

**THE THIRTIETH LEGISLATURE
APPLICATION FOR GRANTS
CHAPTER 42F, HAWAII REVISED STATUTES**

Type of Grant Request:

Operating Capital

Legal Name of Requesting Organization or Individual: Db/a:
Hawaii Pacific University Oceanic Institute of Hawaii Pacific University

Amount of State Funds Requested: \$ 674,558

Brief Description of Request (Please attach word document to back of page if extra space is needed):

Oceanic Institute is requesting GIA funds to improve biosecurity and environmental control in our fish and shrimp hatchery. OI's hatchery is a valuable asset for Hawaii's aquaculture industry. It is used to enhance food security in our communities, protect our coastal resources, and promote workforce development. The limited supply of baby fish and shrimp to grow for food represents a significant barrier to the expansion of Hawaii's aquaculture industry, and OI's hatchery is the only facility on O'ahu capable of producing significant quantities of these animals for Hawaii's farmers.



Amount of Other Funds Available:	Total amount of State Grants Received in the Past 5 Fiscal Years:
State: \$ _____	_____
Federal: \$ _____	\$ <u>0.00</u> (Oceanic Institute of HPU only)
County: \$ _____	Unrestricted Assets:
Private/Other: \$ <u>45,000</u>	\$ <u>40,233,359</u> (HPU consolidated)

New Service (Presently Does Not Exist): Existing Service (Presently in Operation):

Type of Business Entity:	Mailing Address:
<input checked="" type="checkbox"/> 501(C)(3) Non Profit Corporation	41-202 Kalaniana'ole Hwy., Ste. 9
<input type="checkbox"/> Other Non Profit	City: State: Zip:
<input type="checkbox"/> Other	Waimanalo HI 96795

Contact Person for Matters Involving this Application	
Name: Shaun M. Moss	Title: Executive Director
Email: smoss@hpu.edu	Phone: 808-259-3110

Federal Tax ID#: [REDACTED]	State Tax ID#: [REDACTED]
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	John Gotanda, President	
Authorized Signature	Name and Title	Date Signed

Application Submittal Checklist

The following items are required for submittal of the grant application. Please verify and check off that the items have been included in the application packet.

- 1) Hawaii Compliance Express Certificate (If the Applicant is an Organization)
- 2) Declaration Statement
- 3) Verify that grant shall be used for a public purpose
- 4) Background and Summary
- 5) Service Summary and Outcomes
- 6) Budget
 - a) Budget request by source of funds ([Link](#))
 - b) Personnel salaries and wages ([Link](#))
 - c) Equipment and motor vehicles ([Link](#))
 - d) Capital project details ([Link](#))
 - e) Government contracts, grants, and grants in aid ([Link](#))
- 7) Experience and Capability
- 8) Personnel: Project Organization and Staffing

AUTHORIZED SIGNATURE

JOHN GOTANDA, PRESIDENT

DATE

JAN. 18, 2024



STATE OF HAWAII
STATE PROCUREMENT OFFICE

CERTIFICATE OF VENDOR COMPLIANCE

This document presents the compliance status of the vendor identified below on the issue date with respect to certificates required from the Hawaii Department of Taxation (DOTAX), the Internal Revenue Service, the Hawaii Department of Labor and Industrial Relations (DLIR), and the Hawaii Department of Commerce and Consumer Affairs (DCCA).

Vendor Name: HAWAI'I PACIFIC UNIVERSITY

Issue Date: 01/02/2024

Status: **Compliant**

Hawaii Tax#: [REDACTED]
New Hawaii Tax#: [REDACTED]
FEIN/SSN#: XX-XXX3930
UI#: XXXXXX0488
DCCA FILE#: 13419

Status of Compliance for this Vendor on issue date:

Form	Department(s)	Status
A-6	Hawaii Department of Taxation	Compliant
8821	Internal Revenue Service	Compliant
COGS	Hawaii Department of Commerce & Consumer Affairs	Exempt
LIR27	Hawaii Department of Labor & Industrial Relations	Compliant

Status Legend:

Status	Description
Exempt	The entity is exempt from this requirement
Compliant	The entity is compliant with this requirement or the entity is in agreement with agency and actively working towards compliance
Pending	A status determination has not yet been made
Submitted	The entity has applied for the certificate but it is awaiting approval
Not Compliant	The entity is not in compliance with the requirement and should contact the issuing agency for more information

**DECLARATION STATEMENT OF
APPLICANTS FOR GRANTS PURSUANT TO
CHAPTER 42F, HAWAII REVISIED STATUTES**

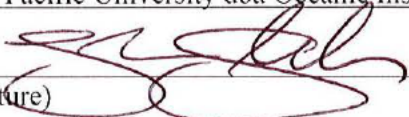
The undersigned authorized representative of the applicant certifies the following:

- 1) The applicant meets and will comply with all of the following standards for the award of grants pursuant to Section 42F-103, Hawaii Revised Statutes:
 - a) Is licensed or accredited, in accordance with federal, state, or county statutes, rules, or ordinances, to conduct the activities or provide the services for which a grant is awarded;
 - b) Complies with all applicable federal and state laws prohibiting discrimination against any person on the basis of race, color, national origin, religion, creed, sex, age, sexual orientation, or disability;
 - c) Agrees not to use state funds for entertainment or lobbying activities; and
 - d) Allows the state agency to which funds for the grant were appropriated for expenditure, legislative committees and their staff, and the auditor full access to their records, reports, files, and other related documents and information for purposes of monitoring, measuring the effectiveness, and ensuring the proper expenditure of the grant.
- 2) If the applicant is an organization, the applicant meets the following requirements pursuant to Section 42F-103, Hawaii Revised Statutes:
 - a) Is incorporated under the laws of the State; and
 - b) Has bylaws or policies that describe the manner in which the activities or services for which a grant is awarded shall be conducted or provided; and
- 3) If the applicant is a non-profit organization, it meets the following requirements pursuant to Section 42F-103, Hawaii Revised Statutes:
 - a) Is determined and designated to be a non-profit organization by the Internal Revenue Service; and
 - b) Has a governing board whose members have no material conflict of interest and serve without compensation.
- 4) The use of grant-in-aid funding complies with all provisions of the Constitution of the State of Hawaii (for example, pursuant to Article X, section 1, of the Constitution, the State cannot provide "... public funds ... for the support or benefit of any sectarian or nonsectarian private educational institution...").

Pursuant to Section 42F-103, Hawaii Revised Statutes, for grants used for the acquisition of land, when the organization discontinues the activities or services on the land acquired for which the grant was awarded and disposes of the land in fee simple or by lease, the organization shall negotiate with the expending agency for a lump sum or installment repayment to the State of the amount of the grant used for the acquisition of the land.

Further, the undersigned authorized representative certifies that this statement is true and correct to the best of the applicant's knowledge.

Hawaii Pacific University dba Oceanic Institute of Hawaii Pacific University


(Signature)

JAN. 18, 2024
(Date)

John Gotanda
(Typed Name)

President
(Title)

Application for Grants

If any item is not applicable to the request, the applicant should enter “not applicable”.

I. Certification – Please attach immediately after cover page

1. Hawaii Compliance Express Certificate (If the Applicant is an Organization)

If the applicant is an organization, the applicant shall submit one (1) copy of a Hawaii Compliance Express Certificate from the Comptroller of the Department of Accounting and General Services that is dated no earlier than December 1, 2023.

