

Draft Survey of Irrigation Questions and Potential Probes

November 30, 2018

Note: more specific probes may be added as we continue this qualitative research.

Section 1: Type of Organization

Subsection: Irrigation Water Delivery

1: During 2019, did this organization deliver off-farm surface water directly to farms or ranches? [Y/N]

2: During 2019, did this organization deliver water to other irrigation organizations? [Y/N]

3: During 2019, did this organization deliver off-farm groundwater water (such as water pumped from well fields) directly to farms or ranches? [Y/N]

4: If question 1 = "Yes" or question 2="Yes", mark the category that best describes this organization: (Select one)

Unincorporated mutual (Informal partnership among water users)	
Incorporated mutual (ditch company) (Legal entity owned by users that supply water at a cost)	
Irrigation district (Public entity given authority to assess fees)	
Commercial company (Owner-controlled entity that sells water, generally profit-oriented)	
Project operated by USBIA	
Other	

Probes:

- *Why did you pick that category? Was it difficult to pick just one?*
- *Tell me about your organization and what it does. Does your organization deliver water directly to farmers for the purposes of irrigation?*
- *Tell me about how your organization delivers irrigation water.*
- *Tell me about the people or businesses that you deliver irrigation water to.*

Subsection: Groundwater use oversight

5: During 2019, was this organization involved in monitoring, studying, permitting or directly influencing the use of groundwater by farms and ranches? [Y/N]

6: If question 5="Yes", which if the following roles did this organization perform (Select all that apply):

Permitting development of new wells	
Certifying extent of irrigation (land use)	
Collecting self-reporting pumping data	
Collecting metered pumping data	
Monitoring and reporting on groundwater use or water table conditions	

Developing forecasts or plans for future groundwater use	
Managing groundwater recharge project	
Enforcing or ensuring compliance with groundwater quality regulations	

Probes:

- *What activities did you think about when answering this question?*
- *Tell me about your organization’s involvement in these activities. What roles did you perform for these activities? Are you responsible for these activities?*
- *How is ground water use managed in the State(s) where your organization operates?*
- *Are there any categories that seem confusing to you? Are any categories missing? (i.e., enforcing or ensuring compliance with ground water withdrawal restrictions.)*

Subsection: Governance structure

7: Who has primary responsibility for making management decisions in this organization? (Select one)

- [Y/N] All members through regular (e.g.: annual) or ad hoc meetings
- [Y/N] An elected board
- [Y/N] An appointed board
- [Y/N] One individual
- [Y/N] Other - specify

8: If question 8= “elected board”, how are users’ votes allocated (Select one):

- [Y/N] On an proportional bases (e.g.: one vote per share or per acre or per acre-foot)
- [Y/N] One vote per user (or customer or account)
- [Y/N] In a tiered system (e.g.: by water right seniority)

Probes:

- *What do you think of as “management decisions”?*
- *Tell me about how decisions are made at your organization.*

Section 2: Water Users and Acres Served by this Organization in 2019

1: Where is the service area for this organization located? (List top five counties):

State Abbreviation	County Name	County Fips Code	Percent of Irrigated Acres	Percent of Water Use

Probes:

- *How did you arrive at your answer?*
- *[Interview observe] does the total percent sum to 100%?*

Subsection: Water Deliveries

2: How many farms and acres receive off-farm water deliveries directly from this organization:

Users (farms and ranches receiving water for irrigation)	Acres irrigated in 2019	Acres developed for irrigated but not receiving water in 2019

Probes:

- *How did you arrive at your answer? Did you use records or annual reports for this question?*
- *Describe your water users. Did you include all of those users in your answer for this question?*
- *What does the term “off-farm water” mean to you?*

3: What other users and acreage receive water from this organization:

Type of organization	Number of users	Total acreage
Residential and domestic users		
Municipal water systems		
Recreational organizations or golf courses		
Other (e.g.: public installations or industrial users)		

Subsection: On-farm Groundwater Use

4: Summarize the extent of groundwater irrigation in this organization’s service area?

Number of farms and ranches pumping their own groundwater	Total acres irrigated by on-farm groundwater	Number of active groundwater wells	Number of capped or deactivated wells.

