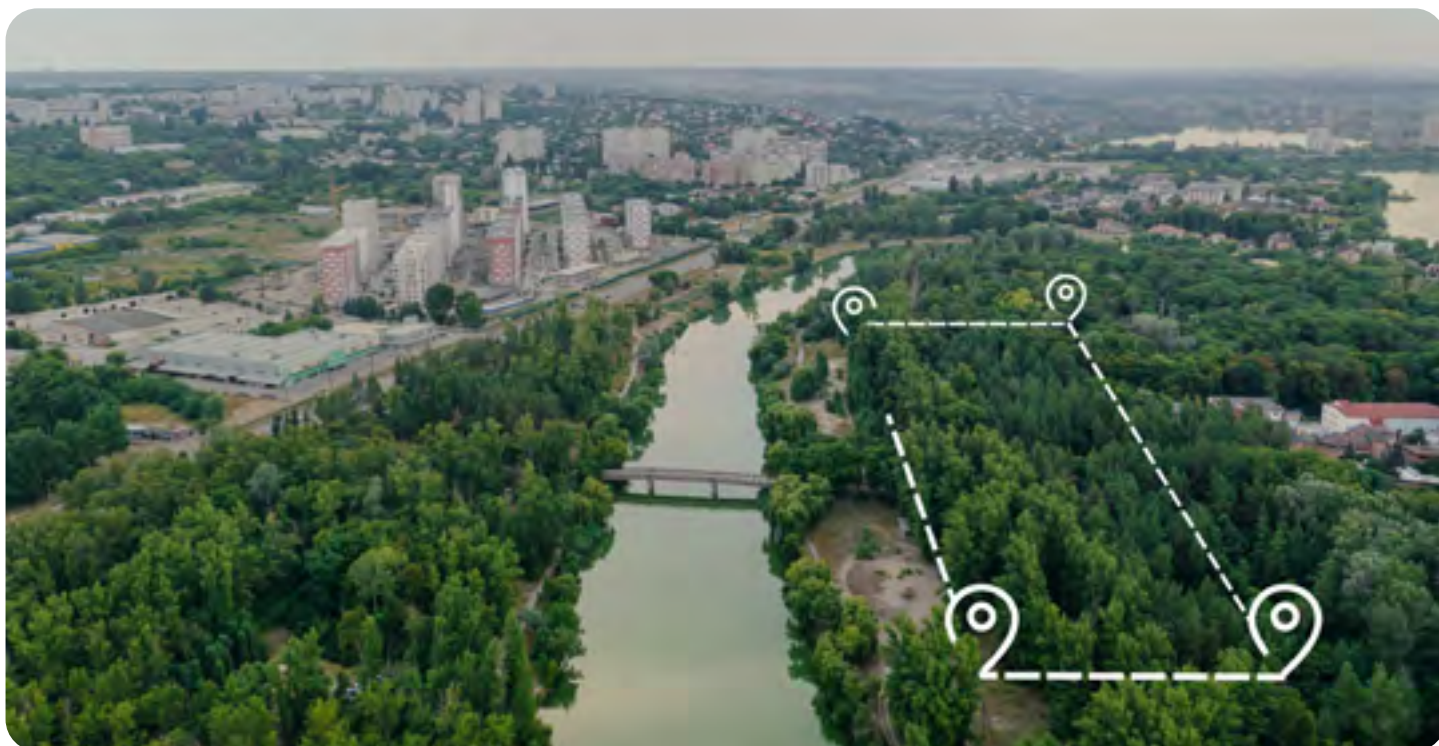




The white rectangle shows an area of land that will be developed along a river.

The quality of water in a river or lake is influenced by both natural factors and how people use the land around it. Activities like raising animals, cutting down forests, building cities, mining, making things in factories, and even walking our pets can all affect how clean our water is. This is called water quality. Everyone has a responsibility to take care of the watershed and the water systems within it. Our actions, good or bad, can add up and make a difference.

Understanding how clean our water is and how much water we have in a river or lake involves studying the condition of the waterways that contribute to it. We do these investigations for many reasons. Often researchers want to know which areas of the land around the water have the most **contaminants** (pollution). This information helps people who make decisions about how to improve water and make sure that pollution from one place doesn't harm other communities and ecosystems **downstream**.

When people who take care of the watershed research land use practices that might affect the water quality, they focus on two main sources of pollution: point and nonpoint. **Point source pollution** comes from a specific place, like a factory's pipe or a sewage drain. **Nonpoint source pollution** is harder to track because it could come from many different places. For example, it could be from **fertilizers** and pesticides used on farms, oil from cars in cities, or **sediment** (dirt and soil) that washes away from stream banks. Both point and nonpoint source pollution can be carried by surface **runoff** and **groundwater**. Point source pollution is easier to monitor and there are rules and laws to protect against it. But it's harder to protect water from nonpoint source pollution because it comes from many different places.

Land managers and **water managers** use **Best Management Practices (BMPs)** to reduce nonpoint source pollution. These are ways of using the land that help prevent contamination problems. In the United States, there are laws and regulations at local, state, and federal levels to guide development in ways that are better for the environment. People and organizations that don't follow these laws can get in trouble with the law and have to pay to fix any damage.

We are doing a better job now of protecting our waterways and more people understand the importance of clean water than in previous decades. However, pollution often still affects lower income communities and communities of color more than others. When laws aren't enforced or rivers aren't cleaned up, these communities often deal with the consequences. **Environmental justice** means that everyone, no matter their class or race, should have the chance to live a healthy life in a clean and safe environment. It's not fair when some communities have more pollution than others.

One example of injustice is the Bronx River in New York City. The river starts in a wealthier area before flowing through the Bronx. In the past, the river was used as a dumping ground for industrial waste. Because of this, the communities along the Bronx River have to deal with a lot of the city's waste and pollution. These communities have high rates of health problems. They are also some of the poorest communities in the country. Many groups are working to clean up the river so that the people in the Bronx and downstream can enjoy it.



Career Connections

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
INSPECTOR • WATER QUALITY MANAGER • REGULATORY COMPLIANCE
OFFICER • ENVIRONMENTAL SCIENTIST • ENVIRONMENTAL LAWYER •
ENVIRONMENT PROTECTION TECHNICIAN**