

# SEAWEED HUB - Production Work Group Meeting

April 24, 2020; 9:00-10:30am Pacific

## Agenda:

1. 9:00am Welcome & Orientation [co-facilitators Josh Reitsma & Meg Chadsey]
2. 9:05am Round-the-Room [all]
3. 9:20am Greenwave Site Evaluation Workbook [Greenwave Programs Director Kendall Barbery]
4. 9:50am Seaweed Symposium Updates [Josh, Meg & CTSG Lead Anoushka Concepcion]
5. 10:00am Production Work Group Priorities [all]
  - a. review focus areas and potential early actions identified at Symposium
  - b. do they still make sense?
  - c. adjustments for Covid-19?
6. 10:20am Operational Framework [Josh & Meg]
  - a. schedule & format for virtual work group meetings
  - b. expectations of members
  - c. opportunities for leadership

## Participants:

- Meg Chadsey, Washington Sea Grant (WSG)
- Josh Reitsma, Woods Hole Sea Grant (WHSG)
- Aaron Milstein, Troutlodge Inc. (Federal Way, WA)
- Tomi Marsh, OceansAlaska (Ketchikan, AK)
- Kendall Barbery, Greenwave (New England)
- Dave Hanson, Oregon Sea Grant (ORSG)
- Arron Jones, New Hampshire Sea Grant (NHSG)
- Antoinette Clemson, New York Sea Grant (NYSG); Processing Work Group Co-Lead
- Anoushka Concepcion, Connecticut Sea Grant (CTSG)
- Rick Milliard, Spartan Sea Farms (Casco Bay, ME)
- Bailey Moritz, Atlantic Sea Farms (Portland, ME)
- Bob Pomeroy, Connecticut Sea Grant (CTSG)
- Larry Mellum, Salish Center (Lummi Island, WA)
- Melissa Good, Alaska Sea Grant (AKSG); Processing Work Group Co-Lead
- Dave Bailey, Woods Hole Oceanographic Institute (Woods Hole, MA)
- John Colt, NOAA National Marine Fisheries Service (Seattle, WA)
- Karen Gray, Greenwave (California)
- Scott Bluedorn, Artist (East Hampton, NY)
- Lauren Dennis, Facilitator, WA State Seaweed Community of Practice (Seattle, WA)
- Kathy Bunting-Howarth, New York Sea Grant (NYSG)

## MEETING NOTES

### Welcome & Orientation [Meg Chadsey]

- Production is the first Work Group to meet virtually since the Seaweed Symposium. Post-symposium schedule delayed by Covid-19, but Seaweed Hub plans are resuming.
- Work Group priorities always expected to evolve; more so now due to Covid-19
- Welcomed new participants from Washington State Seaweed 'Community of Practice' (CoP): Larry Mellum, Lauren Dennis, John Colt

### Greenwave Site Evaluation Workbook [Kendall Barbery]

- Greenwave started in southern New England in 2014; now bi-coastal.
- High-touch farmer training program started in 2016: hands-on education; technical assistance at multiple stages, and on-farm support during first two years (including seed)
- Programs Director [Kendall Barbery](#) oversees
  - Training & support for emerging farmers/entrepreneurs; and
  - Innovation & partner-supported research with institutions and farmers in the northeast, California, and Alaska
- Transition: from high-touch program based in southern New England to building-out online tools & resources that can be utilized by trainees across the country. Goal: broader reach through accessible online tools, webinars, and hands-on workshops, training and farm development planning.
- Site Evaluation Workbook is the latest tool in GW's [Ocean Farming Toolkit](#) (workbook currently not accessible on GW website; provided [link to beta version](#)). Invited growers who are at this stage to try it out and provide feedback to help GW make it more interactive/useful. Planning to launch online toolkit in Sept 2020.
- To access:
  - <https://www.greenwave.org/workbook>
  - fill out info; opt in/out of newsletter; click 'Submit'
  - click to download Site Evaluation Workbook (currently Excel workbook). Acknowledged limitations of Excel; feedback welcome!
- This tool will not 'spit out' an analysis of site suitability. It's designed to help growers work through the process of evaluating sites, and identify/understand

questions they'll need to answer as they go through the farm planning and permitting processes. Developed in partnership with Nat'l Center for Appropriate Technology ([www.NCAT.org](http://www.NCAT.org)).