2. Declaration Statement

The applicant shall submit a declaration statement affirming its compliance with [Section 42F-103, Hawaii Revised Statutes](#).

3. Public Purpose

The applicant shall specify whether the grant will be used for a public purpose pursuant to [Section 42F-102, Hawaii Revised Statutes](#).

The authorized representative of the applicant certifies that the requested grant shall be used for public purpose pursuant to Section 42F-102, Hawaii Revised Statutes.

II. Background and Summary

This section shall clearly and concisely summarize and highlight the contents of the request in such a way as to provide the State Legislature with a broad understanding of the request. Please include the following:

1. Applicant’s Background

Founded in 1960, Oceanic Institute of Hawaii Pacific University (OI) is a nonprofit research and development organization dedicated to marine aquaculture, biotechnology, coastal resource management, and job creation. OI’s mission is to develop and transfer environmentally responsible technologies to increase aquatic food production while promoting the sustainable use of ocean resources. OI works with community, industry, government and academic partners, and non-governmental organizations to benefit the state, the nation, and the world. In 2014, OI merged with Hawaii Pacific University, the largest private university in Hawaii, to become the University’s first directed research unit.

OI is located on 56 acres in Waimanalo, Hawaii and employs a team of about 20 scientists, professionals, and support personnel. **This property is unique because of access to clean, oceanic seawater and the ability to discharge the seawater into permitted dispersion wells.**

To create a similar facility *de novo* in Hawaii would take tens of millions of dollars (construction costs and land) over many years (lengthy permitting process for seawater access and disposal). OI conducts applied research which is integrated across several technical programs including marine fish and shrimp aquaculture, applied marine biotechnology, and training and education. OI has a 50-year history developing maturation, hatchery, nursery, and growout techniques for more than 10 species of tropical and subtropical marine fish, 7 species of tropical and subtropical marine invertebrates, and 5 species of marine microalgae. **The ability to produce a predictable supply of a variety of marine organisms, at all stages of their life cycle, is unique and this inventory of live biological material represents a valuable resource for commercial farmers, research communities, and educational institutions at local, national, and global levels.** Over the past 10 years, OI has sent live marine organisms to more than 10 states in the U.S., 7 foreign countries, and several U.S.-affiliated Pacific Islands. These organisms have been used for STEM education activities and for a variety of research purposes related to such fields as genetics, immunology, molecular biology, nutrition, pathology, physiology, and virology. Importantly, OI has provided a variety of live marine organisms locally, nationally, and globally to support aquaculture activities for aquatic food production and marine conservation, and OI researchers use these organisms directly to support federal and state research grants, as well as private contracts. Over the past 50 years, OI has played a critical role in Hawaii by providing baby fish and shrimp to local aquafarmers to support local food production, providing biological material for Hawaii-based researchers, and serving as a training ground for future leaders in food security and resource management. OI hopes to continue to serve in this capacity long into the future.

2. Goals and Objectives Related to the Request

Some of OI's infrastructure used to produce marine organisms requires modernization and renovation to ensure the continued production of baby fish and shrimp for Hawaii's aquafarmers and to conduct on-going and new aquaculture research. Specifically, OI's marine fish and shrimp hatchery was built in the late 1970s and has undergone little renovation over the years. This facility is used to rear a variety of marine fish and invertebrates through their complex and often fragile larval stages. The original fish hatchery was designed as an "open air" facility where there are large gaps between the walls and ceiling (see **Fig.1**). As a result, the ability to control important environmental parameters (e.g. photoperiod and water temperature) and to ensure adequate levels of biosecurity is significantly compromised. We are seeking Grant-in-Aid funds to replace existing walls to enclose the fish and shrimp hatchery space. These renovations will allow us to be completely isolated from the external environment thereby providing significantly better control over important parameters which impact our ability to raise animals and conduct effective research. Also, by creating a physical barrier between the indoor hatchery and external environment, we will improve biosecurity by mitigating the introduction and spread of potential pathogens. The hatchery is located less than 200 meters from the ocean and saltwater aerosols, containing virulent pathogens, are a constant problem.



Fig. 1. Oceanic Institute’s fish and shrimp hatchery. Note the “open air” design which compromises biosecurity and environmental control.

In addition, we are seeking Grant-in-Aid funds to replace an aging hatchery floor. As indicated previously, OI’s marine fish and shrimp hatchery was built in the late 1970s and has undergone little renovation over the years. In 2020, OI hired Allana Buick and Bers Architectural Engineers (ABBAE) to inspect the wooden lab floor in OI’s hatchery and they noted large sections showing deterioration (see **Fig. 2**). Replacing damaged and deteriorated sections of the wooden floor would provide additional structural integrity to the facility and provide additional biosecurity.

Finally, we are seeking Grant-in-Aid funds to replace aging equipment used to support live algae culture and to de-gas incoming seawater, which is now too acidic due to the impacts of global climate change. This equipment is critically important in ensuring that our algae cultures remain free from bacterial or protozoan contaminants (see **Fig. 3**). The ability to produce large volumes of high-quality microalgae in a predictable manner is crucial to the success of our operation, as the algae serves as a vital first link in the food chains we need to recreate in captivity to raise the various larval stages of marine organisms we culture at OI.



Fig. 2. Damaged joists and plywood under OI's fish and shrimp hatchery.

In light of the information above, broad project goals of this proposal include:

- Create a biosecure, environmentally controlled fish and shrimp hatchery which can supply baby fish and shrimp to Hawaii's aquafarmers.
- Create a biosecure, environmentally controlled fish and shrimp hatchery which can be used to conduct cutting-edge research to support Hawaii's growing aquaculture industry.
- Create a biosecure, environmentally controlled fish and shrimp hatchery which can serve as a platform for workforce development and job training.
- Enable Oceanic Institute of Hawaii Pacific University to become a leader in aquaculture research and to forge long-term research partnerships with the University of Hawaii and other Hawaii-based stakeholders.

In light of the information above, key project objectives of this proposal include:

- Renovate OI's fish and shrimp hatchery to mitigate the introduction and spread of potential pathogens by closing off the walls and ceiling of the facility.
- Renovate OI's fish and shrimp hatchery to better control environmental parameters (e.g. photoperiod and water temperature) so that the internal fish and shrimp

environment can be completely isolated from the external environment thereby enhancing our ability to raise animals and conduct research.

- Renovate OI's fish and shrimp hatchery to improve the structural integrity of the floor to mitigate biosecurity risks and risks to human safety.
- Obtain and install a Photobioreactor (PBR) to culture microalgae in an effort to mitigate bacterial and protozoan contamination and enhance biosecurity.
- Obtain and install water de-gassing columns to pre-treat incoming water so it is less acidic. Seawater that is too acidic compromises fish and shrimp health.

OI is seeking Grant-in-Aid funds to enhance biosecurity and environmental control in a marine fish and shrimp hatchery on O'ahu. OI's hatchery is the only facility on O'ahu capable of producing significant quantities of baby fish and shrimp for Hawaii's aquafarmers. Capital funds are urgently needed to renovate OI's marine fish and shrimp hatchery so that it can continue to be used to help Hawaii's aquafarmers.



Fig. 3. OI's traditional algae culture lab used to produce microalgae as feed for larval fish and shrimp. Note this traditional lab is susceptible to bacterial and protozoan contamination.

