

**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:

Symbrosia Inc

Amount of State Funds Requested: \$ 109,200

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

Limu and limu-based knowledge in Hawai'i has drastically declined over the years, correlating with an alarming decline in nearshore fish populations. With our field research and now two years of data from around the Hawaiian archipelago, we have validated that culturally-relevant limu populations are no longer located where they once were and are starkly declining – especially on Hawai'i Island. Through a Limu Biocultural Restoration Fellowship, fellows will lay the foundation for a Hawai'i Island limu restoration strategy based on conversation with community members, cultural and scientific practitioners, existing literature, and site assessment.

Amount of Other Funds Available:

State:            \$ \_\_\_\_\_

Federal:        \$ \_\_\_\_\_

County:        \$ \_\_\_\_\_

Private/Other: \$ \_\_\_\_\_

Total amount of State Grants Received in the Past 5 Fiscal Years:

\$ 41,000

Unrestricted Assets:

\$ \_\_\_\_\_

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

Type of Business Entity:

- 501(C)(3) Non Profit Corporation  
 Other Non Profit  
 Other

Mailing Address:

73-4460 Queen Ka'ahumanu Suite 111

City:  
Kailua-Kona

State:  
HI

Zip:  
96740

Contact Person for Matters Involving this Application

Name:  
Alexia Akbay


Title:  
CEO

Email:  
alexia@symbrosia.co

Phone:  
808-895-4096

Federal Tax ID#:  
[REDACTED]

State Tax ID#:  
[REDACTED]

  
\_\_\_\_\_  
Authorized Signature

Alexia Akbay, CEO

\_\_\_\_\_  
Name and Title

1/18/22

\_\_\_\_\_  
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) Certificate of Good Standing (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



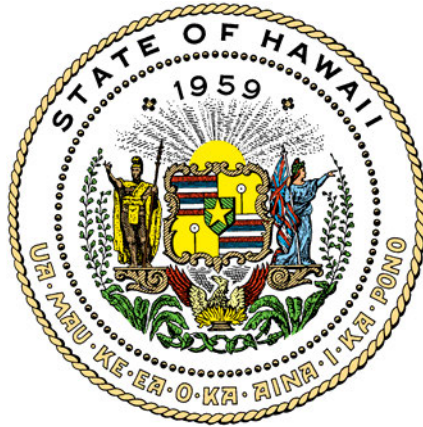
AUTHORIZED SIGNATURE

Alexia Akbay, CEO

PRINT NAME AND TITLE

1/18/22

DATE



## Department of Commerce and Consumer Affairs

### CERTIFICATE OF GOOD STANDING

I, the undersigned Director of Commerce and Consumer Affairs of the State of Hawaii, do hereby certify that according to the records of this Department,

SYMBROSIA INC.

was incorporated under the laws of Hawaii on 04/01/2021 ; and that it is an existing corporation in good standing, and is duly authorized to transact business.



IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Department of Commerce and Consumer Affairs, at Honolulu, Hawaii.

Dated: January 21, 2022

Director of Commerce and Consumer Affairs

**DECLARATION STATEMENT OF  
APPLICANTS FOR GRANTS PURSUANT TO  
CHAPTER 42F, HAWAI'I REVISED STATUTES**

The undersigned authorized representative of the applicant certifies the following:

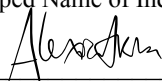
- 1) The applicant meets and will comply with all of the following standards for the award of grants pursuant to Section 42F-103, Hawai'i Revised Statutes:
  - a) Is licensed or accredited, in accordance with federal, state, or county statutes, rules, or ordinances, to conduct the activities or provide 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, Hawai'i 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.
  
- 3) If the applicant is a non-profit organization, it meets the following requirements pursuant to Section 42F-103, Hawai'i 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.

Pursuant to Section 42F-103, Hawai'i 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.

Symbro ia

\_\_\_\_\_  
(Typed Name of Individual or Organization)

  
\_\_\_\_\_  
(Signature)

1/18/22

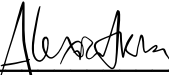
\_\_\_\_\_  
(Date)

Alexia Akbay  
(Typed Name)

CEO  
(Title)

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Symbrosia Inc hereby verifies that any and all funding awarded to our organization by the State of Hawaii through its Grants-in-Aid program will be used for public purpose pursuant to Section 42F-102 Hawaii Revised Statutes.

