Aquaculture in Shared Waters

Nick Branchina

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AQUACULTURE in SHARED WATERS

Presenter: Nick Branchina
AQSW provides a unique approach to creating new jobs in coastal Maine providing community-based aquaculture training courses in Maine concentrating on crops with proven low costs of entry. Our program operates with an end goal of business assistance, job creation, responsible husbandry and the expansion of economic opportunity for Maine aquaculturists and wild harvest fishermen. We provide technical training, business planning, and access to financing and offers fishermen and entrepreneurs direct hands-on and classroom training to prepare participants for careers in sustainable shellfish and sea vegetable (edible seaweeds) aquaculture. There is no cost to participate.
Who Are We?

The team is drawn from the following organizations and institutions:

• Maine Aquaculture Innovation Center – Chris Davis
• Coastal Enterprises, Inc (CEI) – Hugh Cowperthwaite & Nick
• Maine Sea Grant Program, Marine Extension and Cooperative Extension – Dana Morse | Jaclyn Robidoux
• Maine Aquaculture Association – Sebastian Belle

The Program has had multiple sources of funding. Currently we are funded through National Sea Grant/NOAA.
153 students have been recruited and received training from several towns over the past 7 years to attend classes in the following communities.

- 2013 winter & spring course delivered to members of two lobster cooperatives in two towns (Corea and Harpswell), 12 fishermen participated.
- 2015 course was delivered to soft shell clam harvesters from Brunswick and Harpswell, 15 harvesters participated.
- 2016 class in Thomaston had 30 students
- 2017 class in Ellsworth had 25 students
- 2018 class held in Machias had 15 students | Bath had 24 students
- 2019 Brunswick had 32 students
- 2020 Brunswick 40+ students | LIVE STREAM to Belfast 15 Students
The Program

These courses are introductory in scope, meant to provide a background for students to acquire the basic knowledge that can lead to small-scale deployment of equipment and crops to learn by doing. Twelve sessions per year are scheduled. Each student receives use of an iBook during the course of the classroom session period to access chapters associated with each session.

The instruction is geared to practicality and to connect students with existing resources in the educational and commercial sectors. In the courses we teach the rationale for aquaculture, basic biology of the species being farmed, techniques and equipment, site selection and management, regulations including permitting and leasing, environmental concerns, risk management, biosecurity, and business skills (planning, financial management, marketing, and logistics). Certification will be issued to those participants whose attendance and participation meet the criteria and satisfaction of the AQSW instructors.
Don’t just catch it — Grow it, too!

The Situation

- The Maine clam industry has been hit hard by predation
- Shrimp has been closed for several years
- Groundfish landings have been cut
- Licenses for other fisheries are hard to come by

The Opportunity

- A growing number of Maine fishermen have become aquaculturists; producing seafood by farming it, as well as by catching it.
- The aquaculture industry in the US and the world is growing, and the market for Maine seafood has never been stronger.

Topics include:
- Choosing the right gear
- Site selection
- Regulation and permitting
- Sales and marketing
- Business management
- Best husbandry practices for shellfish and sea-weed farming
- Gear Demos and More!

Classes are held in Brunswick on Monday Evenings 6-8 pm for 12 sessions, beginning January 6, 2020.

Instructors include:
- Sebastian Belle
  Maine Aquaculture Association
- Chris Davis, PhD.
  Maine Aquaculture Innovation Center and Pemaquid Oyster Co.
- Dana Morse
  Maine Sea Grant and University of Maine Cooperative Extension
- Hugh Cowperthwaite
  Coastal Enterprises, Inc.

Guest speakers will also be scheduled

For more information:
- Dana Morse, 207.563.8186
dana.morse@maine.edu
- Hugh Cowperthwaite, 207.535.2920
hcowperthwaite@ceimaine.org

Uncertain about your fishing future?
# Aquaculture in Shared Waters – 2020 Schedule

All classes are on Mondays, 6:00 pm - 8:00 pm, EXCEPT Tuesday January 21st.

