SECTION 5.B.

Stakeholder Map & Personas

Alaska Mariculture Ecosystem Map

Alaska mariculture has a plethora of supporters and stakeholders invested in the growth of consumer demand.

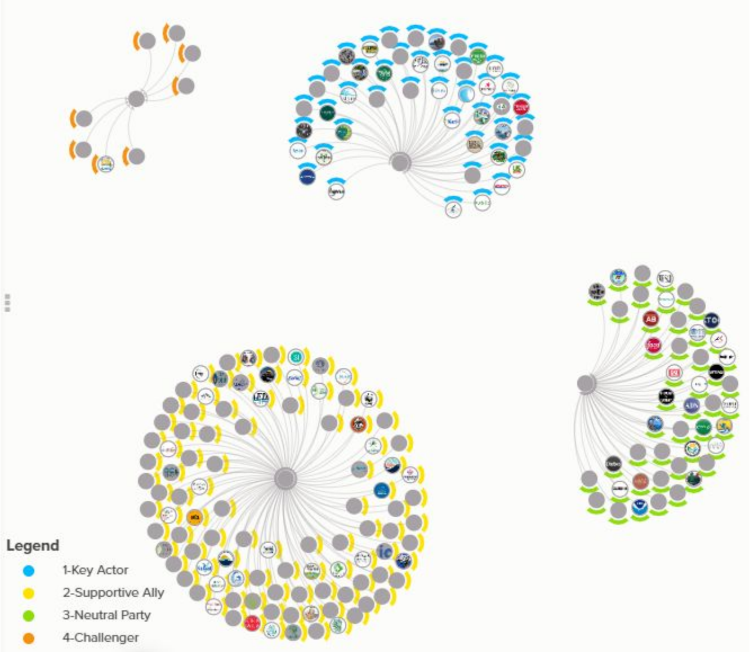
Ecosystem Map **identifies and categorizes the broad landscape of stakeholders who would be impacted by a rising market demand for Alaska mariculture kelp and oysters.** This stakeholder map identifies:

Key Actors: Those directly involved in the Alaska mariculture industry, such as mariculture farmers, processors, distributors, retailers, and consumers.

Supportive Allies: Organizations and individuals that are advocates for sustainable mariculture practices, such as environmental NGOs, sustainability-focused chefs, and academic institutions.

Neutral Parties: Stakeholders who may not be actively engaged but could be influenced by or impact the initiative, such as regulatory bodies or media outlets.

Challengers: Entities that challenge the growth of the Alaska mariculture market, such as industry groups that disagree with mariculture practices.



Click here or image above to be taken to interactive map

Alaska Mariculture Stakeholder Map

Key Actors of the Alaska mariculture value chain

Hatcheries & Nurseries
Develop oyster spat and kelp seed line to supply local farmers. eg., Pacific Hybreed, Hawaiian Shellfish

AK Farmers
Grow kelp and oysters in Alaska e.g., Seagrove, Royal Ocean Farms

AK Processors
Take harvested material and stabilize for future processing or prepare them for final marketplace e.g., E.C. Phillips & Son

AK CPG Brands
Develop consumer products using kelp and oysters. Create market demand and practical applications for these ingredients e.g., Barnacle Foods, Foraged & Found

Foodservice & Retail Distribution
Connection point between buyers and manufacturers. Focus on moving large quantities of products to grocery or foodservice outlets e.g., Sysco, UNFI

Grocery Buyers
Connection point between consumers and manufacturers. Operate on local, regional, or national scale depending on size of chain e.g., Whole Foods, Sprouts, Costco

Foodservice / Chefs
Connection point between consumers and manufacturers/ farmers. Blend creativity and consumer demand to create dishes e.g., Andrew Zimmern, Padma Lakshmi

Policy / Regulatory / Tribal Governments
Responsible for statutes regulating and permitting farm sites e.g., Dept. of Fish & Game, Dept. of Natural Resources

Alaska Mariculture Stakeholder Map

The Alaska mariculture value chain lacks processing infrastructure—a significant barrier to growth.

