

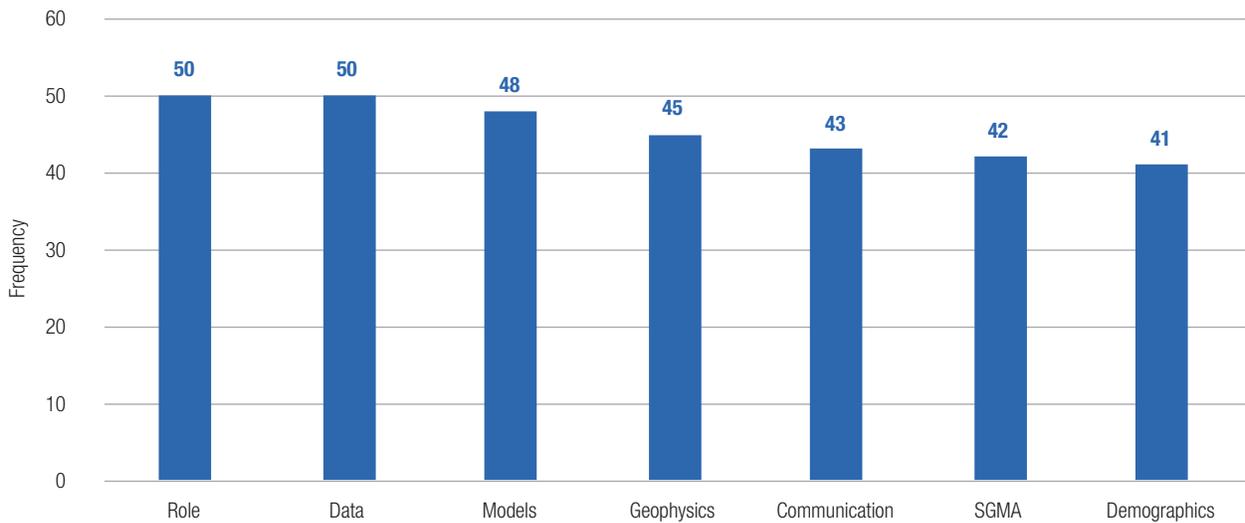
# APPENDIX A. GROUNDWATER DATA SURVEY STATISTICS

## A.1 Survey Statistics

The survey was divided into seven main sections: (1) role in groundwater management; (2) groundwater data; (3) groundwater models; (4) geophysical methods; (5) data communication; (6) the Sustainable Groundwater Management Act; and (7) demographic information. Survey responses declined over the course of the survey (Figure A1). As a result, survey statistics were calculated using the response rates for individual survey sections unless otherwise noted.

**Figure A1. Survey Responses by Section**

Frequency of survey responses to each section of the survey. Survey responses declined over the course of the survey, from 50 respondents to 41 respondents. Statistics were calculated using the response rate for individual survey sections.



# APPENDIX B.

## GROUNDWATER DATA SURVEY QUESTIONS

### Section 1: Survey Consent

Q1.1 Using Data, Models, and Advanced Technologies for Sustainable Groundwater Management RESEARCH TEAM: This project is sponsored by Stanford's Water in the West Initiative. The Principal Investigator is Dr. Janet Martinez of Stanford Law School. DESCRIPTION: You are invited to participate in a research study examining data issues, challenges and opportunities that groundwater sustainability agencies may face in defining sustainability goals under the Sustainable Groundwater Management Act (SGMA) and the development and implementation of groundwater sustainability plans (GSPs). Participation in this study will involve completing a short online survey that asks you about your experiences with scientific information in groundwater planning. TIME INVOLVEMENT: Your participation will take approximately 10-20 minutes. We are supplementing the broad information we will gain from the survey results with in-depth interviews. You will be given the opportunity to volunteer for these interviews at the end of the survey. RISKS AND BENEFITS: There are no foreseeable risks associated with participating in this study. Results from the survey will be disseminated in a publicly available report. Results from this survey will add to the knowledge about how data, models, and advanced technologies are used in groundwater management and will inform further research on these topics. Please note: We cannot and do not guarantee or promise that you will receive any benefits from this study. PAYMENT: There is no payment associated with participation in this study. PARTICIPANT RIGHTS: Please understand that your participation in this study is completely voluntary. There will be absolutely no repercussions if you decide not to participate. You may also begin the survey(s), and decide to withdraw your consent or discontinue participation at any time – again, without any penalty or loss of benefits to which you are otherwise entitled. You can also choose to answer some questions and not others if you wish. CONFIDENTIALITY: All of your responses are completely confidential. Only the researchers conducting this study and those responsible for research oversight will have access to the information you provide. Your responses are not connected to your name or identifying information in any way. CONTACT INFORMATION: If you have any questions about this study or would like to receive a copy of the results, you may contact Dr. Janet Martinez at janetkgm@law.stanford.edu or 650-723-4457. INDEPENDENT CONTACT: If you are not satisfied with how this study is being conducted, or if you have any concerns, complaints, or general questions about the research or your rights as a participant, please contact the Stanford Institutional Review Board (IRB) to speak to someone independent of the research team at (650)-723-2480 or toll free at 1-866-680-2906. You can also write to the

