

# Perceptions of Shellfish Aquaculture in Rhode Island's Coastal Waters

*What do people think about shellfish aquaculture in Rhode Island's coastal waters? Do Rhode Islanders generally support or oppose aquaculture?*



**Figure 1. The change in number of aquaculture farms and acreage under lease from 1996-2016 (CRMC 2016)**

Shellfish aquaculture activities in RI have grown steadily over the past 20 years (Fig. 1). Currently, about 0.1% of Narragansett Bay and less than 3% of the coastal salt ponds along the south coast of RI are being used for aquaculture farming.



## The Study



**Figure 2. Research Area**

To better understand public opinion about aquaculture, researchers at the University of Rhode Island conducted a state-wide survey of RI residents. Surveys were mailed to 320 randomly selected addresses in three different regions of the state to ensure that we heard from people throughout RI (Fig. 2). Surveys

were also mailed to waterfront residents (170 in the south coast and 170 in Narragansett Bay).

Additionally, surveys were distributed to marinas and wild harvest shellfish dealers (48) and shellfish farmers (29).

## Who Responded?

In total, 1,288 surveys were distributed and 272 surveys were completed for a response rate of 21%.

**Gender distribution:** 67% of survey respondents were men while 33% of survey respondents were women.

**Residency:** The primary residency for most was in RI with 43% living along the southern coast, 42% from communities bordering Narragansett Bay, 12% from inland communities, and the rest from out-of-state.

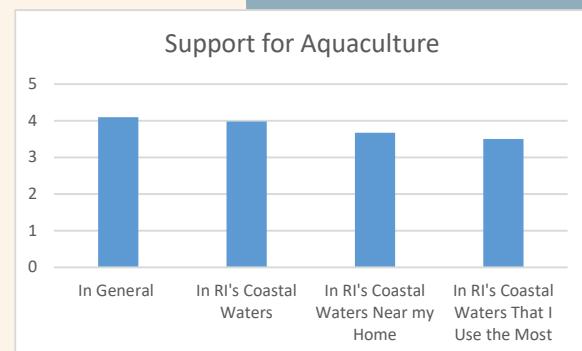
**Education Level:** Most survey respondents had attended college (85%), with 33% of respondents holding a graduate or advanced degree.

**Income:** Over half the respondents earned more than \$75,000 per year in household annual income.



## Results

Respondents tended to support shellfish aquaculture (Fig. 3). Level of support declined as the aquaculture operation increased its potential to affect a respondent's personal use of coastal waters.



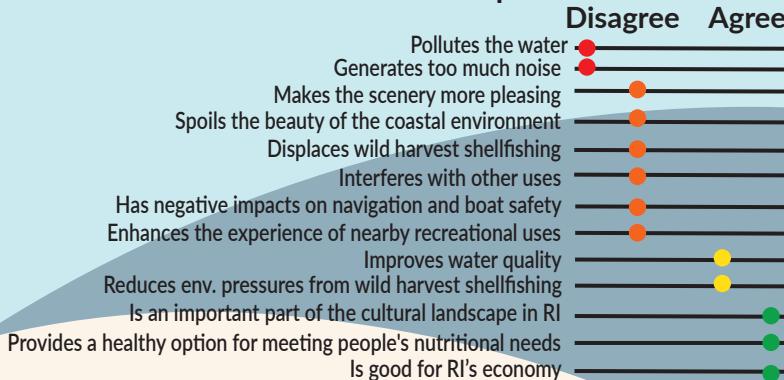
**Figure 3. Level of support on a 5-point Likert scale for shellfish aquaculture (where 1=strongly oppose and 5=strong support)**

Respondents generally thought positively about shellfish aquaculture's impacts (Fig 4). They felt strongly that shellfish aquaculture does not pollute the water nor does it generate too much noise.

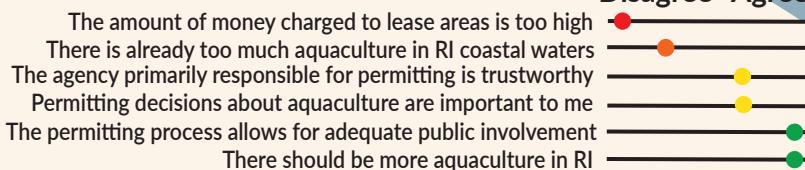
They also felt strongly that shellfish aquaculture is an important part of the cultural landscape, provides a nutritional food option, and is good for RI's economy.

**Figure 4. Perceptions & attitudes averaged across all respondents**

### Rhode Islanders Think Shellfish Aquaculture...



### Additional Thoughts on Aquaculture in RI...



The influence of different factors on public support was examined. Findings show that level of support is positively related to perceptions about shellfish aquaculture's benefits to the local economy, its role as a nutritional food option, and negatively influenced by

aquaculture farms' effects on aesthetic quality, and their interference with other uses.

### Rhode Islanders Are Most Likely to Support Aquaculture in RI if They...

- Think aquaculture is good for the economy
- Think aquaculture does not spoil beauty of the environment
- Think aquaculture provides a healthy option for meeting people's nutritional needs
- Think aquaculture does not interfere with other uses
- Think planning and permitting decisions about aquaculture are important to them
- Think there should be more aquaculture in RI
- Can see the shoreline from their home
- Do not participate in sailing
- Do not participate in birding
- Do participate in cycling
- Have participated in shellfish or aquaculture planning or management in RI
- Have a higher level of formal education

Perceptions of shellfish aquaculture's impacts on environmental conditions, like water quality, were not significantly related to support. These findings highlight that support for aquaculture in RI is driven more by perceptions of social impacts than by perceptions of environmental impacts. An individual's participation in recreational activities also affects support. For instance, bicycle riders tend to be supportive of shellfish aquaculture while sailors and birders are less supportive.



## Conclusions & Future Research

By identifying the broader public's interests for shellfish aquaculture in RI, findings from this study and others like it can be used to address public concerns and incorporate public perceptions and attitudes into permitting decisions. Additionally, coastal managers can use these findings to initiate dialogue with targeted groups, like sailors and birders, to learn more about their interests and concerns and to share information about aquaculture planning and management.

Future research should focus on perceptions of aquaculture's impacts on other users and aesthetic quality. Additionally, it would be useful to examine how shellfish aquaculture interacts with other uses in RI's coastal waters.



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