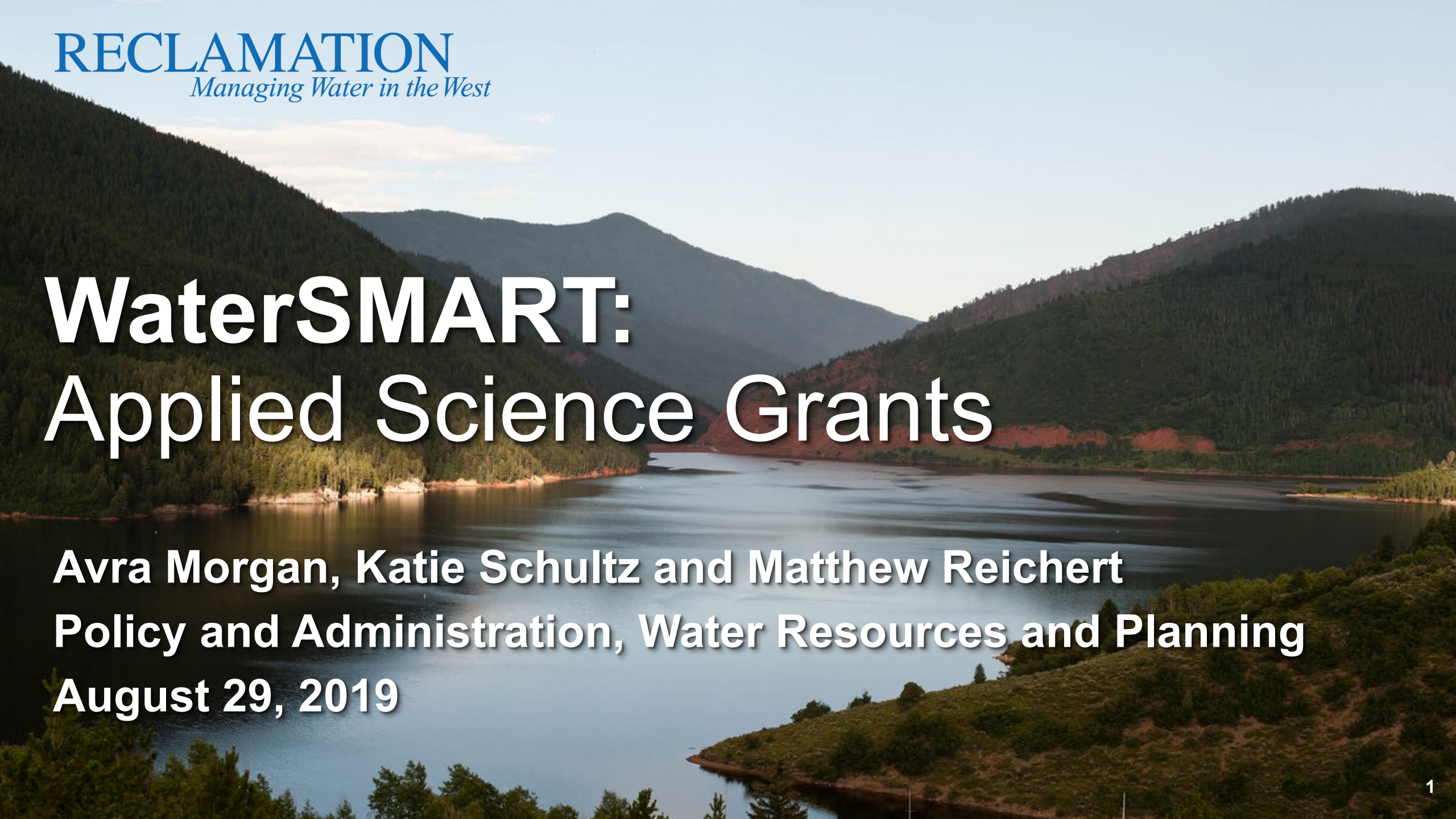

RECLAMATION
Managing Water in the West

WaterSMART: Applied Science Grants

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Policy and Administration, Water Resources and Planning
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Agenda Overview

- WaterSMART Program Overview
- Applied Science Grants Overview
- Eligible Applicants and Eligible Project Types
- Required Project Components
- Application Content and Submission
- Evaluation Criteria

