

What do people think about shellfish aquaculture in RI coastal waters?

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NOAA Social Coast Forum 2016
Charleston, SC

Overview

- The context: aquaculture in RI
- Data collection
- Findings
- Conclusions & Next Steps

Historical context of RI aquaculture



Previous page: A view inside the Narragansett Bay Oyster Company, Providence, in 1908, coincidentally the peak production year for farm-raised oysters. Growers marketed 8.7 million pounds of oysters that year.

IMAGE COURTESY OF THE RHODE ISLAND COLLECTION AT THE PROVIDENCE PUBLIC LIBRARY

“There are now, **January 1, 1912**, recorded in the books of the Commissioners of Shell Fisheries, oyster ground leased by the State as follows:

Fifteen thousand twenty-three and seven-tenths (15,023.7) acres at five (\$5) dollars per acre, and five thousand eight hundred twenty two and three-tenths (5,822.3) acres at ten (\$10) dollars per acre, making **a total of twenty thousand eight hundred and forty-six (20,846) acres**, the annual rental of which amounts to one hundred thirty-three thousand three hundred forty one dollars and fifty cents (\$133,341.50).”

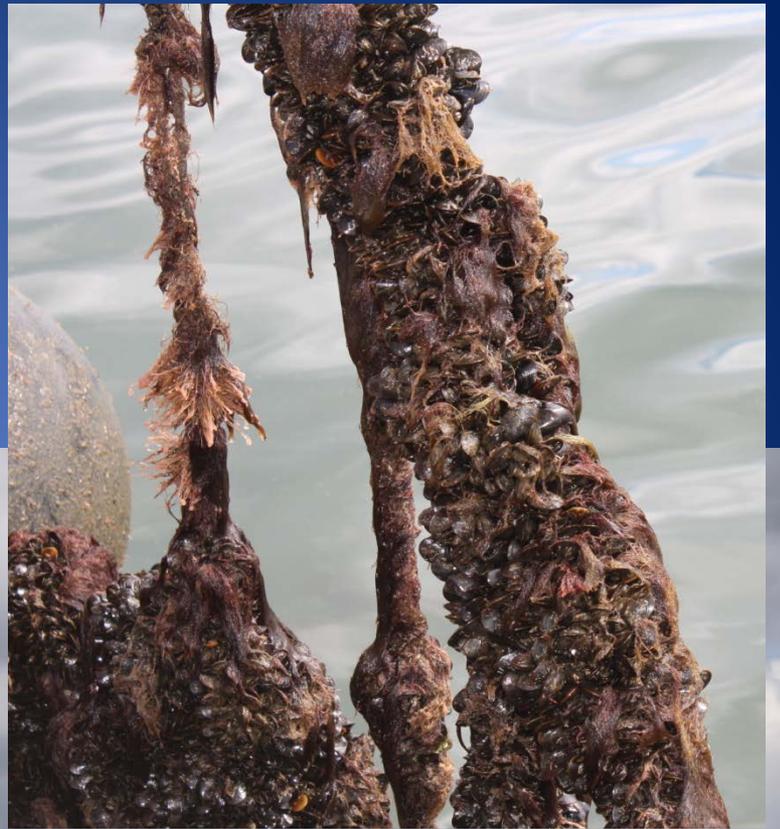
Aquaculture in RI today







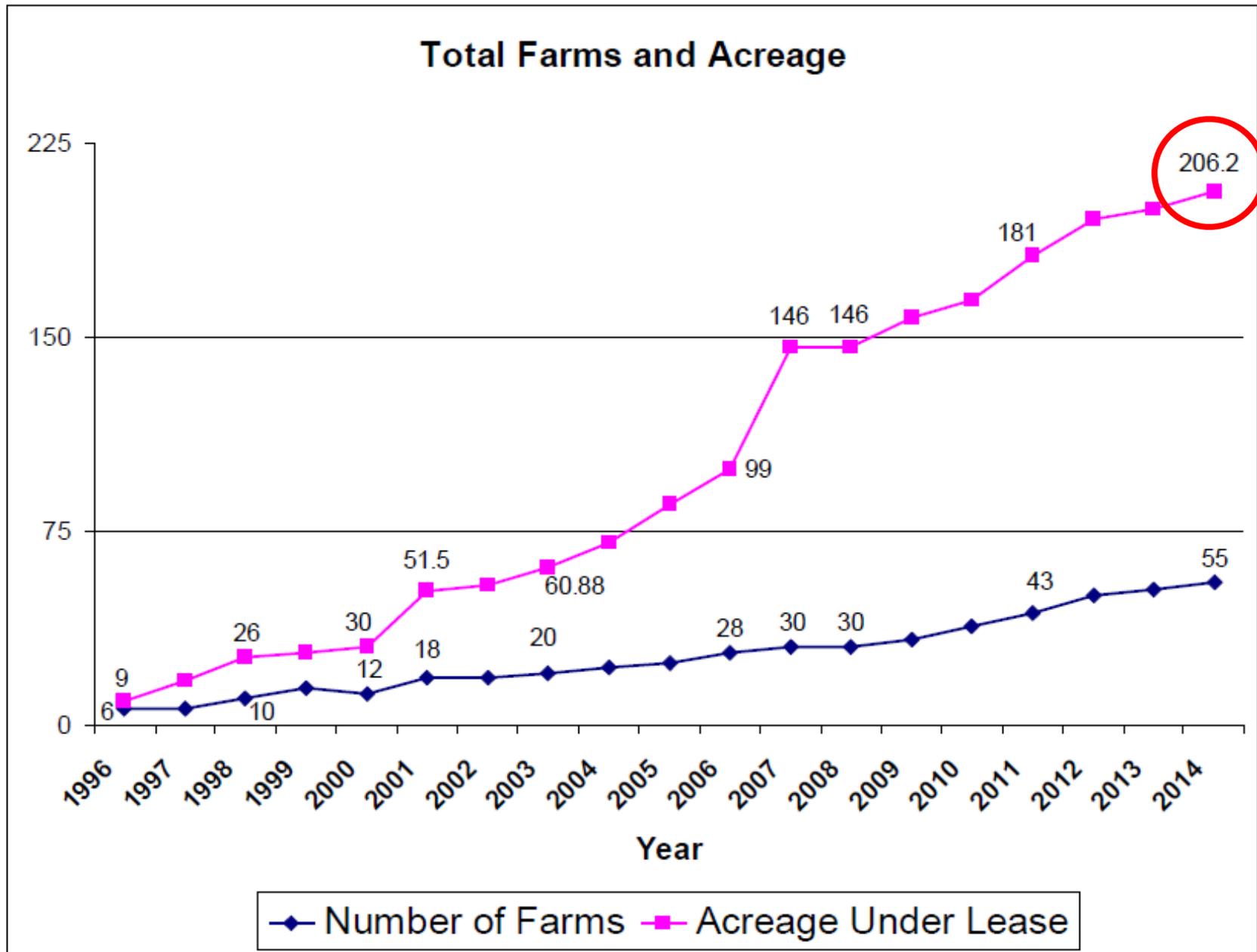




Locations of RI aquaculture farms (2015)



Amount of aquaculture in RI (1996-2014)



Other uses sharing RI's coastal areas



“The 5% Rule”

n. The maximum area occupied by aquaculture leases in the coastal salt ponds is five percent (5%) of the total open water surface area of the salt pond below MLW. This limit is established based upon the current knowledge of ecological carrying capacity models. See: Salt Pond SAME

[RI CMP 300.11]

Social carrying capacity

The level of use beyond which environmental & social impacts exceed acceptable levels



Needham and Rollins (2005)

Research Questions



- (1) What is the overall level of support for aquaculture in RI?
- (2) How is acceptability affected by:
 - features of the farm?
 - characteristics of the respondent?

