

Interest in hardshell clam stock enhancement is double current participation among surveyed municipalities

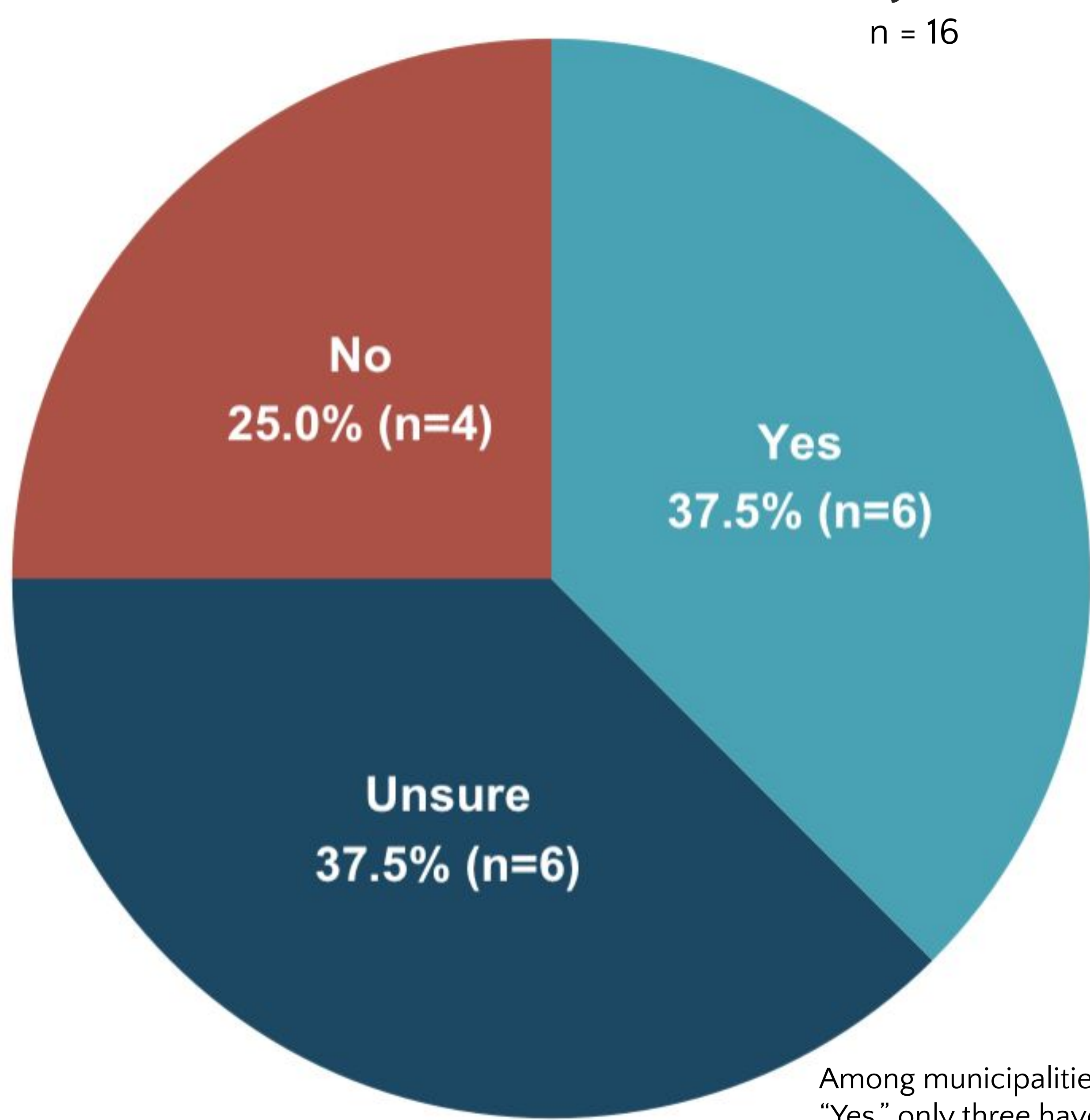
Estimating Municipal Demand for Quahog (*Mercenaria mercenaria*) Seed to Support Stock Enhancement in The Gulf of Maine

- Background
- Climate-driven change in the Gulf of Maine has **reduced soft-shell clam (*Mya arenaria*) populations** and **increased interest in northern quahogs (*Mercenaria mercenaria*)**, a species **more resilient to warming and predation**.
 - Historically concentrated in southern waters, **quahogs represent an emerging and understudied shellfish opportunity in Maine**.
 - Quahog stock enhancement is **most effective using larger seed (~8–15 mm)**, yet this size is **not readily available** for purchase in Maine. While **aquaculture farmers** have expressed **interest in nursery-based production**, farmers **require clear evidence of municipal demand** before investing in larger seed production.

- Methods
- Developed a **stated-preference survey** sent to municipalities to estimate **willingness to pay (WTP)**, preferred stock enhancement **strategy**, realistic budget constraints, and capacity limitations.
 - Respondents were provided with **decision-relevant context**, including summaries of **project nursery trials (FLUPSY and lantern nets)**.
 - WTP price bins were informed by a **survey to farmers gauging their willingness to grow quahog seed to 15 mm**.
 - Distributed to **all Maine municipal shellfish committees**, yielding **16 usable responses** (25% response rate) from a 17-question (~10 minute) survey.

