

RECLAMATION

Managing Water in the West

Bureau of Reclamation Water Treatment

Yuliana Porras Mendoza

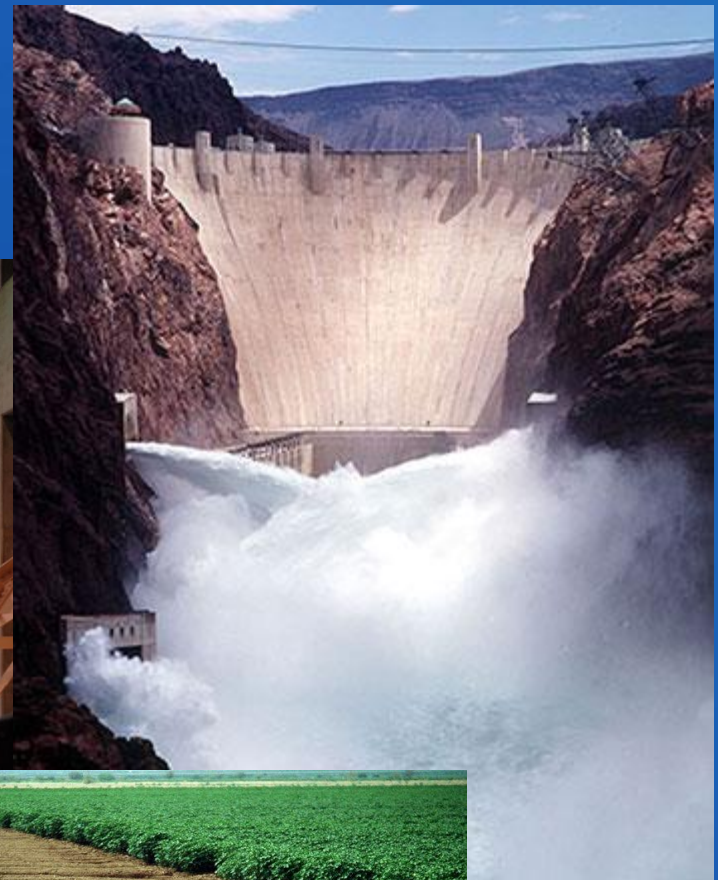
December 15, 2016



U.S. Department of the Interior
Bureau of Reclamation

Bureau of Reclamation

Established
1902

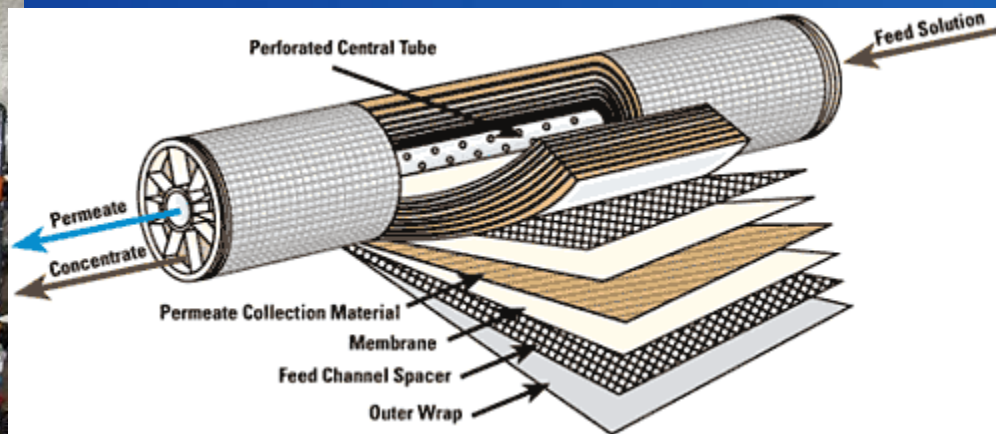


RECLAMATION

Bureau of Reclamation

Research and Development

- Science and Technology Program (S&T)
- Desalination and Water Purification Research Program (DWPR)



RECLAMATION

Advanced Water Treatment

- 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 full scale
 - Funds nationwide applicants except federal entities
 - O&M of Brackish Groundwater National Desalination Research Facility

