WaterSMART Program
Sustain and Manage America’s Resources for Tomorrow
Overall Goal: Help Oklahomans meet Water for 2060 Goals and Objectives

1. Help you compete and win Reclamation funding to implement projects that advance water conservation, reuse, and desalination

2. Provide you with an understanding of one “template” for developing and implementing programs designed to achieve shared goals
Reclamation Background

• Constructed more than 600 dams & reservoirs
• Provide water for 60% of nation’s vegetables and 25% of fruits/nuts
• Provide drinking water to 31 million people annually
• 90 million visitor days per year
• The 2nd largest hydro producer, with 58 hydropower facilities producing 41 billion kwh
• 11 reservoirs with a total capacity of 4.2 million acre-feet.
• M&I - 539,000 acre-ft/yr to about 2.7 million customers.
• Irrigation – 111,000 acre-ft/yr for about 63,000 acres.
• 5 million visitor-days each year.
What is the need?

- Aging infrastructure
- Rapid population growth
- Water shortage and use conflicts
- Impaired water quality
- Energy needs
- Environmental needs
- Climate-related risks
WaterSMART: An Integrated Approach

• Immediate and short-term implementation strategies
  – On-the-ground conservation and efficiency
  – Water reuse and recycling
  – Desalination

• Long-term planning strategies
  – Basin-wide studies
Program Overview

- Funds awarded on a competitive basis
- Federal funding up to 50 percent
- Eligible entities have water management authority:
  - State water agencies
  - Municipalities
  - Regional/local water authorities
  - Irrigation and water districts
  - Wastewater districts
  - Rural water districts
  - Indian tribes or tribal organizations
On-The-Ground Conservation & Efficiency Projects
“Water & Energy Efficiency Grants”

Federal Funding Caps
- Group I: $300,000 - complete within two years
- Group II: $1,000,000 to 1,500,000 - complete within three years

Types of Projects
- Canal lining/piping
- SCADA/automation
- Municipal metering
- High efficiency fixtures
- Groundwater recharge
- Water reuse and recycling
- Water-related renewable energy
- Retrofitting/modernizing pumps
- Water-related habitat restoration
- Water marketing/exchanges
On-The-Ground Conservation & Efficiency Projects
“Water & Energy Efficiency Grants”

- Proposals due within 60 days; are ranked by an expert agency review committee + “Red Flag” review

- Press Release Issued and Recipients notified

- Cost-share agreement executed

- Environmental compliance completed

- Construction begins

- Non-Federal sponsor owns and operates project

- Minimal Federal oversight

Funding Opportunity Announcement posted on www.grants.gov

November/December

Announced last week!!!
Proposals due Jan 23, 2014

January/February

April/May

• Non-Federal sponsor owns and operates project

• Minimal Federal oversight
On-The-Ground Conservation & Efficiency Projects

“Water & Energy Efficiency Grants”

- Water Conservation (amount + %) 28 points
- Energy-Water Nexus 16 points
- Water Sustainability 14 points
- T&E Species Benefits 12 points
- Water Marketing 12 points
- Demonstratable Results 10 points
- Percent non-federal funding 4 points
- Connection to Reclamation project 4 points

Total = 100 points

We are here to help!
On-The-Ground Conservation & Efficiency Projects

“Water & Energy Efficiency Grants”

30 projects within the Oklahoma-Texas Area Office

- 28 projects in Texas
- 2 projects in Oklahoma
- $8.5 million awarded
- $22 million non-Fed match
- 55,600 acre-feet per year saved
Desalination, Water Reuse and Recycling

- **Construction Options**
  - Water & Energy Efficiency Grants
  - Title XVI Grants

- **Research Options**
  - Desalination & Water Purification Research (DWPR Grants)
  - Science & Technology Research Program

- **Long-term Planning Options**
  - Basin-Wide Studies
Desalination, Water Reuse, and Recycling Research

- **Desalination & Water Purification Research Program**
  - Funds transferred to another entity on a reimbursable basis
- **Science & Technology Research Program**
  - Funds used to support Reclamation expertise
Types of Desalination, Recycling, and Reuse Projects

- **Desalination**
  - Brackish ground and surface water
  - Treatment/system optimization
  - Flexible desalination and smart controls
  - Renewable energy use and recovery
  - Brine minimization, recovery, and beneficial use

- **Water recycling and reuse**
  - Direct and indirect *potable* reuse
  - Produced waters from oil and gas production
  - Environmental buffers
  - Benefit/cost analyses
• Eligibility extends across U.S., not just West-wide
• Anyone can apply, including universities and private industry
• Up to 50 percent Federal funding; 100 percent for universities
• $150,000 for research; $200,000 per year for pilot testing
Science & Technology Research Program