  
\_\_\_\_\_  
Alexia Akbay  
CEO

1/18/22  
\_\_\_\_\_  
Date

# Limu Biocultural Restoration Fellowship on Hawai'i Island

Symbrosia Inc

## BACKGROUND AND SUMMARY

Limu and limu-based knowledge in Hawai'i has drastically declined over the years, correlating with an alarming decline in nearshore fish populations. Symbrosia is a for-profit organization committed to climate change mitigation through the use of limu. With our field research and now two years of data from around the Hawaiian archipelago, we have validated that culturally-relevant limu populations are no longer located where they once were and are starkly declining – especially on Hawai'i Island. Mālama 'āina advocates across Hawai'i have declared 2022 as the Year of the Limu, adamant that the health of Hawai'i's fish and marine life are determined by the health and abundance of the limu. Ocean practitioners have rejoiced in restoration efforts, but Hawai'i Island is yet to be represented within the movement. Due to many skilled scientists moving off island for improved economic security and the majority of Hawai'i Island jobs residing in tourism or trade industries, public-private partnerships with culturally respectful research organizations could prove as a pathway forward in the development of new STEM workforce opportunities – no different to waste water, resource management, or agriculture. With this awareness comes the kuleana to utilize Symbrosia's resources to uplift community-based efforts in restoration, with the ultimate goal of a self-sustaining program.

Through the Symbrosia Limu Restoration Fellowship, fellows will lay the foundation for a Hawai'i Island limu restoration strategy based on conversation with community members, cultural and scientific practitioners, existing literature, and site assessment. Fellows will identify key locations on Hawai'i Island for restoration of limu kohu and potentially other species based on regulatory concerns, community support, cultural relevance, historic ecology, and feasibility. From here, the fellows will collaborate with the Symbrosia research team, regulatory bodies, and limu educators to understand the most effective ways for outplanting limu in locations of interest. Through these activities, fellows will also work to identify a group of community champions who are interested in perpetuating these practices and advise on available funding opportunities to ensure the continuation of activities. Symbrosia's team of scientists and network of cultural consultants will support two fellows to draft a strategic plan for comment and refinement by community members. With this document in hand and stakeholders brought together, we can act to create 'āina-minded, community restoration of Hawai'i Island limu populations.

## GOALS AND OBJECTIVES

**Goal 1:** Provide financial support to two Native Hawaiian fellows to fully emerge in building a pathway forward for limu restoration on Hawai'i Island.

**Goal 2:** Develop a working group of stakeholders and champions to provide input to the planning process and commit to supporting downstream implementation of restoration activities.

**Goal 3:** Deliver a strategic restoration plan to stakeholders and community for feedback.

**Goal 4:** Determine feasible pathways for sustained restoration activities with partnership commitment.

**PUBLIC PURPOSE AND NEED TO BE SERVED**

At a point in history where there have been global losses in the diversity of both humanity and the natural systems humanity is founded on, conservation needs to be focused on restoring cultural diversity as much as biological diversity. Restoration of limu practices has the potential to produce healthy local food, support vibrant communities, increase biodiversity, share generational knowledge, and provide a healthier reef environment. Biocultural restoration is an approach that incorporates both humanity and its connections to nature in a larger effort to restore the health, function, and resilience of seascapes. Given that limu is a core staple of traditional Native Hawaiian diets and the foundational food source of the reef ecosystem, and considering the threats that the Native Hawaiian community faces on their homelands, the value of restoration is deeply rooted in the health of Native Hawaiian communities, identity preservation, and environmental health for the longevity of Hawai'i and its peoples.

**TARGET POPULATION TO BE SERVED**

This program focuses on providing jobs, education, and community engagement for Hawai'i Island communities interested in ocean conservation and limu. Hawai'i Island is not currently represented within larger Hawaiian limu restoration efforts.

**GEOGRAPHIC COVERAGE**

Stakeholder engagement and strategic planning will be diversified across Hawai'i County.