- Discussion
- Municipal stock enhancement is **constrained** by low human capacity and **limited guidance on site selection** for consistent quahog growth and survival.
 - Preferred stock enhancement **strategies vary widely**.
 - Overlap between municipal WTP and farmer willingness to grow 15 mm quahog seed suggests potential for **expansion of a new aquaculture market in Maine that could benefit stock enhancement efforts**.

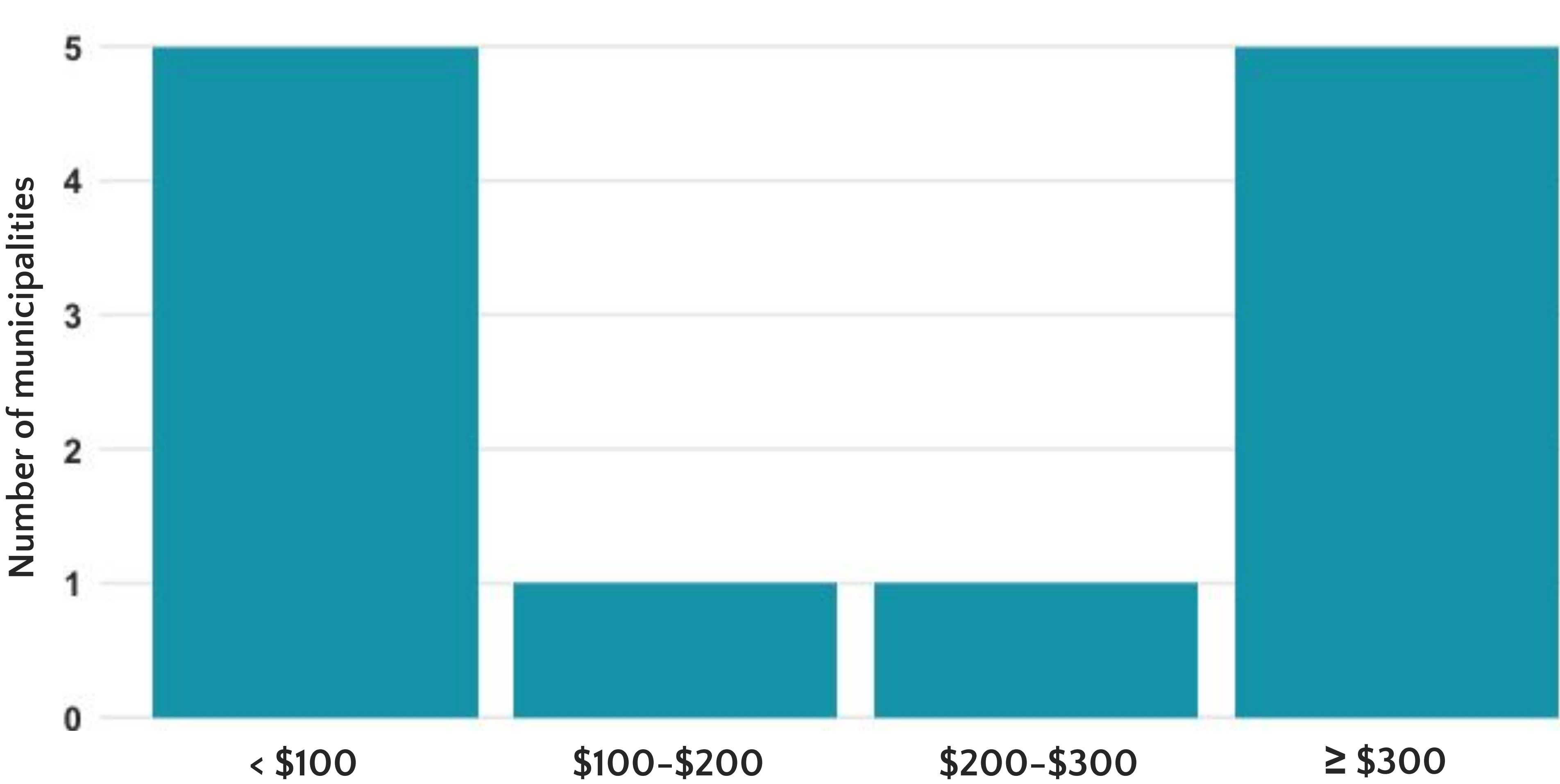
Would your municipality allocate budget for quahog stock enhancement within the next 5 years?



Among municipalities indicating "Yes," only three have conducted quahog stock enhancement in the past five years.

Municipal willingness to pay for large quahog seed varies widely

Willingness to purchase 1,000 15 mm seed at realistic price points (e.g., \$300 per 1,000 seeds)



Wide variation in WTP reflects differences in nursery capacity, with some municipalities interested in quahog stock enhancement operating their own nursery systems.

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Municipal Survey