

Alaska Mariculture Benchmark Survey

2024 Fiscal Year



On June 1, 2023, the National Oceanic and Atmospheric Administration named Alaska an Aquaculture Opportunity Area. Sites within these areas are evaluated for their potential environmental, social, and economical suitability for commercial mariculture activities. This survey will be used to collect economic data on the operating costs, species-specific revenues, and farm characteristics of mariculture farms in Alaska. The information from this survey will remain **completely anonymous** and only aggregated data will be shared publicly. We will develop a benchmark report, similar to the Maine Seaweed Benchmarking Report (<https://maineaqua.org/wp-content/uploads/2023/08/Maine-Seaweed-Benchmarking-Report.pdf>), that provides economic data that can be used by existing and potential growers to help secure business loans, track trends in the industry, and supports the expansion of mariculture activities in Alaska.



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Information on Your Alaskan Mariculture Operation

The questions below are about your mariculture farm in 2024. Unless otherwise indicated, please include information for only the 2024 calendar year. Please answer each question to the best of your ability and be as precise as possible where applicable.

Your participation in this survey is voluntary.

Public reporting burden for this collection of information is estimated at 45 minutes, including time for reviewing instructions, reviewing existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Russel Dame, NOAA Fisheries, Alaska Fisheries Science Center, russel.a.dame@noaa.gov Only aggregated results from the survey will be released publicly. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

A. Farm Background

1. **What is the registered business name associated with your Aquatic Farm Operation Permit? And where is your lease located?** *Please list the bay/watershed of your lease, not the business address associated with your permit.*

2. **What year did you begin to plant marine species on your mariculture lease?**
Note: This includes any marine species and may be different than the year you were issued your Aquatic Farm Operation Permit.

3. **In 2024, how many total acres were permitted for mariculture activities on your lease(s)?**

_____ Total acres

4. **How many of your total acres were allocated to each marine species group?**
Note: Some acreage may overlap between species.

_____ Acres used for oysters

_____ Acres used for kelp species

_____ Acres used for blue mussels

_____ Acres used for other marine species

5. At any given time during the growing season, approximately how many oyster bags, feet of kelp longlines, and blue mussel lines were on your lease in 2024?

	Feet of longlines	Wet Pounds (lbs.)
Kelp		
	Number of bags	Quantity of oysters
Oysters		
	Feet of mussel lines	Quantity of mussels
Blue Mussels		

6. Do you own your mariculture boat? And if not, what is your monthly/weekly/daily boat payment? Please select your payment frequency and please indicate the number of payments made in 2024.

☐ Yes

☐ No → \$ _____ ☐ Per Month ☐ Per Week ☐ Per Day

Number of Payments Made in 2024: _____

7. Do you use your mariculture boat for any other non-mariculture income-generating activities? Please check all that apply. If "Other" is selected, please give a brief description of the venture.

☐ Yes →

☐ Commercial Fishing

☐ Site-Seeing/Wildlife Viewing Tours

☐ For-Hire/Guided Charter Fishing

☐ Other:

☐ No

B. Operation Costs

The following questions ask for detailed cost information associated with your mariculture operation. As a reminder, **your information will remain confidential** and **only aggregated results from the survey will be released publicly**. We will use this information to analyze the average cost to operate a mariculture farm in Alaska and calculate financial metrics (breakeven price and quantity, average fixed and variable costs, etc.) that can be used by potential and existing growers.

8. What are your total annual expenses for your mariculture operation in 2024? Include all expenses related to your mariculture operation (i.e. production, processing, marketing, etc.)?

\$ _____ per year

9. For the following line items, please list your annual costs to operate your mariculture business and the percentage of each line item that you associate with only your mariculture operation: *If you do not incur fees associated with a line item, please put a "0" or an "NA" on the line.*