Stanford IRB, Stanford University, MC 5579, Palo Alto, CA 94304. By clicking on the arrow below and proceeding with the survey, you are giving your consent to allow your data to be used for this research project. IRB Protocol Approval Date: 8/18/2015. IRB Protocol Expiration Date: 7/31/2018.

## Section 2: Your Role in Groundwater Management

Q2.1 Your Role in Groundwater Management. These questions will help us understand the role you play in groundwater management and more details about the basin and/or area in which you work.

Q2.2 Which of the following best describes your current organizational role in groundwater management? Please choose all that apply.

- Water district (13)
- Irrigation district (11)
- Reclamation district (12)
- Water conservation district (14)
- Water storage district (16)
- Water replenishment district (15)
- Water works district (17)
- City or municipal agency (9)
- County agency (10)
- State agency (3)
- Federal agency (4)
- Watermaster (5)
- NGO or Foundation (6)
- Consultant (7)
- Other (8) \_\_\_\_\_

If Consultant selected in Q2.2, then

Q2.3 What type of consultant are you? Please choose all that apply.

- Hydrologist (1)
- Hydrogeologist (2)
- Geologist (3)
- Water modeler (4)
- Engineer (7)
- Facilitator (5)
- Other (6) \_\_\_\_\_

Q2.4 The rest of the questions in the survey will ask you to think specifically about the jurisdictional area in which you work. This might be the area your agency is involved in managing, or the area in which you are otherwise involved as a partner, consultant, researcher, etc. This area might be a portion of a subbasin or basin, a subbasin or basin, or it may span multiple subbasins or basins. Throughout the survey, we will refer to this area as your jurisdictional area. (If you are a consultant, partner, or researcher working in multiple areas of the state, please answer the rest of the survey choosing the one jurisdictional area with which you are most familiar.)

Q2.5 How would you describe the jurisdictional area in relation to the DWR Bulletin 118 subbasin, or if there are no subbasins, the basin in which you work in which you work? (Please make your best guess.)

- Less than 25% of the subbasin or basin
- 25-50% of the subbasin or basin
- 50-75% of the subbasin or basin
- 75-100% of the subbasin or basin
- 100% of the subbasin or basin
- Spans multiple subbasins or basins

If response to Q2.5 is NOT multiple subbasins or basins, then

Q2.6 Which groundwater subbasin does your jurisdictional area cover? (If the subbasin in which you work is not listed, or if there are no subbasins, please choose the name of the appropriate basin in which it falls. This list of subbasins and basins is taken from DWR's Bulletin 118. If you do not know the official name for your basin, you can find more information and maps at <http://www.water.ca.gov/groundwater/bulletin118/update2003.cfm>.)

If response to Q2.5 is multiple subbasins or basins, then

Q2.7 You indicated your area covers multiple basins. How many groundwater subbasins does your area cover (fully or in part)?

- 2
- 3
- 4
- More than 4

If response to Q2.5 is multiple subbasins or basins, then

Q2.8 Which is the first groundwater subbasin in your jurisdictional area?(If the subbasin in which you work is not listed, or if there are no subbasins, please choose the name of the appropriate basin in which it falls. This list of subbasins and basins is taken from DWR's Bulletin 118. If you do not know the official name for your basin, you can find more information and maps at <http://www.water.ca.gov/groundwater/bulletin118/update2003.cfm>.)

