SSIA Webinar Series: Knowledge Exchange Trip to Alaska and Maine - findings, takeaways, and feedback

- Kodiak Island is the second largest island in the United States.
- The island has around 13,000 residents
- The island has a rich fishing industry, especially for Pacific salmon, halibut, and crab, one of the top commercial fishing ports in the U.S. by value.
- Kodiak Island's economy also includes renewable energy, with about 99% of its electricity coming from hydroelectric and wind power.

Rhianna

Leigh

Leigh

Leigh

Leigh

Jemima 1.

Kodiak Seafood and Marine Science Center

Educational hub for mariculture industry offering training courses.

Pilot scale processing equipment available for R&D:

- Dehydrator
- Blancher
- Wet mill
- Dry ‘Kanna-mill’
- Oyster tumbler
- Freeze dryers
- Walk in coolers / blast freezers

Marine Biologics using facility in June 2025.

Blue Evolution

Only processors in Alaska that are solely dedicated to kelp.

Farms in Alaska and California; R&D into wide range of market applications.

Equipment in storage:

- Blancher (fresh water, 82°F / 28°C
- Bubble washer (Alibaba)
- Noodle chopper & ‘shaker’ (Gelgoog)
- Chopper & augre (Vincent) - to be ‘marinised’

Fermenting using lactobacillus plantarum to achieve pH<3.4 for use in animal feed.

Jemima 2.

Freeze drying - less energy intensive if biomass is already frozen. Packing fresh seaweed directly into 10lb / 4.5kg blocks to fit freeze dryer.

Market opportunities for Alaskan farmers

4 kelp farms in Kodiak, AK

Cascadia purchase citric acid stabilised biomass (pH<3.8) from numerous farms across the state and ship to their biosimulant / feed production facility in Vancouver, BC.

Barnacle foods purchase multiple wild and cultivated species to produce a range of condiments in Juneau, AK.

Growing cluster of farms in Cordova, AK

Noble Ocean Farms work collectively with other local kelp farmers to develop processing solutions.

Undertaking economic analysis to determine cost efficacy of processing at sea vs. ashore in 2026 season.

Average COP $1.06/lb ~ £1.50/kg

Jemima 3.

