Eelgrass & Aquaculture Interactions:

Perspectives from the CT Aquaculture Permitting Workgroup

LIS Eelgrass Collaborative Workshop
Groton, Connecticut
June 12, 2024

Sea Grant CONNECTICUT

UCONN COLLEGE OF AGRICULTURE, HEALTH AND NATURAL RESOURCES

Photo: Suffolk County Marine Program

Background

1. Shellfish aquaculture is CT is unique
2. Predominantly bottom culture
3. Gear culture introduced in 2000s
4. Isolated to a few operations in eastern LIS
5. Conflicting evidence about benefits vs. impacts of shellfish aquaculture
6. Can aquaculture and eelgrass co-exist?
7. Assumption: NO.
8. What impact does the aquaculture gear have on eelgrass?

CT Aquaculture Permitting Workgroup

Established in 2001

- CT DOAG
- CT DEEP
- Army Corps of Engineers
- CT Sea Grant

Purpose:

1. To create a regulatory process for use of shellfish aquaculture gear

Regulatory Process for Aquaculture

1. **Permission to use the space:**
    - Issuing an agreement called a lease or license
2. **Permission to place gear or structures:**
    - Required for use of fixed gear
    - Review for potential impacts to significant human uses
    - Review for potential impacts to protected species and habitats
3. **Permission for production and sales:**
    - Shellfish Sanitation Training
    - Facility and Vessel Inspection
    - Shellfish Sales Licensing

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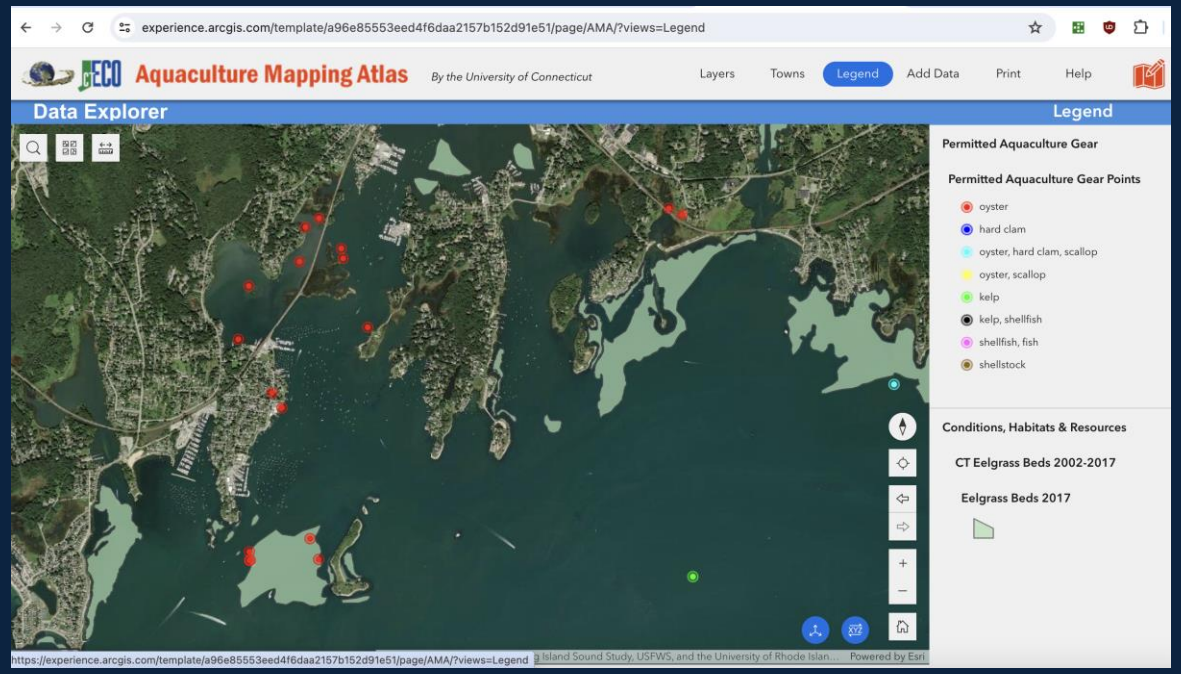
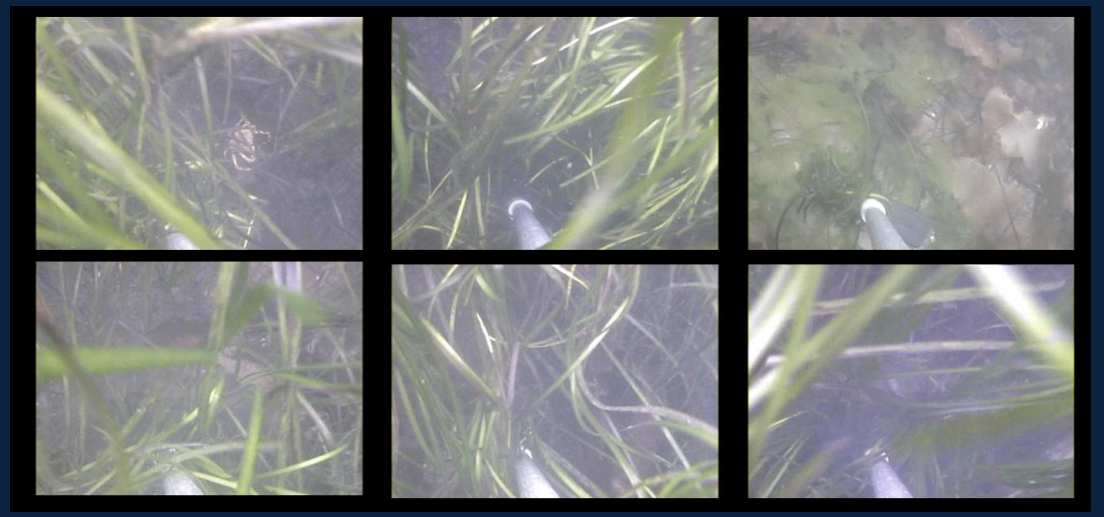
2. To help visualize how aquaculture fits within context of other coastal zone uses, habitats, species



