

RECLAMATION

Managing Water in the West

Advanced Water Treatment Research

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September 29, 2016



U.S. Department of the Interior
Bureau of Reclamation

Advanced Water Treatment Program

- Science & Technology (S&T) ~\$2m in FY16
 - Funds Reclamation researchers as the principal investigators
 - Competitive program, open to external partnerships
 - New call in FY2016 focusing on innovation and novel new technologies
- Desalination and Water Purification Research (DWPR) ~\$3m in FY16
 - Competitive program in three categories; laboratory scale, pilot scale, and demonstration scale
 - Funds nationwide applicants except federal entities
 - O&M of Brackish Groundwater National Desalination Research Facility

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S&T AWT

Project Title	Principal Investigator	Start Date End Date	Funding per year
Chlorine resistant membrane	Katie Guerra	FY 2014 FY 2017	~\$150k
Chromium 6 removal from Ion Exchange concentrate	Miguel Arias-Paic	FY 2015 FY 2017	~\$100k
Concentrate management toolbox	Saied Delagah	FY 2015 FY 2017	~\$80k
Oxnard wetland	Richard Huggins	FY 2015 FY 2017	~\$75k
CECs in water reuse concentrate	Saied Delagah	FY 2016 FY 2017	~\$95k
Goodyear wetland pilot	Deborah Tosline	FY 2016 FY 2018	~\$75k
Waco wetland	Sherri Pucherelli	FY 2016 FY 2018	~\$200k

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S&T AWT

Project Title	Principal Investigator	Start Date End Date	Funding per year
Summary of research on produced water	Katie Guerra	FY 2016 complete	\$10k
Identifying water quality challenges in GP region	Darion Mayhorn	FY 2016 Sept 30th	\$20k
Monitoring strategies for DPR	Julie Korak	FY 2016 Sept 30th	\$15k

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S&T AWT – Pitch to Pilot FOA



Pitch to Pilot: Bridging Reclamation's
Clean Water Technologies for
Today and Tomorrow

Seeking innovative water
treatment technologies at the pilot
scale

Offering up to 3 grants of \$100k
each

Phase I: 15 page white paper

Phase II: In-person “pitch” at
BGNDRF in Alamogordo, NM

Received 12 applications, have
selected 6 to move forward to
Phase II

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S&T AWT – Pitch to Pilot FOA



Pitch to Pilot: Bridging Reclamation's
Clean Water Technologies for
Today and Tomorrow

Phase II on October 19-20, 2016

Brackish Groundwater National
Desalination Research Facility

October 19th open to the public

October 20th closed to the public

Expect to announce the awardees
by early November 2016

Final report and presentation
within 18 months

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S&T AWT – Partnerships



American Membrane Technology Association – student fellowships to fund research in innovative new membranes to reduce cost and increase energy efficiency

Water Environment & Reuse Foundation (WE&RF) – working on partnering in Prize Competitions

- Concentrate minimization prize competition
- “More Water, Less Concentrate”



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DWPR

- Desalination and Water Purification Research and Development Program
 - Cooperative agreements with industry, municipalities, utilities, and institutions of higher education
 - Cost-share (except institutions of higher education for laboratory scale only)
 - 50/50 for laboratory scale and pilot scale
 - 75/25 for demonstration scale
 - Operation and Management of BGNDRF
 - New Mexico State University Agreement
 - Since 2008
 - National Renewable Energy Laboratory
 - Working on their renewable energy control model to add capability for water treatment technologies

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DWPR Program

- **In FY15**
 - 10 projects; 4 pilot scale, 6 laboratory scale
 - \$1.6 million in federal cooperative agreements with \$9.9 million in non-federal cost-share
 - NM, CA, TN, VA, AZ, OK
 - Academia, Utilities, Private Sector, Non-Profit
- **In FY16**
 - 12 projects; 3 pilot scale, 9 laboratory scale
 - \$1.8 million in federal cooperative agreements with \$9 million in non-federal cost-share
 - CA, CO, MA, TX, NY, AZ, IA
 - Private sector, Municipalities, Cities, Academia, Small businesses

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DWPR

- FY17: Plan to fund in three categories, pending appropriations
 - Laboratory scale
 - Pilot scale
 - Demonstration scale
- Expect to have three FOAs around early November 2016

Reclamation Facilities

- Water Quality Improvement Center (Yuma Desalting Plant) – Yuma, AZ
- Brackish Groundwater National Desalination Research Facility – Alamogordo, NM
- Denver Water Treatment Lab (Water Treatment Group, TSC) – Denver, CO



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Water Prize Competition Center

Share your expertise and ideas!

You can help solve some of the most critical water and water-related resource problems facing our Nation!

