SEAWEED HUB - Production Systems Work Group Meeting
Feb 26, 2021; 10:30am Pacific/1:30pm Eastern

Summary

Participants selected ‘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.

Agenda

- Orientation
    - Brief round-the-room introductions for new members
    - Ground rules
- Today's objectives
- Overview of other work group activities (Processing, Regulations, Marketing)
- Selecting a focus area
    - Review current production-related priorities
    - Rank using Poll Everywhere
    - Discussion (if necessary)
    - Form sub-group(s) to tackle highest ranked
- 2021 meeting schedule
- Objectives for next meeting

Participants

Meg Chadsey, Washington Sea Grant (WA)
Josh Reitsma, Woods Hole Sea Grant (MA)
Jim Oswald, Chef (CT)
Rich Curtiss, Grower (MA)
Jay Korman, Processor (CT)
Gregg Shiosaki, Culinary Instructor (ret.); Puget Sound Food Hub (WA)
Mike Devaney, Farmer Veterans Coalition (WA)
Nik Matsumoto, Suquamish Tribe (WA)
Kate Alfano, Researcher
Scott Bluedorn, Artist; Prospective Grower (NY)
John Lovett, Grower (MA)
Holly Turner-Moore, Grower/Educator, Bridgeport Regional Aquaculture High School (CT)
Chris Burns, Jamestown S’Klallam Tribe (WA)
Stephen Schreck, Salish Sea Greens (WA)
Bruce Brenner, Prospective Grower; Shellfish Farmer (WA)
Bailey Moritz, World Wildlife Fund (WA/ME)
Nicole Naar, Washington Sea Grant (WA)
Aaron Milstein, TroutLodge Inc. (WA)

Rick Milliard, Grower; Researcher (ME)
Abigail Phillips, Rhode Is. Dept. of Environmental Management (RI)
Brady Blake, Washington Dept. of Fish & Wildlife (WA)
Brandii Holmdahl, Fisheries Specialist, Washington Sea Grant (WA)
Diane Boratyn, Grower (tank culture) (WA)
JP Vellotti, Grower (CT)
Steve Schott, Cornell Cooperative Extension (NY)
Anoushka Concepcion, Connecticut Sea Grant (CT)
Jaclyn Robidoux, Maine Sea Grant (ME)

Meeting Notes

Participant ground rules:

- Represent their stakeholder group (as opposed to public or private sector role)
- Commit to open exchange of information
- Respectfully and collaboratively engage in the process
- Commit to public transparency
- Commit to sharing Work Group ideas and products via the Seaweed Hub
- Abide by Seaweed Hub “Rules of Engagement”

Purpose of Seaweed Hub Work Groups:

- Prioritize US seaweed industry challenges and/or needs in the following areas:
    - Regulations
    - Marketing
    - Post-Harvest Processing
    - Production Systems
- Explore solutions to these challenges/needs
- Develop practical, achievable strategies or plans that could help advance the emerging US seaweed industry. Implement if feasible.
- Nature of outputs are up to Work Groups (no template). Possible outputs:
    - Plans or strategies
    - Reports
    - Research priorities
    - Fact sheets

Process

- Meet bimonthly
- Work takes place during meetings; no ‘homework’ (unless self-assigned)
- Deliberate on objectives and how to make progress
- Discussion (full group or breakouts in sub-groups)
- Vote on decisions

What other Work Groups are tackling:

- Regulations
    - Looking at multiple jurisdictions and permitting efficiency for lease sites
    - Examine food safety hazards for seaweed products
    - Permitting for establishing markets
- Post-Harvest/Processing
    - Invest in feasibility study to recommend a framework to establish a Regional Processing Model that can be adapted by different states.
    - Research product innovation by identifying existing and new processing technologies.
- Marketing
    - Defining what market development is, what should the end goal be?
        - Consumer education campaign
        - Product development needs and opportunities
        - Pros/cons of industry association or science industry institute

Production Work Group - Progress & Status:

The Production Work Group considered a wide range of production-related challenges at the March 2020 Seaweed Symposium, ultimately selecting the seven goals listed below as potential focus areas. Participants also proposed a set of practical, achievable objectives under each goal (for details, see earlier Production Work Group meeting summaries posted on the Seaweed Hub website). Work Group members have since narrowed the seven goals down to three top priorities, shown in bold:

- **Improve seed stock supply**
- Develop and deploy monitoring
- **Improve farm design/site selection**
- **Gear and operations efficiencies**
- Addressing permitting complexity
- Climate change resilience/adaptation
- Reducing user group conflicts

The objective of this meeting is to determine which of the **three priority goals** will be the focus of our plan or strategy. We'll accomplish this through an anonymous polling process. Participants will first rank the top three goals, and then consider and rank a set of objectives under the top-ranked goal.

