MAINE AgrAbility

A DEEP Dive Into Working Waterfront Cultural Competencies

with Maine AgrAbility
Antonia (Toni) Small, E-RYT, YACEP
Bella Russ, AgrAbility Program Coordinator

PRESENTERS

Antonia Small, E-RYT 500, YACEP, Oryx Worx LLC, Ice House Seafood LLC

Toni has been teaching yoga and fitness to older students from Port Clyde, Maine for over a decade. She began oyster farming on the side with her husband John, a fisherman, in 2016. Her work with FishAbility began in 2021.

Bella Russo, AgrAbility Program Coordinator, RYT 2oo

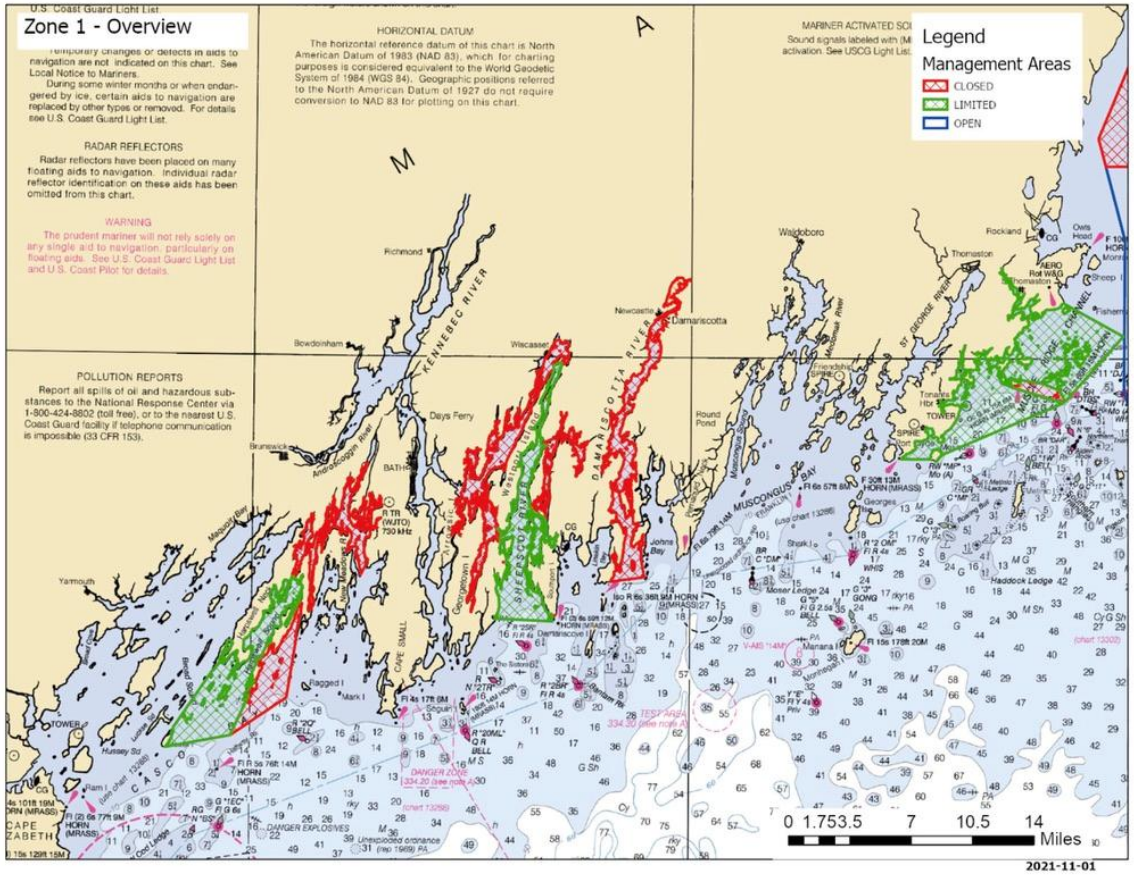
Bella has been farming for the last nine years throughout New England primarily on small-scale diversified vegetable and livestock operations. Her background is in biology and agricultural sciences with a focus in plant pathology. Bella is starting her own small farm enterprises and hopes to further her education in agriculture, plant pathology, and forestry. She is also a certified yoga instructor.

MAINE AgrAbility

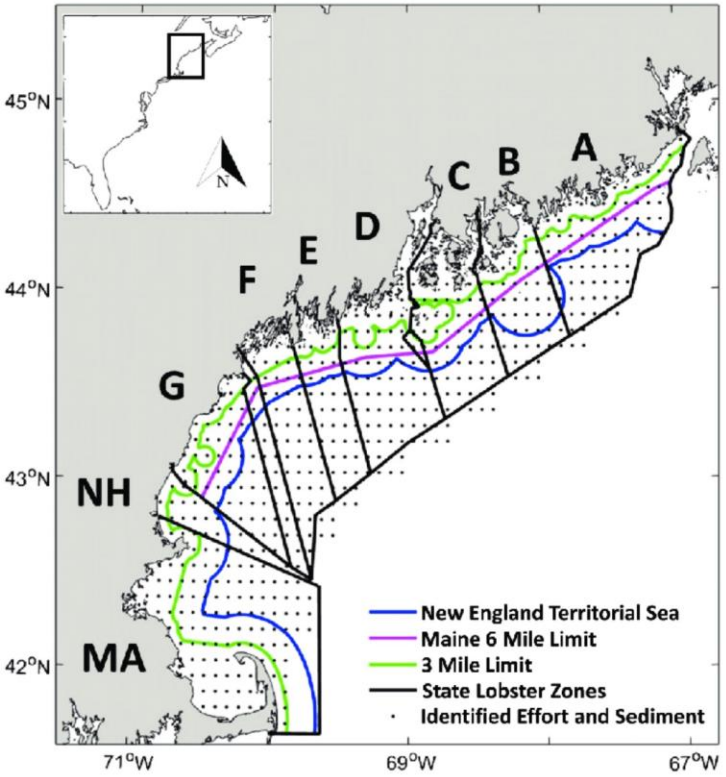
Learning Objectives

- Ocean farming basics.
- The types of competing (and collaborative) industries on Maine's waterfront.
- The scale of the thing. Ergnomic impact.
- Conflicting interests: regulations and gentrification.
- How can we help?