Rhianna


Rhianna

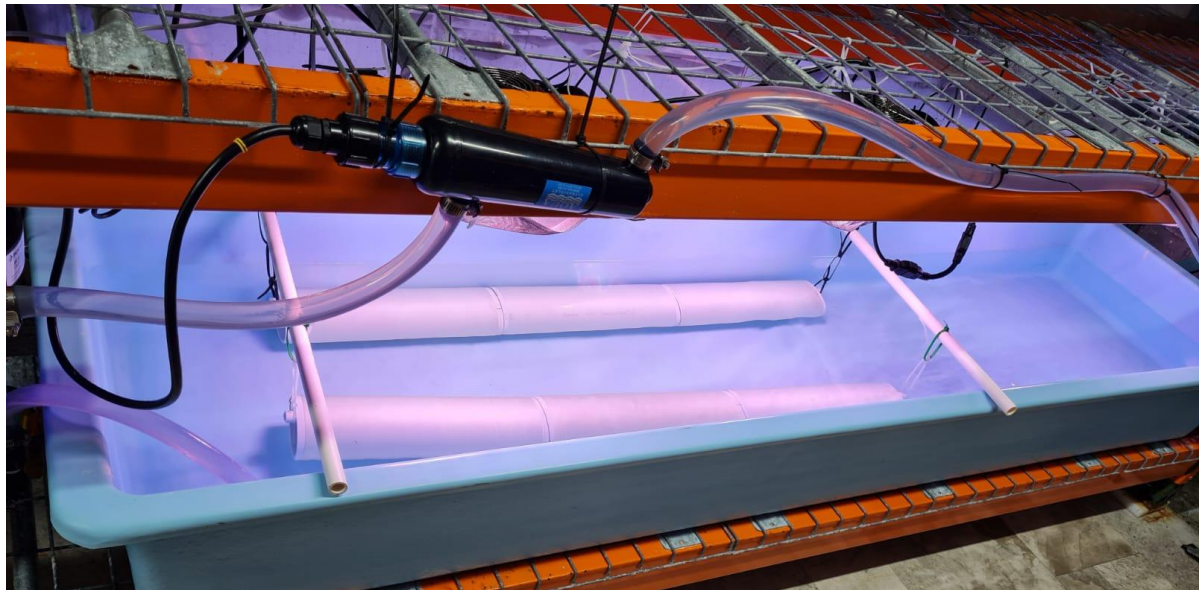

Galanz
Rhianna

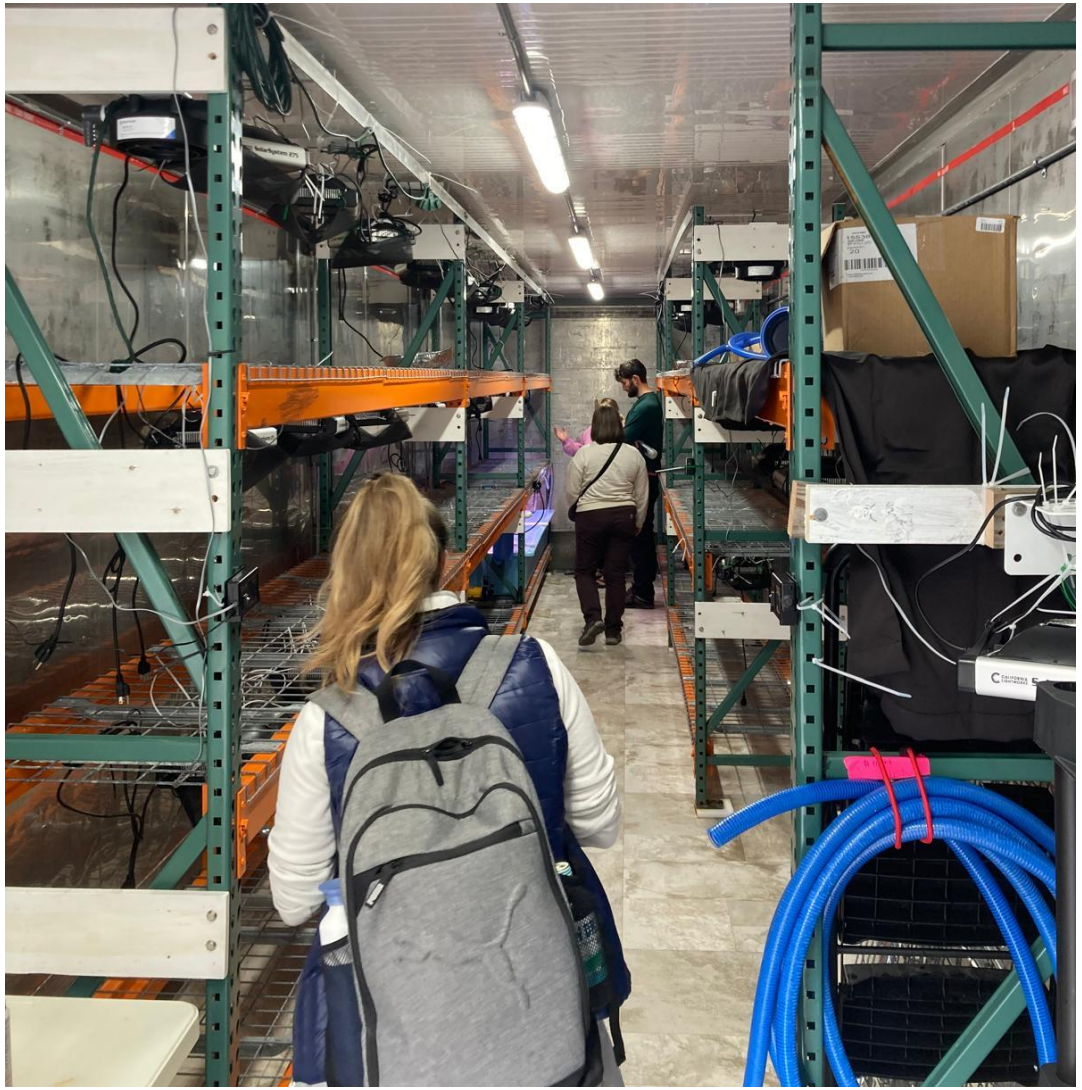
Nurseries - Alaska - A can do culture

Alaska Ocean Farms

Nursery : Converted shipping container in home grounds

- Use of ‘off the shelf’ equipment
- Ingenuity develop high quality material using low cost solutions
- Water in recirculation system due to distance from a source



