



Our food and
planet are **ONE**

FOOD +
PLANET

FCL Collaboration: AMC Workstream 2
Support in product concept ideation and value
propositions from a nutritional perspective
Delivered May 24, 2024

Our Approach

Step 1: Landscape Analysis

Review of Health Professional Toolkits, Kelp Literature Review, FCL Phase 1, and Audience Segments

Step 2: Positioning

Given supply constraints and major price difference between Alaskan products and competitors, our focus is on a premium Alaska positioning*, versus a commodity based pricing for formats that gets rolled into CPG or foodservice supply chains.

Step 3: Format Recommendations

Formats within each category consider optimized nutrition and food safety, cost, accessibility, culinary skill and confidence level.

Step 4: Audience Segments

Formats consider all audience segments, plus “curious” eaters who may be new to these foods, and older demographics interested in heart health.

*similar to Alaska Salmon, California Almonds, Maine Lobster

(a) What formats would optimize the nutritional benefits of Alaska mariculture oysters (e.g. frozen, canned)?

Formats	Fresh, in-shell oysters	Frozen oyster meat	Shucked oyster meat, refrigerated	Canned oysters
Pros	Better appearance, quality, and flavor. Use in unique food preparations, such as in-shell recipes and production. Contains all of original nutrients, with no added sodium or ingredients. Can be more reasonably priced if purchased locally.	Available as plain shucked oyster meat, or as breaded oysters. Fewer safety concerns, long shelf-life. Can have all of original nutrients with no additional ingredients, such as sodium. Can be reasonably priced (\$7-17/pound). Frozen shucked oysters are easy to use in a variety of recipes and production, including sandwiches, pastas, and soups. Breaded oysters are a convenient prepared food.	Less safety concerns than raw in shell, easy to use, perfect for food preparation, such as casseroles, pasta, pizza, soups and toast. No added ingredients in most products, such as sodium. Contains all of original nutrients. Can be less costly than fresh, in shell oysters. Similar in taste to fresh.	Available in a variety of flavors, including plain, smoked, or with seasonings. Good flavor and appearance in seasoned products. Retains original nutrients, though some products include additional sodium and fat. Easy to use, with no cooking, shucking, or chopping required. Can use immediately on pizzas, sandwiches, grain bowls, toast, and eggs. Reasonable price (\$4-10 per 4-8-ounce can). Long pantry stable shelf life, reduced risk of food safety issues.
Cons	Increased risk of food safety issues. Can be very expensive (up to \$280/100). Fewer preparation options. More difficulty using, including lesser known skills associated with cleaning, cooking, and shucking.	Breaded oysters can contain extra ingredients, like refined grains, sodium, and oils. Quality and appearance may not be as high as fresh.	Not as widely available in many supermarkets, price can vary—from \$8 - \$40 per 8-ounce jar. More perishable, as utilizes fresh product. Appearance is very poor.	Some loss of water-soluble nutrients during canning. Using liquid in recipes can mitigate some loss. Increased levels of sodium and fat in some products.

(b-1) What are the best CPG applications of Alaska mariculture kelp products ?



Formats (Sugar Kelp)	Kelp Seasoning	Freeze Dried Kelp	Kelp Snacks
Application	Spice rub/Seasoning flakes	Soup/stock (umami flavor and nutrients); Instant soups/noodles; Savory oats/rice blends	Sweet and savory snack chips targeted for specific audiences (women's health, gen-z, global eaters)
Nutrition/Health Claims (Iodine will be high, but everything else will be insignificant from a %DV standpoint per serving. Exact amount will vary based on dose and application.)	"Nutrient-dense swap for salt" Sodium reduction: Powdered kelp (dried and finely ground) can help retain most nutrients as it involves minimal processing, especially if done at low temperatures, and includes the whole seaweed	"Plant-based nutrition packed with Umami" Added micronutrients: Freeze-drying preserves the nutritional content of kelp by removing moisture without significant heat exposure and inhibits microbial growth.	"Key Nutrient + Mineral boost" Versatile flavors with benefits of kelp: infuse foods with additional macro and micronutrients fiber, calcium, iron, iodine, magnesium and potassium
Additional Considerations	Showcase Alaska kelp quality/premium through partnerships like Alaska Airlines for an official snack (kelp popcorn, kelp seasoned nuts)	Collaborate with brands to showcase premium branding of Alaska Seaweed	Opportunity to utilize the nutrients of kelp with other flavor profiles (sweet/savory) in snacks through chips, pureed foods (applesauce type packs), vitamin gummies

(b-2) What are the best CPG applications of Alaska mariculture oyster products ?

