



POLK COUNTY WATER QUALITY MONITORING PROGRAM

GOALS & OBJECTIVES



Polk County Conservation Board's mission is to provide the citizens of Polk County with quality outdoor recreation, conservation education, and long term protection of Polk County's natural heritage.

To accomplish our mission, it is important that we have current and relevant information about the streams that flow within the watersheds of Polk County. As a result, we established the Polk County Conservation Water Quality Monitoring Program (PCCWQMP) in 2015. Support for this program evolved from the passing of the Polk County Water and Land Legacy Bond in 2012.

Polk County Conservation is dedicated to environmental health and recognizes water quality as a fundamental priority in this region. The goal of the water monitoring program is to assess the water quality of watersheds within Polk County. Specific objectives include:

- **establish a baseline** for determining stream health based on chemical, physical, habitat and biological parameters
- **assess the health** of the local watersheds within Polk County and target areas in need of water quality improvement
- **create partnerships** with the public in order to grow our water monitoring program
- **better understand** the needs of our watershed system within Polk County



PLAN & PROCEDURE

Twice per month, staff and volunteers trained in IOWATER monitoring procedures from Polk County Conservation, and the cities of Altoona, Ankeny, Des Moines, Johnston, and West Des Moines test 70 sites across Polk County. Field monitors record water transparency and temperature, pH, dissolved oxygen, nitrates/nitrites, chloride, and phosphates. Observations such as water odor and color, and the presence of animals, tile lines and piping are noted.

Regular monitoring should be able to detect changes to water quality in the future. The data collected will be used to determine overall health of the watershed and identify areas of concern.

WATER QUALITY MONITORING

WHAT WE ARE MONITORING

70 sites



NITROGEN

Fixed nitrogen is an essential nutrient for plant growth. Too much fixed nitrogen will cause increased plant and algae growth and can change the types of plants and organisms that live in the stream. High levels of nitrate and nitrite (two forms of nitrogen) can also be dangerous to your health. Fixed nitrogen in streams can come from human and animal waste, decomposing plants, soil, and fertilizer runoff.

CHLORIDE

Chloride is a measure of salt and can naturally occur in streams at low concentrations.

WATER CLARITY

Water transparency is a measure of water clarity. When more materials (soil, algae, and microbes) are suspended in the water, it is less transparent.

DISSOLVED OXYGEN

Dissolved oxygen refers to the level of oxygen present in water. The amount of dissolved oxygen in water fluctuates with water temperature, stream flow, and rate of photosynthesis of aquatic plants. Low dissolved oxygen is harmful to aquatic organisms. Transparency, time of day, time of year, and human activities influence these factors.

AQUATIC LIFE

Biological sampling took place to determine if there was aquatic life in the stream. The presence of certain species are an indicator of the health of a habitat. While some species can tolerate a degree of pollution, others cannot survive in poor conditions.

GOING FORWARD

It takes several years of data to identify trends in water quality or the effectiveness of conservation measures and habitat improvement for any watershed. Seasonal changes and dramatic weather events such as flooding, drought, and extreme temperatures cause variability in results. Gathering more data will allow staff to detect changes in water quality and better assess the health of our watersheds. We can then share this information with our watershed and governmental partners to aid in our future efforts.

What can you do going forward? Consider becoming a trained volunteer so you can begin to monitor streams or creeks near you.

TRAINED
staff & volunteers



For more information about the water quality monitoring program, contact Ginny Malcomson at 515-323-5300 or ginny.malcomson@polkcountyiowa.gov.