

REQUEST FOR PROPOSALS

UNIVERSITY OF HAWAI'I SEA GRANT COLLEGE PROGRAM



2022-2024 Aquaculture Grant Award Cycle

Pre Proposals due via [eProjects](#) on Friday January 15, 2021

OVERVIEW

Preliminary proposals are requested for a new aquaculture focused grants competition for the 2022-2024 University of Hawai'i Sea Grant College Program (Hawai'i Sea Grant) funding cycle. Hawai'i Sea Grant is one of 34 Sea Grant College Programs dedicated to improved understanding and stewardship of the Nation's marine and coastal resources. Created by Congress in 1966, the National Sea Grant College Program comprises a network of more than 300 participating institutions, drawing on the talents of over 3,000 scientists, engineers, educators, students, and outreach specialists nationwide.

Hawai'i Sea Grant supports a multidisciplinary, integrated program of applied research, outreach, and education addressing marine and coastal issues of public concern. Information generated by Hawai'i Sea Grant-funded research reaches stakeholders through Hawai'i Sea Grant extension, education, and communications activities in Hawai'i and the Pacific region and via the national network.

THE 2022-2024 PROGRAM

Faculty from universities and colleges; state, local, and regional governments and organizations; and individuals in Hawai'i and US-Affiliated Pacific Islands (USAPI) are encouraged to apply. **This is a new grants competition focused specifically on aquaculture research in Hawai'i and the Pacific region.** Funding, pending availability, begins February 1, 2022 and ends January 31, 2024. An average award is \$35,000/year inclusive of indirect costs.

Graduate Fellows are funded separately; please see additional information below (Graduate Fellow Requests). The University of Hawai'i-established indirect cost rate for FY23 on-campus research (i.e., 45.5%) will be applied to all grants awarded (see [HERE](#)).

Hawai'i Sea Grant seeks proposals focused on sustainable aquaculture to better address the increasing demands for locally-sourced foods. Aquaculture is the cultivation of fresh and saltwater organisms for food, biofuels, restoration, and recreation. Aquaculture research can help coastal communities maintain a safe and sustainable local seafood supply. Encouraging local, place-based aquaculture that incorporates diverse forms of knowledge (including Indigenous knowledge), is consistent with long-term goals of enhancing food security,

encouraging sustainable industries that are adaptive to a changing climate, diversifying the economy, and supporting rural sustenance and development. Aquaculture proposals can be submitted under the similarly labelled track in [eProjects](#).

Hawai'i has a long-standing tradition of aquaculture. Indigenous peoples in the Hawaiian Islands drew from a rich history of mariculture innovation in the Pacific to build loko i'a (fishponds). Several types of fish species such as milkfish and mullet were grown in these fishponds along with marine algae, shrimp, and crabs. Prior to Western contact it was estimated that approximately 488 ponds existed across the main Hawaiian Islands and produced over 2 million pounds of fish annually. Community-based efforts to restore and steward fishponds across the state continue today. Research is needed in areas connected to fishpond biology, oceanography, resource management, biogeochemistry, socioeconomics, and governance (e.g., permitting process and policies).

There are also several groups in Hawai'i and the broader Pacific region utilizing aquaculture to cultivate species used in environmental restoration. Recent examples include the culturing of urchins, corals, and native algae species to restore coral reef habitats as well as culturing of oysters for the purpose of large-scale water quality improvement.

Investigators may be interested in pursuing research questions connected to aquaculture of local native species such as 'Ama' ama, Mullet (*Mugil cephalus*); Awa, Milkfish (*Chanos chanos*), 'Opihi, Limpet (*Cellana sp*); Limu, various native algae species; 'Āko'ako'a, various native coral species; various native species of urchins; and Hawaiian oysters (*Dendostrea sandvicensis*) among other species.

In addition to supporting research projects that are scientifically excellent and societally relevant, Hawai'i Sea Grant is committed to projects that are informed by community needs and involve community partners in the development of the research question. The results of this research are developed and shared with stakeholders through various pathways, often via Sea Grant's integrated outreach program, which brings together the collective expertise of on-the-ground extension agents, educators, and communications specialists. The goal is to ensure that vital research results are informed by, and shared with, those who need it most, and in ways that are timely, relevant, and meaningful.

Finally, all proposals should involve graduate student training and mentorship.

STATEMENT of RESEARCH KULEANA

As an organization we have a kuleana (responsibility and privilege) to ensure that the programs and projects we support engage in collaborative, mutually-beneficial partnerships with communities. It was with this kuleana in mind that Hawai'i Sea Grant collaborated with Kua'āina Ulu 'Auamo and Paepae o He'eia to develop the [Kūlana Noi'i](#). The meanings of kūlana include "position, posture, reputation, attitude, stance" and when paired with noi'i, which means "to seek knowledge or investigate, to research," the Kūlana Noi'i provide a set of standards for engaging in long-term relationships between community and researchers.

Hawai'i Sea Grant is committed as an organization to the standards outlined in the [Kūlana Noi'i](#). The following standards* are modified from the [Kūlana Noi'i](#):

- **Respect:** The history, people, and place must be respected through understanding, acknowledging, and honoring local culture, traditions, knowledge, and wisdom.
- **Reciprocity:** Relationships between researchers and community should be reciprocal rather than extractive.
- **Self-Awareness and Capacity:** Be aware of and address your place, intentions, power, and value to the place both as an individual and a representative of a group or institution.
- **Communication:** Inclusive, transparent, and open communication should be employed throughout the research process.
- **Maintain a Long-Term Focus:** All research projects should contribute positively to the effort to mālama (care for) this wahi (place).
- **Community Engagement and Co-Review:** Promote co-learning and co-development of methods, strategies, goals, and outcomes to be adaptable to local place, people, climate, resources, and needs.
- ***Knowledge Ownership and Access:** Ownership of information and data about a place ultimately belongs to the community. The community has the right to access and utilize data and have a voice in how information and data are shared.
- **Accountability:** When a project fails to meet these kūlana the community and researchers should work together to identify problems and adjust the project accordingly.

Successful projects will: 1) be hypothesis driven; 2) demonstrate strong evidence of scholarly merit that leads to papers in peer-refereed journals; 3) focus on the mentoring of graduate and undergraduate students; and 4) identify and include targeted outreach strategies to engage and inform specific user groups throughout the research process, and address critical needs and issues as defined in the Hawai'i Sea Grant focus areas and cross-cutting themes. **For this 2022-2024 aquaculture-focused grants competition the proposed research must align with goals and desired outcomes associated with the “Sustainable Fisheries and Aquaculture” focus area.** Your aquaculture proposal may also be connected to other Hawai'i Sea Grant focus areas and cross-cutting themes. Pathways that link to other focus areas outside of “Sustainable Fisheries and Aquaculture” are encouraged but not mandated.

The four Hawai'i Sea Grant areas of focus are:

- Sustainable Fisheries and Aquaculture
- Healthy Coastal Ecosystems
- Resilient Communities and Economies
- Environmental Literacy and Workforce Development

General themes that cut across these focus areas are also of interest:

- Addressing Climate Change Impacts and Adaptation
- Increasing Sustainability and Resilience
- Engaging Integrated Knowledge Systems
- Increasing Justice, Equity, Diversity and Inclusion

Hawai'i Sea Grant's focus areas and cross cutting themes are a direct result of several underlying concepts: the understanding that the majority of the issues we face in the ocean and on our coasts are due to the behavior and activities of people on land; that the solutions to these issues necessitate engagement in multi-, trans-, and interdisciplinary research; that implementation of these solutions necessitate engagement in extension, education, and outreach at all levels of our communities; that everywhere in Hawai'i is coastal.

