Apr 5th, 4:00 PM - 4:15 PM

# Eelgrass donor sites: potentially overlooked impacts of restoration in Puget Sound

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## Speaker

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# Eelgrass Donor Sites: potentially overlooked impacts of restoration in Puget Sound?

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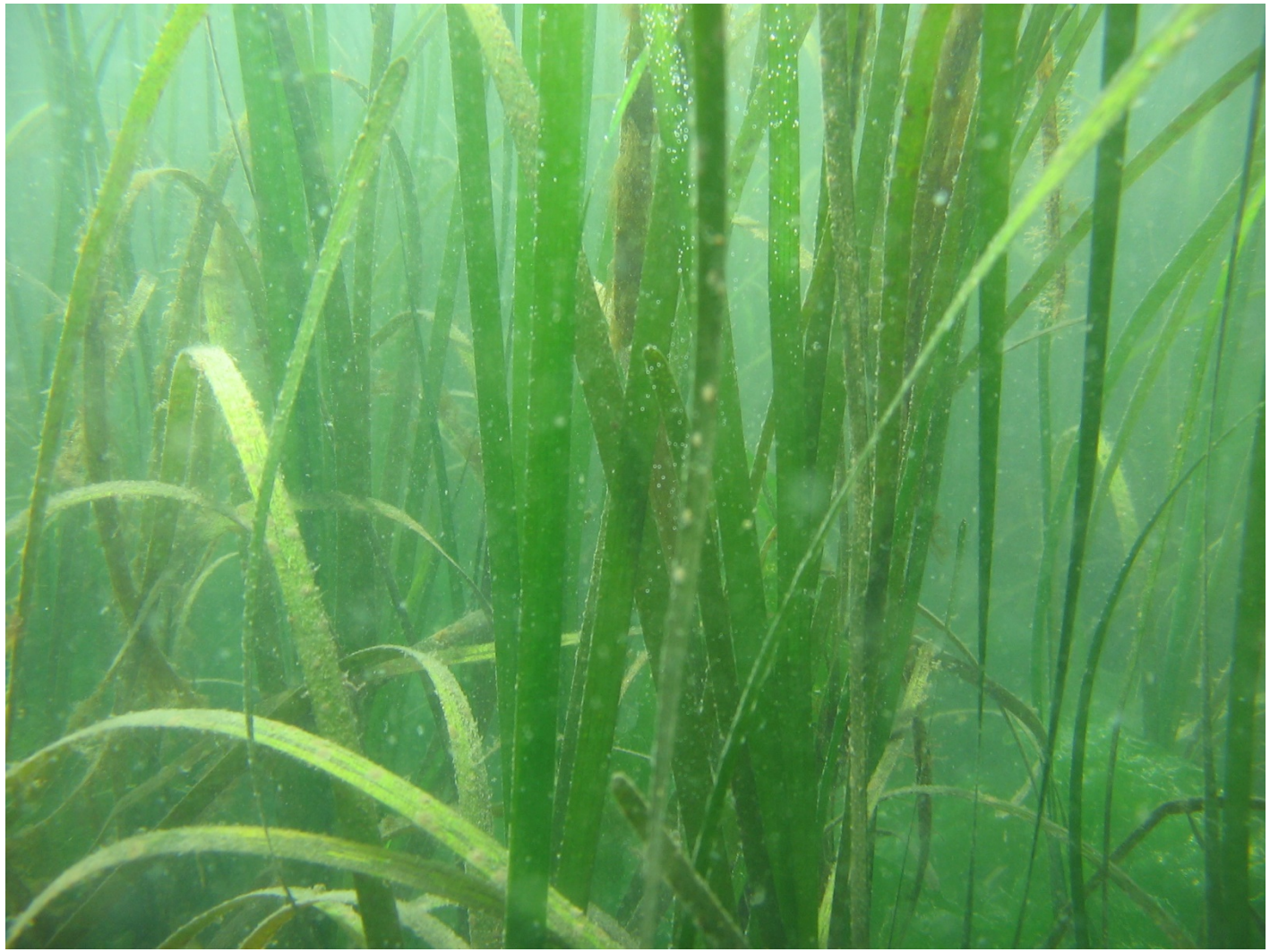
# Eelgrass (*Zostera marina*)



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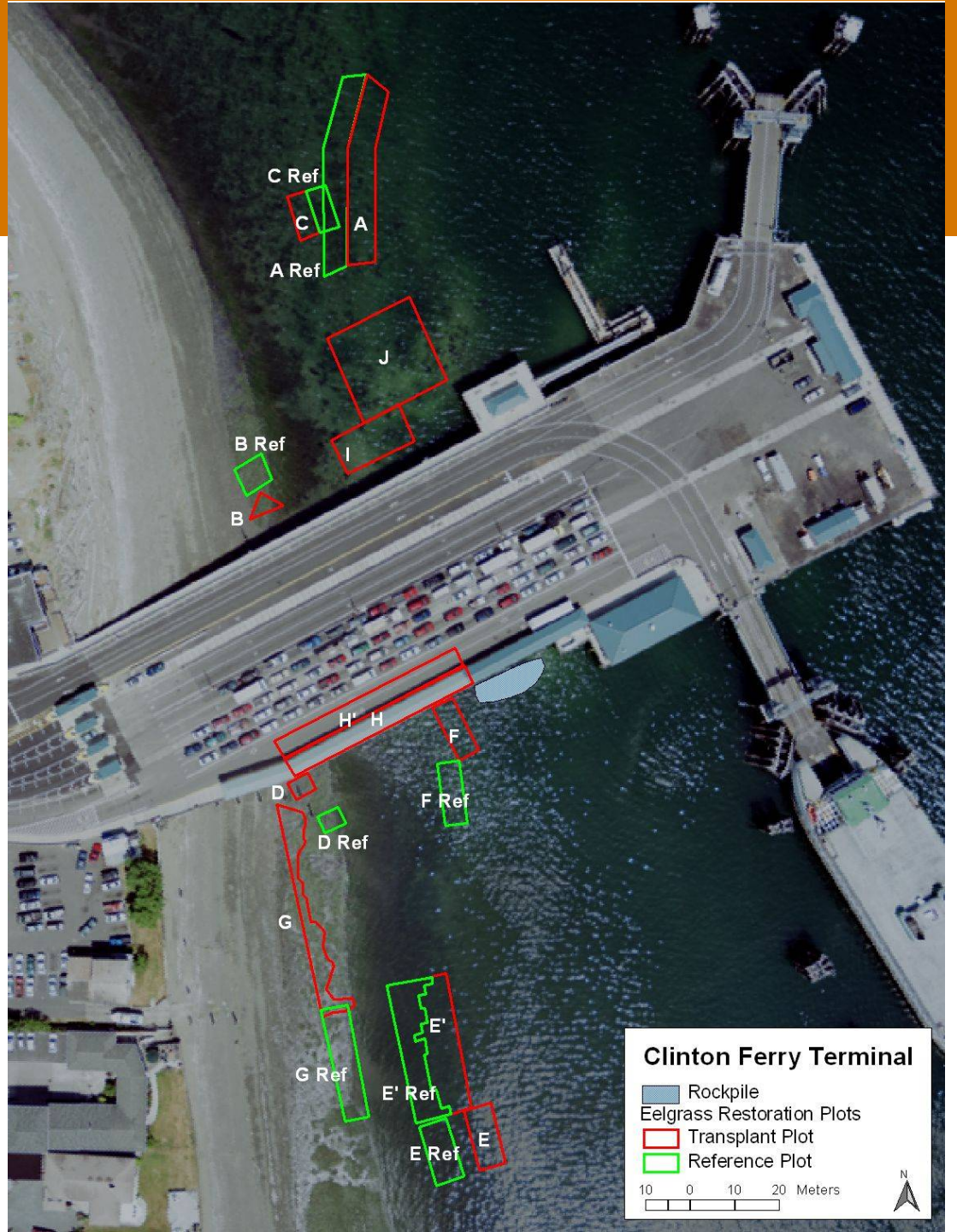
# Mitigation

