

Informed Expansion of Mid-sized Cities

Projected Outcome: Idaho Scientists are engaging with stakeholders in finding tradeoffs between flood protection and aesthetic, recreational and water quality services associated with the Portneuf River system on the outskirts and through the city of Pocatello, Idaho. Decision-makers will have available model-based visualizations of the past and present along with future outgrowth scenarios.

Impact: Pocatello is a mid-sized city poised to expand along the length of the Portneuf River. Through this research community leaders and decision-makers will learn to work with scientists to improve or protect ecosystem services (Figure 1) in concert with urban expansion. This project will provide a means to track the history and future of mid-sized city growth, informing the decisions by city-officials, policy-makers, and the general public through effective communication.

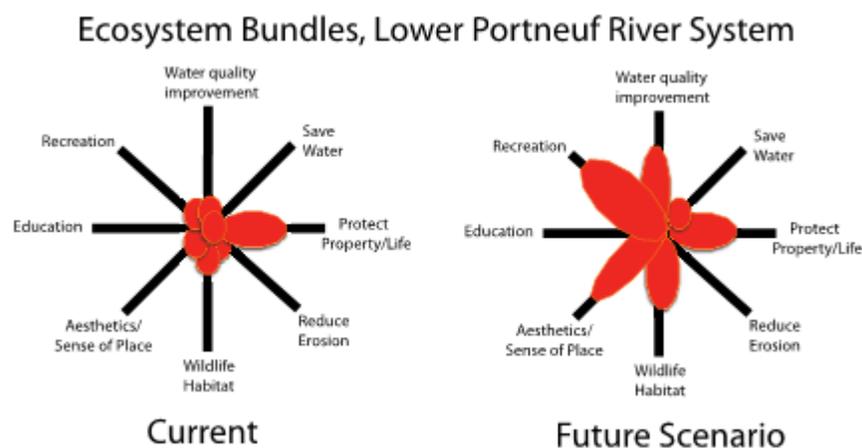


Figure 1: Relative importance of several ecosystem services associated with the lower Portneuf River on the outskirts of Pocatello, Idaho.

Explanation: Understanding ecosystem service behavior and trajectories requires data for characterization and vulnerability assessment. The project uses spatial data layers on land use, flooding, nitrate contamination, and wildlife habitat gleaned from historic archives. In addition, the investigation involves assessing changing perceptions and attitudes of the community toward the river. A constraint is federal legislation, which on the one hand caused channelization to prevent floods, while on the other hand demands that the community restore the river to meet the "beneficial uses" provisioned under the Clean Water Act. Idaho scientists meet regularly with stakeholders including the City of Pocatello, Idaho DEQ, Corps of Engineers, interested citizen organizations, and Shoshone-Bannock Tribes, and formal surveys of these stakeholder groups and citizens are underway.

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