

Cumulative Upstream Functional Network

- Category: Network
- The cumulative upstream functional network metric assesses the amount of river habitat that would be made available upstream of a barrier, accounting accounts for the cumulative impacts of partial passability at upstream barriers. 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 barrier's upstream functional network, plus 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 functional network for the target barrier would be:

$$(4,230)+(3,150*0.5)+(2,890*0.5*0.75)+(1,020*0.5*0.75*0.5)+(2,680*0.5*0)+(1,785*0.5*0*1)$$

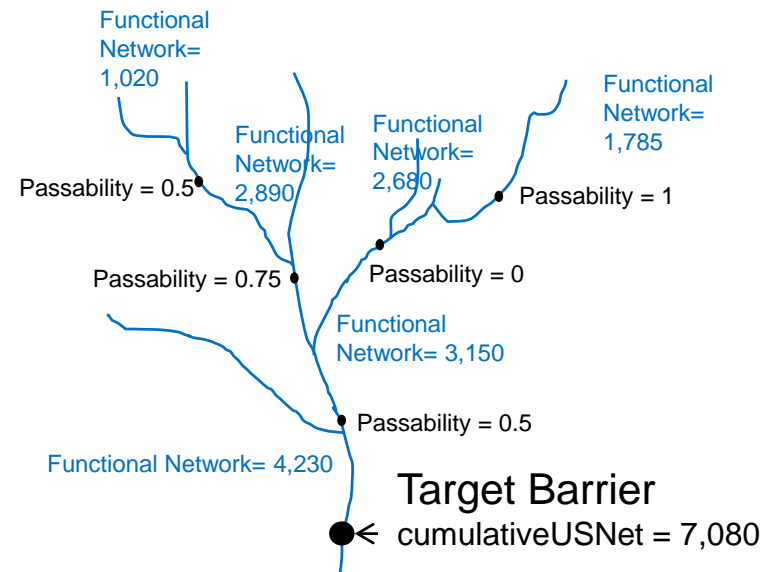
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$$4,230 + 1,575 + 1083.75 + 191.25 + 0 + 0$$

=

7,080

- Unit: Index (cumulative meters * cumulative passability)
- Sort Order: Descending
- GIS Field Name: cumulativeUSNet



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.