MAINE AgrAbility

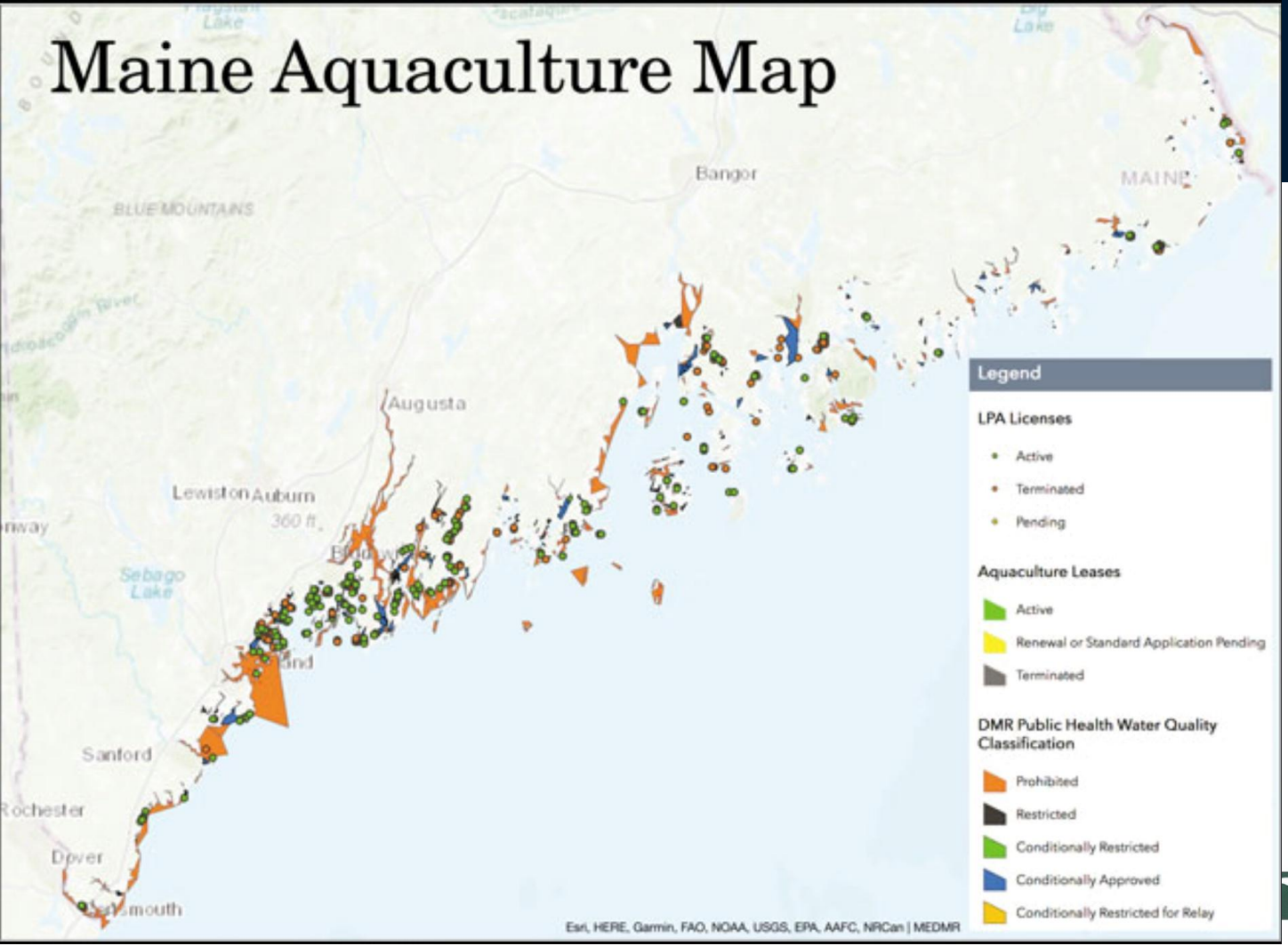


Maine Lobster Management Zones



https://www.maine.gov/dmr/home

MAINE AgrAbility



Maine DMR Map Published in Fishermen's Voice 2018

MAINE AgrAbility

Maine Aquaculture 101

MAINE AQUACULTURE ASSOCIATION

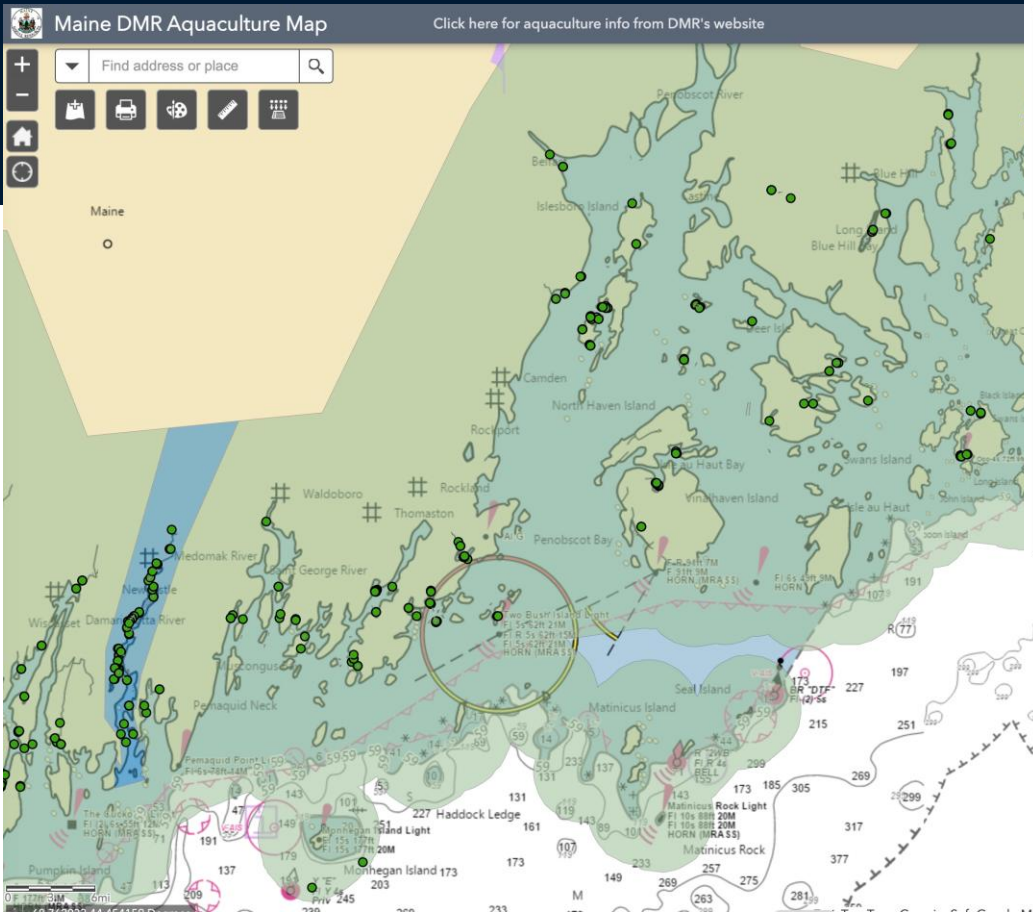
What is being farmed in Maine?

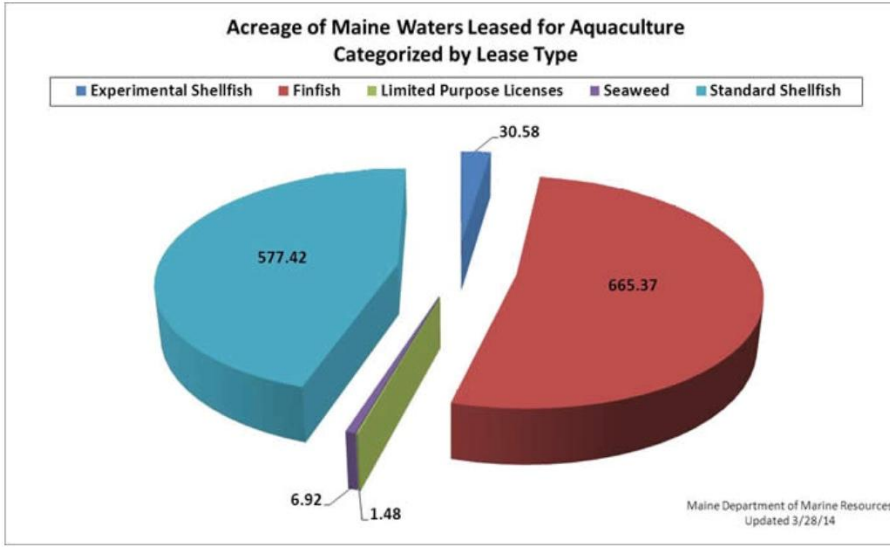
The most commonly cultivated species in Maine aquaculture include eastern oysters, blue mussels, kelp/other sea vegetables, sea scallops, and Atlantic salmon. A few operations have been experimenting with hard clams and sea urchins.

Types of commercial aquaculture leases in Maine:

Marine aquaculture leases in Maine are issued and regulated by the Maine Department of Marine Resources (DMR).

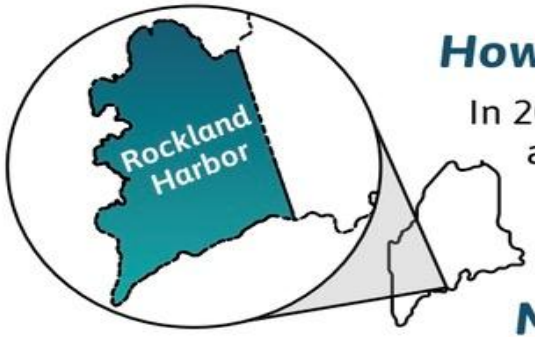
Lease Type	*Duration*	*Can Renew?*	*Size Limit*	*Application Requirements*
Limited Purpose Aquaculture (LPA)	1 year	Yes	max. 400ft^2	· requires signature from a harbormaster or municipal official · each person may hold up to 4 · designed to help farmers get into aquaculture
Experimental Lease	3 years	No	max. 4 acres	· scoping session is at DMR's discretion. · public hearing must be held if 5(+) people request a hearing · applications must meet lease decision criteria (see below)
Standard Lease	up to 20 years	Yes	max. 100 acres	· each person may hold up to 10 · applicants must notify landowners within 1,000 feet of the proposed site, meet with municipal officials, and host a public scoping session & public hearing adjudicated by DMR





Lease site
Info: MAIC

MAINE AgrAbility



How big is aquaculture in Maine?

In 2023, less than .0005% of state waters in Maine were occupied by aquaculture leases (~1,700 out of 3.5 million total acres of state waters). To put that into context, all of Maine's existing aquaculture leases put side by side could fit inside of the Rockland breakwater with room to spare.

