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# RESULTS OF SURVEY ON THE STATUS OF NORTHERN QUAHOG POPULATIONS IN CONNECTICUT

**Tessa L. Getchis<sup>1</sup>, David Carey<sup>2</sup> & Alissa Dragan<sup>2</sup>**

<sup>1</sup> Connecticut Sea Grant, UConn Extension

<sup>2</sup> Connecticut Department of Agriculture, Bureau  
of Aquaculture

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# PURPOSE

- Gather info about the status of northern quahog populations in Connecticut
  - Harvest decreased over last decade
  - Anecdotal accounts of recruitment failure
  - Observations on harvest and recruitment
  - Thoughts on human or environmental factors
  - Is this a real and statewide problem?
  - Is further scientific research warranted?



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# METHODS | RESPONSES

- Online survey using Qualtrics™
- Anonymous and encrypted
- Aggregated results only
- 19 usable responses (22 eligible)\*
- 86% response rate
- Responses about harvest from leased beds and public natural beds

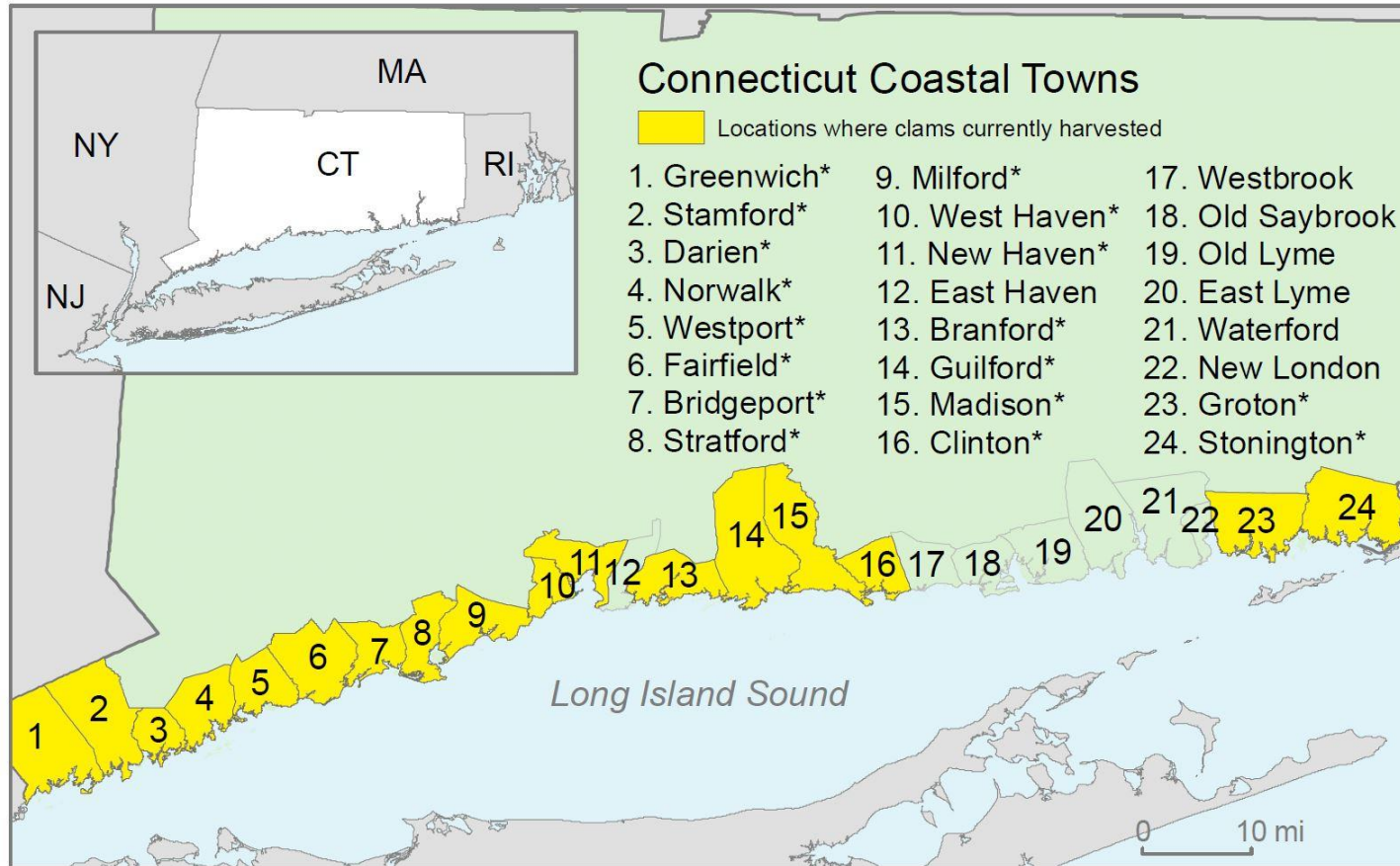


*\* Data cleaned to remove incomplete responses, duplicate IP addresses*

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# RESULTS: LEASED BED AREAS

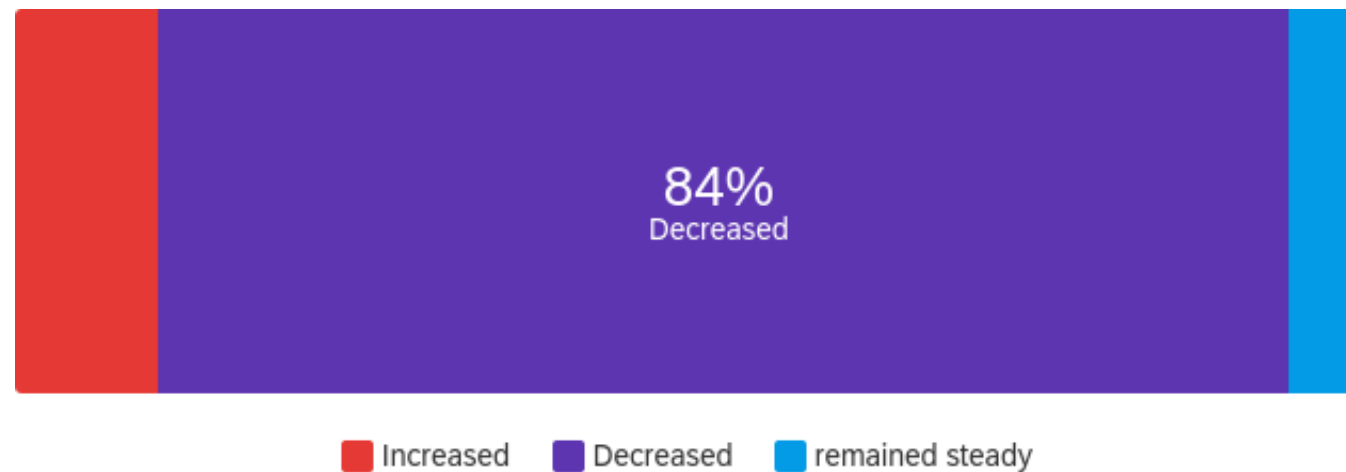


- Harvest activity in these towns
- Survey responses covering harvest in all towns

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# TRENDS IN CLAM HARVEST (GENERAL)

- Q: What has been the trend in harvest?
- A: Majority indicated decrease in harvest
- Caveat: extreme eastern LIS