	Total Annual Expense	Percent of Total Cost Allocated for Mariculture
a. Farm lease & permitting fees.....	\$ _____	_____ %
b. Consulting/diving expenses.....	\$ _____	_____ %
c. Legal fees.....	\$ _____	_____ %
d. Operating loans (truck, building, boat, etc.).....	\$ _____	_____ %
e. Mooring fees.....	\$ _____	_____ %
f. Boat/truck registration.....	\$ _____	_____ %
g. Fuel (boat/truck)	\$ _____	_____ %
h. Mortgage/Rent of Building(s)	\$ _____	_____ %
i. Electricity.....	\$ _____	_____ %
j. Seed (oysters, kelp, etc.)	\$ _____	_____ %
k. Hired labor.....	\$ _____	_____ %
l. Gear repairs/maintenance/expansion	\$ _____	_____ %
m. Marketing.....	\$ _____	_____ %
n. Shipping/Transportation.....	\$ _____	_____ %
o. Ice.....	\$ _____	_____ %
p. Insurance.....	\$ _____	_____ %
q. Miscellaneous supplies (knives, gloves, etc.)	\$ _____	_____ %
r. Other expenses (please specify)	\$ _____	_____ %
i. _____	\$ _____	_____ %
ii. _____	\$ _____	_____ %
iii. _____	\$ _____	_____ %

10. What is your average cost for a growout line/bag (including anchors, zip-ties, etc.)?

If species is not grown on your lease, please leave blank.

\$ _____ per kelp line

\$ _____ per oyster bag

\$ _____ per blue mussel line

11. **What was your average cost for seed in 2024?** *Please be specific about size of oyster seed purchased. If seed is not purchased for a given species, please leave blank.*

\$_____per feet of seeded string

\$_____per 1,000 oysters @ _____mm

\$_____per 1,000 oysters @ _____mm

\$_____per 1,000 oysters @ _____mm

\$_____per 1,000 blue mussels

12. **On average, how many labor hours are used per year on your mariculture operation (maintenance and repairs, harvesting, etc.)? If hired labor is used, what is the average wage rate per hour?** *Note: Unpaid labor can include friends/family, interns, and other types of unpaid labor.*

Hours from Owner/Operator	Hours of Unpaid Labor	Hours of Paid Labor	Average Wage Rate for Paid Labor
Kelp			\$
Oysters			\$
Blue Mussels			\$

13. **Do you pay yourself a salary?** ☐ Yes ☐ No

14. **What is your annual revenue associated with your mariculture operation in 2024?** *Including all mariculture species grown and harvested from leases.*

\$_____

C. Kelp Operations

The questions in this section are only about kelp species grown on your mariculture lease in 2024. *If kelp was not grown on your mariculture lease in 2024, please skip to question 21.*

15. **Please complete the table below based on your kelp operation in 2024.**

# of Kelp Lines on Lease	Average Depth	Average Length of Seeded Line	Total Wet Pounds Harvested	Average Spacing

16. **How many months after planting do you expect to harvest a given line?**

_____months

17. Please complete the table below based on your kelp sales from 2024.

- **Quantity Sold** – The total quantity of kelp sold into each market. *For example, if 100 wet pounds of kelp were sold in 2024, please list 100.*
- **Unit** – The unit used when selling kelp (i.e. wet pounds, dry pounds, feet, etc.)
- **Price per Unit** – The price per unit listed in the previous column. *For example, if wet pounds were listed under unit, then please list the price per wet pound.*

Market	Total Quantity Sold in Each Market	Unit (wet pounds, per spool, etc.)	Price per Unit
Unprocessed wet			\$
Value added processor			\$
Other (please specify): _____			\$
Other (please specify): _____			\$

18. What percentage of planted kelp does not make it to market in an average year?

Note: The sum of these two values does not have to equal to 100%

_____ % of plantings lost in a typical year due to entanglement, theft, or mortality

_____ % of plantings that are disposed of due to a lack of market and/or cannot be sold

19. For an average kelp delivery, how many miles do you have to travel from your lease to market and/or your primary kelp processor? *Note: If you do not deliver kelp to a market and/or processor, please write "NA"*

_____ Miles by boat to market _____ Miles by boat to a processor

_____ Miles by land to market _____ Miles by land to a processor

20. Do you plan on expanding your kelp mariculture operation? And if so, how many total wet pounds of kelp do you forecast harvesting?

- ☐ Yes, I plan on expanding... ☐ No, I do not plan on expanding

_____ wet pounds harvested in 2025

_____ wet pounds harvested in 2026

_____ wet pounds harvested in 2027

D. Oysters Operations

The questions in this section are only about oysters grown on your mariculture lease in 2024.
If no oysters were grown on your mariculture lease in 2024, please skip to question 28.