Probes:

- *How did you arrive at your answers? Did you use records for these questions?*
- *Are there any questions you couldn’t answer? Is the distinction be active and deactivated wells clear?*

Section 3: Sources of Water in 2019

Subsection: Diverted or Purchased water

(Report water at the point when it came under control of this organization)

1: How much water did this organization directly receive from each of the following sources, typically through canals either through contract, agreement or settlement? (Report all that apply):

A federal irrigation organization or project	[Thousands of acre-feet]
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A state irrigation organization or project	[Thousands of acre-feet]
A private or local irrigation organization or project	[Thousands of acre-feet]
A municipal or industrial water system	[Thousands of acre-feet]
Other supplier	[Thousands of acre-feet]

2: How much additional surface water did this organization divert directly from natural water bodies or from its own storage facilities?

Natural stream	[Thousands of acre-feet]
Natural lake or pond	[Thousands of acre-feet]
Reservoir not included in prior question	[Thousands of acre-feet]
Another organization's drainage water	[Thousands of acre-feet]

3: Of the water delivered by this organization to farms and ranches in 2019, report on how much of this was groundwater withdrawn by the organization:

Pumped wells	[Number]	[Thousands of acre-feet]
Springs	[Number]	[Thousands of acre-feet]
Flowing wells	[Number]	[Thousands of acre-feet]

4: What is the total amount of surface water brought into this system's storage and conveyance facilities?

Total water entering system (sum of previous twelve categories)	[Thousands of acre-feet]
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Probes:

- *What does the sentence "Report water from the point at which it came under control of this organization" mean to you?*
- *How did you arrive at your answers? Did you use records or annual reports for these questions?*
- *Could you answer these questions in thousands of acre-feet? If not, what is the best way for you to report this information?*
- *Are there any questions you couldn't answer?*
- *Question 1 – did you receive the water through canals? What other ways did you receive water?*

Subsection: Water Transfers with Other Organizations

5. How much of the water reported above was...

Source of water transferred into this system:	Total amount of water [Thousands of acre-feet]	Average price [\$ per acre-foot]
a. ...from a one-year lease of water in 2019?		
b. ...from a multi-year lease of water active in 2019		
c ... from a permanent water right purchased within last five years?		

6: If no water rights were leased or purchased, please indicate why not:

- Water rights transfers are not allowed in our region [Y/N]
- Water available for sale was too expensive given our needs [Y/N]
- Water supplies [across surface and groundwater sources] were generally sufficient in 2019 [Y/N]

7: Describe any transfers of water to other organizations:

Source of water transferred prior to entering this system:	Total amount of water [Thousands of acre-feet]	Average price [\$ per acre-foot]
a. ...from a short-term lease of water in 2019?		
b. ...from a long-term lease of water active in 2019		
c. ... from a permanent water right purchased within last five years?		

8: If no water rights were sold, please indicate why not:

- Water rights transfers are not allowed in our region [Y/N]
- Water prices for sales are too low given our value of the water [Y/N]

Probes:

- *What do the terms “water rights transfers” and “water rights” mean to you in these questions? What are the types of water rights used by your organization? Do you purchase or lease water rights? Did you sell water rights? Describe this process and the situations.*
- *What does the term “short-term lease” mean to you? What time frame would you consider short-term?*

Subsection: Groundwater

9: Of any on-farm groundwater use monitored, permitted, or otherwise directly influenced by this organization, how much came from the following sources:

Pumped wells	[Number]	[Thousands of acre-feet]
Springs	[Number]	[Thousands of acre-feet]
Flowing wells	[Number]	[Thousands of acre-feet]

10: What types of aquifers are used for groundwater in this organization’s area (report approximate percent of total groundwater use from each type):

- Confined aquifer that does not interact with stream or other surface water [Percent]
- Confined aquifer that does interact with stream or other surface water [Percent]
- Unconfined aquifer the does not interact with stream or other surface water [Percent]
- Unconfined aquifer that does interact with stream or other surface water [Percent]

11: Describe the spatial extent of the aquifer(s) listed above (pick one):

- Almost all (>80%) of the aquifer is within the area served by our organization

- Between 40% and 80% of the aquifer is within the area served by organization
- Less than 40% of the aquifer is within the area served by organization

12: Are water rights for users of this organization ... (check all that apply):

Owner	Acre-feet of rights	Acre-feet of contracts
... held by the organization		
... held directly by the users (farms and ranches)		

Probes:

- *How did you arrive at your answers? Did you use records for these questions?*
- *Are there any questions you couldn't answer?*
- *What do the terms "confined aquifer" and "unconfined aquifer" mean to you in these questions?*
- *Are the percentages used in question 11 appropriate? Are there better breakdowns? Do other breakdowns match your records?*
- *[interviewer observation] Could the respondent answer in percentages?*

Section 4: Disposition of Water in 2019

Note: Give the best estimate of if exact measurements are not available.

