



At a Glance

The EPA-ORD laboratory in Corvallis, OR is a recognized leader in advancing scientific knowledge and expertise 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 Corvallis 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 Corvallis has far reaching significance, including support of decision making at local, regional, and national levels. One example is the development of methods to measure and account for the goods and services provided by ecosystems to people and the economy such as methods to determine the value of maintaining seagrass to support healthy fish habitat, and methods to determine the cost of rising ocean temperature on shellfish along the Oregon coast.

Community Engagement: Scientists are working with local farmers in the Willamette Valley on ways to increase crop production without polluting downstream waters. Scientists also work with Tribes to protect salmon habitat, a critical cultural, subsistence, and economic resource.

Economic Impacts: The \$5.7 million in disposable income from federal jobs and over \$3.3 million in expenditures on contracts, grants, supplies and equipment that are injected into the local economy have broader impacts as that spending supports additional jobs and spending, and as workers buy goods and services in the community using their disposable income.



Corvallis Laboratory Impacts by the Numbers

| Corvallis (Benton County), OR | | |
|--|---|--|
| 127 Total jobs at the laboratory | \$8.8 million Annual payroll, on-site contracts, and grant dollars supported by lab | 50 Federal jobs on-site |
| 25% Percent of federal lab employees who bike to work each day | 28 Post-doctoral, student, and visiting researchers on-site | \$25 million¹ Federal dollars being spent to renovate the lab |
| 12th largest Employer in Corvallis | | |

¹ Approximately 90% of the \$25 million total facility renovation costs are expected to be locally spent using small and local businesses.

Did you know?

- This year Corvallis celebrated its 50th anniversary opening a time capsule from 1966 and burying a new capsule for future generations.
- Renovations of the Corvallis facility will install a geothermal heat pump system to save energy and a green roof will cover the new annex.
- Laboratory scientists are helping to protect migrating salmon by modeling the location and size of cold water pockets in the Columbia and Willamette Rivers. These cold waters are critical to survival of salmon that face increasingly warm stream temperatures.



The Corvallis research facility is home to the EPA Office of Research and Development's Western Ecology Division (WED). It is located on an 11 acre site on the west side of the Oregon State University campus. The laboratories, offices, and support operations total 98,867 ft².

Mission and Science Facilities

Scientists at the Corvallis facility are leaders in conducting research on terrestrial, freshwater, and coastal ecosystems and their connectivity. Scientists develop tools to monitor and predict the condition of these ecosystems and how they contribute to human well-being nationwide, with a focus on the Pacific Northwest and adaptation to a changing climate.

The Corvallis facility has unique capabilities including a stable isotope analysis research laboratory that can trace the path of chemicals moving through the environment. A few examples of the research conducted at the Corvallis facility are summarized below.

Maintaining the Health of our Nation's Waters

The National Aquatic Resources Surveys are collaborative programs among EPA, States, and Tribes designed to assess the quality of the nation's coastal waters, lakes and reservoirs, rivers and streams, and wetlands. The Corvallis facility is a world leader in this field, providing statistically valid monitoring survey designs and expertise to determine the health of the nation's water resources. Recently completed surveys found that 68% of US wetlands are in fair or good condition, and 1 in 3 lakes in the US are significantly polluted by excess nutrients.

Nutrient pollution occurs when too many nutrients, mainly nitrogen and phosphorus, flow into bodies of water. The excess nutrients act like fertilizer, and cause excessive growth of algae. Researchers at the Corvallis facility are working with farmers in the Willamette Valley to promote fertilizer methods that increase agricultural production without polluting downstream waters. By using less fertilizer, farmers can save money and reduce pollution at the same time.

Adaptation to Changes in Habitats

Increasing water temperatures in streams of the Pacific Northwest can have adverse effects on fish and other wildlife. Researchers at the Corvallis facility are developing modeling methods to identify the location and size of pockets of cold water that can be used by migrating salmon. These pockets are areas within a stream that are consistently colder than the adjacent areas and may be critical to survival of salmon if stream temperatures continue to warm. This is one of several habitat protection strategies developed by ORD scientists for salmon.



Preserving Safe Lands and Sustainable Resources

The Corvallis laboratory has extensive greenhouse facilities with controlled-environment chambers that are used to test, among other things, innovative concepts like 'biochar'. Biochar is a charcoal material generated from various sources (wood chips, plant residue, manure, etc.) by burning them under low-oxygen conditions. Depending on the source material and how it is charred, biochar has the potential to revitalize nutrient-poor soils, remove carbon dioxide from the atmosphere (carbon sequestration), and remediate soils around mining waste storage areas. Corvallis scientists are also on the cutting edge of engineered nanomaterials research. Engineered nanomaterials are fabricated microscopic materials that are used in electronics and pharmaceuticals. Understanding what happens to these materials as they are absorbed by plants