3. Public Purpose and Need to be Served

Hawaii's agriculture and aquaculture industries play a critical role in addressing food security in our State. However, because more than 85% of our food is imported, our communities are extremely vulnerable if food supply chains become disrupted. Disruptions can arise from a number of causes including dock strikes at major ports, farm production fluctuations on the U.S. mainland due to global climate change, and the destructive forces of tsunamis. Because of this vulnerability, it is imperative that we invest in ways to increase local food production. In

addition to enhancing food security, local food production would provide enormous economic benefits to our State. The economic impact of food import replacement is significant and replacing just 10% of the food we currently import would amount to more than \$313 million which would remain in Hawaii. Also, local food production would allow for access to cheaper, high-quality foods and would help create jobs in the agriculture and aquaculture sectors. Currently, about 23% of Hawaii's economy is based on tourism, and this heavy reliance on a single industry makes the State extremely vulnerable if tourism is compromised, such as during the recent COVID-19 pandemic. It is imperative for Hawaii to diversify its economy and production of locally grown food, including seafood, would contribute to that diversification. In addition, there are significant environmental benefits to local food production. Producing foods locally would decrease the number of "food miles" associated with shipping across the Pacific Ocean, thereby conserving energy and reducing the carbon footprint associated with food distribution. Also, by producing more foods locally, we would mitigate the accidental introduction of harmful, invasive pests which can disrupt the local agriculture economy and adversely impact our island ecosystems.

Aquaculture has a long history in Hawaii beginning around 1200 A.D. when Hawaiians built fish ponds as part of a larger, integrated food production system based on watershed management. These traditional socioeconomic subdivisions of land are referred to in Hawaiian as *ahupua`a*. Traditional Hawaiian fishponds, or *loko i`a*, were once prominent along the shores of the Hawaiian Islands as recently as the late 1700s, at the time of James Cook's arrival, when there were more than 400 fishponds in operation producing an estimated 2 million pounds of fish per year. These fishponds provided a stable source of protein which could sustain populations during food shortages. Today, most Hawaiian fishponds have fallen into disrepair but local community organizations are working together to restore traditional fishponds for cultural and educational purposes, as well as to provide a source of nutritious food.

Despite aquaculture's rich history in Hawaii, there is an urgent need to develop a more robust aquaculture industry in our State. This urgency reflects a collective desire to achieve Hawaii's sustainability and climate goals and commitments highlighted in the Hawai'i 2050 Sustainability Plan which identifies doubling local food production by 2030. A significant barrier to the expansion of Hawaii's aquaculture industry is the lack of baby fish and shrimp to stock our aquafarms. Many aquafarmers in Hawaii operate small-scale farms and the cost to operate their own hatchery is prohibitively expensive. Oceanic Institute can serve as the State's *de facto* hatchery to provide baby fish and shrimp to interested stakeholders, and this will result in the lowering of a significant barrier to expansion. OI is seeking Grant-in-Aid funds to enhance biosecurity and environmental control in our fish and shrimp hatchery so that we can better serve the aquafarmers in our State who can then produce aquatic protein for our communities. The benefits of producing more food locally are unequivocal. In addition to enhancing food security in our State, there are tremendous economic multiplier effects of increasing food self-sufficiency. However, unless innovative solutions are sought to stimulate local food production, Hawaii residents will continue to be highly dependent on imported food and unable to reap these economic benefits. We believe that enhancing the biosecurity and environmental control of the only marine fish and shrimp hatchery on O'ahu is an important step towards achieving food security and food self-sufficiency for our State.

4. Target Populations to be Served

OI scientists have developed maturation, hatchery, nursery, and growout techniques for tropical and subtropical marine fish including striped mullet (*'ama'ama*), milkfish (*awa*), mahimahi, Pacific threadfin (*moi*), amberjack (*kahala*), trevally (*ulua*), whitesaddle goatfish (*kumu*), coral grouper, and red snapper, as well as ornamental fish such as flame angelfish and yellow tang. In addition, OI has developed breeding and culture techniques for a variety of tropical and subtropical marine invertebrates including Pacific white shrimp, fleshy prawns, harlequin shrimp, and collector urchins (*hawa'e maoli*). OI scientists have closed the life cycle on all of these aquatic organisms and have used them to support federal, state, and private initiatives.

Over the past five (5) years, OI's fish and shrimp hatchery has benefited numerous organizations including the University of Hawai'i Sea Grant College Program, Ocean Era Inc., Paepae o He'eia, Biota, Blue Ocean Mariculture, DLNR – DAR, Conservation International, Georgia Aquarium, Northern Marianas College, Kualoa Ranch Hawaii, Taylor Shellfish Inc., Waianae High School, Waimanalo Feed Supply, Sea Life Park, the Center for Tropical and Subtropical Aquaculture, and Hawaii Aquaculture and Aquaponics Association. Specifically, this proposed project will serve five (5) target populations in Hawaii, as described below.

Hawaii's aquafarmers: OI has the capacity and capability to produce commercial quantities of baby fish and shrimp which can be provided directly to local aquafarmers to grow and sell to local communities. As indicated previously, the lack of baby fish and shrimp to stock our aquafarms represents a significant barrier to the expansion of Hawaii's aquaculture industry, and OI can serve as the State's *de facto* fish and shrimp hatchery to serve in this capacity. Recently, OI provided baby mullet (*pua 'ama'ama*) to Hawaiian fishpond operators on O'ahu (*He'eia* Fishpond and *Loko Ea* Fishpond), Molokai (*Keawanui* Fishpond), and the Big Island (*Hale O Lono* Fishpond), and OI routinely provides baby shrimp to Kualoa Ranch on the windward side of O'ahu.

Local research communities: Live aquatic animals produced at OI's fish and shrimp hatchery serve as valuable research organisms for a variety of fields such as genetics, immunology, molecular biology, nutrition, pathology, physiology, and virology. OI has provided these research organisms to: 1) scientists from the College of Tropical Agriculture and Human Resources (CTAHR) at the University of Hawaii at Manoa; 2) scientists at Kewalo Marine Laboratory in Honolulu; 3) scientists at the Pacific Aquaculture & Coastal Resource Center (PACRC) at the University of Hawaii in Hilo; and 4) marine scientists and students at Hawaii Pacific University.

Local high school and university students: OI's fish and shrimp hatchery continues to serve as an important platform to train local high school and university students in the science and art of aquaculture. Aquaculture represents a unique, transdisciplinary platform for STEM education because it integrates biology, chemistry, engineering, and business in a holistic manner. Student groups who have benefitted from OI's fish and shrimp hatchery include: 1) undergraduate students at Hawaii Pacific University (HPU) through capstone courses, aquaculture workshops, volunteer internships, and paid internships; 2) graduate students enrolled in HPU's Masters of

Marine Science degree program through master's research opportunities, volunteer internships, and paid internships; 3) students at Kamehameha Schools who participate in an annual aquaculture workshop hosted by OI and funded by the U.S. Department of Education; and 4) young adults participating in the KUPU Program. Currently, we have two KUPU volunteers working in OI's fish and shrimp hatchery learning how to culture *'ama'ama*. In addition, OI recently provided ~ 10,000 *pua 'ama'ama* (baby mullet) to Waianae High School through a Hawaii State Department of Education contract.