Reclamation's Mission

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

WaterSMART Program - *Overview*

- Departmental initiative established in 2010
- Provides a framework for Interior to support water supply reliability for multiple water users
- WaterSMART supports Reclamation's mission through collaboration with stakeholders to improve water management, increase water reliability, and optimize limited supplies
- Authorized under the SECURE Water Act, P.L. 111-11

Applied Science Grants – *Overview*

- **Program Purpose:** Through WaterSMART Applied Science Grants, Reclamation provides cost-shared financial assistance for projects to develop hydrologic information and improve modeling and forecasting capabilities.
- **Program Objective:** Results from these projects will be used by water managers to increase water supply reliability, provide flexibility in water operations, and improve water management.
- **Projects Funded:** (1) Projects to enhance modeling capabilities; (2) develop reservoir operating alternatives for comparison; (3) improve or adapt forecasting tools; and (4) improve access to and use of hydrologic data, or develop new types of data to inform water management decisions.

Applied Science Grants – Applicant *Eligibility*

Eligible Applicants:

Category A: States, Indian Tribes, irrigation districts, water districts, or other organizations with water or power delivery authority

Category B: Universities, nonprofit research institutions, federally-funded research and development centers, and nonprofit entities

- Must include, as a partner, at least one entity from Category A – documented in a letter of participation

Ineligible Applicants:

- Individuals
- Commercial/Industrial organizations
- Private entities
- 501(c)(4) Nonprofit organizations
- 501(c)(6) Organizations

Applied Science Grants – *Project Eligibility*

Eligible Projects:

- Applied science projects, including (1) Projects to enhance modeling capabilities; (2) develop reservoir operating alternatives for comparison; (3) improve or adapt forecasting tools; and (4) improve access to and use of hydrologic data, or develop new types of data to inform water management decisions.
- **To be eligible, projects must:**
  - Be designed ***for use*** by water managers in the 17 westerns states, Alaska and Hawaii, American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands
  - Based on known and ***available (mature) technologies***; *not* on new or novel methods or technologies
  - ***Support one or more water management objectives***
    - Water supply reliability, improved management of water deliveries, water marketing activities, drought management activities, conjunctive use of ground and surface water, water rights administrations, ESA requirements, watershed health, conservation or efficiency, or other improvements to water supply reliability.

Applied Science Grants – *Ineligible Projects*

- Projects to develop new and novel methods or technologies, i.e., “research” projects
- Planning studies such as feasibility studies, appraisal investigations, water marketing strategies and drought contingency plans
- Water reuse, water recycling and desalination projects
- Construction projects to improve water management
- Projects funded under other federal grants

Applied Science Grants – *Project type 1*

- Projects to enhance modeling capabilities to improve water to improve water supply reliability and increase flexibility in water operations
  - Projects could include improvements to hydrologic models, reservoir operations models, or other types of water management models.
  - Projects may include improvements to the spatial and temporal resolution of a model, improvements to model calibration, enhancements to make a model more interactive and agile so that it can be used to answer specific questions as they arise or other enhancements to modeling tools.
  - This information can be used by water managers to help meet constraints or requirements (e.g., endangered species, administrative, or water delivery requirements).

Applied Science Grants – *Project type 2*

- Projects to develop reservoir operating alternatives and/or to develop frameworks to compare and analyze different reservoir operation alternatives
  - The ability to compare reservoir operating scenarios can help water managers identify opportunities to better meet management objectives.
  - Eligible projects could include the development of different operating alternatives, and/or the development of a framework to analyze one or more benefits associated with reservoir operating alternatives.
  - This could include a framework to analyze how different operating scenarios benefit flood risk management, sediment management, water quality, water demand management, economic benefits, conjunctive use of ground and surface water, or a combination of the types of water management objectives

