

Water Measurement and Reporting Regulation

Public Listening Session



DWR-Measurement@Waterboards.ca.gov

Division of Water Rights, August 2023

Ground Rules

- 1. This is a public discussion.**

We're here to listen to and respect the perspectives and ideas shared.

- 2. Listen actively and with an open mind.**

You can respect another person's point of view without agreeing with them.

- 3. Stay on point and on time.**

Help give everyone the opportunity to be heard. Please keep PowerPoint presentations to under *10 minutes* and comments to under *5 minutes*.

Logistics

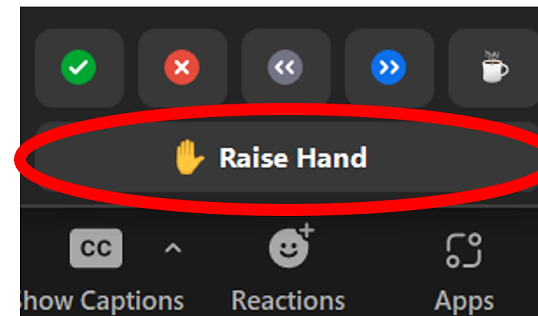
- 1. Staff Presentation**
- 2. Comment and Discussion Period**
 - i. PowerPoint Presentations
(Max. 10 minutes each)
 - ii. Prepared Oral Comments
(Max.5 minutes each)
 - iii. Short Break
 - iv. Discussion Opened to All Other Attendees
(Max.5 minutes each)

During the Staff Presentation

- Staff will be responding to questions in the “Q&A” feature

During the Comment and Discussion Period

- Written questions can be submitted using the “Q&A” feature
- Use the “Raise Hand” feature (under Reactions, or dial “* 9”) if you would like to speak



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Logistics
(cont.)

Agenda

Regulation Basics

- Background
- Purpose

Requirements

- Applicability
- Minimum Measurement Frequency
- Qualified Individuals
- Submissions

Compliance Issues

Alternative Compliance

Next Steps and Resources

Comment and Discussion Period



Regulation Basics

Background

- California Code of Regulations, Title 23, §§ 931-938
 - Approved in 2016
 - Often referred to as “SB-88” after the senate bill authorizing such legislation
- Requires applicable water right holders and claimants to measure and report their diversions
- Specifies frequency and accuracy requirements depending on the authorized diversion size

Background (cont.)

- Applies to approximately 14,000 rights/claims (7,000 diverters)
 - Applicability depends on the face value or maximum diversion under the water right/claim
- Data submitted under this regulation supplement and support annual Water Diversion and Use Reports
- Allows flexibility between using measurement devices and measurement methods
 - Users may also propose for Alternative Compliance Plans if they meet required criteria

Purpose

- Evaluate water supplies and demands
 - Geographical and temporal variations
 - Sufficient supply in one region may occur concurrently with severe shortages elsewhere
 - Provides more robust dataset for comprehensive evaluation of statewide water use
- Inform water planning decisions
- Improve administration of water rights



Requirements

Applicability

For diverters who have....	...the Measurement and Reporting Regulation applies if the...
A riparian or pre-1914 claim of right ^(a) ,	... <i>Maximum historical</i> annual diversion amount or <i>future intended</i> diversion amount exceeds 10 acre-feet.
A post-1914 water right in the form of a license or permit (including temporary permits),	... <i>Authorized</i> annual diversion amount (i.e., the face value of the water right) exceeds 10 acre-feet.
A water right in the form of a registration ^(b) ,	... <i>Authorized</i> annual diversion amount or the <i>authorized capacity</i> of the storage facility exceeds 10 acre-feet.
Multiple water rights and/or claims of right that either share the same point of diversion or serve the same place of use	...Sum of the diverter's rights/claims of right sharing the same point of diversion or serving the same place of use exceeds 10 acre-feet per year ^(c) .

(a) Any person who is required under Water Code Part 5.1 to file a Statement of Water Diversions and Use.

(b) Registrations include small domestic, small irrigation, cannabis, and livestock stockpond uses.

(c) Sums of rights/claims of right sharing the same point of diversion or serving the same place of use are based on authorized amounts for each point of diversion or place of use.

