Water Supply/Demand Imbalance in the Face of Climate Change: How will we prepare?

An Overview of the Lower Santa Cruz River Basin Study
Presentation Outline

• Background: Bureau of Reclamation
  – Organization and Mission
  – Climate Change and Basin Study Program

• Lower Santa Cruz River Basin Study
  – Elements and Partners
  – Spatial Imbalances of Water Resources
  – How to Get Involved
The Bureau of Reclamation operates in 17 Western States and is divided into regions. Reclamation’s Regions are defined by River Basins.
Central AZ Project

Conservation

Recharge

Wetlands

Irrigation Efficiency

Water Treatment
In general, our local climate is expected to become hotter, with drier winters and springs.
Reclamation and Climate Change

- **SECURE Water Act Section 9503** directs the Secretary to establish a climate change adaptation program which includes:
  - Assess *risks* to water supply
  - Analyze *the impacts* of changes in water supply on a variety of demands
  - Develop *mitigation strategies* in consultation with non-Federal participants
Basin Study Program
- *Basin Studies*
  - Landscape Conservation Cooperatives
  - West-Wide Climate Risk Assessments

Reclamation WaterSMART Program

Drought Response Program

Cooperative Watershed Management Program

Water and Energy Efficiency Grants (WEEG)

Title XVI
Basin Study Evaluation Criteria

- Water Supply and Demand Imbalance (30 pts.)
- Federal Involvement/Nexus to Reclamation (15 pts.)
- Data Availability/Quality (15 pts.)
- Stakeholder Diversity (10 pts.)
- Inclusion of integrated watershed planning and management (5 pts.)
- Ability to address Basin Study Requirements (25 pts.)
LSCR Basin Study Overarching Goal:

1) Identify where physical water resources are needed to mitigate supply-demand imbalances due to climate change and other factors

2) Develop a strategy to improve water reliability for the following sectors:
   • municipal
   • industrial
   • agricultural
   • cultural
   • environmental
LSCR Basin Study Elements

Three year, $785,750 collaboration between Reclamation and partners to:

– Project future supply/demand imbalances (due to climate change and other factors)
– Evaluate risks to infrastructure and other systems
– Develop and investigate adaptation strategies (structural and non-structural)
– Perform trade-off analysis of strategies
Cost-Share Partners: Southern AZ Water Users’ Association (SAWUA):

- Avra Water Co-op, Inc.
- BKW Farms
- Community Water Company of Green Valley
- Farmers Investment Company
- Flowing Wells Irrigation District
- GV Water Improvement District
- Kai Farms
- Marana Water
- Metro Water District
- Oro Valley Water Utility
- Pima County Regional Wastewater Reclamation Dept.
- Red Rock Utilities
- Sahuarita Water Company
- Sahuarita Wastewater Utility
- Tucson Water Department
Cost Share Partners

The University of Arizona
Arizona Department of Water Resources
Central Arizona Water Conservation District
Cortaro-Marana Irrigation District
Cortaro Water Users Association
Southern Arizona Water Users Association
Pima Association of Governments
Avra Valley Sub-basin

Direction of Groundwater Flow

- CAP Canal or Recharge Facility
- Agriculture
- Tribal Land
- Municipal Use
- Mining
- Wastewater Reclamation Facility

Upper SC Sub-basin

Access to CAP Water

Direction of Groundwater Flow

N
Inflows

- Mountain Front Recharge
- Stream Infiltration
- Artificial Recharge (CAP and effluent)
- Agricultural Recharge
- Underflow from other basins
- Incidental Recharge

Outflows

- Underflow to other basins
- Evapotranspiration
- Pumping (Municipal, Industrial, Agricultural)
How do I get involved?

• **Annual Public Outreach Meetings**
  – Publicized through press releases, social media, print media, fliers

• **Stakeholder Advisory Team**
  – Opportunity for individuals and organizations who are not cost-share partners to provide input
  – Standing PAG committees (EPAC, WPS)

• **Study Website and email address**
  – All comments will be responded to.
  – Email distribution list for study information and updates
Questions?
Ask the Co-study Managers

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