

EELGRASS RESTORATION FIELD REFERENCE GUIDE

Access the
full Handbook:



This Field Guide provides key procedures to ensure a successful Eelgrass Restoration Event. Refer to Chapter 4 in the Restoration Handbook for more details of each step.



This video illustrates the procedures of an Eelgrass Restoration Event



Step 1: Prepare metal washers before the event, if possible, by tying 4" paper twist ties to the number of ungalvanized steel washers required for the transplant and placing them in groups of 100 in small containers: Make sure the twist is in the middle of the washer.

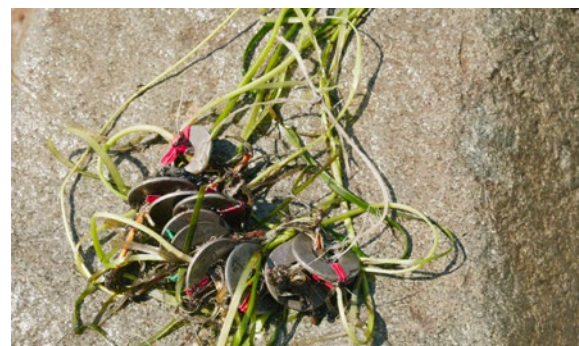
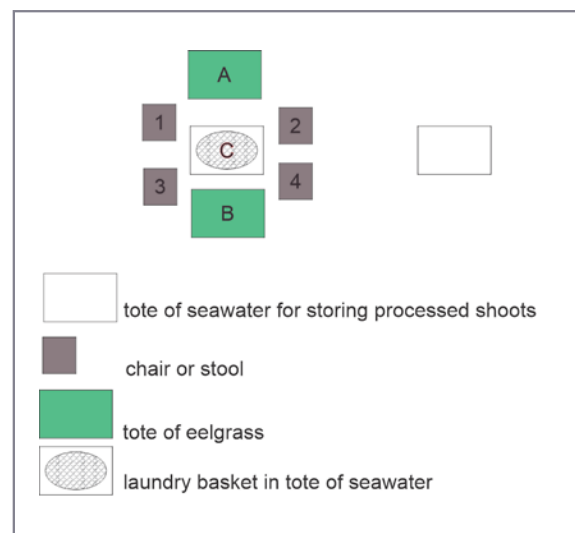
Step 2: Arrange work station as shown on the right. Fill totes with clean seawater. **Assign a Monitor to oversee the preparation of the eelgrass shoots.**

Step 3: Attach shoots to metal washers

Transfer harvested shoots from the divers to the saltwater filled totes. Demonstrate to the work crew/ volunteers how to select shoots with rhizomes with three nodes and lengths of ~7-10 cm (about the size of the width of your fist). Extra rhizome is trimmed. Shoots are then attached to the washers, with the rhizome placed in the middle of the washer where the twist can be gently attached on the part of the shoot that changes from white to pale green. Shoots should be securely attached, but not so tight the tissue of the plant is damaged – two or three twists should do it.

Step 4: Prepare shoots for divers

1. Consider designating one person at each work station to be a 'necklace weaver'. They measure and cut 10 pieces of jute or twine in 30 cm lengths. These can be cut in advance.
2. One anchored shoot is tied to the jute or twine, leaving a 10 cm tail. Nine more anchored shoots are threaded through the long end of the twine with a simple tool, then tied to the short tail. Make sure all washers are facing the same direction, up or down. If you would like to see making a necklace in action, see the video starting at 5:30.
3. Place ten necklaces into a laundry basket and immediately transport each basket to shallow water or seawater filled tote. When divers are ready to plant, pass the baskets of processed shoots to them. Keep track of how many baskets they take and also how many they bring back. Tell them whether most of the last harvest could be used, or whether they need to modify their harvesting techniques to get useable shoots.
4. Make sure volunteers/shore crew are comfortable, taking breaks as needed, and appreciated.
5. If possible, have the volunteers or shore crew view either the video footage of the transplant or visit the site by boat if the water visibility allows viewing of the transplant plot.



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REMINDERS TO DIVE TEAM

Dive supervisor

- ▶ Check dive certificates are up to date, and all equipment, including compasses are on the boat.
- ▶ Make sure required equipment is on board, including:
 - **Large totes** – for storing eelgrass
 - **GPS unit** – to locate and record harvest and transplant sites
 - **Large mesh bags** – for collecting eelgrass
 - **Marker buoys** – at least four
 - **Metre tapes**
 - **Stakes** – at least six
 - **Underwater camera** – to document the site, before and after transplant

First eelgrass harvest

Dive supervisor: Review harvesting techniques with divers, including requirements for rhizome collection: (7-10 cm, 3 nodes); avoid flowering shoots (pale, branched, round stems).

- ▶ Determine the correct depth for harvesting, record GPS point where divers enter the water.
- ▶ Divers return to the boat when their harvest bag is full. Shoots are immediately emptied into a tote of seawater and checked if the rhizomes are long enough. Harvest bag is then returned to the diver to continue harvesting with feedback regarding shoot quality.

Lay out transects for planning following the first harvest

- ▶ Identify transplant area, select location to start at edge of area; release marker buoys to the surface at end points so that GPS coordinates are recorded on the boat. It helps to have floats with weights to mark corners; this makes it easier to monitor the transplant site.
- ▶ Lay out perimeter of area to plant and at least one additional transect for divers to navigate along.

Subsequent harvests

- ▶ Follow instructions above **BUT** do not harvest in same area twice, move about 10 metres away.

Transplanting

- ▶ Collect processed shoots from the location positioned by the shore crew. If transplant site is close, baskets can be stacked 3 high on boat deck. If the transplant site is more than a few minutes away, store baskets in totes of seawater.
- ▶ Once the divers start planting, visibility will be extremely poor. Stagger divers starting points to minimize suspended sediment.
- ▶ Plant a necklace at each metre mark, dig a hole with hand, shell, or trowel large enough to bury washers about 5 cm deep, place a necklace in hole and cover with sediment you removed to dig hole. Make sure washers are on top of rhizome and all leaf blades are positioned upward.
- ▶ Periodically, have divers return to planted areas to make sure the necklaces are properly planted.
- ▶ Remove stakes, metre tapes, and floats once area has been planted.



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