applicable regulations, and available historical data to evaluate the effects of the commercial aquarium fishery and its management on biological, cultural, and socioeconomic resources on the island of O‘ahu. The analysis will assess potential direct, indirect, and cumulative impacts of the proposed action and reasonable alternatives on an annual basis over a five-year analysis period.

With respect to biological resources, the EIS will focus on population-level effects of aquarium collection on wild fish species, consistent with the manner in which the Division of Aquatic Resources (DAR) evaluates fish stocks and implements management measures such as permit issuance, bag limits, and harvest controls. Because population-level effects occur at the point of removal from the wild, impacts to individual fish following collection are outside the scope of detailed analysis. However, post-collection mortality will be addressed as an indirect effect associated with aquarium fishing activities.

Aquarium Permits issued pursuant to HRS §188-31 are valid for a term not to exceed one year and are subject to annual renewal. As permits are renewed, DLNR will evaluate whether significant new circumstances or information relevant to the commercial aquarium fishery or its environmental effects have arisen. Indicators such as species density, population trends, benthic community condition, and existing management measures will be used to inform assessments of resource status and potential future impacts.

The scope of analysis also recognizes that environmental conditions may change over time. Where warranted, changes such as shifts in collection levels, population status, or other unforeseen circumstances may be addressed through adaptive management measures, including emergency administrative actions pursuant to Act 49 (Session Laws of Hawai‘i 2021), or through supplemental environmental review in accordance with the 5-year report to the legislature.

2.5.1 Resources Evaluated and Dismissed

The Draft EIS will evaluate the impacts of three commercial aquarium fish collection alternatives on the nearshore habitat (3 nautical miles from shore) in which commercial aquarium fishing will take place, over a 5-year period. Some resources typically evaluated in an EIS will not be impacted by any of the alternatives under consideration.

The Draft EIS will evaluate historical use and foreseeable impacts of commercial aquarium collection since it has been a part of the baseline condition of these resources since the late 1940s. A significant increase in commercial aquarium fishing is not anticipated, and in fact a decrease is expected when compared to historic conditions. Due to the significantly reduced amount of Aquarium Permits (no more than 15), creation of a White List restricting collection to 35 aquarium species, and, most importantly, establishment of catch quotas and TAC limits, a significant change in the current baseline condition of these resources is not anticipated.

The proposed action to programmatically regulate commercial aquarium collection do not include any activities different from or in addition to those that have occurred in the past. There will be no construction of permanent or semi-permanent infrastructure, no discharges into coastal, surface or ground waters, no dredging, and no significant use of hazardous materials that could be released into the environment.

Issuance of up to 15 Aquarium Permits and corresponding CMLs is not anticipated to result in significant beneficial or adverse impacts to water and air quality, geology and soil, terrestrial flora and fauna, streams, tides, ambient noise levels, vegetation, terrestrial wildlife and avian species,

threatened and endangered species, land use, public health and safety, communications, transportation, sea level rise, greenhouse gas emissions, scenic vistas or viewplanes, utilities, or population and demographics from the current baseline condition; therefore, these resources are not likely to be evaluated further in the Draft EIS.

2.5.2 Resources Retained for Further Analysis

The following have been identified as resources that may be impacted by the proposed action and alternatives under consideration. Current baselines and impacts to these resources will be evaluated in the Draft EIS:

- Socioeconomic Resources
- Cultural Resources
- Physical Resources
- Biological Resources
 - Fish Species on the proposed White List, other regulated species, and Hawai'i Species of Greatest Conservation Need with a history of aquarium collection
 - Reef Habitat
 - Invasive Species

3 Proposed Alternatives

Reasonable alternatives are those that are practical and feasible from cultural, scientific, technical, and economic perspectives. Potential alternatives are considered based on their ability to meet project objectives, satisfy the purpose and need of the approving agency's action, minimize potential environmental impacts, and comply with applicable State and County plans, policies, and goals.

The Department of Land and Natural Resources (DLNR) has engaged with stakeholders—including the public, community organizations, fishing and tourism industries, and local governments—since the 1970s and continues to do so to promote the environmental sustainability of the commercial aquarium fishery. Through stakeholder input and recommendations, together with responsive management actions implemented by DLNR, multiple aspects of the fishery have evolved over the past four decades.

The applicant, HFA, does not possess legislative or regulatory authority and cannot establish, eliminate, or modify marine conservation areas (e.g., Marine Life Conservation Districts), amend existing regulations (such as bag and size limits, season lengths, or permit terms), or alter reporting requirements. Although there have been general suggestions by the aquarium industry for development of new or revised regulations by the DLNR, regulatory authority remains exclusively with the State. The 15 potential applicants for Aquarium Permits support regulatory changes to HAR Chapter 13-77, including the establishment of Fish Replenishment Areas (FRAs) on O'ahu.

Under all alternatives, existing policies and management controls described in Section 1.3 (Relevant Policies and Controls) would remain in effect, including the Marine Life Conservation Districts identified in Section 1.2. Table 3-1 provides a summary of preliminary alternatives proposed including a Pre-Ruling Baseline Aquarium Collection Scenario that is not being considered but was added for comparison purposes.

The alternatives identified in this EISPN are preliminary and are intended to frame the scope of analysis. The range of alternatives evaluated in the Draft EIS will be informed by agency review and substantive comments received during the public scoping period.

Table 3–1. Summary of alternatives compared to the Pre-Ruling Baseline Aquarium Collection Scenario. The Pre-Ruling Baseline Aquarium Collection Scenario is not an alternative under consideration but is included for comparison.

Alternative	Aquarium Permits	CMLs	Aquarium Collection	Annual Catch Quotas	White List
Pre-Ruling Baseline Aquarium Collection Scenario (not an alternative)	Unlimited	Unlimited	Yes	No	No
No Action	None	None	No	n/a	n/a
CML-only Alternative	None	15	Yes	No	No
White List and Limited Collection Alternative (Preferred Alternative)	15	15	Yes	Yes; Varies by species	Yes; 35 species

3.1 No Action Alternative

Under the No Action Alternative, the existing court order would remain in effect, no commercial aquarium permits would be issued, and the taking of aquarium fish or other aquatic life for commercial aquarium purposes would remain prohibited. Existing restrictions applicable to Commercial Marine Licenses (CMLs) would remain unchanged, and CMLs would not authorize the collection of aquatic life for commercial aquarium purposes. Therefore, no commercial aquarium collection would occur on the island of O’ahu under this alternative.

The No Action Alternative would meet the DLNR’s objective of avoiding impact to fish populations and associated habitats with respect to commercial aquarium collection alone. This alternative is limited to impacts attributable to the absence of commercial aquarium fishing and does not address effects from other fisheries or external influences of other resource users. The No Action Alternative would not meet the Applicant’s purpose and need for a lawful, responsible, and sustainable framework for commercial collection of approved aquarium fish species from nearshore habitats (0–600 feet; 0–100 fathoms).

The No Action Alternative will be evaluated in accordance with the Hawai'i Environmental Policy Act (HEPA) to provide a reasonable range of alternatives and serve as the environmental baseline for comparison.

3.2 CML-Only Alternative

Under the CML-Only Alternative, the existing court order would remain in effect and no commercial aquarium permits would be issued for the island of O'ahu. Under this alternative, Commercial Marine Licenses (CMLs) authorizing aquarium fish collection would be issued to no more than 15 applicants on O'ahu. When CMLs used for commercial aquarium collection activities were suspended, 41 of the approximate 3,000 CMLs issued statewide reported aquarium catch (DLNR, 2020). Aquarium collection would be conducted using gear and methods authorized under applicable statutes and administrative rules governing commercial aquarium fishing.

The Draft EIS will evaluate the environmental conditions associated with the CML-Only Alternative. Direct, indirect, and cumulative impacts will be analyzed using the best available scientific information, including historical catch data, long-term monitoring results, and existing fisheries management practices. Under this alternative, aquarium collection would be subject to gear restrictions and applicable bag and size limits; however, no total allowable catch limits or a defined list of aquarium species authorized for collection would be established.

3.3 White List and Limited Collection Alternative (Preferred)

The Notice of Non-Acceptance for the 2021 Final Environmental Impact Statement was reviewed for informational and procedural context. The Preferred Alternative was independently developed in consideration of issues identified by the DLNR and is based on current conditions and data. This alternative includes a proposed White list of 35 aquatic species and limited-catch quotas.

Under the Preferred Alternative, Aquarium Permits and corresponding Commercial Marine Licenses (CMLs) would be issued to no more than 15 aquarium fishers for the island of O'ahu. Collection would be limited to marine species on the proposed White List, and collection of each species would be limited by the total allowable catch limits. This alternative provides a hard upper limit on collection for all species and ends aquarium collection of any species not on the proposed White List.

It is assumed that Aquarium Permits issued under this alternative would include, at a minimum, the following conditions:

1. The geographic scope of each permit would be limited to the island of O'ahu;
2. Collection would be limited to aquatic species identified in the proposed White List;
3. Fine mesh nets and other legal gear would be allowed for collection; and,
4. Species-specific catch quotas would be established, with the combined catch across all permit holders not exceeding the maximum TAC limit for each species on the proposed White List.

In addition, all permittees would be required to comply with applicable statutes and administrative rules governing commercial marine fishing. Existing bag and slot limits established under HAR §13-77 (O'ahu Aquarium Life Management) and HAR §13-95 (Protected Marine Fisheries Resources) would remain in effect.

3.3.1 Proposed White List of Fish Species

Implementation of the White List would substantially reduce the number of species authorized for collection, from more than 200 aquatic species and invertebrates allowed prior to the aquarium collection ban, down to a regulated total of 35 species.

Under this alternative, species-specific catch quotas and/or TAC limits will be evaluated on mean population estimates and/or historical aquarium catch reports. Species specific catch quotas and TAC numbers have not yet been determined but will be included in the Draft EIS following feedback received during the public scoping period.

