

Proposed Engineering Model Summary Table for Middle &amp; Lower Wabash Watersheds

Flooding Source	Reach	Hydrologic Model Proposal	Hydraulic Model Proposal	Rationale for Models Selected
Wabash River (Zone AE)	Ohio River confluence to Wabash River Mile 187.72	Historic gage data, as agreed by Illinois and Indiana DNRs	HEC-RAS (1D steady-state)	<p>Illinois and Indiana DNR's have coordinated and agreed to the peak flow rates used in this study, which were derived from historic gage data.</p> <p>The United States Army Corps of Engineers Hydrologic Engineering Center's River Analysis System (HEC-RAS) hydraulic modeling software will be used to calculate surface water elevations and inundation extents of each hydraulic reach. These models will be conducted in 1-dimensional, steady-state condition because flows are generally steady in time and gradually varied in space, with channel slopes generally less than 10%.</p>
Watershed (Zone AE streams)	<ul style="list-style-type: none"> <li>• Mill Creek Lake - 3.5 miles</li> <li>• East Mill Creek Reservoir - 0.76 miles</li> <li>• Lincoln Trail State Park Lake – 1.3 miles</li> <li>• Mill Creek – 1.3 miles</li> <li>• Mill Creek Tributary – 0.44 miles</li> <li>• Lamotte Creek Tributary – 1.4 miles</li> <li>• Greathouse Creek - 2.5 miles</li> </ul>	HEC-HMS	HEC-RAS (1D steady-state)	<p>The United States Army Corps of Engineers Hydrologic Modeling System (HEC-HMS) is designed to simulate complete hydrologic processes and will be used to calculate the peak flow discharges of the streams.</p> <p>The United States Army Corps of Engineers Hydrologic Engineering Center's River Analysis System (HEC-RAS) hydraulic modeling software will be used to calculate surface water elevations and inundation extents of each hydraulic reach. These models will be conducted in 1-dimensional, steady-state condition because flows are generally steady in time and gradually varied in space, with channel slopes generally less than 10%.</p>

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Watershed (Enhanced Zone A streams)	<ul style="list-style-type: none"> <li>• Crabapple Creek Tributary 1 – 3.7 miles</li> <li>• Sugar Creek 2 Tributary 1 (Crawford County)– 1.6 miles</li> <li>• Sugar Creek 2 Tributary 1A – 0.23 miles</li> <li>• Sugar Creek (Edgar County) – 15.7 miles</li> <li>• Bonpas Tributary 1 – 0.85 miles</li> <li>• Sugar Creek (Crawford County) – 2.3 miles</li> </ul>	USGS StreamStats application	HEC-RAS (1D steady state)	<p>The United States Geological Survey (USGS) StreamStats application will be used to obtain basin characteristics and streamflow statistics for hydrologic data. StreamStats utilizes regression equations developed by the USGS for Illinois and generates peak flow discharges which are sufficient for use in the hydraulic analysis.</p> <p>The United States Army Corps of Engineers Hydrologic Engineering Center's River Analysis System (HEC-RAS) hydraulic modeling software will be used to calculate surface water elevations and inundation extents of each hydraulic reach. These models will be conducted in 1-dimensional, steady-state condition because flows are generally steady in time and gradually varied in space, with channel slopes generally less than 10%.</p>
Lower Wabash HUC 8 Watershed (Zone A streams)	Various locations, see location map (Approx. 224 miles total)	USGS StreamStats application	HEC-RAS (1D steady state)	<p>The United States Geological Survey (USGS) StreamStats application will be used to obtain basin characteristics and streamflow statistics for hydrologic data. StreamStats utilizes regression equations developed by the USGS for Illinois and generates peak flow discharges which are sufficient for use in the hydraulic analysis.</p> <p>The United States Army Corps of Engineers Hydrologic Engineering Center's River Analysis System (HEC-RAS) hydraulic modeling software will be used to calculate surface water elevations and inundation extents of each hydraulic reach. These models will be conducted in 1-dimensional, steady-state condition because flows are</p>

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Middle Wabash-Busseron HUC 8 Watershed (Zone A streams)	Various Locations, see location map (Approx. 274 miles total)	USGS StreamStats application	HEC-RAS (1D steady state)	<p>The United States Geological Survey (USGS) StreamStats application will be used to obtain basin characteristics and streamflow statistics for hydrologic data. StreamStats utilizes regression equations developed by the USGS for Illinois and generates peak flow discharges which are sufficient for use in the hydraulic analysis.</p> <p>The United States Army Corps of Engineers Hydrologic Engineering Center's River Analysis System (HEC-RAS) hydraulic modeling software will be used to calculate surface water elevations and inundation extents of each hydraulic reach. These models will be conducted in 1-dimensional, steady-state condition because flows are generally steady in time and gradually varied in space, with channel slopes generally less than 10%.</p>