Data collection: mail survey

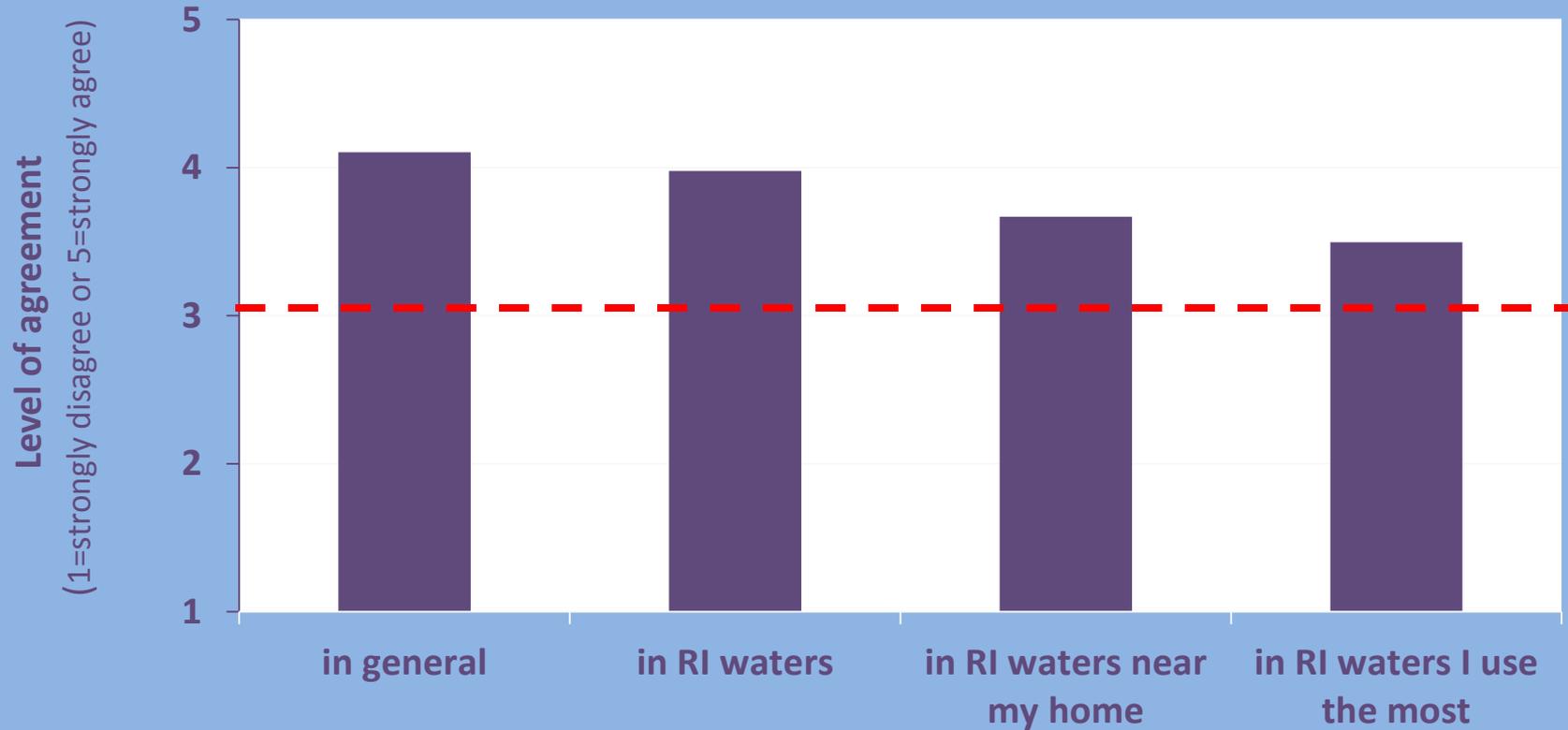


Photo-simulation

1=very unacceptable to 7=very acceptable

Findings

I support shellfish aquaculture....



