

The City of Portland's initial responses to the Science Panel July 26, 2010

1. While the scientists identified limitations for using the HEP/HEA and HSI, they did not know of any other model that would better serve the city's needs and goals at this time. All models have limitations and they can be improved upon. The scientists did indicate that combining HEP and HEA actually addressed some of the limitations of those models when used independent of each other.

However the scientists did also raise considerable suggestions for improvements within the framework of the HEP and HEA approaches. Namely they highly recommended utilizing a functional based approach instead of a species approach.

The City had used species as a surrogate for habitat and habitat as a surrogate for function but the scientists thought that would not meet the City's goals of no net loss of ecosystem function within the mitigation program. Notably the City did propose using a functional based assessment for the wetland and somewhat in the grassland components.

Therefore the City is evaluating the use of a functional- as opposed to species_based HSI for HEP and developing HSIs that will include many of the same evaluation criteria as the previous model, but will likely include additional criteria and address broader ecosystem processes that benefit more species. These HSIs will then populate the HEA model. One initial idea is to look to the Portland Watershed Management Plan and the effort to define measures of watershed health for general guidance on functions which includes measures of hydrology, physical habitat, water quality and biological communities. The HSIs would continue to be grouped according to habitat type such as riverine (which may include floodplain), upland, grassland, riparian, wetland and stream. One overriding consideration is that any changes will be acceptable to our federal and state regulatory partners so that the applicant is not "double mitigating" as a result of any changes under consideration.

The scientists also emphasized the importance of including a score for connectivity and painting a more detailed picture on what the City expects in terms of ecological outcomes for this part of the landscape. These concepts may be more important than rigorous requirements of in-kind and on-site mitigation. We will be looking into this further, but it may require additional work that might not be completed in time for the in lieu fee and may only be incorporated into the mitigation certification rules. In addition, we will better describe the overall landscape context of this effort relative to the city's overall prioritization, other restoration programs within the City including stormwater management, tributary restoration and contaminated site cleanup.

2. The Science Panel had multiple, at times differing answers to these questions. Some thought we should have more aquatic species and more upland species, but others thought we had too many and adding more would add too much complexity. The resounding theme was that we should identify the functions and then determine the species.

The City believes that if we reevaluate the species HSIs, then this question is somewhat moot. If we create functional based HSIs, we can identify which species will most likely benefit from those functions but we will not be mitigating for specific habitat requirements for individual species.

3. The panel agreed that the City should use the best available science, not just peer-reviewed published data. In some cases, best professional judgment may be needed. This guides our ability to develop functional based HSIs.

The responses to this question really highlighted the need to elaborate on the City's monitoring and adaptive management to ensure that the goals of the mitigation program are met over time (i.e. are we really maintaining no net loss)?

The City has two types of monitoring strategies. First is the project based monitoring. As restoration projects are built at the Pearls detailed would be required for a period of five years. This is standard permit requirements and will be a requirement for the certification of any mitigation bank. In addition, the City conducts watershed wide monitoring throughout the City, that mirrors the EPA's Environmental Monitoring and Assessment Program (EMAP) methods. This includes sites on the mainstem Willamette and Columbia Rivers that would look at water quality, habitat, fish and benthic communities. It will allow a more robust, contextual analysis of the individual project monitoring sites by providing a comparison to the overall watershed health. The City is considering articulating adaptive management measures within the mitigation bank administrative rules and encourages feedback and ideas on this comment.

4. In response to this question, the scientists raised many considerations, such as place, size, rarity, quality of habitat in between habitats, temporal, and life cycle needs. The City agrees that these are important and believe that they can be incorporated into the functional assessment for HEP. The temporal component is best addressed by the HEA model. While discussed in response to question 1, the notion of subjectivity or imprecision as an inherent part of the HEP application deserves attention here under question 4. The panelists suggested multiple ways to minimize the impact of that subjectivity on the scores and success in meeting the city's goals. The suggested solutions ranged from simple ratios, to adding uncertainty factors, to providing additional levels of review at different thresholds. We will be looking further into all of these suggestions to determine if one, or a combination of them, are appropriate for either the in-lieu fee or the mitigation bank criteria.

In the written comments, the scientists suggested reconsideration of the in-kind vs. out of kind and on-site vs. off-site prioritization. Taken together with the repeated theme to consider the landscape and context, the City proposes to include a discussion of the ecological importance of the North Reach to the overall Willamette and Columbia Rivers and within the City of Portland, the prioritization of the "Pearls" within the North Reach, the other efforts throughout the city for restoration and mitigation within the tributaries and in the uplands, such as stormwater management. That discussion will include the historical functions believe to be present and provided for in the North Reach. The City will evaluate whether it makes sense to build in some flexibility to the in-kind and on-site prioritization and if so, how to do so in a way that directly furthers the goal of no net loss of ecosystem function. For example, a project that proposes to impact a wetland may trigger an off-site wetland requirement. However, if none of the Pearls that the City can use for mitigation are appropriate for wetland development because of the hydrology

or other site constraints, then the rigidity of the in-kind requirement might not further the City's goals. It is not the City's intent to build ecological features that won't be successful in the long run.

5. We provided the opportunity for the scientists to add any additional thoughts or considerations and they had a few for us to consider. Many of these were addressed above, including additional aquatic restoration objectives which can be captured in a functional based assessment, the additional consideration of "place" or connectivity, and for stormwater systems which will be addressed by including the larger discussion on the overall landscape and context described above.