Applied Science Grants – *Project type 3*

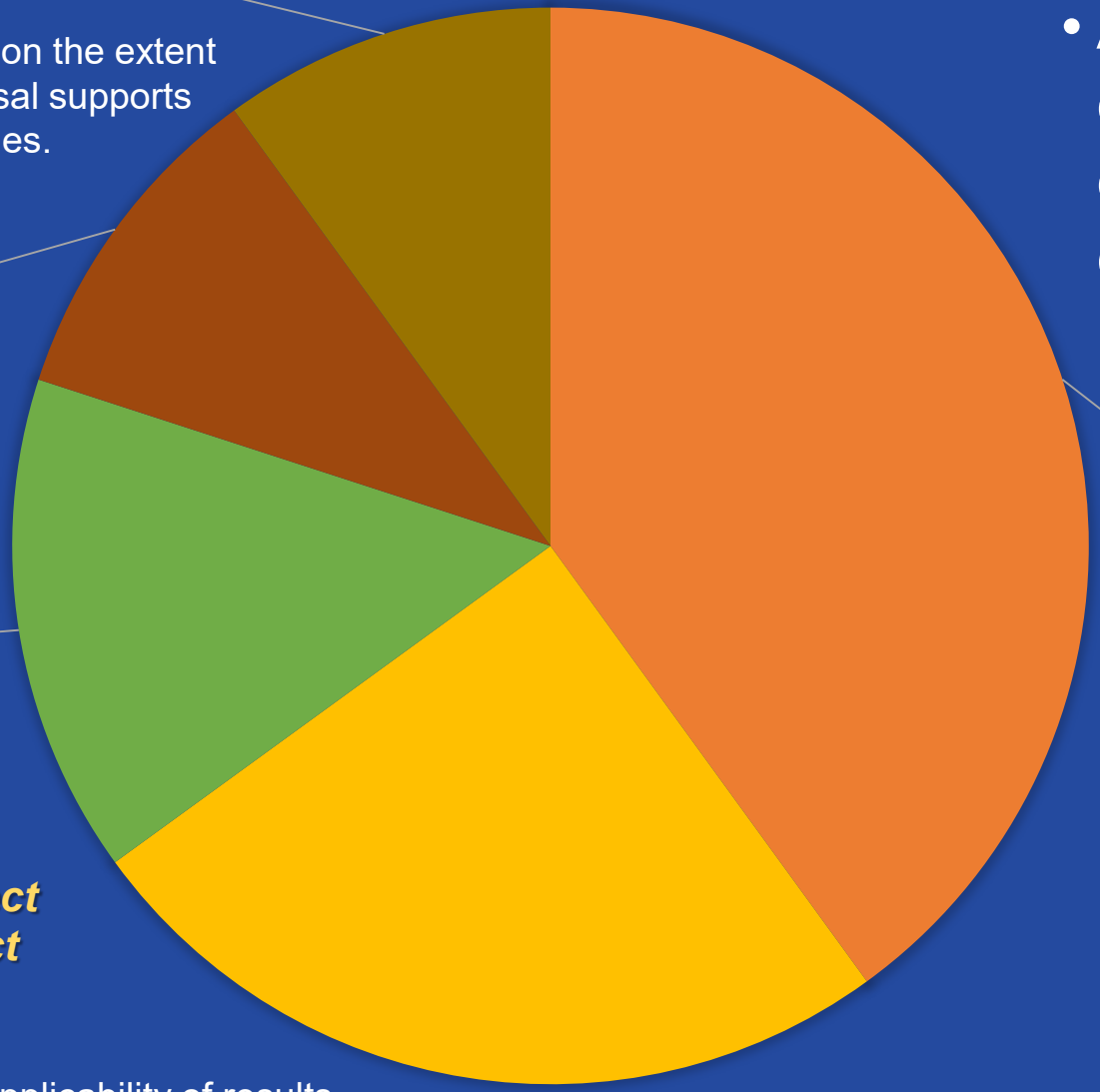
- Projects to improve or adapt forecasting tools and technologies to enhance management of water supplies and reservoir operations
  - Reliable forecasts are an important water management tool that can be used to optimize operations and improve water management, manage risks, and inform water allocation strategies, or even water marketing.
  - Projects can include the development or adaptation of forecasting tools to meet the needs of water managers.
  - Projects may also include the adaptation of existing forecasts to better meet operational needs. Applicants are encouraged to explore whether there are existing data sets and forecast products that may be leveraged.

Applied Science Grants – *Project type 4*

- Projects to improve access to and use of water resources data, or to develop new types of data to inform water management decisions.
  - The availability of quality assured, quality controlled hydrologic data is critical to inform water management decisions.
  - Eligible projects may include improvements to data acquisition, data analysis and data delivery. Data acquisition projects may include the incorporation or development of new or previously unavailable data, such as remote sensing imagery, or paleo reconstructions of naturalized flows, for example.
  - Projects may include the development of hydrologic databases or decision support tools that resource managers can use to query or analyze data
  - Projects may also include improved data delivery, such as making data available to a broader audience

EVALUATION CRITERIA

- Applications will be evaluated against the evaluation criteria which comprise a total of 100 points.