- No net loss
- Mitigation ratios

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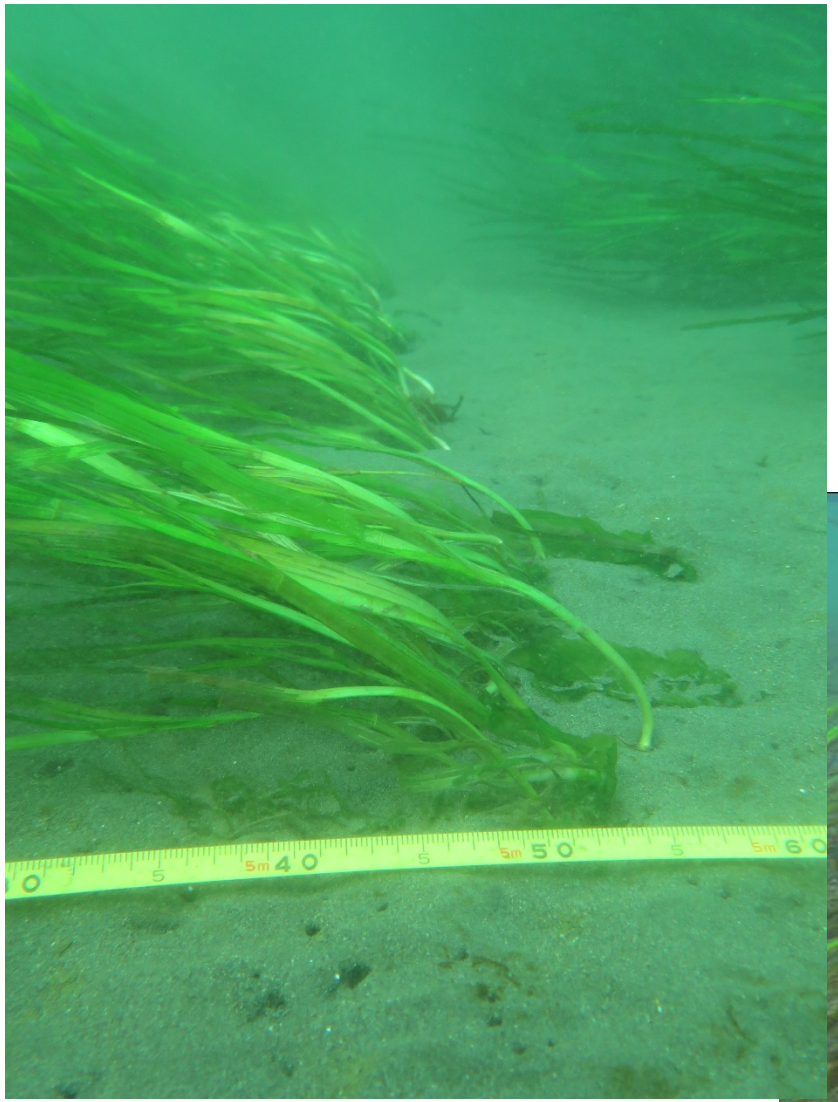
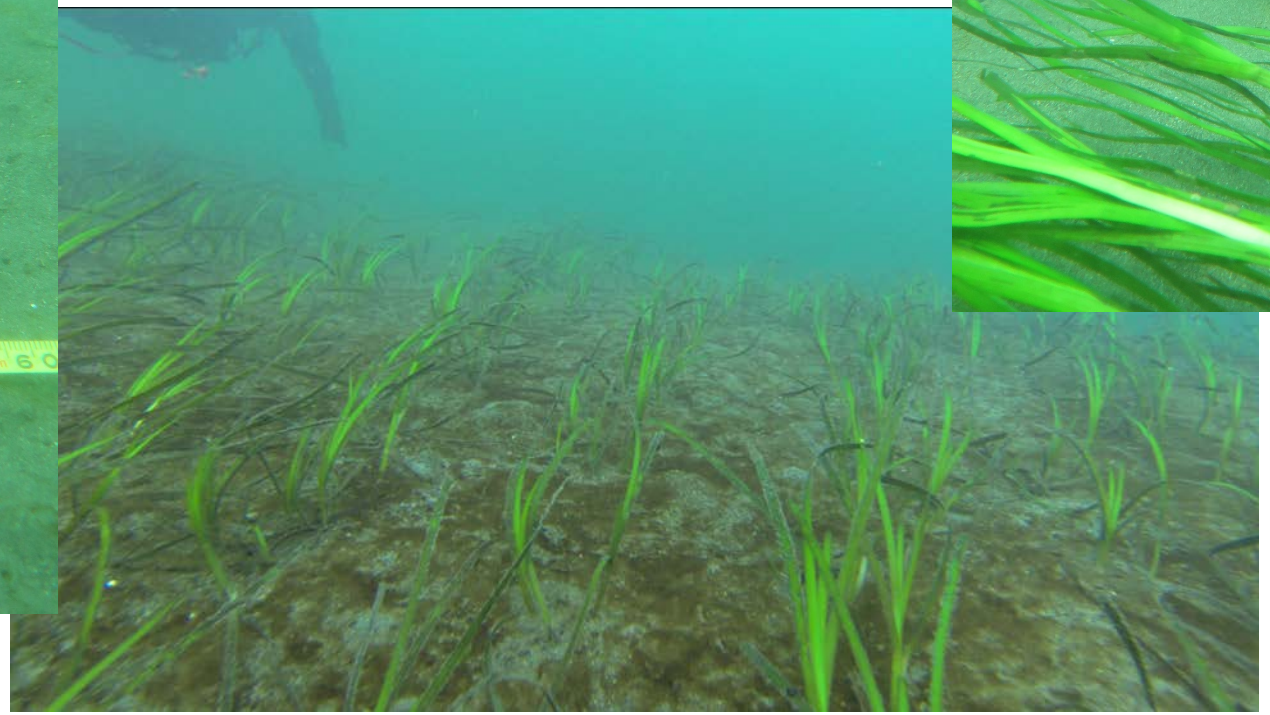
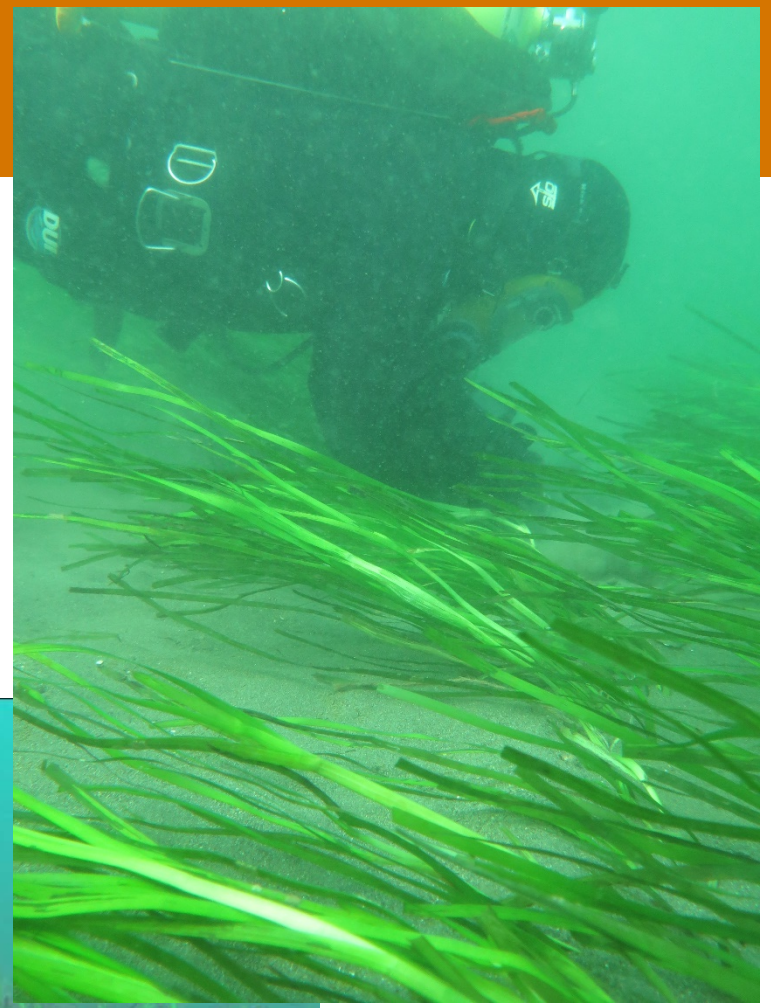
# Restoration







