Preliminary concept plan of the amendments the Minnesota Pollution Control Agency (MPCA) is developing to incorporate the TALU framework into the existing Water Quality Standards (WQS)

What is TALU about?

The state Water Quality Standard(s) (WQS)[1] currently classify all of Minnesota's waters according to their designated beneficial uses (e.g aquatic life, industrial use, etc.) and apply chemical, physical and biological criteria[2] according to those uses. Most surface waters in Minnesota are classified as Class 2, which means the applicable WQS protect aquatic life (in addition to recreation uses). Traditionally, aquatic life has been protected through the application of criteria based on water chemistry or physical properties (e.g., limits on the amount of chloride, atrazine, pH, etc.). However, the use of only chemical and physical criteria may provide an incomplete assessment. Measuring one, two or even a handful of chemical and physical parameters as a surrogate for protection of aquatic life can miss impairments. The MPCA currently uses biological criteria to directly measure the condition of aquatic life in streams and rivers, but this is currently a "one-size-fits-all framework. The tiered aquatic life uses (TALU) framework is a system for classifying streams and rivers based on the biological condition that is attainable for a water body. Under TALU, waters may be classified as Exceptional, General, Modified or Limited Use, based on a review of biological condition and habitat quality. In the last 20+ years the MPCA has greatly advanced the tools and capabilities for performing accurate and consistent biological assessments. Incorporating the TALU framework into rule will modernize Minnesota's WQS and better align the WQS with the actual process of water assessment.

Adopting the TALU framework into the state WQS will:

1. provide more refined uses in the aquatic life use class (Class 2)
2. not change the existing numeric and narrative criteria but will clarify how they apply to each TALU tier
3. add numeric biological criteria
4. remove Class 2C use designations
5. re-format the list of existing beneficial uses for specific waters in 7050.0470 in a pdf format that will be easier to understand and update

The TALU revision will only impact the WQS that apply to rivers and streams and not the WQS that apply to lakes, reservoirs or wetlands. The chemical/physical criteria that already apply to Classes 2A and 2B waters will not be revised.

What will the rule changes look like?

The amendments will most significantly affect 7050.0222, which is the rule that establishes the WQS for Class 2 Waters (Aquatic life and recreation):

- 7050.0222 will be amended to add to the existing list of abbreviations and acronyms. A number of new terms related to the new TALU classifications will be added:
  - exceptional coldwater and exceptional warmwater habitat
  - general coldwater and general warmwater habitat
  - modified warmwater habitat
  - limited resource habitat

[1] "WQS" refers to the rules that consist of a combination of the "use classification" and the narrative or numeric "criteria" that protect those uses.

[2] "criteria" refers to the numbers specified in the WQS.

- 7050.0222 will be revised to add narrative criteria for identifying the new TALU classifications. The amendments will establish a specific description for each of the new TALU related classifications. (e.g. "this is what constitutes an *exceptional cold water habitat*", or "this is what constitutes a "*modified warmwater habitat*"….)
- Numeric biological criteria will be added to define the TALU classes. For example, tables will be added that document the biological criteria for TALU tiers for each fish and macroinvertebrate stream class (as shown below).

Biological criteria for warmwater habitat (existing Class 2B)

Waterbody Type	Tier	Class	Assemblage	Criterion
Southern Rivers	Excellent	2Be	Fish	71
	General	2Bg	Fish	49
Southern Streams	Excellent	2Be	Fish	66
	General	2Bg	Fish	50
	Modified	2Bm	Fish	35
Southern Headwaters	Excellent	2Be	Fish	74
	General	2Bg	Fish	55
	Modified	2Bm	Fish	33
Northern Rivers	Excellent	2Be	Fish	67
	General	2Bg	Fish	38
Northern Streams	Excellent	2Be	Fish	61
	General	2Bg	Fish	47
	Modified	2Bm	Fish	35
Northern Headwaters	Excellent	2Be	Fish	68
	General	2Bg	Fish	42
	Modified	2Bm	Fish	23
Low Gradient	Excellent	2Be	Fish	70
	General	2Bg	Fish	42
	Modified	2Bm	Fish	15
Northern Rivers	Excellent	2Be	Macroinvertebrates	77
	General	2Bg	Macroinvertebrates	49
Southern Rivers	Excellent	2Be	Macroinvertebrates	63
	General	2Bg	Macroinvertebrates	31
High-Gradient Northern Streams	Excellent	2Be	Macroinvertebrates	82
	General	2Bg	Macroinvertebrates	53
Low-Gradient Northern Streams	Excellent	2Be	Macroinvertebrates	76
	General	2Bg	Macroinvertebrates	51
	Modified	2Bm	Macroinvertebrates	37
High-Gradient Southern Streams	Excellent	2Be	Macroinvertebrates	62

Waterbody Type	Tier	Class	Assemblage	Criterion
	General	2Bg	Macroinvertebrates	37
	Modified	2Bm	Macroinvertebrates	24
Low-Gradient Southern Forest Streams	Excellent	2Be	Macroinvertebrates	65
	General	2Bg	Macroinvertebrates	43
	Modified	2Bm	Macroinvertebrates	30
Low-Gradient Prairie Streams	Excellent	2Be	Macroinvertebrates	69
	General	2Bg	Macroinvertebrates	41
	Modified	2Bm	Macroinvertebrates	22

- Minn. R. 7050.0470, which is the rule which specifically identifies certain waters as Class 2A and 2Bd, will be changed. Under TALU, all river and stream reaches (not just those designated as 2A and 2Bd) will be listed under Minn. R. 7050.0470 with a list of the beneficial uses that apply.
- The existing Class 2C WQS will be eliminated from 7050.0222, subpart 5. Most 2C streams will be reclassified as a more specific TALU subcategory. (Note: This subpart currently provides site-specific WQS for certain parts of the Mississippi and Minnesota Rivers and these site-specific WQS will be retained when these reaches are redesignated as Class 2B.)
- Minn. R. chs. 7052 and 7053 may be amended to reflect the TALU changes being made to Minn. R. ch. 7050, (Ch.7052 establishes WQS that apply in the Lake Superior Basin, and chapter 7053 establishes effluent limits and treatment requirements).
- Minn. R. 7050.0150, which describes how compliance is determined, will be changed as a result of TALU. Specifically it will better define the role of biocriteria in WQS and describe the options for making a finding of either attainment or nonattainment.

What will be the effect of the TALU amendments?

- The numeric and narrative criteria will be more refined and specifically tailored to the biological qualities of a Minnesota's streams (as opposed to the current, "one-size-fits-all" standard).
- The TALU rule will result in better and more efficient management of Minnesota's aquatic resources by setting attainable and appropriate biological goals for streams. For example, resources will not be used to attempt to restore waters beyond what is attainable through current technologies. These waters include those that are limited by legal and necessary activities (e.g., ditch maintenance).
- TALU will result in greater protection for very high quality and exceptional waters so that the high quality of these valuable waters is not compromised.
- The result of better water resource management through Minnesota's TALU framework will be an improved focus that results in the desired outcomes for the protection and restoration of beneficial uses. This will result in a better use of resources and improve certainty for stakeholders, including dischargers and users of Minnesota's waters.