If response to Q2.5 is multiple subbasins or basins, then

Q2.9 Which is the second groundwater subbasin in your jurisdictional area? (If the subbasin in which you work is not listed, or if there are no subbasins, please choose the name of the appropriate basin in which it falls. This list of subbasins and basins is taken from DWR's Bulletin 118. If you do not know the official name for your basin, you can find more information and maps at <http://www.water.ca.gov/groundwater/bulletin118/update2003.cfm>.)

If response to Q2.5 is multiple subbasins or basins AND if response to Q2.7 is 3, then

Q2.10 Which is the third groundwater subbasin in your jurisdictional area?(If the subbasin in which you work is not listed, or if there are no subbasins, please choose the name of the appropriate basin in which it falls. This list of subbasins and basins is taken from DWR's Bulletin 118. If you do not know the official name for your basin, you can find more information and maps at <http://www.water.ca.gov/groundwater/bulletin118/update2003.cfm>.)

If response to Q2.5 is multiple subbasins or basins AND if response to Q2.7 is 4 or more, then

Q2.11 Which is the fourth groundwater subbasin in your jurisdictional area?(If the subbasin in which you work is not listed, or if there are no subbasins, please choose the name of the appropriate basin in which it falls. This list of subbasins and basins is taken from DWR's Bulletin 118. If you do not know the official name for your basin, you can find more information and maps at <http://www.water.ca.gov/groundwater/bulletin118/update2003.cfm>.)

Q2.12 We'd like to know some other details about your jurisdictional area. Please select any that apply.

- My area is managed under an AB3030 management plan.
- My area is managed under an SB1938 management plan.
- My area is adjudicated.
- My area is part of a special act district.
- None of the above apply.

Q2.13 What is the approximate size of your jurisdictional area? Please specify units.

Q2.14 The State of California defines a disadvantaged community as a community with annual Median Household Income (MHI) that is less than 80% of the Statewide Median Household Income. The 2013 (most recent data available) MHI for CA was \$60,190. So communities where the MHI is \$48,152 or less would be considered disadvantaged communities. Does your jurisdictional area include one or more disadvantaged communities?(If you are not sure, you can use DWR's Water Management Planning tool to display an interactive map that displays this information: <http://www.water.ca.gov/groundwater/boundaries.cfm>)

- Yes (1)
- No (2)
- Not sure (3)

### Section 3: Groundwater Data

Q3.1 Experiences with Groundwater Data These questions ask about your experiences collecting and using groundwater data of various types. Please answer all questions thinking about the jurisdictional area you previously identified. As described previously, this might be the area your agency is involved in managing, or the area in which you are otherwise involved as a partner, consultant, researcher, etc.

Q3.2 Of the groundwater wells in your jurisdictional area, please estimate (a) the percentage of each well type in your area, (b) the well composition of your monitoring network and (c) the composition of wells that are part of the California Statewide Groundwater Elevation Monitoring (CASGEM) program. Please

make your best guess. If your area does not have a monitoring network or participate in CASGEM, please enter zeros in these columns. The total in each column must equal 100%

	Production wells (2)	Dedicated monitoring wells (3)	Retired production wells (4)	Other wells (5)
Total wells (3)				
Well composition of monitoring network (1)				
Well composition of CASGEM network (2)				

Q3.3 What is the total number of wells in your jurisdictional area's groundwater monitoring network? (Please make your best guess.)

Q3.4 How adequate do you consider the monitoring coverage in your jurisdictional area for groundwater decision-making purposes?

	Monitoring frequency (how often you collect these data)		Geographic representation (coverage of the data you collect)	
	Groundwater elevations	Water quality	Groundwater elevations	Water Quality
Very Inadequate (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mostly Inadequate (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Somewhat Inadequate (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Neither Adequate nor Inadequate (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Somewhat Adequate (6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mostly Adequate (7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Adequate (8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not Sure (9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q3.5 Does the jurisdictional area in which you work collect (or hire consultants to collect) the following types of data? For each type of data, please provide details about the frequency and sources used for collection.