STATEMENT of JUSTICE, EQUITY, DIVERSITY, & INCLUSION

Sea Grant embraces individuals of all ages, races, ethnicities, national origins, gender identities, sexual orientations, disabilities, cultures, religions, citizenship types, marital statuses, education levels, job classifications, veteran status types, and income, and socioeconomic status types. Sea Grant is committed to increasing the diversity of the Sea Grant researchers that we support and of the communities we serve.

GUIDE TO PROPOSERS

To achieve the Program's mission and goals, and to align our research portfolio with the goals and objectives of NOAA and the National Sea Grant College Program, proposals are solicited in support of the focus areas noted above and described below. The research carried out under each of the focus areas supports extension and education activities of Hawai'i Sea Grant's Centers of Excellence. [These centers](#) include: the Center for Smart Building and Community Design, the Center for Sustainable Coastal Tourism, the Center for Coastal and Climate Science and Resilience, the Center for Integrated Knowledge Systems, the Center for Sustainable Aquaculture and Coastal Resources, and the Center for Marine Science Education. Information on the work of these centers can be found on the [Hawai'i Sea Grant website](#). Proposers are encouraged to develop proposals that will directly complement and help advance the work of these centers. Extension faculty assigned to the centers are available for guidance in developing the outreach and educational components of the proposal (see "Formal Extension/Outreach Proposal Content" guidance below).

Research projects which address one or more of the cross-cutting themes as they relate to the focus areas are particularly encouraged.

SEA GRANT FOCUS AREAS

The following are rationale for each of the Hawai'i Sea Grant focus areas followed by example questions and/or topics of interest. ***These examples are not intended to be prescriptive but suggestive of elements appropriate to Sea Grant's mission.***

Sustainable Fisheries and Aquaculture

Rationale: Overfishing, habitat degradation, and increasing competition among coastal users have put our fishing industry in great jeopardy. Seafood safety is a growing concern as fish diseases and contamination become bigger problems. Aquaculture presents new opportunities to meet the growing seafood demand, but raises environmental and other concerns that need to be addressed for its full potential to be realized. Additionally, traditional forms of aquaculture in

the Hawaiian Islands are in the process of being revitalized and restored, and Hawaiian fishponds across the state are at various stages of restoration towards the realization of fish production. Sea Grant has key roles to play in advancing our understanding of the nature of these challenges and in using its research, education, and outreach capabilities to support informed decision-making that will lead to a sustainable supply of safe seafood into the future.

Examples of questions/topics:

- How can aquaculture contribute to coral reef restoration efforts and other large-scale ocean and coastal restoration?
- How can indigenous and non-indigenous practices and methods of aquaculture inform and improve current practices in fisheries, aquaculture, aquaponics, and hydroponics?
- How can emerging systems or technologies be developed that will advance aquaculture in Hawai'i and the Pacific region?
- How can local fisheries and aquaculture be resilient to issues such as harmful algal blooms, storm events, pollution, ocean warming, and acidifying coasts and oceans?
- How can we effectively culture native limu (algae) for commercial production and/or use in restoration?
- How might ocean acidification and other environmental stressors affect emerging or established aquaculture in Hawai'i and the Pacific region?
- Are there local native species that have potential for commercial aquaculture production?
- Are there alternative ingredients that can be substituted for fishmeal and fish oil in aquaculture feeds?
- What are emerging candidates for herbivorous food fish species (both fresh and saltwater) that rely completely on plant-based diets?
- What are marketing and palatability strategies to promote diversified herbivorous fish species in the local marketplace?
- How might business plans and models aid fishpond practitioners in successfully marketing and promoting local and sustainable aquaculture products?
- How might invasive species removed in the course of fishpond restoration be repurposed or commercialized to support fishponds?
- Are there viable options for value-added products that could be developed and marketed by fishponds to increase financial sustainability?
- What are the levels of heavy metals, endocrine disruptors, microbiological pathogens, steroid hormones and microplastic pollution in the edible tissue of locally-farmed aquaculture products? Are the levels of these contaminants dangerous to human health?
- What are some renewable energy solutions for sustainable aquaculture in the Pacific region?

Healthy Coastal Ecosystems

Rationale: Intensified development along the coast and related human activities are leading to the degradation of water quality and quantity, wetlands loss, invasive species, and a host of other challenges that must be understood and addressed in order to restore and maintain the

healthy ecosystems. We seek aquaculture research proposals that also aim to protect, enhance, and/or restore habitats, ecosystems, and the services they provide, as well as proposals that aim to apply sound science, tools, and services to manage land, water, and living resources.

Examples of questions/topics:

- How can aquaculture contribute to living shoreline installations? What ecosystem services do living shorelines provide?
- What can be learned from contemporary efforts to apply Hawaiian knowledge and resource management practices to restoring social and ecological systems such as Native Hawaiian Fishponds?
- What are the theoretical environmental impacts of offshore net pen aquaculture on nearshore coral reef ecosystems and fish communities and how would new efforts differ from previous ones?
- What kind of policies are needed to promote aquaculture that has the least impact on coastal ecosystems?
- How does wall restoration impact species dynamics and distribution in a fishpond?
- What are the patterns of limu distribution, diversity, predation, and pressures across and within fishponds?
- What are the different options (and associated costs and benefits) for removing sediment and optimizing water circulation in fishponds?
- What methods of invasive species removal are most effective under what conditions across different fishponds?
- What role, if any, can stock enhancement of depleted native i‘a (fish, limu, molluscs, bivalves, etc.) species have on ecosystem health in Hawaii?
- What are the optimal target species of i‘a for stock enhancement in terms of availability for culture, survivability in the wild, and allowability of release and stocking efforts by the local government?

Resilient Communities and Economies

Rationale: We seek aquaculture research proposals that aim to prepare coastal communities to use their knowledge of changing conditions and risks to become resilient to extreme events, economic disruptions, and other threats to aquaculture.

Examples of questions/topics:

- How can local aquaculture be more resilient to future stressors and hazards such as sea-level rise, ocean acidification, and larger more frequent storms?
- What are the socio-economic costs and benefits of implementing different adaptation and resilience actions in an aquaculture setting?
- How can we enhance real-time models and products to better predict climate impacts (e.g., increased heat or increased acidification) to aquaculture at local or regional scales?
- What are the impacts of fishpond restoration on the surrounding community (e.g. health and wellbeing, property values, community cohesion, sense of place)?

- How can small, medium, and large-scale recirculating aquaculture and controlled environment technology prepare island communities for consistent and reliable food production through rapid changes in sea level and other environmental changes?

Environmental Literacy and Workforce Development

Rationale: Sea Grant can play a role in a wide range of educational activities: the design and execution of K-12 and adult education curricula and programming; teacher training; creation and application of usable knowledge for decision-makers; and recruitment of advanced education programs to build the future generation of aquaculture professionals.