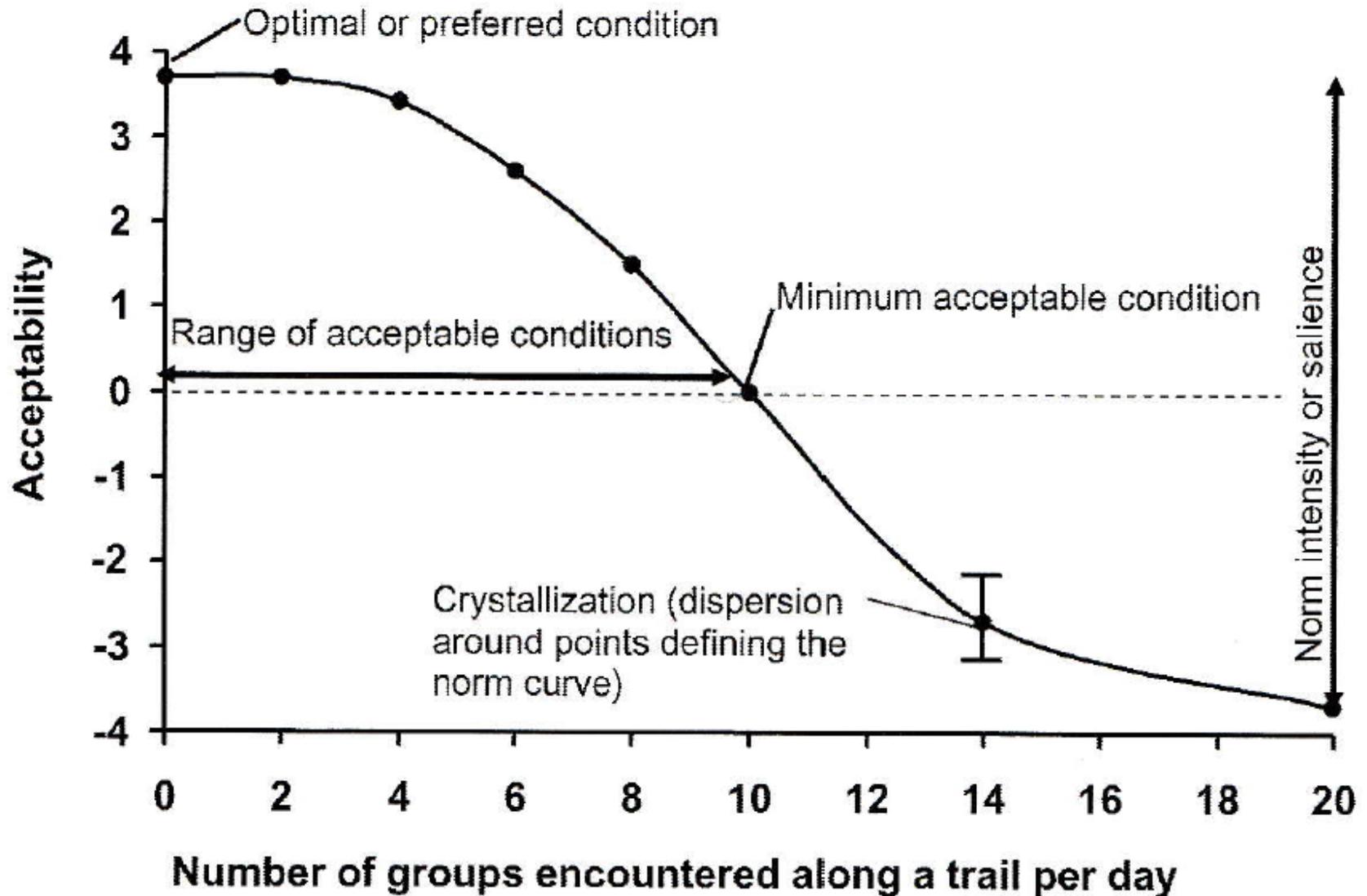
Acceptability & Farm Features

Three features had statistically significant effects on acceptability:

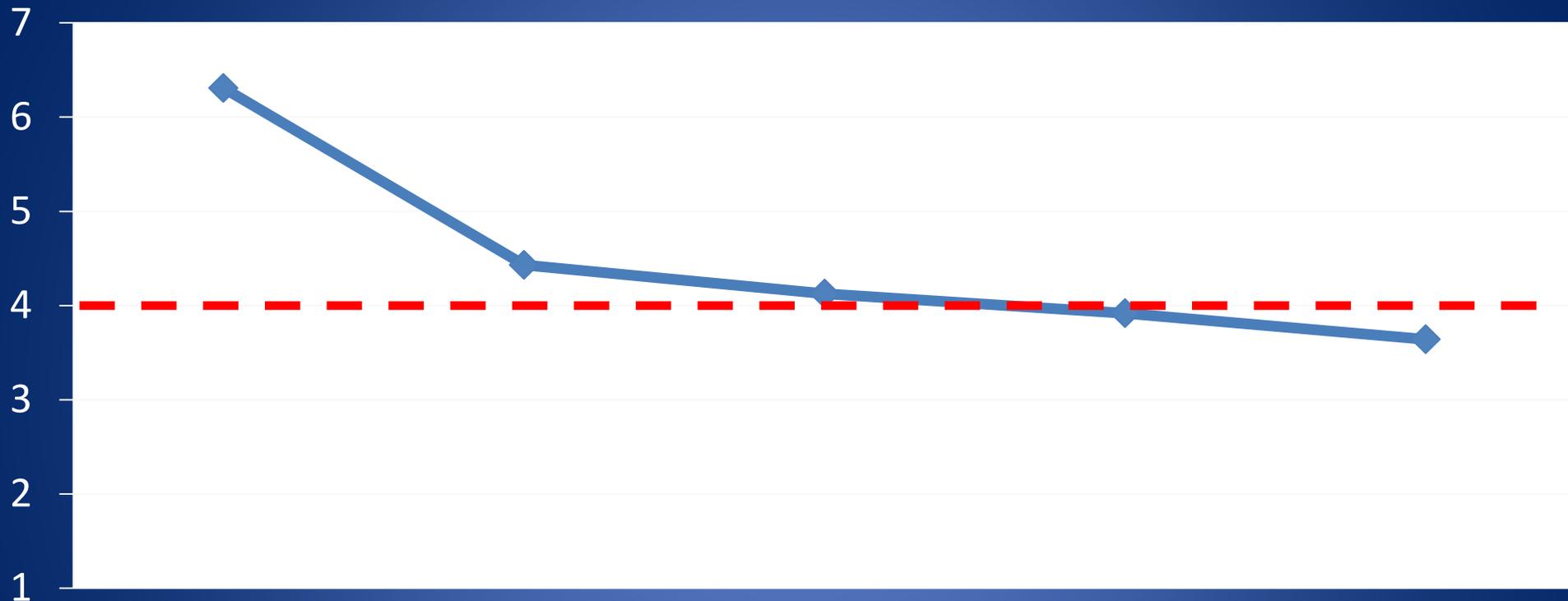


- **Amount of aquaculture** (partial $\eta^2 = 0.118$)
- **Gear/barge** (partial $\eta^2 = 0.015$)
- **Waterbody** (partial $\eta^2 = 0.002$)
- **Farm size x Barge** (partial $\eta^2 = 0.003$)