Alaska Mariculture Stakeholder Map

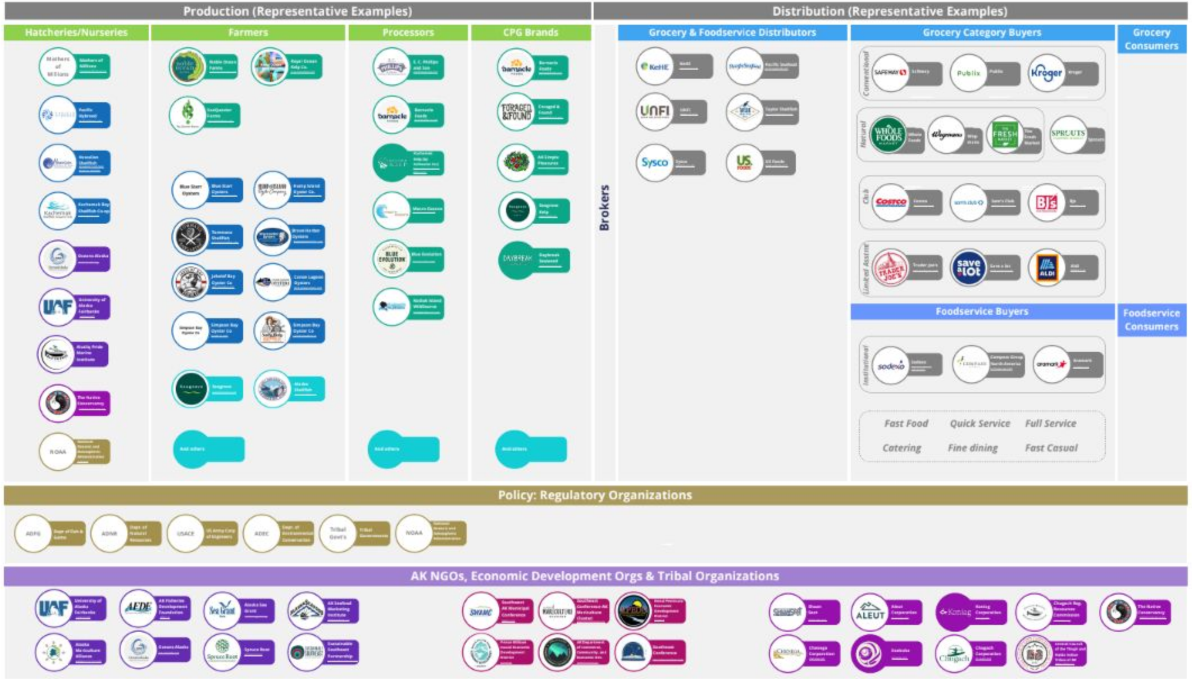
This map is an illustration of Alaska's mariculture supply chain, highlighting the main stakeholder groups who will be critical in growing the market for Alaskan kelp and oysters. Examples of representative organizations are shown in positions and colors corresponding to their role in this ecosystem (see the legend below).

Please note:

- Several organizations play multiple roles and so they may appear more than once.
- This map is not exhaustive and presents representative examples of actors in each stage of the supply chain.

For a more comprehensive list please go to the living map of the Alaska mariculture ecosystem on kumu.io: kumu.io/FCL/ak-mariculture-stakeholders-final

- *Kelp Production Orgs*
- *Kelp & Oysters Production Orgs*
- *Oysters Production Orgs*
- *Distribution Orgs*
- *Regulatory Organizations*
- *NGO-Non-profits*
- *Economic Development Orgs*
- *Tribal Organizations*



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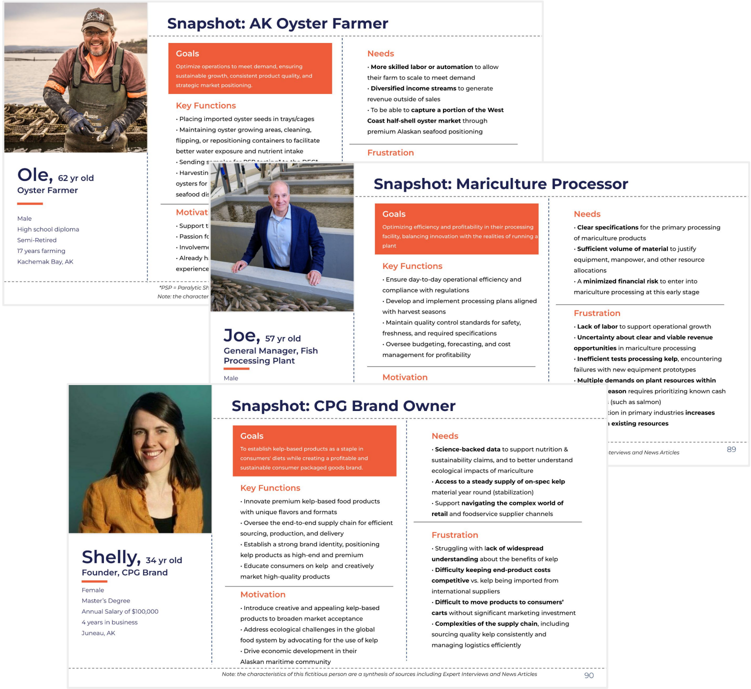
Stakeholder Persona Snapshots

