**Freeport Shellfish Conservation Commission**

**2/8/2024**

**Meeting Minutes**

Attendees: Nelson Larkins, Sara Randall, Chad Coffin, Sarah Warren, Michael Ashby, and Marine Resource Officer Greg Mears

Quorum achieved. Meeting called to order at 6:30 pm

**Presentation from Brian Beal of the Downeast Institute**

* Graph of ocean temperatures in the winter showing gradual warming over time. There was a spike in temperatures in the 1950’s, the same things happened as are happening today with decline in shellfish populations.
* Overview of the challenges with trying to remove invasive green crabs; juvenile crabs are incredibly small. Crabs of this size cannot be contained in traditional traps. The juvenile ones eat juvenile clams.
* Overview of how clams reproduce. For reproduction to be successful, clams must be close geographically and the timing must be right. New clams are ¼ of 1 millimeter.
* Overview of experiments done with clam hatchery and seeding. If a town like Freeport would want to purchase seed from a hatchery, we would want to purchase larger clams. Unless there are floating trays or an upweller, it is likely the smaller clams would not survive.Clams have a partial refuge from predators at the high tide mark
* Demonstration of recruitment boxes
* Overview of past experiments. One in 2022 with various amounts of clams in each box with some control boxes with no clams. Results were 36% survival on average across the boxes. Collins Cove did the worst of the three study sites. Winslow Park and across-the-river did ok. Green crabs were in the boxes and must have come in through the mesh when they were very small. As green crab size increased in the boxes, clam survival diminished. As clam density in the box increases, average size of clam decreases. 2023 replication of experiment with staggered timing of recruitment boxes. There was a new species of worm that did structural damage to the wood of the boxes (surprising). 75% of the boxes were destroyed this way. Survival of the clams was correlated to the survival of the boxes. Some wild clams were likely recruited, estimations were done on the percentage. Poorest survival happened on the earliest date in June. Growth slowed down in the 3rd and 4th deployment.
* How to use this moving forward: One could use recruitment boxes for passively protect wild clams. Would work better on one side of the Harraseeket than the other. Could also use non-wood recruitment boxes (experiment at Winslow Park with the 7th grade class used composite). It’s possible to scale up the size of the boxes and recruitment should scale with it based on experiments with larger boxes.
* Questions about design relating to play sand. Clams connect to one another and their environment to anchor themselves. The sand is so that they will crawl and burrow vs stay connected together. Not having sand would slow down growth. Discussion of pros and cons of different mesh sizes. Clarifying question about timing. Putting them out in April/May, they grow quickly. Crabs tend to settle in June/July.
* Discussion of DMR giving out Quahog seed in Harpswell. The recruitment is effective but there are no tests afterward to determine whether planting is effective. Suggestion that seeding without protection is not effective.
* Question about whether Brian has used boxes with mesh sides. He has not, the sides provide structure.
* Discussion of what to do with clams once the recruitment period is done. Potential for domed netting.
* Discussion of quahog seeding. Quahogs take a lot longer to grow to legal size.

Mike motioned to approve the minutes from last month. Sara seconded. All in favor, minutes approved.

Mike motioned to present March 5th as a date to go in front of the ordinance committee. Sarah seconded. All in favor.

Discussion of the application for the conservation areas. Not likely we will have this program this year. We could put nets across the river and do other things.

Questions and and answers about the history of this process of creating conservation areas. Discussion of equity in who should have first access. Advocacy for commercial clammers having priority.

Discussion of how to move forward in preparation for March 5th. Set a working meeting for February 21nd at 4pm. Chad to work to reserve meeting space.

Mike motion to adjourn 8:23pm. Nelson seconded. All in favor.