Local recreational fishermen: OI's fish and shrimp hatchery continues to produce local fish species which can be stocked into nearshore waters for stock restoration and stock enhancement. OI has a long history helping to replenish Hawaii's fisheries. From 1990 - 2000, more than 268,000 tagged mullet were released off the Big Island and these small-scale releases had a significant impact on wild stock abundance. In addition, OI released more than 500,000 tagged moi over a 7-year period and demonstrated recoveries of up to 10% in recreational fisheries (see **Fig. 4**). Recently, OI, working with the Waikiki Aquarium, tagged and released pāpio which were raised in OI's hatchery from eggs collected at the Maui Ocean Center (see <https://www.khon2.com/wake-up-2day/waikiki-aquarium-releases-150-tagged-papio-into-the-wild/>)

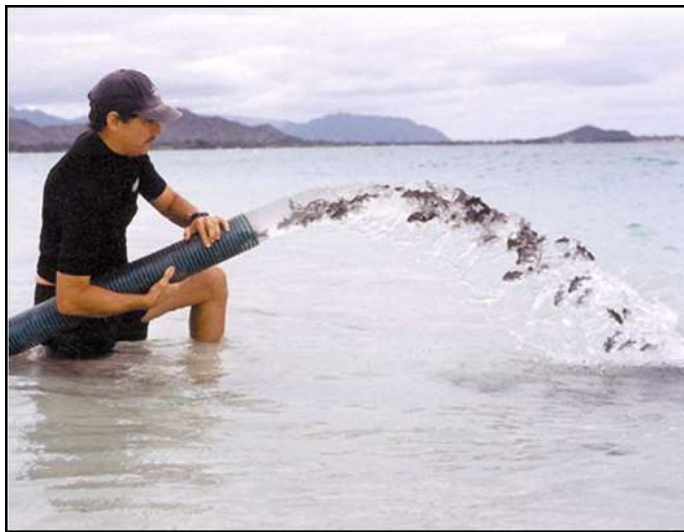


Fig. 4. OI's fish and shrimp hatchery has been use to produce baby moi (Pacific threadfin) which were tagged and released into Hawaii's nearshore waters to help replenish wild stocks.

Hawaii residents and visitors: Ultimately, the impact of this project will contribute to local food production through the: 1) provision of baby fish and shrimp to local aquafarmers; 2) creation of new knowledge through cutting-edge aquaculture research; 3) training of a technically competent workforce; and 4) replenishment of wild fish stocks for recreational fishermen. If this can be accomplished, we will have moved Hawaii towards greater food self-sufficiency and enhanced food security. This will serve both Hawaii residents and our visitors by providing high-quality food at affordable prices without having to depend on imported products to meet market demand.

5. Geographic Coverage

The impact of this project would be felt across most of Hawaii's main islands including O'ahu, Molokai, the Big Island, Maui, and Kauai. All of these islands have functional Hawaiian fishponds which could receive *pua 'ama'ama* (baby mullet) from OI's hatchery. Natural recruitment of wild *pua 'ama'ama* is getting rare and fishpond operators are becoming more reliant on land-based hatcheries to supply baby fish. OI has the only hatchery on O'ahu which can produce *pua 'ama'ama* and these fish can be easily transported to any outer island for stocking into the ponds. Similarly, OI can provide baby moi, papio, and kumu for stocking in Hawaiian fishponds or for stocking in more traditional aquaculture ponds and tanks. Transporting any of these fish species to any outer island is relatively easy and often results in high survival rates (> 90%). Fish produced in OI's hatchery could also be shipped to any outer island for stock restoration and stock enhancement purposes to support recreational fishermen across the Hawaiian islands. Fish and shrimp produced in OI's hatchery will continue to be used by Hawaii's research communities which are based largely on O'ahu but also on the Big Island. Finally, OI's hatchery will continue to be used to hold training workshops, international training programs, and short courses related to fish and shrimp culture, and these learning opportunities will be available to a local, national, and global audience.

III. Service Summary and Outcomes

The Service Summary shall include a detailed discussion of the applicant's approach to the request. The applicant shall clearly and concisely specify the results, outcomes, and measures of effectiveness from this request. The applicant shall:

1. Scope of Work, Tasks and Responsibilities

OI is seeking Grant-in-Aid funds to enhance biosecurity and environmental control in a marine fish and shrimp hatchery on O'ahu.

In an effort to achieve this goal, key project tasks defining the scope of work of this proposal include:

- Renovate OI's fish and shrimp hatchery to mitigate the introduction of pathogens
- Renovate OI's fish and shrimp hatchery to better control environmental parameters
- Renovate OI's fish and shrimp hatchery floor to ensure better structural integrity and better biosecurity.
- Obtain and install a Photobioreactor (PBR) to culture microalgae in a clean environment free of bacterial and protozoan contamination
- Obtain and install water de-gassing chamber to pre-treat incoming water so it is less acidic.

Task #1: Renovate hatchery to mitigate introduction of pathogens

OI's marine fish and shrimp hatchery was built in the late 1970s and was designed as an "open air" facility where there is a large gap between the walls and ceiling. Because of this design

feature, and because OI's hatchery is located less than 200 meters from the ocean, potential fish and shrimp pathogens can enter the hatchery by saltwater aerosols and infect our animals. **We periodically experience fish and shrimp disease outbreaks which can kill 100% of our animals in a single outbreak, so biosecurity is very important.** Task #1 would require OI to hire a construction company to replace old and damaged walls and enclose the makai facing walls of the hatchery, as well as the north and south facing walls, such that there is no gap between the walls and the ceiling. These walls would serve as a protective barrier between the outside environment, with virulent pathogens, and the internal hatchery environment to grow baby fish and shrimp.

Task #2: Renovate hatchery to control environment

Hatchery improvements made in task #1 to ensure better biosecurity will go a long way in providing better environmental control, including regulating photoperiod (i.e. controlling the length of the day/night cycle) and water temperature. **Both photoperiod and water temperature have significant physiological effects on fish and shrimp and it is critical, both from a production and research perspective, that these types of environmental parameters can be controlled and manipulated.** Some lighting and electrical repairs will be needed to better control photoperiod, and exhaust fans will need to be installed to vent heat from the hatchery during the warm summer months. All electrical repair and re-wiring will be done to National Electrical Code (NEC) specifications and these repairs and installations can be done by the same company contracted to do task #1.

Task #3: Replace the hatchery floor to ensure better structural integrity and better biosecurity

Because the hatchery was built in the late 1970s and has undergone little renovation over the years, repairs will need to be made to the hatchery floor to ensure human safety and better biosecurity. **The floor is about 6,000 ft² and requires replacement, particularly of damaged joists, plywood, and corroded hangers.** In addition, plumbing of new effluent discharge lines will need to be installed so that wastewater does not leak back onto the hatchery floor. This has created significant biosecurity challenges over the years. All plumbing work will be done to National Plumbing Code specifications and these repairs and installations can be done by the same company contracted to do task #1 and task #2.

Task #4: Obtain and install a Photobioreactor (PBR) to culture microalgae

The ability to produce large volumes of high-quality microalgae in a predictable manner is crucial to the success of an aquaculture hatchery, as the algae serves as a vital first link in the food chains we need to recreate in captivity to raise baby fish and shrimp. Our current approach to culturing microalgae can be effective but is unpredictable due to bacterial and protozoan contamination. **This lack of predictability poses significant challenges during larval-rearing runs and can compromise the health of our baby fish and shrimp.** In an effort to modernize our hatchery, and to make algae culture more predictable, we intend to purchase and install a Photobioreactor (PBR) to culture microalgae. PBRs are enclosed, illuminated culture vessels designed to control algae production (see **Fig. 5**). Importantly, PBRs are self-contained units

which minimizes bacterial and protozoan contamination of the algae culture. We intend to purchase the PBR from Industrial Plankton (see link at <https://industrialplankton.com/photobioreactor/algae-photobioreactor-12501/>), and we intend to install it using OI's maintenance team as an in-kind contribution.

