Cumulative Upstream Salmon Habitat Units

- Category: Sea Run

- The cumulative upstream salmon habitat units metric assesses the amount of upstream salmon habitat units[1] that would be made available upstream of a barrier, accounting accounts for the cumulative impacts of partial passability at upstream barriers. For a given target barrier, it is calculated as the sum of the probability weighted salmon habitat units in the barrier's upstream functional network, plus the weighted salmon habitat units in the upstream functional networks of all of its upstream barriers multiplied by the cumulative passability score between the target barrier and each upstream barrier. Given the sketch below, the cumulative upstream salmon habitat units for the target barrier would be:

$$(416)+(450*0.5)+(325*0.5*0.75)+(128*0.5*0.75*0.5)+(140*0.5*0)+(50*0.5*0*1)$$

$$=$$

$$416 + 225 + 121.875 + 24 + 0 + 0$$

$$=$$

$$786.875$$

- Unit: Index (cumulative salmon habitat * cumulative passability)

- Sort Order: Descending

- GIS Field Name: cumulativeSalmHabUnits

[1]Jed Wright and Alex Abbott, U.S. Fish and Wildlife Service, Gulf of Maine Coastal Program; Tara Trinko Lake, NOAA Fisheries Service, Maine Field Station; John Sweka, U.S. Fish and Wildlife Service, Northeast Fishery Center

Note: This metric is based on an intermediate product of the Dendritic Connectivity Index: Cote, D., Kehler, D.G., Bourne, C. and Wiersma, Y.F., 2009. A new measure of longitudinal connectivity for stream networks. *Landscape Ecology*, *24*(1), pp.101-113.

Weighted Salmon Habitat units= 128
Passability = 0.5
Weighted Salmon Habitat units = 325
Passability = 0.75
Weighted Salmon Habitat units = 140
Weighted Salmon Habitat units = 50
Passability = 1
Passability = 0
Weighted Salmon Habitat units =450
Passability = 0.5
Weighted Salmon Habitat units = 416
Target Barrier