

Aquatic Sub-team; CTR Design Project
IEI Metrics Weighting Meeting Results
June 19, 2014

Attending: David Perkins (Co-chair - USFWS), John Warner (Co-chair – USFWS), Andrew MacLachlan (USFWS) scribe, Andrew Milliken (USFWS), Katie Kennedy (TNC), Ben Letcher (USGS), Pete Murdoch (USGS), Dave Stier (Springfield Science Museum), Kevin McGarigal (UMass).

1) Summary of recent decision: After the June 12th query, the aquatic sub-team has approved the use of the default weighting of “1” for each aquatic system/macro-group (i.e. equal weighting to each macro-group on the landscape. Note this is different than the approach taken with terrestrial/wetlands macro-groups by the other project sub-team). The spread sheet that summarizes some statistics on these macro-groups is CTRiverSystemWeights.aquatic-12June.xls.

The need to increase the general importance of one macro-group in the Connecticut River watershed over another is not certain. And the impact of adjusting these model weights on the mix of aquatic landscape “habitats” ultimately identified for conservation is not clear enough to warrant changes. In addition, the default weighting of “1” for each macrogroup does not generate any obvious problems.

2) Meeting Task: Approve or adjust the current weighting of metrics in the ecological integrity models for the aquatic ecosystem. The definitions for each metric are found in the UMass document entitled IntegrityMetrics.docx.

Today we review of the IEI input metric weightings to see how they apply to new aquatic macrogroups and afford the team members a better understanding of the IEI model results. During this meeting we reviewed the current default weight for each of the 18 metrics for the 25 aquatic macro-groups, and made some changes (Note, the terrestrial/wetlands sub-team did not make any changes to the default metrics weightings provided to them).

The intent of this meeting was to look for changes to existing aquatic metric weights that warranted significant adjustment, rather than make subtle adjustments to the initial metric weights that were established by a previous group of experts.

The results of the meeting include weightings of aquatic system intactness (a.k.a stressor) and resiliency metrics for the model producing the index of ecological integrity. The weightings are found in the table file named Weighting Aquatic Integrity Models 19June.

The table lists ecological systems (generalized macrogroups) in the rows, and metrics of intactness and resiliency in the columns. The macrogroups were “generalized” for the purpose of assigning these weightings because we felt the weightings of importance could be assigned more easily, but just as

accurately, to the generalized eco-systems. The metrics columns were developed by the UMass team based on data that were useful measures and available for the 14 states of the northeast region. The table was initially populated with weight assignments that were generated a few years ago as part of the UMass CAPS project (Conservation Assessment and Prioritization System). These starter aquatic systems weights were originally generated through consensus discussions by aquatic systems experts, led by Scott Jackson from UMass (pers. comm. Kevin McGarigal).

We agreed to assess each metric for influence only on the lotic and lentic water areas, not on palustrine wetlands or riparian uplands even when directly adjacent to the water eco-systems. We felt that the other Conn River project sub-team would assign influence factors to the terrestrial and wetland eco-systems. When assessing the metric weights, we decided to consider if a stressor metric impacted the structure, composition, and function of the aquatic system, regardless of where they occurred. We agreed to consider metric ranks compared with other metrics within a macro-group (a row of the table) not between macro-groups (eco-systems).