- 3 main sections (tabs): Site Access Evaluation; Social & Bio-Physical Characteristics; and Regulatory Considerations.
- Simple design allows users to customize (e.g. can duplicate tabs to create individual sheets for multiple sites). Print out for evaluation in the field.
- Prompts guide users to collect info about critical parameters. Click on red triangles in the top right of question cells for additional guidance.
  - Site Access Evaluation--big picture, up-front questions about requirements for a successful ocean farm operation:
    - Farm Access: ease of access throughout the growing season(s) (e.g. Is there parking? Is launch/dock accessible in winter?)
    - Seed Access: e.g. What do you hope to grow? Timing of seed availability?
    - Access to Markets: e.g. who's buying? opportunities for direct-marketing?
  - Social & Bio-Physical Characteristics
    - This spreadsheet includes drop down menus
    - Social section helps identify existing uses, coastal development.
    - Bio-physical section basically asks questions that will be on hour permit application, such as water quality classification (e.g. is your area approved for shellfish?)
  - Regulatory Considerations
    - overview of terms of leasing, permitting and costs for seaweed *and* shellfish in a small number of states, concentrated around New England *and* West Coast (CA, Pacific NW, AK)
    - Use drop down menu to populate form with state-specific details (e.g. agencies, estimated costs, required permits).
    - Covers shellfish *and* seaweed, so some information may not be applicable to seaweed farming
    - Points to state-specific aquaculture mappers and other decision tools, if they exist.
- This early-stage tool has been shared with trainees and workshop participants. Production work group members invited to download tool, and offer feedback to help GW to make it more user-friendly, more interactive, and increase functionality.
- Q&A:

- Question: Does the workbook include guidance for seaweed tank culture?  
Answer: Not specifically, but much of the content and questions are relevant
- Question: Will this tool be available to growers who are *not* enrolled in the Greenwave program? Answer: Right now, it's available to anyone who's interacting with GW through workshops/meetings like this one, or receiving technical assistance. Target: available on GW website by Sept 2020.
- Question: Was it difficult to design this tool to be both general *and* state-specific? Answer: Even though this tool looks fairly simple, it was hard! Took a lot of research; there's nuance to every state lease process. This tool will always be a work in progress; so keep the comments coming!  
Contact: kendall@greenwave.org

## Symposium Updates [Meg Chadsey, Anoushka Concepcion]

- [Seaweed Hub website](#) will be the primary means of sharing progress and resources. Recently added:
  - Several [Symposium presentations](#), including Charles Yarish's Plenary and the Nat'l Seaweed Needs Assessment Summary. 'State of the States of the Domestic Seaweed Industry' coming soon...
  - [Work Group Priorities and Actions](#)
    - All symposium participants are encouraged to read and comment on these products (regardless of work group assignment).
    - Follow your heart! Feel free to participate in whatever work group interests you. Contact Sea Grant work group leads
    - Summary of 'cross-cutting themes' (i.e. issues common to multiple work groups (aka 'cross-cutting themes') coming...
    - Current priorities and actions are just starting points. We expect work group strategies to evolve with continued stakeholder input
- Symposium Participants contact info spreadsheet will not be published on SeaweedHub.org, but has been shared with Production work group, and is available on request (email [anoushka.concepcion@uconn.edu](mailto:anoushka.concepcion@uconn.edu)).
- Q&A
  - Question: Any progress on a Hub-supported online forum to facilitate information sharing? [Meg]: This was highlighted by the Production work group, and it's something we'd like to develop and open up to the broader Seaweed Hub community. The Washington State Seaweed CoP is using Slack, and we can consider this platform. [Anoushka]: Universities have some restrictions/guidelines around use of listservs and other communication platforms. For example, someone would have to administer it. CTSG will look into it!