Criterion E - Department of the Interior Priorities (10 points)

Scored based on the extent that the proposal supports the DOI priorities.

Criterion D - Dissemination of Results (10 points)

Efforts beyond the required webinar to disseminate results.

Criterion C - Project Implementation (15 points)

Description of methodology, work plan (schedule, milestones, budget), staff credentials, and products.

Criterion B - Need for Project and Applicability of Project Results (25 points)

Need for project and applicability of results, complements other similar efforts.

Criterion A - Benefits to Water Supply Reliability (40 points)

Benefits to water supply reliability,

Applied Science Grants – *Award Information*

Funding Group I:

- Up to $150,000 in Federal funds*
- Completed within 2 years

Funding Group 2:

- Up to $300,000 in Federal funds*
- Completed within 3 years

***50% or greater non-Federal cost share is required regardless of Funding Group**

Applied Science Grants –*Required Project Components*

- Projects that are selected for funding must participate in at least one Reclamation-sponsored webinar
- In most cases, the webinar will be scheduled when the final report is submitted for Reclamation review
- Should inform Reclamation about project accomplishments, final results of the identified tasks, and any lessons learned
- Webinar may be open to the public as a webinar and may be made available on the WaterSMART website

Applied Science Grants – *Post Selection Requirements*

After the applicant is informed of being selected, Reclamation will enter into a financial assistance agreement:

- The financial assistance agreement documents the milestones, project, and reporting requirements
- Required planning components and reporting

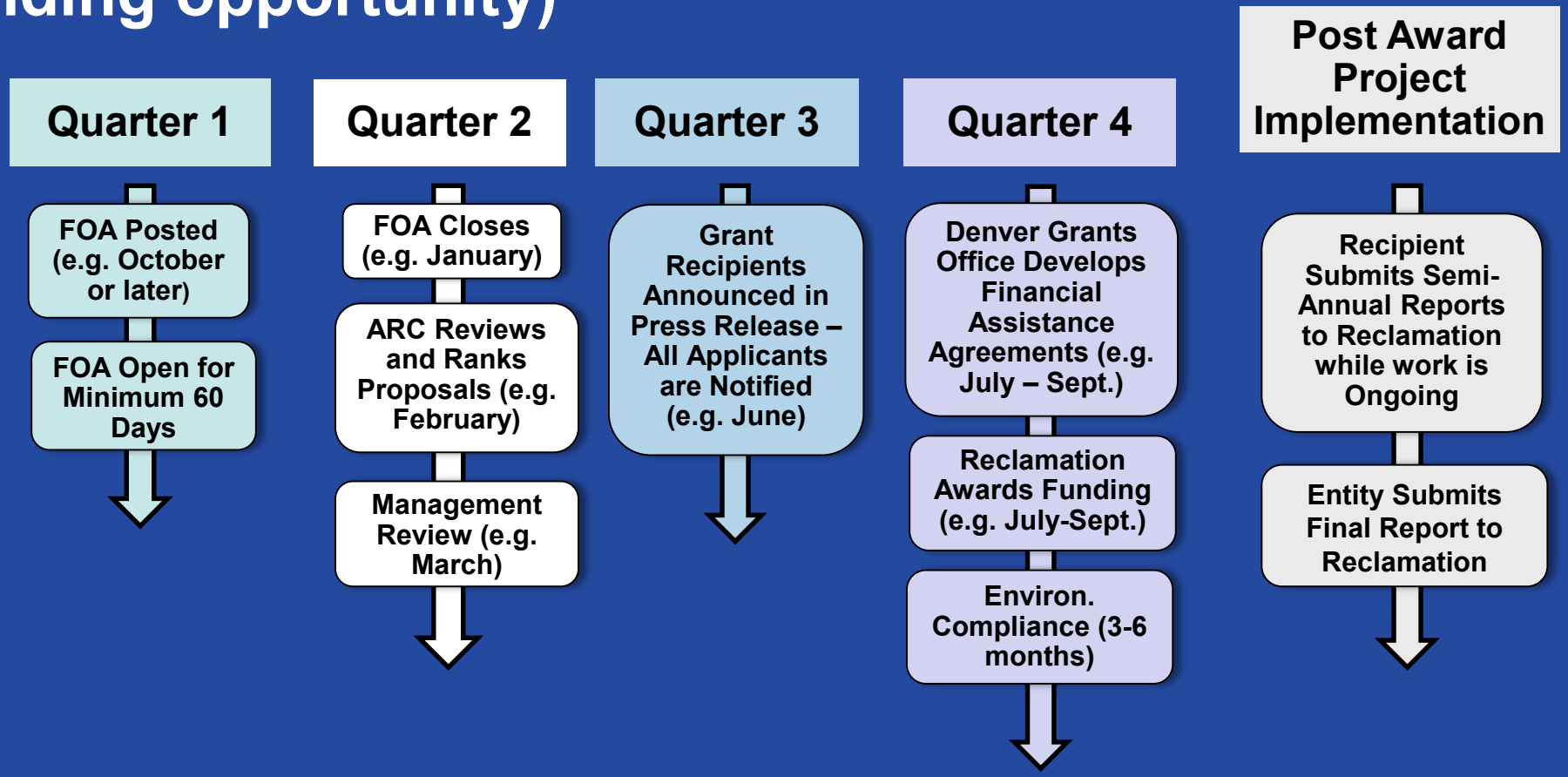
Applied Science Grants - *Program Requirements Summary*

