Eelgrass Seed Harvesting and Processing Guide

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Background

- A presentation on the methods that CCE has adopted for harvesting, processing and storing eelgrass seeds for restoration at the June 2024 LIS Collaborative Meeting led to the suggestion that a guide be developed.
- The draft is still a work in progress but will be ready for distribution for review by Collaborative members in January 2025.

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Seed Harvesting

1. Meadow selection considerations

   Seed harvest locations and effort should be weighed against:

   - Overall size and health of meadows
   - Potential reliance of donor meadow on its seed production for maintenance, recovery or expansion
   - Flower shoot density and seed yield per shoot (Collaborative's Flower Shoot Surveys)
   - Other factors including: fouling, accessibility, and safety

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Seed Harvesting

2. Seed Harvest Timing
   - Seed development is closely tied to water temperatures
   - Flower shoot/seed development monitoring should start late-May to early June following the Collaboratives survey SOP
   - Seed release is occurs over a 4-week period, but duration may be influenced by water temperatures and storms
3. The Harvest
   - Hand harvest (diving/snorkeling) is most common harvest method and least impactful to meadows
   - Mechanical harvest methods are used but are less discriminate
   - Experience=efficiency, but numbers can compensate for inexperience

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Seed Processing

1. Harvested flower shoots must be held for up to 4 weeks seawater (flowing or stagnant) to encourage seed release
2. Following seed release, spent shoots are removed from tanks, seeds are sieved to remove remaining small organics and animals
3. Seed storage can be done under flowing seawater conditions (tanks, upwelling silos, etc.)
4. Alternative seed storage would have seeds rinsed with filtered seawater ± sterilizing treatment, placed in containers with filtered seawater and refrigerated
5. Seeds can be held for 3-4 months in flowing seawater and up to a year refrigerated (although with decreasing viability)

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6. Various seed viability testing methods will be discussed