## Production Work Group Priorities [Josh Reitsma]

- Summarized challenges identified at Symposium (see [Symposium Production Breakout Session Notes](#) for full list)
  - Lack of standards and guidance for growers, particularly around farm economics, best practices, and site selection
    - GreenWave offered site selection tool as a potential solution
    - Maine's 'test string' approach proposed as a way to help growers identify potential sites
  - Seed stock supply especially cost, production bottlenecks, supplying remote growers, and genetics
  - Regulators don't understand mechanics of seaweed farming; in some states, there's a lack of agency 'ownership'
  - Gear and Operations Broad concerns ranging from worker safety (especially in winter); how to integrate with shellfish operations; and inefficiencies.
    - Some concerns could be addressed through mechanization, remote management, better space utilization, and 'nimbler' gear
  - Public relations: conflicts with marine space user groups, and Nimbyism
  - Monitoring needed to correlate environmental conditions with performance, and predict harmful algal blooms (HABs)
  - Climate change!!
- Priority Goals and potential actions (identified through dot voting exercise)
  - Goal #1: Improve seed stock supply
    - increase nursery capacity,
    - support workforce development
    - advocate for research & development
  - Goal #2: Improve guidance for farm site selection and farm design
    - collaborate with Greenwave to improve their site selection workbook (check!)
    - standardize industry nomenclature and procedures to facilitate preparation and review of permits
    - compile & update existing farm infrastructure guidance (e.g. CTSG & Ocean Approved manuals)
  - Goal #3: Improve efficiency of gear and operations
    - facilitate learning and information sharing overall via online forum
- Discussion:
  - Online forum to facilitate information sharing (Goal #3)
    - Higher priority, due to Covid-19 shift to online communications
    - Moderated email discussion lists (aka 'listservs')
      - usually fee-based; require oversight (i.e. a moderator)

- can get 'cluttered'; better for informing than conversation
  - Slack (<https://slack.com/>)
    - Washington State seaweed community is using Slack. Invite them to demonstrate this tool at our next meeting?
    - Concerns about information security. Forum needs to be a safe space where growers can discuss ideas without putting themselves at risk.
    - Slack hosts can set up invite-only 'closed' channels. Slack users can also direct-message each other.
  - Content could be subject to public records requests under FOIA (via government or academic user accounts).
  - Meg will investigate and summarize online platform options for the work group (see 'Online Forum Update' below).
- Covid-19 impacts to seaweed farming and work group goals
  - Covid-19 has highlighted farmers' dependence on processors; the shutdown hasn't slowed production, but it's really affected farmers' ability to move product to market. Suggestions:
    - Members of Production and Post-Harvest/Infrastructure work groups collaborate on specific projects.
    - Could be facilitated by online info sharing platform
  - It's a good time to focus on a digital PR campaign, while people are getting more of their information online. Goal: educate the public about the economic and ecological benefits of seaweed farming. Ideas:
    - Mobilize public email campaign in support of seaweed farming, research, aquaculture 'umbrella organizations'
    - Incorporate art and video.
      - allay concerns about spatial conflicts with graphic or video demonstration of gear types
      - Illustrate co-culture (e.g. steelhead trout/red algae)
    - Collaborate with Seaweed Hub 'Marketing' work group led by Jaclyn Robidoux ([jaclyn.robidoux@maine.edu](mailto:jaclyn.robidoux@maine.edu)).
    - Jaclyn is also involved with Sea Grant Aquaculture Education Network, which [met for the first time last July](#)
    - Funding for education efforts that benefit K-12 students available through [NOAA B-WET Program](#).
    - [2018 Sea Grant 'Aquaculture Communications' Vision Document](#) offers ideas, guidance.

## Operational Framework [Meg Chadsey]

- Meg proposed bi-monthly work group meetings of broader work group, with task-focused sub-committees meeting as needed.
- Next meeting ~late June/early July; Meg will follow up re: scheduling via email

## Online Forum Update

- Meg researched pros/cons of several online communication platforms: Slack (discussed above), Google Groups, facebook, and the custom community forum Ocean Acidification Information Exchange (OAinfoexchange.org).
- Re: usability
  - All require some level of oversight; not surprisingly, the more user-friendly platforms tend require the most admin support (e.g. the excellent OAinfoexchange.org is supported by >0.5 FTE coordinator)
- Re: privacy concerns
  - Facebook offers three levels of security: [open, closed and secret](#).
  - Google Groups also allows administrators to [control access and visibility](#)
  - Any platform that is administered by a public institution (e.g. university, Sea Grant or agency) will need to abide by that institution's policies, and could be subject to public records requests)
  - Institutions may have legal 'ownership' of any information published on online fora hosted under their licenses
  - Autonomous fora like the OAinfoexchange.org may be less subject to these oversight and ownership concerns
  - Ultimately, there is no way to protect abuse of community members' information and privacy *by other members of the online community*. A user Code of Conduct can establish norms and define inappropriate behaviors that may result in loss of access, but doesn't eliminate risk. The best policy is for users to assume that all content is public, and conduct exchanges of sensitive information privately, outside of the community forum.