

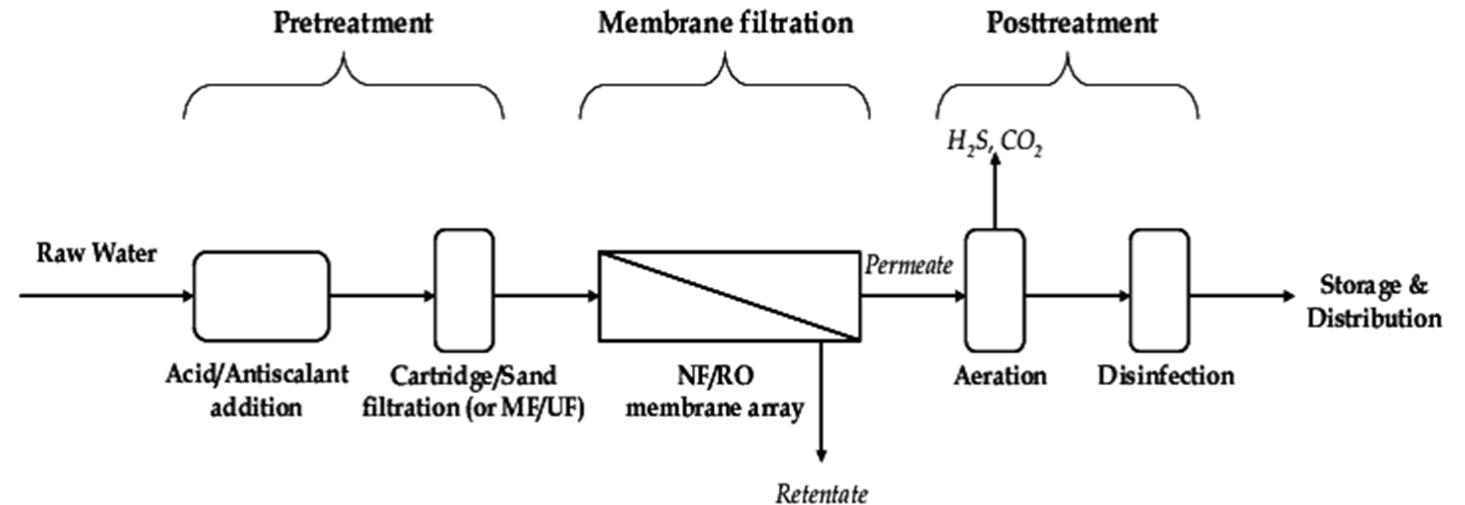
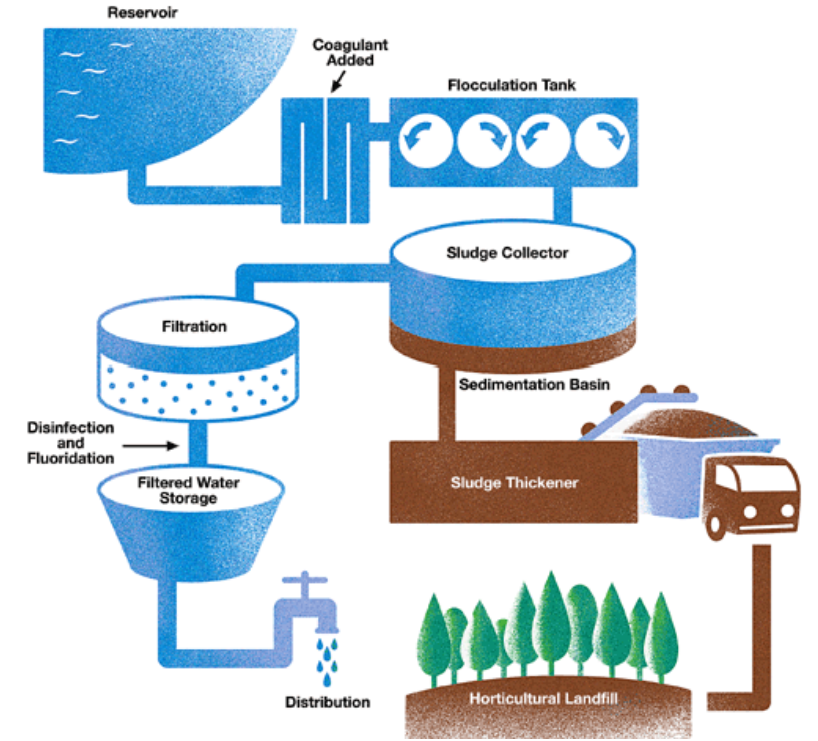
Advanced Water Treatment