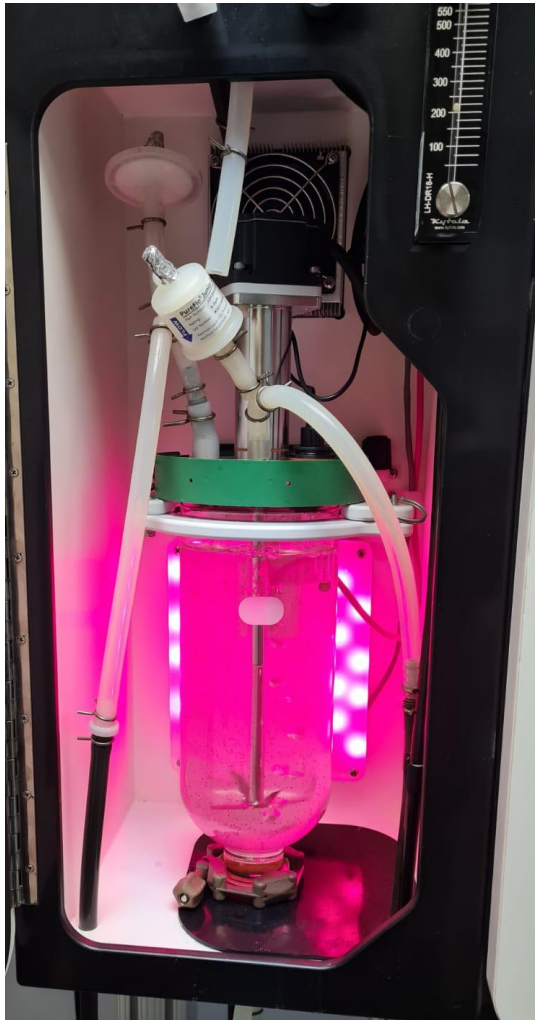


Rob

Further examples of resourcefulness

- Equipment designed and built ‘on-site’ to increase independence and capability
- Confirmation that there probably is not a one-size fits all approach for Nursery design
- Communal approach to solving problems and developing processes to reach success
- Definitely took away elements that we are hoping to explore within our own Nursery

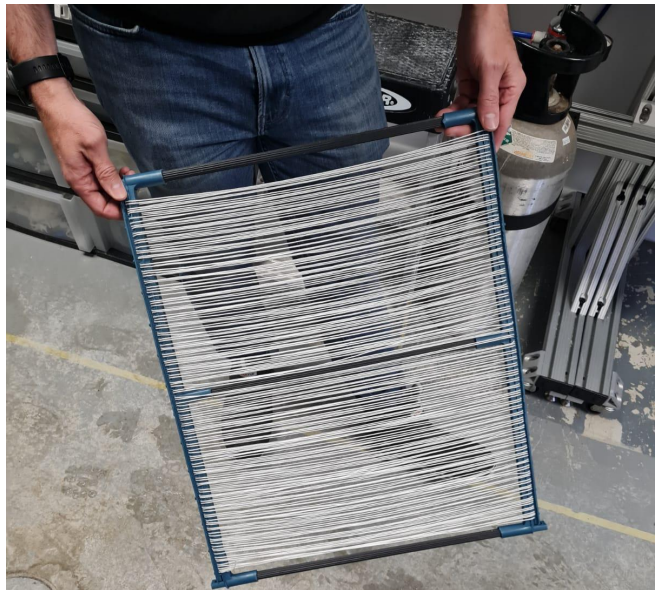
Rob



A high tech approach

- Darling Marine Centre have acquired three modules of four Industrial Plankton Seaweed Bioreactors
- Can act as independent bioreactors, maintaining pH, temperature and light conditions
- Able to ‘biosecurely’ exchange both media and air leaving the culture undisturbed ~1 Year?
- Hefty price tag of $160,000, ~£10,000 per 2 litre reactor.