1: Disposition or use of water by this organization: (Report water at the point it left the control of this organization.)

Delivered to farms and ranches	[Thousands of acre-feet]
Delivered to residential or domestic users	[Thousands of acre-feet]
Delivered to other irrigation organizations	[Thousands of acre-feet]
Delivered to industrial plants, municipal water systems, recreational organizations, public installations, etc.	[Thousands of acre-feet]
Total water delivered to users	[Thousands of acre-feet]

2: Other water exiting this organization's system

Released from the system for down-stream users	[Thousands of acre-feet]
Released to meet in-stream or environmental flow requirements	[Thousands of acre-feet]
Diverted for groundwater recharge	[Thousands of acre-feet]
Conveyance losses	[Thousands of acre-feet]
Other releases	[Thousands of acre-feet]

3: Describe the (field) turnouts on your system where water is delivered to farmers:

Turnout type	Operated by organization staff	Operated by the farmer	Percent Metered
Calibrated slide gates			
Manual metergates			

Automated flow control			
Crested weir			
Pump			
Siphon tubes			

4: What rotation schedule best describes the way this organization delivers water?

- Fixed rotation / Modified Rotation / Unlimited rotation
- Days between deliveries (use average if not a fixed rotation)
- Hours of advanced notice required to schedule a delivery (if not a fixed rotation)

5: Does this organization require advanced notice to turn off deliveries? [Y/N]

6: How flexible is this organization in adjusting the duration of deliveries?

- Changes in duration rarely allowed
- Duration can change in 12 hour increments
- Duration can change in 24 hour increments
- Duration can change in other fixed increments
- Variables changes are allowed

7: Are users able to trade allocations within your system?

- Yes/No
- If yes:
 - o How many trades occurred in 2019?
 - o What was the total amount of water traded within this system in 2019?
 - o What was the average price per trade?
 - o Did trades increase water losses?

Probes:

- *Please describe how you deliver water and who it is delivered to.*
- *What does the term “trade allocations” mean to you in this section?*
- *Do any of these categories overlap?*
- *Are there any categories that you don’t understand? Are there any categories that should be added?*
- *How are delivery systems decisions made by your organization?*
- *Are allocations enforced by your organization? How?*
- *Do you have a contract with farmers/ranchers? Tell me more about how those contracts work.*

Section 5: Drought Planning and Response

1: Report on how variable the surface water supply is for this organization.

- a: Over the last twenty years, what is the average amount of delivered to or captured by this organizations storage and distribution system? [thousands of acre-feet]

b: Is the water available for this system trending?

- Staying the same
- Trending downward
- Trending upward

c: Over the past twenty years, report or estimate the number of year that the supply was above or below the long-run average by the categories in the following table:

< -50%	-50 to -25%	-25 to -10%	-10 to 10%	10 to 25%	25 to 50%	> 50%

2: When water shortfalls or curtailments occur, how does this organization manage water deliveries?

- It proportionately reduces the amount of water delivered for each diversion through reduced diversion time (hours) or flow rate for all users
- It increases the time interval (number of days) between deliveries for all users.
- It temporarily halts deliveries or postpones for all users.
- It limits deliveries to junior rights holders while maintaining deliveries to senior rights holders as allowed.

3: Does this organization have a formal drought plan that defines how to operate contingent on drought conditions?

4: Are users within this organization's area able to increase groundwater withdrawals during drought?

Probes:

- *Question 1 – What does this question mean to you in your own words?*
- *Question 1c – How did you answer this question? Did you understand what types of answers to put? Do you have records for this?*
- *Question 2 – are the choices here reasonable? Are there other categories that should be added? Any that are confusing?*
- *Any issues reporting on any of these questions?*

Section 6: Irrigation Facilities

1: How many diversion dams does this organization operate? (Do not include storage reservoirs here.)

