

An aerial photograph of a large concrete dam situated in a deep, rocky canyon. The dam is a massive, curved structure with a wide spillway. In the background, there are rugged mountains, some with snow-capped peaks under a clear blue sky. Power lines and towers are visible on the right side of the image. The foreground shows a road with some vehicles and a power substation area.

**RECLAMATION**  
*Managing Water in the West*

# Reclamation's Water Prize Competition Center

**Multi-State Salinity Coalition**

**February 28, 2019**

# Prize Competitions Aren't A New Concept

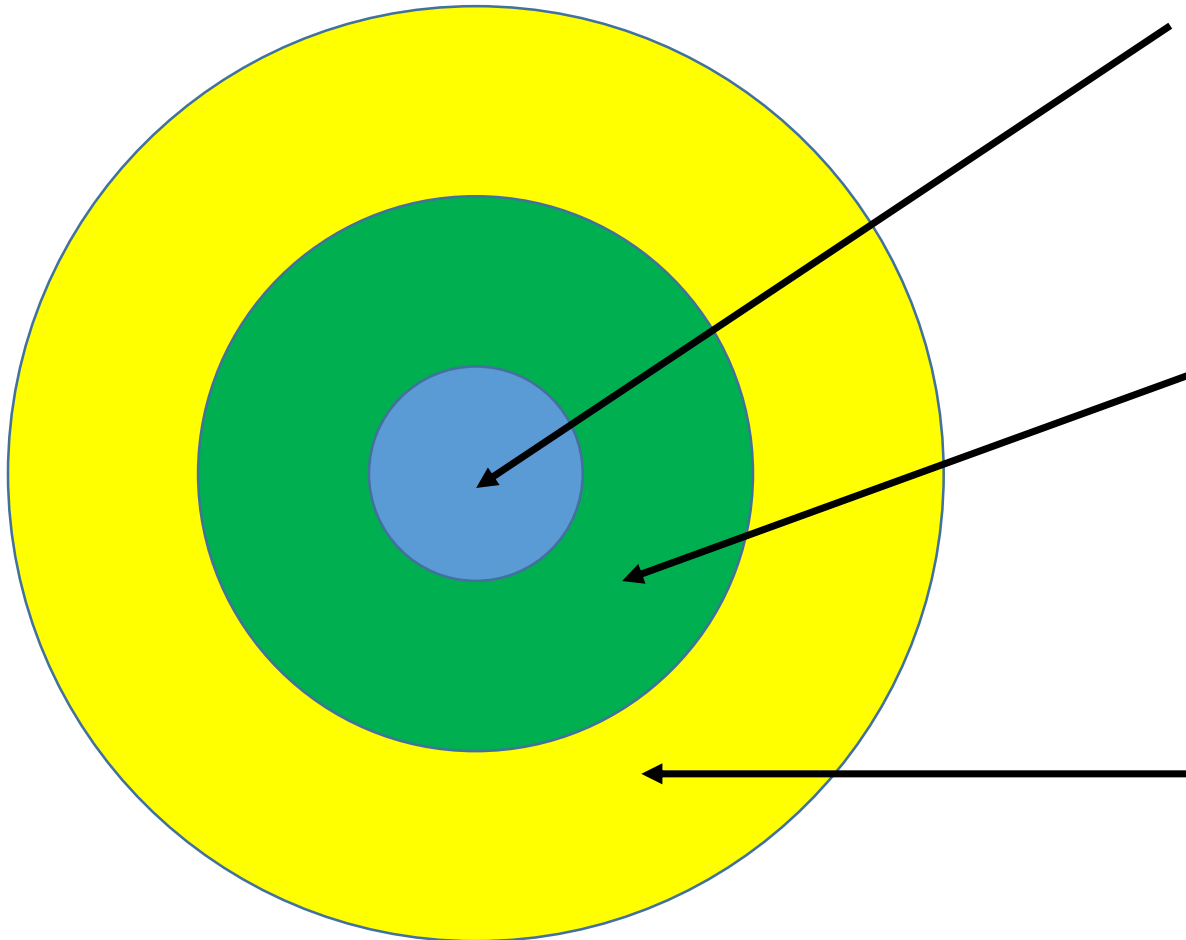


**Orteig Prize**  
**\$25,000 won in 1927**



**Ansari X Prize**  
**\$10M won in 2004**

# Prize Competitions At A Glance



**Tough problem where solutions have been evasive or expensive**

**Solvers we know that currently work in the problem space**

**Solvers in other domains we don't know...the previously untapped resource**

# Prize Competition Process

- **Identify a problem where a good solution has been evasive or expensive**
- **Identify solutions you already know about and why those aren't sufficient**
- **Identify target performance requirements**
- **Don't limit how to solve the problem or what approach to take**