# Donor plants in storage

- PNNL Marine Sciences Lab (Sequim)

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# Donor meadows

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# Donor harvest best practices

- Choose substantial meadows
- Hand harvest
- No more than 5% of plants
- Spread out effort

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# Site selection

- Healthy meadows with good density
- Near existing restoration project
- If possible, good depth distribution
- 2 regions

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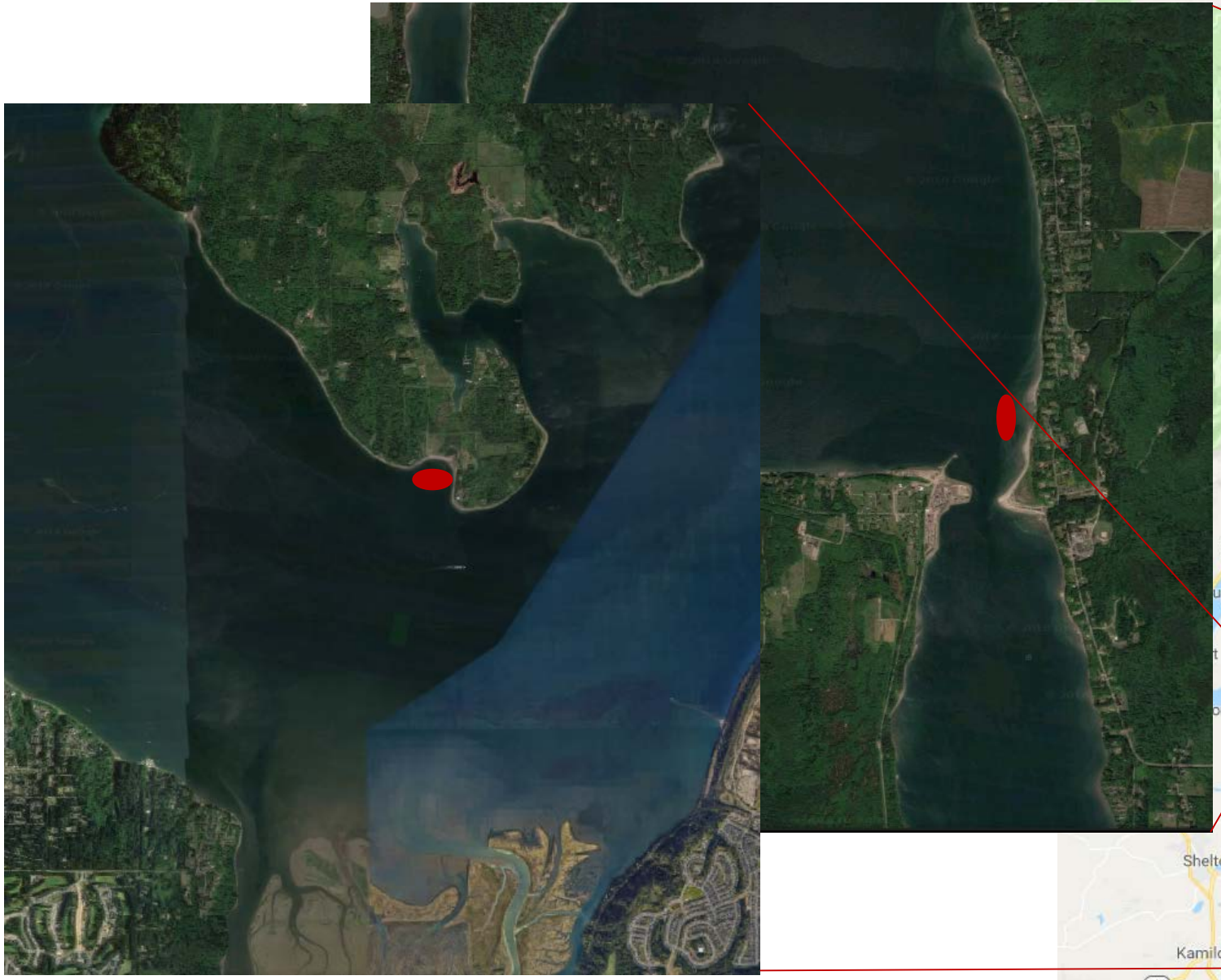
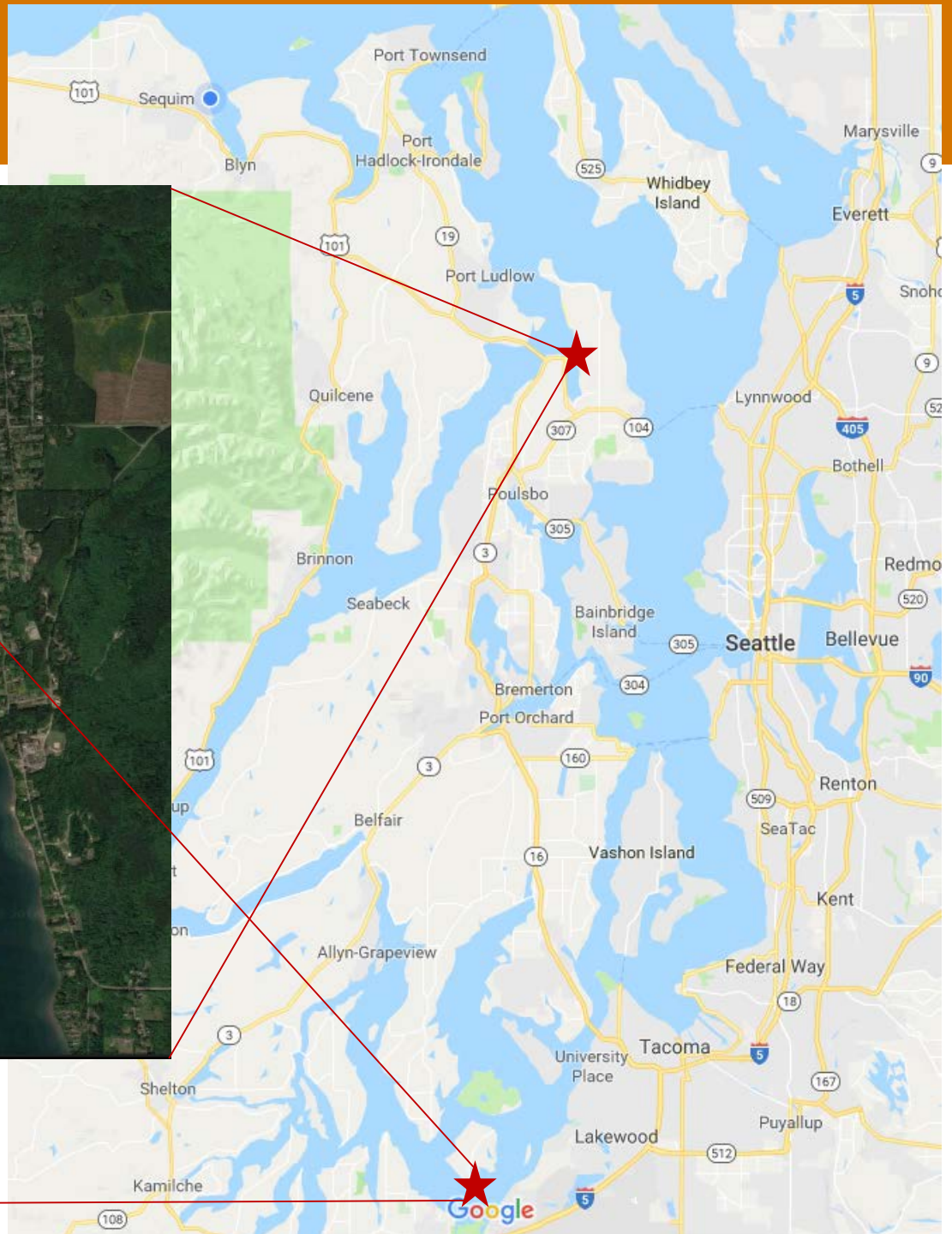
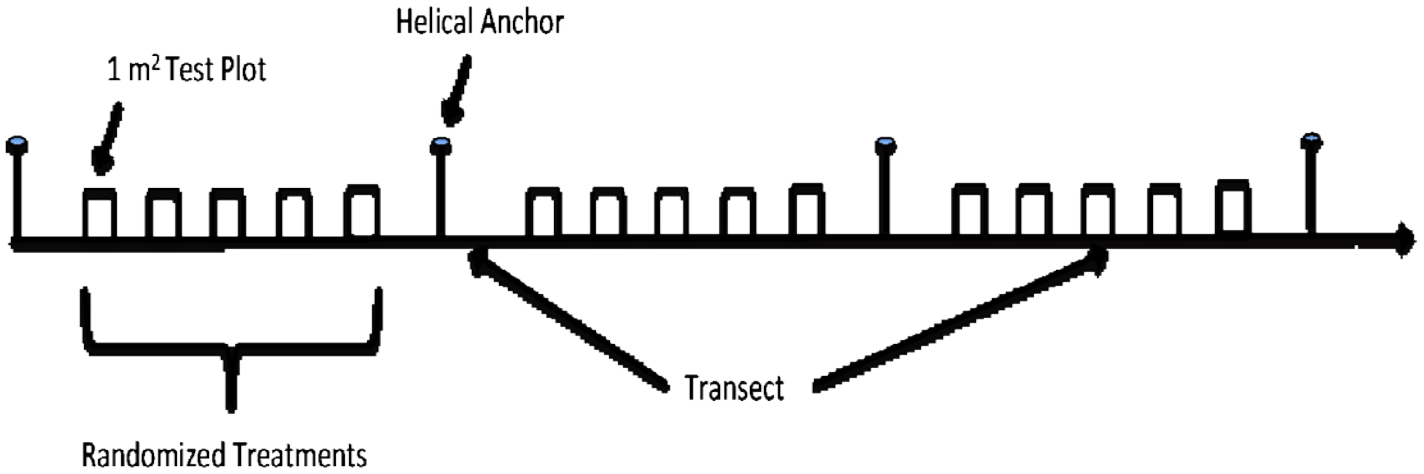
# Regional differences?





# Donor impact experiment

- Randomized block design
- 5 blocks per site
- 5 harvest levels (0, 10, 20, 30, and 50%)