Examples of questions/topics:

- What kind of training and education is most needed to build capacity within the next generation of aquaculture professionals in Hawai'i and the Pacific?
- How can Hawai'i grow a skilled and diverse aquaculture workforce?
- What types of outreach and communication are most effective in increasing awareness and understanding of local aquaculture?
- What are the best ways to grow, recruit, and retain from diverse populations for aquaculture career paths?
- What innovative tools and methods can be applied to provide virtual experiences for people to learn about fishponds that are difficult to access?

CROSS-CUTTING THEMES

The following cross-cutting themes are expected to play a significant role in the selection of goals and objectives in each of the focus areas.

Addressing Climate Change Impacts and Adaptation

This cross-cutting theme continues to be of importance to Hawai'i Sea Grant, and the co-administration of the Pacific Islands Climate Adaptation Science Center (PI-CASC) University Consortium, creating increased prospects for synergistic pathways between these organizations. Climate change is occurring now and is accompanied by increases in the rate of sea-level rise, more powerful storms, increased sea surface temperature, ocean acidification, increases in invasive species, and changes in rainfall patterns contributing to flooding and drought, all with implications for coastal residents and property and the long-range futures of human and natural coastal communities.

Examples of questions/topics:

- How can aquaculture aid in natural options for carbon sequestration and what are the best metrics for measuring carbon sequestration on land and in the ocean?
- How is climate change impacting indigenous aquaculture systems, cultural practices, and important cultural sites?
- What are the impacts of climate change and ocean acidification on aquaculture productivity?
- How can life cycle analyses (LCA) of locally-produced aquaculture products be used to estimate intrinsic value of local farm products versus imports and tie into the "Buy Local, Buy Fresh" campaign?

Increasing Sustainability and Resilience

For island communities in Hawai'i, sustainability of our natural resources is critical for our overall resilience. The cross cutting theme of sustainability and resilience is connected to both our natural and built environments and touches on a diverse array of topics including coastal development, water resources, and coastal tourism.

Examples of questions/topics:

- How can the local aquaculture industry become more energy and water efficient?
- What are the emerging water resource and water quality issues associated with aquaculture in Hawai'i?

Engaging Integrated Knowledge Systems

Solving the most complex sustainability challenges requires us to draw from multiple diverse knowledge systems. Local and Indigenous knowledge in particular can offer methodologies for observation, analysis, and stewardship developed intergenerationally spanning many years of connection to place. In Hawai'i, where Indigenous resource management systems supported large populations sustainably for centuries, centering Native Hawaiian stewardship practices is appropriate for new research that can inform resource management.

Examples of questions/topics:

- How can the translation of Hawaiian language newspapers and other primary source literature inform our current aquaculture practices?
- How can we measure and track ecosystems services provided by Indigenous resource management practices such as loko i'a?
- How can we document and preserve oral histories and knowledge of fishponds and limu for future generations (including knowledge and practice emerging from active restoration work)?

FORMAL EXTENSION/OUTREACH COMPONENT

Outreach and Community Engagement: Researchers are strongly encouraged to identify and interact with their target audience as they develop their proposals (please see Statement of Research Kuleana on page 2). Researchers are asked to explain how the research will be extended to, and used by, those audiences who can utilize the information for making informed management and policy decisions.

Pre-proposal requirement

For pre-proposals, investigators should address a general outline of their outreach plan in their narrative. At the pre-proposal stage letters of support are not required but PIs should describe stakeholders and end-users and their role in the proposed work.

Full proposal requirement

For all full proposals: to be considered for funding, **you must specifically identify the end-user and you must include a letter with the proposal from that end-user (one or more)** where they explain how they have been involved in the development of the project and how they will ultimately benefit from the results. We understand that it sometimes takes many

years for research projects to have impacts – however, the end user can identify that the project is taking an appropriate step towards a defined outcome.

During full proposal development, Hawai'i Sea Grant will offer assistance to potential researchers in developing effective outreach plans for their projects. Hawai'i Sea Grant will offer a series of office hours to address the question: "How is the proposed research engaging stakeholders and how are research results usable and accessible by these partner groups?" During these short office hour sessions, PIs will meet with members of Sea Grant and discuss best practices for designing an effective outreach plan. Anticipated outcomes from these meetings include a framework for developing, implementing, and assessing the outreach plan, along with guidelines for working with potential partners. **These meetings are by appointment only and will be held during the spring of 2021.** Meeting with Sea Grant outreach personnel is suggested but not required and does not guarantee project support. The PI is responsible for all components of the proposal and funded project.

Hawai'i Sea Grant is committed to ongoing enhancement of technology and information transfer of Sea Grant funded research results to stakeholders and relevant users. Toward this goal, **a well-developed plan for extension and outreach activities is to be included in all full proposals.** PIs are encouraged to seek guidance from Sea Grant extension faculty on outreach activities associated with proposed research projects. PIs who are unfamiliar with our extension faculty areas of expertise are encouraged to contact the Hawai'i Sea Grant Associate Director, Dr. Darren Okimoto, at 808-956-7031 or okimotod@hawaii.edu, and/or Program Leader, Ms. Maya Walton, at 808-956-6992 or waltonm@hawaii.edu, who can assist with identifying an appropriate [extension faculty member](#) to assist PIs with developing their outreach plans.

EVALUATION and SELECTION CRITERIA

Hawai'i Sea Grant does not make decisions about funding proposals. Pre-proposals are vetted by the Sea Grant Advisory Council for program fit and need by stakeholders in Hawai'i and the Pacific region. Advisory council input is then considered during pre-proposal panel review and the panel's determination of proposals to be encouraged for full proposal development. Full proposals are peer-reviewed by subject matter experts outside of Hawai'i and the Pacific region and refereed by an expert Science Panel. Results from the external panel and funding availability then determine which and how many proposals are recommended for funding. Reviewers and the review panels are chosen for their areas of expertise and use several criteria for evaluating research proposals. The same criteria are used to evaluate pre-proposals and full proposals:

- 1) Scientific merit
- 2) Relevance to Hawai'i Sea Grant's mission
- 3) Qualifications of the PI
- 4) Qualifications of Co-Investigator(s)
- 5) Value to graduate and/or undergraduate education
- 6) Benefit to Hawai'i or the Pacific Region
- 7) Overall value of the proposal

APPLICATION PROCEDURE

To receive consideration, preliminary proposals are due electronically via the Hawai'i Sea Grant proposal submission website, eProjects

http://www.soest.hawaii.edu/eProjects/logn/logn_login.php

no later than **5:00 pm (Hawai'i Standard Time), Friday, January 15, 2021.**

This is also where you will find instructions and templates for submission. **Aquaculture proposals can be submitted under the similarly labelled track in eProjects.** PIs are encouraged to submit electronically via eProjects well prior to the deadline to avoid delays associated with heavy internet traffic during the day on which proposals are due. Hard-copy, faxed, or emailed proposals, ancillary information or appendices will not be accepted nor evaluated. For detailed submission instructions and format guidelines see the Hawai'i Sea Grant eProjects website listed above. For questions on eProjects submission, please contact Dr. Hal Richman (808-956-8191; eprojects@soest.hawaii.edu). For questions concerning preliminary proposal content, please contact Ms. Maya Walton (808-956-6992; waltonm@hawaii.edu) or Dr. Darren Lerner (808-956-7031; lerner@hawaii.edu). For questions on fiscal matters, please contact Mr. David Keola (808-956-3571; dkeola@hawaii.edu). Full proposals will be encouraged from successful peer reviewed and refereed preliminary proposals.

