

Agency: Commerce, Community and Economic Development**Grants to Named Recipients (AS 37.05.316)****Grant Recipient: Halibut Cove Community Organization****Federal Tax ID: 92-0173833****Project Title:****Project Type: New Construction and Land Acquisition**

Halibut Cove Community Organization - Alaska Mussel Farming Demonstration Project

State Funding Requested: \$485,520**House District: Kenai Areawide (33-35)**

One-Time Need

Brief Project Description:

The Alaska Mussel Technology Transfer Project is designed to demonstrate the economic and technical feasibility of large scale mussel farming in Alaska as a method of revitalizing the economy of coastal Alaska.

Funding Plan:

Total Project Cost:	\$535,520
Funding Already Secured:	(\$50,000)
FY2013 State Funding Request:	<u>(\$485,520)</u>
Project Deficit:	\$0

Funding Details:

Alaska Shellfish Farms will provide operating funds and will invest an estimated \$150,000 in capital funds to construct additional rafts as production grows.

Detailed Project Description and Justification:

The project will result in the construction, deployment and operation of four 40' x 40' mussel rafts producing \$560,000 in annual gross sales within two years. Eventually, the Halibut Cove mussel farm will have an annual production 1.2 million pounds of high quality mussels worth \$2,000,000 and will employ ten local residents. The Alaskan Shellfish Growers Association (ASGA) will work closely with Alaska Shellfish Farms (ASF) in implementing the project with technical assistance provided by the Marine Advisory Program (MAP). Alaska Sea Farms will be responsible for the construction and operation of the model mussel farm. In addition to managing the project, ASGA will help ASF in the development of marketing and business planning. MAP will gather and analyze biological and scientific data. ASGA and MAP will write a mussel farmer's manual designed to help other Alaskans develop mussel farms, and will collaborate on mussel farming workshops to deliver project results to Alaska shellfish farmers.

Project Timeline:

Construction will commence in mid-2012 and mussel seed will be collected in Fall 2012. The first mussel crop will be planted in Spring 2013 and the first harvest will be scheduled for late 2014.

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

Halibut Cove Community Organization

Grant Recipient Contact Information:

Name:	Adele Groning
Title:	President
Address:	P.O. Box 6401 Halibut Cove, Alaska 99603
Phone Number:	(907)299-2451
Email:	adele@bunnellstreetgallery.org

Has this project been through a public review process at the local level and is it a community priority? ☒ Yes ☐ No

A Model Mussel Farm for Alaska

The Alaska Mussel Farming Demonstration Project is designed to demonstrate the economic and technical feasibility of large scale mussel farming in Alaska as a method of revitalizing the economy of Coastal Alaska. The project will result in the construction, deployment and operation of four 40' x 40' mussel rafts producing \$560,000 in annual gross sales within two years. Eventually, the Halibut Cove mussel farm will have an annual production 1.2 million pounds of high quality mussels worth \$2,000,000 and will employ ten local residents with countless others being employed in the supply chain.

Education outreach will be a main focus of the project. Alaska entrepreneurs and coastal communities will be provided with the information necessary to consider investments in a lucrative, sustainable industry. In Coastal Alaska, where the population trend is declining due to a lack of jobs this would provide unforeseen benefits.

The Community of Halibut Cove is a perfect candidate for a model mussel industry. Halibut Cove has a long history of shellfish farming. In the 1980s Diana Tillion started one of the first mariculture businesses in Alaska, with a mussel farm in Halibut Cove Lagoon. Mussel farming continued into the 1990s but with the increase of sea otters in Kachemak Bay, mussel farming has ended. Farming of Pacific oysters is a main economy in Halibut Cove, but with recent shortages of oyster seed on the West Coast, growers have had a renewed interest in mussel culture- thanks to abundance of wild mussel seed!

Halibut Cove Community Organization members, including active shellfish farmers with experience in managing large scale mussel farming operation in Maine, will develop a model mussel farm for Alaska using a technology transfer from mussel industries in Maine and Washington. A model business plan will be developed to allow for other entrepreneurs and communities to develop industries. Alaskan Shellfish Growers Association (ASGA) and Alaska Sea Grant Marine Advisory Program (MAP) will provide oversight, collect and analyze environmental and financial data and educational outreach for the project.