21. Please complete the table below describing your oyster operation. Please check the growout gear used in 2024 and fill out the columns associated with each gear type. If less than 4 mesh sizes are used, please leave remaining columns empty. *Only complete rows associated with gear type used in 2024.*

Growout Gear Type	Mesh Size(s)	Average Stocking Density	Number of Units on Lease
<input type="checkbox"/> Floating bags →	_____mm		
	_____mm		
	_____mm		
	_____mm		
<input type="checkbox"/> Stacked cages (cages without bags) →	_____mm		
	_____mm		
	_____mm		
	_____mm		
<input type="checkbox"/> Lantern nets →	_____mm		
	_____mm		
	_____mm		
	_____mm		
<input type="checkbox"/> Other (please specify): _____→	_____mm		
	_____mm		
	_____mm		
	_____mm		

22. From first planting, how many months does it take for an average oyster to reach marketable size for the half-shell market?

_____ months

23. On average, how many times per year do you cull your oysters?

24. Do you sell any of your oysters as seed to other growers?

- ☐ Yes → Approximately _____ oysters in 2024 at an average price of \$_____ per 1,000 seed
- ☐ No

25. Please complete the table below based on your oyster sales from 2024. Please exclude oyster sold as seed to other growers.

- **Quantity Sold** – The total number of oysters sold into each market. *For example, if 1,000 oysters were sold in 2024, please list 1,000.*
- **Unit** – The unit used when selling oysters (i.e. per dozen, per oyster, etc.)
- **Price per Unit** – The price per unit listed in the previous column. *For example, if per oyster was listed under unit, then please state the price per oyster.*

Market	Total Quantity Sold in Each Market	Unit (per dozen, per oyster, etc.)	Average Price per Unit
Half-shell market <u>within</u> Alaska:			\$
Half-shell market <u>outside</u> of Alaska:			\$
Farm storefront:			\$
Other (please specify): _____			\$
Other (please specify): _____			\$

26. What percentage of all planted oysters are not sold into the market?

Note: Loss due to excess biofouling, natural mortality, theft, etc.

_____ % of planted oysters not sold into market

27. Do you plan on expanding your oyster mariculture operation? And if so, how many total oysters do you forecast harvesting? *Please do not consider oyster seed sales and only oysters that will be sold for consumption.*

☐ Yes, I plan on expanding... ☐ No, I do not plan on expanding

_____ oyster harvested in 2025

_____ oyster harvested in 2026

_____ oyster harvested in 2027

E. Blue Mussel Operations

The questions in this section are only about blue mussels grown on your mariculture lease in 2024. *If no blue mussels were grown on your mariculture lease in 2024, please skip to question 31.*

28. What is the primary method for growing and harvesting blue mussels? *Please describe below:*

29. How many pounds of blue mussels did you sell in 2024? And what was the average market price?

_____ Pounds of blue mussels sold.....\$_____ per pound

30. In the future, do you plan on expanding your blue mussel mariculture operation? And if so, how many additional blue mussels do you forecast harvesting?

☐ Yes, I plan on expanding to... ☐ No, I do not plan on expanding

_____ pounds of blue mussels harvested in 2025

_____ pounds of blue mussels harvested in 2026

_____ pounds of blue mussels harvested in 2027

F. Other Mariculture Species

31. Please list any other mariculture species that you plant and/or harvest from your mariculture species. *For example, sea cucumbers, abalone, clams, etc.*

32. Please describe the general method to plant and grow each species listed above.

33. If these species are sold into the market, please list the average price per unit and a general description of the market.

G. Risk Perceptions

34. Please check the following environmental events you have experienced while operating a mariculture lease.

- ☐ Harmful Algae Bloom
- ☐ Severe Storm/Ice Event
- ☐ Disease/Parasites (*not including typical biofouling organisms*)
- ☐ Atypical Biofouling Event(s)

If you are willing to participate in a short follow-up conversation (~30 minutes) regarding your experience with any of the environmental events above, please check the box below:

- ☐ Yes, I would be willing to participate in a follow-up conversation

H. Demographics and other information

35. Are you an Alaskan resident? If you are an Alaskan resident, in what community do you reside?

- ☐ Yes, I am an Alaskan Resident → Community Name: _____
- ☐ No, I am not an Alaskan Resident

36. What is your gender?

- ☐ Female
- ☐ Male
- ☐ Transgender, non-binary, or another gender
- ☐ Prefer not to answer

37. In what year were you born? _____

38. What is your race and/or ethnicity?

Select all that apply and enter additional details in the spaces below.