Task #5: Obtain and install de-gassing chamber to treat incoming water so it is less acidic.

The acidity of seawater entering OI's fish and shrimp hatchery has increased in recent years, likely due to the increase in carbon dioxide (a greenhouse gas) concentrations in the earth's atmosphere. **Increased seawater acidity has significant negative impacts on the health of marine fish and shrimp larvae and poses a challenge in our hatchery.** One effective way to decrease the acidity of seawater is by flowing the water through a de-gassing chamber or column to "blow off" carbon dioxide in the water. In an effort to modernize our hatchery, and to reduce the acidity of the incoming seawater, we intend to purchase and install a de-gassing chamber which can accommodate a flow rate of 200 gallons per minute. This flow rate will provide our hatchery with sufficient water to care and maintain baby fish and shrimp. We intend to purchase the de-gassing chamber from SEAREN LLC (see link at <https://www.searen.com/>), and we intend to install it using OI's maintenance team as an in-kind contribution.



Fig.5. Photobioreactors (PBR) used to culture microalgae. Note these self-contained units are highly biosecure and minimize bacterial and protozoan contamination of the algae culture.

2. Project Timeline

Task	1	2	3	4	5	6	7	8	9	10	11	12
1.1	█	█										
1.2							█	█				
1.3								█	█	█		
1.4											█	
2.1			█	█	█	█						
2.2							█	█	█			
3.1	█	█	█	█								
3.2					█							
4.1	█	█	█	█								
4.2					█							
Report												█

Task 1 and Task 2

- 1.1 Competitive bid and selection process: 2 months
- 1.2 Replace/repair hatchery walls: 2 months
- 1.3 Replace/repair old electrical systems: 3 months
- 1.4 Install lights and vent fans: 1 month

Task 3

- 2.1 Replace/repair hatchery floor: 4 months
- 2.2 Plumb wastewater lines: 3 months

Task 4

- 3.1 Order and ship PBR: 4 months
- 3.2 Install PBR: less than 1 month

Task 5

- 4.1 Order and ship de-gassing chamber: 4 months
- 4.2 Install de-gassing chamber: less than 1 month

3. Quality Assurance and Evaluation Plan

OI will implement a rigorous quality assurance program to ensure the highest standards are maintained throughout the renovation of the fish and shrimp hatchery. Key quality assurance procedures will include:

- 1) A Hawaii-based construction firm will be hired for the renovation project.
- 2) The construction firm will be competitively selected using State of Hawaii procurement

guidelines.

- 3) Renovations will be managed by Mr. Randall Honke, Senior Mechanical Engineer at Hawaii Pacific University. Mr. Honke is a licensed mechanical engineer in the State of Hawaii and has extensive experience in the operation and design of aquaculture-related facilities.
- 4) A second member of the team, Mr. Jeffrey Harris, is Manager of the Maintenance and Security Department at Oceanic Institute of Hawaii Pacific University. Mr. Harris has extensive construction, electrical, and plumbing experience and has worked at OI for more than 30 years.
- 5) This team will approve all contract change orders and field orders, and monitor all renovation activities to ensure the terms and requirements of the contract documents are met. Certain specialized inspection requirements will be performed by any design consultant or, in some cases, the equipment manufacturer.
- 6) OI's construction team will work closely with OI's research staff to ensure that the fish and shrimp hatchery renovations are done to meet operational requirements.
- 7) Once completed, program effectiveness of the hatchery will be continually monitored by scientific staff at OI.

4. Measure of effectiveness

In practical terms, the key measure of effectiveness for this project will be quantitative metrics associated with benefits accrued to each of the target populations. For Hawaii's aquafarmers, the key measure will be the number of baby fish and shrimp produced in OI's hatchery and provided to the aquafarmers to grow out for food. For local research communities, the key measure will be the number of fish and shrimp produced in OI's hatchery and distributed to research labs on O'ahu, the Big Island, and other outer islands where scientists are conducting research in such fields as genetics, immunology, molecular biology, nutrition, pathology, physiology, and virology. In addition, a key measure will be the number of competitive federal, state and private research grants and contracts OI is awarded because of its unique infrastructure at the fish and shrimp hatchery, its unique biological inventory, and its world-renown content experts. For local high school and university students, the key measure will be the number of students experiencing hands-on learning in OI's hatchery. For local recreational fishermen, the key metric will be the number of tagged fish they catch which were born and raised in OI's hatchery. All of these stakeholder groups should receive significant benefits to a modernized and renovated fish and shrimp hatchery at OI.

IV. Financial

Budget

1. The applicant shall submit a budget utilizing the enclosed budget forms as applicable, to detail the cost of the request.

Attachments following Section IV. Financial

The projected cost to modernize and renovate OI’s fish and shrimp hatchery is \$674,558, and these costs are allocated as indicated below.

Hatchery floor	\$285,000
Hatchery walls	\$40,000
Plumbing waste lines	\$50,000
Electrical repairs	\$75,000
New lights and exhaust fans	\$25,000
Photobioreactor (+ shipping)	\$144,470
De-gassing chamber (+shipping)	\$55,088
 Total	 \$674,558

- The applicant shall provide its anticipated quarterly funding requests for the fiscal year 2025.

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total Grant
\$199,558	\$237,500	\$237,500	\$0	\$674,558

- The applicant shall provide a listing of all other sources of funding that they are seeking for fiscal year 2025.

List of all other sources of funding that OI is seeking in FY2025
(Note: All of these sources of funding for OI in FY2025 have been secured.)

Source of funds	Name of project	Amount
Hawaii State Dept. Education	Production of mullet for Waianae High School	\$90,000
Biota (private company)	Production of marine ornamental fish	\$748,000
Georgia Aquarium	Production of marine ornamental fish	\$37,500
Northern Marianas College	Production of moi for net pen culture in Saipan	\$75,000
U.S Department of Education	Aquaculture to teach STEM to Native Hawaiian students	\$45,041
Government of Indonesia	Shrimp breeding project	\$935,000
University of Hawaii Sea Grant	Amberjack project	\$76,000
U.S. Dept. Commerce, NOAA	Kumu project	\$150,000
University of Hawaii Sea Grant	Shrimp breeding project	\$112,232
Pacific States Marine Fisheries Commission	Integrated multi-trophic aquaculture project	\$87,540
Estimated Total		\$2,356,313

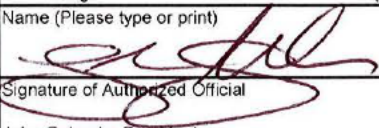
- The applicant shall provide a listing of all state and federal tax credits it has been granted within the prior three years. Additionally, the applicant shall provide a listing of all state and federal tax credits they have applied for or anticipate applying for pertaining to any capital project, if applicable.

No state and federal tax credits have been granted. We do not anticipate applying for state or federal tax credits.

