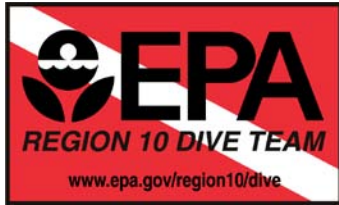


US EPA ARCHIVE DOCUMENT



[EPA Region 10 Dive Team](http://www.epa.gov/region10/dive)

ORD and Region 10 Eelgrass Research, Hood Canal, WA, 2007

What: The EPA Region 10 Dive Team assisted researchers at the Western Ecology Division (WED) who have developed a mechanistic model to examine the sensitivity of sea grasses to nutrient stressors. The objective of this proposed work is to apply the Zm-SRM (Zostera marina Stress Response Model) to data sets collected from Puget Sound using the Eelgrass Indicator Deployment System (EIDS) in areas identified as experiencing active eelgrass loss and attempt to determine the causal mechanism. The EIDS includes a metal frame that holds: two light sensors (data to determine light attenuation in the photosynthetic spectrum), data sonde (includes data on pH, temperature, salinity, DO), and data logger in a Pelican case shackled to one anchor; four eelgrass frames holding 10 specimens each shackled to another anchor; and a subsurface buoy tied to a third anchor.

Why: The NHEERL Aquatic Stressors Framework (U.S. EPA, 2002) defines loss of submerged aquatic vegetation (SAV) as a major assessment endpoint for nutrient effects research. Seagrass is a critical habitat that plays important roles both in estuarine biogeochemical cycling and as a three-dimensional structure used by commercial and ecologically important species as a refuge from predation. Sea grasses also influence water quality and clarity by attenuating current velocity, promoting sediment deposition, and removing nutrients (N and P) from the water column. Thus, sea grasses function to make our coastal and estuarine waters meet acceptable usage criteria.

Where: Hood Canal, near Ann's Bay and north of Union.

When: Instrument placement and retrieval took place in Summer and Fall, 2007.

How: Diver investigations included several dives to place and retrieve EIDS and take photographs.

Results: Instruments were successfully deployed and retrieved and data gathered on eel grass survivability parameters.

More Details: [Other eelgrass related publications from EPA-WED](#)

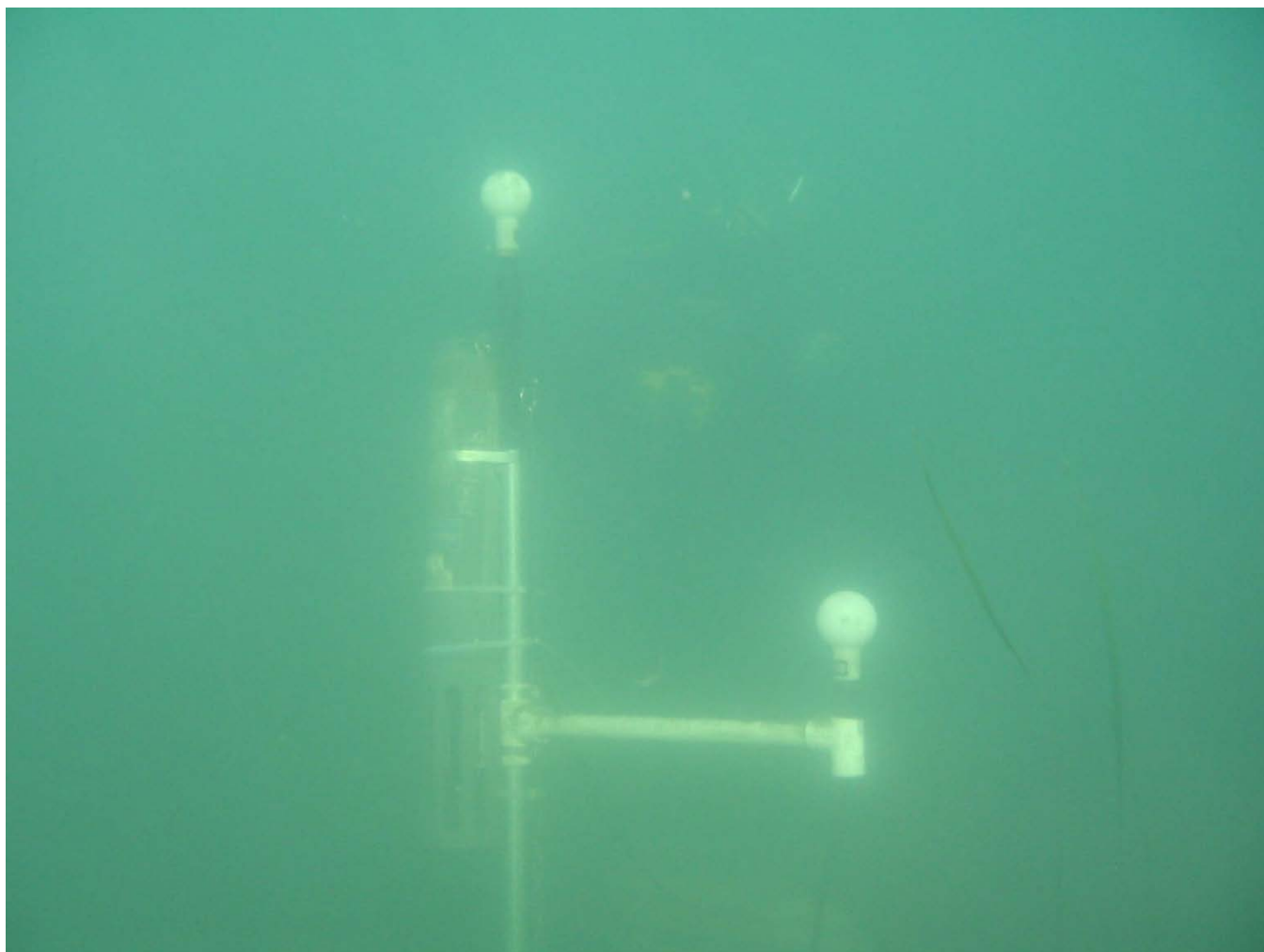
Contact: Lead scientist Jim Kaldy EPA-WED Dive Team, (541) 867-4026 kaldy.jim@epa.gov; Rob Pedersen (206) 553-1646, Pedersen.rob@epa.gov EPA Region 10 Dive Team.

