Examples of Ecological Services Accounting Using Habitat Equivalency Analysis in Support of Environmental Decision-Making

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Habitat equivalency analysis (HEA) was originally developed by the National Oceanic and Atmospheric Administration as a natural resource damage assessment tool for quantifying natural resource service losses and calculating the scale of compensatory restoration required to offset those service losses. HEA can also be used to calculate and track service flow changes in areas such as mitigation requirements development, quantitative dredge material management alternative analysis, remedial alternative analysis, and ecological compensation calculation in lieu of active cleanup.

The general approach includes estimating baseline conditions and gains or losses in ecological services associated with various actions based on the judgment of professionals with knowledge of the local ecosystem. Estimated changes in ecosystem service levels under projected post-action conditions are summed over time, allowing a comparison of the net present ecological service value under each scenario and the selection of the "most appropriate" alternative. This presentation will describe how ecological services accounting was used as a planning tool at five sites:

- Craney Island, Virginia
- Matagorda Bay, Texas
- Swan Lake, Texas
- Port Arthur, Texas
- Woodard Bay Natural Resources Conservation Area, Washington