Eligible Applicants	Category A and Category B applicants
Funding Groups	Funding Group I: Up to $150,000 for strategies completed within 2 years Funding Group II: up to $300,000 for strategies completed within 3 years
Cost Share	50% or more non-Federal cost-share is required
Required Project Components	A Reclamation-sponsored webinar that details the project accomplishments, final results of the identified tasks, and any lessons learned
Evaluation Criteria	Applications will be evaluated against the evaluation criteria which comprise a total of 100 points.

FOA Deadline: Wednesday, October 30, 2019, at 4:00 p.m. MDT

WaterSMART Selection Process

Sample schedule for reference (dates not specific to any funding opportunity)



Application Tips

Evaluation Criteria *(note: these examples are not specific to the Applied Science Grants FOA, but are intended to provide general suggestions for successful applications)*

- **Copy and paste the evaluation criterion from the FOA verbatim above your response to that criterion. For Example:**

F. Criterion F: Implementation and Results

Subcriterion No. F.1: Project Planning

Does the project have a Water Conservation Plan and/or System Optimization Review (SOR) in place. Please self-certify, or provide copies of these plans where appropriate to verify that such a plan is in place.

Provide the following information regarding project planning:

(1) Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, or other planning efforts done to determine the priority of this project in relation to other potential projects.
The District has a Water Conservation Plan, but a specific plan for this project has not been prepared. A Feasibility Study for the Phase 1 and Phase 2 project was completed in 2013 and adopted by the Board.

Application Tips

Evaluation Criteria

- **Address all parts of multi-part questions - each aspect counts**

Evaluation Criterion H: Connection to Reclamation Project Activities

1. How is the proposed project connected to Reclamation project activities?

BRCC receives water through Cutler Reservoir. Cutler Reservoir belongs to PacifiCorp Which has senior rights to the flows that are stored in Hyrum Reservoir which are a Reclamation Project. Hyrum Reservoir provides water to run PacifiCorp hydroelectric facility on the Bear River. PacifiCorp has an obligation to deliver all of BRCC's water through Cutler Reservoir.

2. Does the applicant receive Reclamation project water?

No. BRCC receive out water through the Bear River.

3. Is the project on Reclamation project lands or involving Reclamation facilities?

No.

4. Is the project in the same basin as a Reclamation project or activity?

Yes, the project is located in the Bear River Basin where a number of Reclamation projects are located.

5. Will the proposed work contribute water to a basin where a Reclamation project is located?

Yes, as the project conserves water and reduces losses and will help contribute to the storage and potential flows in the Bear River and eventually to the Great Salt Lake. The Bear River is a main tributary to the Bear River Migratory Bird Refuge and the Great Salt Lake by conserving water and allowing it to move through the river to enhance habitats and recreational opportunities.

6. Will the project help Reclamation meet trust responsibilities to Tribes?

No.

Application Tips

Evaluation Criteria

- **Be sure to provide as much support as possible for statements included in the proposal, including graphs and figures. For example:**

Canal Lining/Piping: Canal lining/piping projects can provide water savings when irrigation delivery systems experience significant losses due to canal seepage. Applicants proposing lining/piping projects should address the following:

a) How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.