Personas are **human-centered design tools that represent a customer or stakeholder that is impacted by a particular product, service, or industry.** While **fictitious**, they are based on a synthesis of sources—in the case of these Alaska Mariculture personas, they are **based on the expert interviews and secondary research conducted in this phase.**

Crafting these personas allows FCL and partners to concisely **communicate each stakeholder's needs, functions, motivations, and frustrations** to help **inform criteria for strategic decisions**—whether that be policy, infrastructure investment, market research, etc.

Personas capture knowledge and assumptions at a given point in time point, and therefore are not static. As the industry shifts, we recommend that these snapshots be updated.



Snapshot: AK Kelp Farmer

Brian, 41 yr old

Kelp Farmer

Male
High school diploma
Yearly salary of $42,400
6 years farming
Kodiak, AK

Goals

Generate a profit while improving the health of the ocean and economic development in their community

Key Functions

- Maintenance of cultivation lines, anchors, and other equipment
- Collecting sori to send for seed line
- Exploring market opportunities and establishing relationships with buyers
- Adhering to local, state, and federal regulations; managing permits and licenses

Motivation

- Support their family
- Passion for the sea
- Enthusiasm for participating in the emerging kelp farming industry and supporting its growth in Alaska
- Already has (some) equipment and maritime experience

Needs

- Guidance on **positioning the crop to address** current market gaps and **consumer demands**
- **Access to processing resources** to stabilize harvest for future sale
- Resources and knowledge to **implement quality assurance measures** in harvesting and processing

Frustration

- A convoluted and **expensive permitting process**; involves many stakeholders and fees
- **Unable to recoup costs** to operate farm, much less turn a profit
- Concerns that larger processors with deep pockets may enter the industry
- **Unable to price product at a competitive rate** with other national + global suppliers
- A **lack of scientific data** to support nutrition and sustainability claims, and to inform best farming practices
- **High shipping costs** for finished goods

Image: Alf Pryor, right, and Brian Large, left, as seen in this 2019 Edible Alaska article

Note: the characteristics of this fictitious person are a synthesis of sources including Expert Interviews and News Articles

Snapshot: AK Oyster Farmer

Ole, 62 yr old

Oyster Farmer

Male
High school diploma
Semi-Retired
17 years farming
Kachemak Bay, AK

Goals

Optimize operations to meet demand, ensuring sustainable growth, consistent product quality, and strategic market positioning.

Key Functions

- Placing imported oyster seeds in trays/cages
- Maintaining oyster growing areas, cleaning, flipping, or repositioning containers to facilitate better water exposure and nutrient intake
- Sending samples for PSP testing* to the DEC*
- Harvesting, cleaning, grading, and packaging oysters for distribution to markets, restaurants, seafood distributors or other outlets

Motivation

- Taking pride in producing premium locally grown oysters that contribute to Alaska's reputation for premium seafood products
- Embracing the challenge of entrepreneurship in the mariculture industry as a rewarding secondary career pursuit

Needs

- **More skilled labor or automation** to allow their farm to scale to meet demand
- **Diversified income streams** to generate revenue outside of sales
- To be able to **capture a portion of the West Coast half-shell oyster market** through premium Alaskan seafood positioning

Frustration

- **Lack of labor** to support operational growth
- Disease and **mortality issues**
- **Weak shells** makes transporting product a high-waste risk
- **Remote farm location** and lack of connectivity to the web and marketplace
- **High costs for equipment** to produce consistent half-shell and/or value-added product

**PSP = Paralytic Shellfish Poisoning; DEC = Department of Environmental Conservation, testing entity for shellfish in AK*

Note: the characteristics of this fictitious person are a synthesis of sources including Expert Interviews and News Articles

Snapshot: Mariculture Processor

Joe, 57 yr old

General Manager, Fish Processing Plant

Male

Bachelor’s Degree

Annual Salary of $120,000

30+ years processing

Ketchikan, AK

Goals

Optimizing efficiency and profitability in their processing facility, balancing innovation with the realities of running a plant