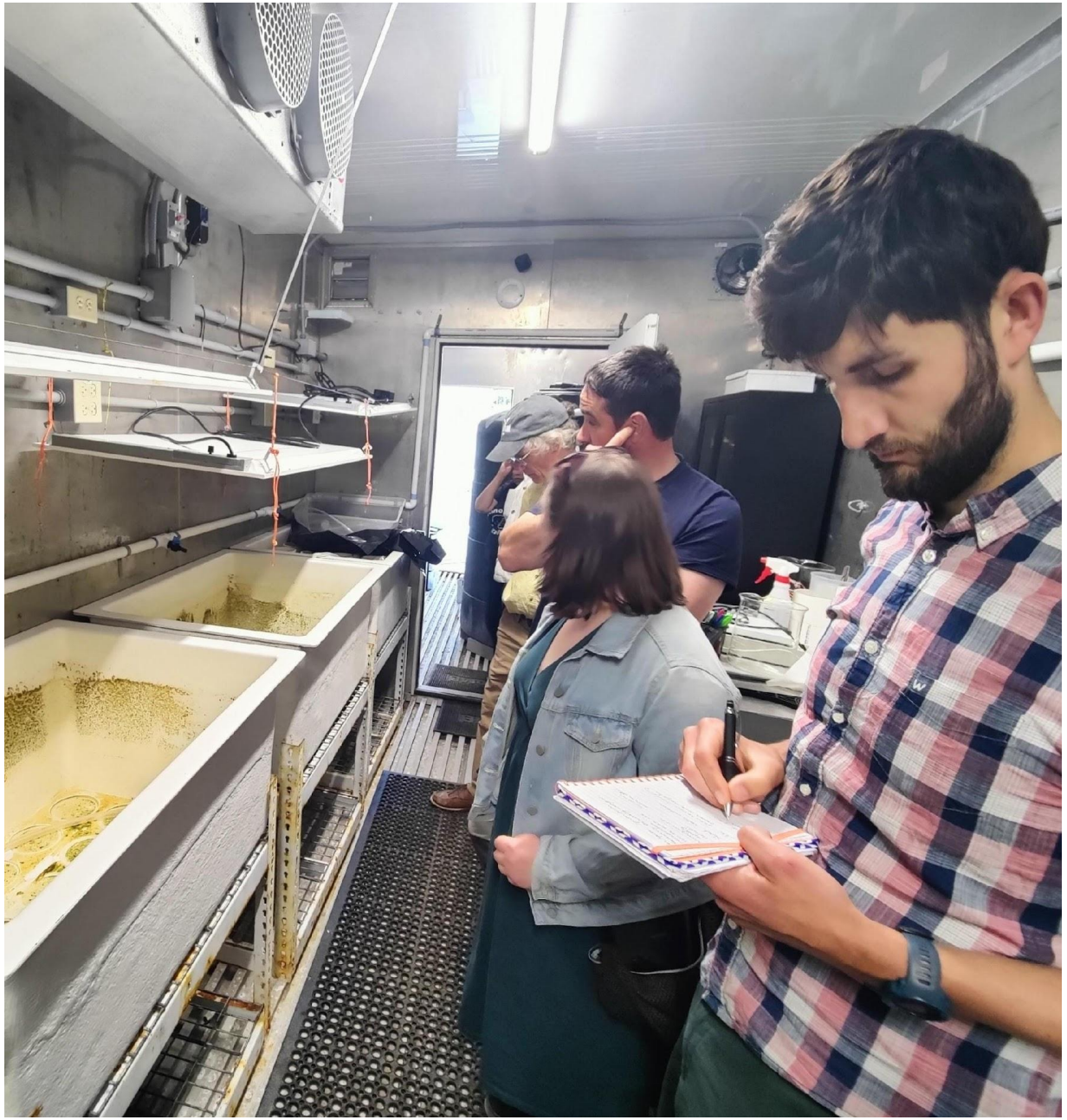
Rob



Adopting global apparatus and future tech

- Darling Marine Centre had also acquired a Korean seeding machine ‘The Korean Unicorn’.
- Able to wrap a tertiary cord around the growth twine.
- Twine doesn’t have to wrap into the helix of the rope and can extend further
- Twine frame commonly used in Asia for growing out and deployment
- 99% seaweed twine made by Viable Gear - needs longer operating life, but gives hope for plastic reduction

Rob



Rob


FREEPORT
OYSTER BAR


Next Wave
Kristi Marsh
Oil, 20x24
$550.00

Source / Ocean's Balance

Source: Dried asco production since 1970's

- Equine, cat & dog feeds.
- Flash drying at 500°F, hammer milled.
- Drum dryer proved inefficient for kelp.

Ocean's Balance: Partnering with Source. Kelp season is countercyclical to asco in Maine - processing equipment shared.

- Dehydrator runs at 170°F ~ 77°C
- Runs off natural gas (could be electric).
- Capacity 850lb/hr ~ 385kg/hr

Ocean's Balance buy in kelp, offer contract processing to other farmers / harvesters and operate their own farm lease in Casco Bay.

