



# Illinois Department of Natural Resources

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JB Pritzker, Governor  
Colleen Callahan, Director

## Use This, Not That: H&H Standards for IDNR/OWR Mapping Submittals

With the rise of unsteady and 2D modelling, climate change, and the release of Bulletin 75, incorporating the 2019 updates to Bulletin 70 and updates to the Huff distributions, you may have questions about standards for mapping submittals.

Bulletin 75 is now required as the basis for new studies.

Existing studies based on Bulletin 70 remain valid, see appended Bulletin 75 handout.

*StreamStats* is not sufficient hydrology for a detailed watershed study. *StreamStats* is useful for calibration and verification of detailed hydrologic and hydraulic analyses results, but cannot replace a detailed models based on Bulletin 75.

We do not accept unsteady 1-dimensional *HEC-RAS* models. Existing unsteady models must be converted to steady-state, but please consult with us before you begin. Some of the MWRDGC watershed studies using unsteady 1D *HEC-RAS* have been reviewed by IDNR/OWR, but not all.

2-Dimensional *HEC-RAS* models are only accepted with prior consultation and clear, preferably written, IDNR/OWR approval. 2D models will only be accepted for complex situations that cannot be adequately represented in a 1D model.

Consult with IDNR/OWR before building or revising models in any software other than *HEC-HMS* and steady-state 1D *HEC-RAS*. This includes legacy software used to create regulatory models, such as *WSP2*, *HEC-1*, and *HEC-2*, and *FEQ* outside of DuPage County.

In several cases, models have been used which we would not typically accept. Use of these models does not set a precedent for acceptable use. These include, but are not limited to:

- DuPage County *FEQ*
- Boneyard *SWMM*
- Rock River unsteady 1D *HEC-RAS*

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## Use of Bulletin 75 & Updated Bulletin 70

The release of "Frequency Distributions of Heavy Precipitation in Illinois: Updated Bulletin 70" was announced at the March, 2019 annual IAFSM conference. Bulletin 75, which includes updates to the Huff distributions, is expected in 2020

At the 2019 conference IDNR/OWR stated that we would require use of Updated Bulletin 70 for all new studies beginning January 1, 2020, and strongly encouraged its use in studies in 2019.

Studies which were initiated prior to March 2019 can continue with Bulletin 70. These studies must include study timeline/process documentation when submitted for review.

Updated Bulletin 70/Bulletin 75 is replacing the original Bulletin 70 for studies going forward.

Existing regulatory hydrologic and hydraulic studies based on Bulletin 70 will remain the regulatory models.

IDNR/OWR permits based on Bulletin 70 models will remain valid.

IDNR/OWR permitting staff does not expect Bulletin 75 to impact the review process.

Effects on mapping and floodplain/floodway delineations will take effect gradually, as studies using Bulletin 75 are adopted.

Flood control and similar large projects that are to be mapped when completed will be handled on a case-by-case basis. If a hydrologic study was required for the permitting, IDNR/OWR expects to allow the original Bulletin 70-based study for the final mapping. If as-built conditions mapping would require revision to hydrology, Bulletin 75 should be used.

CLOMRs will be treated similarly: unless significant changes between permitted design and as-built conditions would have triggered new hydrologic and hydraulic analyses, the LOMR can be finalized with the original Bulletin 70-based models.

The use of StreamStats to determine peak flows for sizing and permitting highway crossings of streams without detailed studies will remain acceptable.

Tie-ins to existing studies will continue to be considered on a case-by-case basis, as necessary.

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