RECLAMATION

Science & Technology Program

- **Concentrate Management Toolbox**
- **Chromium 6 removal from ion exchange concentrate**
- **Development of chlorine resistant polyamide membrane**
- **Monitoring strategies for direct potable reuse**
- **Wetland research**
 - Oxnard, CA
 - Waco, TX
 - Goodyear, AZ
- **Advanced water treatment roadmap**

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

Awarded ~\$300,000 in FY16

Phase I: 15 page white paper

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

RECLAMATION

DWPR Program

- 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

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

RECLAMATION

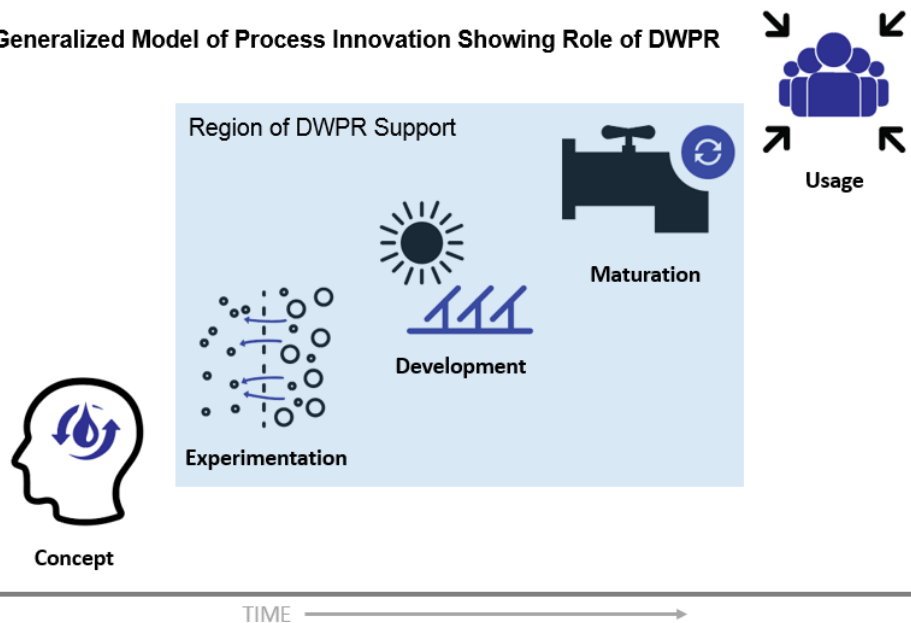
DWPR Program

- FY17 Funding Opportunity Announcements are currently open
 - Research Laboratory Scale
 - Pilot Scale Testing Projects
 - Full Scale Testing Projects

Eligible Applicants:

Individuals, Institutions of higher education, Commercial/Industrial organizations, Private entities, Public entities (including state & local), Non-profit organizations, Federally-funded R&D centers, Indian Tribal entities & governments

Generalized Model of Process Innovation Showing Role of DWPR



RECLAMATION

Research and Laboratory Scale

- *Typically bench scale studies involving small flow rates (less than two gallons per minute)*
- *\$150,000 for one year*
- *Deadline to apply is January 18, 2017, at 4:00 p.m. MST*
- *Cost share of 50% non-federal funding (Institutions of higher education are exempted)*
- *Funding opportunity announcement is available on www.grants.gov by searching BOR-DO-17-F005*

Pilot Scale Testing Projects

- *Typically preceded by research studies that demonstrate that the technology works and usually involve flow rates above one gallon a minute*
- *\$400,000 for 2 years (\$200,000 per year)*
- *Deadline to apply is January 12, 2017, at 4:00 p.m. MST*
- *Cost share of 50% non-federal funding*
- *Funding opportunity announcement is available on <http://www.grants.gov> by searching BOR-DO-17-F006*

Full Scale Testing Projects

- *Typically preceded by pilot scale testing that demonstrates that the technology works. They are at a true full-scale size that could operate at an actual desalination plant*
- *\$1.5 million for three years (\$500,000 per year)*
- *Deadline to apply is January 12, 2017, at 4:00 p.m. MST*
- *Cost share of 75% non-federal funding*
- *Funding opportunity announcement is available on www.grants.gov by searching BOR-DO-17-F007*