We will not consider preliminary proposals from PIs or Co-Is who have previously failed to meet Hawai'i Sea Grant fiscal and administrative reporting requirements.

Required Non-Federal Match

A 1:2 (non-federal match dollars: Hawai'i Sea Grant dollars requested) non-federal match is required for all funds requested from Hawai'i Sea Grant. This requirement is mandated by the US Federal Government and as such no waivers for match can be entertained. PIs will be required to provide actual match, legal documentation of promised or pledged match, and/or audit defensible documentation of in-kind match prior to the awarding of first year funds. For questions on acceptable match, please contact Mr. David Keola (808-956-3571; dkeola@hawaii.edu).

Other Federal/University of Hawai'i Requirements

Funding cannot be issued to successful applicants until the PI has obtained approval(s) from the following as applicable: 1) Use of Human Subjects (outreach projects, surveys, etc.); 2) Use of Vertebrate Animals (Institutional Animal Care and Use Committee [IACUC]); 3) Health and Safety (compressed gas diving, radioactive material, importation of microorganisms; use of recombinant DNA); 4) Relevant state and federal permits for all field activities. Depending on the nature of the activity proposed, other approvals and certifications may also be applicable. NonUH entities will be responsible for applicable federal assurances.

Graduate fellow Requests

Please note: there is an entry opportunity in the on-line application within eProjects to request a graduate student fellow. Should you be requesting a graduate fellow and submitting a full proposal, you will be required to demonstrate and provide 50 percent non-federal funding match for all graduate fellow funds awarded. The match requirement for one graduate assistant is \$20,648. This is based on a total value of \$41,296 composed of \$24,912 (GA Step 11) salary, \$3,470 fringe benefits (13.93% est.), and Indirect Cost of \$12,914 (45.50% of total cost).

How many proposals can I submit?

An individual may participate as a Principal Investigator (PI) or Co-Investigator (Co-I) on **up to two preliminary proposals** submitted to Hawai'i Sea Grant. Preliminary proposals in excess of the two preliminary proposal limit for any PI or Co-I will be returned without review.

Can I submit the same proposal to Hawai'i Sea Grant's other RFP?

Investigators are not allowed to submit the same proposal to Hawai'i Sea Grant's 2022-2024 Biennial Grants competition which is running concurrently to this opportunity. Duplicative proposals will not be reviewed.

Data Management Plan

A data management plan is required at the full proposal stage. A typical plan may include the types of environmental data and information to be created during the course of the project; the tentative date by which data will be shared; the standards to be used for data/metadata format and content; and policies addressing data stewardship and preservation; procedures for providing access, data, and security.

Abbreviated Environmental Compliance Questionnaire

Proposals that are selected and recommended for funding are required to have a completed Abbreviated Environmental Compliance Questionnaire and copies of associated permits, if applicable.

Encouraged Proposals

Between the pre-proposal and full proposal stages all PIs will receive a letter indicating whether they are encouraged or discouraged from submitting a full proposal. All applicants, however, regardless of whether or not they have been encouraged are eligible to submit to the full-proposal process. Pre-proposals that are not encouraged to submit a full proposal are unlikely to be successful at the full proposal stage. All PIs who intend to submit a full proposal are encouraged to strongly consider addressing reviewer concerns.

Frequently Asked Questions

1. Is there a limit to the number of Co-Investigators (Co-Is) that can be included on a single proposal?

No limit, but each needs to demonstrate a clear role. Qualifications and applicability of all listed are evaluated.

2. Can graduate students or post-doctoral researchers serve as Co-I?

Graduate students can serve as Co-Is on proposals. They are BOR (Board of Regents) appointees. Postdocs may not be able to serve as Co-Is if they are not presently in a UH appointment (and therefore BOR approved). For example, RCUH hired postdocs are not eligible. However, should a postdoc have a non-compensated affiliate faculty appointment at UH there may be an avenue to include them as Co-I on a proposal. For questions on this matter please contact Hawai'i Sea Grant FA, Mr. David Keola (808-956-3571; dkeola@hawaii.edu).

3. How do PIs normally meet the non-federal match requirement?

PIs, if paid from a non-federal account, often meet the non-federal match requirement through in kind contributions of their time as tenure track or tenured faculty at UH (i.e., salary and fringe). PIs are allowed to use in kind match towards their non-federal match requirement. The in-kind match must be documented and there must be FTE allocation available. This in kind match will be signed off on by the FA of the PI's home unit at the full proposal stage. For more information, please see the Office of Research Services FAQs (http://www.ors.hawaii.edu/files/Cost_Sharing_FAQ.pdf), question #3.

4. I see that the indirect cost rate is set to 45.5%. Why is that?

The proposed research if selected would be part of our larger OMNIBUS proposal to NOAA. As such we are required to use the on-campus research rate that is associated with our OMNIBUS award for all of the research projects that are administered by our program and supported by NOAA dollars.

5. Do you recommend that I request an appointment to discuss a possible project idea? Or should I submit the pre-proposal and hold any such discussions until after preliminary proposal review?

We are happy to discuss possible project ideas and ask that PIs be in touch with us early in the process if they require additional discussion.

8. Can PIs and Co-Is request summer overload?

No. Sea Grant **will not** fund faculty overload salary including summer overload.

9. Can I request funds to support a postdoc?

Yes. Proposers may request funds under the "other personnel" section as a technician wherein fringe and overhead (IDC) will be paid.

EXAMPLE BUDGET

(This is an example. Questions about your salary and fringe should be verified with your FA)

SALARIES & WAGES Name, Title	Monthly Salary	Requested Fringe Rate	Matching Fringe Rate	Requested Man-months	Matching Man-months	Requested Funds	Matching Funds
Senior Personnel							
PI Last name, first name	\$10,000	0	0.50	0	2.5	\$0	\$25,000
Other Staff & Students							
Undergraduate student	\$780	0.0048	0	1	0	\$780	\$0
A. TOTAL SALARIES & WAGES						\$780	\$25,000
B. FRINGE BENEFITS						\$4	\$12,500
C. TOTAL PERMANENT EQUIPMENT						\$0	\$0
D. EXPENDABLE MATERIALS & SUPPLIES - under \$5000 per unit						\$5,000	\$0
TRAVEL							
Domestic: Neighbor Island trips						\$2,100	\$0
E. TOTAL TRAVEL						\$2,100	\$0
F. PUBLICATION COSTS						\$0	\$0
OTHER COSTS (subcontractors, consultants, etc.)							
Analytical Services						\$5,000	\$0
G. TOTAL OTHER COSTS (include no overhead items)						\$5,000	\$0
H. TOTAL DIRECT COSTS (sum A-G)						\$12,884	\$37,500
INDIRECT COSTS/RATES (include A , B , C , D , E , F , G)							
On-campus research indirect cost at 45.5% of the MTDC of \$12,884						\$5,862	\$
I. TOTAL INDIRECT COSTS						\$5,862	\$
J. GRAND TOTAL FUNDS REQUEST (sum H-I and should not exceed \$45,000 limit).						\$18,746	\$37,500

Grad Student Requested: Although graduate students are paid directly from Fellowship Funds, matching funds equal to 50% of their salary is required.	\$41,296	\$
TOTAL AMOUNT REQUIRING MATCHING FUNDS (total requested funds + graduate student salary)	\$60,042	\$37,500

CHECK IF REQUESTING A Hawai'i Sea Grant GRADUATE RESEARCH ASSISTANT
(this requires that you provide additional matching funds of \$20,648 equivalent to 50% of GRA salary and fringe benefits.)

