



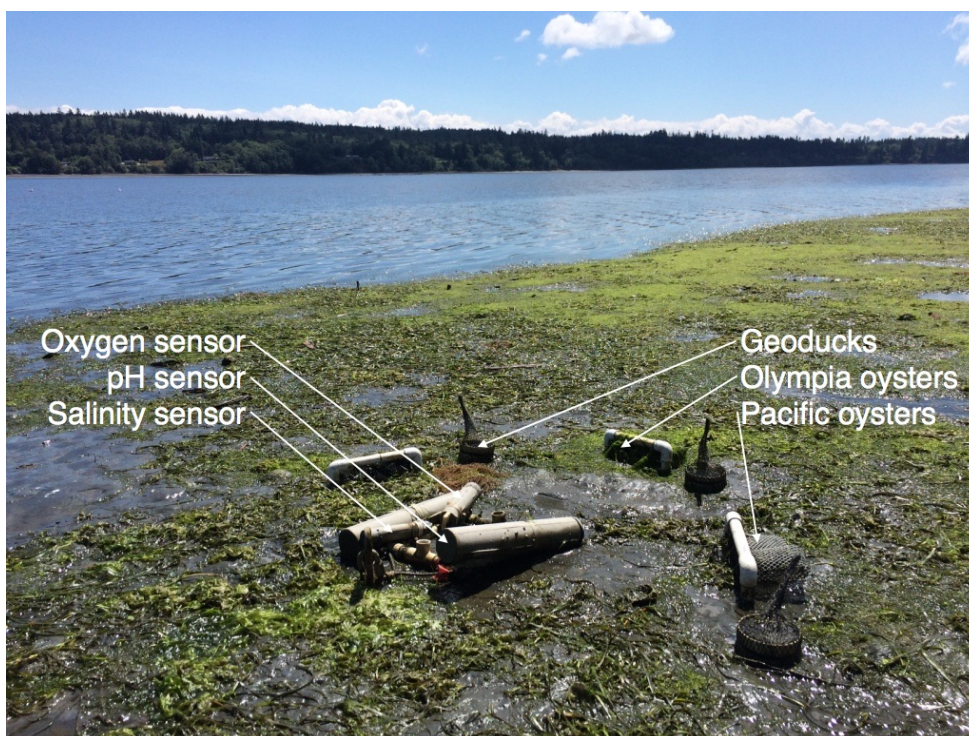
Can eelgrass improve shellfish growth and pH in a halo around the meadow?

WA DNR and University of Washington scientists have found that eelgrass improves pH within a meadow, and that Pacific and Olympia oysters grow faster in eelgrass than outside of it. In 2017, we will test whether the benefits of eelgrass extend beyond the meadow – whether there is a halo of improved pH that can enhance shellfish growth.

Wild and farmed shellfish often grow near eelgrass, but the effects of meadow proximity are mostly unknown. We will transplant juvenile Pacific oysters, Olympia oysters, and geoducks from a hatchery setting into nearshore environments across Washington State, at set distances from nearby meadows (1, 3, 6, 10 and 15 meters). We will collect these shellfish after 40 to 80 days, and measure their growth and condition.

Alongside measurements of shellfish, we will collect detailed information on water chemistry. By taking advantage of ANeMoNe – a DNR network of environmental sensors – we will measure water chemistry inside and outside of eelgrass, and at every spot where shellfish are transplanted.

By comparing patterns of shellfish growth and condition with environmental data, we will determine whether Pacific oysters, Olympia oysters, and geoducks benefit from meadow proximity. If eelgrass has a detectable halo, with improved pH and enhanced shellfish growth nearer the meadow, this could have implications for aquaculture and restoration, and improve our ability to protect natural resources in the face of ocean acidification.



We will collect biological and chemical data at five distances from the meadow edge. Photograph shows a single location, with protective cages for juvenile shellfish surrounding a set of environmental sensors.