Maine Aquaculture by the Numbers

700+
year-round employees across 200 farms

99%
of Maine sea farms are family owned

2%
average growth rate over last 20 years

$85-$110
million a year in sales

1 in 6
Maine sea farmers also holds a commercial lobstering license

Maine aquaculture produces among the lowest carbon footprint of any animal protein

25
diverse species of finfish, shellfish, and sea vegetables are farmed in Maine

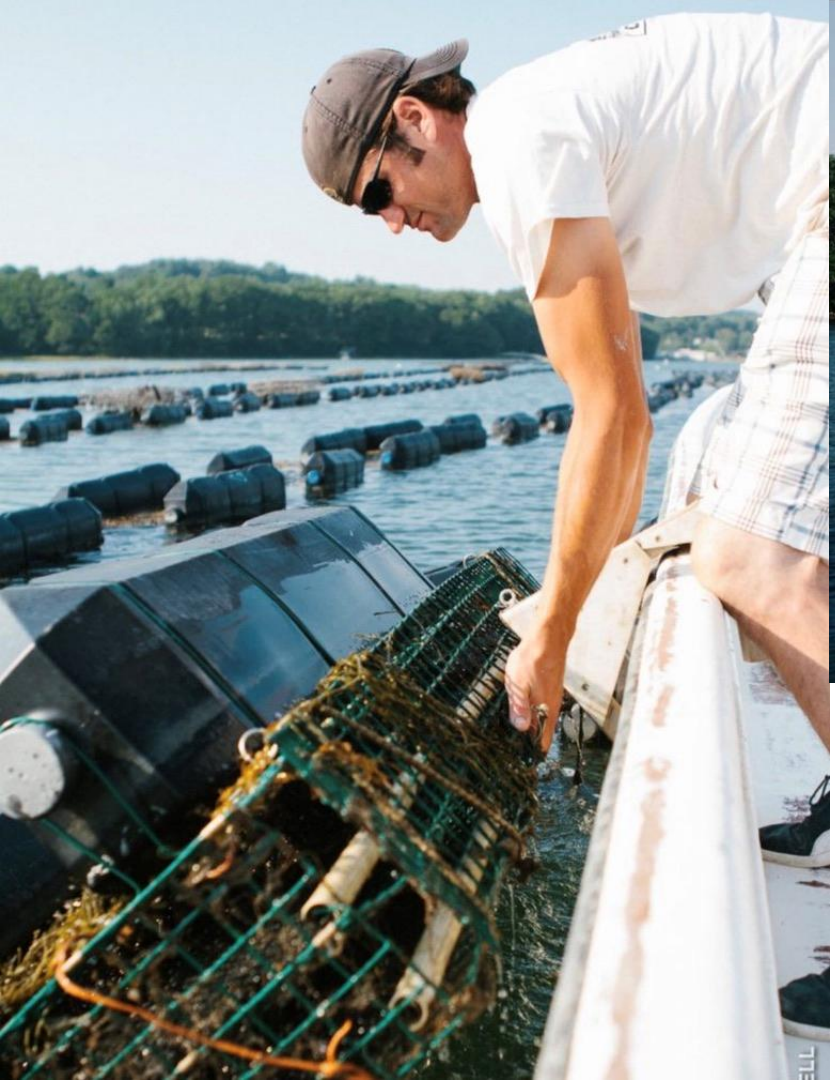
What criteria are used by DMR in issuing an aquaculture lease decision?

In evaluating the proposed lease, the commissioner shall consider the **number and density of existing aquaculture leases** in an area and may grant the lease if the proposed lease meets the following conditions as defined by rule:

- **The lease will not unreasonably interfere with:**
  - **the ingress and egress of riparian owners**
  - **navigation**
  - **fishing or other uses of the area**
  - **significant wildlife habitat and marine habitat**
  - **public use or enjoyment within 1,000 feet** of a beach, park or docking facility owned by the Federal Government, the State Government or a municipal governmental agency or certain conserved lands
- The applicant has demonstrated that **there is an available source of organisms to be cultured for the lease site**
- For standard leases:
  - The lease will **not result in unreasonable impact from noise or light at the boundaries of the lease site**
  - The lease **must be in compliance with visual impact criteria** adopted by the commissioner relating to color, height, shape, and mass

Photo by Alyssa Stone

MAINE AgrAbility



Mook Sea Farm photos

MAINE AgrAbility

Harvesting oysters

Eric Horne and Valy Staverlynck of Maine Oysters, Inc.