(The amount of matching funds required is: \$30,021)

EXAMPLE BUDGET JUSTIFICATION

(This is an example. Questions about your salary and fringe rate should be verified with your departmental FA)

A. SALARIES AND WAGES

We request funds for an undergraduate research assistant, employed at 12 hours per week at \$15/hour (\$780/month) for 1 months. The undergraduate research assistant will assist in ecological monitoring.

B. FRINGE BENEFITS

We request \$4 for fringe benefits for the undergraduate research assistant at a rate of 0.48%.

C. PERMANENT EQUIPMENT

None requested

D. EXPENDABLE SUPPLIES AND EQUIPMENT

We request \$5,000 for water quality monitoring supplies.

E. TRAVEL

Domestic

The GA and undergraduate research assistant will conduct monitoring on Kaua‘i, Hawai‘i Island, and Moloka‘i for a total of 3 trips for 2 people at approximately \$700 per trip (RT airfare (\$200/roundtrip x 2 people), rental car (\$50/day x 2 days), lodging and per diem (\$100/person x 2 people)).

F. PUBLICATION AND DOCUMENTATION COSTS

None requested

G. OTHER COSTS

We request \$5,000 for analytical services. This is for 100 water samples at \$50/sample.

MATCHING FUNDS

Effort equivalent to \$25,000 in salary and \$12,500 in fringe will be provided by the Principal Investigator from non-federal funds from the University of Hawai‘i at Mānoa (Salary: \$10,000/month x 2.5 months = \$25,000, fringe (50%): \$12,500).

Preliminary Proposal Instructions (eProjects)

You may edit and make changes to your proposal components until you click on the "Submit Proposal" button in eProjects, which must occur prior to the deadline. No changes will be permitted after the deadline. Should you fail to formally submit your proposal by failing to click on the "Submit Proposal" button prior to the deadline, your proposal will not be accepted. If you have any questions about the process, please don't hesitate to contact us at (808) 956-7031 or by email at eProjects@soest.hawaii.edu. Budget questions should be directed to David Keola, Fiscal Administrator (808-956-3571; dkeola@hawaii.edu).

1. Curriculum Vitae & Metrics

Upload a PDF of your current curriculum vitae (CV) or resume. Your CV must include all publications for the last 10 years as well as all undergraduate, graduate, and postdoctoral students supervised during the last 10 years.

2. Senior Personnel

This section allows you to add project personnel, *i.e.* Co-Is or "other senior personnel." Adding all appropriate members will create eProjects accounts for project personnel which will then be available to add to your budgets.

3. Proposal Title, Focus Area, and Keywords

Enter a proposal title, keywords, and Sea Grant focus area(s) that best describe your proposed field of study.

4. Preliminary Proposal Narrative Template:

Download the Preliminary Proposal Template to ensure that you provide all required information. The Preliminary Proposal Narrative should address the following points:

Title: Provide the title for your proposed work

Rationale: Provide a well-developed rationale that stresses why this is an important problem that has regional implications. What Sea Grant focus area(s) will this project address?

Goals and Objectives: Provide explicit, testable hypotheses with goals and objectives.

Methodology: Provide a brief but clear description of your research protocol.

Expected Outcomes: Describe specific stakeholders who will benefit from the results of this study and how they will benefit. Those with continuing projects should also include progress in this section.

Value to graduate and/or undergraduate education: Briefly describe how graduate and or undergraduate students will be involved in the proposed work.

Literature Cited: Literature Cited is not included in the 3-page limit and may be as long as necessary to accommodate all citations used in the narrative.

The Preliminary Proposal Narrative must be formatted to meet these standards:

1. The entire narrative must not exceed three pages (8½" x 11").
2. The Literature Cited section is not restricted in length and is not included in the three-page limit noted above; it should immediately follow the narrative (usually page 4).
3. Font size must be 11-point.
4. Font type must be Times or Times New Roman.
5. You must leave a 1" margin on all sides.

Note: The University of Hawai‘i Sea Grant College Program (Hawai‘i Sea Grant) is strongly committed to a just and equitable review process. Preliminary proposals failing to adhere to the format guidelines described above will not be considered.

5. Budget Forms

Complete a budget worksheet for each one-year budget period. Many of the worksheet components will be automatically calculated for you. See the [Office of Research Services](#) for current rate information.

Approximate Funding

Provide your best estimate of all costs in each category on the budget worksheet for each year. Your submitted budget is expected to be a reasonable approximation of what a final, full proposal budget will contain (if encouraged).

Salaries & Wages

To include personnel salaries and wages in a budget worksheet, personnel must first be added as proposal members in the "Senior Personnel" component of your proposal. Undergraduate students, technicians, and other personnel are added to "Other Staff & Students." Enter the number of man-months/FTE they will work on the project for the budget year. Only include matching funds in the appropriate column (see notation on budget form).

Other Issues

Travel and equipment purchases are scrutinized carefully; ensure the need is clear if requesting such items.

6. Suggested Reviewers

Please suggest a minimum of four out-of-state peers qualified to judge the merits of your proposal. Note: peer-reviewers cannot be anyone with a conflict of interest (COI) as described in the reviewer's COI statement available on eProjects. Should there be any potential referees who you would prefer not be invited to review your proposal, please list these as well.

7. Submitting the Proposal

Once you have completed all of the above components and do not wish to make further changes, click on the "Submit Proposal" button. After submission, no changes will be permitted.

Helpful Hint: Please note that Hawai‘i Sea Grant employs a web-based proposal submission process. This process is subject to delays with heavy use, such as immediately prior to the

submission deadline. Hawai'i Sea Grant will not be held responsible for failure to submit as a result of these delays. We recommend you submit in a timely manner to ensure consideration.

Hawaii Sea Grant Preliminary Proposal Checklist

- Vitae Metrics for PI
 - CV (PDF uploaded to eprojects)
 - Vitae Metrics
 - Current and Pending Support
- Vitae Metrics for Co-Is and other Senior Personnel
 - CV (PDF uploaded to eprojects)
 - Vitae Metrics
 - Current and Pending Support
- Title, Keywords, and Focus Areas (Primary and Secondary)
- Suggested Reviewers
- Preliminary Proposal Narrative (PDF uploaded to eprojects - please use template)
- Literature Cited (not included in the page limit)
- Budget Forms
 - 2022-2023 Budget Worksheet
 - 2022-2023 Budget Justification
 - 2023-2024 Budget Worksheet
 - 2023-2024 Budget Justification

FULL PROPOSAL INSTRUCTIONS

** Please note that only a subset of pre-proposals will be encouraged for full proposal submission

** We offer these full proposal instructions to help investigative teams with their planning and preparation of proposal materials

**UNIVERSITY OF HAWAI‘I
SEA GRANT COLLEGE PROGRAM
2022-2024
FULL PROPOSAL INSTRUCTIONS AND GUIDELINES**

SUMMARY INFORMATION:

Proposals must be submitted through the eProjects on-line system (http://www.soest.hawaii.edu/eProjects/logn/logn_login.php). Applicants for funding to the University of Hawai‘i Sea Grant College Program (Hawai‘i Sea Grant) must prepare their full proposal in accordance with the following guidelines.