Business model: transition away from farming and focus on processing / product development - powders, flakes, seasoning.

Jemima 4.

Sugar Kelp Prices in Maine

USD / lb pricing	£ / kg conversion	
$0.55 - 0.75 / lb	£0.80 - £1.30 / kg	Fresh at the quayside
$25 / 8lb	£5 / kg	Fresh to restaurants
$13 / lb	£20 / kg	Contract drying & milling
$40 / lb	£60 / kg	Dry, milled, food grade (bulk)
$70 / lb	£100 / kg	Dry, milled, food grade (small bags)

Jemima 5.

Jemima 6.

Ocean Organics

Biostimulant production since 1977

- **Alkaline extraction** from dried Ascophyllum nodosum sourced year round by local harvesters
  - Ongoing research to understand mechanisms and elicited responses of biostimulant products.

- **Liquid extract:**
  - Caustic potash (KOH) to extract.
  - Citric acid added to lower pH post process and stabilize at pH 5.
  - Potassium sorbate added as preservative.
  - 3-4% solids post extraction (no further evaporation / concentration)
  - Liquid product shelf stable for 3 years.

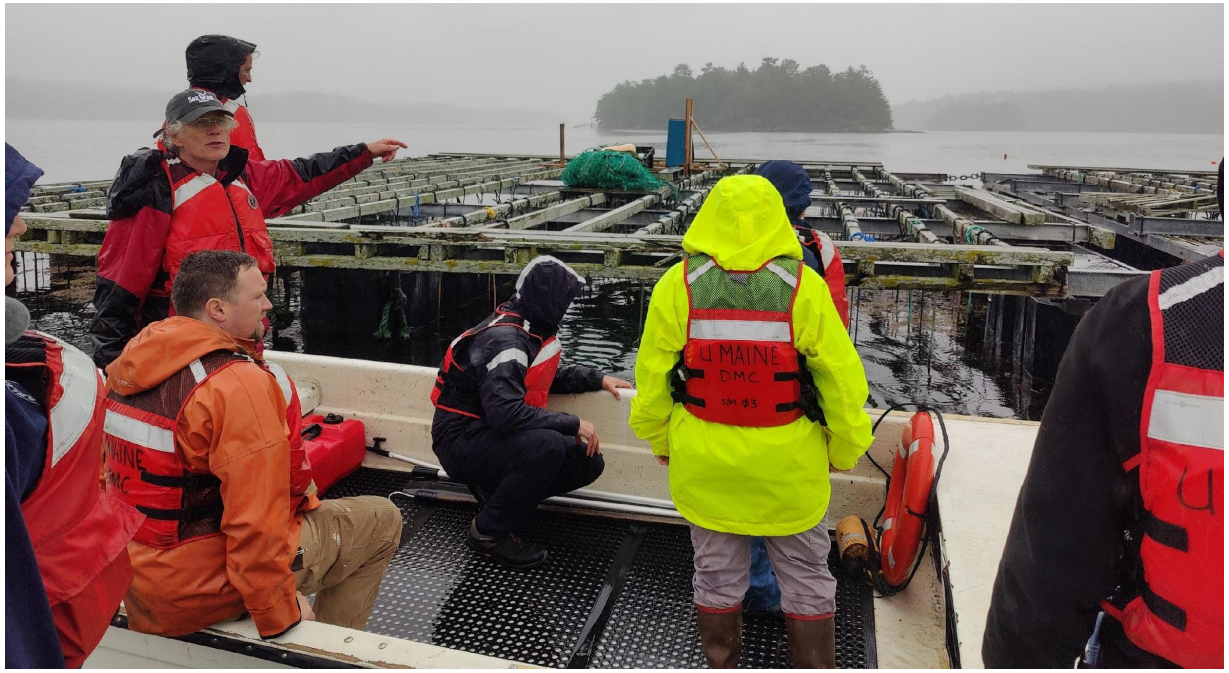
- **Granular product from waste solids:**
  - Current focus: blend with chemical fertilizers
  - Wholesale price 5x liquid extract.
  - Has been used on National Mall!