Fish population estimates and fishery datasets relevant to the discussion of sustainability analyses will be informed by various studies, available scientific data, and by large-scale monitoring programs that survey coral reef fish assemblages and habitats, including data from NOAA's Pacific Islands Fisheries Science Center Ecosystem Sciences Division (PIFSC-ESD; formerly known as the Coral Reef Ecosystem Program or CREP). Data sources, analytical methods, and rationale used to determine population estimates will be discussed in the Draft EIS.

The Division of Aquatic Resources (DAR) receives collection activity reports by management zone and will be able to review reported catch information on a regular basis. Fishing preferences vary among aquarium fishers, and collection effort is therefore not expected to be concentrated in a single area. If localized concentration were to occur, remaining coastal areas would experience reduced or no collection pressure, effectively functioning as de facto fish replenishment areas. Research from the Island of Hawai'i indicates connectivity between adjacent reefs, and fish from protected Fish Replenishment Areas are documented to seed nearby areas open to fishing (Christie et al. 2010). Based on this evidence, it is assumed that population growth in non-fished areas on O'ahu would similarly contribute to replenishment of fish populations in open areas. Accordingly, TAC limits will be evaluated at the island-wide population scale rather than on subpopulation units using the best scientific data available. Localized depletion may still occur (DAR 2024b); however, establishing island-wide catch limits allows fishing effort to shift spatially and reduces the likelihood of continued pressure in a single area.

The Draft EIS will provide an overview of the life history, habitat use, descriptions of the ecological and cultural roles of each species on the proposed White List and provide data supporting determinations behind suggested TAC limits.

The proposed White List of fish species are shown in Table 3-2.

3.4 Alternatives considered but dismissed

The Draft EIS will discuss alternatives that have been eliminated from detailed analysis, including the cultivation of aquarium fish through aquaculture.

Table 2-2. Summary of Species to be analyzed for the proposed White List

	Common Name(s)	Scientific Name	Hawaiian Name(s)	Hawaiian Status
1	Yellow Tang	<i>Zebrasoma flavescens</i>	lā'ī pala, lau'ī pala	Indigenous
2	Kole (Goldring Surgeonfish, Yelloweye, Goldring)	<i>Ctenochaetus strigosus</i>	kole, kole makaonaona	Endemic
3	Potter's Angelfish	<i>Centropyge potteri</i>	Unknown	Endemic
4	Orangespine Unicornfish (Clown Tang)	<i>Naso lituratus</i>	umaumalei, kala umaumalei	Indigenous
5	Ornate Wrasse (Pinkface)	<i>Halichoeres ornatissimus</i>	lā'ō	Endemic
6	Flame Wrasse	<i>Cirrhilabrus jordani</i>	species of hīnālea	Endemic
7	Fourlined Wrasse	<i>Pseudocheilinus tetrataenia</i>	species of hīnālea	Indigenous
8	Hawaiian Whitespotted Toby (Puffer)	<i>Canthigaster jactator</i>	unknown	Endemic
9	Forcepsfish	<i>Forcipiger flavissimus</i>	lauwiliwili nukunuku 'oi'oi	Indigenous
10	Milletseed (Lemon) Butterflyfish	<i>Chaetodon miliaris</i>	kīkākapu	Endemic
11	Shortnose (Geoffroy's) Wrasse	<i>Macropharyngodon geoffroy</i>	species of hīnālea	Endemic
12	Bicolor Anthias	<i>Pseudanthias bicolor</i>	unknown	Indigenous
13	Orangeband Surgeonfish (Shoulder)	<i>Acanthurus olivaceus</i>	Na'ena'e	Indigenous
14	Moorish Idol	<i>Zanclus cornutus</i>	kihikihi	Indigenous

	Common Name(s)	Scientific Name	Hawaiian Name(s)	Hawaiian Status
15	Eightline Wrasse	<i>Pseudocheilinus octotaenia</i>	species of hīnālea	Indigenous
16	Crowned Puffer (Saddleback Puffer)	<i>Canthigaster coronata</i>	pu'u 'ōla'i	Endemic
17	Saddle Wrasse	<i>Thalassoma duperrey</i>	hīnālea lauwili	Endemic
18	Bandit (Banded) Angelfish (SGCN)	<i>Apolemichthys arcuatus</i>	unknown	Endemic
19	Brown Surgeonfish (Lavender, Forktail Tang)	<i>Acanthurus nigrofuscus</i>	mā'i'i'i, mā'i'i	Indigenous
20	Crosshatch Trigger (Redtail)	<i>Xanthichthys mento</i>	species of humuhumu	Indigenous
21	Dragon Wrasse (Rockmover)	<i>Novaculichthys taeniourus</i>	unknown	Indigenous
22	Gilded Triggerfish (Blue-throat Triggerfish)	<i>Xanthichthys auromarginatus</i>	species of humuhumu	Indigenous
23	Golden Dwarf Moray (Dwarf Moray)	<i>Gymnothorax melatremus</i>	species of puhi	Indigenous
24	Heniochus Butterfly (Pennant fish)	<i>Heniochus diphreutes</i>	unknown	Indigenous
25	Raccoon Butterfly	<i>Chaetodon lunula</i>	species of kīkākapu	Indigenous
26	Spotted Boxfish (Boxfish)	<i>Ostracion meleagris</i>	pahu, moa	Indigenous
27	Threadfin Butterfly	<i>Chaetodon auriga</i>	species of kīkākapu	Indigenous
28	Whitemouth Moray	<i>Gymnothorax meleagris</i>	species of puhi	Indigenous

	Common Name(s)	Scientific Name	Hawaiian Name(s)	Hawaiian Status
29	Yellowtail Coris (Clown Wrasse)	Coris gaimard	hīnālea ‘akilolo	Indigenous
30	Zebra Moray	Gymnothorax zebra	species of puhi	Indigenous
31	Elegant Hermit Crab, Halloween Hermit Crab	Calcinus elegans	Not available	Indigenous
32	Zebra Hermit Crab	Calcinus seurati	Not available	Indigenous
33	Multiband Pebbled Butterflyfish	Chaetodon multicoloratus	Kapuhili	Endemic
34	Scarlet Cleaner Shrimp	Sabellastarte spectabilis	Kio po‘apo‘ai, po‘ap‘ai, pohakūpele, pōhakupele	Indigenous
35	Fisher’s Angel	Centropyge fisheri	Not available	Indigenous

4 Affected Environment

This EISPN provides a preliminary overview of existing environmental conditions relevant to the analysis of the project. The affected environment is the area and resources potentially impacted by the proposed action and alternatives. Relative to the project, the project area includes nearshore habitats, out to 3 nautical miles from shore, around the island of O‘ahu, except in areas designated as marine life conservation districts or any nearshore habitats closed to fishing.

The purpose of describing affected environments is to define the current baseline of conditions where impacts may occur. The Draft EIS will independently evaluate probable and foreseeable impacts of the proposed action to existing environmental settings and identify measures to minimize or mitigate impacts stemming from the proposed action.

Commercial aquarium fish collection has occurred in Hawaiian waters since the late 1940s. In 1953, the territorial government of Hawai‘i enacted Act 154, which authorized the Board of Agriculture and Forestry to establish a permit system for the use of fine mesh nets and traps for the taking of aquarium fish (DAR 2014a). Beginning in 1973, collectors were required to report their monthly catch on a detailed aquarium fish catch report. As of 2014, Aquarium Permit holders are required to keep daily trip reports for submission to the Department on a monthly basis, however, this requirement may change if new terms and conditions are implemented for the aquarium fishery.

Permitted commercial aquarium fishing has been a part of socioeconomic, cultural, physical, and biological resources for decades and is considered a part of the baseline condition of the affected environment. The number of permitted commercial aquarium fishers reporting statewide for the period 2000 to 2017 ranged from 61 - 99 (DAR 2018a); however, the number of commercial aquarium permits issued ranged from 113 – 226 (DAR 2018a). For the island of O‘ahu, the number of permitted commercial aquarium fishers reporting catch ranged from 28-52 for the same time-period (DAR 2018a). In 2020, approximately 3,000 CMLs were issued for commercial fishing and 41 of those CMLs were used for commercial aquarium collection.

"Environment" means humanity’s surroundings, inclusive of all the physical, economic, cultural, and social conditions that exist within the area affected by a proposed action, including land, human and animal communities, health, air, water, minerals, flora, fauna, ambient noise, and objects of historic, cultural, or aesthetic significance (HAR §11-200.1-2).

The DLNR’s mission statement is to ‘Enhance, protect, conserve and manage Hawai‘i’s unique and limited natural, cultural, and historic resources held in public trust for current and future generations of the people of Hawai‘i nei, and its visitors, in partnership with others from the public and private sectors.’

In pursuit of this mission, the DLNR has compiled, analyzed, and reported on the many facets of Hawai‘i’s socioeconomic, cultural, physical, and biological resources that make up the affected environment. The EIS will rely on Hawai‘i’s Comprehensive Wildlife Conservation Strategy (CWCS; Mitchell et al. 2005) and Hawai‘i’s State Wildlife Action Plan (SWAP; DLNR 2015), along with other sources as cited.

The Draft EIS will identify and evaluate potential impacts, including impacts identified during the scoping period, upon socioeconomic, cultural, physical, and biological resources if commercial aquarium fishing were re-established under management of a new permitting system under the management of the DLNR.

4.1 Socioeconomic Resources

The state of Hawai'i has four local governments: the City and County of Honolulu (island of O'ahu and the Northwestern Hawaiian Islands), the County of Kaua'i (islands of Kaua'i and Ni'ihau), the County of Maui (islands of Maui, Moloka'i, Lāna'i, and Kaho'olawe), and the County of Hawai'i (island of Hawai'i). The state of Hawai'i also has a fifth county, Kalawao County, which does not have a separate government unit (Mitchell et al. 2005). Kalawao County covers the former Hansen's disease settlement at Kalaupapa (Moloka'i) and is managed by the National Park Service (NPS) under a cooperative agreement with the State Department of Health (Mitchell et al. 2005).

The State of Hawai'i has an estimated resident population of approximately 1.44 million people (DBEDT, 2025a). Honolulu County, encompassing the island of O'ahu and the Northwestern Hawaiian Islands, is the state's primary population center and accounts for approximately 69 percent of Hawai'i's total population as of July 1, 2024 (DBEDT, 2025a). Honolulu County also has the lowest proportion of residents aged 65 and over (about 20.5 percent) and the highest concentration of working-age adults statewide, reflecting its role as the economic, governmental, and administrative hub of the state (DBEDT, 2025a).