Maine Oysters, Inc

MAINE AgrAbility

John Cotton – a FishAbility client
Photos from Ice House Oysters

MAINE AgrAbility

John Cotton - seaweed
Photos Natalie Chalfant

MAINE AgrAbility


SEA FAR

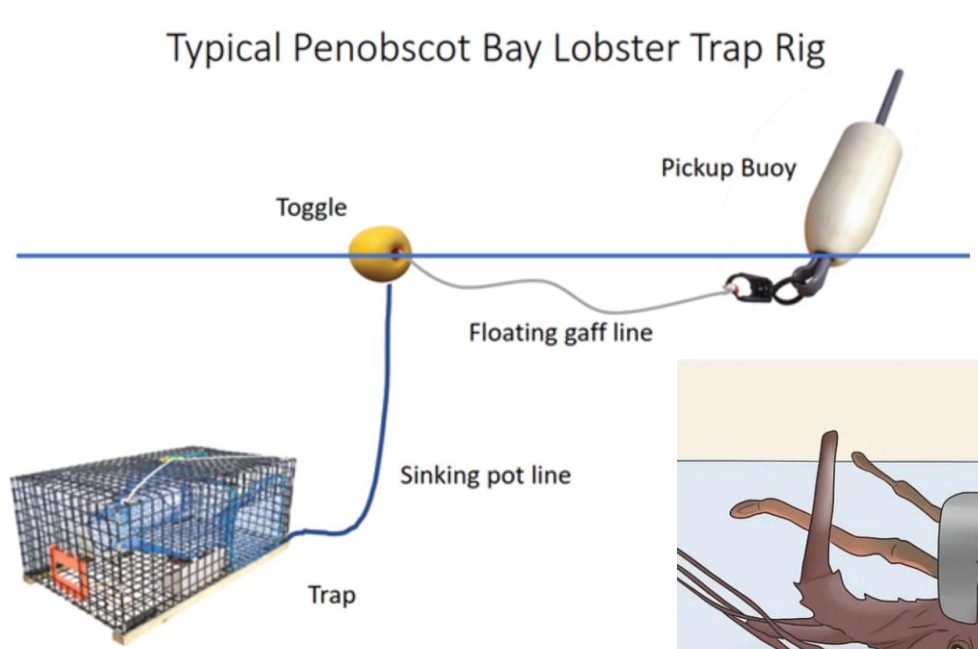

ME 9639

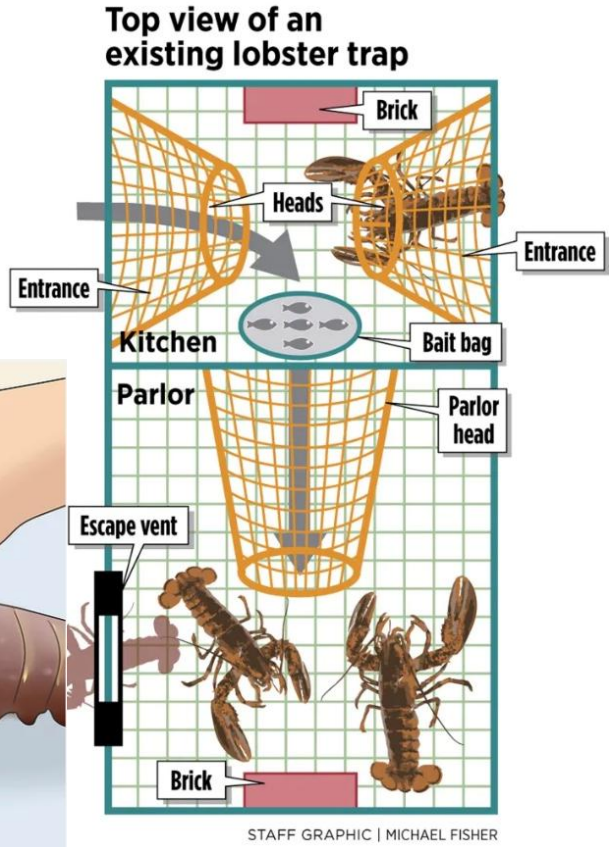
LARGER SCALE FARMS + OTHER SPECIES

- https://www.youtube.com/watch?v=ymhoestH9x0
- https://www.youtube.com/watch?v=iMmnyTdfhYs
- https://www.youtube.com/watch?v=lmzMTQZltFo
- https://www.youtube.com/watch?v=dQMesOLFV0w