PLEASE SUBMIT on ePROJECTS.

DO NOT submit to ORS myGrant

Funding:

Notification that Hawai‘i Sea Grant encourages submission of a full proposal for consideration does not guarantee funding. All proposals undergo review by external (out-of-state) peers and an external panel. Only projects that pass external peer and external panel reviews are eligible for funding. Preliminary notification of approval for funding may be expected no later than November 2021 and formal notification of award by January 2022. For multi-year awards, funding is subject to completion of the required fiscal and research progress reports and availability of National Oceanic and Atmospheric Administration (NOAA) funds to Hawai‘i Sea Grant. Pending availability of funding, approximately one-half of full proposals encouraged are customarily awarded funding.

Review Procedure:

All proposals are confidentially reviewed by external peer reviewers and an external panel of scientists. Results from the external panel and funding availability then determine which and how many proposals are recommended for funding. Evaluation criteria include scientific quality of the procedures and methodology, the degree of relevance to the needs, opportunities, and challenges for Hawai‘i and the Pacific region, the applicability of the proposed project to Sea Grant’s mission, and the qualifications and productivity of the investigators (including publication record, students supported, and student placement).

Instructions for Preparing a FULL Proposal

The principal investigator must be a UH Board of Regents appointee, or have principal investigator status in his/her department or institution. Investigators must secure the appropriate administrative approval through their respective units before submitting a proposal to Hawai‘i Sea Grant. Graduate students can be named as co-investigators.

Project Forms Requiring Signature

The following forms are in Microsoft Word and must be downloaded from eProjects:

- Cover Sheet
- Certification for Sea Grant Funding
- Cost-Sharing Commitment

The Cover Sheet and Certification for Sea Grant Funding must be completed and signed. If you are unable to secure cost-sharing commitments prior to submitting the proposal, you must also complete and sign the “Cost-Sharing Commitment” form. Convert all completed forms to a PDF format and upload to the “Supporting Documents” section in eProjects.

All sections of the proposal should be created using 11-point Times or Times New Roman font, with single-spaced lines. Page margins must be 1 inch (top, bottom, left, and right sides of each page).

Full Proposal Narrative

Please download the “Full Proposal Narrative Template” from eProjects (see Appendix 1 for explanatory notes). It contains an outline of the major headings to be used in completing the proposal narrative. The completed narrative must be converted to a PDF format, and submitted by uploading the entire file through eProjects. **The full proposal narrative must not exceed 12 pages including tables, figures, and images, but not references.** If you have questions or would like assistance with eProjects, please contact Dr. Hal Richman at 808-956-8191 or hrichman@hawaii.edu.

THE NARRATIVE TEMPLATE MUST NOT BE ALTERED OTHER THAN TO ADD THE REQUESTED INFORMATION--DO NOT MODIFY OR DELETE ANY HEADINGS.

Project Summary (NOAA 90-2 Form)

A Project Summary template is provided via eProjects. Download this template, complete it, convert it to a PDF format, and upload as directed in eProjects. This form is the introduction of your project to the National Sea Grant College Program. It is vital that you be clear, concise, and accurate. Be specific in stating your rationale, goals, objectives, and methods. The goals and objectives listed must match the goals and objectives in your proposal narrative. **The project summary must not exceed one page and must conform to the guidelines stated above.**

THE SUMMARY TEMPLATE MUST NOT BE ALTERED OTHER THAN TO ADD THE REQUESTED INFORMATION--DO NOT MODIFY OR DELETE ANY HEADINGS.

Layman’s Paragraph

No template is provided. Please provide a layman’s summary of your proposed research goals, methods, and expected results. The layman’s paragraph should be submitted through eProjects. Should your project be awarded funding, this paragraph may be used on the Hawai‘i Sea Grant website.

Curriculum Vitae

Your curriculum vitae (CV) or resume that was completed in the preliminary proposal stage is available through eProjects for editing, if needed. Your CV must address all publications for the last 10 years as well as all undergraduate, graduate and postdoctoral students supervised. **Please ensure you also submit CVs for all Co-Investigator(s).**

Current and Pending Awards

Please input all current and pending awards to include project title, funding source, funding amount, and dates covered by award in the designated sections in eProjects.

Budget Forms (NOAA 90-4 Form)

The budget forms that were completed in the preliminary proposal stage are available through eProjects for editing, and may be amended **if changes are requested by Hawai'i Sea Grant**; otherwise, no major changes can be made to the budget total submitted in the preliminary proposal. **These pages should be completed early in the proposal preparation process. They must be printed and approved/signed by your fiscal administrator.**

A budget justification briefly describing the type, quantity, and need for requested budget items is required to be included and should be entered through the budget page in eProjects.

Budget Guidelines

The following guidelines are to be used in completing your budget forms. For additional details, see Appendix 2.

1. Salaries and Wages
 - a. Where possible, use position titles recognized by the university, i.e., UH Research Associate, UH Electronics Technician, Graduate Assistant, etc.
 - b. **If you are requesting funds for a Graduate Fellow (Assistant), check the appropriate box at the bottom of the budget form for each year you are requesting such support; DO NOT include these funds in your Sea Grant budget. However, if you request a Graduate Fellow (Assistant), you must also include the match equivalent to one-half the cost of a Graduate Fellow (salary + fringe+ IDC = \$20,648) with your documented match (see more in “Cost-Sharing”).** Funding support provided by Sea Grant for Graduate Fellows may not exceed that of GA11-step 11 (\$24,912 + fringe) or equivalent. See Appendix 3 on Graduate Fellow requirements.
 - c. It is strongly suggested that you use the corresponding pay scales provided in the collective bargaining agreements and/or pay scales approved by the university.
 - d. For fringe benefits you may use the information provided at the ORS website (<http://www.ors.hawaii.edu/index.php/rates/102-quick-links/rates/98-fringebenefit-rates>)
 - e. **Sea Grant will not fund faculty overload salary including summer overload.**
2. Permanent Equipment
 - a. The definition of equipment is tangible, non-expendable personal property having a useful life of more than one year, and an acquisition cost of \$5,000 or more per unit. Items of less than \$5,000 should be listed under “Expendable Supplies and Equipment.” Please include a brief justification within the “Budget Justification” section of eProjects for any equipment

requested, and document why current university-owned equipment cannot meet the needs of your proposed project. Please also provide a lease vs. purchase analysis if requesting equipment funding.

