Long Island Sound Eelgrass Collaborative Meeting – Virtual
March 11th, 2025 (10:00-12:00)

Participants: Juliana Barrett – UConn; Mike Bradley – URI; Della Campbell – NYSDEC; Jessica Canizares – TNC; David Carey – CT DEEP; Carriel Cataldi – CT DEEP; Sara Cernadas-Martin – LISS/NYSDEC; Chris Clapp – Ocean Sewage Alliance; Megan Coffer – US EPA; Emma Coffey – CT DEEP; Phil Colarusso – US EPA; Alex DuMont – NEIWPCC; Barley Dunne – East Hampton Shellfish Education and Enhancement Directive; Thaïs Fournier – RI DEM DMF; Eve Franklin Lynes – SAVE Environmental; Julia Frees – Remote Ecologist; Jessica Griffin – Northeastern University; Torrance Hanley – Sacred Heart University; Steve Heck – Stony Brook University; Athena Hermann – Dominion Energy; Emily Herz – CT DEEP LWRD; Faith Hosie – UConn; Randall Hughes – Northeastern University; Shauna Kamath – NYSDEC; Jason Krumholz – CT NERR; Matthew Leason – UConn/CT NERR; DeAva Lambert – CT DEEP; Yonghao Li – The Connecticut Agricultural Experiment Station; Laura Logozzo – Hudson River Foundation; Katie Lund – CT NERR; Sabrina Lyall – CT DEEP LWRD; Niall McGrath – Robocean; Alisha Milardo – CT Audubon; Sophie Moniz – Connecticut College; Jon Morrisson – USGS; Kevin O'Brien – CT NERR; Suzanne Paton – USFWS; Sabrina Periera – NOAA National Marine Fisheries Service; Carl Persson – Ocean Solutions, Inc.; Maria Rosa – Connecticut College; Courtney Schmidt – Narragansett Bay Estuary Program; Eric Schneider – RI DMF; Steve Schott – CCE; Kelly Streich – CT DEEP; Cayla Sullivan – US EPA; Hannah Vagts – Fishers Island Seagrass Management Coalition; Robert Vasiluth – SAVE Environmental; Jamie Vaudrey – UConn/CT NERR; Emily Watling – UConn/CT NERR; Harry Yamalis – CT DEEP

I. Welcome and Overview

II. Draft BMPs for Seed Transport: Update & Discussion – Steve Schott, Cornell Cooperative Extension

Steve Schott gave a presentation to overview a new draft guide outlining best management practices (BMPs) for seed transport, harvesting, and restoration. Sections of this guide include seed harvesting - broken down into meadow selection, assessment, monitoring; flower shoot harvest; and seed processing, which includes flower shoot holding, seed cleaning, processing, sterilization, storage, and viability. A draft of the guide will be available to the Collaborative for review prior to the 2025 harvest season.

Q&A

Are there any concerns of sterilization in long-term storage affecting germination rates?

- For the most part (e.g. sodium hypochlorite), most of the papers did not find significant differences between the control and the treated seeds, though these were evaluated after holding. Holding can confound this and cold storage over long periods of time can impact other factors.
- There are some concerns about copper sulfite and nano-silver having an impact, but there is not enough research to prove anything. Any information that could be shared would be greatly appreciated.
- There is not adequate information at this point on long-term storage impacts on germination – so this could be an opening for a future research project.

You asked for photos – is there any other information we could provide that would be helpful to assist on this draft?

- When the draft gets sent out to the Collaborative, Steve would welcome expertise, information, or data from anyone that has additional experience on this topic, including photos that could be added to the guide.
- The hope is for this to be a living document to get people thinking about this topic, with updates continued to be made with new research and knowledge.

If you are putting seeds out later in the fall, do they immediately go into cold storage, or do you wait a certain amount of time?

- We usually hold them in the flow-through tanks with the thought that we will put them out based on schedules, weather, and when we see a lot of germination in the silos. We have them in ambient temperature water – not in high-flow. Constant flow-through helps wash and break the dormancy early. (Steve has been unable to find a great deal of information on this in the literature).

You mentioned sterilized seawater a few times in the holding tanks. Can you please elaborate on what that entails?

