Oregon Marine Reserves, an Up-Close Look

OREGON MARINE SCIENTIST AND EDUCATOR ALLIANCE

Annie Forman, Cathy Wade, Vic Quennessen

Researcher Bio:

Vic earned her BS in marine biology and computational mathematics at UMass Dartmouth in 2013, served a gap year as an environmental educator in MA, and is currently completing her MS in Fisheries Science at OSU.

Teacher Bios:

Annie received her BS in education and ecology at The Evergreen State College in 2010, and earned her MAT at Lewis and Clark in 2012. She has her Oregon Teaching License for k-12th grades and is endorsed in Biology and English Language Arts. She has been teaching for 8 years.

Cathy received her BAs in El Education and German at PSU and earned her MS in Math Education at OSU. She has her Oregon Teaching License for K-9th grades and has now been teaching for 25 years.

Classroom

Annie:

Grade 8 Science, Grades 7 and 8 Elective
125 students across 7 class periods
Special Education (25%)
ELL (18%)

Cathy:

Grade Grades 6-8 Math, 6th and 8th Science
90 students across 5 class periods
Special Education (25%)
ELL (12%)

Because of our ORSEA Partnership

We have a greater understanding of the role of professional research in student learning opportunities. Additionally, we are better able to present the myriad possibilities of careers in marine science.

Anchoring Phenomena

Oregon Marine Reserves; what are they good for, anyway?

At first glance, students may already understand that marine reserves and protected areas prevent take of fish and crabs, but they may not know the vast extent of data and resources these protected areas provide.

This unit provides lessons and investigations that allow students to gain a full perspective of the past and present history of Oregon's five marine reserves.

This Marine Research Matters Because

Fishing communities are an important part of Oregon culture, and managing fisheries well is an important part of both the ecology and the economy of our coast. It is therefore important to fully understand the effects of implementing marine reserves – what makes a good reserve design, what goals do the Oregon marine reserves have, and how can we tell if they are meeting those goals? Answering these questions can help improve the management of fisheries in and around the marine reserves.

Causal Explanation:

Many factors influence if and when MPAs will improve fish stock health. If no improvement is observed, this could be due to not enough time having elapsed relative to how long-lived the species is or a too small difference between historic and current fishing effort. Alternatively, the reserve could simply be too small or placed somewhere that is not helpful for the fish.

Learning Plan:

This plan is organized by the NGSS Science and Engineering Practices.

Activities and lessons found in the *Data Analysis* folder are centered around interpretation of data and mathematical and statistical reasoning. Those found in the *Informational Text* folder provide several lessons meant to establish a holistic background understanding of Oregon's Marine Reserves.

All lessons would be a positive supplement to a unit on Ecosystems, Community Ecology, Marine Ecology, Human Impact, and Statistics.

QR Code to full unit

Scan me!

RCRV Regional Class Research Vessels

NSF

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