- a) Number of diversion dams: [Number]
- b) Diversion outlet capacity: [Cubic Feet per Second]
- c) Volume at maximum elevation: [Thousands of acre-feet]

2: How many flowing wells which require pumping does this organization operate:

- a) Number of flowing wells: [Number]
- b) Total capacity of wells: [Cubic feet per second.]

3: How many pumped wells does this organization operate:

Depth to water at start of season	Number of wells	Total capacity (cfs)
Less than 50 feet		
50 to 100 feet		
More than 100 feet		

4: How many pumps were used by this organization to deliver water or manage drainage?

Type	Number	Capacity (GPM)	Capacity (CFS)	Average vertical lift (feet)
Used on wells				
Used for diversion from streams, reservoirs, lakes or ponds				
Other pumps (e.g.: relift within system)				

5: Length of conveyance facilities

Type	Total Length (miles)	Length of large facilities (>50 cfs)	Maximum flow capacity (CFS)	Days per year at maximum flow capacity in 2019
Unlined main canals				
Lined main canals laterals, ditches				
Main pipelines				
Unlined lateral canals or ditches				
Lined lateral canals or ditches				
Lateral pipelines				
Drains maintained				
Tunnels				

6: For any unlined canals, report the reasons for keeping canals unlined. (Report more than once if more than one reason applies)

- Lining is too expensive [length]
- There is limited water loss due to soils and geology [length]
- To provide for groundwater recharge [length]

Probes:

- *Please describe the irrigation facilities you reported in this section. Are there any facilities you did not report here? If so, what were those facilities and why did you leave them off?*
- *Could you divide your pumps into the categories requested? Are there better categories to use?*
- *What does the term “conveyance facility” mean to you in this section?*

- Question 5 - How did you come up with your answer? Do you have records?
- Question 6 – What other options should be listed as reasons for keeping canals unlined?

Section 7: Irrigation Water Storage

1: Did this organization have any water storage reservoirs in 2019? (Include shared reservoirs and reservoirs and reservoirs which are dry due to drought conditions; exclude dams solely for diversion.)

2: Did this organization have any reservoirs?

Type	Number	Total Filled Capacity	Total withdrawals for irrigation	Volume at Start of Year	Volume at End of Year
Reservoirs with less than 1,000 acre-feet capacity					
On-stream (diversion) reservoirs with more than 1,000 acre-feet capacity					
Off-stream (storage) reservoirs with more than 1,000 acre-feet capacity					

3. Did this organization utilize groundwater storage?

- Number of groundwater recharge sites
- Total amount of water recharged by intentionally managed recharge (not normal on-field recharge) in 2019 (before accounting for losses)
- Percent of recharged water that is expected to be recoverable

10. What is the capacity of any groundwater recharge projects owned and operated by this organization?

Recharge basins	[Number]	[Thousands of acre-feet]
Injection wells	[Number]	[Thousands of acre-feet]
Other methods (e.g.: on-field spreading)	[Number]	[Thousands of acre-feet]

Probes:

- *Could you break down this type of data by on-stream and off-stream? How did you break it down by those categories – records, estimates, wild guess, something else? Is there a better way to break this down?*
- *Could you break down this type of data by reservoirs with a capacity under 1,000 acre-feet and those over 1,000 acre-feet? How did you break it down by those size categories – records, estimates, wild guess, something else? Is there a better break to use for the size of the reservoirs?*
- *How easy or difficult was this section? Were there any questions you could not answer?*

- What do the terms “recharge basins” and “injection wells” mean to you in these questions?

Section 8: Measurement of Water

1: How does this organization measure the flow-rate in its system? How frequently is the quantity of water measured within this organization’s surface water delivery system? [1=Daily, 2=Weekly, 3=Monthly, 4=Randomly, 5=Not measured]

	At entry	Within system	At delivery (e.g.: turnouts) to users	At release
Percent of flow measured by method:				
a) Parshall flume				
b) Propeller, cup or disk meter				
c) Pitot tube or similar				
d) Estimated based on flow capacity and timing				
e) Not measured or estimated				
Frequency of Measurement 1=continuous, 2=random, 3=weekly, 4=daily, 5=during all diversions, 6=during some diversions				
Is a SCADA or other remote, computerized system used for collecting and analyzing flow/volume measurement data.				

