Pass ability Score

- Category: Network

- A numerical score from 0-1 that indicates how passable a barrier is likely to be, where 0=complete barrier and 1=fully passable. All dams are considered complete barriers, unless there is known fish passage facilities at a dam. Dams with fish passage were reviewed by J. Royte and E. Martin from The Nature Conservancy and assigned a pass-ability score based on the efficacy of passage at the dam.

- Culverts that are fully passable or full barriers are identified based on the NAACC categorical screening criteria. Passability for culverts identified as potential barriers in the categorical screen are based on a reduced AOP hydraulic model developed by Ben Matthews, The Nature Conservancy (benjamin.matthews@tnc.org) using field-collected culvert data and modeled stream flows. The value represents the stream flow at which a velocity of 2 feet/second would be reached within the culvert pipe. A culvert that would reach this velocity at a lower flow is considered less passable than a culvert which requires a higher flow to reach this velocity.

- This metric is used in the generation of other metrics. It is not available for prioritizations.

- See FishPassageCoarseScreenForMaineCulverts.pdf for more information on the categorical screen analysis

- Unit: Index

- GIS Field Name: Passability

Input Variables	Usage
Structure Type	Logic parameter used to select the correct geometry calculation for pipes, boxes
Total Crossing Span	Measurement of Diameter or Width for X-sectional Area calculations
Crossing Height	Measurement of Diameter or Height for X-sectional Area calculations
Inlet Water Depth	Measurement of Water Depth in Culvert for back calculation of flow from manning's equation
Corrugations	Binary Classification of culvert Corrugation for estimate of manning's N Roughness coefficient
Number Of Culverts	Logic parameter to divide Flow and Span by to control for Multiple Culverts
Latitude & Longitude of Crossing Point	Grid location of crossing snapped to NHD flowline for StreamStats regression calculations
Q2 & Mean& day Low Flow from Stream Stats	Used to model range of flow conditions--(((Q2-LowQ) X 1/10)+ LowQ) based on and comparing the distribution of these derived low flows to the Observed Flow during Survey to find best fit.
Observed Flow during Survey	Classification of flow as High, Moderate or Low based on crew observations at time of NAACC survey.
Slope from NHD PLUS	Slope of Reach passing through culvert for Calculation of Velocity