	When are these data collected?							Are these data collected?			Where are these data collected?			
	More than once a month (1)	Monthly (2)	Quarterly or Seasonally (3)	Twice a year (4)	Annually (5)	Less than once a year (6)	Combination or other (7)	Yes (1)	No (2)	Not sure (3)	Agency-owned monitoring wells (1)	Agency-owned production wells (2)	Privately-owned production wells (3)	Combination or other (4)
Groundwater levels (elevations)? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Groundwater extraction data? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water quality data? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3.6 Below are additional types of data. Does the jurisdictional area in which you work collect (or hire consultants to collect) these data? For each type of data, please provide details about the frequency and methods used for collection.

	When are these data collected?						Are these data collected?			By what methods are these data collected?
	More than once a month (1)	Monthly (2)	Quarterly or Seasonally (3)	Twice a year (4)	Annually (5)	Less than once a year (6)	Yes (1)	No (2)	Not sure (3)	Text fill-in
Stream gauge data? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Groundwater extraction-related subsidence monitoring? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Information on groundwater-dependent ecosystems or other ecosystem services? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Information on land use changes? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Data on surface water-groundwater interactions? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Q3.7 Are there key data or information missing or highly uncertain in the jurisdictional area in which you work that interfere with the ability to manage groundwater effectively? Please select all that apply.

- Groundwater levels (elevations) (1)
- Groundwater extraction data (pumping) (2)
- Surface water supply (16)
- Total water use (17)
- Change in groundwater storage (3)
- Water budget (15)
- Sustainable yield (18)
- Land subsidence data (4)
- Seawater intrusion (6)
- Water quality data (5)
- Recharge areas (7)
- Recharge potential (8)
- Climate forecasts (10)
- Population forecasts (11)
- Land use changes (12)
- Groundwater-dependent ecosystems (13)
- Other - please describe (14) \_\_\_\_\_

Q3.8 Does the jurisdictional area in which you work use groundwater data from other agencies?

	No (4)	From state agencies (1)	From federal agencies (2)	From local agencies (3)
Groundwater levels (elevations)? (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water quality data? (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subsidence data? (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geology data? (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geophysics data? (6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stream gauge data? (7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Climate data? (8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land use data? (9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q3.9 Does the jurisdictional area in which you work share a flow groundwater boundary with another subbasin or basin (i.e. does groundwater flow between your subbasin and an adjoining subbasin)?

- Yes, we share one flow boundary (1)
- Yes, we share multiple boundaries (2)
- No (3)
- Not sure (4)

Q3.10 Does the jurisdictional area in which you work share data with the following agencies?

				Additional Comments?
	Yes (1)	No (2)	Not Sure (3)	(1)
Other water management agencies in your subbasin? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
With water agencies in subbasins across groundwater flow boundar(ies)? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Local county agenc(ies)? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
State agenc(ies)? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Federal agenc(ies)? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Q3.11 In your opinion, what one improvement related to data collection and/or monitoring would make the biggest difference to groundwater management in the jurisdictional area in which you work? Who should support this improvement?

Q3.12 Is there anything else you would like to tell us about data collection and/or monitoring?

#### Section 4: Groundwater Models

Q4.1 Using Groundwater Models The next set of questions ask about your experience using groundwater models. If your jurisdictional area uses a groundwater-surface water model, please respond for that model. As in previous sections, please answer all questions thinking about the specific jurisdictional area or portion of the subbasin or basin you previously identified.

Q4.2 Does the jurisdictional area in which you work use one or more groundwater models?

- Yes (1)
- No (2)
- Not sure (3)

If response to Q4.2 is No, then

Q4.3 What are the reasons that a groundwater model is not used in your area? Please select all that apply.

- Developing a model is/ was too expensive (1)
- The managing agenc(ies) don't see a need for a model. (2)
- Inadequate data to calibrate a model. (3)
- Inadequate resources to develop, maintain, and/or run a model. (4)
- The area had a model, but it is now outdated. (5)
- The area had a model, but it was too difficult to run. (6)
- The area had a model, but it was not used. (7)
- The area had a model, but the data it produced was unreliable. (8)
- Other - please explain (9) \_\_\_\_\_

If response to Q4.2 is Yes, then

Q4.4 Which model (or model code) is (primarily) used? (If your area has more than one model, please answer this and following questions thinking about the one used in the majority of groundwater planning decisions.)