Urban Honolulu is the largest Census-designated place in Hawai'i and includes the state capital, major employment centers, and the principal commercial harbor and international airport serving the island chain. Recent sub-county population estimates from the U.S. Census Bureau, compiled by the Department of Business, Economic Development and Tourism (DBEDT), indicate that the Urban Honolulu area has experienced modest population change through July 2024, consistent with trends of relatively stable statewide population levels (DBEDT, 2025b).

Population is concentrated along O'ahu's urbanized south shore corridor ('Ewa–Honolulu), while smaller coastal population centers exist along the Wai'anae Coast, North Shore, and windward districts. Many of these communities retain strong cultural, subsistence, and traditional relationships with the nearshore marine environment, including customary fishing, gathering, and contemporary community-based resource practices. These cultural-resource connections provide important context for evaluating potential environmental and socioeconomic implications associated with commercial aquarium fishery management on O'ahu.

Much of Hawai'i's economy is rooted in ocean-dependent industries, coastal access, recreation, and nearshore ecosystems. Tourism remains the largest single economic driver in the state, particularly on O'ahu, where the majority of hotel rooms, visitor-serving businesses, and the busiest international airport hub are located. Honolulu Harbor serves as a major port for shipping, major maritime industries, and is a cruise ship destination. State economic reports indicate that visitor spending statewide exceeded \$20 billion in 2024, demonstrating the continued dominance of the visitor sector as a foundational component of Hawai'i's economy (DBEDT, 2025a).

Preliminary tourism statistics show that 910,055 visitors arrived in December 2024, generating approximately \$2.04 billion in spending for that month, with year-over-year improvements relative to 2023 (DBEDT, 2025b). According to the Hawai'i Tourism Authority (HTA) O'ahu Fact Sheet for October 2024 YTD, visitor spending on O'ahu totaled approximately \$7.6 billion in 2024, indicating continued recovery from pandemic-era declines (HTA, 2024a). Visitors engage widely in marine-based recreation including snorkeling, diving, beach tourism, whale watching, glass-bottom boat excursions, and visits to public and private aquaria. Aquarium fish from Hawai'i have historically been marketed as part of the global marine ornamental trade, which is indirectly related to visitor perceptions of Hawai'i's coral reef resources, but is not itself a major component of on-island tourism spending.

Coastal development, property value growth, and marine tourism expansion have historically tracked increases in visitor demand. A Hawai'i Coral Reef Initiative study estimated that coral reefs contributed ~\$380 million annually to the state economy (DLNR, 2015). Earlier valuation work estimated recreational reef value at \$281 million annually for snorkeling and \$44 million for diving (Cesar et al., 2001), noting that snorkeler value exceeded diver value primarily due to participation volume. A 2003 global assessment valued coral reef ecosystem services at ~\$30 billion per year (Cesar et al., 2003), equivalent to over \$52 billion in 2025 dollars when adjusted for inflation.

At the December 2022 informational briefing before the Hawai'i Senate Committee on Water and Land, DAR reported Hawai'i reefs provide shoreline protection valued at \$835 million a year, coral reefs are conservatively valued at \$360 million a year, nearshore fisheries are valued at \$10-16 million a year, and local food production includes 7 million meals per year (DAR, 2022).

According to the 2019 National Oceanic and Atmospheric Administration (NOAA) Report on the Ocean and Great Lakes Economy of the United States, in 2016 (most recent data), Hawai'i employed 647,544 people and generated \$31.2 billion in wages and \$84.9 billion in gross domestic product. Hawai'i's ocean economy then employed 118,083 people and generated \$4.5 billion in wages and \$8.6 billion in gross domestic product. The ocean economy accounted for 18.2% of Hawaii's employment, 14.3% of its wages, and 10.2% of its gross domestic product (NOAA 2019).

Recent NOAA fisheries data indicate that Hawai'i's commercial marine fisheries generated approximately \$121 million in landed value in 2023, reflecting a continued upward trend driven primarily by pelagic longline fisheries, with nearshore and reef-associated fisheries comprising a small share of total commercial value (NMFS, 2025).

Hawai'i's economy is service-dominant, with major employment sectors including tourism and accommodations, retail trade, transportation and utilities, government, construction, and healthcare. The state's forecast anticipates GDP growth of approximately 1.3% in 2024 and 1.6% in 2025, with construction and non-visitor sectors partially mitigating slowed growth in tourism-related markets (DBEDT, 2025c). Medium-term labor projections anticipate a tight but gradually expanding workforce through ~2028 (DBEDT, 2025d). Honolulu County holds the majority share of employment in tourism, education, government, and commercial service industries, while Leeward, Windward, and North Shore communities maintain strong links to ocean-based economic practices, including subsistence harvest, part-time commercial fishing, and marine recreation services.

In a peer-reviewed study commissioned by NOAA, annual economic contribution of coral reefs contribute over \$800 million per year to the local economy through tourism and related services.

Within the broader commercial fishing and marine sector, participants must hold a Commercial Marine License (CML) issued by the Department of Land and Natural Resources (DLNR), Division of Aquatic Resources (DAR), for any take of marine life for commercial purposes, including sale or charter-related activities. CML holders are required to submit regular commercial catch reports, which provide data on species, gear, area of catch, and revenue. "Commercial purpose" is defined to include any harvest for profit or sale, whether landed in Hawai'i or elsewhere (DLNR/DAR 2020).

Approximately 3,000 CMLs are active statewide, and DLNR has reported that about 41 CML holders reported aquarium catch in 2020. This indicates that the aquarium fishery represents a small portion of the commercial fishing sector, but carries elevated cultural, social, and regulatory visibility (DLNR, 2024; DBEDT, 2025e).

For many affected fishers, the interruption of permit issuance eliminated a reliable revenue stream and may have prompted shifts to other commercial fisheries, exiting the fishing sector entirely, or exploration of diversified income sources to offset the loss of aquarium-related revenue. Some fishers

and affected businesses view the prohibition as a loss of livelihood and a historically permitted use, often passed down generationally within fishing families.

At the community level, the suspension of the commercial aquarium collection has been viewed by some residents and organizations as a means of protecting reef resources important to subsistence, cultural practices, tourism, and other commercial and recreational fisheries. At present, the aquarium fishery is the only commercial marine sector directly impacted by court decisions requiring environmental review, however, pending litigation may determine additional sectors of ocean-based commercial operations are subject to HEPA review.

For example, a judicial ruling on the issuance of Commercial Use Permits (CUPs) by the DLNR Division of Boating and Ocean Recreation (DOBOR) was challenged in April 2024 in the Intermediate Court of Appeals (CAAP-19-0000286)¹⁰. The Intermediate Court concluded that issuance and renewal of six Kā'anapali commercial use permits to engage in commercial activity constitute action under HEPA. On remand, the Environmental Court ordered the DLNR not to issue or renew CUPs for state waters in Kā'anapali until it can complete environmental assessments or determine such permits are exempt from environmental review under Hawai'i law. DLNR is not issuing new Commercial Use Permits (CUPs) for Kā'anapali due to the court injunction requiring environmental review. However, existing CUPs may continue to be renewed so long as there is no increase in capacity or scope of use. DLNR's position is that limited renewals maintain the status quo and comply with the injunction, although this interpretation remains disputed in ongoing litigation.

Marine Protected Areas and Economic Returns

Interest has increased in expanding Marine Managed Areas (MMAs) and Marine Protected Areas (MPAs) statewide. Evidence suggests MMAs and MPAs can provide a refuge for young fish to mature and become more fecund (Bishop et al. 2011). Economic analyses found that mixed protection networks can generate greater economic benefit than single-type systems, and high-protection MPAs may require lower management costs than medium-protection regimes due to reduced multi-use enforcement, and that a mixed-protection network (i.e., medium- and high-level regimes) may be best when fisheries dependencies are high (The Nature Conservancy 2022).

Beukering and Cesar (2004) evaluated the economic impacts of several MMAs throughout the MHI, including O'ahu. They evaluated the economic values of the Hanauma and Diamond Head MMAs on O'ahu and found that even with additional management imposed, that there was a net benefit at both MMAs. They found that requiring a \$2 fee at each of these MMAs was enough to finance the additional management costs. At Hanauma Bay, the total annual reef-associated fishery benefit is estimated at approximately \$2,570 (calculated based on enhanced catches in areas outside the MMA, not direct catch in the area), the recreational value without additional management is estimated at \$36 million, and the recreational value with additional management is estimated at \$41 million. At Diamond Head, the total annual reef-associated fishery benefit is estimated at \$850 (only the actual MLCF was used for the calculation of fisheries benefits), the recreational value without additional management is estimated at \$316,067, and the recreational value with additional management is estimated at \$1.2 million (Beukering and Cesar 2004).

Public opinion surveys reflect broad support for coral reef protection, sustainable fisheries rules, and regulated harvest management (The Nature Conservancy, 2023). Research specific to the aquarium

¹⁰ Kā'anapali Commercial Use Permit (CUO)/HEPA action case can be accessed at: <https://www.courts.state.hi.us/wp-content/uploads/2024/04/CAAP-19-0000286sdoada.pdf>

fish sector similarly found support for permit limits, sustainability measures, and reef conservation prioritization, with Native Hawaiian respondents prioritizing environmental reef health over cultural concerns in survey comparisons (Anthology Research, 2017).

These survey results provide context regarding public perspectives on marine resource management and reef conservation and inform consideration of alternatives. Any proposed action to authorize aquarium collection through a new permit system or through conditions on CMLs would occur within this regulatory and socioeconomic context, where both resource conservation and economic opportunity are salient public concerns.

The military has a significant presence in Hawai'i with large Naval installations located on estuarine and coastal areas such as Pearl Harbor and Kāne'ōhe Bay on O'ahu, the Pacific Missile Range Facility on the south shore of Kaua'i, and the Pōhakuloa Training Area on Hawai'i Island, and is the largest United States Department of Defense installation in the state of Hawai'i, or anywhere in the Pacific.

