

Expanding Markets through Differentiation: New Species and Product Lines

An Alaska Fisheries Development Foundation Joint Innovation Project
lead by



Saltwater Inc.



ReGENERATION NoRTH

Interim report 22 July 2025

In collaboration with:

- Spinnaker Sea Farms
- Ebb Tide Ocean Farm
- Sung Harbor Seafoods
- Island Passage Farm - Port Graham, Nanwalek & CRRC



At the Kachemak Kelp Innovation Hub, Homer Alaska

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Builds on previous and ongoing work by the collaborators at Kachemak Kelp Innovation Hub:



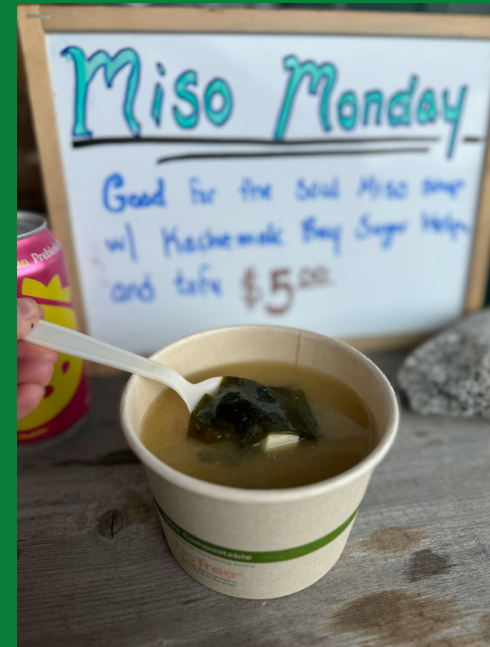
- Joint Innovation Project 2024: *Testing Four Approaches to Small-Scale Primary Seaweed Stabilization & Matching Methods to Markets*
 - *Stabilization through different drying technologies, salting and fermentation for gourmet food and agricultural products markets*
 - *Saltwater Inc, Regeneration North, CRRC*
- AMC Agricultural Products Project 2025-2026: *Liquid kelp biostimulant product: Refinement, field and market testing*
 - *Expanded scope and scale for product refinement and on-farm crop trials.*
 - *CRRC, Regeneration North, Saltwater Inc, CRRC*
- AMC Feasibility Study, 2024-2025 *Feasibility of establishing community scale seaweed biorefinery in Homer, AK,*
 - *Analysis of methods, equipment, and US/Canada/EU regulations for plant biostimulant production and sale.*
 - *Saltwater Inc, Regeneration North, CRRC, Salmon Sisters Holding Company*
- And other projects focused on seaweed stabilization & marketing 2022-2025



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Scope of work – 4 project components:

1. *Support farms & nurseries to grow new farmed species*
2. *Drying New Species*
3. *Salted Kelp Products*
4. *R&D on plant biostimulant product development*



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1. Support farms & nurseries to grow new farmed species

- 1. Collect Five-ribbed kelp (*Costaria costata*), Three ribbed kelp (*Cymathere triplicate*), and Split kelp (*Saccharina groenlandica*). Outcome: No Five-ribbed found, collected Sieve kelp (*Agarium clathratum*) instead
- 2. Two nurseries to spread risk and increase learning. Outcome: Only APMI had capacity, some questions about spore release at nursery, all 3 species moderate growth on seed spools, (limited) contamination issues.
- 3. Test growth on three farms. Outcome:

	Spinnaker Sea Farms	Ebb Tide/Snug Harbor Ocean Farm	Island Passage Farm
Three-rib kelp	Weak growth on planted lines, robust wildset 618 lbs harvested	x	Weak growth on planted lines, robust wildset 250 lbs harvested
Sieve kelp	x	x	x
Split kelp	x	Sparse/emerging growth at harvest 29 lbs harvested	x



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2. Drying New Species

- Dried 587 lbs of total 618 Three-ribbed harvested
- Dried 100+ lbs wild-set Five-ribbed in high tunnel
- Other species growth not sufficient for drying at volume
- Added Three-ribbed to our dried whole leaf mix
- Sold 40 lbs milled dried Three-ribbed to local small foods business
- Lab analyses in progress
- Marketing ongoing



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3. *Salted Kelp Products*

- *Salted five species*

2025 salted kelp by species	Lbs
Five-ribbed kelp (wild set harvest)	38
Three-ribbed kelp	31
Split kelp	29
Sugar kelp	65
Alaria	24
Total Wet Weight	187

- Refined salting method and salt selection
- Lab analyses in progress
- Marketing of limited small batch production of 4 species
 - Salmon Sisters - sold out 8 oz retail packets, all 4 species.
 - Johnie's Corner—sugar kelp for award winning Miso Monday soup special
 - Swell Taco—Split Kelp, entire stock for seaweed salads
 - Saltry Restaurant—sugar, 3-ribbed, 5-ribbed for seaweed salads



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4. R&D on plant biostimulant product development

Significantly expanded on scope and scale of JIP with the AMC Agricultural Products project - combined:

- Ran trials with *Saccarina* and mixed species wild set kelps (primarily Five-ribbed), testing 14 different variable combinations in fermentation method.
- Processed 8500 lbs kelp, produced 5,000 + Liters.
- JIP directly supported most pre-season planning, model studies/ mung bean root and shoot trials, and processing labor.
- Expanded laboratory analyses in progress
- Farm trials in progress under Ag Products grant



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High level conclusions to date

New species

- Collection, nursery cultivation and farm growing novel species all have steep learning curves - more basic knowledge of life histories needed.
- Opportunity cost for farmers if new species don't grow
- There is at least local market interest in new species

Salted kelp

- Labor intensive but reliable stabilization method
- There is at least local market interest
- Lab analysis re nutritional value and length of shelf stability in progress

Drying new species

- Three-ribbed kelp deteriorates within 36 hours but dries well, is marketable

Plant biostimulant methods & product development

- Properly scaled equipment is foundational
- IBC totes difficult to work with - best for shipping vs production.
- Lab analyses and on-farm plant trials in progress
- Fermentation is a viable stabilization method at scale and produces a biologically rich and active biostimulant, but is the product sufficiently different to justify the extra step (beyond acid stabilization) of fermentation?