2: Which of the following sources of data did this operation use during 2019?

Type of information	Operational decisions: 1=critical for operations, 2=somewhat useful for operations 3=not used	Used by farms and ranches 1=critical for operations, 2=somewhat useful for operations 3=not used
Snowpack monitoring (e.g.: USDA Snotel)		
Streamflow monitoring (e.g.: USGS network)		
Weekly Drought Monitor		
Daily weather reports		
Evapotranspiration (ET) monitoring networks		
State water agency reports		
Water provider (e.g.: Bureau of Reclamation or Army Corps of Engineers) reports		
Private sector data products		
Groundwater monitoring wells owned by this organization		

USGS groundwater monitoring wells		
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3: Which of the following external sources of data is this operation using to make long-run decisions past 2019?

Type of information	Operational decisions: 1=critical for operations, 2=somewhat useful for operations 3=not used	Used by farms and ranches 1=critical for operations, 2=somewhat useful for operations 3=not used
3-month or longer weather forecasts		
Climate simulation models		
Groundwater simulation models		
Groundwater monitoring and trend analysis		
Regional Climate Reports		
USGS Groundwater models		

Probes:

- *Question 1 – how did the respondent report (ERS may re-work this question)?*
- *Do the frequency categories cover the time frames that you measure the quantity of water?*
- *How are delivery systems decisions made by your organization?*
- *Are allocations enforced by your organization? How?*
- *Do you have a contract with farmers/ranchers? Tell me more about how those contracts work.*
- *Question 2 – What data products do you use from these providers? How do you use these data products? What do you use them for? Have you heard of all of these data providers? Are there others that are not on this list that should be? <If did not use any>, did you use data products from sources not on this list? What were those products? Who produced them? Can the respondent report what the farmers/ranchers use?*
- *Question 4 – Do you measure or monitor the groundwater in your aquifer(s)? How do you measure it? Do you use equipment? Tell me about the equipment you use to measure. Do you measure some and not others?*
- *Question 5 – What does the term turn-outs mean to you? Do you monitor water at the point of turn-outs? How do you measure the water that came through?*

Section 9: Cost of Operation and Maintenance

1: What were the total operating costs for this organization in 2019:

2: What percentage of the total operating costs were relating to irrigation in 2019:

3: How much was spent in purchasing water in 2019 through contracts or markets?

Source of water	Number of contracts or trades	Total Water	Total Cost
Contracted water from federal water projects			
Additional deliveries from federal water projects			
Contracted from state water or local projects			
Non-contracted from state or local water projects			
Spot markets or leases for water deliveries			

4: What were the energy expenditures for this operation's irrigation activities in 2019?

Fuel Source	Pumping costs	Other uses costs
Electricity		
Natural Gas		
Diesel Oil		
Other Source		

5: What was the total amount spent on operations, maintenance, and repair of irrigation facilities, not including the water and energy costs listed above and not including the labor costs listed below?

6: What was the total amount spent on salaries and benefits for the irrigation operation in 2019?

	Number of Full Time Employees	Number of Part Time Employees	Total Salary Costs	Total Benefits Cost
Organization and office staff				
Field staff, ditch riders.				
Outside staff (e.g.: consultants)				N/A

7: What was the total expenditure on interest in 2019?

8: What was the total expenditure on taxes in 2019?

9: What percentage of time was spent by this organizations staff on each type of activity:

- Administering delivery requests and billing
- Operating the system
- Permitting and compliance
- Meeting and collective decision making

Probes:

- *Question 1 - What did you include in your answer? How did you come up with your answer?*

- Question 2 – Can you break down your energy and fuel expenditures in these categories? Are there better categories to use? What does the term “fuel adjustment costs” mean to you? Did you include or exclude fuel adjustment costs?
- How did you come up with your answers for question 9?
- Were any of these questions difficult to report?
- Observe – was there any hesitancy on the part of the respondent to answer? If so, ask why.

