

Minnesota Hydraulics Model Library FAQs

[What can be found in the Minnesota Hydraulics Model Library?](#)

[What Types of Models are Available?](#)

[Which Modeling Programs are used?](#)

[General Disclaimer](#)

What can be found in the Minnesota Hydraulics Model Library?

The model library is a mapping application for the State of Minnesota that allows you to view and download available hydraulic models along a waterway. These models have been compiled, but not necessarily developed by the Minnesota Department of Natural Resources and are provided as a service. Please see the disclaimer section for a description of the liability associated with the use of these models.

Models in the MNDNR database can be accessed by selecting a stream reach, and the available models are shown on the right hand side of the screen. Stream reaches are defined by the reaches in the Coordinated Needs Management Strategy (CNMS) Database, which was developed by FEMA to manage floodplain mapping information. For the current CNMS data and more information, click [here](#).

[Back to top](#)

What Types of Models are available?

FIS & LOMR models are the models used in creating Flood Insurance studies. The FIS and LOMR models available on this website are, to the best of our knowledge, electronic copies of the input files to various modeling programs used to calculate the water surface profiles and floodway limits for the respective Flood Insurance Studies. However, the MNDNR does not guarantee these models to be the legal models for FEMA purposes. It is the user's responsibility to confirm that these models are the effective models for the FIS in question. Please refer to the [FEMA website](#) for information on how to obtain copies of this modeling. Please note that LOMR models may cover only a portion of the reach.

Approximate models were created for use in delineating Zone A floodplains on Flood Insurance Rate Maps. These models are created based on Federal Emergency Management Agency (FEMA) standards for Flood Insurance Rate Maps (FIRMs). As the name implies, these models

are not detailed hydraulic studies, and were created to determine the limits of Zone A floodplains on the FIRMs. Limitations of these models are:

- Models do not include survey data and not all of the hydraulic structures,
- Although most models used the LiDAR Digital Elevation Model certified to 2 foot contour accuracy, some models are based on the USGS Digital Elevation Model certified to 10 foot contour accuracy, and
- Models use USGS regression equation peak discharges.

Typically, these models would not be acceptable for use in a detailed study, or for the evaluation of a constriction in a floodway application. Proposed use of these models for regulatory purposes should be discussed with Zoning Administrator before any models are submitted for approval. Zoning offices can contact Division of Ecological and Water Resources staff for advice.

No rise models are developed to evaluate projects in the floodway that result in no change to the water surface elevation. These are widely used for MNDOT bridge replacement projects. No rise models are included in this database only if they are submitted to DNR.

[Back to top](#)

Which Modeling Programs are used?

HEC-RAS is the U.S. Army Corps of Engineers program for performing one-dimensional hydraulic calculations, this is the standard program used by the Division of Ecological and Water Resources for these purposes. You can find information on HEC-RAS (including legacy versions) [here](#).

HEC-2 is the predecessor to HEC-RAS, a large amount of legacy data for HEC-2 exists. Information on the program can be [found here](#).

XPSWMM information can be [found here](#).

[Back to top](#)

General Disclaimer

Important information regarding hydraulic models available on the MNDNR, Division of Ecological and Water Resources website.

The FIS, LOMR, Approximate and No-Rise models available on this website are, to the best of our knowledge, electronic copies of the input files to various modeling programs used to calculate the floodplain and floodway limits and water surface profiles for the respective Flood

Insurance Studies. However, the MNDNR does not guarantee these models to be the legal models for FEMA purposes. It is the user's responsibility to confirm that these models are the effective models for the FIS in question. Please refer to the [FEMA website](#) for information on how to obtain copies of this modeling. Dates of models listed and model extents shown are not guaranteed to be accurate. User must verify the model information. All models available may also not be listed, so the user should not assume that if a model is not shown, that it does not exist.

All models are provided "as is" without any kind of guarantee as to their accuracy or applicability for a particular purpose. Even though every effort is made to provide accurate information, the user assumes all risks concerning the suitability and accuracy of the models downloaded from this web site. These models may contain technical inaccuracies or typographical errors. The State of Minnesota, Department of Natural Resources, Division of Ecological and Water Resources assumes no responsibility for and disclaims all liability for any such errors in the models.

The Division of Ecological and Water Resources may make changes to these models at any time and without notice. We strive to have this modeling resource as complete and accurate as possible; any errors found in these models can be reported to the Division of Ecological and Water Resources by Email at Suzanne.jiwani@state.mn.us . Division of Ecological and Water Resources staff can only provide limited assistance in interpretation or guidance regarding these models. For more information, please refer to the [MNDNR Floodplain Management website](#).

[Back to top](#)