

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Analysis of sediment dynamics in the Bill Williams River, Arizona

Discipline: Natural
Type of Project: Research
Funding Agency: US Fish and wildlife Service
Other Partners/Cooperators: University of Montana
Effective Dates: 8/15/2010 - 9/30/2012
Funding Amount: \$202,870 [FY11: \$50,000; FY10: \$152,870]

Investigators and Agency Representative:

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Project Abstract:

This Scope of Work describes a cooperative agreement between the University of Montana (UM) and the U.S. Fish and Wildlife Service (Service), and is associated with a multiagency partnership that includes the Service, the U.S. Bureau of Reclamation (BOR) and the U.S. Army Corps of Engineers (Corps). This project is a three-pronged investigation, including (1) development of a sediment budget to provide quantitative understanding of how Alamo Dam is affecting downstream sediment dynamics in the Bill Williams River, AZ; (2) a detailed hydro-acoustic survey of Alamo Lake and the Bill Williams Delta in Lake Havasu, and (3) the collection of sediment cores from Alamo Lake and the Bill Williams Delta in Lake Havasu (all within the State of Arizona). The first component will entail quantitative analysis of the effects of Alamo Dam on sediment supply and transport and of downstream sediment sources on the Bill Williams River. The second component will involve a detailed hydro-acoustic survey of both lakes, to develop a bathymetric map of the lake bottoms. Beyond other scientific benefits, this bathymetry data will be utilized to discretely locate the optimum locations for collection of the sediment cores. The coring work represents the third component of the investigation; data produced by coring will be integral to the sediment budget analysis. Major products associated with this contract relate to enhancing the government's ability to make event-specific predictions of sediment dynamics, to understand how changes in sediment dynamics affect ecosystem processes, and to assess the rate of sedimentation that Alamo Lake and Lake Havasu are experiencing.

Outcomes with completions dates: September 30, 2012

1. Sediment budget analysis
2. Hydroacoustic survey of Alamo Lake and of Lake Havasu in the vicinity of the Bill Williams Delta
3. Collection of sediment cores from Alamo Lake and from the Bill Williams Delta in Lake Havasu
4. Final report

Keywords: sediment budget, hydro-acoustic survey, sediment cores, Alamo Lake, Alamo Dam, Bill Williams River, Arizona, US Fish and Wildlife Service, University of Montana