Maine Coast Sea Vegetables: Founded in 1971, first seaweed company in the USA

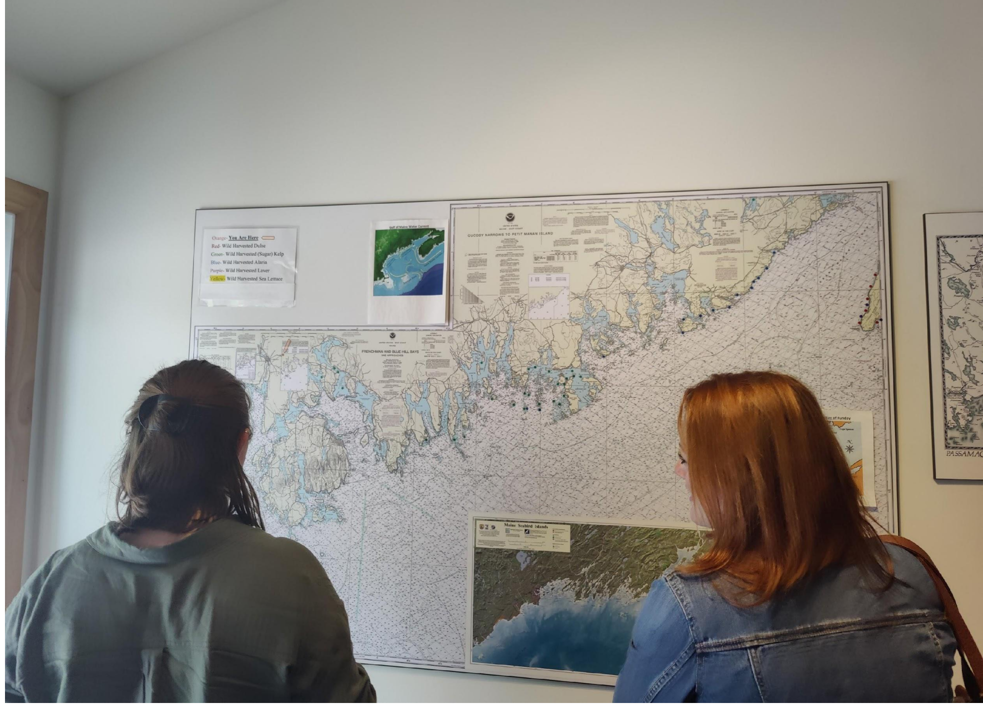
- Employee owned - 21 employees in 2025


Jemima 7.

- Primarily buying dried seaweed from wild harvesters.
- Moisture content adjustments made using de / humidifiers from cigar industry.
- Milling, packing and kitchen facilities in-house, producing an extensive range of retail products on-site.



Leigh


New Brunswick
Maine
St. Stephen
Milltown
Calais
Baring
Woodland
Oak Bay
Waweig
Bocabec
Digdeguash Lake
Bonny River
Utopia
St. George
Breadalbane
Magaguadavic Falls
Pennfield Ridge
Pennfield
Seely Cove
Red Beach
Robbinston
St. Andrews
Passamaquoddy Bay
Minister Island
Mascarene
Letang
Beaver Harbour
Blacks Harbour
Pea Pt.
Bliss Island
Deer Island
Lambertville
Lords Cove
Fairhaven
Leonardville
Chocolate Cove
Meddybemps
Meddybemps Lake
Charlotte
Round Pond
Pennemaquan Lake
Boyden Lake
45th Parallel
North Perry
Perry
Gleasons Cove
Pleasant Point
Indian Res.
Pembroke
West Pembroke
Leighton Neck
Dennysville
Cobscook Bay
Eastport
Quoddy
Washington Co. Tech. College
Moose Island
Treat I.
North Lubec
Lubec
South Lubec
West Lubec
West Quoddy Head
Campobello Island
Welshpool
Wilsons Beach
Harbour de Loutre
Herring Cove
Friar's Head
Roosevelt/Campobello International Park
East Quoddy Head
Head Harbour Island
Head Harbour
The Wolves
Eastern Wolf I.
Flat Wolf I.
Southern Wolf I.
Bay of Fundy
Edmunds
Marion
Moosehorn
Whiting
Orange River
South Trescott
Boot Head
Baileys Mistake
Haycock Harbor
Eastern Head
Moose Cove
Norse Pond
Fairy Head
Cutler
North Cutler
Machias
East Machias
Machiasport
Larrabee
Bucks Harbor
Little River
Great Head
Grand Manan Channel
Grand Manan Island
Long Eddy
Northern Head
Whale Cove
Hole-in-the-Wall
Swallow Tail
North Head
Grand Manan Whale & Seabird
Dark Harbour
Castalia
Long Island
Herring Cove Heath
Dwellys Pond
Grand Harbour
Nantucket I.
Great Duck I.
Grand Manan Museum
The Anchorage
Seal Cove
Pandora Head
Long Pond Bay
Ingalls Head
Ross Island
Red Pt.
Bad Little Falls
University of Maine Machias