Application	Nutrition/Health Claims	Considerations
<p>Tinned: Responsibly sourced Alaskan oysters, with regional flavors seasonings (including seaweed)</p>	<p>A natural nutrition powerhouse! Excellent source of protein, omega-3 fats and essential minerals like zinc & selenium. Oysters contain more iron than red meat and are packed with Vitamin B12 (source: Health Professional Toolkit data).</p>	<p>Convenient protein packed snack. For the gym bag, seacuterie tray, or easy snack. Alaska premium GIFTS for tourism/vacation industry. Or AQUARIUM gift shops.</p>
<p>Sous vide/Jarred: Alaskan Oysters “Cioppino”broth</p>	<p>A natural nutrition powerhouse! Excellent source of protein, omega-3 fats. High in essential minerals like zinc & selenium, plus energizing iodine and vitamin B12. (source: Health Professional Toolkit data). Heart healthy quick weeknight dinner.</p>	<p>Collab with prominent Alaskan chefs. Can be brought back up to temp gently, enjoyed as a soup or a base for pasta, feature other Alaskan seafood. Could include retail collaboration with SNP Fall in love campaign.</p>
<p>Stuffing Kits: Smoked Alaskan Oyster Stuffing Kits (with seaweed seasonings, or bread crumb stuffing made with Alaska kelp flour)</p>	<p>Healthy luxury item featuring responsibly sourced, sustainable protein- a healthier swap for sausage or bacon stuffing filled with flavor.</p>	<p>Positioning may be less about health but the special positioning of a holiday treat.</p>



Baguette, Smoked Oyster, and Pancetta Stuffing



(c-1) What are the best foodservice applications of Alaska mariculture kelp products?



Formats (Sugar Kelp)	Kelp Mineral Broths	Kelp Mineral Powder	Kelp Butter	Kelp Pickles/Salad
<p>Application</p>	<p>Plant-based umami rich broths in place of bone broth</p> <p>Rehydrated dried kelp for use in soups, vegetable dishes, stock bases. Reduce food waste with veggie ends and kelp to make broth.</p>	<p>Smoothie Bar - mineral boost powder for dose of calcium, iron, iodine, magnesium and potassium added to your morning/afternoon shake or create blends with protein powders or blue spirulina</p>	<p>Compound Butter - enhance familiar dishes</p> <p>Bread basket with kelp compound butter</p> <p>Roasted vegetables with kelp butter</p>	<p>Salad bar/sandwich/grill stations</p> <p>Pair Alaska Smoked Salmon with Kelp Pickles in place of capers (leverages familiarity)</p> <p>Addition to salad bar with other side dishes</p>
<p>Nutrition/Health Claims</p> <p>(Iodine will be high, but everything else will be insignificant from a %DV standpoint per serving. Exact amount will vary based on dose and application.)</p>	<p>“Sodium Reduction”</p> <p>Build flavor and nutrients for all dishes without added sodium with mineral enhanced plant-based broth.</p>	<p>“Mineral boost” like viral Erewhon smoothies with nutrient boosts</p> <p>Blend protein powders or shakes with additional macro and micronutrients fiber, calcium, iron, iodine, magnesium and potassium</p>	<p>Umami boost for ocean health</p> <p>Focus on the sustainability of kelp and ocean health versus marketing as a health food</p>	<p>“Enhanced gut health with fermented kelp”</p> <p>Fermented foods help decrease inflammation and enhances gut micro diversity</p>

(d-1) What are the KELP nutritional implications and claims for each of these applications?