Yuliana Porras-Mendoza

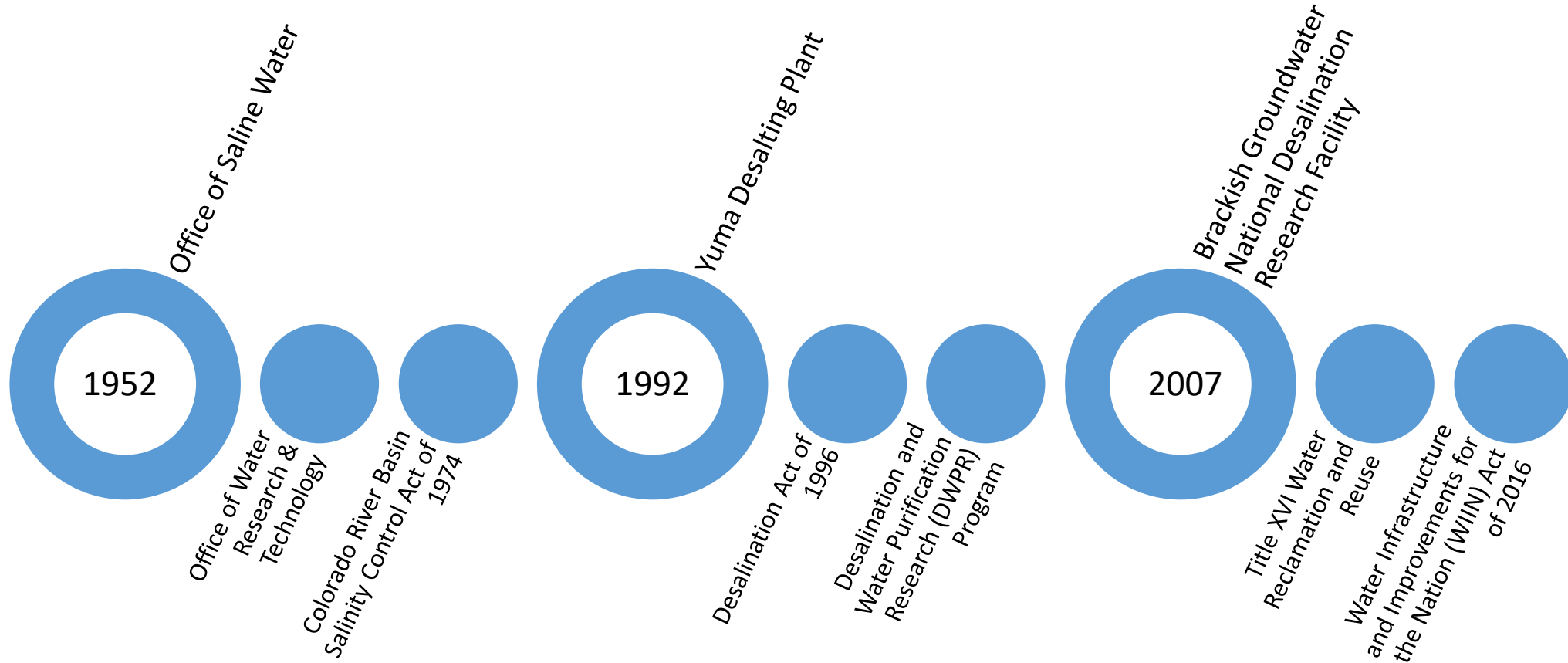
Advanced Water Treatment Research Coordinator

What...

- Water treatment is a broad field
- While the need for water is greatest west of the 100th meridian, the need for high quality water for drinking and for industry is nationwide



Since when....



Where...