The history of Hawai'i has always included agriculture, and it continues to be an important industry, adding \$2.9 billion to the state's annual economy, and providing 42,000 direct and indirect jobs (HDA 2013). The sugar and pineapple industries boomed during the plantation era, covering thousands of acres of prime agricultural lands. As these industries have been declining, these lands are being converted to smaller farms growing diversified agricultural products (HDA 2013). Specialty exotic fruits, coffee, macadamia nuts, flowers and foliage are examples of crops that have become major exports to destinations around the globe, as well as providing fresh produce and flowers to local Hawaiian markets.

The 2022 Census of Agriculture estimated that Hawai'i had 6,569 farms operating on approximately 1 million acres of agricultural land, with 1,002 farms located on O'ahu. Farms reported an estimated total farm income of \$762.9 million in 2022, consisting of \$673.7 million from agricultural product sales, \$15.5 million from government payments, and \$73.6 million from farm-related sources (USADA 2022).

In 2024, Hawai'i aquaculture sales totaled \$53 million, down 23% from the revised 2022 sales of \$68.4 million, according to the USDA, National Agricultural Statistics Service. Shellfish contributed \$27.5 million and accounted for more than half of total sales, while ornamental sales accounted for \$3.23 million. The remaining 42% of total sales, totaling \$22.3 million, are categorized as "Other". Ornamental fish cultivation represents approximately 6% of the aquaculture industry in Hawai'i (State of Hawai'i, Department of Agriculture 2023). Over the past decade, both the public and private sectors have invested millions of dollars in developing aquaculture technologies to breed marine ornamental species in captivity. High-tech aquaculture ventures have evolved from the early fishponds, farming varieties of fish, shrimp, lobster, abalone, and seaweed (HDA 2013).

Socioeconomic Aspects of the Commercial Aquarium Fishery

Early aquarium collectors operated almost exclusively in the nearshore waters along the leeward coast of O'ahu, utilizing rudimentary equipment for collecting (Stevenson et al. 2011). More recently, commercial aquarium fishers on the island of O'ahu often perform day trips with a partner, using more advanced equipment such as self-contained underwater breathing apparatus (SCUBA) and synthetic hand nets (nets used to exclude, contain, or direct fish) to capture fish (Stevenson et al. 2011). Most aquarium fishers are between the ages of 30 and 60 years, have remained active in the fishery for more than 20 years, and fish approximately 2–3 days per week (Stevenson et al. 2011). As throughout the state, O'ahu fishers are required to report their monthly catch on an aquarium fish catch report separate from, and more detailed than, the CML reports and aquarium fish dealers are also required to report their sales. At present, there is no provision for the verification of submitted reports, so any catch numbers and dollar amounts should be regarded as minimum, not absolute values (DAR 2018a).

The aquarium fish catch reports can thus be cross-referenced with the aquarium fish dealer reports to check for underreporting.

The divers of the commercial aquarium fishery contributed an average of \$2,764,850 (inflation-adjusted 2026 dollars) to the State's economy between 2000 and 2017. According to DAR (2019a), the marine aquarium fishery is the most economically valuable commercial inshore fishery in the State of Hawai'i.

It should be noted that the dollar value of these fisheries represents only the ex-vessel value, i.e., what the fishers are paid for their catch, and does not include the value which would be generated by additional dealer and retail sales. The actual economic value of the catch is thus substantially greater than the ex-vessel values. A study done in 1994 found that the DAR reported total average value for FY 1993/FY 1994 at only \$819,957 (Miyasaka 1994 as cited in Walsh 2004), while analysis in 1993 by an aquarium trade group (Hawai'i Tropical Fish Association) estimated the total sales of Hawaiian aquarium fish (including freight and packaging) to be nearly 6 times this, at \$4.9 million (Walsh et al. 2003). Although specific export data do not exist for the aquarium fishery, most of the aquarium catch is shipped out of the state to dealers on the mainland United States, Europe, and Asia (Dierking 2002). This is neither surprising nor atypical for commercial fisheries in Hawai'i (DAR 2014a). For example, seafood exports of various Hawaiian species exceed 3.7 million pounds annually (Loke et al. 2012).

While the scale of the aquarium fishery is relatively small when compared to other commercial and recreational fisheries and marine-based activities, the Draft EIS will further evaluate the economic context of marine resource management in Hawai'i, including the role and value of coral reefs, nearshore fisheries, local food production, the broader ocean economy and employment, tourism, and military-related ocean uses.

4.2 Cultural Resources

The State of Hawai'i has a constitutional duty to preserve and protect Native Hawaiian customary and traditional rights to the extent feasible, as required by Article XII, Section 7 of the Hawai'i State Constitution. This mandate applies to marine and shoreline resources traditionally relied upon for subsistence, gathering, fishing, cultural practices, and stewardship. These duties are further reinforced by Act 50, Session Laws of Hawai'i (2024), which clarifies that environmental impact statements must identify, evaluate, and disclose potential impacts on Native Hawaiian cultural practices, cultural resources, and traditional and customary rights, and how the project may affect "the cultural practices of the community and State" within the meaning of HEPA.

For marine-based projects like an O'ahu commercial aquarium fishery, effects upon traditional subsistence practices, gathering rights, or the ecological conditions that support culturally important species must be evaluated. This includes assessing potential changes to the abundance, behavior, distribution, or availability of reef species that may hold cultural significance or contribute to cultural practices. Commercial aquarium fish collection is not a part of Native Hawaiian culture; however, Native Hawaiians do participate in the aquarium fishery and Hawaiian culture has been a significant aspect of the fishery's management since the 1970's. For example, significant review and incorporation of Hawaiian culture was integrated into Act 306 SLH – West Hawai'i Regional Fishery Management Area. Although Act 306 initiatives do not directly pertain to O'ahu, it does demonstrate the overall management strategy and public involvement with the aquarium fishery in the State.

Cultural resources on O'ahu include physical historic properties, cultural landscapes, and ongoing Native Hawaiian traditional and customary practices closely tied to nearshore ecosystems. O'ahu's coastline contains numerous historic fishponds (loko i'a), ko'a (fishing shrines), heiau, and remnants of traditional coastal villages, as well as iwi kūpuna burial sites protected under HRS 6E (Historic Preservation). These resources reflect longstanding relationships between communities and marine

ecosystems. Traditional practices—including throw-net fishing, gathering of limu and invertebrates, kilo observation tied to lunar cycles, cultural ceremony, and intergenerational teaching—remain active in many coastal districts. Intangible cultural values such as sense of place, mo'olelo, and resource identity are embedded in reef health and species presence. Community-based stewardship and restoration projects are ongoing across O'ahu, reinforcing the link between cultural continuity and marine ecosystem vitality. These baseline conditions will inform the impact assessment of proposed aquarium fishery actions.

Aquarium collection may intersect with cultural resources where target species overlap with culturally important species, gathering or subsistence areas, or zones containing historic properties. Potential sensitivities include perceived declines in species abundance, disruption of cultural access or practice, cultural concern over removal of reef fish from their ecosystem function, and impacts to cultural landscapes or ko'a in public fishing areas.

In keeping with HEPA requirements to evaluate cultural impacts and customary practices, protection strategies will be integrated into mitigation and monitoring frameworks in this EIS.

Monitoring will track biological conditions, cultural practice access, and compliance indicators to ensure that aquarium activity remains sustainable over time. Reef health surveys, species abundance tracking, and reporting requirements support scientific oversight, while cultural monitoring and community feedback ensure Native Hawaiian values remain integral. Monitoring results will be evaluated regularly by DLNR in coordination with stakeholders, to enable rapid management response including permit modification, reduced take, or adjustments to management of marine areas.

The cultural resource framework for aquarium fishery management on O'ahu will aim to emphasize respect for Native Hawaiian traditional practices, protection of historic coastal sites, and stewardship of reef-dependent cultural values. Through layered mitigation, comprehensive monitoring, and adaptive management, permitted aquarium collection—if approved—would operate in a culturally sensitive manner that aligns with HEPA policy, HRS cultural protections, and community stewardship goals. This integrated approach ensures cultural continuity, ecological sustainability, and responsiveness to community guidance over time.

The Draft EIS analysis will apply required criterion to the proposed action of commercial aquarium harvest by up to 15 permittees on the island of O'ahu.

4.2.1 Cultural Impact Assessment

A Cultural Impact Assessment (CIA) for the proposed action will be included in the Draft EIS to identify and evaluate potential impacts on Native Hawaiian cultural resources. It is assumed that the same potential cultural impacts could occur under any alternative involving collection.

4.3 Physical Resources

The Hawaiian archipelago is composed of 8 main islands and approximately 124 smaller islands, reefs, and shoals spanning over 1,500 miles that vary in size from fractions of acres to thousands of square miles (Mitchell et al. 2005). The archipelago was formed over the last 70 million years through volcanic eruptions from a relatively stationary hotspot beneath the slowly moving seafloor.

The island of O'ahu was created by two large shield volcanoes (Ko'olau and Wai'anae; Mitchell et al. 2005). O'ahu has several large estuaries and bays and one of only two barrier reef complexes in the State. Millions of years of erosion, subsidence, and reef building resulted in the formation of the atolls which form the Northwestern Hawaiian Islands (NWHI) and the submersion under the sea surface of the seamounts which used to be islands (Mitchell et al. 2005).

Located over 2,000 miles from the nearest continent, Hawai'i is the most remote island chain in the world (Mitchell et al. 2005). Despite its relatively small area (less than 4.1 million acres), an elevation range from sea level to 13,796 feet results in Hawai'i containing all the major known ecological zones. With a wide temperature range due to the elevational gradient and with average annual rainfall ranging from less than 15 inches to over 480 inches per year, Hawai'i displays most of the earth's variation in climatic conditions. Finally, Hawai'i possesses many natural wonders: the most active volcano in the world, the wettest place on earth, the tallest sea cliffs, and extensive coral reefs (Mitchell et al. 2005).

