IOWA DEPARTMENT OF NATURAL RESOURCES

Assessing Iowa Stream Uses

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To establish goals and levels of protection for Iowa's water, the Iowa DNR – in compliance with the federal Clean Water Act – assigns designated uses to each river and stream in Iowa.

"Water quality standards are essentially the goals for Iowa's waters," said Rochelle Weiss, a DNR environmental specialist. "Use designations are one part of the standards, and they help us categorize water bodies by what they're used for – recreation, aquatic life, drinking water or a combination of those. These designated uses help direct the level of protection afforded to a water body."

Rebuttable Presumption

Under current state rules, and in order to maintain compliance with the Clean Water Act, it is presumed all perennial streams and rivers are attaining the highest level of recreational and aquatic life uses and should be protected for uses such as swimming and fishing. This concept of assigning all perennial streams the highest use designation, unless an assessment shows the stream is unable to support those uses, is referred to as the "rebuttable presumption." When this rule was first put in place in Iowa in 2006, this applied protections immediately to 26,000 miles of Iowa streams. Included in the federal regulations and state rules, provisions do allow for site-specific scientific analysis of these "presumed" recreational and aquatic life uses.

Use Attainability Analysis (UAAs)

There are many types and sizes of streams in Iowa, and some, particularly in agricultural regions of the state, may not be capable of supporting the presumed uses. An integral part of assessing a stream is verifying the appropriate designation to apply to a stream. The DNR applies the concept of Use Assessment and Use Attainability Analysis (UA/UAA, or UAA) as a step-by-step process to gather site-specific field data on stream features and uses. The DNR then assesses available information to determine if the "presumed" recreational and aquatic life uses are appropriate.

Who needs UAAs

If a facility needs a National Pollutant Discharge Elimination System (NPDES) discharge permit as required by the federal Clean Water Act, the DNR will complete a UAA for the receiving stream or stream network before issuing the permit.

When these facilities are identified through permit applications or from other outside requests, the DNR places them on a workload book. This starts the process for facilities that tracks what stream segments need a UAA.

Timelines

The DNR tracks requested UAAs to plan its seasonal field work, create a project schedule and determine resources needed. Staff also consider stream flow, weather and stream conditions when scheduling field work. Streams may only be assessed under "base flow conditions," when recreational use or aquatic life conditions are the most representative. It cannot be completed during elevated flow or drought conditions. Recreational use assessments may only be conducted from March 15 to Nov. 15, and aquatic life use assessments may only be completed from July 1 through Sept. 30.

Components of UAAs

The first step in the UAA process is gathering field data in and along streams. These data, which detail physical features of the stream and determine recreational and aquatic life uses happening in the waterbody, are collected at base stream flow conditions. The DNR uses scientifically-based field procedures for the assessments.

Gathering data

The DNR considers a number of factors when conducting an assessment. Staff collect existing data from

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

General Use: Intermittent waters flowing only for short periods, are above the water table, and do not maintain viable aquatic community or pooled conditions during periods of no flow.

Designated Uses: Waters maintain flow throughout year or sufficient pools during intermittent flow to maintain viable aquatic community. Designated uses are shown below:

- **Class A1 - Primary contact recreational use:** The water's recreation uses involve full body immersion with prolonged and direct contact with the water, such as swimming and water skiing.
- **Class A2 - Secondary contact recreational use:** Water recreation uses involve incidental or accidental contact with the water, where the probability of ingesting water is minimal, such as fishing and shoreline activities.
- **Class A3 - Children's recreational use:** Water recreation uses where children's activities are common, like wading or playing in the water. These waters are commonly located in urban or residential areas where the banks are defined and there is visible evidence of flow.
- **Class B(WW-1)** - Typically large interior and border rivers and the lower segments of medium-size tributary streams capable of supporting and maintaining a wide variety of aquatic life, including game fish.
- **Class B(WW-2)** - Typically smaller, perennially flowing streams capable of supporting and maintaining a resident aquatic community, but lack the flow and habitat necessary to fully support and sustain game fish populations.
- **Class B(WW-3)** - Intermittent stream with non-flowing perennial pools capable of supporting and maintaining a resident aquatic community in harsher conditions. These waters lack the flow and habitat necessary to fully support and sustain a game fish population.
- **Class B(CW-1)** –Waters in which temperature and flow are suitable for the maintenance of a variety of coldwater species, including populations of trout (Salmonidae) and associated aquatic communities.
- **Class B(CW-2)** – Waters including small, channeled streams, headwaters, and spring runs that possess natural coldwater attributes of temperature and flow. Do not support populations of trout (Salmonidae), but may support vertebrate and invertebrate organisms.
- **Class HH** – Human Health: Waters in which fish are routinely harvested for human consumption or waters both designated as public water supply and routinely harvested for human consumption.
- **Class C** – Drinking Water Supply: Waters which are used as a raw water source of potable water supply.

the Drought Monitor, U.S. Geological Survey (USGS) stream gauges on stream flow, the National Oceanic and Atmospheric Administration (NOAA) on rain patterns and USGS topographic maps and aerial photos, among others.

At the site, staff take depth measurements, assess the stream for aquatic life and game fish conditions, and take photos. They also look for signs of recreation on and around the stream and talk to nearby residents about how people use the stream. If no one is present to interview, DNR staff leave a postcard behind with a few simple questions. They also look at maps of the area and other references to look for the presence of parks, schools and other potential recreational uses. After compiling all this data and creating stream and site maps, staff create a UAA report for the recreational uses and aquatic life uses as required and as applicable.

After the assessment

These completed UAA reports are initially sent to the facility. A meeting may be requested by the facility to discuss the determinations. The UAAs are entered into the UA/UAA database so the facility and public may see relevant site documents. The recommended aquatic life and/or recreational use designations for a receiving stream or river will be noted in each UAA report in detail. (Descriptions of designated uses are listed in the box at left.)

After considering new information from the facility or the public, and where appropriate, after modifications to the recommended use designations are made based on that information, the DNR begins formal rulemaking to incorporate amendments to the stream or river's use designation. Formal rulemaking is required because any amendment is a change in the waterbody's use designation(s), which is specifically listed in DNR rules (IAB 455b, Chapter 61).

The rulemaking process includes a public notice published in the Iowa Administrative Bulletin and various public hearings across the state to receive written and oral comments. DNR staff prepare a Responsiveness Summary of all comments received during the public notice period and post it at www.iowadnr.gov.

Following the public notice process, the Environmental Protection Commission takes formal action on the rules and submits them to EPA for formal approval. The entire UA/UAA posting to EPA approval process takes about 10 to 12 months.

If the findings verify the assessed stream is a general use stream, only flowing intermittently (not perennially or with an intermittent flow with perennial pools), rulemaking is not required.