- Iodine levels are high in kelp (up to 9273% DV per serving).
- However, these may be reduced by techniques, such as blanching and soaking, and absorption may be reduced within healthful dietary patterns. Natural iodine in kelp may be positioned as a benefit to help consumers meet iodine needs. Otherwise, intake should be moderate: 3-7 grams of dried or 9-21 grams of fresh or rehydrated 1-2 times per week.
- Kelp contains significant levels of fiber, calcium, and vitamin A, as well as biocatives, like fucoidan, fucoxanthin, laminarin, and alginate, which possess potential antioxidant, anti-inflammatory action, with potential diabetes and weight benefits.
- Kelp has rich traditions in healthful cultural diets, as well as umami flavor benefits without sodium, and versatility in production forms (i.e., fresh, dried, powdered, freeze-dried).

Potential Additional Concepts

- CPG concepts:
 - Kelp seasoning blends for umami flavor and natural iodine intake
 - Kelp snacks with popular ingredients, such as ancient grains, pulses, nuts, seeds
 - Whole foods kelp nutrition bars formulated with pea protein, ancient grains, nuts, seeds, dried fruits—marketed is minimally processed, nutrient rich.
- Foodservice concepts:
 - Kelp veggie burgers, including pulses and grains.
 - Kelp grain bowls, including brown rice, rehydrated kelp, edamame, vegetables, and soy-ginger sauce
 - Seaweed salad pizza, including rehydrated kelp, cashew cheese, tomatoes.
 - Kelp risotto, including mushrooms, onions, and garlic.

(c-2) What are the best foodservice applications of Alaska mariculture oyster products?

Application	Nutrition/Health Claims	Considerations
<p>Curated Oyster Sommelier Experience: experiential offering with Oyster Master Guild Sommelier for Alaska Nautical Vacationers</p>	<p>Explore Alaskan “merrior” with a curated exploration of one of the world’s most sustainable and healthy proteins-discover flavors from Alaska’s coastal heritage and regional economies. Visit (or learn about) our local producers.</p>	<p>Modeled after a wine experience with taste & flavor notes, but for the oyster enthusiast, Alaska tourist, AND oyster curious eaters. Possible social media of “how to host at home”. Design turnkey kits for Alaska hotel industry.</p>
<p>Retail Frozen “Seacuterie” Kits: frozen shucked oyster meat with no-fuss recipes (and seasoning sachets or) showcasing global flavors.</p>	<p>Oysters are packed with protein, and are high in healthy omega-3 fats and essential minerals like zinc & selenium. Oysters contain more iron than red meat (but are more sustainable), and an excellent source of Vitamin B12. Adding oysters to your plate can help you meet the 2x/week recommendations from the Dietary Guidelines for Americans. (source: Health Professional Toolkit data).</p>	<p>Recommend frozen (versus fresh) for food safety, more accessible price point, and product consistency considerations.</p>
<p>Feature as part of combo/multi protein main dish “Wild Alaska Grill”: Dishes for high end ecotourism travel, lodges, cruises or foodservice with a focus on Alaska accounts initially (i.e. Sodexo/Compass). Brand it something uniquely “Alaskan” (similar to “surf and turf”)</p>	<p>Dive into Alaska’s rich bounty of flavorful, sustainable protein! Oysters are one of the world’s healthiest superfoods, brimming with powerful omega-3 fats that fight inflammation and support a healthy heart and mood. Plus they’re rich in zinc, iron and vitamin B12.</p>	<p>Showcase 1-2 oysters alongside Alaska salmon and crab, in raw, smoked, grilled or cooked formats, which already enjoy high trust and familiarity, to grow usage that captures premium pricing. Appeals to older consumers interested in safer culinary exploration and heart health as well.</p>



Recipe: **SIMPLE GARLICKY OYSTER RICE (KAKI MESHU) RECIPE FOR LAZY COOKS**
 Recipe created by Julie Chu, in a Half Shell Blog
 in Global Flavors, High Omega-3s