Global mussel production has increased dramatically over the past two decades, increasing from 346,000 tons in 1991 to 446,000 tons in 2002, according to the FAO. Meanwhile, production in Alaska actually decreased to a paltry 1,573 pounds in 2010, according to data compiled by ADF&G. This project is designed to demonstrate Alaska's tremendous potential as a mussel producer.

Mussels will be grown suspended on lines hung from a raft, surrounded by a predator net. At least four 40' x 40' rafts will be needed to start production- two will be used for seed collection. Then all four rafts will be stocked with seed grown to market size. Each raft will be capable of producing 70,000lb of mussels in 18-24 months. The mussel rafts will be built with a steel I-beam frame able to withstand wave action, ice and up to 100,000 lbs. of weight including: product, predator net, fouling and ice. The rafts will be held in place by four 1-ton plow anchors, two on each end, each anchor with 300' of 1" chain held to raft. Securing the rafts is necessary to minimize wave action, so the product does not slough off the lines.

Mussel seed will be collected from wild sets in July. Water parameters and sampling will be conducted to ensure optimal collection. Extruded plastic mesh, similar to bait bag material, will be hung in the water to a depth of 20' with a weight on the end. For a 40' x 40' raft 500 droppers will be deployed.



Grading and re-socking of mussels will be conducted between September and October when the seed reaches ¼” to ½”. Mussel seed is stripped off the collectors and loaded into a hopper which feeds the seed into a continuous line socking machine. The sock is comprised of reusable extruded plastic mesh, surrounded by a biodegradable cotton sock that disintegrates once the mussels have securely byssed to the plastic sock. Every 12-18” a plastic disk is put on the line to keep the mussels from sloughing off. Mussels are stocked at 150 mussels per foot on 20’ lines with a two-pound weight on the end.

Mussel processing equipment is necessary for production of any volume of product because of the large amounts of labor harvesting and processing would require if done by hand. Mussel processing equipment obtained directly from successful industries will accelerate the development of an Alaskan mussel industry. During harvest, the mussels are put into a hopper feed conveyer that feeds them into a declumper/grader. From the declumper the market sized product is fed into a debysser and the seed mussels are removed. Then a mussel roll sizer grades out and separates the market product and feeds the mussels into harvest sacks. With processing equipment one ton of mussels can be harvested within 4 hours. The harvest sacks will be stored in a 55 cu ft. insulated plastic container with flowing seawater until removed from the water to ship.

One of the biggest challenges will be protecting the mussel crop from predators, particularly sea otters and sea ducks. An adult sea otter can consume 30 lbs of shellfish daily. The rafts will be completely enclosed with a specially designed predator net that will keep the voracious predators at bay. Predator nets are commonly used to protect mussels from sea duck predation in most places where rafts are used, the predator net technology is a direct transfer from other industries.

The Community of Halibut Cove will execute a successful model mussel industry for Alaska. With its long history of shellfish farming, committed industry members, abundance of wild mussel seed, and a need to develop a year-round sustainable economy, all the building blocks for an industry are in order. A capital project to support a sustainable, lucrative industry, will allow Coastal Alaska communities to thrive.

Capital Budget Amount Requested:	\$496,020
Grant Recipient:	Halibut Cove Community Organization
Tax I.D. #:	92-0144641
Contact Information:	Weatherly Bates, treasurer
	907-299-2451
	<u>alaskashell@gmail.com</u>

Alaska Mussel Farming Demonstration Project

Item	Units	\$/Unit	Cost
Raft Materials			
floatation	4	10000	40000
Frame	4	5000	20000
fasteners	4	5000	20000
I-beams	4	5000	20000
stringers	4	5000	20000
Predator Net	4	14000	56000
Moorings			
4 x 1-ton anchors/raft	4	14,000	56000
5/8" chain	4	10,000	40000
lines, buoys, shackles	4	5500	22000
Mussel Processing Line			
Hopper Feed Conveyer	1	15,000	15000
declumper	1	17500	17500
Elevating Conveyer	1	9500	9500
debysser	1	19000	19000
mussel roll sizer	1	18000	18000
Inspection pack conveyer	1	10000	10000
insulated fish totes	10	300	3000
Culture Equipment/materials			
Socking Materials	4	2000	8000
discs	4	5000	20000
weights	4	500	2000
seed collectors	4	1600	6400
socking machine	1	10000	10000
Outreach			
marketing plan	1	5000	5000
model business plan/manual	1	20000	20000
workshops	2	7500	15000
Administration			
5% overhead/reporting	1		23620
TOTAL			496020

