Central Arizona-Phoenix Long-Term Ecological Research

Thinking More Like a River: Recent Lessons in Floodplain Restoration from Oregon's Willamette River

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Along Oregon's Willamette River and its floodplain, a unique partnership of funders, practitioners, and research scientists has created an integrated strategy to narrow the gap between need and capacity for ecosystem restoration, and to strengthen the impact of locally led conservation and restoration efforts. As is the case with most U.S. rivers, no basin-wide river authority oversees the management and protection of the Willamette River. Instead, dozens of entities – serving a wide range of rural, urban, and suburban communities – are involved in a multitude of stewardship activities. Underpinning this partnership effort is a broad body of previous and ongoing scientific research, including a citizen-led mapped guiding vision of a restored Willamette River Basin ("The Conservation 2050 Scenario"), as well as a simple diagrammatic explanation of how the river system functions, how restoration goals emerge from this understanding, and what to monitor to determine if these goals are being met. A recent addition to the scientific underpinning is a spatial template and corresponding database known as “SLICES”. The SLICES framework (http://ise.uoregon.edu/SLICES/Main.html) uses a simple mapping approach of dividing the river into “SLICES” of the floodplain orthogonal to the floodplain's main axis. Information is gathered, quantified and publicly reported for each slice on key indicators of river and floodplain health, corresponding to the restoration goals mentioned above: complexity of the river channel and its habitats, number of native fish species, and extent of floodplain forest. SLICES is being used by restoration funders to identify and prioritize potential areas for restoration, by restoration practitioners to strengthen their proposals for restoration funding, and by the research community to track progress toward restoration goals in the river and its floodplain. Together, these three devices, a spatially-explicit conservation guiding vision, a simple diagram showing how system function leads to restoration goals which guides monitoring, and a spatial information framework for restoration prioritization and change tracking, are accelerating the pace and effectiveness of floodplain restoration.

David Hulse is Philip H. Knight Professor and former Chair in Landscape Architecture at the University of Oregon and a founding member of the University's Institute for a Sustainable Environment. With expertise in using GIS to facilitate land use planning and natural resource decision-making, he has worked extensively as a landscape planner in the U.S. and abroad. Hulse is a graduate of Harvard University, a Fulbright Scholar, a recipient of US IALE's Distinguished Landscape Practitioner Award, a recipient of a group award of the 2012 International RiverPrize for work in the Willamette basin, and in 2012 was named by Design Intelligence as one of the 25 Most Admired Teachers nationally in environmental planning and design.