Acceptability of different amounts of aquaculture



Acceptability of aquaculture in the salt ponds



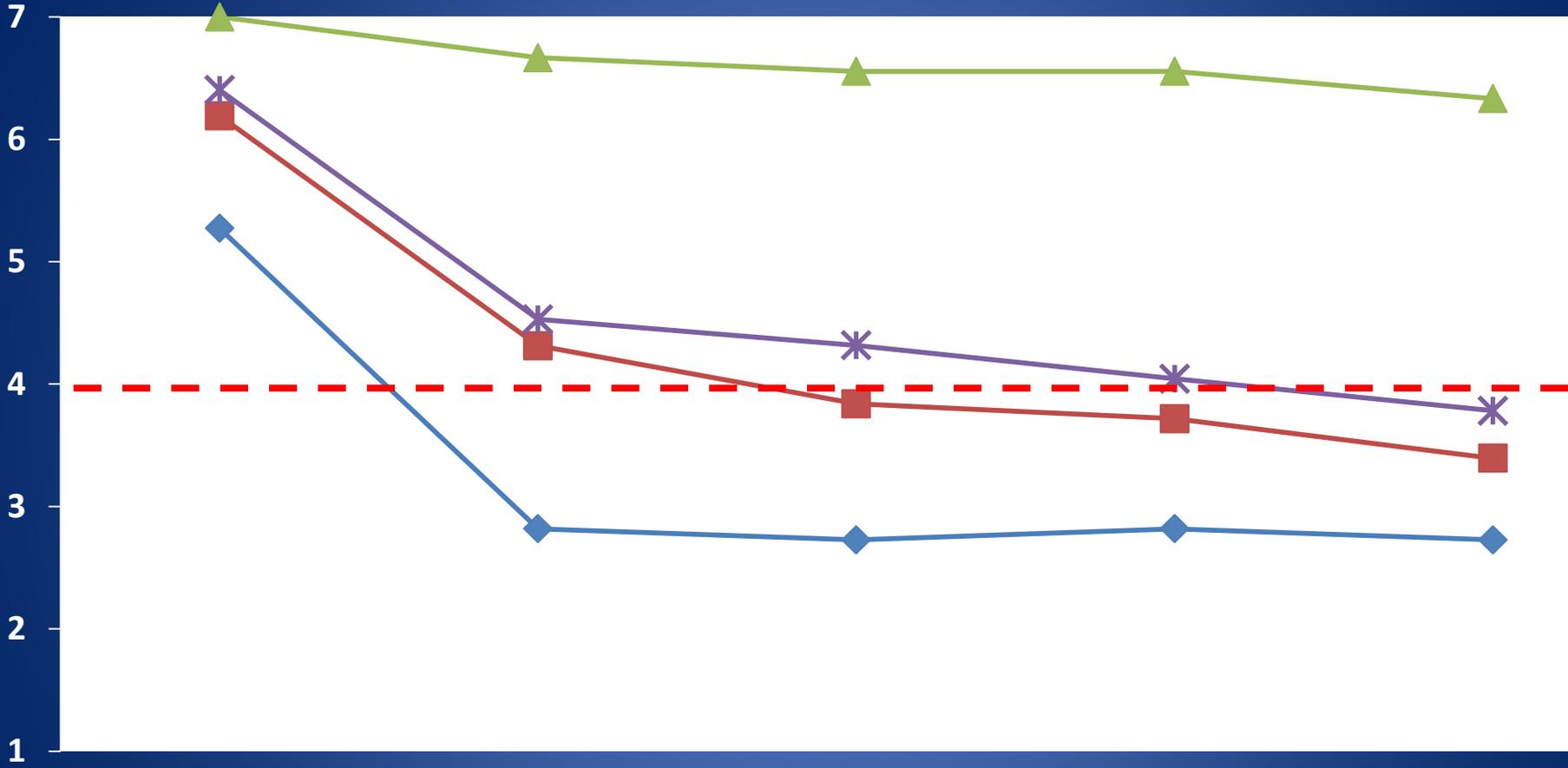
Acceptability of different amounts of aquaculture & respondent characteristics

