NEWPORT, OR LABORATORY

US EPA OFFICE OF RESEARCH AND DEVELOPMENT

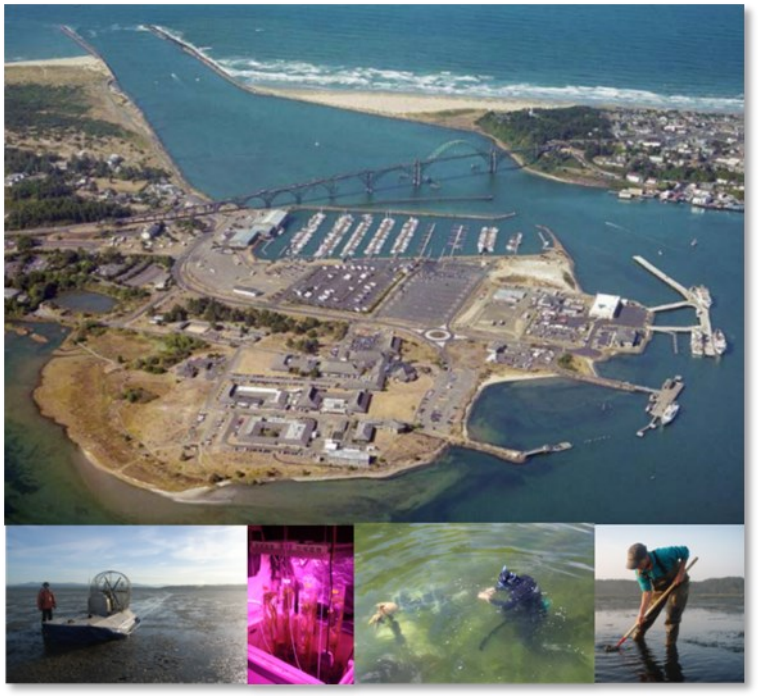
At a Glance

The EPA-ORD laboratory in Newport, OR is a recognized leader in advancing scientific knowledge concerning the health of our nation's waters, including rivers, streams, lakes and coastal waters and their impacts on human well-being. The laboratory contributes to the local economy in Newport and the surrounding region, and staff are active participants in the local community.

Science: ORD is a world-class research organization, and the research conducted by scientists in Newport has far-reaching significance, including support for decision-making at local, regional, and national levels. The Newport, OR facility is the only EPA laboratory conducting estuary (areas where fresh water from rivers and streams mix with salty ocean water) and ocean ecology research on the U.S. Pacific coast. One example of research is the investigation on the effects of rising ocean temperatures on seagrass, which is important habitat for shellfish on the Oregon coast.

***Community Engagement*:** Large portions of Tillamook Bay, OR, are closed to oyster aquaculture and recreational shellfish harvest because of high levels of fecal bacteria in Bay waters. In order to better understand the drivers of microbial pollution in estuary waters, EPA is collaborating with state scientists to determine which animals (humans, cattle, birds, dogs, etc.) are producing fecal bacteria found throughout the Bay, where it's coming from, and how it changes during the year.

Economic Impacts: On an annual basis, the Newport facility creates $1.2 million in disposable income from federal jobs and spends over $915,000 on contracts, grants, and supplies and equipment. These dollars are injected into the local economy as workers buy goods and services in the community, supporting additional jobs and spending and increasing overall economic output for the community.



Newport Laboratory Impacts by the Numbers

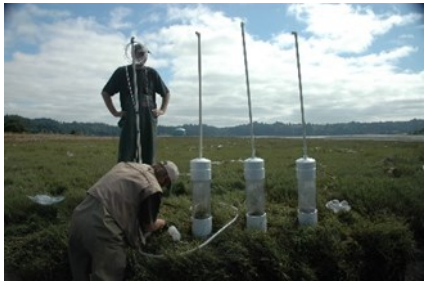
Newport (Lincoln County), OR		
23 Total jobs at the laboratory	**$2.2 million** Annual payroll, on-site contracts, and grant dollars supported by lab	**13** Federal jobs on-site
150 Students and post-docs in the region who have participated in studies with lab scientists	**33** Post-doctoral, student, and visiting researchers on-site	**1970** Year that EPA's National Coastal Control Research Program was established in Newport
	3 counties, 8 towns Where Newport lab employees live	

Did you know?

- The Newport facility is located on the Hatfield Marine Science Center campus (Lincoln County's 6th largest employer) operated by Oregon State University in cooperation with EPA and four other co-located state and federal agencies.
- The laboratory includes a highly adaptable seawater culture and testing system that serves all of the laboratories on the Hatfield Science Center campus.

Turn over for more science!

The Newport research facility is home to the EPA Office of Research and Development's Western Ecology Division's Pacific Coast Ecology Branch. It is a 40,000 ft2 facility located on the Hatfield Marine Science Center next to Yaquina Bay of the Pacific Ocean.



Mission and Science Facilities

Scientists at the Newport laboratory provide innovative new tools, knowledge, and technical expertise to help solve pollution-related problems facing Pacific coastal communities. This is EPA's only facility that conducts ecological research on the U.S. Pacific coast. A few examples of research performed at this facility are summarized below.

Surveys to Identify Contamination along the Pacific Coast

Scientists at the Newport facility identify coastal areas experiencing high chemical contamination of fish and sediments. Survey results provide communities and States with information to advise the public on the safety of consuming fish and to implement cleanup actions. They also provide a basis for determining where environmental conditions are improving or declining, and thus provide a report card for the success of environmental management at State and regional levels.

Scientists have also developed methods to measure the toxicity of contaminated sediments, methods that are used nation-wide to assess the safety of sediments slated for removal, disposal, or in-place treatment. These methods have been used to support local, State, and federal decisions for harbor and shipping-lane dredging, Superfund site clean-up, and restoration of contaminated shores.

In addition, scientists at the Newport laboratory are conducting research to identify sources of nutrient and bacterial contamination to coastal waters, thus providing coastal communities with the means to efficiently plan pollution reduction actions. These tools also inform water quality managers when enforcement is not necessary, such as when high concentrations of nutrients in bays come from natural sources like ocean upwelling and red alder trees.

Predicting changes to fish populations and biodiversity

Scientists at the Newport laboratory are predicting how changes in water quality, habitat, sea level, and precipitation could affect shellfish populations in bays and estuaries (areas where freshwater streams meet the ocean). Shellfish habitat maps produced by this research provide State and municipal resource agencies with information for managing fishery stocks, developing consumption health advisories, and prioritizing land-use decisions. Investigations of the impacts of these changes (sea level rise, temperature, and acidification) have been expanded to the entire Pacific coast, from the Gulf of California (Mexico) to the Arctic Ocean (Alaska).

Seagrass beds are also being investigated because they serve as essential habitat for fisheries species, such as Dungeness crabs, bay clams, and salmon. Methods developed to predict water quality effects on seagrass beds are being used by Washington State agencies to identify areas for seagrass restoration, and to estimate how fisheries resources and biodiversity increase when water quality improves.

Tools to predict ecosystem responses to stress

Newport scientists are developing tools to estimate how estuarine ecosystems of the Pacific coast respond to environmental stressors. For example, coastal biodiversity databases are used by Washington Department of Ecology to for indicators of benthic habitat condition. These widely used tools provide a comprehensive and accessible source of estuarine and watershed data and synthesis products for estuarine ecosystem decision making.

For more information, please visit: https://www.epa.gov/aboutepa/about-western-ecology-division-wed-epas-national-health-and-environmental-effects-research