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DEVELOPING CONSISTENCY IN INTERPRETATION AND COMMUNICATION OF NON-TARGET MORTALITY ASSOCIATED WITH LAMPRICIDE TREATMENTS

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PLAIN LANGUAGE SUMMARY:

Public perception of the sea lamprey control program (SLCP) relies on clear communication of program goals, objectives, techniques, success, and effects. Lampricide applications can kill aquatic species other than sea lampreys. This is called ‘non-target mortality’ (NTM). NTM during lampricide applications can range from a few individuals of a few species to hundreds of individuals of one or more species.

Inconsistency exists within the sea lamprey control program, and the Great Lakes Fishery Commission (GLFC) “family” as a whole, with respect to messaging around the severity and extent of NTM that can occur during lampricide applications. This was highlighted in a survey where “family” members responded to questions regarding what species are expected to be seen during a treatment, when and why mortality occurs, when they consider it to be significant, and whether the benefit to the Great Lakes fishery is worth the cost of NTM.

The goal of this project was to develop a consistent understanding of NTM caused by lampricides, based on science (data) and rooted in an understanding of risks and tradeoffs. Knowledge gained during the project was expected to be used to develop clear internal and public-facing messaging regarding the scope and scale of lampricide-induced NTM.

MAIN MESSAGES:

The intent of this project was to synthesize existing data to develop a fact-based understanding of the scope and scale of NTM and contributing circumstances. Results were to then be used to develop a more refined and uniform message regarding NTM that could be communicated internally within the sea lamprey control program and used to develop external messaging (Appendix 2; Barber and Steeves, 2023).

The scope and scale of lampricide-induced NTM could not be determined from existing survey and treatment data. Available water chemistry data (pH, alkalinity) was collected for the purpose of setting lampricide concentrations to treat streams. Because measurements were not consistently taken (i.e. hourly at application and monitoring sites), and not taken at survey sites, water chemistry data could not be used to explain NTM events. The NTM data provides an indication of the species we might expect to see with the greatest frequency during treatments. However, the sample size of most surveys was small in relation to the sections of stream treated.

A well-designed, long-term study would provide insight regarding the scope, scale, and cause of NTM during stream treatments.