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# Methodology

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# Methodology


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# Methodology

- Evaluate in 1 & 2 years

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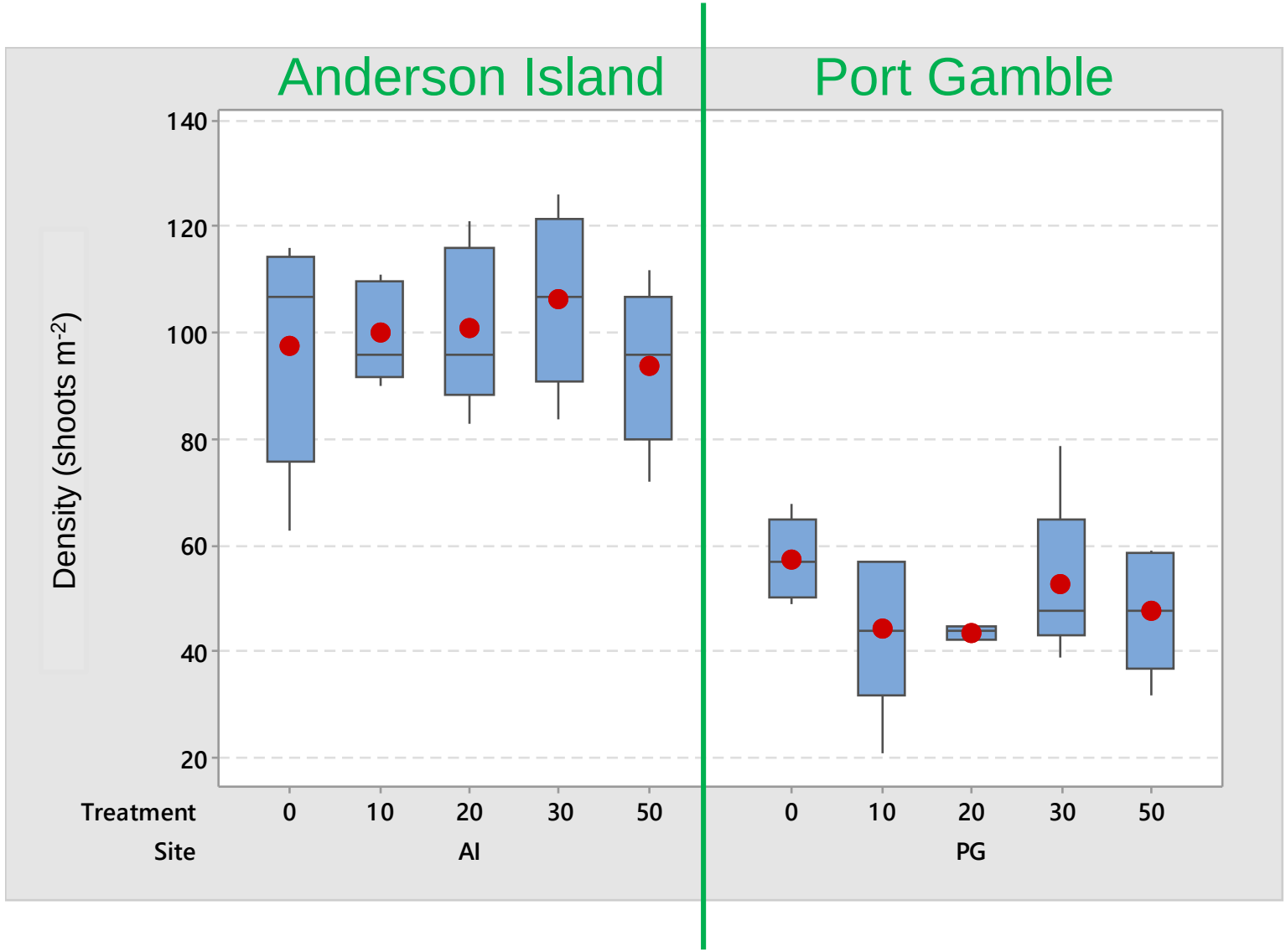
# Eelgrass Densities ($T_1$)

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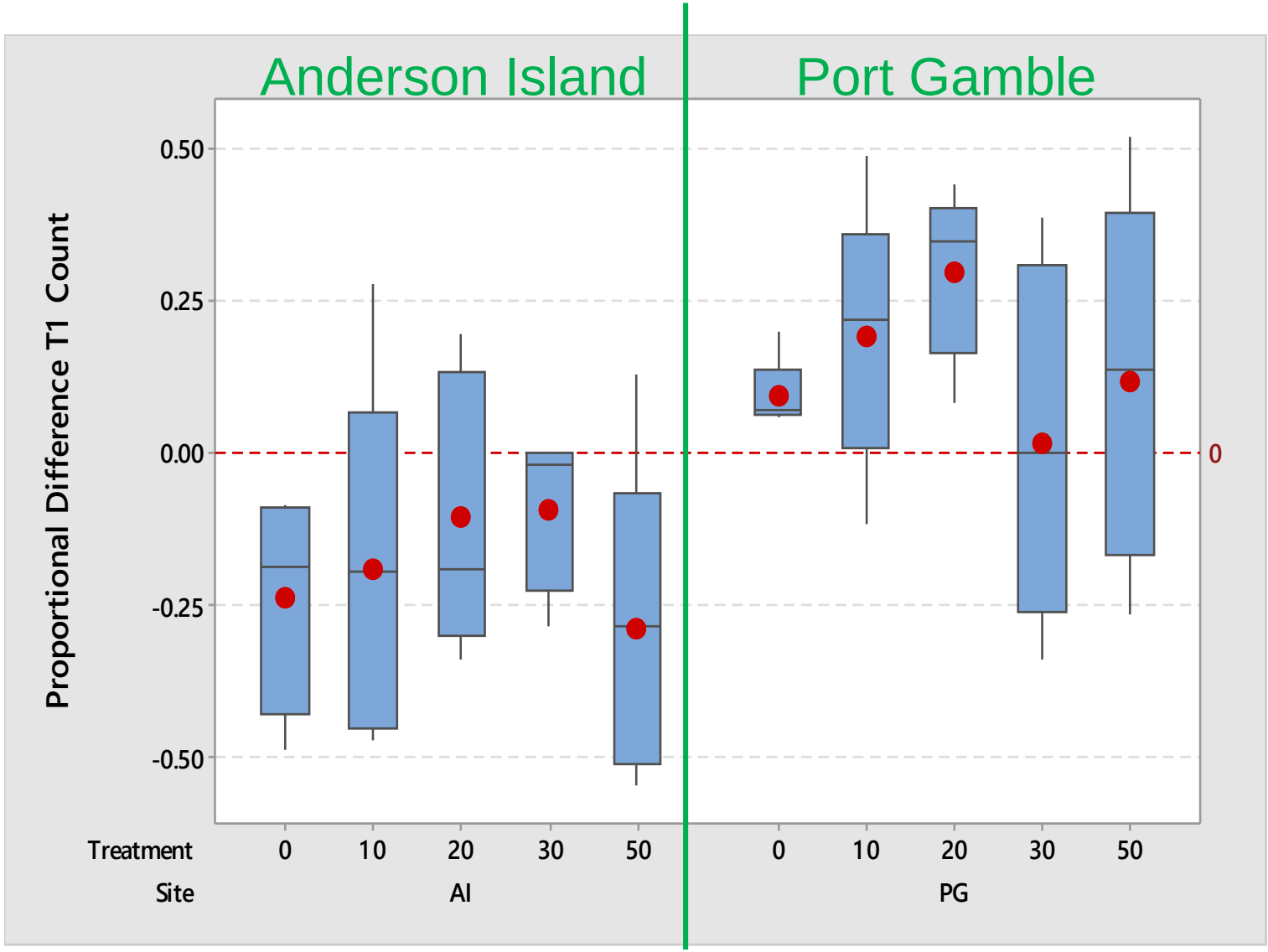
# Proportional change in density($T_1$)