- Sterilized seawater was used to rinse the sterilizing agent off, not used in the holding tanks. Sterilized seawater is kept in flasks if seeds were to be held in it.

Have you considered oxygen nanobubbles to kill pathogens?

- No, but this is a topic that could be considered for further research.

Discussion on the Microbiome with Phil Colarusso:

- There is little research on the eelgrass microbiome. We usually just pull the adult shoots out for transplant, though it would be interesting to investigate if it is more beneficial to take a whole plug with the sediment or just bare roots.
- There is a visiting scientist at Northeastern University looking at the microbiome – so there may be a presentation on this work at the next Zosterapalooza. Work identifying an eelgrass microbiome could even be conducted by a high school student with enough oversight and guidance.

III. 2022 Eelgrass Management & Restoration Strategy: Status Report and Discussion – Cayla Sullivan, EPA/LISS

An update on status of actions outlined in the LIS Eelgrass Management and Restoration Strategy, with yearly goals broken down and assessed based on progress. Information was shared on implementation efforts from Years 1-2, Years 2-3, and Years 3-5+. Based off the Year 1-2 recommendations, a need for enhancing continuous water quality monitoring efforts, as well as the initiation of human activity and eelgrass monitoring projects was emphasized.

IV. 2025-2027 LISS Supplemental Proposal Elements: Continued and new activities for aquaculture-eelgrass interactions and boater education – Katie Lund, CT NERR

A brief overview of the work conducted by the Collaborative over the past few years was presented, as well as proposed future projects for 2025-2027. Priorities include improving overall understanding of aquaculture and eelgrass interactions as well as developing a pilot project following a bi-state approach for seagrass safe boating.

V. Spring Workshop Planning

A breakdown of the draft outline for the 2025 workshop was introduced, and a poll was launched to gather information from Collaborative participants on workshop dates, topics of interest, and potential poster presentations.

VI. Agency/Partner Updates

Sacred Heart University, Torrie Hanley

- Prof. Hanley provided information on a NERRs Science Collaborative grant focused on bringing together East and West coast seagrass researchers.
- They launched a survey focused on seed based restoration methods for seagrass
  - Aims to understand all aspects of practice involving seed based restoration
  - Seeks input from groups working on field-based seagrass restoration projects
  - Results will be the foundation for a StoryMap
- The survey will take ~15 mins and the goal is to enhance communication across the East and West Coasts, as well as compile a comprehensive summary of seed based methods for seagrass restoration.

Niall McGrath – Director & CEO, Robocean Ltd.

- Robocean was founded in response to some of the first seagrass restoration trials in the UK
  - The goal is to automate processes to make seagrass restoration scalable, affordable, and accessible, and provide tools and technologies to improve restoration efforts.
- Spoke to restoration practitioners around the world to understand processes, challenges, and needs, identifying bottlenecks in the restoration supply chain, specifically in planting and harvesting.
  - First focus: planting technologies
  - Summer 2025: harvesting techniques and technologies
- Goal is to bring the cost down and make this technology more accessible in rural areas.
- Collaborated with the Ocean Conservation Trust to compare the strengths and weaknesses of varying restoration methods, including the Robocean prototype.
  - Over 1500 seeds were planted in a few days
  - Other trials saw 2000-10000 seeds planted in different subtidal environments
  - In these trials, the Robocean prototype was faster than other mechanical systems. The next step is to create a remotely operated vehicle (ROV).
- The long-term goal is to create an international network of seagrass restoration projects to help inform future efforts and ensure they are scalable, affordable, and accessible.

Q&A

Has this technology been tested in the US yet?

- Not yet, but there are hopes to make connections through the Collaborative for future projects.

Zosterapalooza, Phil Colarusso

- The 34th Zosterapalooza is coming up March 26th and 27th and it is the first time this will be held as a two-day workshop.
  - The event will be held regardless of whether the federal government is open or not, though the venue may have to change.
  - Reach out to Phil for the agenda on the 26th
  - The 27th will be a focused discussion on thermal stress and thermal resilience with representatives from Canada, Ireland, and the Mid Atlantic to help address the issue. The second half of the day will highlight at least three studies working on thermal resilience.