

 <p>Proposal for Task Force Consideration at the ISSC 2019 Biennial Meeting</p>	<p>1. a. <input checked="" type="checkbox"/> Growing Area b. <input type="checkbox"/> Harvesting/Handling/Distribution c. <input type="checkbox"/> Administrative</p>
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10. Proposal Subject	Aquaculture Seed Shellstock
11. Specific NSSP Guide Reference	Section II Model Ordinance, Chapter VI. Shellfish Aquaculture, Requirements of the Authority @.02
12. Text of Proposal/ Requested Action	<p>@ .02 Seed Shellstock</p> <p>A. The Authority shall establish the maximum seed size for each species of shellfish that can be produced in prohibited waters. In determining the maximum seed size Authorities shall establish sizes that require a minimum of 60<u>420</u> days of growing <u>with water temperatures over 50 degrees F</u> to reach market size.</p> <p><u>B. For states that have not established a minimum market size, the Authority shall establish record-keeping protocols to track seed sourced from prohibited waters to ensure seed have at least 60 days of growing with water temperatures above 50 degrees F before sale for human consumption.</u></p> <p><u>C. B-</u>The Authority shall establish appropriate corrective actions for when seed <u>that</u> exceeds the maximum seed size when it <u>is being cultured in</u> has been produced in waters classified as prohibited.</p> <p><u>D. C-</u>All sources of seed produced or collected in prohibited waters shall be sanctioned by the Authority.</p>
13. Public Health Significance	<p>Existing language does not describe how the Authority should establish maximum seed size in states that have no minimum market size. Further the existing language does not require that shellfish from prohibited waters are held in waters above 50 degrees to ensure that the animals are metabolically active.</p> <p>Shellfish seed collected or cultured in prohibited waters have been shown through repeated sampling not to accumulate heavy metals at levels that exceed EPA alert levels. (John Mullen RI DOH, unpub. data, Rheault unpubl. data, Rice unpub. data, Leavitt unpub. data). A period of one month is typically adequate to purge bacterial contaminants provided water temperatures are high enough to maintain active metabolic activity (above 50 degrees F or 10 degrees C) (Richards 1988). Several studies have demonstrated that viral contamination in relayed or deputed shellfish is reduced to non-detect levels in 30-40 days (McLeod et. al. 2017 and Choi and Kingsley 2016).</p> <p>The Authority has the option to deny seed culture in any area, or to require additional testing for deleterious substances, or to require longer purge periods as they deem necessary based on potential sources of contaminants.</p>

	<p>References Cited:</p> <p>Richards, G. (1988), Microbial Purification of Shellfish: A Review of Depuration and Relaying, J. Food Protection 51(3)218-251.</p> <p>C. McLeod et. al. (2017) Depuration and Relaying: A Review on Potential Removal of Norovirus from Oysters. Comprehensive Reviews in Food Science and Food Safety, Vol.16, pp. 692-706</p> <p>Choi, C. and D. H. Kingsley. Temperature-Dependent Persistence of Human Norovirus within Oysters (<i>Crassostrea virginica</i>). Food and Environmental Virology, 8:141-147. 2016.</p> <p>Supporting Information:</p> <p>RI DOH metals data :(oyster seed grown in Billington Cove Marina) Unpublished data from Rd. Dale Leavitt: (clam seed grown in Warwick Cove Marina)</p>
14. Cost Information	Proposal would not impact the enforcement costs for the authority and would simplify management for growers.