**Service Summary and Outcomes**

TASK	MONTH													
	-1	-2	1	2	3	4	5	6	7	8	9	10	11	12
1. Onboard fellows														
2. Build community relationships														
3. Establish working group														
4. Assess existing projects and literature														
5. Site visits and talk story														



6. Strategy development														
7. Stakeholder feedback														
8. Community feedback														
9. Identify opportunities for sustained program														

**Task 1:** Onboard two Native Hawaiian limu restoration fellows with expertise in marine resources, conservation, and/or Hawaiian studies.

**Task 2:** Build relationships with key stakeholders on Hawai'i Island and collaborators from other islands.

**Task 3:** Develop a working group structure with interested stakeholders.

**Task 4:** Assess existing marine restoration projects globally and published literature to and determine feasibility of replication.

**Task 5:** Visit existing sites, laboratories, community groups and all factions of the island that are relevant to program development.

**Task 6:** Based on evaluations and community discussions, develop a tiered plan for restoration in coordination with stakeholder commitment – considering technical, cultural, and regulatory feasibility.

**Task 7:** Send to the working group for refinement.

**Task 8:** Open to the public for comments.

**Task 9:** Identify grant opportunities to continue strategy implementation.

Quality assurance is built into the timeline by requiring feedback from stakeholders and community members on the final strategy. Additionally, fellows will have weekly meetings with the Symbrosia team to determine alignment with the projected timeline and develop pathways to stay on track. Fellows will work with cultural consultant Ku'u lei Perreriera-Keawekane to identify a pono pathway to continue throughout meetings with stakeholders and community members. Assembly of a working group, delivery of a feasible, community-minded restoration plan, and a financial pathway for sustained efforts will be the ultimate outcomes of this process and key markers of success.

**Financial**

**Budget**

Anticipated quarterly funding requests for the fiscal year 2023 to fund personnel for implementation of identified restoration opportunities.

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total Grant
\$22,000	\$22,000	\$22,000	\$22,000	\$88,000

Symbrosia supports special research projects and some educational opportunities not directly in alignment with business goals through grants – application to these opportunities varies with announced grants and team capacity to take on new projects. At this time, Symbrosia is still working on Phase II SBIR projects which will not allow the team to take out additional research grants outside of this proposal. Symbrosia has received state and federal R&D tax credits for the 2020 fiscal year and can continue to file for the next four years.

## **Experience and Capability**

### **Necessary Skills and Experience**

Symbrosia has received and successfully managed grants from the National Science Foundation, US Department of Agriculture, and the National Oceanic and Atmospheric Administration among others to completion. While Symbrosia is a for-profit entity, we have consistently demonstrated our commitment to educational opportunities and preservation of Native Hawaiian practices. In 2021, we hosted three highschool students funded by NOAA and two UH students for STEM internships.

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.

### **Facilities**

Limu Restoration Fellows will have access to Symbrosia facilities and pro bono membership at The KōLab, a coworking space in Kailua-Kona, Hawai'i to focus on the outlined tasks. Due to COVID-19 and the potential for fellows to live in different places around Hawai'i Island, remote work is also feasible. Funding is budgeted for travel needs around Hawai'i to meet with stakeholders.