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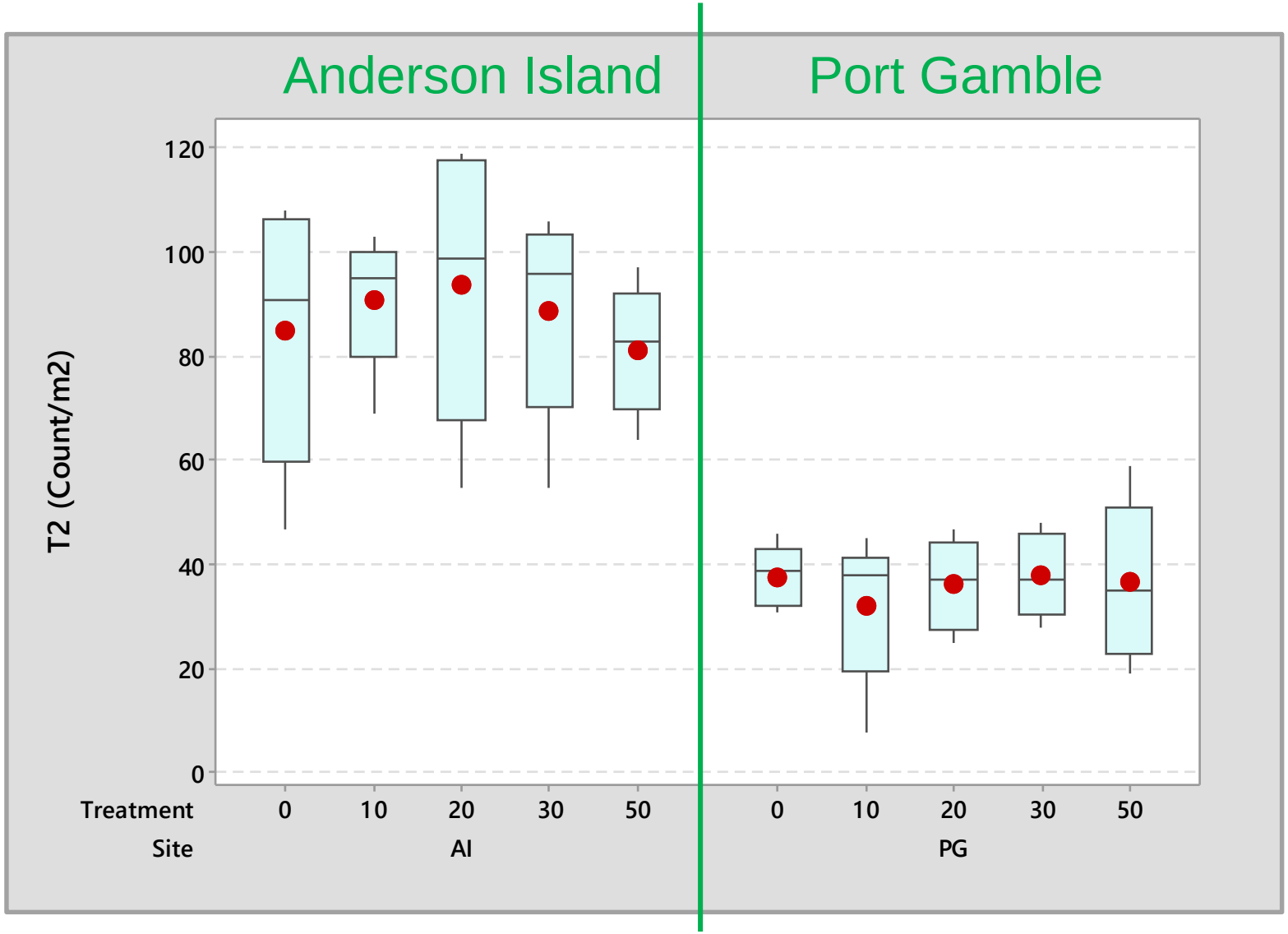
# Eelgrass Densities ($T_2$)

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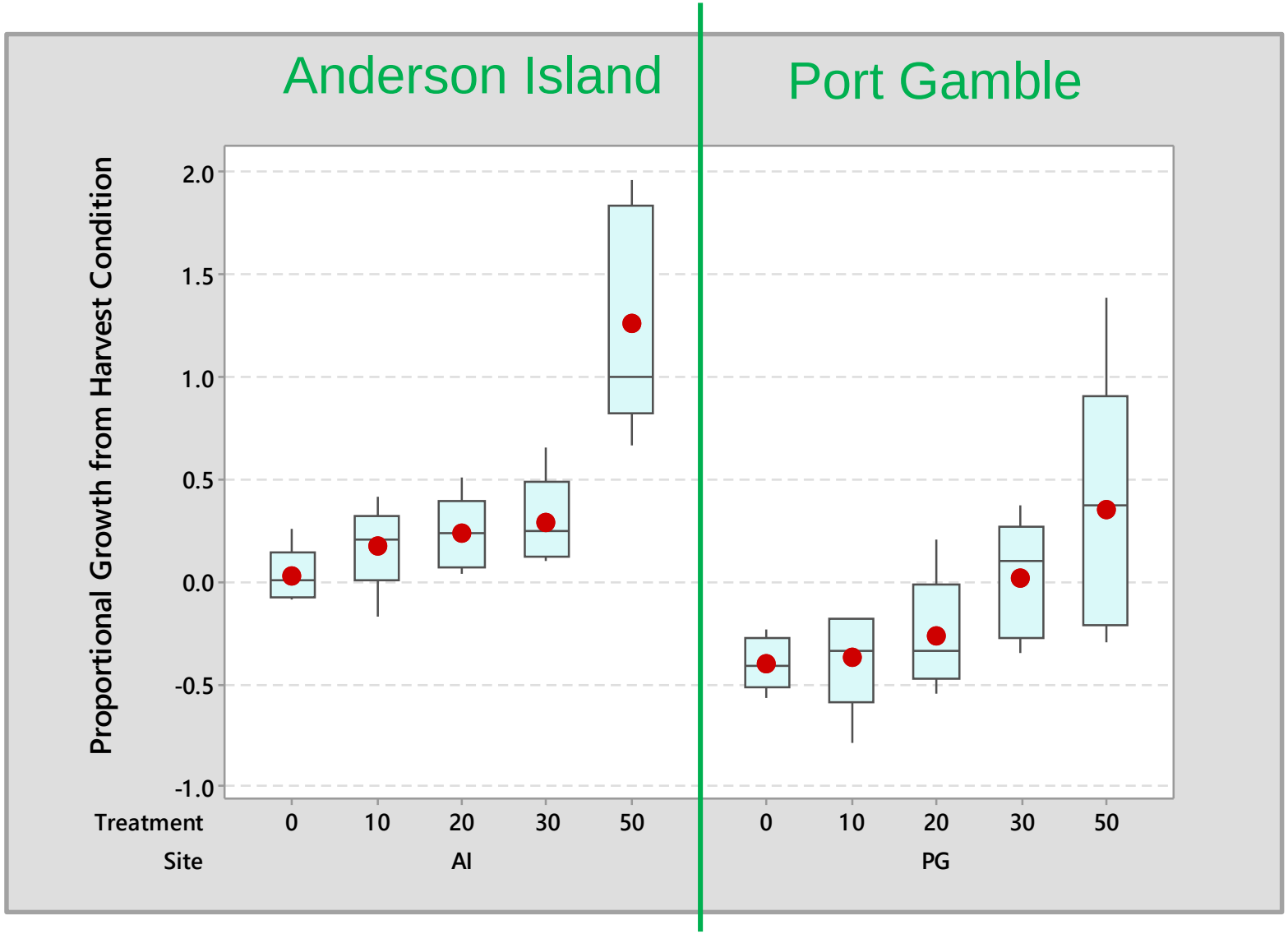
# Proportional change from harvest ($T_2$)

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# Should we harvest more than 50%?