Minimum Measurement Frequency

Hourly

- Direct Diversion: **1,000 acre-feet per year** or more
- Diversion to Storage: Storage capacity of **1,000 acre-feet** or more
- *Additional* telemetry requirements apply to direct diversions of more than **10,000 acre-feet per year** or diversions to storage if storage capacity is **10,000 acre-feet** or more

Daily

- Direct Diversion: **100 acre-feet per year** or more
- Diversion to Storage: Storage capacity of **200 acre-feet** or more

Weekly

- Direct Diversion: **10 acre-feet per year** or more
- Diversion to Storage: Storage capacity of **50 acre-feet** or more

Monthly

- Diversion to Storage: Storage capacity of **10 acre-feet** or more

No Measurement Required

- Direct Diversion: **less than 10 acre-feet per year**
- Diversion to Storage: Storage capacity of **less than 10 acre-feet**
- Exceptions:
 - Northern California Coastal Streams: Hourly monitoring required for all new permits in the AB 2121 area
 - Cannabis Registrations: Daily monitoring is required

Qualified Individuals

Diversion Amount	Eligible Qualified Individuals
Less than 100 acre-feet per year	<ul style="list-style-type: none"> Any person trained and experienced in water measurement and reporting
100 acre-feet per year or more	<ul style="list-style-type: none"> California-registered Professional Engineer or a person under the supervision of a California-registered Professional Engineer who is employed to install, operate, and maintain water measurement and reporting devices or methods California licensed contractor for C-57 well drilling or C-61/D-21 Limited Specialty: Machinery and Pumps Any diverter who has completed a course on measurement devices and methods offered through the University of California Cooperative Extension
Federal right/claim to divert 100 acre-feet per year or more	<ul style="list-style-type: none"> Hydrologist or professional engineer experienced and trained in water measurement

Submissions

	Measurement Devices	Measurement Methods	Alternative Compliance Plans
Annual Datafile	X	X	X
Field-Testing and Field-Inspection Protocols	Q.I.	Q.I.	
Accuracy Certification	Q.I. or lab	Q.I.	
Conversion Method between Measured Value and Volume	Q.I.		
Report of Measurement Device	X		
Complete Description of Proposed Measurement Methodology		Q.I.	X
Documentation of Need for Alternative Compliance			X
Explanation of How Compliance Is Achieved			X
Compliance Certification			Q.I.

Datafiles

- Machine-readable formats (e.g., .csv, .xls, .xlsx, .txt, .dat)
- Descriptive column headings
- Data to include:
 - Date and time
 - Device reading, with units
 - Cumulative volume of water diverted for each water right/claim, with units
- Additional requirements for reservoirs and for rights/claims subject to telemetry requirements

Datafile Best Practices

Date	Time	Flow Rate	Flow Rate Units	Cumulative Volume	Cumulative Volume Units
10/01/2020	7:00:00	0.00	Gallons per Minute	0.00	Acre-Feet
10/01/2020	8:00:00	0.00	Gallons per Minute	0.00	Acre-Feet
10/01/2020	9:00:00	0.00	Gallons per Minute	0.00	Acre-Feet
10/01/2020	10:00:00	0.00	Gallons per Minute	0.00	Acre-Feet
10/01/2020	11:00:00	1746.67	Gallons per Minute	0.32	Acre-Feet
10/01/2020	12:00:00	2106.67	Gallons per Minute	0.71	Acre-Feet
10/01/2020	13:00:00	2106.67	Gallons per Minute	1.10	Acre-Feet
10/01/2020	14:00:00	2113.33	Gallons per Minute	1.49	Acre-Feet
10/01/2020	15:00:00	2113.33	Gallons per Minute	1.88	Acre-Feet
10/01/2020	16:00:00	2100.00	Gallons per Minute	2.26	Acre-Feet
10/01/2020	17:00:00	2120.00	Gallons per Minute	2.65	Acre-Feet
10/01/2020	18:00:00	2113.33	Gallons per Minute	3.04	Acre-Feet
10/01/2020	19:00:00	2120.00	Gallons per Minute	3.43	Acre-Feet
10/01/2020	20:00:00	2120.00	Gallons per Minute	3.82	Acre-Feet
10/01/2020	21:00:00	2106.67	Gallons per Minute	4.21	Acre-Feet
10/01/2020	22:00:00	2113.33	Gallons per Minute	4.60	Acre-Feet
10/01/2020	23:00:00	2106.67	Gallons per Minute	4.99	Acre-Feet
10/02/2020	0:00:00	2113.33	Gallons per Minute	5.38	Acre-Feet
10/02/2020	1:00:00	2093.33	Gallons per Minute	5.76	Acre-Feet
10/02/2020	2:00:00	2106.67	Gallons per Minute	6.15	Acre-Feet

