# UPDATE TO MAY 16 ROUNDTABLE DISCUSSION

## Kelping the Sea – farming seaweeds for research and resources in the Pacific Northwest

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Presented by Drs. Joth Davis, Hood Canal Mariculture, Beth Wheat and Fernando Resende from the University of Washington. This webinar will be hosted by Drs. Meg Chadsey, Washington Sea Grant and Shallin Busch, NOAA Ocean Acidification Program and Northwest Fisheries Science Center.

**Abstract**: Farming seaweeds in the Salish Sea has progressed quickly over the last three years through funding provided by the Paul Allen Family Foundation, and more recently through mitigation funding provided by the US Navy. Funding has provided for the establishment of a pilot scale kelp farm, operated by Hood Canal Mariculture (see photo) to investigate whether large scale cultivation and harvest of seaweeds can help mitigate ocean acidification by drawing down carbon and nutrients in the surrounding waters. Researchers from the University of Washington (UW) and NOAA Pacific Marine Environmental Laboratory (PMEL) are working with the Puget Sound Restoration Fund (PSRF) to monitor the influence of a one-hectare sugar kelp (*Saccharina latissima*) farm on seawater chemistry. Sampling for pH and dissolved carbon, as well as a suite of hydrographic parameters and associated bioassays, is ongoing coincident with an effort to develop a model for sugar kelp growth under varying nutrient conditions. Initial results of this effort will be available later in 2018.

Farming seaweeds is new to the Pacific Northwest. The experimental Hood Canal kelp/shellfish farm is the first of its kind, and extensive efforts were required to permit the site for co-cultivation. Hood Canal Mariculture owner Joth Davis will relate what has been learned relative to permitting, engineering systems for supporting a lattice of lines to grow seaweeds and shellfish together, and the performance of sugar kelp itself relative to production rates in this location. Producing seaweeds is only half the story, however. Exploring downstream uses (e.g. food, fertilizers and fuels) is also critical to the development of a viable commercial market for farmed seaweeds. In this webinar, you will also meet a few of the people who are laying the groundwork for future uses. Recent work by PSRF has focused on establishing a legal framework for harvesting and processing cultivated sugar kelp for human consumption. This is an important development as Northwest chefs are eager to test market sugar kelp in regional cuisine. Project partner Meg Chadsey (Washington Sea Grant) will highlight recent efforts to get kelp onto local menus. Last summer, 14,000 pounds of the first sugar kelp harvest was provided to SkyRoot Organic Farm on Whidbey Island for composting trials. SkyRoot owner and UW faculty member Beth Wheat will explain how agricultural lands can serve as a carbon sink, and the potential of seaweed to enhance that process. Finally, the high carbon content (20% DW) of sugar kelp makes it an ideal feedstock for biofuel production if the capacity to grow seaweed at the appropriate scales can be developed. UW researcher Fernando Resende has proposed a novel approach to unlocking the biofuels potential of sugar kelp, and will share some of his preliminary findings.