Summary

Continued work on Objective #1: "compiling a list of seaweed nurseries". Participants asked to consider several questions. Key findings:

- A publicly available and searchable table was suggested as the most appropriate starting form, available as or on a website
- The group suggested regulator input on the nursery list could be lacking and would like to see if more could be done around geographic concerns with the list
- The list needs to be shared through a publicly available website, have a system for easy updating, and could have an interactive map component as it develops
- How the nursery list would be managed long term was discussed along with whether project funds could be used to initially hire some help to assemble a draft list with work group oversight

Agenda

- Review meeting #4 outcomes
- Meeting #5 objectives
- Miro orientation if needed
- Question #1: What form should this Nursery List take?
- Question #2: Whose input are we missing? How should we get it?
- Question #3: How should the list be shared with stakeholders?
- Question #4: What would it take to accomplish this objective?
- Discussion: next meeting timing
- Round-the-room updates
- Adjourn

Participants

Meg Chadsey, Washington Sea Grant (WA)
Josh Reitsma, Woods Hole Sea Grant (MA)
John Lovett, Grower (MA)
Aaron Milstein, TroutLodge Inc. and Seaweed Collaborative (WA)
Brady Blake, Washington Dept. of Fish & Wildlife (WA)
Larry Mellum, Pike Place Chowder and future farmer (WA)
Linda Degnan Cobos, Slow Food Land & Sea, potential farmer (WA)
Nicole Naar, Washington Sea Grant (WA)
Anoushka Concepcion, Connecticut Sea Grant (CT)

Meeting Notes

Previous Meeting Outcomes:

Participants selected in previous meetings 'Improve Seed Supply' as their top priority going forward. Specific objectives to be pursued are: 1) compiling a list of nursery facilities for growers; and 2) increasing nursery capacity. Discussion started in meeting #4 in April 2021 around the scale, audience, and what to include in a nursery list. The work group then decided to continue work on the nursery list idea in meeting #5.

Meeting #5 Objectives

Focus on "compiling a list of nursery facilities" objective and better define a concept that could ultimately be submitted to the Seaweed Hub Steering Committee for applied project funds. Discussion to be centered around what form should the list take, what information are we missing, how should this be shared, and what will it take to accomplish this? Collectively tackle these questions; use Miro board to capture ideas.

Miro orientation:

As introduced during meeting #4 in April, we'll be using [Miro](#) boards for collaborative work during meetings. A brief review of basic Miro skills: navigating the board, using sticky notes, etc. was provided with an introduction to the miro board. (miro can be reviewed in this [short video](#)).

Question #1: What form should the Nursery list take?

E.g. What type of document? How should it be organized? Static or 'living'? etc...

Work group member responses (consolidated):

- Preferred form: Google Sheets (or other shareable document)
  - Easy to access, edit & curate
  - Can be linked to a Google Form that folks who want to be added can fill out
  - Would be pretty easy to code as a table with sortable functions (such as Geo/Region, strain, availability, purchasing limitations/restrictions)
- Location: house on Seaweed Hub website
  - Google sheet info could be converted to (or mirrored on) a webpage
  - It would be really cool to have an interactive map that shows states and seed available for each region
- Management: update page monthly

- Content: region, species, production process, (whether?) shippable, availability, purchasing limitations/restrictions, where specific species are grown (e.g. can't grow sugar kelp in FL)

Group Discussion/Summary:

- Google sheets suggested as a starting point; table being the easiest form to use
- Seaweed Hub was discussed as an appropriate place to host the list
- Interest in possibility of table becoming a website or interactive map
- The [East Coast Shellfish Hatchery and Nursery Directory](#) was shared as an example

Question #2 What are we missing?

Whose input are we missing? How can we obtain it?