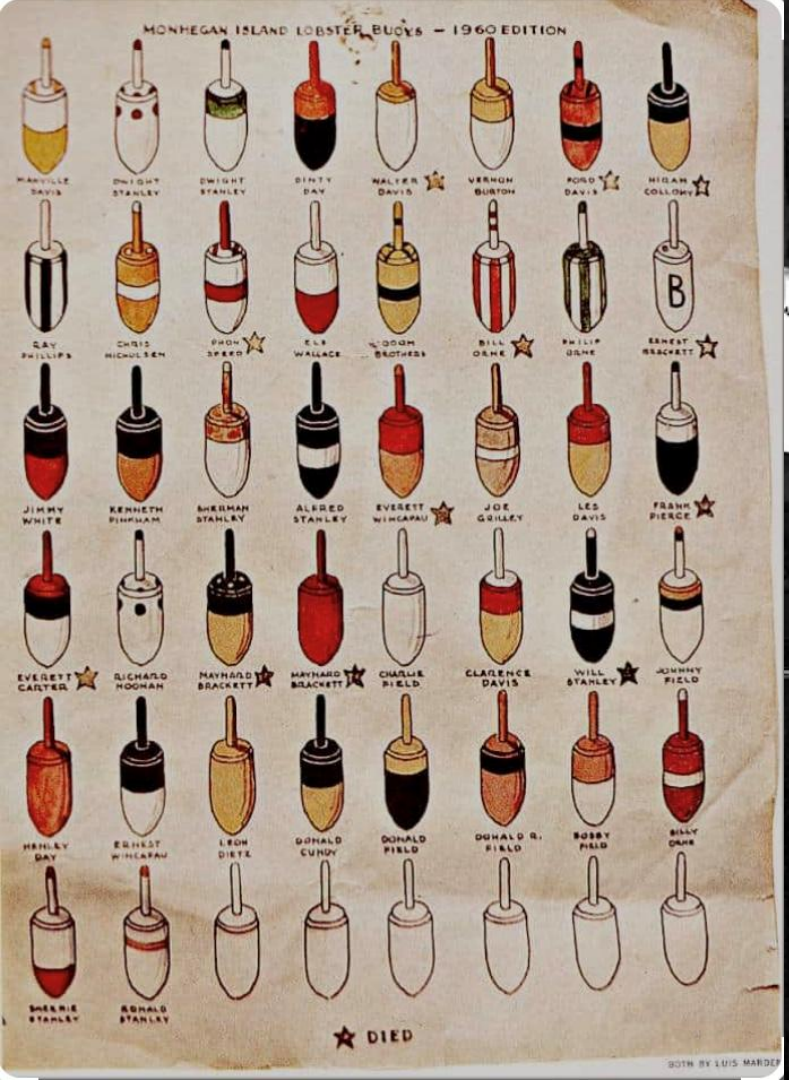
MAINE AgrAbility

Heritage Fishery: Lobster





Blue Water Sailing Club;WikiHow; Portland Press Herald


MONHEGAN ISLAND LOBSTER BUOYS – 1960 EDITION
MARVILLE DAVIS
DWIGHT STANLEY
DWIGHT STANLEY
DINTY DAY
WALTER DAVIS
VERNON BURTON
FORD DAVIS
HIRAM COLLOMY
RAY PHILLIPS
CHRIS NICHOLSEN
PHON SPEED
ELB WALLACE
WOODEN BROTHERS
BILL ORNE
PHILIP ORNE
B
ERNEST BRACKETT
JIMMY WHITE
KENNETH PINKHAM
SHERMAN STANLEY
ALFRED STANLEY
EVERETT WINGAPAU
JOE GRILLEY
LES DAVIS
FRANK PIERCE
EVERETT CARTER
RICHARD NOONAN
MAYNARD BRACKETT
MAYNARD BRACKETT
CHARLIE FIELD
CLARENCE DAVIS
WILL STANLEY
JOHNNY FIELD
HENLEY DAY
ERNEST WINGAPAU
LEON DIETZ
DONALD CUNDY
DONALD FIELD
DONALD R. FIELD
BOBBY FIELD
BILLY ORNE
SHERRIE STANLEY
RONALD STANLEY
DIED
BOTH BY LUIS MARDEN

TROUBLED WATERS

St. George	Schroeder, Jeffrey	Turkey Cove, St. George River	2 acres	Shellfish	3 yrs	App rec'd 6/1/23; site visit completed
St. George	Tarbox, Brian	NW of Norton Isl, Wheeler Bay	3.99 acres	Marine Algae	3 yrs	App rec'd 6/22/23; comments due 7/22/23
Steuben	Pinkham, Randy	E of Chair Pond Head, Pegeon Hill Bay	3.99 acres	Marine Algae	3 yrs	Apps 1&2 rec'd 3/28/23; comments due 4/29/22
Steuben	Sokoloski, Victor	E of Chair Pond Head, Pegeon Hill Bay	3.99 acres	Marine Algae	3 yrs	Apps 1&2 rec'd 3/28/23; comments due 4/29/22
Stonington	Greenhead Lobster LLC	Penobscot Bay	3.5 acres	Shellfish	3 yrs	App rec'd 10/12/23; comments due 11/11/23
Stonington	Greenhead Lobster LLC	Between East Penobscot Bay and Jericho Bay	4 acres	Marine Algae	3 yrs	App rec'd 10/12/23; comments due 11/11/23
Waldoboro	Bennett, T & Simmons, A	N of Haystack Island, Medomak River	2.52 acres	Shellfish	3 yrs	App rec'd 3/3/22; site report published
Walpole	Dodge Cove Marine Farm	N of Glidden Ldg, W of Fitch Cv, Damariscotta Rvr	1.9 acres	Shellfish	3 yrs	App rec'd 3/21/23; site visit completed
Yarmouth	Gerber, Caitlin	SE of Moshier Island, Casco Bay	4 acres	Marine Algae	3 yrs	App rec'd 8/25/22; site visit completed
Yarmouth & Freeport	Dirigo Marine Resources	NE of Moshier Island, Casco Bay, Yarmouth &	3.9 acres	Marine Algae	3 yrs	App rec'd 8/4/22; site report published
York	So ME Sustainable Shellfish	W of Sewall's Bridge, York Rvr	0.97 acres	Shellfish	3 yrs	App rec'd 3/21/22; site visit completed

Understand the process! You can make a difference!

Scoping Session → Application Submitted → Public Comments → Site Review → Public Hearing → DMR Decision

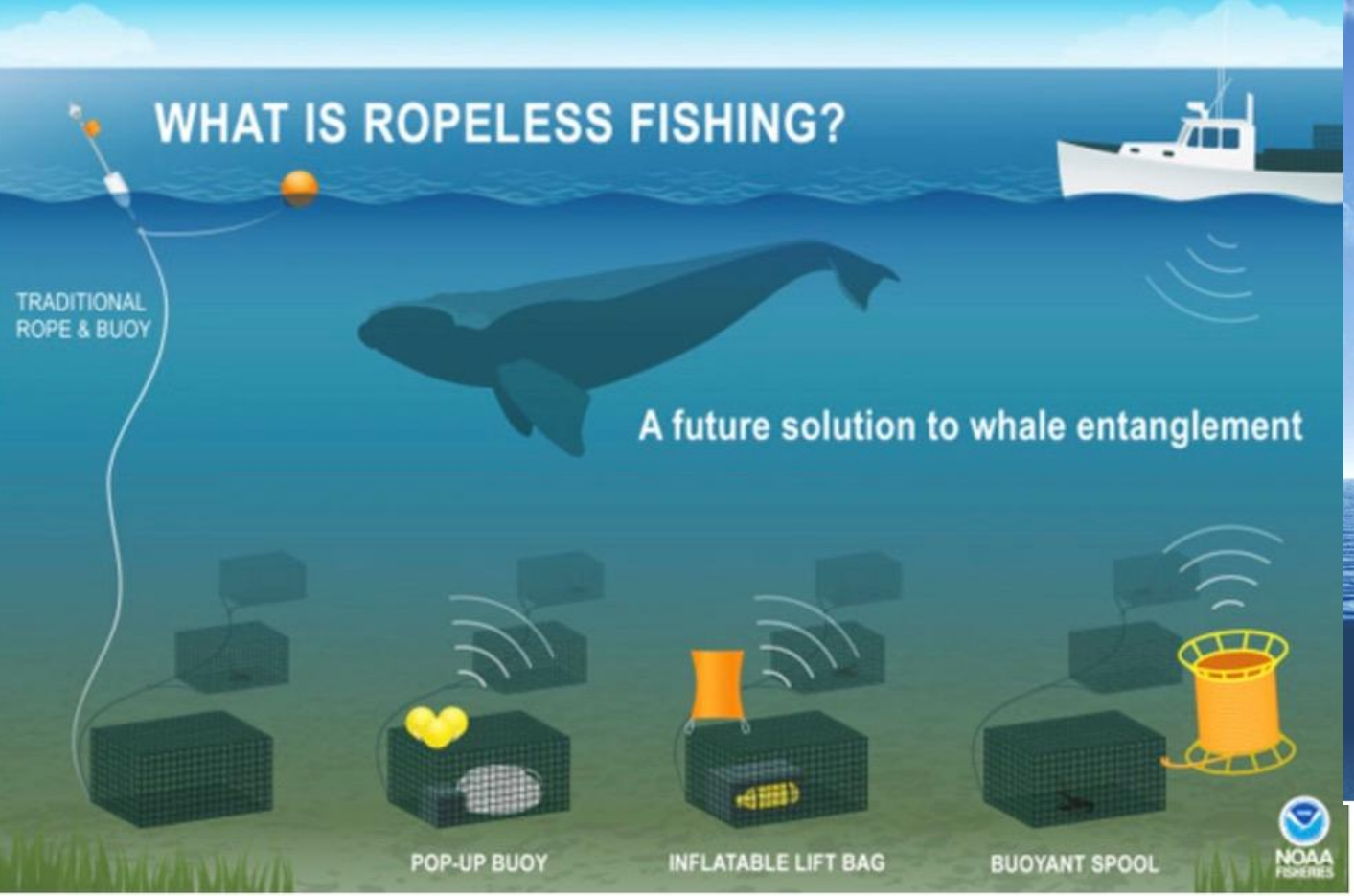
V-notching female egg-bearing lobsters is a longstanding practice in the Maine lobster fishery. Photo R. Bukaty AP.