Questions and comments related to this process:

- Q: Why aren't we focusing on permitting challenges? Without permits, everything else is moot, no? A: The regulation work group is working on permitting.
- Q: What is the makeup of this Production work group? A: Members include a variety of stakeholders, not just producers.

- Q: What was the focus of the monitoring-related goal? Food safety hazards? A: The National Sea Grant Law Center is currently convening regulators to identify food safety concerns.
- Comment (Anoushka): some of our members (e.g. chefs) may be wondering how they can contribute to production-focused discussions. The Seaweed Hub steering committee feels it's important to consider these issues from a variety of viewpoints. For instance, if chefs want domestically-raised dulse but growers don't have access to dulse seed, that's a production challenge. Chefs can help growers understand and adapt to their market.
- Comment: Farm design seems less forward looking than the other 2 priority areas.

Voting on top Goal and Objective

Practiced using Poll Everywhere to ensure that members were comfortable with this voting system. Reviewed the top three priority goals and related objectives:

1. Goal: Improve Seed Stock Supply
    a. Objective: Identify nursery facilities and share list with growers
    b. Objective: Increase capacity of facilities
    c. Objective: Workforce development
    d. Objective: Further research and develop seed supply
2. Goal: Improve Guidance for Site Selection/Farm Design
    a. Objective: Collaborate with Greenwave to improve their site selection tool
    b. Objective: Standardize industry nomenclature and procedures to facilitate preparation and review of permits
    c. Objective: Compile and update existing farm infrastructure guidance
3. Goal: Improve Efficiency of Gear & Operations
    a. Objective: Develop technology/methodology to improve efficiency of farms

Re: the 3rd goal, Anoushka noted that a project looking at infrastructure and costs of seaweed farms was recently funded.

Participants asked to rank top three goals (n=18). Results in rank order; top choice in bold:

1. **Improve Seed Stock Supply**
2. Improve efficiency of gear and operations
3. Improve guidance for farm site selection and farm design

Participants then asked to rank the four objectives under 'Improve Seed Stock Supply' (n=16). Results in rank order; top choices* in bold:

1. **Identify nursery facilities and share list with growers**
2. **Increase capacity of nursery facilities**
3. Advocate for research and development
4. Support workforce development

*the two highest-ranked objectives received roughly equal votes. At our next meeting, we'll consider whether and how we'd like to tackle both of these objectives. Anoushka commented that other work groups have approached decisions like these in a similar manner.

Members were invited to volunteer if they're especially interested in working on a particular objective. John Lovett, Aaron Milstein and Jaclyn Robidoux expressed interest in identifying nurseries.

Questions and comments related to the top-ranked goal and objectives:

- Comment: A nursery list seems like it will be very regional by nature; it may make sense to develop regional sub-groups.
- Q: is this nursery list limited to kelp, or will it include other seaweed species? A: no reason to limit it to just kelp.
- Q: What about regulatory challenges or geographic boundaries to moving seedstock? A: Our seaweed nursery list could also detail any restrictions that might limit where a hatchery's seed stock could be sourced from.
- Comment: A nationally-managed seed bank would also be very helpful. Anoushka: we can discuss this further, but a seed bank is likely outside the scope of this work group.
- Q: If we're compiling lists of nursery facilities, since there's a lot of R&D to be done in this sector, can we also make a point to collect information on research facilities with nursery capability in addition to the commercial facilities? A: Yes. Again, the ECSGA shellfish hatchery list provides a precedent for collecting and reporting that sort of information.

2021 Meeting Schedule

Suggested Fridays at 10:30am Pacific/1:30pm Eastern as a regular day and time for these bimonthly meetings. Most folks responding in the chat seemed to indicate that this would work. Anoushka noted that Shannon Kelly from CT (not present) may have challenges with that time.

Objectives for Next Meeting

Discuss how to tackle the selected objectives: identify nursery facilities; and increase capacity of nursery facilities.