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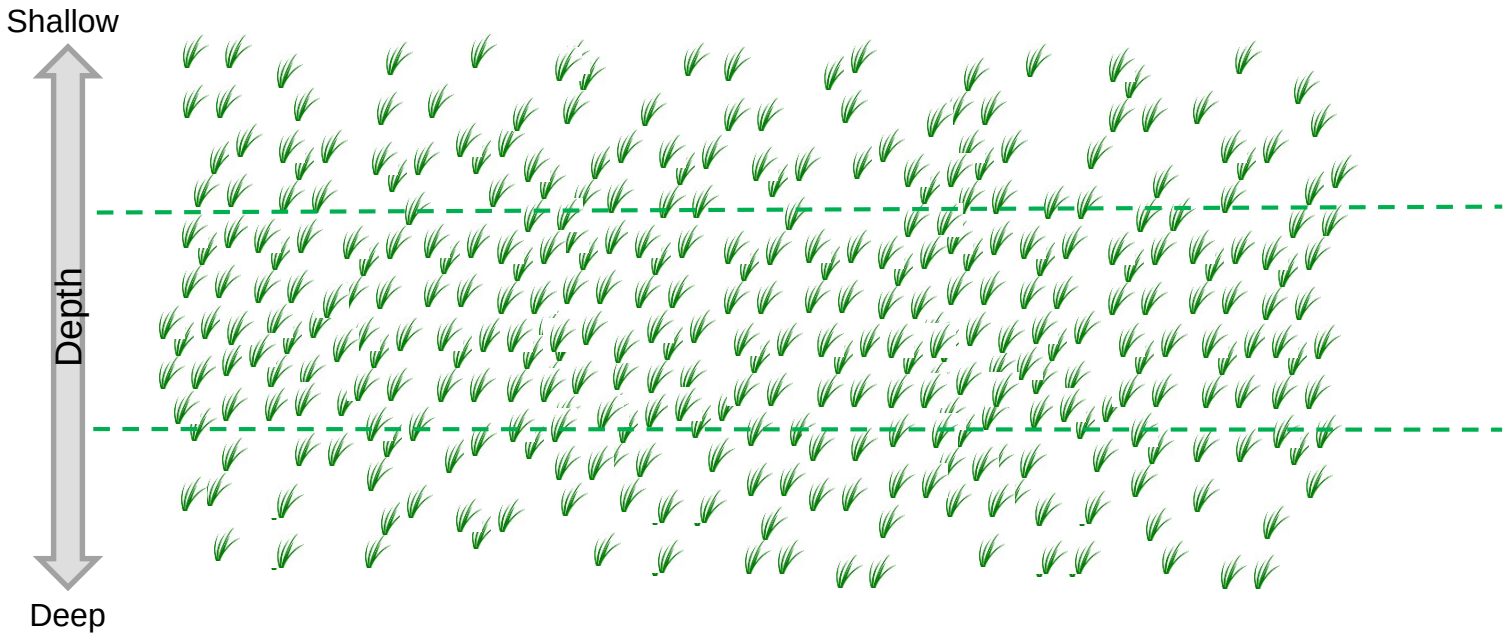
# Caveats

- We chose sites with higher densities

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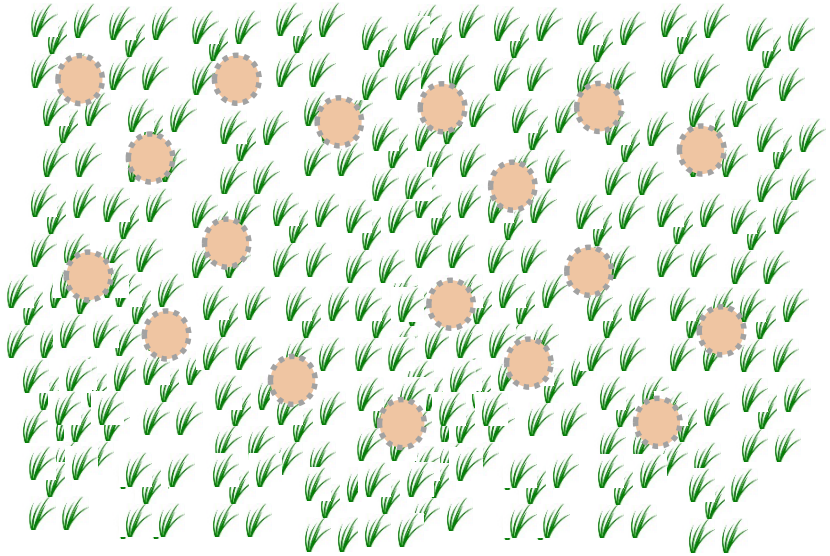
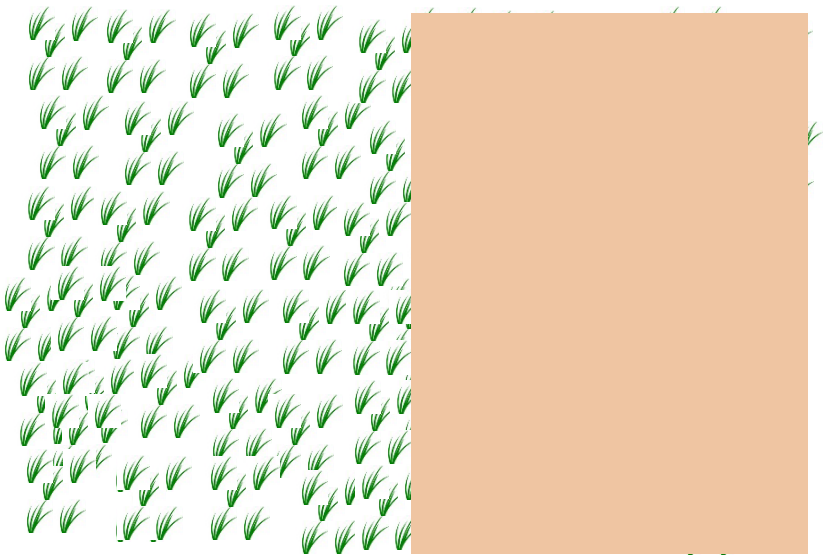
# Caveats