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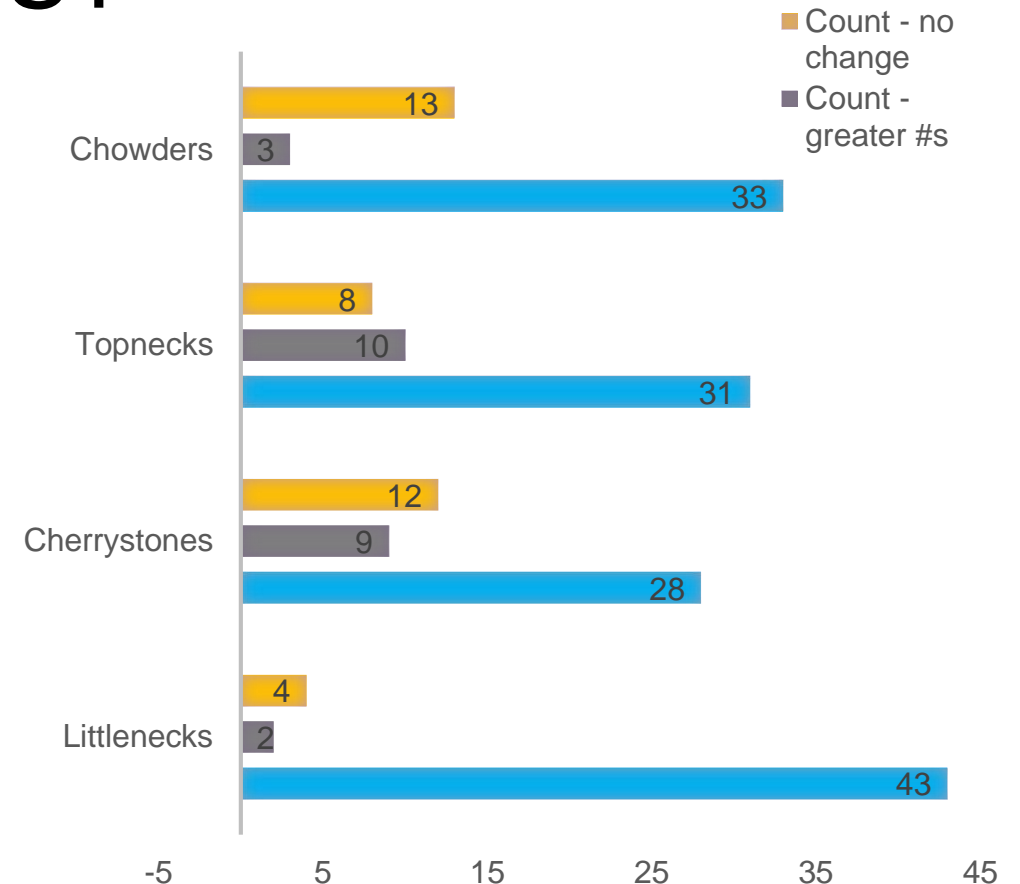
# TRENDS IN CLAM HARVEST (GENERAL)