Key Functions

- Ensure day-to-day operational efficiency and compliance with regulations
- Develop and implement processing plans aligned with harvest seasons
- Maintain quality control standards for safety, freshness, and required specifications
- Oversee budgeting, forecasting, and cost management for profitability

Motivation

- Efficiency and profit maximization
- Explore innovation while managing operational realities
- Exploring potential new revenue streams

Needs

- **Clear specifications** for the primary processing of mariculture products
- **Sufficient volume of material** to justify equipment, manpower, and other resource allocations
- A **minimized financial risk** to enter into mariculture processing at this early stage

Frustration

- **Lack of labor** to support operational growth
- **Uncertainty about clear and viable revenue opportunities** in mariculture processing
- **Inefficient tests processing kelp**, encountering failures with new equipment prototypes
- **Multiple demands on plant resources within the same season** requires prioritizing known cash flow drivers (such as salmon)
- Consolidation in primary industries **increases demand on existing resources**

Note: the characteristics of this fictitious person are a synthesis of sources including Expert Interviews and News Articles

Snapshot: CPG Brand Owner

Shelly, 34 yr old

Founder, CPG Brand

Female

Master's Degree

Annual Salary of $100,000

4 years in business

Juneau, AK

Goals

To establish kelp-based products as a staple in consumers' diets while creating a profitable and sustainable consumer packaged goods brand.

Key Functions

- Innovate premium kelp-based food products with unique flavors and formats
- Oversee the end-to-end supply chain for efficient sourcing, production, and delivery
- Establish a strong brand identity, positioning kelp products as high-end and premium
- Educate consumers on kelp and creatively market high-quality products

Motivation

- Introduce creative and appealing kelp-based products to broaden market acceptance
- Address ecological challenges in the global food system by advocating for the use of kelp
- Drive economic development in their Alaskan maritime community

Needs

- **Science-backed data** to support nutrition & sustainability claims, and to better understand ecological impacts of mariculture
- **Access to a steady supply of on-spec kelp** material year round (stabilization)
- Support **navigating the complex world of retail** and foodservice supplier channels

Frustration

- Struggling with l**ack of widespread understanding** about the benefits of kelp
- **Difficulty keeping end-product costs competitive** vs. kelp being imported from international suppliers
- **Difficult to move products to consumers' carts** without significant marketing investment
- **Complexities of the supply chain**, including sourcing quality kelp consistently and managing logistics efficiently

Note: the characteristics of this fictitious person are a synthesis of sources including Expert Interviews and News Articles

Snapshot: Distributors (Retail + Foodservice)

Tina, 52 yr old

Supplier Manager, Food Distributor

Female
Bachelor's Degree
Annual Salary of $145,000
29 years in distribution
Los Angeles, CA

Goals

To maintain a robust supplier network, ensuring a cost-effective supply chain that delivers quality products to meet the demands of foodservice and retail customers.

Key Functions

- Cultivating and maintaining strong relationships with suppliers
- Negotiating contracts with suppliers to secure favorable terms, pricing, and conditions
- Optimizing inventory levels to prevent shortages or excess stock
- Addressing any issues or disruptions in the supply chain to minimize impact on operations

Motivation

- Meeting customer expectations by delivering a diverse product portfolio
- Ensuring the consistent delivery of high-quality products
- Cultivating and maintaining strong relationships with reliable suppliers

Needs

- Products that are **pleasing, on-trend and will meet volume and movement requirements**
- Products with **consistent and reliable supply**
- Vendors who are able to **support price discounts and promotions** to increase sales

Frustration

- Addressing the **seasonality of certain seafood products**, such as oysters, and finding ways to market them effectively throughout the year
- **Shipping challenges**, particularly regarding delicate products like Alaskan oysters with thinner shells, affects marketability
- **Lack of substantial engagement in the foodservice** sector for kelp products
- **Increased lead time** for manufacturers to ship products to distributor warehouses
- **Need for increased consumer education** to generate demand for products from Alaska ocean farms

Note: the characteristics of this fictitious person are a synthesis of sources including Expert Interviews and News Articles

Snapshot: Retail Buyer

Lizette, 38 yr old

Category Manager, Natural Grocery Chain

Female
Bachelor's Degree
Annual Salary of $160,000
16 years in retail
Austin, TX

Goals

Optimize market's success through strategic product selection, vendor negotiations, and impactful merchandising, ensuring an exceptional shopping experience with effective promotions