Standard Lease Applications: Terms Up to 20 Years, Size to 100 Acres, Renewable

Bar Harbor	Pemaquid Mussel Farms LLC	Mt Desert narrows, E of Googins Ledge	32 acres	Shellfish	20 yrs	Lease Granted 8/31/23
Bay Harbor	Acadia Aqua Farms LLC	SW of Googins Ledge, Frenchman Bay	48 acres	Shellfish	20 yrs	Hearing completed 3/28/22
Beals	Downeast Institute	Near Mud Hole Pt/Eastern Bay, Mud Hold Cove	3.95 acres	Shellfish	20 yrs	Scoping Session 12/6/23 6pm Downeast Institute
Beals	The Flying Place LLC	W of Beals-Great Wass Cswy, Flying Place Pound	5.57 acres	Shellfish	20 yrs	App rec'd 3/21/23; site review TBD
Boothbay Harbor	Yentsch, Carlton	W of Samoset Rd, Bottle Cove	1.12 acres	Shellfish	20 yrs	App rec'd 10/27/22; site visit completed
Brunswick	Ferda Farms LLC	E of Lower Coombs Isl, New Meadows Rvr	2.33 acres	Shellfish	20 yrs	App rec'd 2/28/22; site visit completed
Chebeague Isl	Great Ledge Cove Seafood LLC	NE L'il Chebeague Isl, Wstrn Chandlers Cv	6.85 acres	Marine Algae	20 yrs	Public Hearing 8/15/23 1:30pm Chebeague Island Hall
Chebeague Isl	Hunt, Stewart	N/NE of Seal Ledge, Casco Bay	13.75 acres	Shellfish/Algae	20 yrs	Lease Granted 9/2/23
Chebeague Isl	Linda Kate Kelp LLC	SW of Basket Isl, Casco Bay	16 acres	Marine Algae	20 yrs	Scoping session 11/17/23 3pm Chebeague Island Hall
Damariscotta	Mook Sea Farms Inc.	Days Cove, Damariscotta Rvr	4 acres	Shellfish	20 yrs	App rec'd 11/8/22; site visit completed

Landings, MLA

MAINE AgrAbility



Despite challenges, trials of ropeless fishing gear show promising results. Photo: NOAA Fisheries.

U.Maine image

MAINE AgrAbility

Henry Allens Seafood is one among many lobster wharves heavily damaged by the storm that blasted the Maine coast on Wednesday, Jan. 10. Another storm is approaching and due to hit on Saturday. Photo courtesy of Henry

Two people walk along the Seawall section of Route 102A on Mount Desert Island in Maine Saturday, January 13, 2024. The scenic road is among many places spread along Maine's coast that were severely damaged this week in two storms three days apart. Credit: Bill Trotter / BDN

Credit: Port Clyde Fishermen's Coop

January 10 and 13, 2024 – 60% of Maine's Working Waterfront damaged, or 90 million dollars worth. Astronomical high tides, with unusual Southwest winds, water surged.