3. Expendable Supplies and Equipment
 - a. This category includes expendable equipment (less than \$5,000) and expendable supplies. Briefly describe and justify the expendable supplies and equipment requested in the “Budget Justification” section of eProjects. If requesting computer items, be sure to include additional information explaining the need for and dedicated use of the item for this project, as well as basic specifications on type, processor speed, RAM, and HD capacity in the budget justification.
4. Travel
 - a. Any travel support requested should represent travel costs associated with conducting the proposed activities. Breakdown of costs (airfare, per diem, transportation, etc.) should be included in the budget justification. **Do not include travel requests for meeting/conference attendance (see below).**
 - b. Funds permitting, Hawai‘i Sea Grant endeavors to support attendance at one professional meeting each year per project for one person; preferably the Graduate Fellow. These requests are considered on a case-by-case basis via a memo from the project principal investigator to the Hawai‘i Sea Grant Director with copy to the Associate Director and Fiscal Administrator. Justification for such support should include the following: 1) purpose of trip and/or conference title or meeting, 2) importance of trip to the Hawai‘i Sea Grant research, 3) notification of acceptance of abstract and copy of presented abstract, 4) breakdown of costs (airfare, per diem, conference fee, transportation, etc.). Note that any foreign travel requests will require additional specific information on itinerary, timeframe, and purpose.
5. Publication and Documentation Costs
 - a. Funds permitting, Hawai‘i Sea Grant endeavors to support publication of research resulting from Hawai‘i Sea Grant-funded projects in refereed journals. These requests are considered on a case-by-case basis via a memo from the project principal investigator to the Hawai‘i Sea Grant Director with copy to the Research Coordinator and Fiscal Administrator. Justification for such support should include the following: 1) full citation of accepted paper including Hawai‘i Sea Grant publication number, 2) Hawai‘i Sea Grant research project that resulted in publication results, and 3) breakdown of costs (page charges, color plates/images, reprints, etc.). Except in extraordinary circumstances, Hawai‘i Sea Grant policy is to not consider excess page charges or color image charges.
6. Other Costs
 - a. Provide a brief justification of requested funds. If you are requesting postdoctoral stipends, use the current rate scale in effect for postdoctoral appointments.

COST-SHARING

Hawai‘i Sea Grant’s funding agency, NOAA, mandates a 50% cost-sharing requirement. One-half of the total cost of a project must be matched with non-federal funds. The budget form(s) (NOAA 90-4) must document the amount and source of matching funds. In addition, if your project includes a request for a Hawai‘i Sea Grant Graduate Fellow, one-half of the Hawai‘i Sea Grant Graduate Fellow’s salary must be included in the project’s matching funds. At the current salary scale a graduate assistant’s

salary at the GA11 Step 11 is \$24,912. Adding estimated fringe benefits of 13.93% and indirect cost of 45.5% brings this to a total of \$41,296, of which you would be required to match with \$20,648 in non-federal resources.

For cost-sharing (matching) sources, the following are required:

1. Sources within the University of Hawai'i

When cost-sharing of salary you may use the information provided at the ORS website (<http://www.ors.hawaii.edu/index.php/rates/102-quick-links/rates/98-fringe-benefit-rates>) for related fringe benefits.

2. Sources outside the University of Hawai'i

In addition to the conditions outlined above, additional documentation is required:

- a. If the funding source is a current non-federal contract/grant awarded to the University of Hawai'i, provide documentation that cost-sharing has been approved by the sponsor. For example, a letter from the sponsoring agency, authorizing cost sharing with your proposed Sea Grant project, or a copy of your approved contract/grant that indicates the use of the funds for this purpose. Please note: if your contract/grant award has been confirmed but not received by the university, a letter confirming the award is also required.
- b. If the funding source is an outside (non-federal) agency or private entity, a letter indicating its support of the project and cost-share approval is required. For in kind contributions, a letter from the sponsor that documents the match amount with a breakdown of the contributions is acceptable.
- c. Because the budget worksheet is limited to one column of data for cost-sharing information, if you are using multiple sources that are not self-evident in the worksheet, please be sure to include adequate explanation of sources and breakdown by budget category in your budget narrative.

Letters required above, as well as documentation of other collaborative support, must be uploaded via eProjects as a file attachment by the proposal deadline.

AS A REMINDER, FEDERAL FUNDS CANNOT BE USED AS PART OF YOUR COST-SHARING MATCH FOR SEA GRANT FUNDING.

If you are unable to secure cost-sharing commitments at the time of proposal submission, you must submit the "Cost-Sharing Commitment" form signed by you and your respective Dean or Director recognizing that the principal investigator and his/her respective college/program will be responsible for meeting all cost-sharing requirements as stated in the proposal. This form is part of the package of forms available for download that require signature (see the section "Project Forms Requiring Signature" above).

APPENDIX 1

FULL PROPOSAL NARRATIVE TEMPLATE--SHADED AREAS ARE EXPLANATORY NOTES ONLY—PLEASE DELETE SHADED AREAS

The proposal narrative must not exceed 12 pages including tables, figures and images, but not references.

TITLE:

PRINCIPAL INVESTIGATOR:

CO- INVESTIGATOR(S):

DURATION: February 1, 2022 through January 31, 2024

RATIONALE: Summarize the opportunity or problem addressed and its relation to Sea Grant's interest in supporting the improved understanding, management and use of marine and coastal resources of the State of Hawai'i, Pacific region, and the nation. Include an adequate, but brief literature review. Proposed research must be hypothesis driven. If the project is centered on a monitoring activity, it is essential to demonstrate how the project will lead to testable hypotheses or models. Explain how the data collected will be applicable to the problem or opportunity, and identify potential users of the results of your research.

GOALS & OBJECTIVES: Describe the overall goal of your project. State your hypotheses. Identify specific objectives that proceed from hypotheses. Objectives should lead to measurable outcomes at project completion. Narrative goals must match project summary goals. Do not include explanatory information here. Include such information in either the Rationale or Research Methods/Approach section, as appropriate.

RESEARCH METHODS/APPROACH: Describe your experimental design(s) and/or research protocol fully and clearly, including special equipment, procedures or assays, etc. that may be used to accomplish your goals/objectives. Be concise, but specific enough to satisfy reviewers that your methods have been validated and will enable you to achieve your goals. Identify pitfalls and limitations in your approach and methodology and how you will address them. Where appropriate, speak to the statistical power relative to your proposed sample size.

OUTREACH: Describe how your outreach plan connects your research results to the needs of your targeted stakeholders and relevant users. The plan should contain sufficient detail to evaluate the effectiveness of your proposed extension and outreach activities.

Hawai'i Sea Grant will offer a series of office hours to address the question: how is the proposed research engaging stakeholders and how are your research results usable and accessible by these partner groups? These meetings are by appointment only and will be held during the spring of 2019. Meeting with Sea Grant outreach personnel is suggested but not required and does not guarantee project support. The lead

PI is responsible for all components of the proposal and funded project. To schedule a session, send an email to: waltonm@hawaii.edu with “Extension Session Request” in the subject line.

A strong proposal will likely include a specific outreach plan that includes pieces such as:

- Identification of a target audience or audiences that will be affected by the results of the research.
- Specific methods to reach that audience.
- Goals for how the audience will be affected or changed by the information.

EXPECTED OUTCOMES:

Describe who will benefit from the results of this study and how. Describe specific stakeholders who will benefit from the results of this study and how they will benefit.

PROGRESS (for continuing projects only):

Clearly describe accomplishments and products developed to date. Include all research-related publications resulting from your previous award; papers, book chapters, patents, etc. List all undergraduate and graduate students supported by the award and placement of former students supported by the award.

HAWAI‘I SEA GRANT GRADUATE FELLOW (ASSISTANT):

Principal investigators requesting a Graduate Fellow must include a short statement as part of their research proposal outlining the role of the student in the project and preliminary plans for integrating the student's research, education, and professional development into the project. Proposals that include graduate education consisting of technical training, professional development, and a priority for student first-authored publications will be given weight in funding decisions. If the principal investigator has identified a particular student for the award, a short description of his/her academic credentials is required.