- MODFLOW (1)
- CVHM (7)
- GSFLOW (6)
- IWFm (4)
- IGSM (3)
- C2VSim (2)
- Other - Please specify (5) \_\_\_\_\_

If response to Q4.2 is Yes, then

Q4.5 How or why was this model chosen? Please choose all that apply.

- Recommended by staff scientist (5)
- Recommended by other agencies (3)
- Recommended by Technical Advisory Committee (6)
- Recommended by a consultant (4)
- Recommended by someone else - please specify who? (7) \_\_\_\_\_
- Ease of operation (1)
- Local or regional applicability (2)
- Cost (9)
- Other - Please specify (8) \_\_\_\_\_

If response to Q4.2 is Yes, then

Q4.6 For which applications is this model used? Please check all that apply.

- Long-term water planning (1)
- Land-use planning (2)
- Water budget (8)
- Streamflow depletion (20)
- Contaminant tracing (14)
- Groundwater extraction planning (3)
- Recharge planning (4)
- Subsidence prediction and planning (5)
- Environmental impact studies (6)
- Other - Please specify (7) \_\_\_\_\_

If response to Q4.2 is Yes, then

Q4.7 How frequently is the model run?

- Two or more times per year (1)
- Once a year (2)
- Once every two years (3)
- Once every five years (4)
- Less frequently than once every five years (5)
- Not sure (6)

If response to Q4.2 is Yes, then

Q4.8 Were additional groundwater data acquired specifically to calibrate the model?

- Yes. Please describe. (1) \_\_\_\_\_
- No (2)
- Not sure (3)

If response to Q4.2 is Yes, then

Q4.9 On a scale of one to five (with (1) being not at all confident and (5) being very confident), how confident are you in the results from your model?

- 1 (Not at all confident. Problems hinder use of the model.) (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (Very confident. Model is well calibrated.) (5)
- Not sure (6)

If response to Q4.2 is Yes, then

Q4.10 Does your jurisdictional area:

	Use the same groundwater model as other agenc(ies)?			Do you coordinate model runs with that agenc(ies)?			
	Yes, with at least one other agency (1)	None of them (2)	I don't know (3)	Yes, with at least one other agency (1)	None of them (2)	I don't know (3)	N/A (4)
Within your subbasin or basin? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With other subbasins or basins across a shared groundwater flow boundary? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4.11 In your opinion, what one improvement related to groundwater model development or use would make the biggest difference to groundwater management in the area in which you work? Who should support this improvement?

Q4.12 Is there anything else that you would like to tell us about models or the use of models for groundwater management?

## Section 5: Geophysical Methods

Q5.1 Geophysical Methods The next set of questions ask about the use of geophysical and remote sensing methods (e.g. electrical conductivity logs in wells, electrical resistivity tomography for contaminant tracking, satellite data for subsidence) for groundwater management. As in previous sections, please answer all questions thinking about the specific jurisdictional area or portion of the subbasin or basin you previously identified.

Q5.2 In the jurisdictional area in which you work, are any geophysical methods or remote sensing data used for groundwater management? Please select all that apply.

- Borehole logs (e.g., electrical conductivity, gamma logs) (1)
- Satellite data (e.g., InSAR, Landsat) (4)
- Electrical methods (e.g., electrical resistivity tomography) (5)
- Electromagnetic methods (e.g., ground penetrating radar, time domain electromagnetics) (6)
- Seismic methods (e.g., seismic reflection or tomography) (7)
- Magnetic methods (e.g., nuclear magnetic resonance) (8)
- Other (9) \_\_\_\_\_
- None of these (10)

If response to Q5.2 is NOT none of the above, then

Q5.3 For each geophysical method selected above, please tell us briefly about how you used the resulting data and whether it improved your ability to make a groundwater management decision?

Q5.4 Do you anticipate using geophysical or remote sensing methods in the next 3-5 years? If yes, please describe which ones.

