Tiered aquatic life uses overview

A framework that protects water quality and the aquatic life dependent upon a healthy ecosystem

The Minnesota Pollution Control Agency (MPCA) adopted the Tiered Aquatic Life Uses (TALU) framework to improve how we protect water quality and the fish and invertebrates (e.g., insects, crayfish, mussels) that live in and on our waters. TALU is a method of classifying rivers and streams (referred to collectively as streams) based upon what fish and invertebrates we expect to see in healthy streams. Better data and modeling tools allow agency staff to provide better stream management and protection of fish and invertebrates.

To measure the health of these communities, biologists use a tool called the index of biological integrity (IBI). It requires collecting fish and invertebrates from a stream and counting the number of each species. The counts are converted into an IBI score and compared with the IBI score from streams of the same type that have healthy fish and invertebrate communities. A low IBI score indicates a compromised stream where the biological health, or biological integrity, of the stream is low. A high IBI score indicates a healthy stream where the biological integrity of the stream is high.

A low IBI score also means that a stream is not meeting minimum state water quality standards. Currently, all streams (including drainage ditches) must meet Class 2 water quality standards which protect water quality for the aquatic life in the water and for recreation uses. Streams that fail to meet minimum water quality standards must be improved. The MPCA would undertake actions to improve streams with low IBI scores through the agency's Watershed Restoration and Protection Strategies including revisions to wastewater discharge permits.

The aquatic life expectations we have for our streams, as expressed as IBI scores, form the basis for TALU. The TALU framework divides Class 2 streams into Exceptional, General, and Modified Uses. Exceptional use streams are high quality waters with fish and invertebrate communities at or near undisturbed conditions. General use streams are waters with good fish and invertebrate communities that meet minimum goals. Modified use streams are waters with legally altered habitat that prevents fish and invertebrate communities from meeting minimum goals. Each of these classifications have specific written expectations and biological criteria for fish and invertebrates.

TALU Tier	Exceptional Use	General Use	Modified Use
Short definition	High quality waters with fish and invertebrate communities at or near undisturbed conditions	Waters with good fish and invertebrate communities that meet or should meet minimum goals	Waters with legally altered habitat that prevents fish and invertebrate communities from meeting minimum goals
Examples	 St. Croix	 Little Cedar River	 Judicial Ditch 7

The TALU framework:

- **Provides more protection for high quality waters.** Exceptional use waters are protected to maintain the current healthy condition of fish and invertebrate communities.
- **Sets attainable goals for waters affected by past activities such as ditching.** Past physical alterations often make restoration of these waters unrealistic and wastes effort and resources. Modified use waters have goals recognizing the impact of past physical alterations on fish and invertebrates. Attainable goals are based on what can be achieved with proven habitat improvement and restoration techniques.
- **Clarifies how goals apply to each TALU classification.** Narratives in state rule explain which stream type IBIs would be used to measure health of fish and invertebrate communities and how the biological criteria were developed.
- **Incorporates numeric goals for fish and invertebrates into rule.** The rule clarifies the IBI numbers that apply to specific stream types.

The TALU framework does not:

- **Create a wholesale shift from chemical to biological standards for monitoring and assessing aquatic life goals.** The MPCA has been collecting and utilizing fish and invertebrate data for assessing aquatic life beneficial uses since the 1990s. The TALU framework improves the current approach by creating more refined aquatic life use goals that can be matched to what is attainable in streams.
- **Add additional authority to regulate ditches.** Ditches created under Minnesota Drainage Law are considered waters of the state and protected for aquatic life and recreation uses (Class 2). The TALU framework does not change ditch law or when drainage ditches can be repaired, maintained, or cleaned. Rather, it provides more realistic expectations for aquatic life goals recognizing habitat limitations associated with legal ditch activities.
- **Relax pollution controls or create a framework to remove waters from the impaired waters list.** As required by the Clean Water Act, changes to the beneficial use of a waterbody will require a technical evaluation and a separate rule making. The TALU framework may affect existing pollution controls or water quality management requirements making them **more or less** stringent.

Streams monitored as part of the Intensive Watershed Monitoring (IWM) strategy will be routinely reviewed to determine if they are Exceptional, General, or Modified Use streams. In addition, the TALUs for some streams will be reviewed and determined outside of the IWM cycle as needed. This includes streams that were monitored before the adoption of the TALU framework, but were not assessed for fish and invertebrates because these reaches were potentially impacted by this revision to Minnesota's aquatic life uses. As a result of these efforts, the MPCA will undertake regular rulemaking to update designated uses in rule to reflect these more appropriate biological goals.

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For more information, visit https://www.pca.state.mn.us/water/tiered-aquatic-life-uses-talu-framework or www.pca.state.mn.us