- Q: Amount of change in harvest
  - A: not enough data; harvest decreased up to 75% in some areas from Branford to Greenwich
  - Caveat: Most respondents did not complete this question
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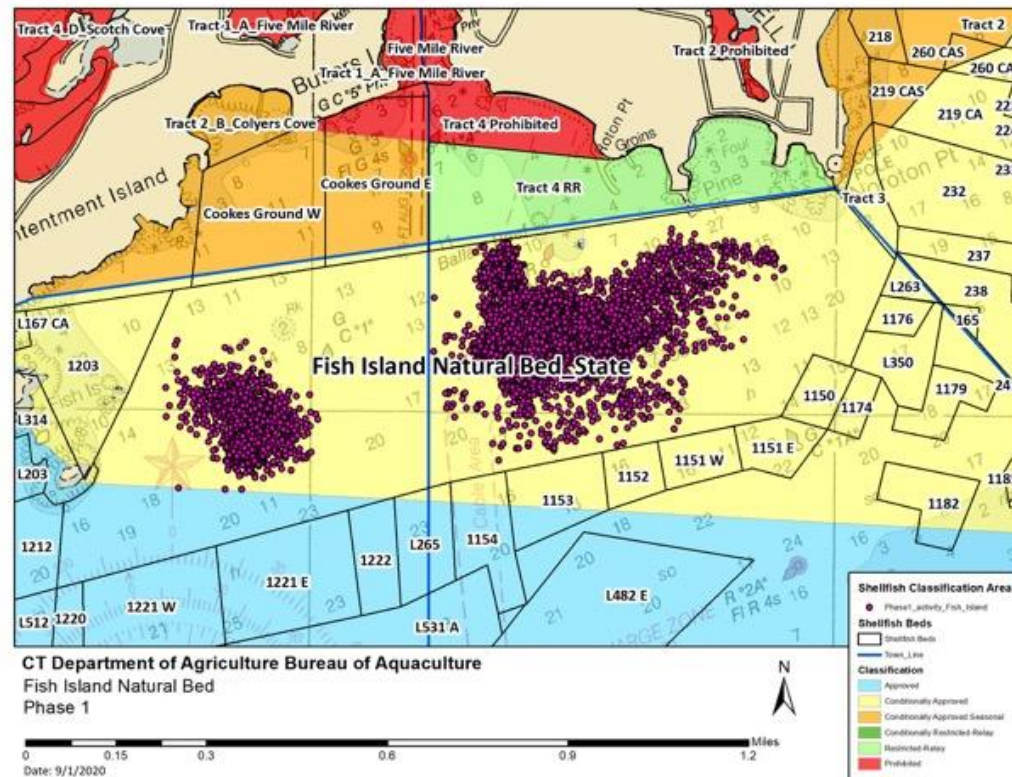
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# TRENDS IN CLAM HARVEST (DISTRIBUTION BY SIZE)

- **Q:** Even distribution or one size class?
- **A1:** Majority responded that there was overall uneven distribution of size classes, but this
- **A2:** Littlenecks less dominant across sites
- **Caveat:** A dominant size class seems apparent but is site dependent



# RESULTS: NATURAL BEDS (CONTROL)



Map showing clam harvest locations on Fish Island Natural Bed

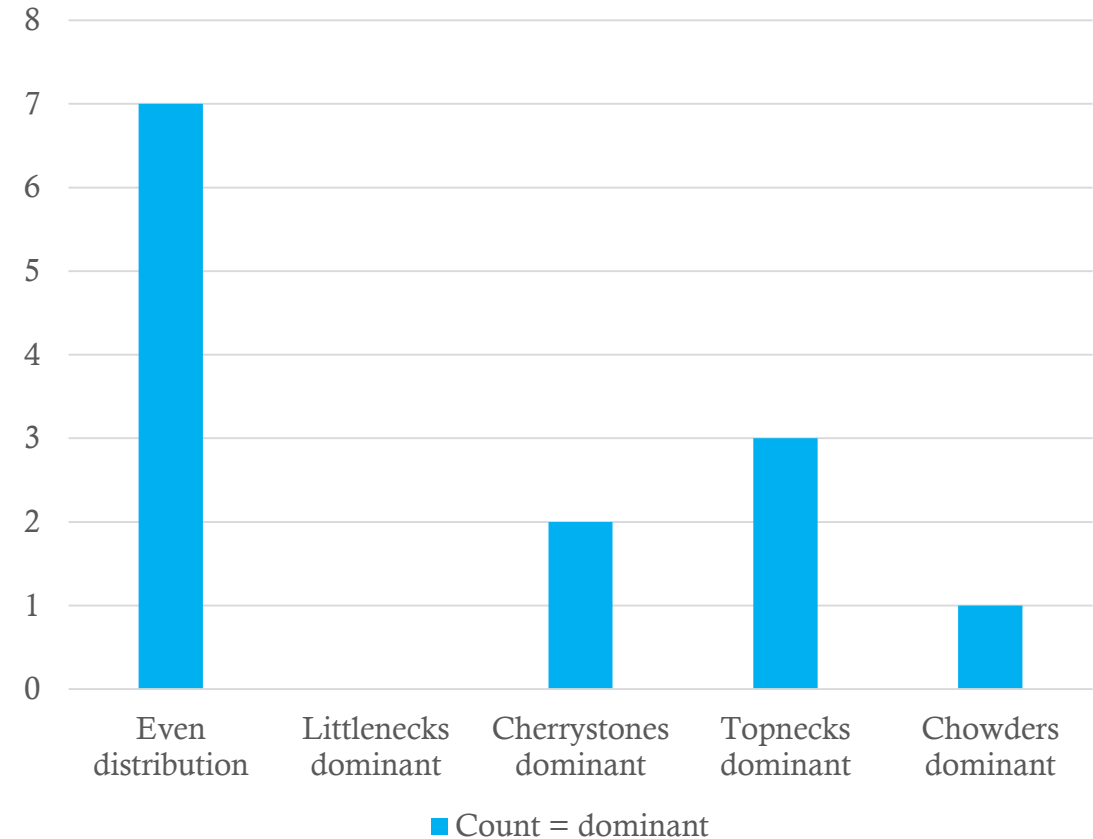
- COVID response programs allowed for clam harvest on public beds
- Participants harvested >50,000 bushels of clams, valued at \$2.6 million from the public shellfish beds
- Locations: Darien, Norwalk, Fairfield, Bridgeport, Stratford, Milford and Branford
- 2020: 13 participants; 10 survey responses
- 2021: 8 participants; 7 survey responses