Due to the large number and the varied geology of the islands, Hawai'i has diverse marine habitats, which range from estuaries, tidepools, sandy beaches, and seagrass beds to nearshore deep waters, extensive fringing and atoll reef systems, and smaller barrier reef systems (DLNR 2015). However, introduced mangroves have altered native coastal habitats in a number of places. The distribution of marine ecosystems in Hawai'i is a result of island age, reef growth, water depth, exposure to wave action, geography, and latitude.

The marine habitats found on each island depend on the type of island: large and young, mature, or drowned islands and seamounts (DLNR 2015). Large and young islands such as the island of Hawai'i have recent lava flows and few, living structural coral reefs. Beaches are rocky except around bays, and drowned reefs may be found in deep waters or off parts of the east coast of Maui. Mature islands, such as O'ahu and Kaua'i in the Main Hawaiian Islands (MHI) and Nihoa and Necker in the Northwest Hawaiian Islands (NWHI) are the most diverse, with habitat types ranging from estuaries and sandy beaches to rocky beaches and fringing and barrier reefs to lagoons with patch or pinnacle reefs.

Drowned islands, such as atolls in the rest of the NWHI, are the remains of volcanic islands with habitats ranging from coral islets and benches to caves and terraces along the slope of the atoll (DLNR 2015).

4.3.1 Climate

Features of Hawai'i's climate include mild temperatures throughout the year, moderate humidity, persistence of northeasterly trade winds, significant differences in rainfall within short distances, and infrequent severe storms (Price 1983). For most of Hawai'i, there are only two seasons: "summer," between May and October, and "winter," between October and April.

Hawai'i's length of day and temperature are relatively uniform throughout the year. Hawai'i's longest and shortest days are about 13.5 hours and 11 hours, respectively, compared with 14.5 and 10 hours for Southern California and 15.5 hours and 8.5 hours for Maine (Price 1983). Uniform day lengths result in small seasonal variations in incoming solar radiation and, therefore, temperature. On a clear winter day, level ground in Hawai'i receives at least 67% as much solar energy between sunrise and sunset as it does on a clear summer day. By comparison the percentages are only 33 and 20 at latitudes 40 and 50 degrees respectively (Price 1983).

Over the ocean near Hawai'i, rainfall averages between 25 and 30 inches per year. The islands receive as much as 15 times that amount in some places and less than one third of it in others. This is caused mainly by orographic or mountain rains, which form within the moist trade wind air as it moves from the sea over the steep and high terrain of the islands (Price 1983).

Over the lower islands, the average rainfall distribution resembles closely the topographic contours. Amounts are greatest over upper slopes and crests and least in the leeward lowlands. On the higher mountains, the belt of maximum rainfall lies between 2,000 to 3,000 feet and amounts decrease rapidly with further elevation. As a result, the highest slopes are relatively dry (Price 1983).

Another source of rainfall is the towering cumulus clouds that build up over the mountains and interiors on sunny calm afternoons. Although such convective showers may be intense, they are usually brief and localized. Hawai'i's heaviest rains come from winter storms between October and April. On O'ahu, the Wai'anae and Ko'olau mountain ranges combine to produce distinctive windward and leeward climates, with average rainfalls exceeding 250 inches per year on the crest of the Ko'olau Range. The leeward coast of the Ko'olau Range receives less than 20 inches per year.

While the effects of terrain on storm rainfall are not as great as on trade wind showers, large differences over small distances do occur, because of topography and location of the rain clouds. Differences vary with each storm. Frequently, the heaviest rains do not occur in areas with the greatest average rainfall. Relatively dry areas may receive, within a day or a few hours, totals exceeding half of their average annual rainfall (Price 1983).

The leeward and other dry areas receive their rainfall mainly from a few winter storms. Therefore, their rainfall is usually seasonal and their summers are dry. In the wetter regions, where rainfall comes from both winter storms and trade wind showers, seasonal differences are much smaller (Price 1983).

At the opposite extreme, drought is not unknown in Hawai'i, although it rarely affects an entire island at one time. Drought may occur when there are either no winter storms or no trade winds (Price 1983). If there are no winter storms, the normally dry leeward areas are hardest hit. A dry winter, followed by a normally dry summer and another dry winter, can have serious effects. The absence of trade winds affects mostly the windward and upland regions, which receive a smaller proportion of their rain from winter storms (Price 1983).

The waters surrounding Hawai'i are affected by seasonal variations in climate and ocean circulation. The surface temperature of the oceans around Hawai'i follow a north-south gradient and range from 75°F in the MHI to 68°F to 72°F in the NWHI in winter and spring to 79°F to 81°F throughout all the islands in the late summer and fall (DLNR 2015). The depth of the thermocline, where water temperature reaches 50°F, is 1,500 feet northwest of the islands and 1,000 feet off the island of O'ahu. Surface currents generally move east to west and increase in strength moving southward (DLNR 2015).

The seas are rougher between islands than in the open ocean, because wind and water are funneled through the channels. Waves generated by north Pacific low-pressure systems are larger in the winter months than in the spring and are generally bigger on the northern shores of the islands than the southern shores. Marine organisms have adapted to these general climatological and oceanographic conditions (DLNR 2015).

Climate and oceanographic indicators highlight long-term trends and recent anomalous conditions in Hawai'i's natural environment. The El Niño Southern Oscillation (ENSO), an irregular, large-scale climate phenomenon that drives changes in regional oceanic and atmospheric conditions, has shifted over the last four decades towards increased frequency and severity in El Niño conditions, with the recent 2015 El Niño as one of the strongest on record (Gove et al. 2016).

Rainfall, which can influence salinity, temperature, sediment load, and nutrient concentrations in the marine environment, has been at or below the long-term average over the past 15 years while the intensity of short-term events has increased over the same period. Long-term sea level, an important indicator for coastal erosion and flooding, is rising by an estimated 0.15 inch per year and is expected to reach 1.6 feet higher than present day levels by 2100.

Sea surface temperature, an indicator of regional and climatic forcing that is highly influential to a myriad of ecological processes, was anomalously warm in recent years and reached a record level of

thermal stress in September 2015, resulting in widespread and severe coral reef bleaching in West Hawai'i (Gove et al. 2016).

4.3.2 Physical Aspects of the Commercial Aquarium Fishery

O'ahu's commercial aquarium fish collectors typically leave from one of four ports of entry: Hawai'i Kai, Sand Island, Wai'anae, or Hale'iwa. Boats can access He'eia harbor on the windward side, however fishing in that location is limited due to environmental conditions and typical weather patterns. Most collectors go out with partners and have boats that range in size between 17 to 26 feet. These boats are equipped with dive gear, scuba tanks, collecting buckets, nets, and containers to hold the fish. Before leaving the harbor, the collector is given instructions by their marine dealer on which fish to target for that particular day.

Most collectors leave in the morning and travel to their collecting sites, which range from 1-5 miles away. Although divers average 3-4 scuba bottles/day, typically, most collection sites are rotated every dive. Average dives are conducted in the 30–50-foot range, although some deepwater species are collected in the 150 to 300-foot range. A typical collector has between 150-250 dive sites on the island from which to choose, depending on surf, wind, and currents.

Collection is done primarily with the use of two hand nets, a fence net, and a collecting bucket, from which the targeted fish are placed upon capture. Most collectors chase the fish into the fence net, where they are corralled long enough so that the collector can use their hand nets to capture the fish. Fence nets range in length between 12-30 feet and are 4-6 feet tall. At the end of the dive, the fish in the collection bucket are brought back to the boat and placed between 20-25 feet on a decompression line hung from the boat. At this level, most fish can be safely decompressed within 30-40 minutes. If a fish cannot be decompressed correctly, they are released. Most experienced collectors can collect 10-40 fish per dive. Once the dives are completed, the collector returns to the harbor and takes their catch to the marine dealer's facility.

In lieu of collection with fine-mesh nets, other gear types are legal to use when collecting aquarium fish with a CML. These methods can include using legal mesh nets (at least 2-inch stretched eye), fishing pole and hook-and-line fishing, and slurp guns which suction individual fish directly into the diver's catch bag.

Fine-mesh fence nets and hand nets are the preferred method, as these are the safest, most efficient methods. The use of larger mesh nets, slurp guns, or hook-and-line are only used in areas where small mesh nets are not allowed.

4.4 Biological Resources

Because of Hawai'i's geographical isolation, many of its coastal and marine species are endemic (i.e., native or restricted to a certain country or area). Approximately 15 to 25% of Hawai'i's marine species are endemic to the Hawaiian Archipelago (including Johnston Atoll), one of the largest proportions of marine endemism for any island chain in the world (DLNR 2015).

Of the 612 known nearshore fish species in Hawai'i, 25% are endemic to the Hawaiian Archipelago (including Johnston Atoll) (Randall 2007). Yet because of the isolation, Hawai'i has relatively low marine species richness (i.e., diversity), with approximately 580 shallow reef fish species in contrast to areas of the Pacific further west with thousands of species. In total though, Hawai'i still has over 6,000 marine species (DLNR 2015).

Toonen et al. (2011) conclude that the Hawaiian Archipelago is not a single, well-mixed marine community, but rather there are at least four significant multi-species barriers to dispersal along the

length of the island chain, and that species that appear capable of extensive dispersal, such as Yellow Tang and Kole, show significant population differentiation within the Hawaiian Archipelago.

In addition, there are significant consensus genetic breaks that restrict gene flow between islands, including a barrier between the island of Hawai'i and the rest of the Main Hawaiian Islands (MHI). Conversely, around the island of Hawai'i, there is connectivity between adjacent reefs (up to 184 km), with fish from protected FRAs being documented to seed unprotected areas, highlighting the effectiveness of protected areas (Christie et al. 2010). It is assumed that this would also be applicable to the smaller island of O'ahu.

4.4.1 Wildlife Species

Marine species in Hawai'i include over 1,200 species of fishes, with around 500 species adapted to live on coral reefs, and the rest adapted to the pelagic open surface waters, mesopelagic or bathypelagic zones (middle or deep waters), estuaries, or sandy bottoms (DLNR 2015).