-By Occupation

-By Region

-By Waterviews

By Occupation



By Region

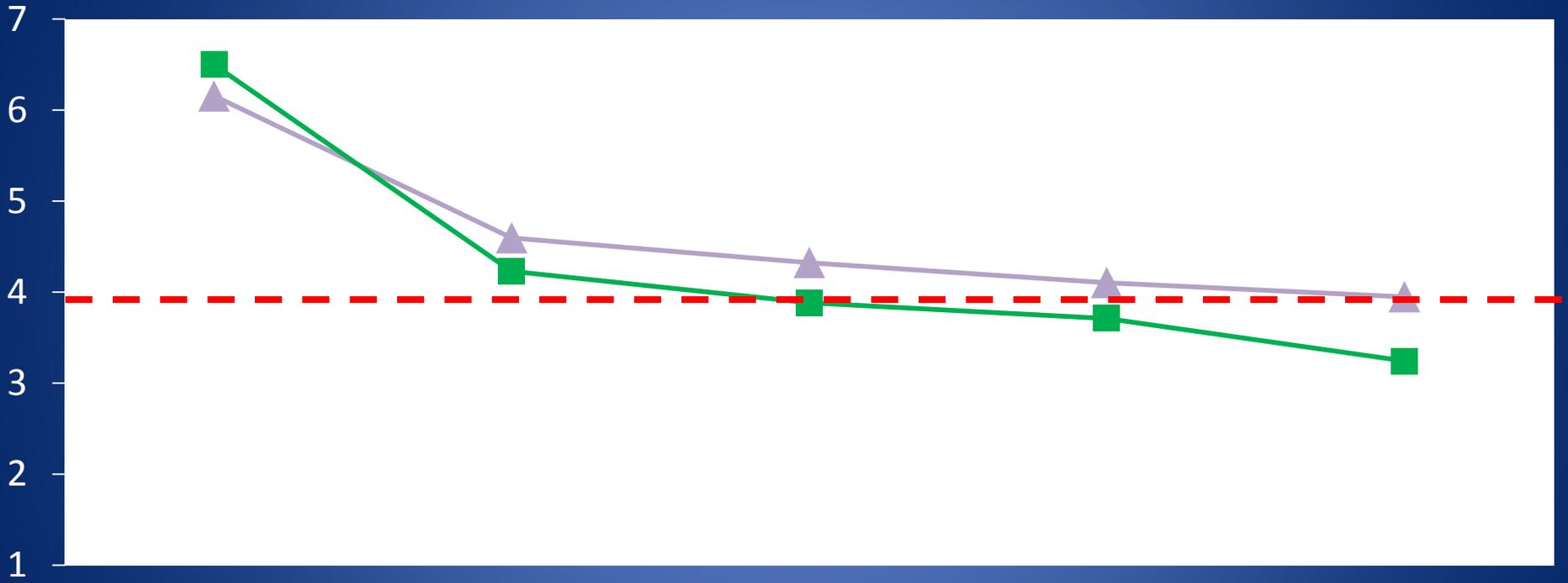
No differences among respondents living in South Coast, Narragansett Bay, and Inland regions.