Section 10: New Capital Investment and Indebtedness

1: Where there any expenditures by this organization during 2019 for the construction of additional facilities, purchases of added equipment, or improvements in facilities or equipment for irrigation and drainage

- Yes / No
- Improvements
- New facilities
- Total

Type	Number	Total Cost	Debt
Water conveyance			
Water storage			
Other			

2: Total indebtedness of this organization

- Total indebted of this organization chargeable to irrigation and drainage as of December 31, 2019. Include outstanding bonds, notes, repayment contracts, drought emergency loans, and construction obligations. Exclude current liabilities.
- Within the previous item, how much was obligated to the U.S. Bureau of Reclamation?

3: What are the total assets of this organization:

- Financial reserves
- Capital Plant
- Other

Probes:

- Question 1 - What did you think of when asked about expenditures in this question? How did you come up with your answer?
- Did the respondent access their records?
- Were any of these questions difficult to report?
- Observe – was there any hesitancy on the part of the respondent to answer? If so, ask why.

Section 11: Revenue and Price Structure

1: What was the total operating revenue by major source for this organization in 2019?

- Total revenue
- From water sales
- From electricity sales
- From other sources

2: Money received by this organization in 2019 from water users or other irrigation organizations for operation and maintenance or for repayment of construction cost on the irrigation system -- include collections made directly from other organizations for water purchased or stored and from users on the basis of charges and assessments per acre, per share, per acre-foot, or on the basis of assessed valuation.

- From farms and ranches
- From residential and domestic users
- From other irrigation organizations
- From other users
- Total

3: What portion of non-irrigation revenue was credited back to irrigation users?

4: Provide detail on the pricing structure for any irrigators who receive bills from or assessed fees by this organization.

- Acreage-based rate: Does any of the irrigation-related revenue come from a per-acre fee?
 - o Does the per acre-fee—
 - Vary by land class?
 - Vary by crop choice?
 - o Is the per-acre fee calculated:
 - Based on a given expected allotment of water?
 - o Summarize the fee structure for up to five tiers. If the rate does not vary, report the rate structure in the first row.

Tier	\$/acre rate	Number of acres	Percent of accounts
First			100%
Second (if applicable)			
Third (if applicable)			
Fourth (if applicable)			
Remaining			

- Volumetric-based rate: Does any of the irrigation related revenue come from a per-acre-foot fee?
 - o Does the per-acre-foot fee—
 - Vary by land class
 - Vary by crop choice

- Vary by other factor
- Have fixed breakpoints
- Have a drought surcharge
- Summarize the fee structure for up to five tiers. If the rate does not vary, report the rate structure in the first row.

Tier	\$/acre-foot rate	Total volume delivered	Number of accounts
First			[Should equal total number of accounts]
Second (if applicable)			
Third (if applicable)			
Fourth (if applicable)			
Remaining			

- Account or share-based rate: Fixed rate: Does any of the irrigation-related revenue come from a fixed fee per user or per account?

5: Special assessments:

- Did the organization charge a special assessment or temporary adjustment in fee in 2019 for any of the following reasons:
 - A capital improvement
 - Groundwater recharge
 - Drought
 - Other
- Did the above rates include the special assessment
 - Fixed (percent)
 - Acre (percent)
 - Volumetric (percent)
- If Yes and No to previous 2 questions
 - Fixed (\$/account)
 - Acre (\$/acre) # of users
 - Volumetric (\$/af)

Probes:

- *Describe your price structure. Does your price structure fit in any of the options asked for? (interviewer – get details on their price structure!)*
- *Could you use the categories listed in each question? What should be added? Any that you did not understand?*
- *Question 3 - How did you come up with your answers for the tiers? Do these vary with drought? How easy/difficult was it to calculate the volume? Did you report any acres more than once? Did you report any accounts more than once?*
- *Were any of these questions difficult to report?*
- *Observe – was there any hesitancy on the part of the respondent to answer? If so, ask why.*

Section 12: Conservation Efforts

1: Does this organization have a program that provides incentives, using this organization's funds, to encourage the adoption of improved irrigation technology?

2: What is the estimated percentage of farms and ranches served by this organization that have participated in programs to improve the following technologies?

Type of technology improvement	Federal program (EQIP or CSP or similar)	State program	This organization's program (if 1="Yes")
Sprinklers (e.g.: LEPA)	[Percent]		
Drip or micro-irrigation			
Land Leveling			
Irrigation scheduling			
Soil moisture monitors			
Surge gates			
Other			
Ditches or pipes for conveyance			

3: Does this organization have a program to fallow land on a short-run or rotating basis?

