

Water Quality Analyst

Job Description

Water quality analysts perform a variety of physical, chemical, biological and bacteriological analyses of water using sophisticated laboratory instruments and equipment, troubleshoot and resolve customers' water quality inquiries and complaints, and provide required data for water quality reporting.

Salary

Entry – \$39,000

Middle – \$56,000

Top – \$80,000

Core Tasks

- Develop solutions to water quality problems
- Conduct laboratory tests of water samples for chemical or microbiological parameters
- Assess the quality of taste and purity of drinking water
- Liaise with regulatory agencies and authorities
- Investigate causes of lapse in water quality

Workplace / Environment

- Work hours
Approx. 40 hours/week
(Often overtime work may be required to meet deadlines)
- Environment
Water quality analysts often work in a **laboratory or field setting**
- Travel
Moderate travel for meetings or other business trips

Education / Prerequisites

Education Level

Bachelor's degree in Biology, Chemistry, Biochemistry, Environmental Science or related. (Master's degree is often preferred)

Licensing

Certification from an American Water Works Association
Some cities may require state or local licensing/certification

Pre-Job Preparation

3-4 years of related prior experience (can be internships or shadowing). Core science classes and electives should be taken as well.

Experience

Soft skills

- Organization
- Analytical Skills
- Communication

Technical skills

- Knowledge of Lab Equipment/Processes
- Office Software (Excel and Word)

Career Path: Jane Dewell



About Me

Stormwater Manager for Maritime Properties -
The Port of Seattle

Bachelor's Degree - Zoology

Master's Degree - Environmental Studies

College Choices

"I was a zoology major in college. I joined the Peace Corps to teach science and math, and conduct health training in Africa. When I returned to the U.S. I went to graduate school. Due to my time in Africa, I decided rather than being a full-time teacher I would pursue environmental work."



"The graduate program I attended was with the University of Montana for **environmental studies**. My program was one of the very early interdisciplinary graduate programs out of that school. There's a lot of mining and resource extraction in the area. There was a lot of pollution to study in Montana from many years ago. My program was multidisciplinary: we had journalists, artists, physicists, foresters and many others. There are so many different opportunities in environmental work."

"My body of work includes **regulatory elements** associated with stormwater and water quality, with a lot of pollution prevention, and infrastructure elements. The purpose of having a well-functioning stormwater system in Puget Sound is to **reduce pollution** in Elliott Bay, the Duwamish River, and other places where we discharge.

"One part of our work involves **meeting city, state, and federal stormwater permit requirements**. It starts with the Clean Water Acts and includes regulations issued by the Department of Ecology. The Port has a municipal permit that the Port holds for all of our properties, which is mainly focused on **pollution prevention activities**. I manage that permit, and there are a lot of requirements for inspections and operations/maintenance.

"On the stormwater utility side, we have **responsibility for stormwater infrastructure**. We monitor stormwater lines to check their condition. We just completed conducting assessments on nearly 71 miles of stormwater lines on our maritime properties. Some of these lines were installed over 100 years ago, so we have our hands full, doing urgent repairs and looking at **long-term planning** for the issues that we found in the assessments, and in **preparation for climate change**. With increased storms, increased runoff and sea-level rise, that is definitely something that I want to put more attention to in the next few years."

About My Job

“We want to be doing as good of a job as we can to enhance habitat, and to ensure that the water running off of our properties is as clean as possible”

Pros

- “I’ve always been drawn to government because there’s an **element of public good** and I like working on that.”
- “We have industry as part of our work, and I’ve always liked being able to work with that type of environment and trying to improve it.”
- “Working at an organization where we have industry and I can work on **pollution prevention** on the water quality side of things is really **gratifying**.”
- “Working with a lot of people both at **the Port** and with **community partners**.”

Office Work

- “My first year and a half, I’d say I was out in the field examining properties or meeting with tenants every month. Now that I have more field support, **I occasionally go out**.”
- “**Definitely an office environment**. Most of the work is at a **computer**, involving paperwork, **research**, working with consultants, projects, and **data sheets**.”

Cons

- “**It’s always challenging when you’re working with a lot of different groups**. There are tenants that have a lot of resources, and the Port provides reasonable leases on property. But could do better on environmental work. We’re not a regulatory agency, so when we tell tenants that they need to improve their practices, **we can’t issue tickets or fines if they aren’t willing to change**.”
- “Sometimes **working with regulators** is a challenge since our priorities may be different.”

Fieldwork

- “Seattle Public Utilities and the State of Washington inspect businesses, so I’ll meet them if they’re checking our operations or inspecting one of our tenants.”
- “**I like to be out in the field**. It’s one thing to look at paperwork and plans, but I like to be in the field, which helps to understand little **nuances and complications that you don’t necessarily see on paper**”

Skills

- “**Communication.** You need to understand that there are a variety of ways that you can communicate with others.”
- “In leadership, you need to be trying to **meet others’ needs.**”
- “**Willingness to learn.** There’s never an end to learning, regardless of what skills you get. If you think that you know it all then you won’t stay interested in the work you do.”
- “Sense of humor. You need to be able to laugh at stuff and not take things too seriously. **It can help you enjoy your coworkers** and help you weather the negative stuff that comes your way.”

Education/Experience

- “A science background with **math skills** is always handy.”
- “You need to choose **things you really love working on.** Choose your path **based on your passion.**”
- “If you’re interested in the environmental field you need to know what you love to work on and **build skills in that narrower field** so you can branch out into environmental work.”

The Future of **Water Quality Analysis**

“In the next 5-10 years I want to see progress on addressing the long-term planning for the changes that will be happening on our planet”

“I think local governments are going to be feeling the economic and environmental effects of climate change very directly. In the Puget Sound region, we seem to be taking it seriously, but there are issues that my program needs to get more ahead of. There are some long-term planning issues that we need to really be working on, which will involve some sophisticated support in climate science and infrastructure work. We have a small contract going on with a research group that is looking all over the world for other stormwater technology and treatment systems to add to our capabilities right now. There’s going to be more work that’s needed in the future.”