WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

# Engaging the public with ocean acidification science

## Community members can help explore ocean acidification in local waters

Ocean acidification has received increasing attention in recent years, with front-page stories in local and national media outlets. To expand our understanding of acidification in Washington State, DNR founded the Acidification Nearshore Monitoring Network, or ANEMONE, in 2015. ANEMONE initially pursued two goals: to measure the progress of acidification and warming via high-quality environmental data, and to experimentally test practical management options that enhance ecosystem resilience.

In 2018, ANEMONE incorporated volunteer efforts. Volunteers, or 'Site Guardians,' commit to visit their site every two weeks from April to September in a given year. Site Guardians maintain scientific instruments, collect biological data, and participate in limited-term experiments. They receive hands-on training and presentations on the latest research findings. Following the success of these efforts, ANEMONE has adopted a third goal: to increase public engagement with ocean acidification and warming issues.

Site Guardians collecting data on eelgrass and shellfish in Fidalgo Bay.

Site Guardians count and measure eelgrass at Nisqually Reach.

## Why does this matter to DNR?

The ANEMONE sites are spread throughout Washington State, and DNR staff cannot tend to them frequently enough to prevent the overgrowth of algae and barnacles. Site Guardians have solved this problem through frequent visits and early removal.

ANEMONE supports experimental research, which often involves establishing replicated conditions across many sites. Site Guardians have made this more feasible by serving as local partners, taking measurements and monitoring conditions independent of DNR.

## For more information

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## Project Outcomes

Site Guardians have improved the quality of environmental data generated through ANEMONE. The overgrowth of algae and barnacles on scientific instruments can cause data loss, and these gaps have become less common where Site Guardians have volunteered.

Because Site Guardians live near their local site, they have reduced vehicle miles traveled for the ANEMONE program and attendant carbon emissions.

Site Guardians report high satisfaction in their engagement with ANEMONE, and particularly with the direct connection between volunteer efforts and relevant research. Through sharing what they learn, Site Guardians also play a large part in increasing awareness about the impacts of acidification and warming in their local communities.

## Future Opportunities

DNR hopes to recruit Site Guardians for all ten ANEMONE sites, and retain the excellent community scientists that have already joined the program.

Through their extensive experience in the field, Site Guardians have raised important scientific questions and proposed new experiments for ANEMONE. DNR intends to refine these proposals and work hand-in-hand with Site Guardians to advance acidification science and address matters of immediate public interest.

Site Guardians maintain sensors, measure oysters, and monitor shellfish reproduction at Cherry Point.

## Project Outputs

- More than fifty community scientists have trained or volunteered as a Site Guardian, covering eight of the ten ANEMONE sites.
- DNR hosted a volunteer summit in 2018, convening Site Guardians to practice protocols and disseminate the latest science. In 2019, DNR shifted to on-site trainings, and offered a webinar to convey new research findings.
- The Site Guardian program was prominently featured in the 2019 State of ANEMONE report. Site Guardians constitute a primary audience for DNR publications emerging from ANEMONE.

## Project Participants

Washington Department of Natural Resources
Nisqually Reach Nature Center
SURFRIDER FOUNDATION
RE SOURCES
Vashon Nature Center

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