



January 22, 2019

Dr. Clarissa Anderson
Executive Director
Southern California Coastal Ocean Observing System
Scripps Institution of Oceanography
9500 Gilman Drive, 0206
La Jolla, CA 92093-0214

Dear Dr. Anderson:

On behalf of Carlsbad Aquafarm, I enthusiastically endorse the valuable data and services provided by the Southern California Coastal Ocean Observing System (SCCOOS) at the Scripps Institution of Oceanography, University of California San Diego.

Carlsbad Aquafarm's operating principle is "Restoration Aquaculture," in which priority is given to restoring the ecological health of the lagoon where we farm our shellfish. We operate a small hatchery and support the establishment of oyster reefs, including in impaired coastal waters in San Diego Bay and Newport Beach Back Bay.

The viability of our hatchery's vulnerable larval bivalves and the success of our newly established oyster reefs, which we deploy local coastal waters, depend on oyster larval settlement, which are impacted by even minor changes in ocean pH and nutrient levels. Thus our hatchery operations and our restoration projects directly benefit from SCCOOS data. We have found the SCCOOS at Scripps to be invaluable in providing real time data on the highly dynamic ocean chemistry in our farm's shellfish grow-area. For example, there is a close correlation between the reported levels of PCO_2 in our lagoon and the upwellings from the adjacent Carlsbad Canyon, which changes the pH in the lagoon, while also serving as an indicator of the deep ocean nutrients which flow into the lagoon.

As a science-based decision support system, the Ocean Observing System's work interactively with local, state and federal agencies, resource managers, industry, policy makers, educators, scientists and the general public to provide data, models and products that advance our understanding of the current and future state of our coastal and global environment. SCCOOS focuses on coastal observations and product development to provide information necessary to address issues marine operations, coastal hazards, climate variability and change, and ecosystems, fisheries, and water quality

I understand that SCCOOS is funded primarily by the National Oceanic Atmospheric Administration (NOAA). Sustained funding for SCCOOS will be crucial to the maintenance of the program's ocean observing network and to the continuity of the important data products and services that these observations enable. Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Thomas Grimm". The signature is written in a cursive style with a large, sweeping initial "T".

Thomas Grimm
CEO and President
Carlsbad Aquafarm