## **Personnel: Project Organization and Staffing**

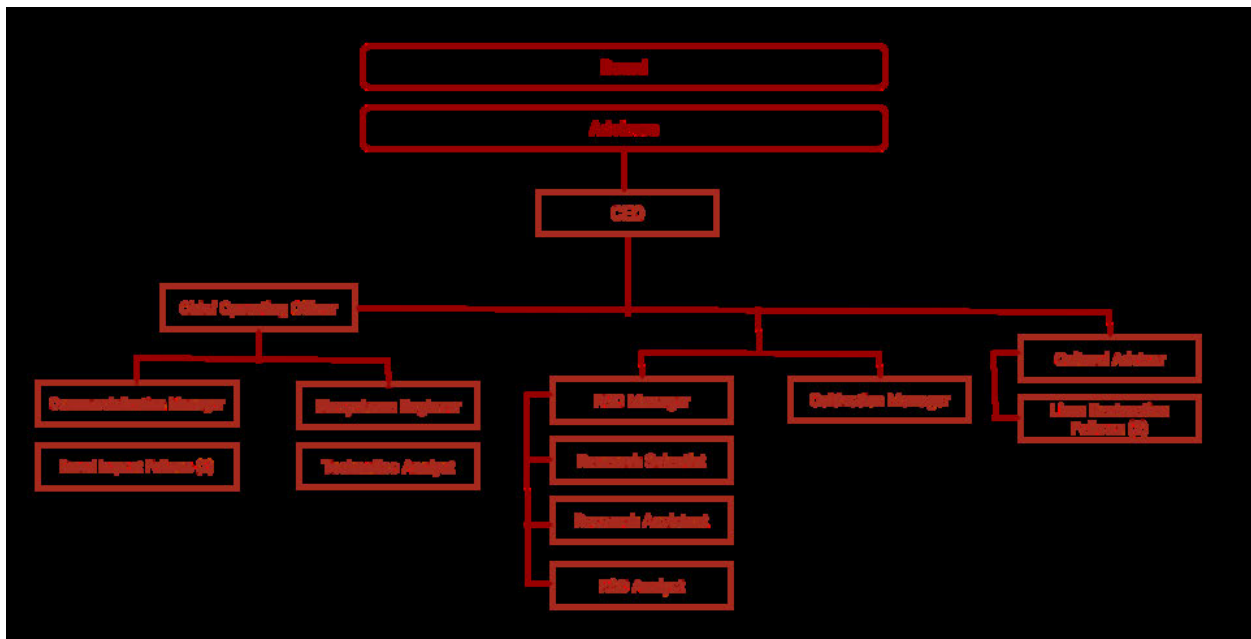
### **Proposed Staffing, Staff Qualifications, Supervision and Training**

In order to ensure that the program is built around pono values, cultural advisor Ku'u lei Perriera-Keawekane will advise the fellows throughout the year. Kuulei is a Kanaka Maoli (Native Hawaiian) orator from the Pana'ewa Hawaiian Homelands of Hilo, Waiākea, Hawai'i. She is bilingual in the English and Hawaiian languages, and she works to model the ancestral Land and Waters who raised her. Kuulei creates oratory space for Hawaiian families to be reconnected to their birthrights of ancestral spirituality, language, and traditions. She currently works as a Cultural Advisor at the University of Hawaii.

Alexia Akbay, CEO of Symbrosia, will work alongside the fellows to manage project completion. With a background in green chemistry, Alexia’s passion is climate innovation management. Her previous work focused on petroleum-based consumer products, medical marijuana and a blockchain-enabled carbon accounting system. She was named to the Forbes 30 under 30 list in social impact for 2022, nominated for the Pritzker Emerging Environmental Genius Award, founder of the Women + the Circular Economy series at Yale, and as author in “A Better Planet: 40 Big Ideas for a Sustainable Future”, commenting on genomics for climate change mitigation and adaptation. She received an MPH from Yale and holds a B.S. from New York University in Chemistry.

In addition to supervision by Ku’ulei and Alexia, fellows will develop a group of stakeholders who will also serve as mentors throughout the restoration plan design process. The entire Symbrosia staff will also be available to fellows as helpful.

**Organization Chart**



**Private Educational Institutions**

This grant will not be used to support or benefit a sectarian or non-sectarian private educational institution.

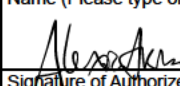
**Future Sustainability Plan**

Following the development of a biocultural restoration plan, fellows will spend the last month of the project identifying public and private funding sources for continued efforts. The hope is to also find host agencies and community champions, independent of Symbrosia, to support and facilitate continued efforts. This will include a GIA proposal for FY22-23.

## BUDGET REQUEST BY SOURCE OF FUNDS

Period: July 1, 2022 to June 30, 2023

Applicant: Symbrosia

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	78,000			
2. Payroll Taxes & Assessments	21,840			
3. Fringe Benefits	3,360			
TOTAL PERSONNEL COST	<b>103,200</b>			
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	6,000			
7. Telecommunication				
8. Utilities				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
TOTAL OTHER CURRENT EXPENSES	<b>6,000</b>			
C. EQUIPMENT PURCHASES				
D. MOTOR VEHICLE PURCHASES				
E. CAPITAL				
<b>TOTAL (A+B+C+D+E)</b>	<b>109,200</b>			
<b>SOURCES OF FUNDING</b>		Budget Prepared By:		
(a) Total State Funds Requested	109,200	Alexia Akbay		
(b) Total Federal Funds Requested	0	Name (Please type or print) <span style="float: right;">Phone</span>		
(c) Total County Funds Requested	0			
(d) Total Private/Other Funds Requested	0	Signature of Authorized Official <span style="float: right;">Date</span>		
		1/18/22		
<b>TOTAL BUDGET</b>	<b>109,200</b>	Alexia Akbay		
		Name and Title (Please type or print)		