Coastal Enterprises Inc, 30 Federal Street, Brunswick

**NO CLASSES on Jan. 13 / Feb. 17 / March 16**

**Should CEI close for Snow, Dates will be made up in April**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Lead Presenter(s)</th>
<th>Presenter(s)</th>
<th>Class Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 6, 2020</td>
<td>Intro to Aquaculture, Course expectations</td>
<td>Sebastian Belle, MAA</td>
<td>Anne Langston, MAIC</td>
<td>Course overview and expectations, introduction to aquaculture, stewardship</td>
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<td>Chris Davis, MAIC</td>
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<td>responsibilities, environmental monitoring.</td>
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<td>Dana Morse, Sea Grant</td>
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<td></td>
<td></td>
<td>Hugh Cowperthwaite, CEI</td>
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<td>3</td>
<td>Jan 27</td>
<td>Shellfish &amp; Seaweed biology</td>
<td>Chris Davis, MAIC</td>
<td>Anne Langston, MAIC</td>
<td>Life cycles, basic anatomy, links between these species and the environment,</td>
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<td></td>
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<td>Jaclyn Robidoux, Sea Grant</td>
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<td>seasonality of condition, predators, food and nutrients.</td>
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<td>Seaweed ID and anatomy (if we can get seaweed).</td>
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<td>Shellfish dissection.</td>
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<td>4</td>
<td>Feb 3</td>
<td>Leasing and regulatory issues</td>
<td>Jon Lewis, DMR</td>
<td>Anne Langston, MAIC</td>
<td>Allocation of rights, leasing mechanisms, lease process, performance bonding.</td>
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<td>Lean Neal, USACE,</td>
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<td>Jay Clement, USACE</td>
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<td>5</td>
<td>Feb 10</td>
<td>Marketing, sales, distribution and logistics</td>
<td>Nick Branchina, CEI</td>
<td>Anne Langston, MAIC</td>
<td>Sales vs. marketing, competitors and competitive advantage, marketing plan</td>
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<td>Matthew Brown</td>
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<td>guidelines, low cost tactics, small farm options, transportation. State licensing</td>
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<td>(Seafood Sales)</td>
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<td>for dealership and sales will also be covered.</td>
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<td>Melinda Cook, DMR</td>
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<td>6</td>
<td>Feb 17</td>
<td>PRESIDENT’S DAY</td>
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<td>Holiday</td>
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<td>7</td>
<td>Mar 2</td>
<td>Equipment and Husbandry Part 1: OYSTERS</td>
<td>Chris Davis, MAIC</td>
<td>Anne Langston, MAIC</td>
<td>Seed collection/sourcing, nursery, growout, harvesting, processing.</td>
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<td>Dana Morse, Sea Grant</td>
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<tr>
<td>8</td>
<td>Mar 9</td>
<td>Equipment and Husbandry Part 2: MUSSELS, SCALLOPS</td>
<td>Hugh Cowperthwaite, CEI</td>
<td>Anne Langston, MAIC</td>
<td>Production of mussels and scallops. Scallop farming gear.</td>
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<td>Chris Davis, MAIC</td>
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<td>Dana Morse, Sea Grant</td>
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*Note: Class contents and schedules are subject to change.*
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<thead>
<tr>
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<th>Instructor(s)</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>10</td>
<td>March 30</td>
<td>Public health, disease and biosecurity</td>
<td>Kohl Kanwit, <em>DMR</em></td>
<td>Anne Langston, <em>MAIC</em></td>
<td>Water quality and how it affects bivalves and seaweed, vibrio, biotoxins, shellfish handling. Also, basics of disease and pathology, transmission and prevention, biosecurity.</td>
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<tr>
<td>11</td>
<td>April 6</td>
<td>Business Planning and Financial Management</td>
<td>Brad Swanson, <em>CEI</em></td>
<td>Anne Langston, <em>MAIC</em></td>
<td>Why write a business plan, what’s in a business plan, costs and income, start-up vs. continuing operations, calculating value of your time.</td>
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<tr>
<td>12</td>
<td>April 13</td>
<td>Gear Demo – TBD AND GOODBYES</td>
<td>Chris Davis, <em>MAIC</em></td>
<td>Anne Langston, <em>MAIC</em></td>
<td>Gear suppliers TBD. Hog rings, bags, knots and lines demos. A wrap-up of the course, question and answer, and how to move forward into practice.</td>
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<td><strong>FIELD TRIPS</strong></td>
<td>Dana Morse, <em>Sea Grant</em></td>
<td></td>
<td>On-farm tours and other tourism-related ways to integrate with an aquaculture business; and working with seafood markets and how to get your product to sale.</td>
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 Outputs

- Diversify incomes and create more marine aquaculture businesses in Maine with education and training tools.
- Build demand for aquaculture training in fishing communities.
- Create clusters of community aquaculture businesses drawing the attention of fishermen and infrastructure support businesses to the growing opportunities.
- Offer training in Maine’s Eastern coastal counties drawing students from communities where the course has not previously been offered.
- Offer a novel electronic curriculum exclusive to students in the Aquaculture Shared Waters class (via iBook platform).
CERTIFICATE OF COMPLETION

AQUACULTURE IN SHARED WATERS

This is to certify that

Your Name Here

has completed the training program in shellfish and sea vegetable farming

March 25, 2019
QUESTIONS?

For More Information Contact:

• Sebastian Belle – Executive Director, Maine Aquaculture Association. (207) 622-0136, maineaqua@aol.com

• Nick Branchina - Associate Director, Fisheries and Aquaculture Programs, CEI. 207.295-4912 nick.branchina@ceimaine.org

• Christopher Davis, PhD. - Executive Director, Maine Aquaculture Innovation Center. (207) 832.1075. cdavis@midcoast.com

• Dana L. Morse - Extension Associate, Maine Sea Grant and Univ. of Maine Cooperative Extension. Darling Marine Center (207) 841-4899 dana.morse@maine.edu