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



RECLAMATION

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



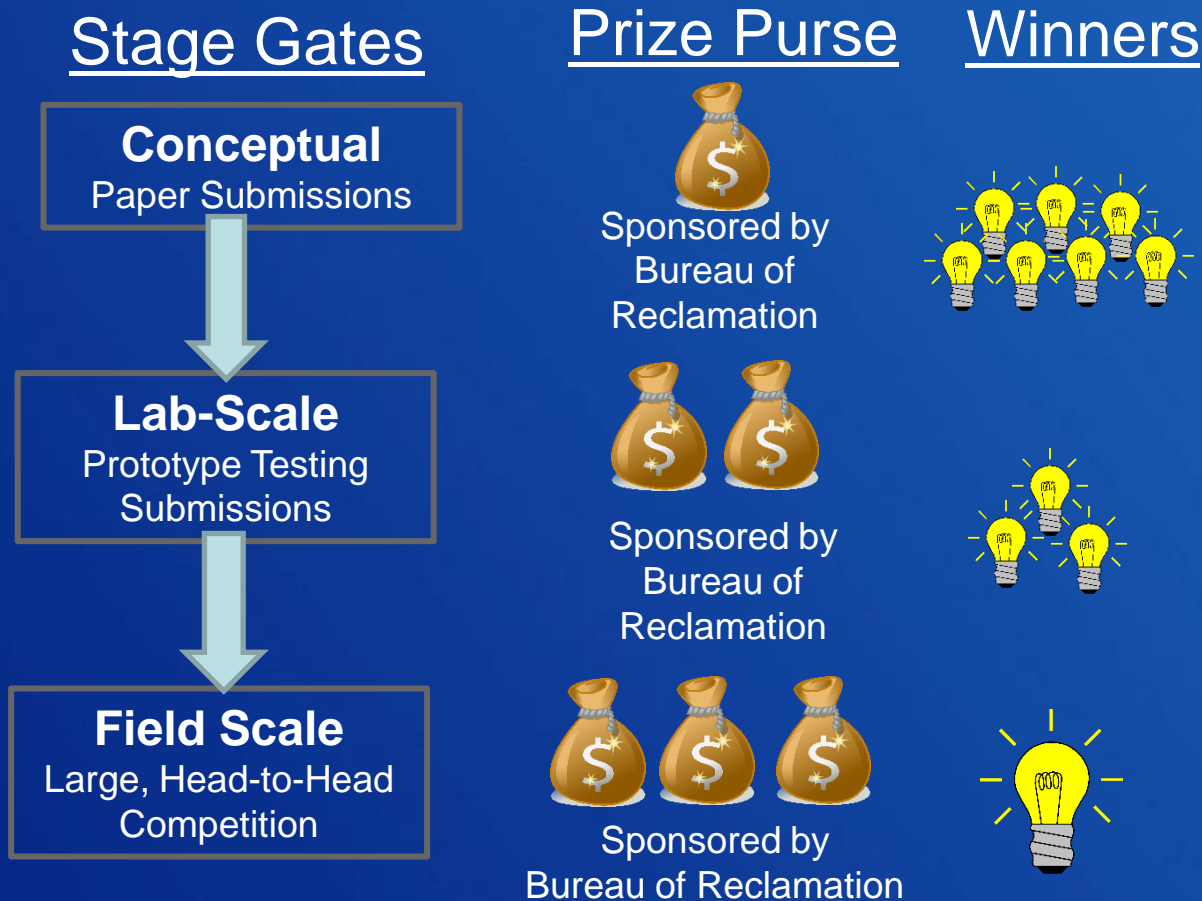
Infrastructure Sustainability



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

Advanced Water Treatment Grand Challenge Framework

Turn Desal Innovation into a Global Sporting Event



chennig@usbr.gov

yporras@mendoza@usbr.gov

RECLAMATION

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

PRIZE: \$150,000

DEADLINE: March 13, 2017

APPLY:

<https://www.innocentive.com/ar/challenge/9933762>

Learn More:

<https://www.usbr.gov/research/challenges/morewater.html>

RECLAMATION

FY 2017

- Water Treatment Interagency Working Group (WaTr)
- Reclamation Roadmap for advanced water treatment
- FY17 Pitch to Pilot



RECLAMATION

QUESTIONS

Yuliana Porras Mendoza

303-445-2265

yporrasmendoza@usbr.gov



RECLAMATION