- **Yuma Desalination Facility**
 - Water Quality Improvement Center (WQIC)
 - Yuma, Arizona
- **Brackish Groundwater National Desalination Research Facility (BGNDRF)**
 - Alamogordo, New Mexico
- **Water Treatment Engineering Research (WaTER) Laboratory**
 - Denver, Colorado

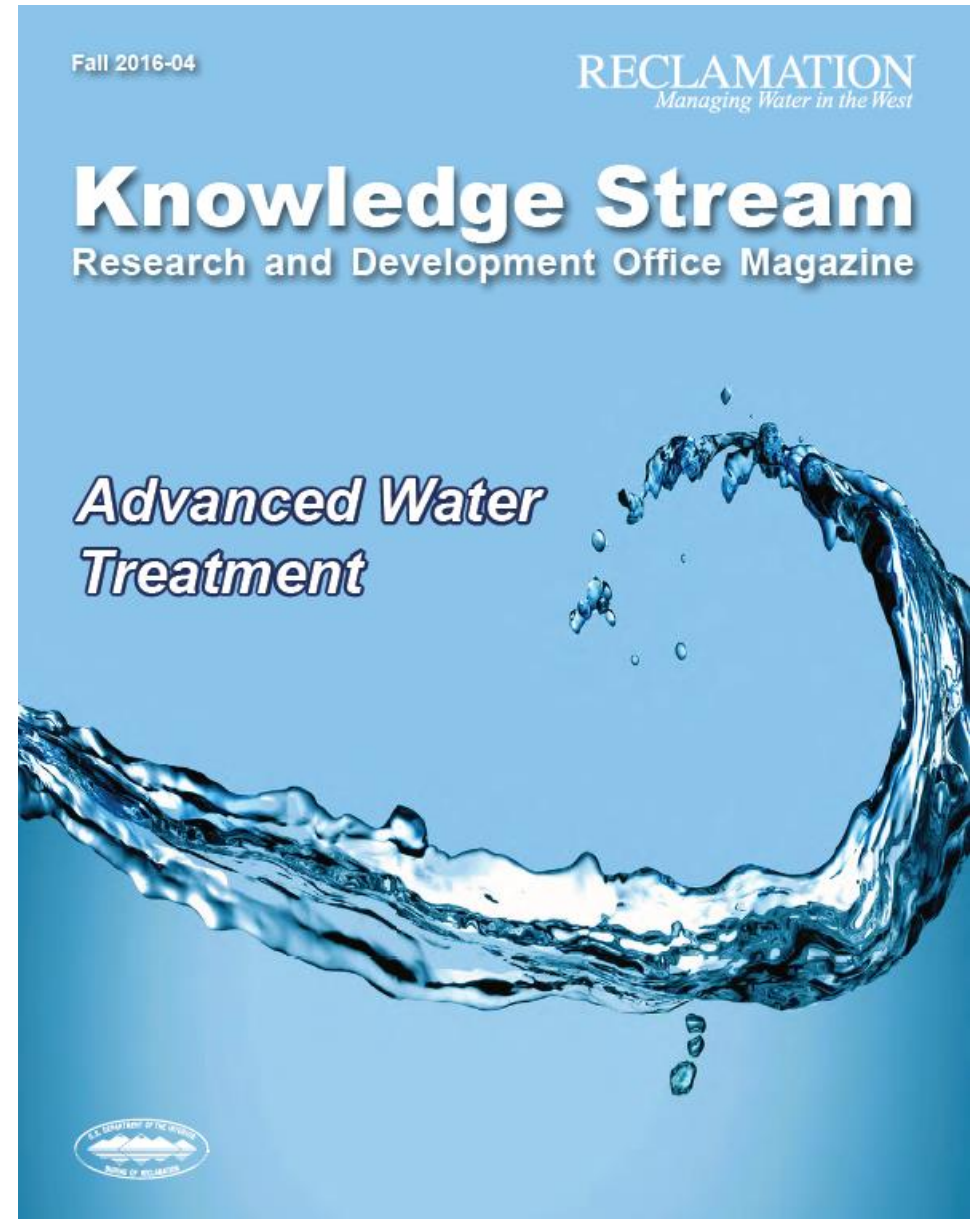


Reclamation Programs

Office	Program	Purpose
Research and Development	Science and Technology (S&T)	Funding for internal research projects
	Desalination and Water Purification Research (DWPR)	Funding of grants for research by non-federal applicants
Policy and Administration	Title XVI Water Reclamation and Reuse	Funding for planning, design, and construction of water recycling and reuse projects
	WIIN Act Desalination Construction Projects	Funding for planning, design, and construction of facilities to desalinate ocean or brackish water
Native American and International Affairs	Native American Affairs Technical Assistance	Funding available to federally recognized Indian tribes to provide technical assistance for drought, wetlands, and water recycling programs

Science & Technology

- Internal to Reclamation
- Funds mostly applied research
- Yearly call for proposals
- Partnerships are key
- Share of information
 - *Knowledge Stream Magazine*
 - *Final reports on website*
- Water Prize Competition Center



