

# EELGRASS



Washington Department of  
**FISH and WILDLIFE**



FACT SHEET:  
**5** things you should know about current grant-funded eelgrass recovery efforts

## 1. STRATEGY AND GOALS

EELGRASS IS A VITAL COMPONENT OF THE PUGET SOUND ECOSYSTEM, providing habitat for a variety of invertebrates and commercially valuable fish species, but its coverage has declined. In 2011, the Puget Sound Partnership set a recovery goal of “20% more eelgrass by 2020,” which translated to nearly 11,000 acres over a baseline of roughly 54,300 acres. The recovery strategy includes reducing stressors, such as habitat loss and pollution, and also the restoration of eelgrass in places it historically occupied.

## 2. MULTI-STEP PROCESS

IN A SYSTEM AS COMPLEX AND DYNAMIC AS PUGET SOUND, eelgrass restoration is a multi-step process. First, a simulation model was used to identify eight sites in southern Puget Sound where restoration had the best chance of succeeding. Over 150,000 shoots were then transplanted from nearby donor sites to restoration sites from 2016 to 2017, using several methods.

2011 RECOVERY GOAL:

**20%**  
MORE  
EELGRASS  
BY  
**2020**

Eelgrass (*Zostera marina*) patch at Joemma Beach State Park in South Puget Sound. Photo: Aaron Barna



Growth from several eelgrass transplants that were originally attached to a piece of steel rebar. Photo: Jeff Gaeckle, WA DNR





### 3. WINNER: JOEMMA BEACH STATE PARK

SOME SITES DID BETTER THAN OTHERS, and through the summer of 2018, sites at Joemma Beach State Park showed the highest increase in eelgrass shoot densities. Eelgrass coverage increased from less than 25 square meters to more than 100 square meters in some transects, as patches of transplanted shoots merged with one another to form beds.



A 2015 eelgrass transplantation shown in original checkerboard pattern (left) has coalesced into a more continuous patch by 2017 (right). Photos: Jeff Gaeckle, WA DNR

### 4. IMPROVED WATER QUALITY

IN ADDITION TO SHOOT DENSITY, WATER QUALITY was also monitored to see if eelgrass might help raise pH and increase dissolved oxygen (DO) levels. Mature, 3-year-old eelgrass increased daytime DO levels more than young eelgrass, and both young and mature eelgrass appeared to raise daytime pH. This suggests that eelgrass can help counteract the effects of ocean acidification in southern Puget Sound.

### 5. CONTINUED MONITORING

GOING FORWARD, monitoring will continue at the transplant sites where eelgrass persists, and results from the project will be used to inform future eelgrass restoration work throughout Puget Sound.

### BENEFITS

- > Increased dissolved oxygen
- > Increased pH

WHICH MAY REDUCE EFFECTS OF  
**OCEAN  
ACIDIFICATION**



Cover image and above: Jeff Gaeckle measures the length of eelgrass using a measuring stick and later records the information for a study on the rate of growth near Joemma Beach State Park in South Puget Sound. Photo: Aaron Barna