CT Aquaculture Permitting Workgroup

Purpose:

1. To create a regulatory process for use of shellfish aquaculture gear
2. To help visualize how aquaculture fits within context of other coastal zone uses, habitats, species
3. To prevent or minimize impacts to existing uses, protected habitats, species
   - ➢ Identify research to inform management & policy
   - ➢ NOAA funded bi-coastal study



Vaudrey, J.M.P et al. 2009. Effects of oyster depuration gear on eelgrass (*Zostera marina* L.) growth rate and eelgrass sediment bed characteristics in a low density aquaculture site in Long Island Sound. J. of Shell. Res. 28(2): 243-250.

- sediment chlorophyll
- sediment organics
- eelgrass growth rate
- physical scarring to bed
- eelgrass tissue nutrients (%C & %N)

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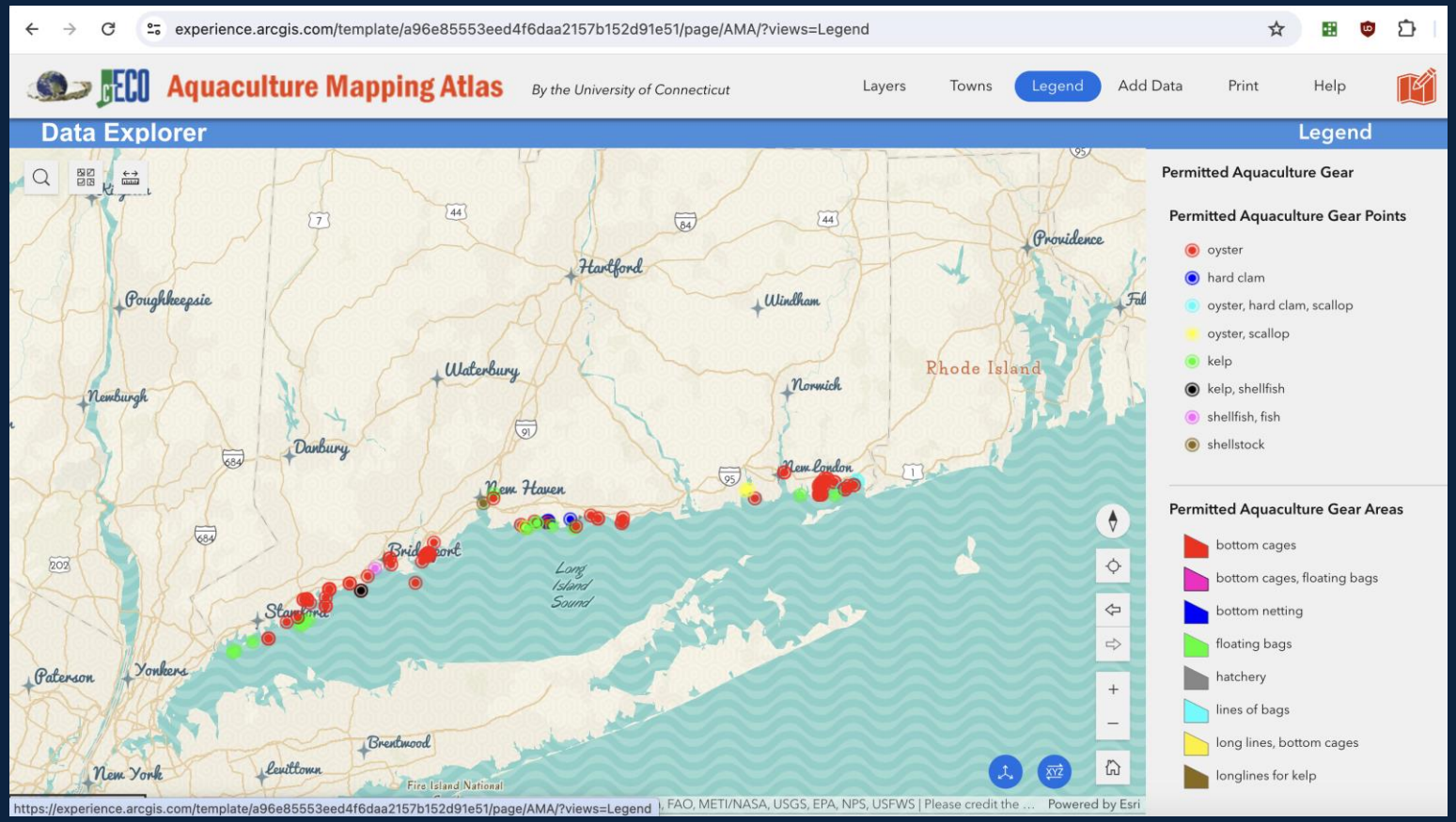
c) **assessment** every year at the onset of the growing season (May 15 through June 15) that gear will be placed at the authorized gear location(s) near SAV, the permittee shall conduct a visual assessment of the gear area, at low tide, for eelgrass. (Bed must be marked if eelgrass is present; agencies notified)

Where are we at 20 years later?

- Shellfish aquaculture gear is more prevalent



Where are we at 20 years later?

- Shellfish aquaculture gear is more prevalent
- Some minor overlap between aquaculture and eelgrass
- Eelgrass restoration mean more potential for overlap
- Can aquaculture and eelgrass co-exist?
- Assumption is YES.
- Under what circumstances?
- Workgroup setting research priorities based on gear in LIS
- CT Sea Grant award to Dr. Craig Tobias