

Quantifying River Ecosystem Services

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The desire for controlled river systems for the purpose of flood damage prevention, as well as energy generation, has led to a decrease in the complexity of riparian habitats. The purpose of this project is to create an index for evaluating habitat changes resulting from unique river management plans modeled using CAESAR, a numerical model that can be utilized to evaluate long-term landscape change by incorporating information about flow and sediment movement. Slight alteration to the model in order to represent the effects of vegetation on the river channel, primarily the effects of forest maturation and log jams in the river, will be employed for a better representation of potential river evolution. This will allow for better predictions about habitat change under different river management regimes. The Northfork Snoqualmie River will be used for model simulations. This project could provide a start for creating a way to evaluate river management plans that considers ecological values, possibly changing the way management plans are approached.