# Prize Competition Process

- **Add monetary and/or non-monetary prize to incentivize solvers**
- **Publicize the competition to a wide audience – not just those already working in the problem space**
- **Assemble a team of judges to review submissions based on specified criteria and award prizes**

# Reclamation's Water Prize Competition Center

- **Launched in 2014 by Reclamation's Research and Development Office as another tool in the toolbox to complement existing internal and external research programs**
- **Completed 17 competitions to date, with 5 more currently under development**
- **Aligned in three theme areas: Environmental Compliance, Infrastructure Sustainability, and Water Availability**

# Environmental Compliance Competitions

- Remote fish detection
- Downstream fish passage at tall dams
- Eradication of invasive mussels in open water
- Sediment removal techniques for reservoir sustainability



**\$100,000 in prize \$\$\$**



Can you help eradicate invasive mussels?

[www.usbr.gov/research/challenges/mussels](http://www.usbr.gov/research/challenges/mussels)



# Infrastructure Sustainability Competitions

- Preventing rodent burrows in earthen embankments
- Corrosion protection of hydraulic steel structures
- Detecting leaks in water pipelines
- Powering electronic instruments on a rotating shaft



**WATER**  
PRIZE COMPETITION CENTER

**\$75,000 in prize \$\$\$**

Can you help us beat **corrosion**, the Grim Reaper of steel structures?

[usbr.gov/research/challenges/corrosion](http://usbr.gov/research/challenges/corrosion)

RECLAMATION  
Managing Water in the West

US Army Corps of Engineers  
Engineers, Researchers and Innovators Together

NIST  
National Institute of Standards and Technology  
U.S. Department of Commerce

NAVFAC



# Water Availability Competitions

- Concentrate volume minimization
- Sub-seasonal climate forecasting
- Colorado River Basin data visualization
- Arsenic sensing
- Pathogen monitoring for water reuse applications

**WATER**  
PRIZE COMPETITION CENTER

**\$800,000 in prize \$\$\$!**

March 2, 2016 Forecast (in) .01 .10 .25 .50 1 2 3 4 5 7.5 10 15

**Saddle up for the Sub-Seasonal Climate Forecast Rodeo!**

[usbr.gov/research/challenges](http://usbr.gov/research/challenges)

Competition Sponsor: **RECLAMATION** *Managing Water in the West*

Competition Partners:   

# Upcoming Competitions

- **Lowering the cost of continuous streamflow monitoring (ideas)**
- **Improving fish exclusion from water diversions and intakes (ideas)**
- **Sub-seasonal climate forecasting (algorithm)**
- **Corrosion protection of hydraulic steel structures (demonstration)**
- **Reducing concentrate volume at inland desalination facilities (demonstration)**

# **More Water, Less Concentrate Competition**

- More Water, Less Concentrate Stage 1 competition held in 2017, with winners announced April 2018**
- Theoretical competition – solvers submitted whitepapers describing their solutions and the theory behind their concepts**
- 282 registered solvers – 66 solutions submitted – 8 winners**
- \$150,000 in awards**

# **More Water, Less Concentrate Competition**

- **More Water, Less Concentrate Stage 2 scheduled for 2019 launch**
- **Envisioned as a two-phase competition: detailed technical whitepapers down-selected to prototype development and testing**
- **Reclamation is currently seeking partners and potential solvers for the competition**

# Prize Competition Partnership Opportunities

- Reclamation partners with other federal agencies, state agencies, municipalities, non-profit organizations, and private sector companies on prize competitions
- Partners can contribute cash and non-cash awards, subject matter experts, test facilities, promotional services, prize competition administration services, and more
- <https://www.usbr.gov/research/challenges/>

**Andrew Tiffenbach**

**Bureau of Reclamation, Technical Service Center**

**atiffenbach@usbr.gov**

**303-445-2393**

**<https://www.usbr.gov/research/challenges/>**



**RECLAMATION**  
*Managing Water in the West*