Photos:

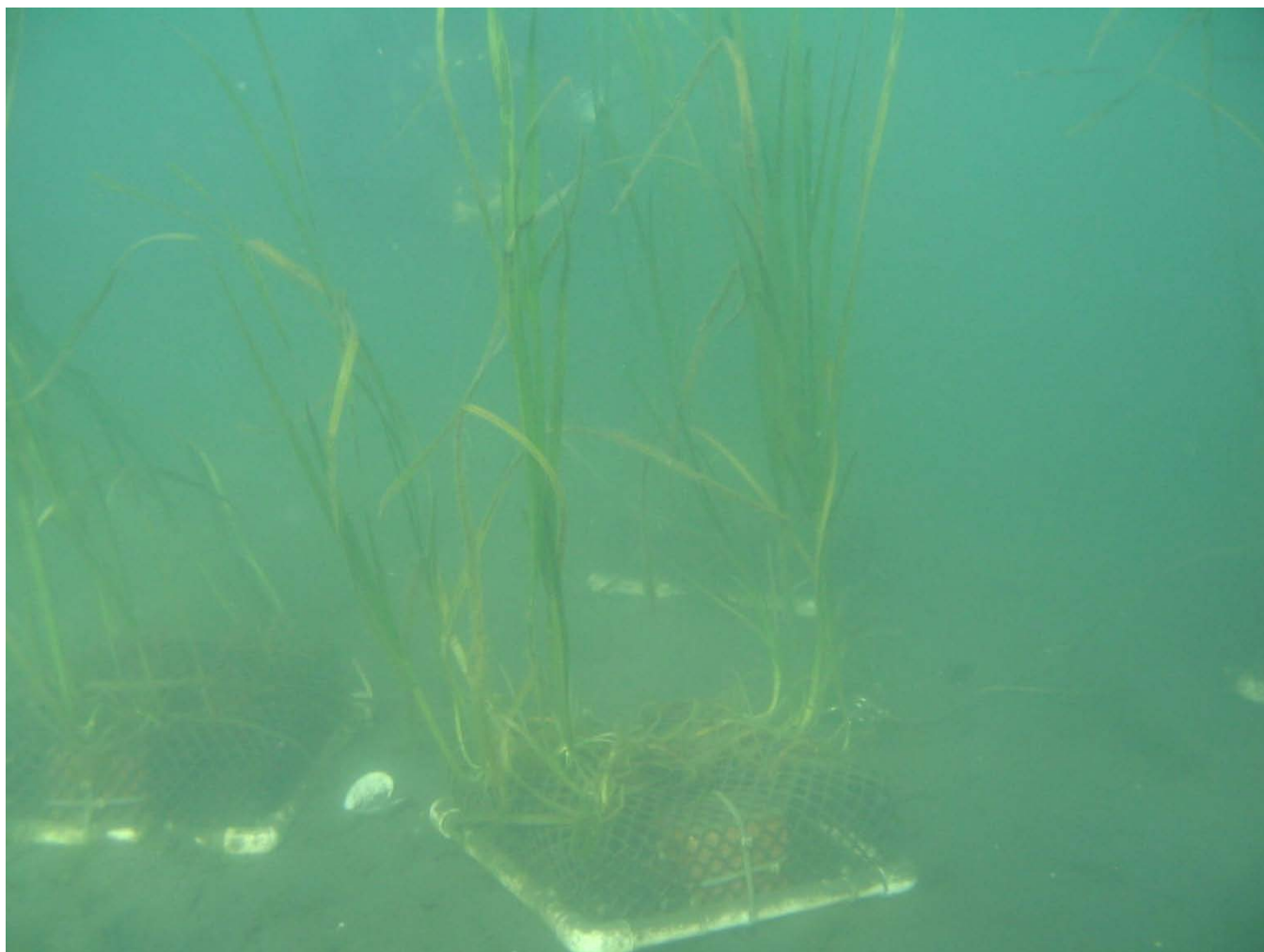
All photos courtesy of T Chris Mochon-Collura EPA/WED



View from the Ann's Bay Station; PUD boat ramp is just left (south) of the power house/penstocks. Mt. Washington is in the background.



Photograph of the instrument package deployed in Ann's Bay, Hood Canal. A YSI sonde is shown attached to the upright. Two spherical quantum sensors ("light bulb size") are also attached. Metal frame was deployed in 2 parts. Not visible is the Pelican case containing the data logger. Diver with yellow camera case is barely visible behind the frame.



Photograph of the EIDS frame. PVC quadrat (~25 cm x 25 cm) forms the base and is covered with black plastic mesh, house bricks are used as weights. Ten plants are attached to the mesh of each frame with small zip-ties. Ann's Bay location.

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