☐ **American Indian or Alaska Native** – Enter, for example, Navajo Nation, Blackfeet Tribe of the Blackfeet Indian Reservation of Montana, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, Aztec, Maya, etc.

☐ **Asian** – Provide details below.

- | | | |
|-------------------------------------|---------------------------------------|-----------------------------------|
| <input type="checkbox"/> Chinese | <input type="checkbox"/> Asian Indian | <input type="checkbox"/> Filipino |
| <input type="checkbox"/> Vietnamese | <input type="checkbox"/> Korean | <input type="checkbox"/> Japanese |

Enter, for example, Pakistani, Hmong, Afghan, etc.

☐ **Black or African American** – Provide details below.

- | | | |
|---|------------------------------------|----------------------------------|
| <input type="checkbox"/> African American | <input type="checkbox"/> Jamaican | <input type="checkbox"/> Haitian |
| <input type="checkbox"/> Nigerian | <input type="checkbox"/> Ethiopian | <input type="checkbox"/> Somali |

Enter, for example, Trinidadian and Tobagonian, Ghanaian, Congolese, etc.

☐ **Hispanic or Latino** – Provide details below.

- | | | |
|----------------------------------|---------------------------------------|-------------------------------------|
| <input type="checkbox"/> Mexican | <input type="checkbox"/> Puerto Rican | <input type="checkbox"/> Salvadoran |
| <input type="checkbox"/> Cuban | <input type="checkbox"/> Dominican | <input type="checkbox"/> Guatemalan |

Enter, for example, Colombian, Honduran, Spaniard, etc.

☐ **Middle Eastern or North African** – Provide details below.

- | | | |
|-----------------------------------|----------------------------------|-----------------------------------|
| <input type="checkbox"/> Lebanese | <input type="checkbox"/> Iranian | <input type="checkbox"/> Egyptian |
| <input type="checkbox"/> Syrian | <input type="checkbox"/> Iraqi | <input type="checkbox"/> Israeli |

Enter, for example, Moroccan, Yemeni, Kurdish, etc.

☐ **Native Hawaiian or Pacific Islander** – Provide details below.

- | | | |
|--|---------------------------------|--------------------------------------|
| <input type="checkbox"/> Native Hawaiian | <input type="checkbox"/> Samoan | <input type="checkbox"/> Chamorro |
| <input type="checkbox"/> Tongan | <input type="checkbox"/> Fijian | <input type="checkbox"/> Marshallese |

Enter, for example, Chuukese, Palauan, Tahitian, etc.

☐ **White** – Provide details below.

- | | | |
|----------------------------------|---------------------------------|-----------------------------------|
| <input type="checkbox"/> English | <input type="checkbox"/> German | <input type="checkbox"/> Irish |
| <input type="checkbox"/> Italian | <input type="checkbox"/> Polish | <input type="checkbox"/> Scottish |

Enter, for example, French, Swedish, Norwegian, etc.

39. What is the highest grade or level of school you completed?

- ☐ Some high school or less
- ☐ High school diploma or equivalent
- ☐ College graduate (AA, AS, BA, BS) or technical school
- ☐ Graduate degree (MA, MS, MBA, PhD, JD, MD, etc.)

40. If you are/were a commercial or for-hire guide fisherman, please list the number of years you participated in each fishing sector? And check the box if you currently participate in a commercial or for-hire fishery. *If you were never a commercial or for-hire guide fisherman, please skip to the next question.*

_____ Commercial fisherman ☐ Yes, I currently participate in a commercial fishery
_____ For-hire guide fisherman ☐ Yes, I currently participate in a for-hire fishery

41. Is mariculture your primary source of income?

- ☐ Yes, mariculture is my primary source of income
- ☐ No, mariculture is not my primary source of income

42. If mariculture is not your primary source of income, please briefly describe your primary source of income below. *If mariculture is your primary source of income, please skip to the next question.*

43. Before opening your mariculture operation, how many years of mariculture experience did you have growing any marine or freshwater species within Alaska and/or outside of Alaska?

_____ In Alaska _____ Outside of Alaska

44. What are your opinions on the future of Alaskan mariculture? *Please list any optimisms or pessimisms you may have. Continue on following page if space is not available.*

Is there anything we overlooked?

Please use the space below to provide us with any other comments you would like to make.