US Environmental Protection Agency

US EPA & USGS Joint Proposal for Baseline Flow & Gage Analysis and On-Line Tool Development to Support Bay and Estuary Restoration in Gulf States

The US Geological Survey (USGS) and the US Environmental Protection Agency (EPA) propose a 7 year, $5.8 million project to conduct a comprehensive assessment of gages and streamflows and development of accessible and easy-to-use online tools for state and local decision-makers to facilitate restoration projects in all five Gulf States and begin a process to install new or restore decommissioned gages. Specifically, the project includes a Regional Streamflow Alteration Assessment:

- Develop a regionally consistent set of streamflow metrics at long-term streamflow gages.
- Develop measures of streamflow alteration at long-term stream gages.
- Estimate trends in streamflow metrics and evaluate potential influences related to climatic and land/water management stressors.
- Predict streamflow alteration at ungaged streams.
- Define the optimal streamgage network for assessing flow alteration. This analysis will be used to identify locations of potential new gages and determine which discontinued gages should be restarted to minimize the uncertainty in the estimation of streamflow alteration metrics.
- Work with state partners to determine the priority for restarting existing or installing new gages.
- Develop an online streamflow alteration mapping tool that can be used at the regional, state, and watershed level to identify areas where streamflow alteration are highest and facilitate the prioritization of restoration actions.

The project also includes a Focused Watershed Study which will then apply these tools in a focused watershed study in one large watershed in the Gulf and develop specific metrics that relate the streamflow regime to freshwater stream and estuarine health. This project will enable water resource managers to evaluate a range of potential management scenarios, such as modifying the release curves for selected reservoirs upstream to evaluate changes in freshwater delivery to an estuary. These tools will be based on the most up-to-date scientific information and will be readily available and accessible to decision-makers. As a foundational project, it is readily scalable to expand to include ground water evaluation, restoration or installation of additional gages, increases of water quality monitoring at gages for creating loads and water quality tracking and to provide direct support for restoration projects. Requested funding amount: $5,800,000