Two inflow/outflow tests were done in August 2016. The first tests were done at intervals of approximately one mile along the entire length and a more detailed follow up study was done in the high flow loss areas. The canal diversion gates were closed during the tests. More details about the tests are given in the following section.

The water savings were determined for each of the canal segments by finding the difference in flow through a segment of canal, measured in cubic feet per second. These flows were then converted to an acre feet per year volume assuming a six-month irrigation season. The following equation shows how the total savings for the Project were calculated.

Overall project annual acre-feet savings per mile equation:

$$\left[\left(\frac{(35cfs-27cfs)+(14cfs-11cfs)}{(41450ft-39020ft)+(52600ft-50630ft)}\right)*\frac{60sec}{min}*\frac{60min}{hr}*\frac{24hr}{day}*\frac{30day}{mo}*\frac{6mo}{yr}*\frac{1ac}{43560ft^2}*\frac{5280ft}{1mile}\right]$$

Application Tips

Evaluation Criteria

- **Unsupported claims do not receive a high scores from the ARC:**

During the summer of 2016, staff estimated flows at all Main Canal lining drain exits. This was done by visual inspection and estimation of the amount of water flowing by an experienced Watermaster and engineering staff.

Over the years, staff has gained considerable experience in estimating flows by sight when comparing visual estimates to measured flow at lining drain exits where weir blades could be installed relatively easily. Staff also gained considerable confidence estimating these flows during the 2015 drought when looking for the best sites to install diesel powered pumps to pump the exiting water back to the Main Canal.

Application Tips

Preparing your Budget

Budget:

Do not provide lump sums. Instead you should provide a detailed breakdown of costs.

Be sure to include all projects costs, not just the Federal funding. (See example)

Do not need to identify activities that will be funded via Federal/Non-Federal funds. Complete the budget for all project costs.

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Salaries and Wages				
Water Resources Analyst - WD	$43.00	200	Hours	$8,600.00
Computer Specialist - WD	$54.00	400	Hours	$21,600.00
Hydrology & Computer Applications - DWR	$49.00	80	Hours	$3,920.00
GIS Specialist - DWR	$62.00	40	Hours	$6,400.00
Fringe Benefits				
All Employees - WD	18%	$30,200	LS	$5,436.00
All Employees - DWR	25%	$6,400	LS	$1,600.00
Travel				
All Project Mileage	500	$0.58	Miles	$290.00
Equipment				
Desktop	$6,500	1	EA	$6,500.00
Supplies and Materials				
ArcGIS Online, User Accounts	$450.00	2	YR	$900.00
ArcGIS Online, Subscriptions	$2,000.00	2	YR	$4,000.00
ESRI ArcMap, Online Server Fee	$7,500.00	2	Term	$15,500.00
MatLab/Simulink Licenses	$4,000.00	2	YR	$8,000.00
Contractual				
Senior Project Manager	$200.00	250	HR	$50,000.00
Senior GIS Project Manager	$185.00	350	HR	$64,750.00
Software Engineer	$135.00	800	HR	$108,000.00
Data Management	$3,500.00	2	YR	$7,000.00
Programing Consultant	$50.00	100	HR	$5,000.00
Modeling Consultant	$75.00	100	HR	$7,500.00
TOTAL DIRECT COSTS				**$324,996.00**
Indirect Costs				
De Minimis	10%	$127,246.00	MTDC	**$12,724.00**
TOTAL ESTIMATED PROJECT COSTS				**$337,720.00**

Application Tips

- The technical proposal and evaluation criteria is limited to 20 pages. See section D.2.1. of the funding opportunity announcement for more information.
- Any pages that exceed the page limit will not be reviewed by the application review committee
- Page size shall be 8 ½ x 11 inches, standard one-inch margins, and 12 point font

Application Tips

Preparing your Budget

Project Costs

- Project Costs must be “allowable, allocable and reasonable”
- *Allowable* costs could include:
  - Labor
  - Equipment
  - Materials
  - Contracts
  - All costs must be *directly related* to the project
- Costs that are *not* allowable could include:
  - Pre-Selection work
  - General marketing or advertisements not required for the project