BUDGET JUSTIFICATION - PERSONNEL SALARIES AND WAGES Period: July 1, 2022 to June 30, 2023

Applicant: Symbrosia

POSITION TITLE	FULL TIME EQUIVALENT	ANNUAL SALARY A	% OF TIME ALLOCATED TO GRANT REQUEST B	TOTAL STATE FUNDS REQUESTED (A x B)
Limu Restoration Fellow	0.8	\$36,000.00	100.00%	\$ 36,000.00
Limu Restoration Fellow	0.8	\$36,000.00	100.00%	\$ 36,000.00
Cultural Consultant	1	\$6,000.00	100.00%	\$ 6,000.00
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
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				\$ -
				\$ -
<b>TOTAL:</b>				<b>78,000.00</b>
<b>JUSTIFICATION/COMMENTS:</b>				

Applicant: Symbrosia

DESCRIPTION EQUIPMENT	NO. OF ITEMS	COST PER ITEM	TOTAL COST	TOTAL BUDGETED
			\$ -	
			\$ -	
			\$ -	
			\$ -	
			\$ -	
<b>TOTAL:</b>				

JUSTIFICATION/COMMENTS:

DESCRIPTION OF MOTOR VEHICLE	NO. OF VEHICLES	COST PER VEHICLE	TOTAL COST	TOTAL BUDGETED
			\$ -	
			\$ -	
			\$ -	
<b>TOTAL:</b>				

JUSTIFICATION/COMMENTS:  
  
All equipment will be provided by Symbrosia.

Applicant: Symbrosia

<b>FUNDING AMOUNT REQUESTED</b>						
<b>TOTAL PROJECT COST</b>	<b>ALL SOURCES OF FUNDS RECEIVED IN PRIOR YEARS</b>		<b>STATE FUNDS REQUESTED</b>	<b>OTHER SOURCES OF FUNDS REQUESTED</b>	<b>FUNDING REQUIRED IN SUCCEEDING YEARS</b>	
	<b>FY: 2020-2021</b>	<b>FY: 2021-2022</b>	<b>FY:2022-2023</b>	<b>FY:2022-2023</b>	<b>FY:2023-2024</b>	<b>FY:2024-2025</b>
PLANS			109200		92000	150000
LAND ACQUISITION						
DESIGN					8000	8000
CONSTRUCTION						
EQUIPMENT					15000	30000
<b>TOTAL:</b>			109,200		115,000	188,000
<b>JUSTIFICATION/COMMENTS:</b>						
Private philanthropic funding will be sourced for FY 2023-25 to sustain the program, design restoration pilots, and house equipment						

**GOVERNMENT CONTRACTS, GRANTS, AND / OR GRANTS IN AID**

Applicant: Symbrosia

Contracts Total: 565,000

	<b>CONTRACT DESCRIPTION</b>	<b>EFFECTIVE DATES</b>	<b>AGENCY</b>	<b>GOVERNMENT ENTITY (U.S./State/Hawaii/ Honolulu/ Kauai/ Maui County)</b>	<b>CONTRACT VALUE</b>
1	Optimization of <i>Asparagopsis taxiformis</i> growth	FY20-22	NSF	US	256,000
2	HTDC Matching - NSF	FY21	HTDC	State	41,000
3	Selective breeding of <i>Asparagopsis taxiformis</i>	FY21-22	NIFA / USDA	US	100,000
4	Marine Education Grant	FY21	NOAA	US/Western	15,000
5	<i>Asparagopsis taxiformis</i> as a feed additive organic sheep	FY20	SARE	US/NE	25,000
6	HTDC Matching - NIFA	Applied	HTDC	State	50,000
7	Using Agricultural Byproducts and Seaweed as Antimethanogenic Animal Feed	Applied	SARE	US/Western	78,000
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