


Fisheries Division  Policy & Procedure	Program Field Operation	Date Drafted: 08/10/2021
	Chapter 02 Resource Management	
	Responsible Program Field Operations	

Title Stream Classification and Redesignation Policy and Procedure	Number 02.02.024
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REFERENCES

Hamilton, D. A., R. C. Sorrell, and D. J. Holtschlag. 2008. A regression model for computing index flows describing the median flow for the summer month of lowest flow in Michigan. U.S. Geological Survey, Scientific Investigations Report 2008-5096, Reston, Virginia.

USEPA (U.S. Environmental Protection Agency). 2014. Best Practices for Continuous Monitoring of Temperature and Flow in Wadeable Streams. Global Change Research Program, National Center for Environmental Assessment, Washington DC; EPA/600/R-13/170F.

Wehrly, K. E., T. O. Brenden, and L. Wang. 2009. A Comparison of Statistical Approaches for Predicting Stream Temperatures Across Heterogeneous Landscapes. Journal of the American Water Resources Association (JAWRA) 45(4): 986-997.

Wills, T. C., T. G. Zorn, and A. J. Nuhfer. 2006. Stream Status and Trends Program sampling protocols. Chapter 26 in Schnedier, James C. (ed.) 2000. Manual of fisheries survey methods II: with periodic updates. Michigan Department of Natural Resources, Fisheries Special Report 25, Ann Arbor.

Zorn, T. G., P. W. Seelbach, E. S. Rutherford, T. C. Wills, S. Cheng, and M. J. Wiley. 2008. A Regional-scale Habitat Suitability Model to Assess the Effects of Flow Reduction on Fish Assemblages in Michigan Streams. Michigan Department of Natural Resources, Fisheries Research Report 2089, Ann Arbor.

Zorn, T. G., P. W. Seelbach, and E. S. Rutherford, 2012. A Regional-Scale Habitat Suitability Model to Assess the Effects of Flow Reduction on Fish Assemblages in Michigan Streams. Journal of the American Water Resources Association (JAWRA) 48(5): 871-895.

POLICY

Fisheries Division staff shall use an established stream classification procedure, to include the StreamCheck or similar Management Team approved tool, to evaluate proposed redesignations of stream or river thermal classifications (cold, cold-transitional, cool, or warm) as defined in Part 327, Great Lakes Preservation, Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

EXPLANATION

In response to concerns over increased use and potential diversion of water, the Michigan Legislature enacted Part 327 - Great Lakes Preservation, Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) to prevent large capacity water withdrawals from decreasing stream flows to the extent that they would functionally impair a stream’s ability to support characteristic fish populations (Hamilton et al. 2008). The statute specified the stream’s ability to support characteristic fish populations as the critical component of acceptable use. An integrated assessment model, the Water Withdrawal Assessment Tool (WWAT), was developed to determine whether a given withdrawal would cause an adverse impact on a nearby stream or river. The WWAT integrates stream morphology, hydrology, water quality, and biological features for the purpose of

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managing a water withdrawal, while allocating water use for recreation, fish habitat, and environmental integrity (e.g., Zorn et al. 2008, 2012, Wehrly et al. 2009).

The Department of Environment, Great Lakes & Energy (EGLE) Water Resources Division has regulatory authority over water withdrawals from surface water and groundwater, including large quantity water withdrawals and conducting technical modifications to the WWAT as more data become available. The DNR Fisheries Division participates in the water withdrawal assessment process to ensure aquatic resources and fish populations are protected from adverse resource impacts. The Director of the DNR has the authority to change stream classification types from their original designations.

The science-based structure of the WWAT allows for an adaptive approach to regulation and management. If information from a site-specific review or other evidence-based source indicates the need to modify a stream's thermal classification, the WWAT can be updated to reflect new information.

The Water Use Advisory Council (WUAC) was established in December 2012 to advise the Quality of Life Agencies (Departments of Environment, Great Lakes & Energy, Natural Resources, and Agriculture and Rural Development) on the State's Water Use Program and issues related to implementation of Part 327. The WUAC came up with 69 recommendations in their Final Report, including Technical Underpinning 4.2, which forms the basis for the StreamCheck tool:

TU 4.2 The DNR should write up the procedures and criteria used to modify stream classification. The procedures and criteria should be reviewed by the Council, or similar stakeholder group, before adoption by the Department.

Typically, recommended changes to stream classification arise when there is a technical problem with the original classification or additional reach data becomes available (e.g., from other agencies, stakeholder groups, private industry, etc.). The StreamCheck tool is a spreadsheet-driven program maintained by Fisheries Division that informs the stream classification and reclassification processes. Using StreamCheck, Fisheries Division can determine whether modifying a stream classification is appropriate using fish community and stream temperature data. As a result, Fisheries Division may recommend reclassification to either a less sensitive category, which would allow additional allocation of water where it will not cause adverse resource impacts, or to a more sensitive category if evidence suggests a stream is cooler than predicted. The StreamCheck tool, and accompanying procedure, provides defensible methodologies for stream classification and reclassification. The stream classification procedure ensures that an objective science-based approach is used when changes to stream designations are recommended to the Director of the Department of Natural Resources (DNR).

PROCEDURE

The designated DNR Fisheries Division and EGLE Water Resources Division representatives (one from each agency) will complete the following steps outlined here and explained in the following paragraphs:

1. Collect and gather relevant data.
2. Enter fisheries community and stream temperature data into StreamCheck.
3. Independently interpret the outcome of the StreamCheck analysis along with other relevant data.
4. Make one of the following determinations:
 - a. Evidence does not merit a change in stream classification;
 - b. Evidence does not merit a change in stream classification, although additional information should be collected and analyzed in the future; or
 - c. Evidence does merit a change in stream classification.
5. Develop documentation for the recommended stream classification category.

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Relevant data, as described in detail in the StreamCheck tool, will be gathered and entered for each stream segment or reach under review. These data include fish community information collected from electrofishing surveys using DNR Fisheries Division’s Stream Status and Trends Protocol (Wills et al. 2006) and from temperature measurements following the DNR Fisheries Division’s Stream Thermal Reclassification Policy and Procedure, based largely on Environmental Protection Agency’s best practices for continuous monitoring of temperature (USEPA 2014). Information on fish community will be used as the primary determinant of any change in stream classification along with what is known about the stream’s temperature.

The DNR and EGLE representatives will interpret the outcomes of the StreamCheck analysis and make one of the following recommendations:

1. Evidence does not merit a change in stream classification;
2. Evidence does not merit a change in stream classification, although additional information should be collected and analyzed in the future; or
3. Evidence does merit a change in stream classification.

If more information is needed, the reviewers will provide a description of what is needed and for what period(s) of time. The representatives from the two agencies will use a consensus decision process to make a final recommendation.

Final recommendations for modifying stream classification will be based on interpretation of fisheries and temperature data along with other relevant information including, but not limited to: climactic features of sample years; factors contributing to fish assemblage which may not be captured in survey data; survey or sampling methodology; statistical strength of associations; and best professional judgment.

All information and analyses must be documented as an appendix to the final recommendation.



James Dexter, Chief

9/07/2021

Date