



Conservation Effects Assessment Project: Jobos Bay, Puerto Rico Special Emphasis Watershed Partnership



Vision

To establish a collaborative long-term research and monitoring program for Jobos Bay, Puerto Rico to develop collective watershed and coral reef management and conservation options. This would guide National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Agriculture (USDA) and other federal, state, local and academic partners towards establishment of complementary Conservation Effects Assessment Project-Special Emphasis Watersheds in tropical and sub-tropical systems.

Description

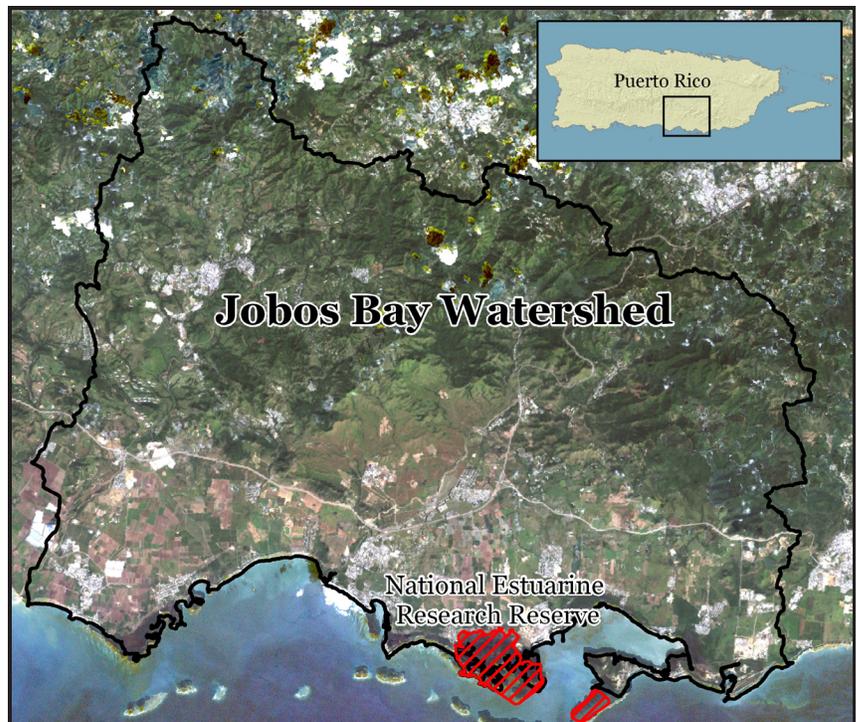
The Conservation Effects Assessment Project (CEAP) is an effort by the U.S. Department of Agriculture to quantify environmental effects of conservation practices. This project will establish a CEAP Special Emphasis Watershed at the Jobos Bay National Estuarine Research Reserve in Puerto Rico. Special Emphasis Watersheds are strategically located watersheds to quantify and demonstrate water quality and other environmental effects/benefits of conservation programs and to fill gaps in the existing CEAP-Watershed Assessment Studies program. This will be the first CEAP Special Emphasis Watershed established in the tropics. It will highlight the interaction between upland and coastal ecosystems, and involve a collaborative partnership between USDA and NOAA to address spatially complex natural resource issues in coastal environments. These special emphasis watersheds have ongoing research and demonstration efforts.

This project will be the first in a coordinated research and demonstration program to meet the management and conservation objectives of both USDA and NOAA. The project also directly addresses goals and objectives of the Coral Reef Task Force concerning land based sources of pollution and increasing partnerships for coral reef conservation. Current partners include USDA's Agricultural Research Service (ARS) and the Natural Resources Conservation Service (NRCS), NOAA and the Government of Puerto Rico.

Objectives

Evaluate the environmental benefits of conservation practices implemented on agricultural lands to the Jobos Bay ecosystem.

- ARS will lead research to quantify the effects of specific conservation practices on the delivery of water, sediment, and chemicals from agricultural lands to surface and shallow ground waters.
- NRCS will serve as the lead coordinating agency for the project and conduct outreach activities with the conservation partnership. NRCS also will assist the Puerto Rico Land Authority in development and implementation and of innovative conservation practices with farmers.
- NOAA will lead efforts to define the state of Jobos Bay water quality, benthic habitats, and living marine resources. In addition, NOAA will collaborate with



the Jobos Bay National Estuarine Research Reserve to monitor changes in these ecosystem components to assess the effects of implemented conservation practices.

Additional Resource Needs

Recognizing that this is a spatially complex ecosystem, all the needs for this project may not be fully met through the existing agency partnerships. Also, the duration of the project may be too short for demonstrable change to occur in the ecosystem. To address these and other management concerns, we will pursue collaborations with additional partners including, but not limited to EPA, NASA, USGS, USDA Rural Development and academic institutions such as University of Puerto Rico. We have identified the following areas as critical project needs not currently being addressed:

- Near-shore oceanographic models.
- Deep ground water contributions to the bay.
- Urban, industrial, and other point and non-point source contributions to the bay.
- Remote sensing technologies and capabilities.
- Mangrove ecosystem interactions with the watershed.



Products

Current partners expect to complete the following products over the next three years:

- ARS will evaluate a suitable watershed model and conservation effects practices models. ARS will also conduct field surveys and analyze the data to calibrate their models.
- NRCS will develop a suite of innovative conservation practices, select willing cooperator farms and generate public outreach documents.
- NOAA will complete Summit to Sea modeling and provide maps and GIS data. In addition, NOAA will design and implement biological, chemical and physical monitoring studies.

Contact Information

We are actively seeking federal, state, local and academic partners to address the critical resource issues outlined above and other research areas as appropriate. Please contact the following agency leads:

ARS

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