BUDGET REQUEST BY SOURCE OF FUNDS

Period: July 1, 2024 to June 30, 2025

Applicant: Oceanic Institute of Hawaii Pacific University_674558_CIP

BUDGET CATEGORIES	Total State Funds Requested (a)	Total Federal Funds Requested (b)	Total County Funds Requested (c)	Total Private/Other Funds Requested (d)
A. PERSONNEL COST				
1. Salaries				
2. Payroll Taxes & Assessments				
3. Fringe Benefits				
TOTAL PERSONNEL COST				
B. OTHER CURRENT EXPENSES				
1. Airfare, Inter-Island				
2. Insurance				
3. Lease/Rental of Equipment				
4. Lease/Rental of Space				
5. Staff Training				
6. Supplies				
7. Telecommunication				
8. Utilities				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
TOTAL OTHER CURRENT EXPENSES				
C. EQUIPMENT PURCHASES	199,558			
D. MOTOR VEHICLE PURCHASES				
E. CAPITAL	475,000			
TOTAL (A+B+C+D+E)	674,558			
SOURCES OF FUNDING		Budget Prepared By:		
(a) Total State Funds Requested	674,558	Marna Ong (808) 259-3111		
(b) Total Federal Funds Requested		Name (Please type or print) Phone		
(c) Total County Funds Requested				
(d) Total Private/Other Funds Requested	45,000	Signature of Authorized Official Date 1/18/24		
TOTAL BUDGET	719,558	John Gotanda, President Name and Title (Please type or print)		

BUDGET JUSTIFICATION - EQUIPMENT AND MOTOR VEHICLES

Period: July 1, 2024 to June 30, 2025

Applicant: Oceanic Institute of Hawaii Pacific University_674558_CIP

DESCRIPTION EQUIPMENT	NO. OF ITEMS	COST PER ITEM	TOTAL COST	TOTAL BUDGETED
Photobioreactor	1.00		\$ 144,470.00	144,470.00
De-gassing Chamber	1		\$ 55,088.00	55,088.00
			\$ -	
			\$ -	
			\$ -	
TOTAL:	2		\$ 199,558.00	199,558.00

JUSTIFICATION/COMMENTS : This equipment is needed to replace aging equipment used to culture live algae and to de-gas incoming water which is now acidic due to the impacts of global climate change. This equipment is important in ensuring that our algae cultures are free of bacterial and protozoan contamination.

DESCRIPTION OF MOTOR VEHICLE	NO. OF VEHICLES	COST PER VEHICLE	TOTAL COST	TOTAL BUDGETED
			\$ -	
			\$ -	
			\$ -	
			\$ -	
TOTAL:				

JUSTIFICATION/COMMENTS

BUDGET JUSTIFICATION - CAPITAL PROJECT DETAILS

Period: July 1, 2024 to June 30, 2025

Applicant: Oceanic Institute of Hawaii Pacific University_674558_CIP

FUNDING AMOUNT REQUESTED						
TOTAL PROJECT COST	ALL SOURCES OF FUNDS RECEIVED IN PRIOR YEARS		STATE FUNDS REQUESTED	OTHER SOURCES OF FUNDS REQUESTED	FUNDING REQUIRED IN SUCCEEDING YEARS	
	FY: 2022-2023	FY: 2023-2024	FY:2024-2025	FY:2024-2025	FY:2025-2026	FY:2026-2027
PLANS						
LAND ACQUISITION						
DESIGN						
CONSTRUCTION		45,000.00	475,000.00			
EQUIPMENT						
TOTAL:		45,000.00	475,000.00			

JUSTIFICATION/COMMENT OI is seeking GIA funds to enhance biosecurity and environmental control in a marine fish and shrimp hatchery

GOVERNMENT CONTRACTS, GRANTS, AND / OR GRANTS IN AID

Applicant: Oceanic Institute of Hawaii Pacific University 674558 CIP

Contracts Total: 2,515,582

	CONTRACT DESCRIPTION	EFFECTIVE DATES	AGENCY	GOVERNMENT ENTITY (U.S./State/Hawaii/ Honolulu/ Kauai/ Maui County)	CONTRACT VALUE
1	Optimizing coral grouper culture	2019 - 2021	USDA-CTSA	U.S.	151,800
2	Culture of marine polychaete for shrimp feed	2019 - 2021	USDA-CTSA	U.S.	58,300
3	Improving live feeds production efficiency	2020 - 2021	USDA-CTSA	U.S.	46,090
4	Herbivorous reef fish: fishpond & commercial	2021 - 2022	USDA-CTSA	U.S.	11,050
5	Improving Forktail rabbitfish in CNMI region	2021 - 2023	USDA-CTSA	U.S.	63,775
6	Partnering public aquariums with aquaculture	2021 - 2022	USDA-CTSA	U.S.	46,100
7	Designing a harvest system for polychaete	2021 - 2023	USDA-CTSA	U.S.	11,618
8	Investigating low salinity in Pacific White shrimp	2020 - 2023	USDA-NIFA	U.S.	310,000
9	Engaging Hawaii's fishing community for kumu	2021 - 2023	USDoC-NOAA-SK	U.S.	295,409
10	Aquaculture platform-native Hawaiian student-S	2021 - 2026	U.S. Dept. of Education	U.S.	549,430
11	Develop aquaculture system for Limu (seaweed)	2022 - 2023	USDoC-NOAA-SK	U.S.	187,669
12	Resolving impediments to captivity in Seriolids	2022 - 2025	JSDoC-NOAA-SeaGran	U.S.	232,600
13	Genomic approach to improve Pacific white shr	2022 - 2024	JSDoC-NOAA-SeaGran	U.S.	332,126
14	Develop aquaculture system for Hawaiian fishp	2023 - 2024	USDoC-NOAA-PSMFC	U.S.	129,615
15	Production of mullet for Waianae High School	2024 - 2025	Hawaii Dept. Education	State	90,000
16					
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5. The applicant shall provide a listing of all federal, state, and county government contracts, grants, and grants in aid it has been granted within the prior three years and will be receiving for fiscal year 2025 for program funding.

Attachments following Section IV. Financial

6. The applicant shall provide the balance of its unrestricted current assets as of December 31, 2023.

Unrestricted Assets: \$40,233,359 (FY2023 Audited Financials for all of Hawaii Pacific University).

V. Experience and Capability

1. Necessary Skills and Experience

The applicant shall demonstrate that it has the necessary skills, abilities, knowledge of, and experience relating to the request. State your experience and appropriateness for providing the service proposed in this application. The applicant shall also provide a listing of verifiable experience of related projects or contracts for the most recent three years that are pertinent to the request.

1. Necessary Skills and Experience

The overall hatchery project will be managed by Mr. Randall Honke, Senior Mechanical Engineer at Hawaii Pacific University. Mr. Honke is a licensed mechanical engineer in the State of Hawaii with over 25 years of design and construction-related experience, especially in the area of aquaculture. A second team member is Mr. Jeffrey Harris, Manager of the Maintenance and Security Department at Oceanic Institute of Hawaii Pacific University. Mr. Harris has extensive construction, electrical, and plumbing experience and has worked at OI for more than 30 years. A third team member is Mr. Harry Ho who works at HPU and is an architect with more than 45 years of design and construction-related experience. This team has successfully managed the construction of over \$10 million of federally funded construction projects at OI over the past 20 years. These projects include the construction of: 1) an aquaculture facility with funding from the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA); 2) three facilities with funding from the U.S. Department of Commerce, Economic Development Administration (EDA); and 3) five facilities funded by the U.S. Department of Agriculture, National Institute of Food and Agriculture (NIFA).