Work group member responses:

- Local small business, tribes, corporate non-profit/NGO, research institutes, and regulatory agencies
- Colleges and other aquaculture training programs
  - Both a source of input, and potential workforce development
  - Sustainable agriculture degree program (e.g. Skagit Valley College has a 2-year mariculture program)
- Students/trainees (for internships & other ways to get involved).
- Regulators with permitting & production oversight
- Regulator-specific issues/questions:
  1) Importing seed
     - CT doesn't allow the importation of seed from outside of CT waters. The CT agency that regulates aquaculture has very specific guidance re: what can be imported into Long Island Sound.
     - CT has two agency-approved sources of seed, and producers can't sell unless they're growing approved strains. They're concerned about displacing native strains.
     - CT also limits species. Currently, only sugar kelp is allowed, and even ME sugar kelp is not OK; it has to be local).
     - MA similar to CT, but restricts transfer from north-->south (& vice versa). BUT, a MA strain can be propagated in another state (e.g. CT) and brought back in. This ISN'T allowed in WA. "Don't assume a lab is a lab."
     - AK already has regulations in place (60km limit).
     - WA currently allows transfer of seed produced within Puget Sound.
     - *Would (limits on seed importation) be a good question to ask regulators and include in our list?* We could include a regulation section for each state; would have to be a living doc for easy updating.
  2) What OTHER nursery activities besides source of strains are risky?
     - Recent WA permit hangup: lack of a pathologist who can certify strains as disease-free. For example, WA growers couldn't import from the Netherlands

without a pathologist's approval.
- CT gets around their lack of pathology expertise by restricting importation (but CT agencies have no jurisdiction over neighboring RI policies).
- It would be nice to know what's invasive and how to avoid it. "invasive species mitigation plan". Maybe our list is an opportunity to educate regulators.

Group Discussion/Summary:

- We are missing input from regulators as to what they would like from a nursery list
- There may be some opportunity to educate through the list by providing input of interest to farmers, regulators and students or other interested parties
- Challenges related to unwanted spread of invasives and the geographic limitations many states are imposing on seaweed strain transfer highlight need to educate in this area through the list if possible

Question #3 How should the list be shared?

How should the list be shared with stakeholders?

Work group member responses:

- Everything on the Seaweed Hub should be public. That said, total transparency may limit what kind of info we're able to include/what nurseries are willing to share.
- A publically accessible document (format TBD) that can be discovered via google search
- Timing matters. Planning season starts in Oct.
- AK Fish & Game has a page with all currently permitted seed producers; updated as permits granted/renewed. WA is working on something similar
- Post as a pdf on a website. Update it annually, and use a Google Form for folks who want to be added. This will give us time to vet information, while still providing public access.
- Interactive map. Divided by coast and region and any species regulations for open water farms. Integrate local nurseries into farm site maps.
- Tableau? UConn alternative used for Aquaculture Mapping Atlas. It's always up to date and links to various federal and state data.
- Provide both interactive map *and* a pdf option

Group Discussion/Summary:

- Need to create a publicly available list, available on the web
- List needs to be easily updatable so there should be a process for that
- Interactive map is a popular idea for sharing information in relation to geography
- Timing of list sharing/updating is important for stakeholders looking to use the list for planning purposes

Question #4 What would it take to accomplish this objective?

What would it take to accomplish this objective? Do we need additional resources like program funds through the seaweed hub?

Work group member responses:

- Piggyback on an existing resource (rather than start anew). Re: piggybacking--because this is a Sea Grant project, our list must serve all stakeholders needs, and be completely accessible.
- Greenwave has shared an initial list of nursery contacts
- Sea Grant should continue to collaborate with established industries looking to expand into macroalgae (e.g. shellfish farmers, Green Wave, Alaska companies, etc.)
- Challenge is awareness. We need to expose gaps in our information. That's why it's important that someone 'own' this project. Owner would feel responsible for addressing gaps, and would serve as designated point of contact.
- Would love to see this managed by the Seaweed Hub and exposed to regulators (especially where we have gaps) to encourage participation.
- UConn/CTSG can support. Advantages: sustained funding and ownership, and potential for student support; SG Extension is required to respond & be accountable.
- Seaweed Hub Project Funds could be used to hire student(s) to further develop a list.
- UConn has wanted to generate a list for years (so thank you!).

Group Discussion/Summary:

- List could be managed by Sea Grant, potentially through the seaweed hub. CTSG has an interest in managing a seaweed nursery list.
- Build upon existing resources wherever possible and continue to collaborate with a broad audience of stakeholders
- The potential for project funds to be used to hire some student or other help to develop the list was discussed briefly

Discussion: Timing for Meeting #6

Timing of meeting #6 was discussed in relation to the busy summer season. Early September was discussed and chosen for the next meeting time to continue developing the nursery list.

Round the Room

- Anoushka provided update on other work group activities (see meeting summaries on [Seaweed Hub Work Group](#) page)