- Eligibility West-wide only
- Only entities with water management authority are eligible
- Up to 100 percent Federal funding
- Up to $200,000 per year
- Reclamation performs the work in partnership with sponsor

Innovative constructed wetland design for removing EDCs from reclaimed wastewater for potable reuse
Leveraging Reclamation Expertise in Desalination, Reuse, and Recycling

- Brackish Groundwater National Desalination Research Center, Alamogordo NM
  - Nine research bays up to 60 gpm of water
  - 1,000 to 6,400 TDS water available
  - 40-acre evaporation pond
  - Energy, chemicals, analytical, safety equipment
Leveraging Reclamation Expertise in Desalination, Reuse, and Recycling

- Yuma Water Quality Improvement Center, Yuma AZ
  - Brackish surface and groundwater water research
  - Bench-, pilot-, and demo-scale units
  - Analytical laboratory
  - Fully staffed with engineers and operators
  - Mobile research available
Leveraging Reclamation Expertise in Desalination, Reuse, and Recycling

• Technical Services Center
  – Engineers, chemists, scientists, technicians
  – Research and design
  – Bench- to demo-scale experience
Long-Term Planning
Basin-Wide Studies

- Long-term supply and demand evaluation
- System reliability and risk assessments
- Identification of water management strategies
- Trade-off analyses (cost/benefits)
- Findings and recommendations
Long-Term Planning
Basin-Wide Studies

- Eligibility West-wide
- Only entities with water management authority are eligible
- Up to 50 percent Federal funding
- No funding cap (generally < $1 million)
- Reclamation performs the work in partnership with sponsor
- Must be completed within three years
Long-Term Planning
Basin-Wide Studies

- Case Study: Lower Rio Grande Valley Basin, TX
  - Water reuse
  - Seawater desalination
  - Brackish groundwater desalination
  - Importation of fresh groundwater
Solicitation sent to states and major stakeholders

Submit Letter of Interest to Reclamation

If requested, develop Full Study Proposal submitted (10 page max)

Proposals scored and announcements made

MOA signed and study begins

Long-Term Planning Basin-Wide Studies

Late November

Late December

Mid February

Early April
Long-Term Planning
Basin-Wide Studies

- Water supply imbalances: 30 points
- Ability to meet program requirements: 25 points
- Need for Federal involvement: 15 points
- Availability of existing data: 15 points
- Stakeholder interest: 10 points
- Non-Federal cost-share > 50%: 5 points

Total = 100 points
Long-Term Planning
Basin-Wide Studies

West-Wide Funding Awarded Since 2009

[Map of western United States showing various river basin studies with the Upper Washita River Basin Study highlighted.]

[Bar chart showing funding amounts for each fiscal year from 2009 to 2012.]
To Learn More......

- WaterSMART Program

- WaterSMART Conservation & Efficiency Grants
  - [http://www.usbr.gov/WaterSMART/grants.html](http://www.usbr.gov/WaterSMART/grants.html)

- Desalination & Water Purification Research Program
  - [http://www.usbr.gov/research/AWT/DWPR/](http://www.usbr.gov/research/AWT/DWPR/)

- Science & Technology Program

- Basin Studies Program
To Learn More…
Contact: Collins Balcombe, cbalcombe@usbr.gov, 512-899-4162

Health safety and reclaimed water

WHAT’S THE RISK? A Comparison of Exposure to PPCPs from Recycled Water vs. Conventional Uses

This chart compares typical exposures to three Pharmaceuticals and Personal Care Products (PPCPs) — antidepressant, ibuprofen, hormone — with exposure to the same chemicals in recycled water under four different scenarios in which a person may come into contact with the water. For each scenario — child at play, agricultural worker, landscaper, and golfer — the chart shows how many years one could participate in that activity before reaching a single daily dose of the chemical from typical exposures.

Number of years of exposure to recycled water to equal conventional dose.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Exposure Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoxetine = One Dose Prozac</td>
<td>26,000 Years</td>
</tr>
<tr>
<td>Ibuprofen = One Advil Tablet</td>
<td>8,600 Years</td>
</tr>
<tr>
<td>17-beta estradiol = One Dose Hormone Replacement</td>
<td>5,000 Years</td>
</tr>
</tbody>
</table>

KEY: Four common scenarios where people may come into contact with recycled water:
- Child at Play
- Ag Worker
- Landscaper
- Golfer