Application Tips

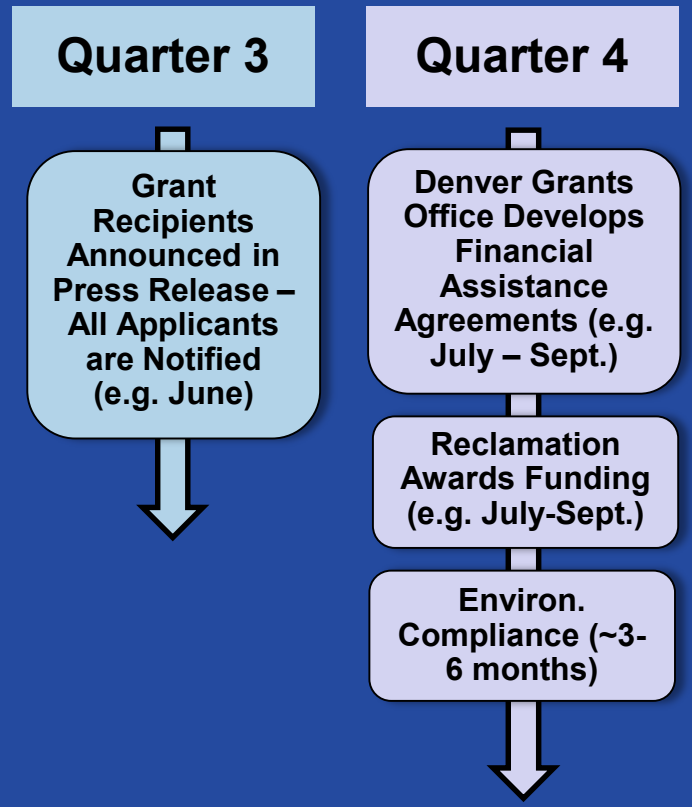
Preparing to Submit your Proposal – Get Registered

- **Start necessary registrations early – processes take time**
  - **DUNS (Data Universal Number System) Number – used to establish a business credit file and *required to register in SAM.gov***
  - **SAM.gov (System for Award Management) – required to receive a Federal grant or cooperative agreement. Register in SAM early! It can take up to 6 weeks to get registered and you need to be registered in SAM before registering in grants.gov**
  - **ASAP.gov (Automated Standard Application for Payments) – required to access awarded Federal funds**
- **Register in https://www.grants.gov/ well before the application deadline. DO NOT wait to the last minute to submit the application. Processing issues have occurred that render applications submitted at the last moment ineligible.**
- **If you are within weeks of the application deadline and you have not registered in grants.gov, plan to submit a hard copy of your application**

Pre-award Determinations

Preparing to Submit your Proposal

- Your project was selected for funding! Now what?
  - Determination of allowability of costs and existence of appropriate business practices
  - Financial assistance agreement developed and finalized
  - Environmental compliance completed
  - Recipients notified when work can begin



What to provide

- **Project Cost Support**
  - Documentation that supports the unit price for each budgeted item
- **Financial Management and Business Processes**
  - Financial Management
  - Procurement
  - Timekeeping
  - Equipment Use
  - Contract Management
  - Property Management
- **Audit**
  - Single Audit
  - Independent Financial Statement Audit or
  - Pre-award Systems Survey

Intellectual Property

- Intellectual Property, Intangible Property, and Data Availability are possible factors in projects selected for Applied Science Grants
- Software, models, and other products developed within a Federal Agreement retain a Federal interest in those products
- Data Availability is that data produced with a Federal Agreement requires the data to be available to reproduce, publish, or otherwise use the data produced under a Federal award as well as authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes

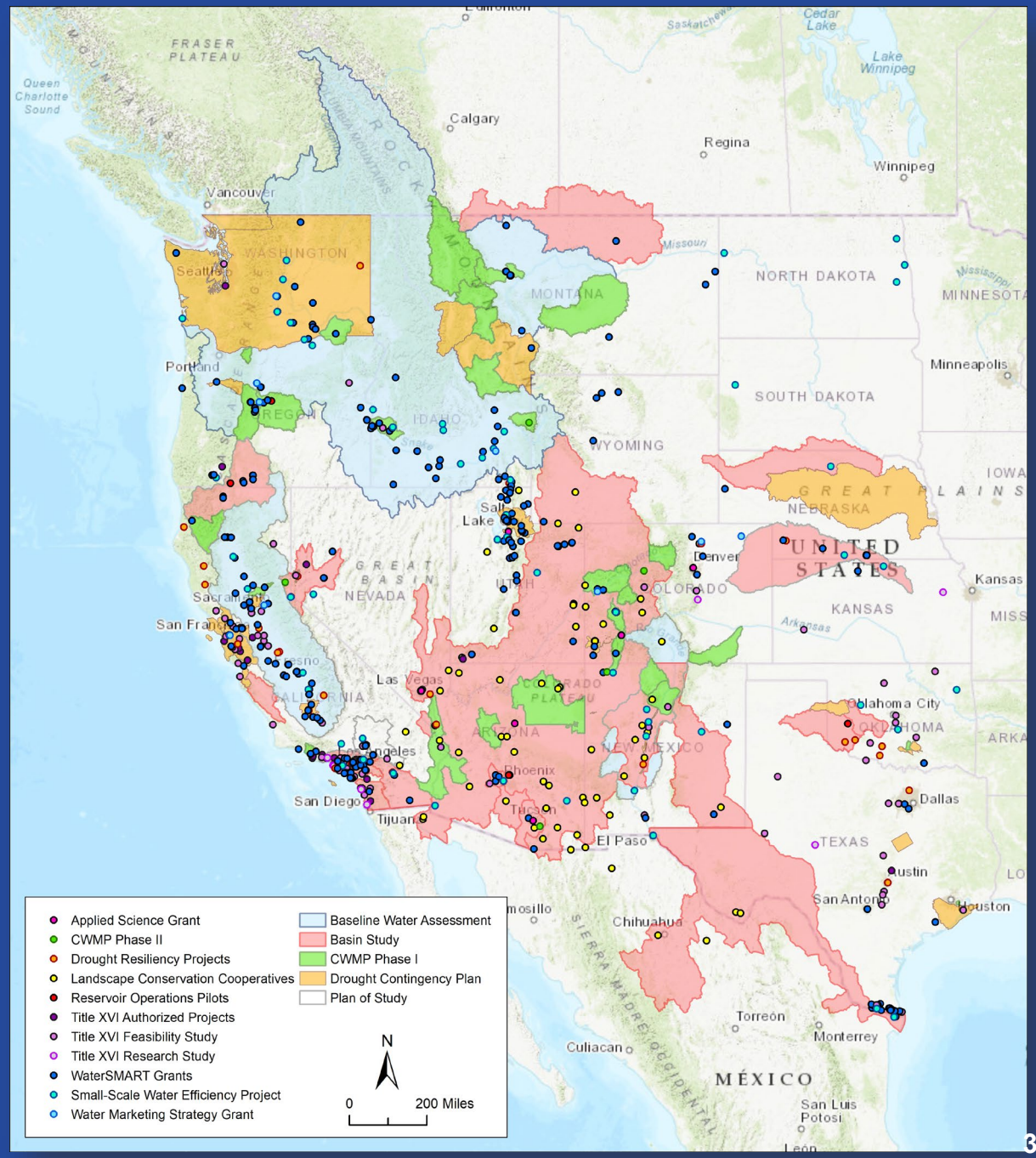
Intellectual Property, Intangible Property, and Data Availability References

- Intangible Property and Data Availability 2 CFR 200.315
- 35 USC Ch. 18 Patent Rights in Inventions made with Federal Assistance
- Intellectual Property 2 CFR 200.448

WaterSMART - *Data Visualization*

- Provides users with interactive maps of each WaterSMART Program and projects
- Includes Featured Project tours
- Shows program growth since 2010
- Recently updated with new application features

WaterSMART Data Visualization Tool



WaterSMART Program Links

Basin Studies	Basin Studies - https://www.usbr.gov/watersmart/bsp/index.html WWRA - https://www.usbr.gov/watersmart/wcra/index.html Reservoir Operations - https://www.usbr.gov/watersmart/pilots/index.html Applied Science Tools - https://www.usbr.gov/watersmart/appliedscience/index.html
Title XVI	https://www.usbr.gov/watersmart/title/index.html
WaterSMART Grants	Water and Energy Efficiency Grants - https://www.usbr.gov/watersmart/weeg/index.html Small-Scale Water Efficiency Grants - https://www.usbr.gov/watersmart/swep/index.html Water Marketing Strategy Grants - https://www.usbr.gov/watersmart/watermarketing/index.html
Field Services	https://www.usbr.gov/waterconservation/
Drought	https://www.usbr.gov/drought/
CWMP	https://www.usbr.gov/watersmart/cwmp/index.html

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