- We harvested small patches





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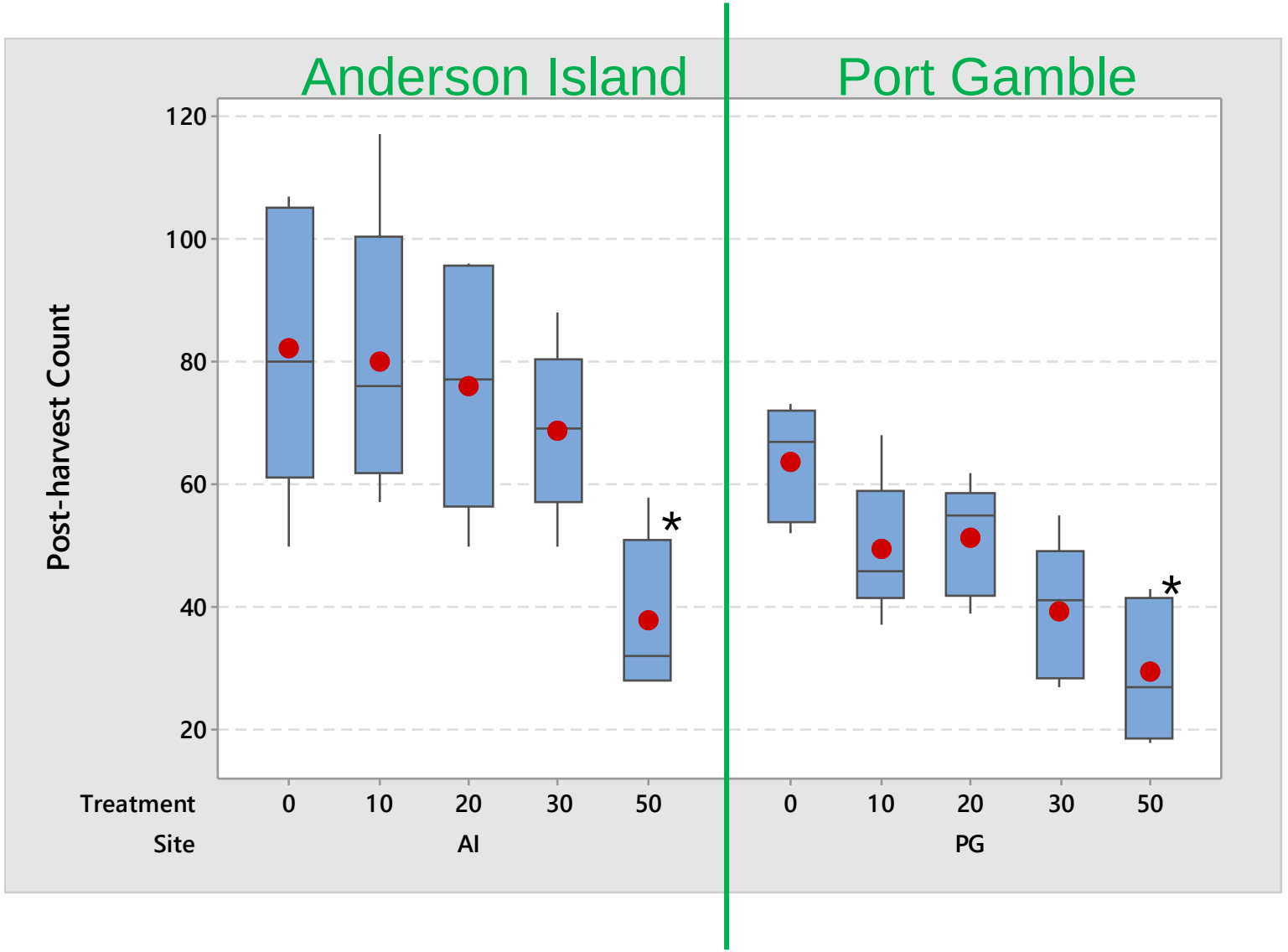
# Post Harvest Densities ($T_0$)

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# Conclusions

- Donor sites can probably recover quickly at moderate harvest rates
- Should conservatively harvest no more than 15 or 20% in dense areas
- Use best practices:
  - Remove small patches
  - Do not harvest the edges
  - Avoid low density areas

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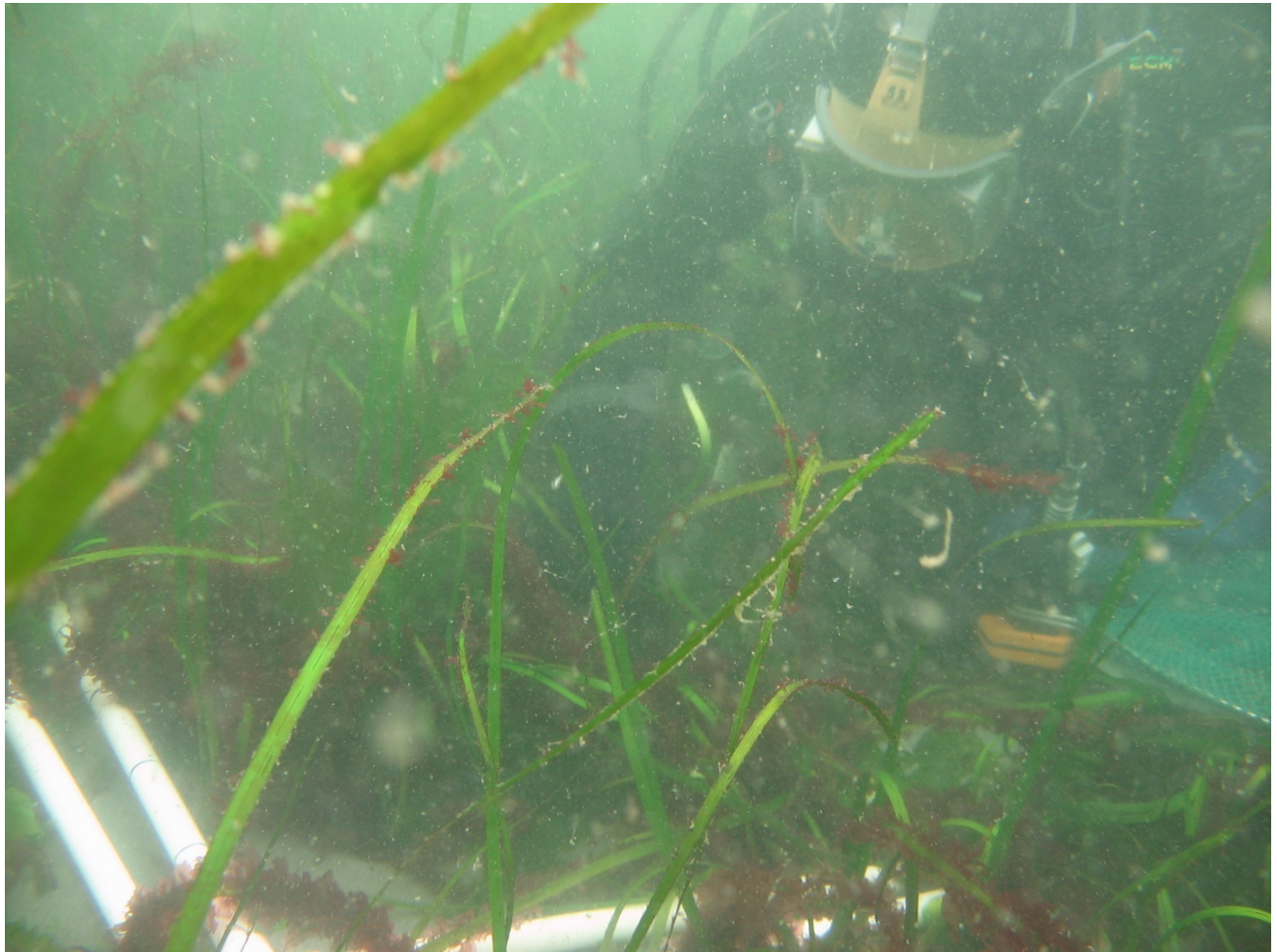
# Still needs study

- Other regional/local differences
  - Conditions
  - Donor population
- Impacts on edges and at lower densities
- Impacts of various techniques
- Repeated harvesting of the same meadow

# Thanks!

- Funding
  - Department of Natural Resources Aquatic Restoration Fund
- Field assistance:
  - Nichole Sather
  - Alli Cutting
  - Mark Wieland



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