Orange- You Are Here
Red- Wild Harvested Dulse
Green- Wild Harvested (Sugar) Kelp
Blue- Wild Harvested Alaria
Purple- Wild Harvested Laver
Yellow- Wild Harvested Sea Lettuce

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EASTLAND


HANDMADE IN MAINE FROM RECYCLED SAILS


Planet Botanicals
HAND HARVESTED
SEAWEED
BAR SOAP
LEMON FLOWER BLOSSOM
100% HANDMADE
SOOTHING
FRESH MAINE
SEAWEED,
SHEA BUTTER
& ESSENTIAL
OILS
4 OZ/113G
SUSTAINABLY SOURCED
MAINE
IN LITTLE COVE MAINE


PORTLAND
Lobster Co.
ENTRANCE
DECK SEATING
PORTLAND
Lobster Co.
SERVING LUNCH & DINNER
DECK SEATING - TAKE OUT
OPEN 11 AM–10 PM EVERY DAY
LIVE MUSIC

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LEGENDARY SUPPORT TO THRIVE!
SOURCE
micronutrients
ORIGINAL Dry Meal Formula
5 MONTH SUPPLY!
BY SOURCE INC.
micronutrients for horses
EFFECTIVE SUPPORT FOR THE OLDER HORSE
FOCUS SR SENIOR
EFFECTIVE SUPPORT FOR THE THIN HORSE
FOCUS WT WEIGHT
EFFECTIVE SUPPORT FOR HEALTHY HOOVES
FOCUS HF HOOF
SOURCE
Micronutrients for Dogs
PLUS!
LEGENDARY SUPPORT TO THRIVE!
SOURCE NUGGETS
TASTY PELLETS


barnacle
FOODS
HABANERO
HOT SAUCE
MADE WITH ALASKAN KELP
barnacle
FOODS
ALASKAN
SERRANO
BULLWHIP
KELP & SERRANO
HOT SAUCE
"FRESH, FIERY, & SAVORY"


Planet Botanicals
SEAWEED
DREAM CREAM
ULTRA-HYDRATING
BODY CREAM
LEMON BLOSSOM
MAINE HARVESTED
SEAWEED
HAND CREAM
HYDRATING
SEAWEED
BODY LOTION
SEAWEED
BODY SCRUB
SMOOTHING
Dream Cream
BODY008
Hand Cream
4oz
BODY009
Body Lotion
8oz
BODY010
Body Scrub
6oz
BODY012
Cuticle Rescue Salve
BODY014


ULINE
ULINE

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Key Uses & Markets
Scottish Seaweed Industry Association
Cosmetics
Biostimulants
Food
Feed
Neutraceuticals
Pharmaceuticals


Scottish Seaweed Industry Association
Seaweed and Aquaculture in Scotland & the UK
Rhianna Rees
CEO, Scottish Seaweed Industry Association (SSIA)


Stelier's Sea Cow
Scottish Seaweed Industry Association
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The Maine Seaweed Council
Three Decades of Seaweed Advocacy and Collaboration
Shep Erhart and Jaclyn Rubidoux, The Maine Seaweed Council
Maine Seaweed Council
Since 1993
Seaweed Council.org
Mission Statement
The Maine Seaweed Council strives to protect the ecosystems of Maine's marine algae and adhere to sustainable cultivation and harvest practices, promote the use of Maine seaweeds, educate the public, regulators, and elected officials, and provide a collaborative forum for its members.
2025 Significant developments in the last decade
2015 -2016
Organizational development and refined MSC Mission Statement
2014 Refining goals and spreading awareness
2011 New public-facing goals and strategies
2007 Focus on proactive management plans
2003-2005 Early management planning
1997 First printed membership directory with 27 members
2013-2015 Rockweed Fisheries Management Plan (FMP)
2009 Cobscook Bay Management Plan
2005 First 'right to harvest' legal complaint
1998-2002 Harvesters Field Guide Published
1993 MSC Founded

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