At the top of the food chain are the apex predators such as sharks and large predatory reef and pelagic fishes. Approximately 4,100 marine invertebrates are known from Hawai'i and include over 100 species of hard, soft, and precious corals as well as hundreds of types of snails, crabs, shrimps and small numbers of worms, jellyfish, sponges, starfish, and tunicates (DLNR 2015).

Five marine turtles occur in Hawai'i: two are common residents that nest on Hawai'i's beaches and three are more occasional visitors. All sea turtles are listed as threatened or endangered under the federal Endangered Species Act (ESA) of 1973, as amended.

Approximately 26 species of marine mammals, mostly cetaceans, are considered resident or occasional visitors to Hawai'i. These include the Humpback Whale or koholā (*Megaptera novaeangliae*), False Killer Whale (*Pseudorca crassidens*), Spinner Dolphin (*Stenella longirostris*), and Bottlenose Dolphin (*Tursiops truncatus*). Humpback Whales and Hawaiian Monk Seals (*Monachus schauinslandi*) are common marine mammals in Hawai'i and are listed as endangered under the ESA (DLNR 2015). All marine mammals are protected by the Marine Mammal Protection Act. Many of the resident whales and dolphins feed on fishes and squids that occur in the moderately deep waters off Hawai'i's coasts.

4.4.2 Hawai'i Species of Greatest Conservation Need

Species of Greatest Conservation Need (SGCN) are identified in Hawai'i's State Wildlife Action Plan (SWAP) but are not threatened, endangered, or otherwise legislatively protected species. However, recognizing the need to take action to protect endemic species, the DLNR identified Hawai'i's indigenous SGCN in Exhibit 1 of Hawai'i Administrative Rules Chapter 124. This list includes terrestrial mammals, marine mammals, and marine reptiles only. Additional native species were identified and added based on their presence on the following lists (DLNR 2018):

- The Federal list of threatened, endangered, candidate and concern species;
- Species protected by the U.S. Marine Mammal Protection Act;
- The State list of threatened and endangered species;
- The Checklist of the Birds of Hawai'i; and
- Species identified as present in Hawai'i by groups or organizations with significant experience or expertise (e.g., Audubon Watch List; national and regional Bird Plans, such as the U.S. Shorebird Conservation Plan, Waterbird Conservation for the Americas; Regional Seabird Conservation Plan).

For any terrestrial indigenous species not represented by any of the lists, their status as indigenous automatically included them as Hawai'i's SGCN. For aquatic fishes and invertebrates only, endemic species were added to the list (DLNR 2018). In addition, the DAR also included native species on the International Union for the Conservation of Nature and Natural Resources' (IUCN) Threatened Red List, and the Convention on International Trade in Endangered Species (CITES) list.

The IUCN Red List is a comprehensive inventory of the global conservation status of biological species, which uses a set of criteria to evaluate the extinction risk of many species, whereas CITES is an international agreement between governments, and includes appendices which group species according to how threatened they are by international trade. A Statewide Aquatic Wildlife Conservation Strategy (SAWCS) Advisory Council was developed to advise on additional species that were at risk due to specific threats. The SAWCS Advisory Council is a panel with representatives from federal and state agencies, resource user groups, and non-profit organizations that helps the DAR develop its CWCS (DLNR 2018).

Additional species considered must meet one or more of the following biological criteria (DLNR 2018):

- Species with low or declining populations;
- Species indicative of the diversity and health of the state's wildlife;
- Species with small, localized "at-risk" populations;
- Keystone species;
- Indicator species;
- Species with limited dispersal;
- Disjunct species;
- Vulnerable species;
- Species of conservation concern;
- "Responsibility" species, (i.e., species that have their center of range within a state); and,
- Species with fragmented or isolated populations.

Currently nearly 25% of fish, 20% of mollusks, 18% of algae, and 20% of the corals are considered endemic to Hawai'i and listed as SGCN species (Randall 2007, DLNR 2015).

Hawai'i Species of Greatest Conservation Need (SGCN) fish species that have been reported as being collected by commercial aquarium collectors on O'ahu between 2000 and 2017 include:

- Psychedelic Wrasse (*Anampses chrysocephalus*)
- Fisher's Angelfish (*Centropyge fisheri*)
- Bandit Angelfish (*Apothemichthys arcuatus*)
- Spotted Cardinalfish (*Apogon maculiferus*)
- Hawaiian Orbicular Velvetfish (*Caracanthus typicus*)
- Hawaiian Flame Angelfish (*Centropyge loricula*)
- Blue-striped Butterflyfish (*Chaetodon fremblii*)
- Tinker's Butterflyfish (*Chaetodon tinkeri*)
- Hawaiian Morwong (*Cheilodactylus vittatus*)
- Chocolate-dip Chromis (*Chromis hanui*)
- Oval Chromis (*Chromis ovalis*)
- Yellowstripe Coris (*Coris flavovittata*)
- Elegant Coris (*Coris venusta*)
- Hawaiian Knifefish (*Cymolutes lecluse*)

- Redstripe Pipefish (*Doryrhamphus baldwini*)
- Marbled Blenny (*Entomacrodus marmoratus*)
- Masked Angelfish (*Genicanthus personatus*)
- Steindachner's Moray (*Gymnothorax steindachneri*)
- Blackside Razorfish (*Iniistius umbrilatus*)
- Hawaiian Flagtail (*Kuhlia xenura*)
- Sunset Bass (*Liopropoma aurora*)
- White-saddle Goatfish (*Parupeneus porphyreus*)
- Hawaiian Rock Damselfish (*Plectroglyphidodon sindonis*)
- Hawaiian Anthias (*Pseudanthias thompsoni*)
- Hawaiian Turkeyfish (*Pterois sphex*)
- Titan Scorpionfish (*Scorpaenopsis cacopsis*)

Additional SGCN fish may have been collected and reported under broader category names such as frogfish, parrotfishes, pipefishes, gobies, moray eels, seahorses, blennies, snake eels and worm eels, boxfish, bigeyes, scorpionfishes, lizardfishes, pufferfishes or butterflyfish, among others, but specific species identification cannot be made.

Of the SGCN species listed above, only the Bandit Angelfish and Fishers Angelfish are included on the proposed White List (Table 3-2) and will be analyzed in the Draft EIS. However, the IUCN considers the Bandit Angelfish and Fishers Angelfish species of 'Least Concern' (Pyle et al. 2010b).

The SWAP (2015) addresses SGCN species and identifies the following actions to ensure the species conservation and sustainability:

1. Conservation Actions: The goals of conservation actions are to not only protect current populations, but to also establish further populations to reduce the risk of extinction. Commercial licenses are required for aquarium collectors. In addition to common statewide and island conservation actions, specific actions include:
 - Restoration of habitat; and,
 - Maintaining healthy populations with appropriate fishing regulations and education.
2. Monitoring:
 - Continue to survey for populations and distribution in known and likely habitats.
3. Research Priorities:
 - Improve understanding of factors affecting the species population size and distribution; and,
 - Support aquaculture research to develop captive breeding for species used in the aquarium trade.

4.4.3 Aquarium Fish

The Draft EIS will evaluate the impacts of the proposed action and alternatives on the aquatic species that are included on the proposed White List and provide a thorough analysis of each species proposed for collection, discuss the application of O'ahu population and density estimates of fish species when determining catch quotas and annual catch limits for species on the proposed White

List, and provide a comprehensive evaluation of the marine species under consideration for the proposed White List (Table 3-2).

Monitoring and Data Surveys

The NOAA has been involved in a large-scale monitoring program that surveys coral reef fish assemblages and habitats, encompassing the bulk of the US-affiliated tropical Pacific. This effort, now known as the NOAA Pacific Islands Fisheries Science Center (PIFSC) Ecosystem Sciences Division (ESD) (formerly known as the Coral Reef Ecosystem Program (CREP)), has included over 5,500 surveys around 39 islands, including the island of O‘ahu. The dataset was developed as a resource that could be used to understand how human, environmental, and oceanographic conditions influence coral reef fish community structure, providing a basis for research to support effective management outcomes (PIFSC-ESD 2020). PIFSC-ESD surveys are not designed to provide detailed information about site changes over time, rather the objective is to describe patterns of population levels over a wide range of depths and habitat types using a probabilistic, stratified random sampling framework.

In 2010, the Pacific Reef Assessment and Monitoring Program (RAMP) developed and implemented a standardized survey methodology focusing on reef fish and paired benthic habitat-monitoring using monitoring methods specified in the National Coral Reef Monitoring Plan (NCRMP). The aim of the current systematic sampling design is to maximize survey site replication, while the overarching goal was to generate data representative of coral reef hard-bottom substrate at the islands-scale (Heenan et. al 2017).

Survey protocols are standardized across years and locations to allow statistically valid comparisons among islands, regions, habitat types, and management regimes. The program emphasizes shallow reef habitats and provides one of the most comprehensive and consistent datasets available for evaluating reef condition in Hawai‘i.

Surveys were conducted on the island of O‘ahu in 2010, 2012, 2013, 2015, 2016, and 2019 to describe overall fish abundance over large spatial scales (DAR 2024a), and provided data used in the prior environmental review. New surveys were conducted in 2024. Data quality and uncertainty are evaluated using the coefficient of variation (CV) which can provide insight into the uncertainty of a data set. The 2024 PIFSC-ESD survey data will be evaluated and discussed in the Draft EIS.

Surveys are conducted at 228 stationary point count locations with a randomized depth-stratified design, at depths from approximately 0-98 feet (0-30 meters, Figure 3). At each point count location divers conducted fish counts, estimated benthic cover, and habitat structural complexity. Typically, 3–5 days are spent at each island during each visit (generally once every 3 years), conducting 30–50 fish surveys during that time. Detailed explanations of the study sites and survey methods are found in Heenan et al. (2017). To establish survey points, a 30 meter transect is measured out along the substrate. For each point count, a pair of divers conducts simultaneous counts in adjacent, 49.2-foot (15-meter) cylindrical plots along the transect (i.e., diver 1 surveys from the 7.5-meter mark along the transect and diver 2 surveys from the 22.5-meter mark) extending from the substrate to the limits of vertical visibility (Heenan et al. 2017).