<https://www.usbr.gov/research/docs/ks/ks-2016-04.pdf>

Science & Technology

Research Area	Research Category
Water Infrastructure (WI)	Dams, Canals, Pipelines, Miscellaneous Water Infrastructure
Power and Energy (PE)	Hydro powerplants, Energy efficiency, Pumping plants, Non-Hydropower renewable
Environmental Issues for Water Delivery and Management (EN)	Water delivery reliability, Invasive species, Water quality, Sediment management, River habitat restoration
Water Operations and Planning (WP)	Water supply and streamflow forecasting, Water operations models and decision support systems, Open data, Climate change and variability
Developing Water Supplies (WS)	Advanced water treatment, Groundwater supplies, Agricultural and municipal water supplies, System water losses

Science & Technology

Research Area	Research Category
Environmental Issues for Water Delivery and Management (EN)	Water delivery reliability, Invasive species, Water quality , Sediment management, River habitat restoration

- **Improve understanding of operation effects on salinity, temperature, oxygen, turbidity and nutrient levels in flow releases, and in-reservoir processes**
- **Predict, manage, and monitor effects of hydrologic variability on water quality**

Science & Technology

Research Area	Research Category
Developing Water Supplies (WS)	Advanced water treatment , Groundwater supplies, Agricultural and municipal water supplies , System water losses

- **Advanced water treatment processes**
- **Technological advances**
- **Increase of water supplies**
- **Environmental impacts**
 - **Concentrate management**
 - **Biofouling**
- **Cost, how to quantify and reduce**

Why...

- **To manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public**
- **Water is vital for survival**

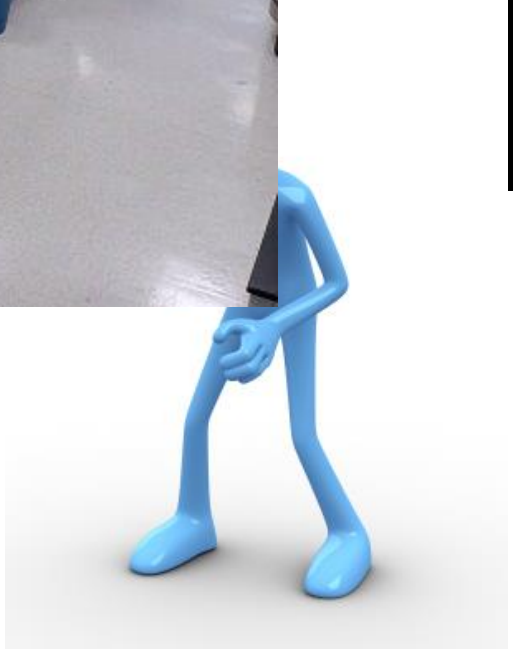
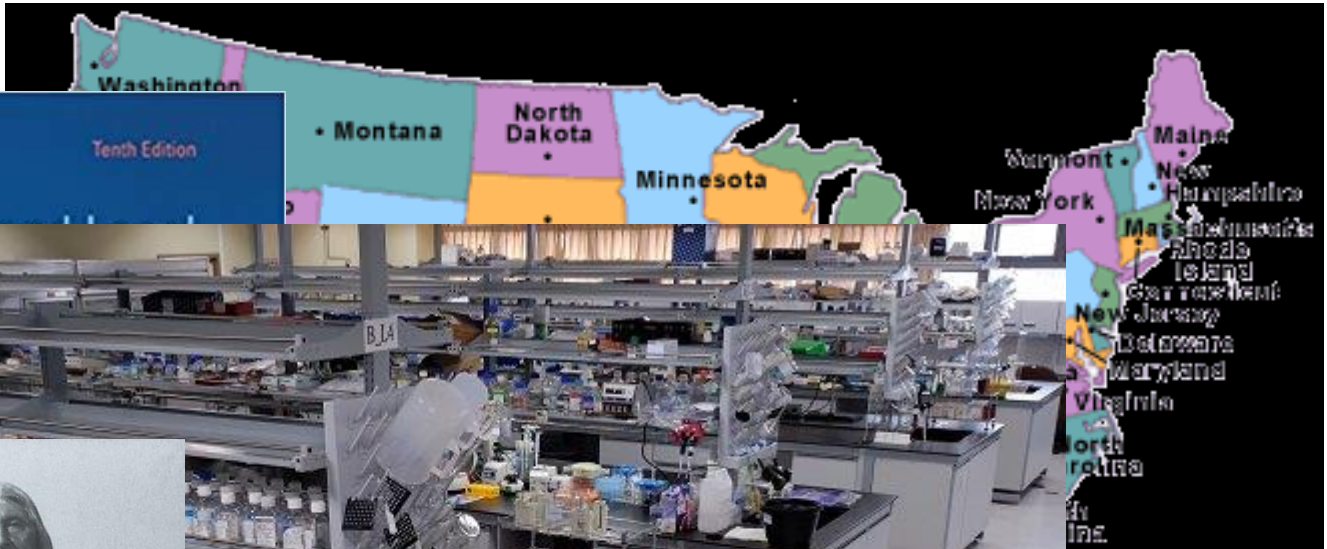
Desalination & Water Purification Research