By Waterviews

▲ Non-waterview

■ Waterview



NONE

LOWEST

MEDIUM

MED-HIGH

HIGHEST

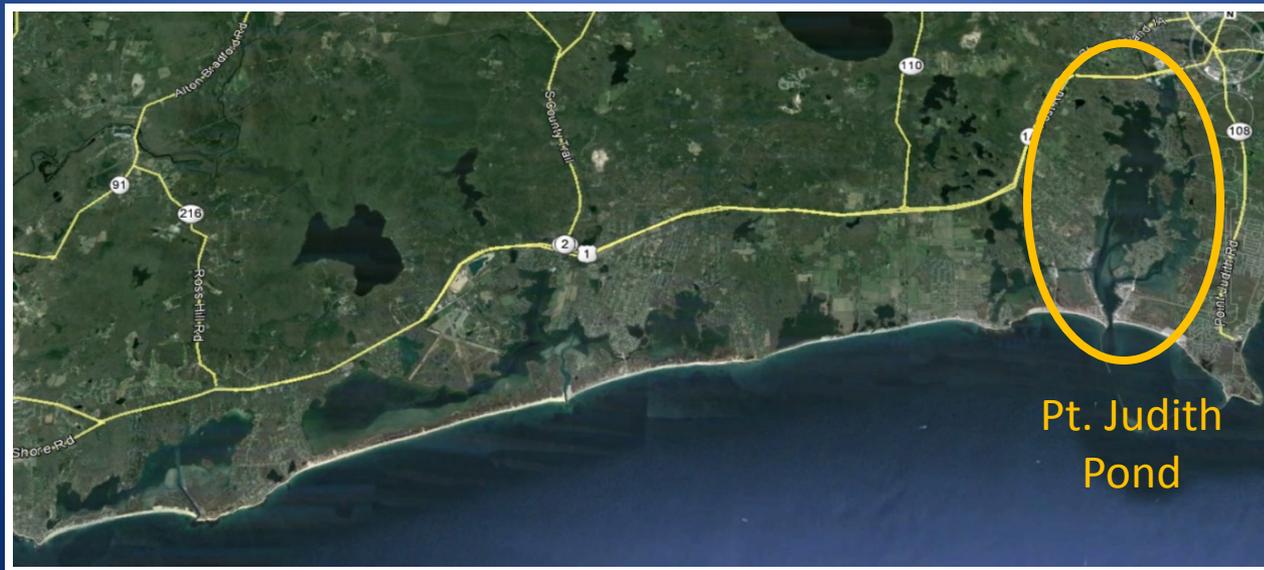


Conclusions

- There is generally support for shellfish aquaculture in RI.
- The approach for measuring social carrying capacity in a tourism context seems applicable to aquaculture (with some adjustments).
- When we vary amounts of aquaculture, we see that higher amounts of use are deemed unacceptable by certain groups.
- Acceptability depends on **features of a farm** (amount of aquaculture, gear/barge, waterbody) and **characteristics of respondent** (occupation, home with waterviews).

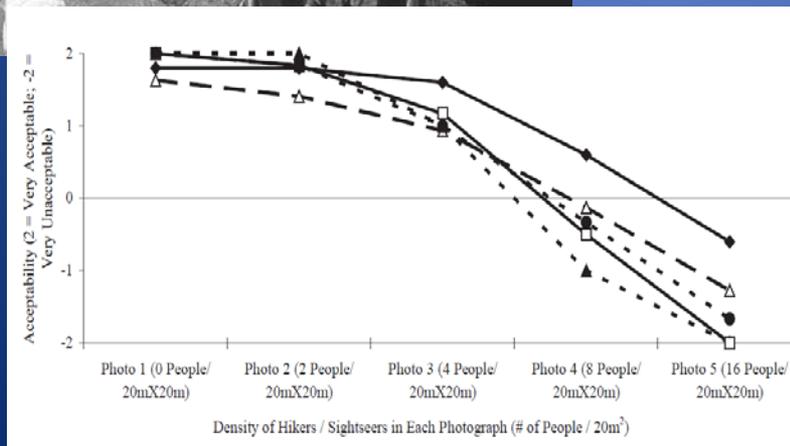
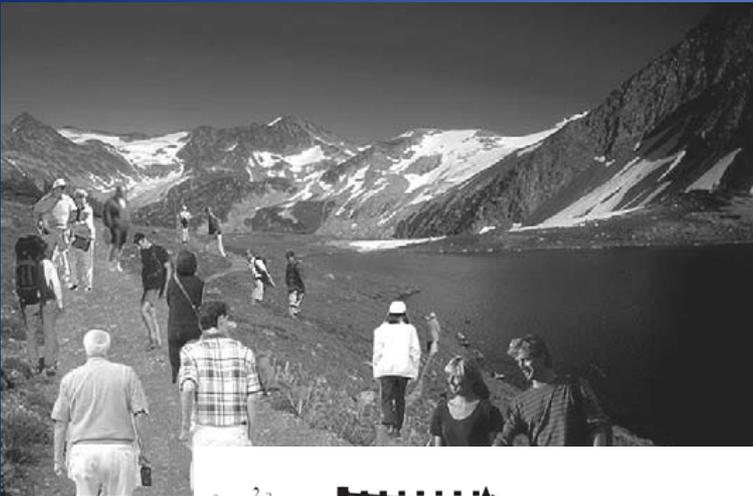
Next Steps

- Explore how other farm features affect acceptability
 - shoreline development
 - other on-the-water uses
 - other types of gear/equipment
- Investigate acceptability of specific areas, like a particular salt pond or coastal harbor



Next Steps (cont'd)

- **Modify standard SCC survey questions to better account for amount of space covered, aquaculture is different than number of people on a trail.**



Needham and Rollins (2005)

Acknowledgments

Special thanks to Sarina Lyon (MAMA 2016) and Maria Vasta (MAMA 2015) for help with data collection, and to all the respondents who participated in this study.

This project was funded by RI Sea Grant.

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