Each fish count consists of two parts, a 5-minute species enumeration in which divers generate a list of taxa observed within their cylinder to species when possible, and a tally portion in which divers systematically work through their species list recording the number and estimated size of fish present within the cylinder. Tallying is done by conducting a series of rapid visual sweeps of the plot with one species-group (e.g., mid-water, surgeonfish, benthic butterflyfish) counted per sweep. At the end of the sweeps, divers carefully search for small, site-attached, and semi-cryptic species. Surveys are not conducted if horizontal visibility was <25 feet (Heenan et al. 2017).

Using its data, PIFSC-ESD calculates the population estimates by converting survey counts to abundance per unit area and then multiplying by the estimated area of hard-bottom habitat in <30 meters of water (25,119 Ha). It is noted that coral reefs extend beyond 30 meters of depth, extending to depths of over 80 meters in some areas (as cited in Tissot et al. 2015).

Mesophotic coral ecosystems (occurring at depths of 30 meters or more) have the potential to serve as refugia for shallow reefs as long provided genetic connectivity exists, and many of the disturbances of shallow reefs may leave these areas largely intact (Slattery et al. 2011). Bridge et al. (2013) concluded that over 40% of Indo-Pacific coral fauna are also recorded at depths greater than 30 meters. This is especially true in the upper limit of the mesophotic coral ecosystems (30 to 60 meters in depth (Slattery et al. 2011). In fact, Asher et al. (2017) found in Hawai'i (O'ahu, Maui, Moloka'i, and Lāna'i) some groups of fish had higher mesophotic abundances and there was a change in predator communities, which indicated depth refugia.

Due to the large spatial coverage and range of depths surveyed by the PIFSC-ESD, PIFSC-ESD data were the best estimator of island-wide fish population size and therefore served as the primary basis for the impact analysis found in prior EIS evaluations. Estimated population size for the 35 fish species on the proposed White List will be included in the Draft EIS.

Although PIFSC-ESD data are the most comprehensive data publicly available for the island of O'ahu, certain limitations of the surveys may lead to an underestimate of some populations of aquarium fish. Specifically, surveys are concentrated into a short period of survey effort (about one month each year) located in different locations from one year to the next, allowing for a larger coverage of the entire island, but over five years during a seven-year period. Also, population estimates may be an underestimate for certain species as surveys were only conducted at depths <30 meters (approximately 98 feet) in areas of hard-bottom habitat.

No data were collected from soft-bottom habitat, as these tend to not be important habitats for most aquarium species, but certain species may utilize these areas and, therefore, are not represented in the population estimate.

No data were collected from depths greater than 30 meters (approximately 98 feet), but certain species may utilize these areas as well and are therefore not represented in the population estimate. In addition, divers are trained in the identification of aquarium fish; however, certain species may be cryptic, skittish, or difficult to identify in the field, which may lead to underestimates of the population of those species.

All data collection methods have a range of variation, or uncertainty. Sample sizes and spatial patchiness of species can affect how well the data capture the "true abundance" of the species (DAR 2024a). For the PIFSC-ESD data, this results in a high and low range for population estimates. Additionally, a coefficient of variation (CV) can be calculated for each species' population estimate, which can provide insight to the uncertainty of a population estimate (DAR 2024a); however, it is not a score of abundance. Data quality and uncertainty have been previously evaluated for the West Hawai'i aquarium fishery using the coefficient of variation (CV), where values less than 0.2 indicate good data quality, 0.2–0.3 indicate acceptable quality, 0.3–0.5 indicate marginal quality, and values greater than 0.5 indicate poor data quality (DAR 2024a).

A recent study (Heenan et al. 2017) found that PIFSC-ESD data may underestimate some population estimates due to species' behavior; specifically, the SCUBA gear used by PIFSC-ESD surveyors leads to significantly lower counts of target fish species by divers when compared to divers using closed-circuit re-breathers (CCR), which do not emit noisy and conspicuous bubbles. Therefore, it is conceivable that impacts may be overestimated, as the populations of reef fish may be higher than

PIFSC-ESD surveys report. Lindfield et al. (2014) found that, within areas open to fishing (e.g., not MPAs), bubble-free survey methods may record up to 260% higher fish abundance.

While other data sets and studies exist, they may not effectively evaluate impacts of the proposed action as they do not represent the best science as it applies to O'ahu and species on the proposed White List. Notable examples include, the report published by the Hawai'i Monitoring and Reporting Collaborative (HIMARC) on Patterns of O'ahu Aquarium Fish Biomass. The primary limitation with this data set is that it does not evaluate individual species and does not analyze temporal trends. To provide a comprehensive indication of available data, HIMARC data will be discussed in the Draft EIS.

DAR West Hawai'i Regional Fishery Management Area reports evaluate trends in abundance of some aquarium fish collected in West Hawai'i. Because species-specific trend data do not exist for O'ahu, the best available data to assess population trends comes from WHRFMA reports, although there are limitations in using the results to evaluate fish populations in O'ahu. The reefs, and management of the reefs, are different between the two islands; therefore, the data may not be the best predictor of trends occurring on O'ahu. WHRFMA data will be discussed in the Draft EIS.

Although there are some limitations, the DAR (2024) finds PIFSC-ESD data to be the best option for population estimates across the broad geographic area, habitat types, and regional variability on O'ahu. Therefore, the PIFSC-ESD population estimates represent the best available scientific information for characterizing regional reef fish assemblages and benthic conditions required for evaluating potential impacts.

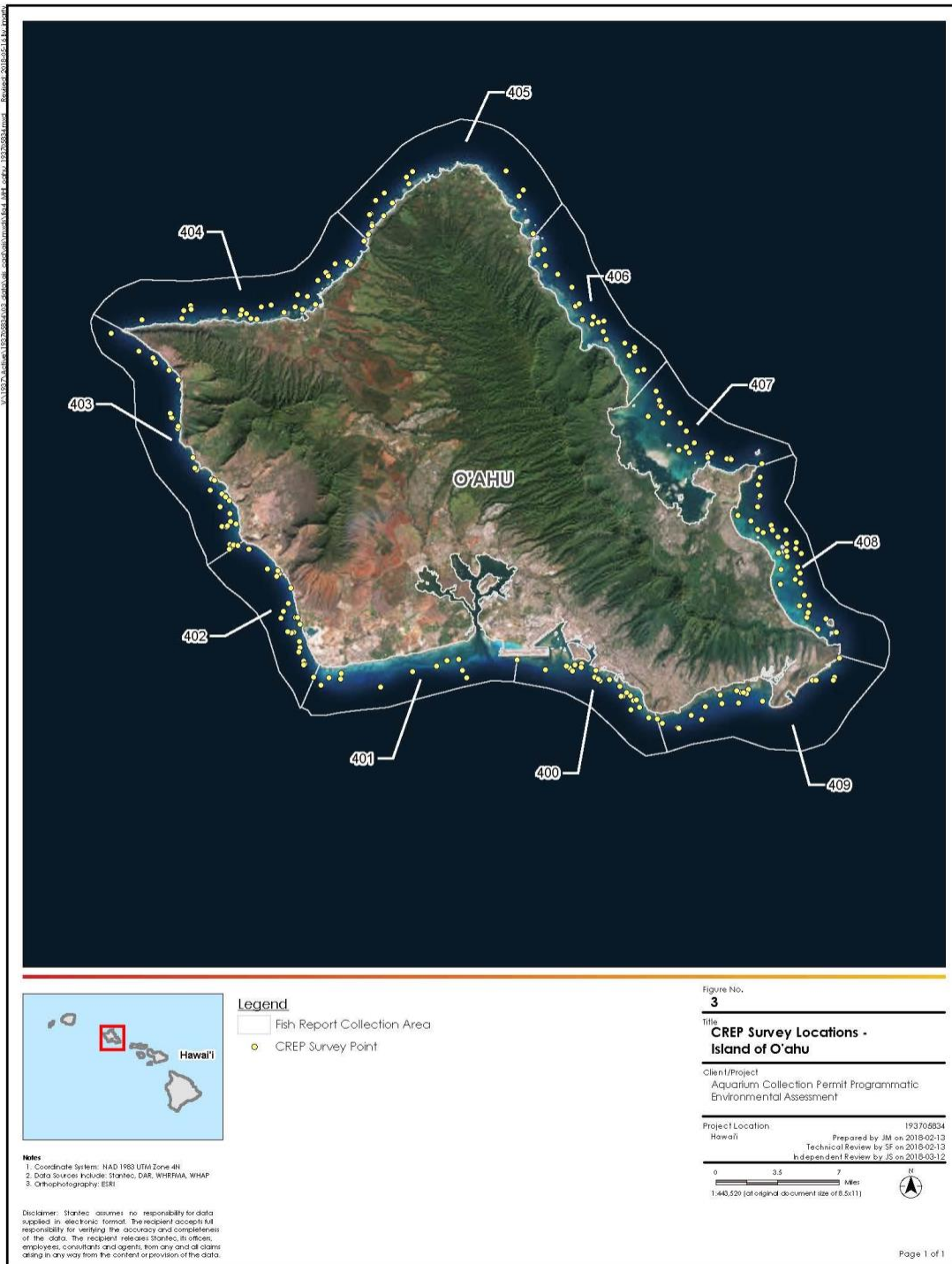


Figure 2. PIFSC-ESD Survey Locations - Island of O'ahu

4.4.4 Threatened and Endangered Wildlife

No species collected by aquarium fishers occur on the state or federal list of threatened and endangered species.

4.4.5 Reef Habitat

Stretching for more than 1,200 miles in the Central Pacific, Hawaiian coral reefs account for about 85% of all coral reefs in the United States. More than 500 species of algae also live in Hawai'i's coral reefs providing food for fish and oxygen for all marine life. The oceans' algae provide more oxygen than all land plants worldwide combined. There are 78 species of endemic marine algae, 24 species of endemic freshwater algae, and two aquatic plants included on Hawai'i's list of SGCN (DLNR 2015).

Hawai'i's reefs are unique among the world's reef ecosystems. Compared to coral reefs in the Indo-Pacific or Caribbean, Hawaiian reefs are relatively young. Hawai'i reefs are therefore dominated by hard corals (as opposed to sponges, tunicates, and soft corals) and are inhabited by distinctive reef fish and other marine life. Hawai'i hosts about 40 species of hard, reef building corals (MRC 2017). Due to Hawai'i's extreme isolation, an estimated 25% of the coral reef species are found nowhere else.