- External grants – funding research
- Operation and Maintenance of the Brackish Groundwater National Desalination Research Facility (BGNDRF)
- Supports collaboration across federal government – Water Treatment Interagency Working Group (WaTr)
- Network and collaborate with non-profits, public entities, and private sector



DWPR

Eligible Applicants



DWPR Annual Cycle

STEP 6: Closeout

Each project provides a final presentation and final report.

STEP 5: GOTR Selection

GOTR will monitor and follow the project throughout its completion

STEP 4: Approval Process

Final Selection and Commissioner Consultation



STEP 1: FOA

Funding Opportunity Announcement

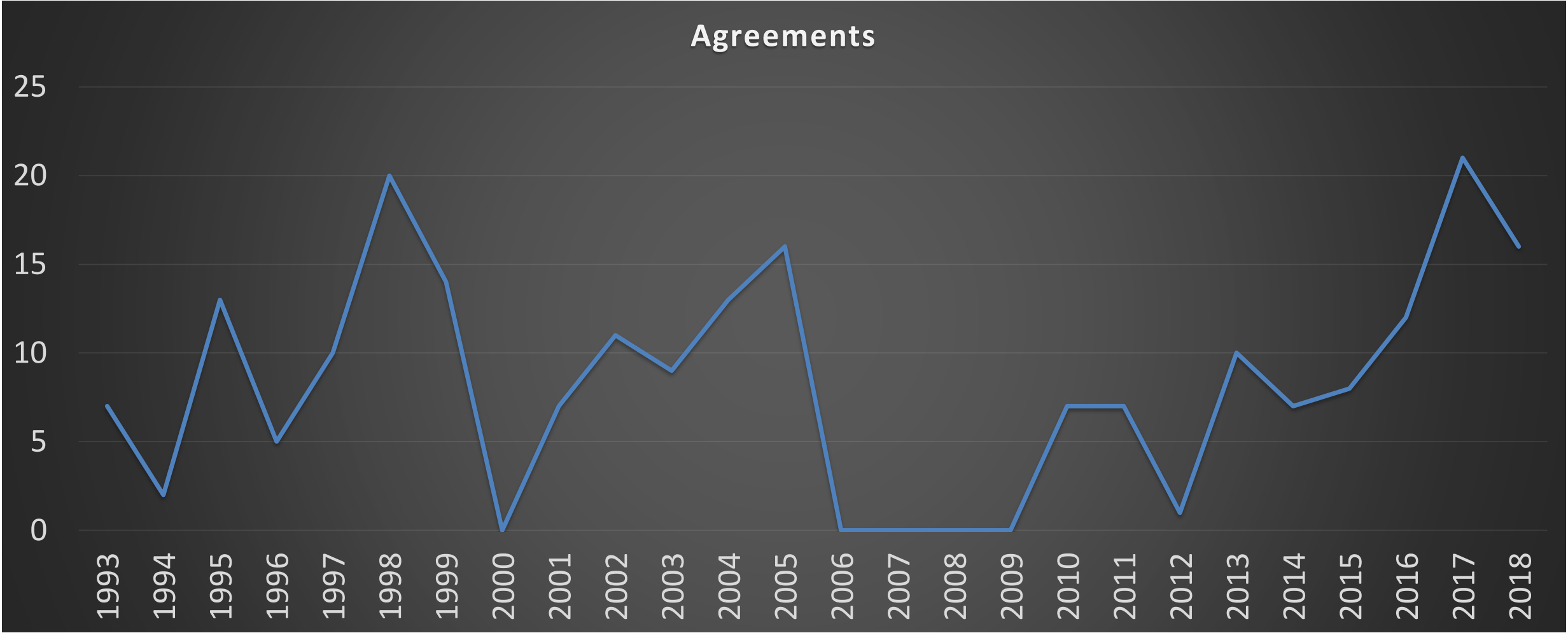
STEP 2: ARC

Applications Review Committee

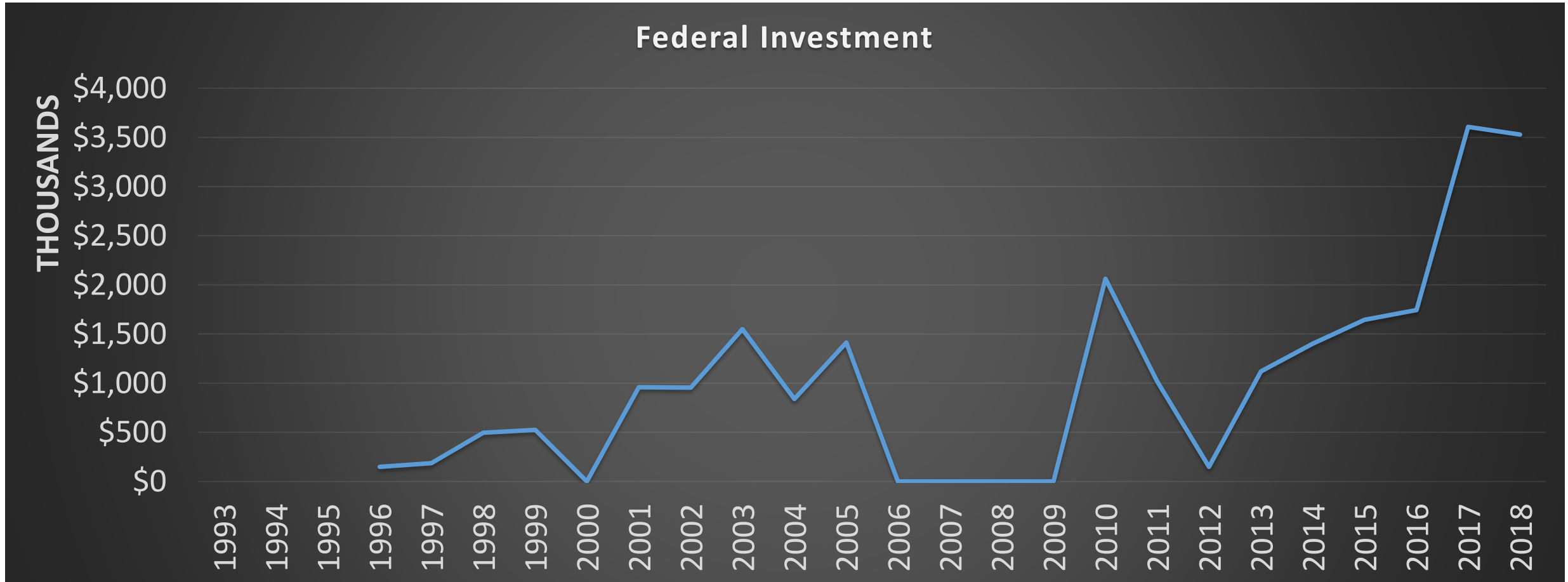
STEP 3: Red-Flag Review

Review by Regional Leadership and Area Offices

Agreements since 1993 – Total 216



Federal Investment since 1996 - \$23,358,678



Programs website links

Reclamation Program	Website	Contact
Desalination and Water Purification Research (DWPR)	www.usbr.gov/research/dwpr	Yuliana Porrás-Mendoza, yporrasmendoza@usbr.gov
Title XVI Water Reclamation and Reuse	www.usbr.gov/watersmart/title	Amanda Erath, aerath@usbr.gov
WaterSMART Desalination Construction Projects	www.usbr.gov/watersmart/desalination	Amanda Erath, aerath@usbr.gov
Water Prize Competition Center	www.usbr.gov/research/challenges	Andrew Tiffenbach, atiffenbach@usbr.gov
Science & Technology Program	www.usbr.gov/research/st	Yuliana Porrás-Mendoza, yporrasmendoza@usbr.gov
Brackish Groundwater National Desalination Research Facility (BGNDRF)	www.usbr.gov/research/bgndrf	Randy Shaw, rshaw@usbr.gov

Yuliana Porras Mendoza

yporras@mendoza.usbr.gov

303-445-2265 office

720-357-9974 cell



RECLAMATION
Managing Water in the West