(Source: [Pangea Shellfish Company](#)) 53



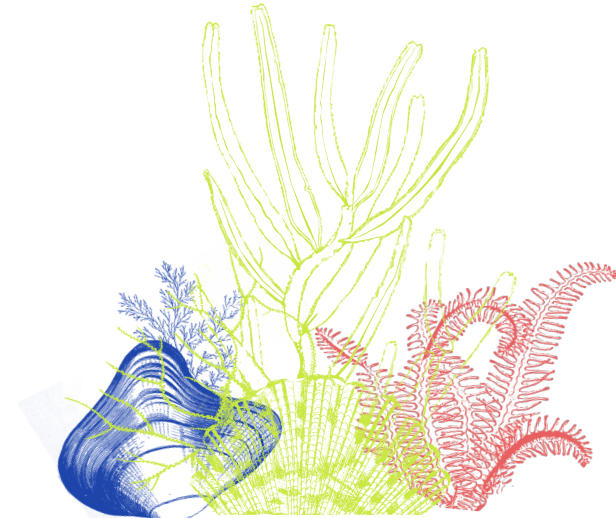
**8.2%
Combos/Multi
Protein**

(d-2) What are the OYSTERS nutritional implications and claims for each of these applications?

- Given food safety (especially for fresh) is top consumer concern, address through educational campaign on safe handling practices to safely enjoy.
- Highlight nutritional benefits: good source of protein, omega-3s, iodine, iron, magnesium, zinc, selenium, vitamin B12 for only 88 calories per serving.
- Showcase versatility and affordability beyond fresh: canned, refrigerated, and frozen.
- Tell story of sustainability, cultural and Indigenous traditions, and cuisine to increase consumer acceptance.

Potential Additional Concepts

- CPG concepts:
 - Frozen seasoned oyster fritters or patties
 - Canned or frozen oyster potato chowder
 - Oyster and vinegar potato chips
- Foodservice concepts:
 - Oyster and angel-hair pasta with tomatoes, basil, EVOO
 - OLT sandwich: pan-fried oysters, lettuce, and tomatoes
 - Avocado toast with smoked oysters and chopped hard-boiled eggs
 - Oyster Nicoise Salad (classic salad replacing tuna with oyster)
 - Spicy oyster taco filling with shredded cabbage and avocados



(e) Which applications will be a good fit for the specific audience segments described in the buyer profiles that FCL shared?

Buyer Profile	Established Kelp & Sea Vegetable Eaters CPG & Foodservice	Health & Nutrition Enthusiasts CPG & Foodservice	Eco-Conscious Eaters CPG & Foodservice	Global Citizens & Culinary Connoisseurs CPG & Foodservice	West Coast Seafood Eaters (Non-Kelp/Oyster) CPG & Foodservice	Nautical Vacationers Foodservice	Established Oyster Eaters CPG & Foodservice
Kelp CPG	Kelp Seasoning Freeze Dried Kelp Kelp Snacks	Kelp Seasoning	Kelp Seasoning Freeze Dried Kelp Kelp Snacks	Kelp Seasoning Freeze Dried Kelp Kelp Snacks	Kelp Seasoning Kelp Snacks		
Kelp Foodservice	Kelp Mineral Broth Kelp Pickles/Salad	Kelp Mineral Broth Kelp Mineral Powder	Kelp Pickles/Salad Kelp Mineral Broth	Kelp Mineral Broth Kelp Butter Kelp Pickles	Kelp Mineral Broth Kelp Butter	Kelp Mineral Broth Kelp Butter Kelp Pickles	
Oyster CPG		Tinned Oysters “Cioppino” broth	Tinned Oysters “Cioppino” broth	Tinned Oysters Stuffing Kits “Cioppino” broth	Tinned Oysters Stuffing Kits “Cioppino” broth		Tinned Oysters Stuffing Kits “Cioppino” broth
Oyster Foodservice		Oyster Sommelier Experience “Seacuterie” Kits “Wild Alaska Grill”	“Seacuterie” Kits “Wild Alaska Grill”	Oyster Sommelier Experience “Wild Alaska Grill”	Oyster Sommelier Experience “Seacuterie” Kits “Wild Alaska Grill”	Oyster Sommelier Experience “Wild Alaska Grill”	Oyster Sommelier Experience “Seacuterie” Kits

Thank you



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PLANET

The logo for Food and Planet, featuring the word "FOOD" in bold black uppercase letters, followed by a stylized cross symbol with red, yellow, and green segments, and the word "PLANET" in bold black uppercase letters below it.