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# DISTRIBUTION OF SIZES

- **Q:** Even distribution or one size class?
- **A:** More responses indicating an even distribution
- **Caveat:** Site specifics: Norwalk, Darien, Milford responses skew the data



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# HUMAN AND ENVIRONMENTAL FACTORS

- Raw sewage discharge
  - Chemicals in runoff water
  - High nitrogen levels
  - Overfishing
  - Less fishing activity
  - Observed increase in predatory species
  - Overregulation of predatory species
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# OTHER FACTORS?

- Natural environmental variability can result in inconsistent clam sets
  - An historically large set of clams occurred in the late 1990s - early 2000s
  - Increased fishing pressure with more licensees and vessels
  - Populations in some areas may be slow to recover from fishing pressure
  - No natural recruitment in some areas even after reduction in fishing pressure
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# SUMMARY

- Over the last decade clam harvest has decreased in CT by greater than 55%.
  - Is the decrease in harvest unusual, or a return to “normal” conditions following a historic set?
    - *Some evidence to the contrary:* Differences harvest characteristics from private vs. public beds
  - Do observations indicate localized or statewide effects on clam populations?
    - Clams are still found and harvested statewide, but in fewer numbers than a decade ago
    - Clam harvest may have declined up to 75% in some areas; more data needed
    - Clams may be found in higher numbers in rivers and harbors; more data needed
  - Do observations indicate an effect on clam size distribution?
    - Overall, fewer littlenecks (compared to previous decade)
  - Various factors may potentially affect recruitment, growth and survival.
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# RESEARCH CONSIDERATIONS



- **Is further scientific research or management warranted?** We think so.
- **Seek additional historic information:** Examine recruitment and harvest records from 1970s-1990s
- **Explore predator-prey interactions:** determine abundance and distribution of predatory species; conduct gut examinations
- **Examine harvest trends in areas with sewage spills and approved bypasses:** determine if harvest in these areas was disproportionately affected

# MANAGEMENT CONSIDERATIO NS



- **Designated natural beds:** a percentage of harvested clams to be planted in closed areas
- **Leased beds:** prohibit leasing of entire (traditional) relay areas
- **Restore near shore populations:** this may support bull raking and tonging which no longer exists as a commercial activity
- **Allow permitted predator control:** this may counteract affects of regulatory actions such as established minimum sizes on predatory species

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# ACKNOWLEDGEMENTS

- Thank you for participating in the survey!
- Maps: Michael Zuber, CT DOAG BA
- Images: Larry Williams, Jessie D., Inc.