- Yes (1) \_\_\_\_\_
- No (2) \_\_\_\_\_
- Maybe (3) \_\_\_\_\_
- Not sure (4)
- Other (5) \_\_\_\_\_

Q5.5 Is there anything else that you would like to tell us about geophysical or remote sensing methods for groundwater management?

**Section 6: Data Communication**

Q6.1 Communicating Data Now we'd like to hear about how you communicate data to decision makers and other stakeholders. As in previous sections, please answer all questions thinking about the specific jurisdictional area or portion of the subbasin or basin you previously identified.

Q6.2 In what ways are groundwater information (e.g. groundwater levels, groundwater extraction data, subsidence data, water quality, groundwater recharge area protection) about your jurisdictional area communicated? Please select all that apply.

	Not available (1)	In tables or graphs (e.g. in annual reports) (2)	In electronic data files (3)	Presented at in-person meetings (4)	Presented via webinars (5)	On agency website (6)
To board members or other decision makers? (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To public and private well owners? (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To other community members or the general public? (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q6.3 Does the jurisdictional area in which you work have one or more advisory committees? Please select all that apply.

- Technical advisory committee (2)
- Public or stakeholder advisory committee (1)
- Water advisory committee (3)
- Any other type of advisory committee? Please describe (4) \_\_\_\_\_
- None of these (5)

Q6.4 Has the jurisdictional area in which you work ever used a collaborative approach to data, modelling, visualization, and/or decision-making? Please select all that have been used in your area.

- Used a facilitator to help discuss scientific or technical information (1)
- Joint fact-finding (2)
- Collaborative water model (e.g WEAP, OASIS) (4)
- Shared vision planning (5)
- Other decision support tool (3)
- Other - please describe (6) \_\_\_\_\_
- None of these (7)

Q6.5 In the jurisdictional area in which you work, what approaches have you seen work particularly well when it comes to helping water users and/or community members understand technical data? What approaches have not worked so well?

Q6.6 Is there anything else that you would like to tell us about communicating groundwater data and information?

### **Section 7: The Sustainable Groundwater Management Act**

Q7.1 The Sustainable Groundwater Management Act (SGMA). In this section, we invite you to share your thoughts about the Sustainable Groundwater Management Act.

Q7.2 Have you heard about the Sustainable Groundwater Management Act of 2014 (often abbreviated SGMA)?

- Yes (1)
- No (2)
- Not sure (3)

If response to Q7.2 is Yes, then

Q7.3 Please indicate how much you agree with the following statements about the Sustainable Groundwater Management Act.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)	Prefer not to say (9)
SGMA will help my jurisdictional area move towards sustainable groundwater management. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SGMA will help California move towards sustainable groundwater management. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SGMA will facilitate more science-based groundwater planning in my jurisdictional area. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SGMA will facilitate more science-based groundwater planning in California. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If response to Q7.2 is Yes, then

Q7.4 Do you have any other thoughts about SGMA you would like to share?

## Section 8: Demographic Information

Q8.1 About You. The questions in this final section help us understand how different types of people might have different experiences with groundwater planning. All individual responses will be kept confidential and are not tied to any identifying information.

Q8.2 Are you:

- Male (1)
- Female (2)
- Prefer not to say (3)

Q8.3 What is the zip code at your office or primary work location?

Q8.4 What is your educational background? Please choose the highest level of education that you have completed.

- High school or equivalent (1)
- Technical diploma (2)
- Some college, no degree (3)
- Associate's degree (4)
- Bachelor's degree (5)
- Some graduate-level courses, no graduate degree (6)
- Graduate or professional degree (7)
- Prefer not to say (8)

Q8.5 Have you received advanced training (either in or out of school) in any of the following fields? Please check all that apply.

- Hydrology (1)
- Hydrogeology (2)
- Geology (3)
- Geophysics (4)
- Physics (5)
- Water modeling (6)
- Climate modeling (7)
- Computer science (8)
- Data management (9)
- Programming or coding (10)
- None of the above (11)

Q8.6 How old are you?

- 18-24 years (1)
- 24-34 years (2)
- 35-44 years (3)
- 45-54 years (4)
- 55-64 years (5)
- 65 years or older (6)
- Prefer not to say (7)