Water Availability



Ecosystem Restoration



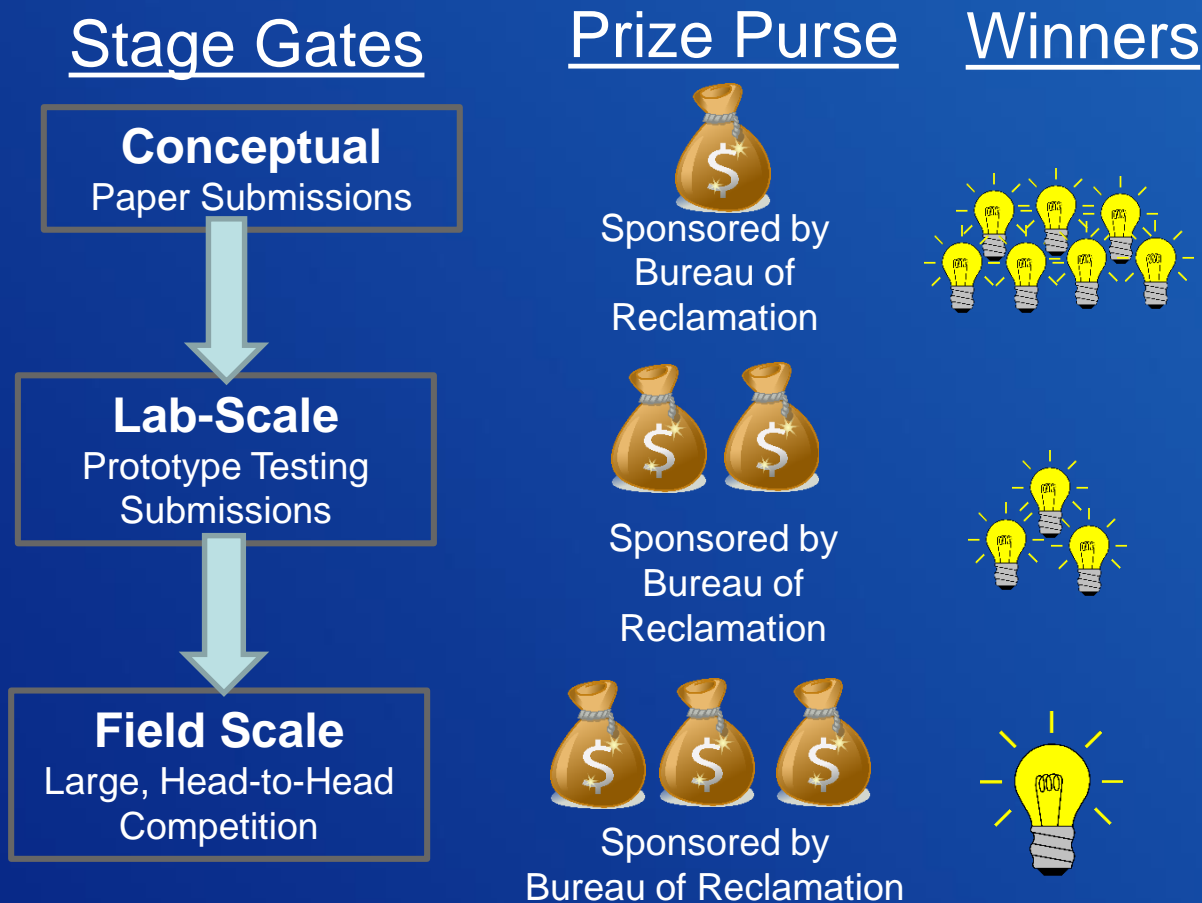
Infrastructure Sustainability



Learn more at www.usbr.gov/research/challenges

Advanced Water Treatment Grand Challenge Framework

Turn Desal Innovation into a Global Sporting Event



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WATER

PRIZE COMPETITION CENTER

Hundreds of thousands in prize \$\$\$!



Follow us at [Challenge.gov](https://www.challenge.gov)
(search Reclamation)

More Water, Less Concentrate Prize Competition

Partners can Contribute...

- Prize Purse Money
- Technical Experts
- Judges
- Testing Facilities
- Marketing
- Commercialize Winning Solutions
- Prize Competition Administrators

[See Partnership
Sources Sought Notice](#)

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New Areas

- Prize Competitions
 - Launching soon this calendar year
 - Arsenic sensors
 - Concentrate minimization
- Pitch to Pilot in FY17
 - Continue to seek innovative new water treatment technologies
- Reclamation Roadmap for advanced water treatment
- Water Treatment Interagency Working Group (WaTr)



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QUESTIONS

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