2. Facilities

The applicant shall provide a description of its facilities and demonstrate its adequacy in relation to the request. If facilities are not presently available, describe plans to secure facilities.

2. Facilities

OI's facilities are located on a narrow coastline, approximately 56 acres in area, on Kalaniana'ole Highway in Waimanalo, Hawaii (see **Fig. 6**).

Infrastructure related to marine fish and shrimp research is used to support a variety of grants and contracts and includes:

- 1) A marine ornamental fish hatchery used to produce coral reef fish with our partner, Biota LLC.
- 2) A Fish and Shrimp Hatchery used to develop and refine culture techniques for established fish and shrimp species and to develop new culture techniques for novel or difficult-to-rear marine species. This is the facility for which we are seeking Grant-in-Aid funds.
- 3) A small, marine ornamental fish facility used to study, maintain, and culture coral reef fish.
- 4) Laboratories to culture various live feeds needed to support marine fish research including 5 species of marine algae and facilities for copepod/rotifer/artemia culture.
- 5) Tank field with eighteen (18) 30-m² tanks.
- 6) Shrimp Nucleus Breeding Center including:
 - Hatchery Module with four (4), 15-m² maturation tanks, thirty (30) 300-L spawning tanks, fifty-five (55) 120-L larval rearing tanks, fourteen (14) 250-L to 1-ton larval rearing tanks, a live-feeds production lab, and a feed prep and storage room.
 - Nursery Module with fifty-two (52) 500-L nursery tanks, eight (8) 6-10-ton tanks, and a tagging/shipping area.
 - Growout Module with three (3) 75-m² raceways covered for biosecurity, each with an independent recirculation system.
 - Over 10,000 m² of roofed laboratory and office space.
- 7) Research Shrimp Hatchery with three (3) 15-m² maturation tanks, twenty (20) 300-L spawning tanks, and thirty-two (32) 150-L larval rearing tanks.
- 8) Shrimp Mesocosm Lab with six (6) 40-m² tanks for broodstock growout and conditioning and forty (40) 1-ton mesocosm tanks for nursery and evaluation trials.
- 9) Tank field with fifteen (15) 30-m² tanks, four (4) 8-ton tanks, twenty (20) 1-4-ton tanks.
- 10) Four (4) 300-420-m² lined ponds.
- 11) Five (5) 35-m² covered raceways with independent recirculation systems.



Fig.6. Aerial view of Oceanic Institute of Hawaii Pacific University with Makai Pier in the background. Sea Life Park, a public exhibit featuring local marine life, is located in the foreground.

Infrastructure related to biotechnology support services includes a building containing two research labs, one teaching lab, and a distance learning center. Research labs are equipped with standard molecular biology equipment including multiple thermocyclers, quantitative PCR machine, biosafety hoods, centrifuges, biospectrometer, gel electrophoresis rigs, fluorescent imager, and a 16-capillary DNA sequencer. The two research labs are used for aquaculture and other marine-related research. The teaching lab is used to support training workshops on water quality analysis and molecular biology. The lab recently was used to conduct a workshop titled, *“The Use of Molecular Genetic Tools in Marine Science”* funded by U.S. Department of Commerce, National Oceanic and Atmospheric Administration. This workshop was designed for early-career, marine science professionals, secondary school teachers, and university graduate students pursuing a degree in marine sciences.

VI. Personnel: Project Organization and Staffing

1. Proposed Staffing, Staff Qualifications, Supervision and Training

The applicant shall describe the proposed staffing pattern and proposed service capacity appropriate for the viability of the request. The applicant shall provide the qualifications and experience of personnel for the request and shall describe its ability to supervise, train and provide administrative direction relative to the request.

Finance team

The finance team consists of Mr. David Kostecki, HPU Vice President and Chief Financial Officer, and Ms. Marina Ong, Associate Controller for Business Affairs at OI. A grants office is also part of the finance team, where Ms. Jody Wong, HPU's Assistant Vice President, Sponsored Projects, will ensure that procurement and compliance requirements of the project are met.

Engineering team

The engineering team includes Mr. Randall Honke, Mr. Jeffrey Harris, and Mr. Harry Ho. Mr. Honke is OI's Senior Mechanical Engineer and served as the Project Manager during construction of OI's many aquaculture facilities. Mr. Honke is a licensed mechanical engineer in the State of Hawaii and has over 20 years of design and construction-related experience. Mr. Harris is Manager of the Maintenance and Security Department at OI and has extensive construction, electrical, and plumbing experience. He has worked at OI for more than 30 years. Mr. Ho has served as Director of OI's Facilities and as Construction Manager. Mr. Ho is an architect with over 45 years of design and construction related experience.

Scientific and technical team

The strength of OI lies in its professional staff and employs a team of scientists, professionals, and support personnel. OI conducts applied research which is integrated across several technical programs including marine fish and shrimp aquaculture, applied marine biotechnology, and training and education.

Key members of OI staff who play important roles in OI's research include:

Dr. Shaun Moss, Executive Director of OI, received his Ph.D. degree in Zoology from the University of Hawaii in 1993. (see brief bio at <https://www.hpu.edu/faculty/oi/shaun-moss.html>)

Dr. Dustin Moss, Director of OI's Shrimp Department, received his Ph.D. in Molecular Biology and Bioengineering from the University of Hawaii in 2013. (see brief bio at <https://www.hpu.edu/faculty/oi/dustin-moss.html>)

Dr. Chad Callan, Director of OI's Finfish Department, received his Ph.D. in Fisheries from the University of Maine in 2008. (see brief bio at <https://www.hpu.edu/faculty/oi/chatham-callan.html>)

OI scientists and staff have expertise in many aspects of fish and shrimp aquaculture and in the application of biotechnology to solve aquaculture and marine conservation problems. Over a recent 4-year period, OI scientists were authors or co-authors on 76 peer-reviewed publications, book chapters, conference proceedings, and industry trade magazine articles related to aquaculture (see link at <https://www.hpu.edu/oi/publications.html>). In a recent study of institutions receiving U.S. federal aquaculture grants from 1990 to 2015, OI ranked 6th out of the top 50 institutions in total grant

funding, beating out a number of large public and private universities. From 2015 – 2021, OI received over \$3.4 million in competitive, federal grants related to aquaculture including research on abalone, tilapia, shrimp, milkfish, coral grouper, sea cucumbers, mangrove crab, marine ornamental fish, and rabbitfish, as well as a grant to support an aquaculture workshop for Hawaii high school students. Recently, OI scientists completed a grant from the U.S. Department of Commerce, Economic Development Administration (EDA) to develop content for an aquaculture and biotechnology training program. Content includes narrated presentations covering fish and shrimp aquaculture, biotechnology, and aquaponics. This content is geared towards workforce development in these fields and all of the output from the EDA grant is available for OI to use to support workforce development in Hawaii. Currently, OI is receiving funds from the U.S. State Department of Education for a grant titled, “*Aquaculture as a Platform to Increase Native Hawaiian Student Representation in STEM Majors*”. This grant is intended to promote and encourage Native Hawaiian students, who are enrolled at HPU, to pursue STEM majors. The ultimate goal is to help produce Native Hawaiian graduates to play increasingly important leadership roles in helping solve the complex and transdisciplinary challenges facing island communities in the future, including food insecurity, global climate change, and job diversification.