MAINE AgrAbility

INDUSTRY TENSIONS

Loss of bottom – Aquaculture + Wind + Whales

Loss of resource – Lobster migration + Storms

Loss of Infrastructure – Gentrification + Storms

Loss of Market – Costs of Fishing + Regulations

Loss of Family business – see all above

= Tensions for Fishermen

And for Farmers

MAINE AgrAbility

MLA
MAINE LOBSTERMEN'S ASSOCIATION

PROTECT MAINE'S FISHING HERITAGE FOUNDATION

Sea Grant MAINE

We are NEFSA

New England Fishermen's Stewardship Association

MAINE LOBSTER COMMUNITY ALLIANCE

MAINE COAST FISHERMEN'S ASSOCIATION

MAIC
MAINE AQUACULTURE INNOVATION CENTER

It's time for an honest conversation about aquaculture

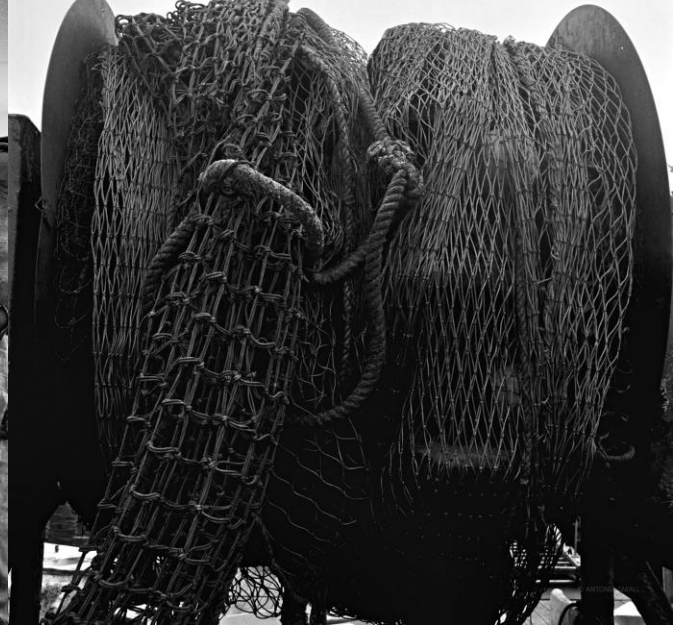
OPPOSITION MAY NOT BE AUTHENTIC, OR REALITY BASED

BY BENJAMIN FORD
POSTED 2025-02-20
LAST MODIFIED 2025-02-20

MAINE CENTER FOR COASTAL FISHERIES

ATLANTIC SEA FARMS

MAINE AgrAbility



Ground Fishing + Shrimp

“I go lobster fishing to pay for my ground fishing habit.”

MAINE AgrAbility

Working waterfront infrastructure

Client Case Study

Ferda Farms – since 2018

Chris Burtis (age 56) + son Max produce roughly 200,000 oysters per year on two acres

Back pain, cancer diagnosis, herniated discs

2023 work became more and more uncomfortable

2024 had to stop but would like to resume work on the farm

Site visits in June of 2024 (farm assessment) and August of 2024 (AT)

100,000k worth of equipment recommended to get Chris back to work.

Hydrolic arm, hull, washer conveyor and counter.

MAINE AgrAbility

Photo showing the workfloat, tumbling machine, and orange bushel crates.

Photo of a farmer washing oysters in an orange bushel crate.

MAINE AgrAbility

Two oyster farmers manually flipping a cage into the defouling position.

Photo of oyster farmers picking up bags from a cage on a longline.

Raising a cage and attaching blue caps.

Frequency	Points
once per season	1
1-2 times per week	2
3-4 times per week	3
5+ times per week	4

Physical Strain	Points
low	1
medium	2
high	3
severe	4

Frequency and physical strain scores.

Task	Frequency	Physical Strain	Priority Score
Picking up and Returning Bags	4	3	12
Tumbling and Culling	3	2	6
Harvesting	2	3	6
Defouling	2	3	6
Raising the Farm	1	4	4
Rebagging	4	1	4
Sinking the Farm	1	3	3
Seeding	1	1	1

Task priority score = physical strain x frequency.

https://docs.google.com/document/d/1GSofbjGBPl4rFMTxAs5XLsrNGm2kgsOCQ_hjyH9jrBw/edit?tab=t.0 - heading=h.m44tmqe74gcp

MAINE AgrAbility

Photo of the washer, conveyor, and counting machine.

Photo of aluminum workboat, crane, and oyster cage.

INTAKE MODIFICATIONS

Client Type: Sternman / Crew

Type of Operation: **Wild Caught Fisheries**

- Lobster Trapping (800/400)
- Pelagic (90 ft +): Rod and Reel
  Longline
- Groundfish: Longline
  Trawler
  Gilnetting

- Shellfish:
  Digging
  Dragging

- Sea Urchin Diving

The type of fishery will tell you what sort of vessel + conditions they are working in.

Days at Sea?

MAINE AgrAbility

INTAKE MODIFICATIONS

Type of Operation: **Aquaculture / Mariculture**

Ocean-based

- **Seaweed (acres__)**
  - Off-shore lines
  - Shallow water culture
  - Intertidal
- **Shellfish (acres__)**
  - Oysters
  - Mussels
  - Scallops
  - Urchin
  - Clams

Land-based (sq. ft__)

- Finfish
- Seaweed
- Hatchery
- Other species

MAINE AgrAbility

INTAKE MODIFICATIONS

Work Status on Farm:
Seasonal

Origin of Disability:
Fishing/Farming related incident
Boat / Gear / Machinery
Overboard incident

Are you are former member of:
Eastern Maine Skippers Program
MCFA programs
MAA Apprenticeship program

MAINE AgrAbility

INTAKE MODIFICATIONS

Primary Goals of Client:
Improve my overall mobility or accessibility around vessel, floats, docks, farm.

Improve my ability to manage the fishing or farm operation successfully related to maintaining records.

Improve my abilities to handle the care of my farm, harvest and processing product.

Improve my abilities to handle the care of my vessel, gear and dockside tasks.

MAINE AgrAbility

RESOURCES

Connect: Maine.AgrAbility@maine.edu

1.800.287.1478

Website:
https://extension.umaine.edu/agrability/

- On the website you can find
  - News
  - Network Connections
  - Solutions & Resources
  - Videos

MAINE AgrAbility

Questions?

Thank you for attending!

Antonia (Toni) Small, E-RYT, YACEP
Maine AgrAbility + Oryx Worx LLC
toni@oryxworx.com

Bella Russo, Program Coordinator, RYT
Maine AgrAbility
Isabella.Russo1@maine.edu

MAINE AgrAbility