DATA SHARING (not included in the 12 page limit)

Data sharing plan not to exceed two (2) pages. A typical plan may include the types of environmental data and information to be created during the course of the project; the tentative date by which data will be shared; the standards to be used for data/metadata format and content; policies addressing data stewardship and preservation; and procedures for providing access, data, and security. If your research will not generate any environmental data, an acceptable data sharing plan is the sentence, "This project will not generate any environmental data."

LIST OF PARTICIPANTS (not included in the 12 page limit)

List institutional or private sector support for the project; cite source(s) of cost-sharing, e.g., industry, state or county agencies, and in-kind matching funds. Append letters of collaboration and documentation of support using the upload file attachment option.

REFERENCES (not included in the 12 page limit)

Provide complete bibliographic information for all references cited in the text.

APPENDIX 2

University of Hawai‘i Sea Grant College Program Graduate Fellow Program

The University of Hawai‘i Sea Grant College Program (Hawai‘i Sea Grant) provides support to a limited number of graduate students whose research is directly linked to projects funded through our award from National Oceanic and Atmospheric Administration (NOAA). This support is directly aimed at nurturing the professional development of graduate students. As such, *Hawai‘i Sea Grant Graduate Fellows* are required to meet certain obligations for funding. These requirements reflect our commitment to developing stronger linkages among the research, education, and outreach activities that form the foundation of the Hawai‘i Sea Grant.

Hawai‘i Sea Grant Graduate Fellows will continue to be administered as graduate research assistants and follow all relevant guidelines set by the University of Hawai‘i. Salary, benefits, and tuition waivers are determined based upon status within the student's graduate program and paid at the University of Hawai‘i scale. Nonetheless, Hawai‘i Sea Grant’s principal investigator (PI) of record for all graduate student support associated with our funding will be the Hawai‘i Sea Grant Director. Because of the nature of our funding from NOAA, Fellows are awarded one year at a time. However, Hawai‘i Sea Grant makes every effort to provide continuity for students and principal investigators throughout the multi-year grant period. Support renewal is based upon adequate progress (see below) and the availability of funds from federal funding in a given fiscal year. This format stresses the importance of a full year’s commitment by a student and principal investigator. While we acknowledge that changes may become necessary, our policy is to fund a single student per principal investigator for the entire year.

Because there may be more requests for Fellows than Hawai‘i Sea Grant can support, the following application procedure has been instituted. The goal of this procedure is to judiciously and justly identify proposals that link a strong research effort to a clearly defined commitment to graduate student education and a commitment from the principal investigator to foster the “research-to-outreach” ethos at this early stage of the student’s development.

PIs requesting a Graduate Fellow will be asked to submit a short statement as part of their research proposal outlining the role of the student in the project and preliminary plans for integrating the student’s research, education, and professional development into the project.

The inclusion of graduate education, consisting of technical training, professional development, and a priority for student first-authored publications, in a research proposal will be given weight in funding decisions. If the principal investigator has a particular student designated for the assistantship, a short description of his/her academic credentials is required.

Toward the end of each funded year of the award, the program will request a **progress report** from the student and principal investigator. Based upon satisfactory progress and participation in programmatic activities, a Graduate Fellow will be renewed for each year of the project. The program may decline to renew a Fellow if research and fiscal reporting requirements are not met, participation in programmatic activities is inadequate, or there is clear evidence that the goals of the program are not being achieved. In the event that there is turnover due to graduation or other circumstances, PIs will be asked to reapply. If additional Fellow funding becomes available, PIs who did not receive a graduate student in the original competition will also be invited to reapply.

The central goal of this program is to provide support to facilitate a strong academic interaction between a principal investigator and graduate student within the context of the degree-granting program of the University of Hawai‘i and the Sea Grant-funded research project. Hawai‘i Sea Grant is committed to maintaining the primacy of this relationship. Hence, supported students will not be required to teach or perform other functions for their departments or laboratories. However, it is essential that students are exposed to concepts and activities that foster an appreciation of the research-to-outreach process that is essential to a Sea Grant project and to the Hawai‘i Sea Grant mission. Toward that end, Hawai‘i Sea Grant will require the students to participate in some activities each year. We do not believe that these are particularly burdensome, nor are they intended to deflect students from their research. Rather, we see them as a way that we can capitalize upon the strengths and capabilities of Hawai‘i Sea Grant to enhance the formal academic education students receive and to catalyze new ways of thinking. The activities are:

Welcome Meeting for Fellows at Hawai‘i Sea Grant (Half Day Orientation)

This meeting will provide an opportunity for fellows to learn about Sea Grant and their respective projects. The meeting will also introduce the concept of outreach associated with an academic research effort. Hawai‘i Sea Grant will also provide written materials, as well as other resources, to the students at this time.

Professional Development Workshops

Graduate students will participate in at least four professional development workshops during their tenure as Hawai‘i Sea Grant Graduate Fellows. Potential workshops include an Informal Education training workshop led by faculty from Hawai‘i Sea Grant’s Center of Excellence for Marine Science Education and a Best Practices for Community Partnership workshop which will focus on processes that researchers can use to build and maintain long-term collaborative relationships with community stakeholders through research.

Research Symposium

Sea Grant-supported PIs and their graduate students will share their research progress to date through short talks. Talks from all Hawai‘i Sea Grant PIs and Sea Grant Graduate Fellows will be followed by a facilitated discussion with Sea Grant extension faculty and other invited guests to explore avenues for future research partnerships and how ongoing projects can be further applied and utilized by local decision makers. Goals of the Research Symposium include: 1) sharing research that is currently being conducted and exploring where opportunities exist for integrating extension and application of research results; 2) connecting Sea Grant-supported PIs and Sea Grant Graduate Fellows with Sea Grant Extension faculty and communications staff; and 3) identifying potential steps for extension and application of research results.

Public Presentation

This will be an opportunity to assemble the students at the end of the year to discuss their research progress with the general public at Hanauma Bay. Students will present their research results to the general public during the Hanauma Bay Education Program’s weekly Thursday evening seminar series during the months of November and December in each year of the two year project. Each student will give a 15-minute PowerPoint presentation on their research project with a few minutes for questions and answers.

Hawai‘i Sea Grant Blog Post

Each graduate student will be required to prepare a short blog post describing his/her research and its relevance to issues involving Hawai‘i’s coasts and ocean. These posts will be considered for publication in Hawai‘i Sea Grant’s Blog. Hawai‘i Sea Grant will offer guidance, as well as professional editing, for the students. This activity should provide a good vehicle for exploring how to translate the students’ research for a general audience and assist fellows to think in terms of “broader” issues.

Outreach

Each student will be required to conduct an outreach activity associated with his/her field of expertise. The outreach activity should involve at minimum 50 hours of work (e.g., 25 hours/semester) annually that includes preparation time and implementation of the outreach activity. Students will write a one-page proposal on their outreach activity and submit a final report that describes the outcomes of the outreach and any new skills or knowledge gained through outreach participation.

Funding permitting, the Hawai‘i Sea Grant will continue to provide support for specialized training, attendance at meetings, and other relevant activities that will enhance the students’ experience. Hawai‘i Sea Grant will work with students and advisors to facilitate further interactions with members of the scientific and management communities.