2. Organization Chart

The applicant shall illustrate the position of each staff and line of responsibility/supervision. If the request is part of a large, multi-purpose organization, include an organization chart that illustrates the placement of this request.

Attachment following Section VI. Personnel.

3. Compensation

The applicant shall provide an annual salary range paid by the applicant to the three highest paid officers, directors, or employees of the organization by position title, not employee name.

Compensation paid to the three highest employees of Hawaii Pacific University include:

- HPU President - \$599,577
- HPU Senior Vice President and General Counsel- \$383,195
- HPU Senior Vice President and CFO - \$280,495

VII. Other

1. Litigation

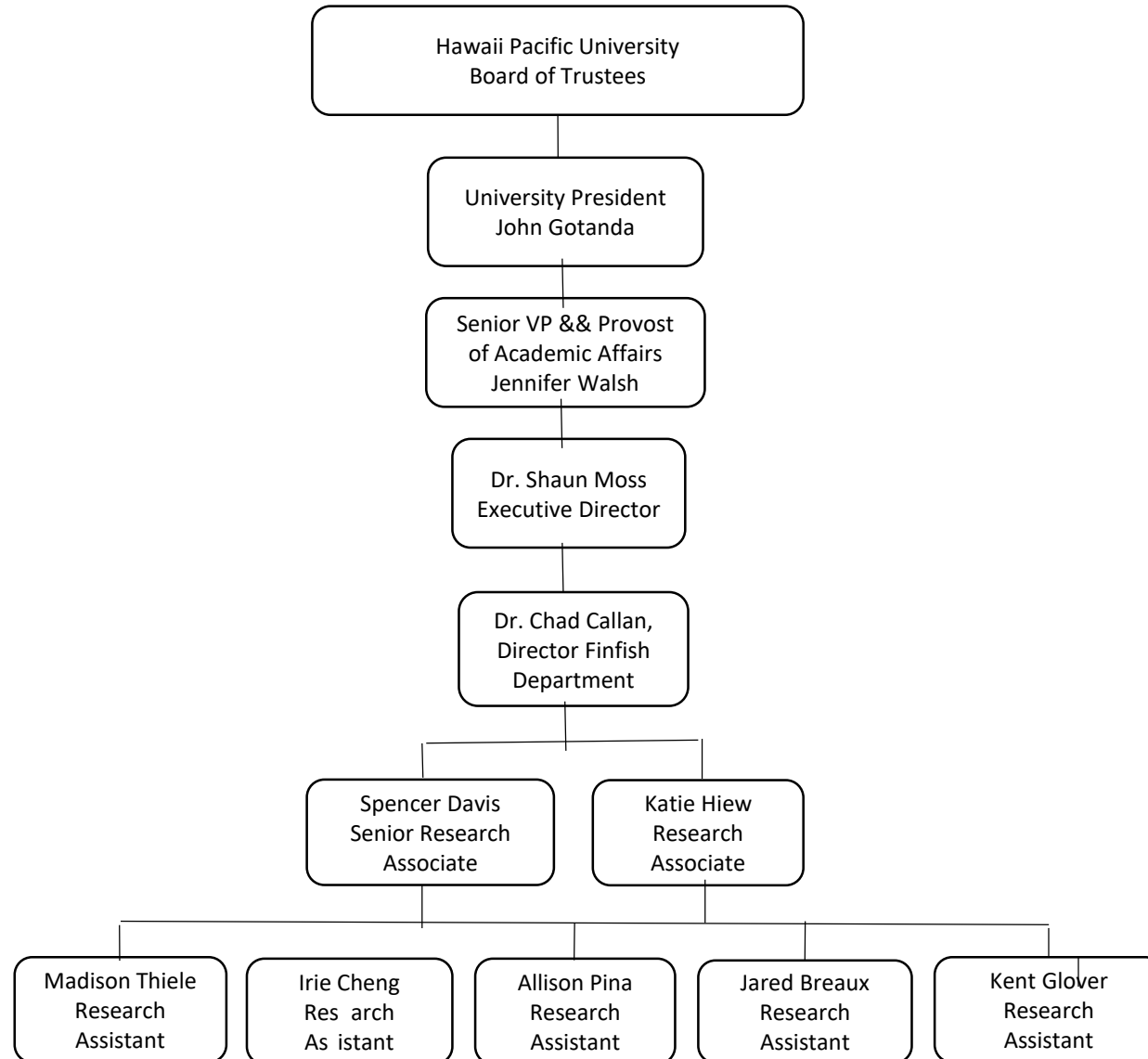
The applicant shall disclose any pending litigation to which they are a party, including the disclosure of any outstanding judgement. If applicable, please explain.

Hawaii Pacific University and the Oceanic Institute currently do not have any pending litigation.

Finfish Program



Oceanic Institute



2. Licensure or Accreditation

The applicant shall specify any special qualifications, including but not limited to licensure or accreditation that the applicant possesses relevant to this request.

OI is licensed and accredited in accordance with federal, state, county statutes, rules, or ordinances, to conduct the activities and provide the services for which this grant is requested. OI possesses the State of Hawai'i Aquaculture Facility Licenses numbers 18052.

Hawai'i Pacific University is accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC).

3. Private Educational Institutions

The applicant shall specify whether the grant will be used to support or benefit a sectarian or non-sectarian private educational institution. Please see [Article X, Section 1, of the State Constitution](#) for the relevance of this question.

Hawaii Pacific University is a private, non-sectarian, non-profit educational organization.

4. Future Sustainability Plan

The applicant shall provide a plan for sustaining after fiscal year 2024-25 the activity funded by the grant if the grant of this application is:

OI's Fish and Shrimp Hatchery will be used to support aquaculture research activities at OI for the foreseeable future. Funding to support research and production of fish and shrimp will come from federal sources, including: 1) U.S. Department of Agriculture, National Institute of Food and Agriculture (NIFA); 2) U.S. Department of Commerce, NOAA, Saltonstall-Kennedy Program; 3) U.S. Department of Commerce, NOAA, National Sea Grant Program; 4) U.S. Department of Agriculture, Center for Tropical and Subtropical Aquaculture (CTSA); 5) U.S. Department of Education; 5) U.S. Economic Development Administration; and 6) Pacific States Marine Fisheries Commission.

Additional support for research and the production of fish and shrimp will come from the State of Hawaii, including the Department of Land and Natural Resources, Division of Aquatic (DAR) and the Department of Education, as well as from private organizations such as Ulupono Initiative and Kualoa Ranch. OI will also seek support from, and collaboration with, academic institutions in Hawaii (e.g. College of Tropical Agriculture and Human Resources (CTHAR) at the University of Hawaii at Manoa, Pacific Aquaculture and Coastal Resources Center (PACRC) at UH Hilo); U.S.-affiliated Pacific Islands (e.g. University of Guam, Northern Marianas College, Palau Community College), and on the U.S. mainland (e.g. Texas A&M University, University of Arizona). Importantly, several academic institutions in the U.S.-affiliated Pacific Islands have access to formula grants (e.g. Hatch funds) and these funds may be used to support the fish and shrimp hatchery at OI.

OI's Fish and Shrimp Hatchery also will be used for research for private-sector companies through direct contracts or SBIR collaborative government grants in the following areas:

- Development of novel fish and shrimp breeding technologies
- Production of new, difficult-to-rear fish species endemic to Hawaii
- Development of novel feed ingredient for fish and shrimp
- Development of new feed products for abalone, opihi, and sea urchins