

# Iowa Department of Natural Resources

# WATER QUALITY STANDARDS

## SURFACE WATER CLASSIFICATIONS IN IOWA

### WATER QUALITY STANDARDS

Water quality standards (WQS) define the water quality goals of a water body. They are accomplished through: designated uses, water quality criteria, and antidegradation. These three parameters are shown in the figure below.

#### DESIGNATED USES:

Water quality goals for surface water



#### WATER QUALITY CRITERIA:

Levels of water quality that will support designated uses; expressed as numeric values and/or narrative statements

#### ANTIDEGRADATION:

Framework for maintaining and protecting water quality that has already been achieved

Pursuant to state and federal law, the Iowa Department of Natural Resources (DNR) assigns designated uses to each water body in Iowa. These designated uses help improve and protect Iowa's water quality.

### SURFACE WATER CLASSIFICATIONS

All waters of the state are classified for protection of beneficial uses. These classified waters include designated use and general use segments.

**General use segments:** These water bodies are intermittent (or flow only for short periods following rain), are above the water table, and do not maintain a viable aquatic community or pooled conditions during periods of no flow.

**Designated use segments:** These water bodies maintain flow throughout the year or contain sufficient pools during intermittent flow to maintain a viable aquatic community. There are ten (10) different designated uses; each is explained below:

- 1. Primary contact recreational use (A1):** Recreational uses involve full body immersion with prolonged and direct contact with the water, involving considerable risk of ingesting enough water to pose a health hazard. Examples: swimming, water skiing.
- 2. Secondary contact recreational use (A2):** Recreational uses involve incidental or accidental contact with the water, where the probability of ingesting water is minimal. Examples: fishing, shoreline activities.
- 3. Children's recreational use (A3):** Recreational uses involve children's activities. These water bodies would be shallow enough to not meet A1 requirements, but would be located near residential areas, population centers, public spaces, etc. where children's recreation is likely to occur. Examples: wading, playing in the water.
- 4. Warm Water Aquatic Life - Type 1 (BWW1):** These water bodies are typically large interior and border rivers and the lower segments of medium-size tributary streams capable of supporting and maintaining a warm water game fish population, along with a variety of aquatic life.
- 5. Warm Water Aquatic Life - Type 2 (BWW2):** These water bodies are typically smaller, perennially flowing streams capable of supporting and maintaining a resident aquatic community that includes non-game fish species. However, they lack the flow and habitat necessary to fully support and sustain game fish populations.
- 6. Warm Water Aquatic Life - Type 3 (BWW3):** These water bodies are typically intermittent streams with non-flowing perennial pools capable of supporting and maintaining a resident aquatic community in harsher conditions. They lack the flow and habitat necessary to fully support and sustain a game fish population.
- 7. Cold Water Aquatic Life - Type 1 (BCW1):** These water bodies have temperature and flow that are suitable for the maintenance of a variety of cold water species, including reproducing and non-reproducing populations of trout (*Salmonidae* family) and associated aquatic communities.
- 8. Cold Water Aquatic Life - Type 2 (BCW2):** These water bodies include small, channeled streams, headwaters, and spring runs that possess natural cold water attributes of temperature and flow. They do not support populations of trout (*Salmonidae* family), but they may support associated vertebrate and invertebrate organisms.
- 9. Human Health (HH):** These water bodies have fish that are routinely harvested for human consumption. They may also be designated both as public water supply and as having fish that are routinely harvested for human consumption.
- 10. Drinking Water Supply (C):** These water bodies are used as a raw water source of potable water supply.

For more information on how designated uses are applied to Iowa water bodies, see the Water Quality Standards: Use Attainability Analysis (UAA) Fact Sheet and Iowa's Surface Water Classification document posted on the [DNR's WQS website](#).

**DNR contact:** Marie Todey at (515) 204-7569 or [marie.todey@dnr.iowa.gov](mailto:marie.todey@dnr.iowa.gov).