Key Functions

- Identify trends, source high-quality products, and negotiate favorable terms with vendors
- Develop and maintain a well-balanced product assortment
- Build relationships with vendors and communicate product standards
- Merchandising to enhance product visibility, sales, and create a compelling shopping experience

Motivation

- Contributing to a vibrant, health-conscious, and socially responsible shopping environment
- Striving for sustainability and ethical sourcing
- Aiming to support local producers and minimize environmental impact
- Selecting products that align with customers' values

Needs

- Products that demonstrate a **strong potential for revenue generation** and align with market trends and retailer's mission and values
- Vendor partnerships that offer **promotional strategies to drive product visibility** and sales
- Compliance with **ingredient and certification requirements**
- Timely and **reliable supply chain management** to prevent stockouts

Frustration

- Despite being on buyer trend lists and at food trade shows, processed **kelp products are not in demand with shoppers**
- Shopper **uncertainty about preparing oysters and raw kelp at home**
- **Inconsistent shopper buying patterns** and limited shelf life for raw oysters **creates waste**

Note: the characteristics of this fictitious person are a synthesis of sources including Expert Interviews and News Articles

Snapshot: Foodservice Buyer [Chef]

Kevin, 42 yr old

Executive Chef, Fine Dining

Male

Associates Degree

Annual Salary of $90,000

24 years in culinary

Seattle, WA

Goals

Curating a diverse ingredient portfolio and inspiring culinary teams to create exceptional, on-trend dining experiences that exceed customer expectations.

Key Functions

- Conceptualizes and designs menus that reflect the restaurant's target audience
- Develops recipes and establishes standardized processes for consistent dish preparation
- Supervises and manages kitchen staff
- Selects top-quality ingredients, manages inventory efficiently, and optimizes purchasing strategies to control food costs

Motivation

- Continually explore and incorporate innovative ingredients, flavors and cooking techniques
- Creating dishes that showcase culinary expertise and resonate with the desires of the restaurant's clientele
- Professional recognition and accolades, both locally and within the culinary industry

Needs

- **Quality, premium ingredients** to elevate culinary offerings
- A **consistent supply chain for ingredients** to prevent disruptions in menu offerings
- Access to **resources or collaborations** that support ongoing menu innovation
- Opportunities to **connect with other chefs** for idea exchange, inspiration, and collaboration

Frustration

- **Variations in the quality and/or availability of ingredients** from suppliers
- Balancing kitchen operations with the **desire for creativity and menu innovation**
- Struggling with **budget limitations** that may restrict the ability to experiment with new ingredients or upscale culinary offerings
- Lack of awareness and **guidance on incorporating raw kelp into menu** offerings
- **Labor shortages**

Note: the characteristics of this fictitious person are a synthesis of sources including Expert Interviews and News Articles

Snapshot: Policy / Regulatory / Tribal Govt.

Michelle, 40 yr old

State Permitting Agency

Female

Master’s Degree

Yearly salary of $72,700

17 years in Dept.

Juneau, AK

Goals

Empower and regulate the Alaskan mariculture industry to thrive sustainably, balancing economic development with environmental stewardship through effective permitting, oversight, and policy advocacy

Key Functions

- Monitor and enforce compliance with established regulations
- Review and approval of applications for permits related to kelp and oyster farming
- Conduct assessments to evaluate the environmental impact of farming operations
- Development of policies and regulations related to mariculture

Motivation

- Protect and preserve Alaska's aquatic ecosystems
- Contribute to the state's economic prosperity without compromising natural resources
- Ensure a regulatory framework that fosters innovation, maintains industry standards, and adapts to evolving mariculture priorities

Needs

- **Supportive legislation** that addresses emerging challenges and facilitates growth
- **Adequate resources and tools** for monitoring and enforcing compliance with regulations
- **Accurate and up-to-date information** to make informed regulatory decisions

Frustration

- **Exclusion from the regulatory and permitting process**, hindering their ability to protect cultural and environmental interests **[Tribal Govt]**
- **Limited resources,** impacting capacity to manage permits
- **Balancing economic growth with environmental preservation**
- **Dependency on legislative changes** for certain aspects of mariculture regulations, which can introduce delays and uncertainties in adapting policies to the evolving needs of the industry

Note: the characteristics of this fictitious person are a synthesis of sources including Expert Interviews and News Articles