Halibut Cove Community Organization

BOARD OF DIRECTORS RESOLUTION

A telephonic meeting of the board of directors of Halibut Cove Community Organization was held March 23, 2012 at which each director waived notice of the meeting. Board members Adele Groning, Weatherly Bates, Lucinda Sidelinger, Vince Tillion and Erik LeRoy participated. The matter before the Board was the suggestion that the Halibut Cove Community Organization, or a subsidiary of the organization, be authorized to apply for and accept the Alaska Mussel Farming Demonstration Project, a capital project of \$485,520. Halibut Cove Community would purchase and build four 40' x 40' mussel rafts and processing equipment, to establish a mussel industry as a method of revitalizing the economy. Eventually, the Halibut Cove mussel farm would have a production of 1.2 million pounds of high quality rope growth mussels, worth 2 million dollars. The industry would directly employ ten local residents and countless others in the supply chain, and serve as a model industry for Coastal Alaska where populations are steadily declining.

The Board unanimously adopted the following resolution:

RESOLVED

Weatherly Bates and Clem Tillion are authorized to apply for capital funds on behalf of the Halibut Cove Community Organization for Mariculture Development Projects in the Kachemak Bay area.

March 23, 2012

Weatherly P. Bates, Treasurer
Halibut Cove Community Organization



March 30, 2012

**Senator Bert Stedman, co-chair
Senate Finance Committee
State Capitol, Suite 516
Juneau, AK 99801**

Re: Capital Budget Mussel Farming Project

Dear Senator Stedman:

Attached is an improved version of the Alaska Mussel Farming Demonstration Project submitted earlier this session. The Alaskan Shellfish Growers Association strongly endorses this approach as improving access by more farmers to the capital equipment used during the project, and extending the benefits to more Alaskans.

The revised proposal includes the Halibut Cove Community Organization (HCCO) as the recipient of the capital equipment purchased under the grant. HCCO will develop leases with local farmers for use the equipment and inclusion in the demonstration project. The community of Halibut Cove has a long history of mussel and shellfish farming. Many year round residents rely on oyster farming as a source of income but with the recent uncertainty of oyster availability the need to diversify shellfish culture species has become apparent.

The lease revenues will help HCCO become an active participant in efforts to build a sustainable, year-round economy in a community that struggles, as many coastal Alaska Communities do, to keep its population stable. HCCO will become a model for other Alaska communities to develop a "green" industry and become self sufficient with a local industry.

This version of the project also increases the budget for outreach of project results with production of a more comprehensive Alaska Mussel Growers Manual and expansion of mussel farming workshops. ASGA also is working with OceansAlaska to develop mussel growth trials in Southeast during 2014-2014.

Thank you for considering our request. Please let me know if I can provide additional background.

Sincerely,

A handwritten signature in black ink that reads "Rodger Painter". The signature is fluid and cursive, with the first name "Rodger" being more prominent.

Rodger Painter

c.c. Senator Lyman Hoffman, co-chair
 Senator Donald Olson
 Senator Dennis Egan
 Senator Joe Thomas
 Senator Johnny Ellis
 Senator Lesil McGuire
 Senator Gary Stevens
 Senator Tom Wagoner
 Representative Paul Seaton
 Representative Alan Austerman
 Darwin Peterson, committee staff
 Michael Nizich, Office of the Governor

Dear Representative Seaton,

I am writing this letter in regard to the mussel farming grant for the Halibut Cove Community Organization. Halibut cove has a long history with mariculture and is an ideal location for it. As with any start up business there are unknown unknowns, often taking entrepreneurs by surprise, but the evolution of bivalve farming has come a long way; Sea Otters are no longer something new, and market infrastructure is in place. The advantage of mussel farming is that they are indigenous, fast growing and do not need to be fed with imported non local food as do salmon. The community of Halibut cove needs the economic development to sustain and build a year around population and the community is unique in that there is a local talent pool already educated in the intricacies of mariculture.

To build a new and sustainable economy is in the interest of the State both in the short term and the long term. I feel that with the aid of the State we, the community of Halibut Cove, would be able to overcome the initial hurdles of getting a new and sustainable economy started.

Sincerely,

Vincent Tillion