4: If 3="Yes," Describe the program:

- Proportional fallowing is required of all users during water shortages and is uncompensated.
 - Number of acres fallowed in 2019.
 - Maximum number of acres fallowed in last decade.
- Incentives are offered by this organization to encourage voluntary land fallowing
 - Average per-acre payment.
 - Number of acres fallowed in 2019.
 - Maximum number of acres fallowed in last decade.
- Incentives are offered by an outside organization to encourage voluntary land fallowing
 - Average per-acre payment.
 - Number of acres fallowed in 2019.
 - Maximum number of acres fallowed in last decade.

5: Does this organization have a program to fallow land or convert irrigated land to dryland production permanently or on a long-run basis?

6: If 5="Yes," Describe the program:

- Share or water right buyouts.
 - Number of acres fallowed in 2019.
 - Maximum number of acres fallowed in last decade.
- Well decommissioning
 - Average per-acre payment.

- o Number of acres fallowed in 2019.
- o Maximum number of acres fallowed in last decade.
- New well moratorium

7: Does this organization have other water conservation programs?

- Main canal lining
- Lateral canal or ditch lining or piping
- On-farm ditch lining or piping
- Crop switching
- Other

8: What are the needs for any water conservation efforts in your area:

- Wildlife benefits and instream flows and legal return flow requirements
- Improved irrigation productivity
- Future water availability, groundwater recharge

Probes:

- *What did you think of as “conservation practices” in this section?*
- *Describe any conservation practices you reported. Are there other conservation practices that you didn’t report?*
- *What are the programs that serve farmers and ranchers? Could you classify them as Federal, state, and “this organizations”? Are there other categories?*
- *Could you use the categories listed in each question? What should be added? Any that you did not understand?*
- *Were any of these questions difficult to report?*

Section 13: Land and Water Use Projections

1: Over the next two decades, does this organization expect changes in irrigated acreage and water use?

- No, irrigated acreage and water use is likely to stay the same.
 - o A lack of more irrigable land is a contributing factor [Y/N]
 - o A lack of more water is a contributing factor [Y/N]
 - o Low profit margins on irrigation expansion is a contributing factor [Y/N]
- Yes, we expect a decline in irrigated acreage and/or water use
 - o Declining water availability (e.g.: snowpack or groundwater) is a contributing factor [Y/N]
 - o Reallocation of water to other (non-irrigation) uses is a contributing factor [Y/N]
 - o Land use change (to non-ag land) within the service area is a contributing factor [Y/N]
- Yes, we expect an increase in irrigated acreage and/or water use.
 - o Increasing water availability (e.g.: snowpack or groundwater) is a contributing factor [Y/N]
 - o Reallocation of water from other (non-irrigation) uses is a contributing factor [Y/N]

2: Describe the ability of your organization to expand or reduce irrigated acreage?

- Expanding acreage is difficult due to regulatory and permitting requirements [Y/N]
- Expanding acreage is difficult because of surrounding land uses/districts/etc. [Y/N]
- Expanding acreage is relatively easy to accomplish if the organization approves [Y/N]
- Decreasing acreage is difficult due to regulatory and permitting requirements [Y/N]
- Decreasing acreage is difficult because of increases in costs on remaining users. [Y/N]
- Decreasing acreage is relatively easy to accomplish if the organization approves [Y/N]

Probes:

- *Are the categories appropriate in this section?*
- *Were any of these questions difficult to report?*

Other potential questions

1: Water Quality

Asking about water quality is difficult. The biggest challenge about water quality is that it comes into play in several different areas – quality of water coming into the system, water reuse, quality of groundwater water, issues in the soil profile, and water leaving the systems when they have drainage. In addition, that measures tend to be very localized, making it difficult to create national or regional statistics. We would like to ask respondents in the focus groups and cognitive interviews the following open ended questions to assist us in developing questions on water quality.

Probes:

- *Do you measure water quality? What are the metrics used to measure water quality?*
- *What methods are used to measure water quality at your organization?*
- *How often do you measure water quality?*
- *Are there laws in your state or locality that impact the measurement of water quality?*
- *Would it be difficult to report water quality? Why or why not?*