

KICKOFF MEETING

Optimization of the Water Resources Management in the Upper Santa Cruz River

Friday, February 20, 2015

City Council Chambers, City of Nogales, Arizona

AGENDA

- 1) Welcome and introductions – Susanna Eden, UA Water Resources Research Center
- 2) Goals of the project – Jeff Tannler, Arizona Department of Water Resources
- 3) Description of the proposed project and outcomes – Eylon Shamir, Hydrologic Research Center

PROJECT SUMMARY

The project titled “Optimization of the water resources management in the Upper Santa Cruz River,” will provide web-based tools addressing the following goals:

- 1) Optimize water withdrawal from the microbasins and increase operational reliability;
- 2) Identify management plans that minimize cost;
- 3) Maintain groundwater levels that sustain the health of the riparian vegetation.

The project builds on the work of two previous projects: The first, funded by the SCAMA ADWR in 2005, led to the development of a hydrologic modeling system that represents the region’s climatic variability and can be used to assess water resources management schemes in the Upper Santa Cruz River. The second, funded by NOAA, investigated the impact of future projected climate on the water resources management. A pertinent conclusion from the second study is that the management scheme affects long-term water supply reliability and recharge in the shallow alluvial aquifer (microbasins) along the Upper Santa Cruz River.

The current project develops a specialized web site with tools to support water resources management focused on the Santa Cruz River between the border crossing near Nogales and the International Wastewater Treatment Plant. The website will include the following components:

- 1) Opening pages with an introduction and background information, the projects’ presentations and summaries, pertinent literature, relevant web links, necessary datasets and software, and acknowledgements;
- 2) A dynamically updated web page that archives and analyzes historical time series records, such as streamflow, rainfall, groundwater, groundwater withdrawal, and evapotranspiration, with analysis tools that relate current to historical conditions
- 3) A web page that provides local seasonal hydrologic forecasts, retrieved about twice a month from the operational Climate Forecast Systems NCEP/NOAA. Prospective forecasts will be compared to a retrospective forecast dataset (1980-2010) in order to relate future to historical conditions. The webpage will show intuitive graphics of regional temperature and precipitation forecasts;
- 4) Prediction of the possible range of groundwater recharge into the microbasins based on input from the seasonal forecast/historical record to the existing modeling system, with graphical presentations of the results.

Optimization of the Water Resources Management in the Upper Santa Cruz River is a project of the Hydrologic Research Center in collaboration with the University of Arizona Water Resources Research Center, funded by the Arizona Department of Water Resources.