Stony corals are defined by Hawai'i Administrative Rules, HAR 13-95, as any species belonging to the Order Scleractinia (marine corals which generate a hard skeleton). All reef corals, including mushroom corals, belong to this order (DAR 2014b). The animals which form stony corals belong to the same major group as jellyfish and anemones. Most of them are colonial, and all secrete a hard skeleton made of calcium carbonate. The animals themselves, called polyps, form the outer living layer of a coral colony. Each polyp sits in a cup-like depression called a calyx. Some Hawaiian stony corals grow very slowly and can take hundreds of years to recover from damage. To differentiate from many west Pacific corals which can grow very rapidly, and from Pocillopora which rapidly recolonizes dead reefs and grows rather quickly (DAR 2014b).

The characteristic color of many living corals is due to the presence of single-celled algae, called zooxanthellae, which live inside the coral polyp. The coral and algae have a symbiotic relationship. Most stony corals produce colonial forms that are attached to the substrate, but a few are solitary and unattached (DAR 2014b).

Coral reefs surround the island of O'ahu, although active live coral growth is limited to the leeward sides of the island or in sheltered areas on the windward coasts. In 2014 and 2015, coral reefs in the main Hawaiian Islands suffered up to 90% bleaching and 50% mortality rates in some areas due to widespread prolonged warming events during each year (Rodgers et al 2017). The areas affected included portions of O'ahu.

4.4.6 Invasive Species

From A Guidebook of Introduced Marine Species in Hawai'i (DeFelice et al. 2001):

Through the Hawai'i Biological Survey at Bishop Museum, a count of the total number of species in the Hawai'i Archipelago has been compiled. In 1999, there were 23,150 known species of terrestrial and aquatic algae, plants, and animals, including 5,047 nonindigenous species (~ 20%). The total number of marine and brackish water alien species in the Hawaiian Islands was 343, including 287 invertebrates, 24 algae, 20 fish, and 12 flowering plants.

The 287-alien marine invertebrate species make up about 7% of the known marine and brackish water invertebrate fauna in the Hawaiian Islands (4,099 species). Arthropods have been the most successful marine invaders, with 71 suspected alien crustacean species, while 53 alien mollusks have made it to Hawai'i. Limited information exists for these invasive species.

The greatest number of introduced marine invertebrates have arrived to Hawai'i through hull fouling, but many have also arrived with solid ballast and in ballast water. DeFelice et al. (2001) considered 201 species (70%) to be introduced, and 86 species (30%) cryptogenic (not demonstratively native or introduced). Two hundred forty-eight (87%) have become established, 15 (5%) arrived but failed to become established, 6 (2%) were intercepted, and the population status of 18 species (6%) is unknown.

The nonindigenous invertebrate species in the Hawaiian Islands are primarily of Indo-Pacific/Philippines Islands region origin. A surprising number of species from the tropical western Atlantic/Caribbean region have invaded Hawai'i as well.

Invasive algae pose the largest threat to Hawai'i's reef ecosystem. The five most common algae species posing the largest threat include Smothering Seaweed (*Kappaphycus* and *Euchema* spp.), Gorilla Ogo (*Gracilaria salicornia*), Leather Mudweed (*Avrainvillea amadelpha*), Hook Weed (*Hypnea musciformis*), and Prickly Seaweed (*Acanthophora spicifera*). Marine debris arriving from other countries and regions and ballast water/biofouling are the primary threat for invasion in the Hawaiian Islands.

Invasive fish species of concern in Hawai'i include the Blue-stripe Snapper (Taape; *Lutjanus kasmira*) and Peacock Grouper (Roi, Blue-spot peacock grouper; *Cephalopholis argus*). The Blacktail Snapper (*Lutjanus fulvus*) is less common and restricted to the main Hawaiian Islands.

All three species were introduced from 1956-1961, mostly as game fish (Russell et al. 2016a, Russell et al. 2016b, Choat et al. 2018). The introduction of the Blue-stripe Snapper into Hawai'i included at least one non-native parasite that has spread to local fishes (Gaither et al. 2013).

The Peacock Grouper prefers exposed reef front habitats with a water depth of 3 to 30 feet, while juveniles utilize thick pockets of coral (Myers 1999).

Individuals use a variety of hunting techniques to capture prey. They may hover and wait, stalk prey, and follow larger predators such as eels and attack missed prey (Hoover 2008). Dierking et al. (2009) found reef fishes were the principal diet component (97.7% by % Index of Relative Importance [IRI]) of Peacock Grouper. Crustaceans were the only other higher taxonomic group in the diet but were of minor importance (2.3% by %IRI) (Dierking et al. 2009).

The Peacock Grouper is a known carrier of Ciguatera (a foodborne illness), which is well known by the local fishermen and therefore its use as a food fish is intentionally very limited (BIAAF, pers. comm.). It has become a dominant predator species in the Main Hawaiian Islands and is known to have negative ecological impacts on other endemic and culturally valued species (Dierking 2007). In recent years, efforts to minimize populations of this species have led to statewide events often dubbed "roi round-ups," where local spear fishers are encouraged to catch and remove as many roi from the reefs as possible. However, a recently completed 5.5-year study found that removal of the Peacock Grouper did not translate into sustained increases in prey, nor to increases in total fish biomass (Giddens et al. 2018).

The Blue-stripe Snapper and Peacock Grouper are well established in Hawai'i. The Blacktail Snapper occurs at low densities only in the lower Hawaiian Islands (Randall 1987, Gaither et al. 2010 as cited in Russell et al. 2016b). From 2008 through 2014, regional estimates of the density of Blacktail

Snapper ranged from 1.8 to 14.1 individuals per 2.5 acres over hard bottoms to 98.5 feet depth in Pacific coral reef areas surveyed by NOAA (NOAA unpublished data as described in Heenan et al. 2014 as cited in Russell et al. 2016b). The highest recorded density was in the MHI region (0.3 to 45.1 individuals per 2.5 acres) as compared to the lowest in the Southern Mariana Islands region (0 to 4.3 individuals; Russell et al. 2016b).

5 Environmental Impacts

The Draft Environmental Impact Statement (Draft EIS) will evaluate the potential environmental impacts of the proposed commercial aquarium fishing permitting program and its alternatives on the biological, physical, cultural, and socioeconomic environments retained for further analysis. Resources not expected to experience measurable effects under any alternative will be described briefly or omitted as appropriate.

The Draft EIS will assess direct, indirect, and cumulative impacts on each retained resource. Analysis will consider phases of the proposed action, from permit issuance through longer term implementation, closely examining a temporal scope of analysis of five years. Although HEPA does not define direct or indirect impacts, the Draft EIS will apply National Environmental Policy Act (NEPA) definitions for clarity and analytical consistency:

- Direct effects are those caused by the action and occurring at the same time and place as the activity (40 CFR § 1508.8(a)), such as localized removal or disturbance of individual plants/animals on site, regional employment and economic activity, or physical alteration of cultural or historic sites located in a project area.
- Indirect effects are reasonably foreseeable effects that occur later in time or farther removed in distance (40 CFR § 1508.8(b)), such as growth-inducing effects and other impacts related to changes in land use patterns, population density, and associated impacts on air, water, and other natural systems, including ecosystems, or secondary socioeconomic effects.

Cumulative impacts will be evaluated by considering the proposed action in combination with other past, present, and reasonably foreseeable future activities, including other regulated fisheries, marine managed area designations, monitoring and research on reef stressors, and statewide aquatic resource management initiatives.

6 Public Scoping Process

Pursuant to HAR §11-200.1-23, publication of this Environmental Impact Statement Preparation Notice (EISPN) initiates the public scoping process for the proposed action to implement an aquarium fishing permitting program on the island of O’ahu. Although a separate Final EIS was prepared and circulated previously (PIJAC 2021), it was not accepted and terminated without completion. Accordingly, a new environmental review is required under the current administrative rules under HAR §11-200.1. The scoping process initiated by this EISPN provides an opportunity to reassess the scope of environmental issues, alternatives, and mitigation measures based on updated regulatory requirements, available information, and current public concerns.

Publication of this EISPN in The Environmental Notice by the Office of Planning and Sustainable Development initiates a 30-day public review and comment period. Substantive information and issues raised during prior environmental review efforts—including agency technical input, public and stakeholder comments, scientific data, and matters identified in the Board of Land and Natural Resources’ (BLNR) Notice of Non-Acceptance—will be reviewed for background and procedural context and may be considered alongside new comments received in response to this EISPN.

The scoping process will assist in identifying relevant issues, data gaps, and analytical needs, and will provide direction regarding areas requiring expanded analysis or clarification in the Draft EIS.

During the scoping period, agencies, organizations, and members of the public are invited to submit written comments identifying environmental concerns, reasonable alternatives, potential mitigation measures, and resource areas that should be addressed in the Draft EIS. Substantive comments—defined as those pertaining to the scope and content of the environmental review—will be used to refine the scope of analysis, determine which issues warrant detailed evaluation in the Draft EIS, and identify issues that may be briefly discussed or excluded from further analysis, consistent with HAR §11-200.1-23(b).

This scoping process is intended to ensure early consultation and to support development of a technically sound EIS that reflects historical input, current environmental and regulatory conditions, and stakeholder perspectives. The public is encouraged to participate and review this EISPN and provide substantive feedback for inclusion in the Draft EIS.

In accordance with HAR §11-200.1-23, the applicant will conduct a Public Scoping Meeting during the 30-day comment period. The Public Scoping Meeting will be held on Tuesday, May 26, 2026 from 5:00pm to 7:00pm at the DLNR Boardroom located on the 1st floor of the Kalanimoku Building at 1151 Punchbowl Street, Room 132. The meeting will include a presentation describing the proposed action and the environmental review process, followed by an opportunity for the public to provide oral comments on the scope of the EIS. Oral comments received during the meeting will be recorded and submitted as part of the administrative record of the Draft EIS.

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