Column Headings

Cumulative Volume

Units

Date/Time

Datafile Practices to Avoid

Water Transferred from South to North Reservoir (Permit 1)		
Date	Meter Reading	Water Transferred (AF)
January 1	675254	
January 31	675254	0.00
February 28	675254	0.00
March 31	675254	0.00
April 30	675254	0.00
May 31	675254	0.00
June 1	675254	0.00
June 30	675254	0.00
July 31	683675	2.58
August 31	687956	1.31
September 30	687956	0.00
October 31	687956	0.00
November 30	687956	0.00
December 31	687956	0.00
Total		3.90

(max = 32 af)

Irrigation Pump @ POD 1 - Metered Water Use		
Date	Meter Reading	Water Used (AF)
January 1	239097	
January 31	239097	0.00
February 28	239097	0.00
March 31	239097	0.00
April 30	239097	0.00
May 31	240783	0.52
June 30	265698	7.65
July 31	268977	1.01
August 31	287106	5.56
September 30	287106	0.00
October 31	288070	0.30
November 30	288070	0.00
December 31	288070	0.00
Total		15.03

RANCH RR
PUMP# 12

WATER USE TALLEY SHEET

DATE	FROST	IRRIG	START TIME	STOP TIME	HRS RUN	BLOCK NUM
5-11-19	X		1:00 PM	2:00 PM	2	10-12-14
5-12-19	Y		9:00 AM	3:00 PM	6	10-24-50
5-20-19		X	9:00 AM	2:00 PM	5	10-27-40
5-21-19		X	7:00 AM	10:00 AM	3	10-28-10-12
6-1-19		X	4:00 AM	8:00 PM	5	4-12
6-11-19	X		6:30 AM	1:00 PM	4.5	4-12 AL
6-23-19	X		12:00 PM	7:00 PM	7	2-13-911
6-28-19		X	10:00 AM	4:00 PM	6	2-6
6-15-19	X		7:00 AM	1:00 PM	6.5	4-7
6-17-19	X		11:00 AM	2:00 PM	2.5	4-13
6-21-19	X		7:00 AM	12:00 PM	5	4-9-10
6-24-19	X		11:00 AM	4:00 PM	5	4-9-13
6-28-19	X		11:00 AM	3:00 PM	4	6-18-17
7-2-19	X		9:00 AM	3:00 PM	7	6-8-13
7-5-19	X		10:30 AM	2:30 PM	4	4-9-12
7-8-19	Y		1:00 PM	5:30 PM	4.5	4-9-12
7-10-19	X		2:00 AM	1:00 PM	4	10-28-14
7-12-19	X		7:00 AM	2:00 PM	5	2-8-12-17
7-15-19	X		11:00 AM	4:00 PM	5	10-10-12
7-17-19	X		11:30 AM	5:00 PM	5.5	10-10



Image
Hyperlink

Multiple Tables/Sheets

Irrelevant Data

No Units

Flow exiting each of the six units at the Power Plant is measured continually using ultrasonic transducers. The 24-hour average flow value for each unit is mathematically calculated, displayed on SCADA, and used in flow control. A factor coefficient table listing the acre-feet of water needed to produce equivalent Mega Watts is used when a flowmeter is unavailable.

This data is submitted in accordance with California Code of Regulations, title 23, section 933(b)(4)(C).

This data is provisional. Under the California Code of Regulations, title 23, section 925(b), the Department may revise this data in its annual progress reports if final data is not available.

Data is posted to
POWER PLANT (HPP)

Back Wash Total	Back Wash %	Permeability gpm/39812/amp		VFD LINE PUMP	PH	water temp	Chlorine res.			CL-2 GEN run hrs.	Total hours	Gals 8%CL-2 made	Oper Init.
		Rack #1	Rack #2				Flow	Filter	Delv				
184.000	5.77%	0.0018	0.0017	21.4	6.9	58.8	0.00	1.90	1.41	563.0	10.0	1800	KD
170.000	6.27%	0.0022	0.0018	20.8	6.9	58.5	0.00	1.60	1.75	563.0	0.0	0	KD
190.000	6.47%	0.0035	0.0024	21.7	6.9	58.4	0.00	2.10	1.54	563.0	0.0	0	KD
170.000	6.12%	0.0024	0.0021	21.4	6.9	59.6	0.00	1.90	1.55	579.0	15.0	2200	KD

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
G			10.6	23.27	75	138.19	373.01	100.81	63			
H	0.97	20.68	8.44	38.72	40	373.04	27.89	243.8	80.52	25		0.38
Total:	0.97	20.68	19.04	61.99	115	511.23	400.9	344.61	80.52	88	0	0.38

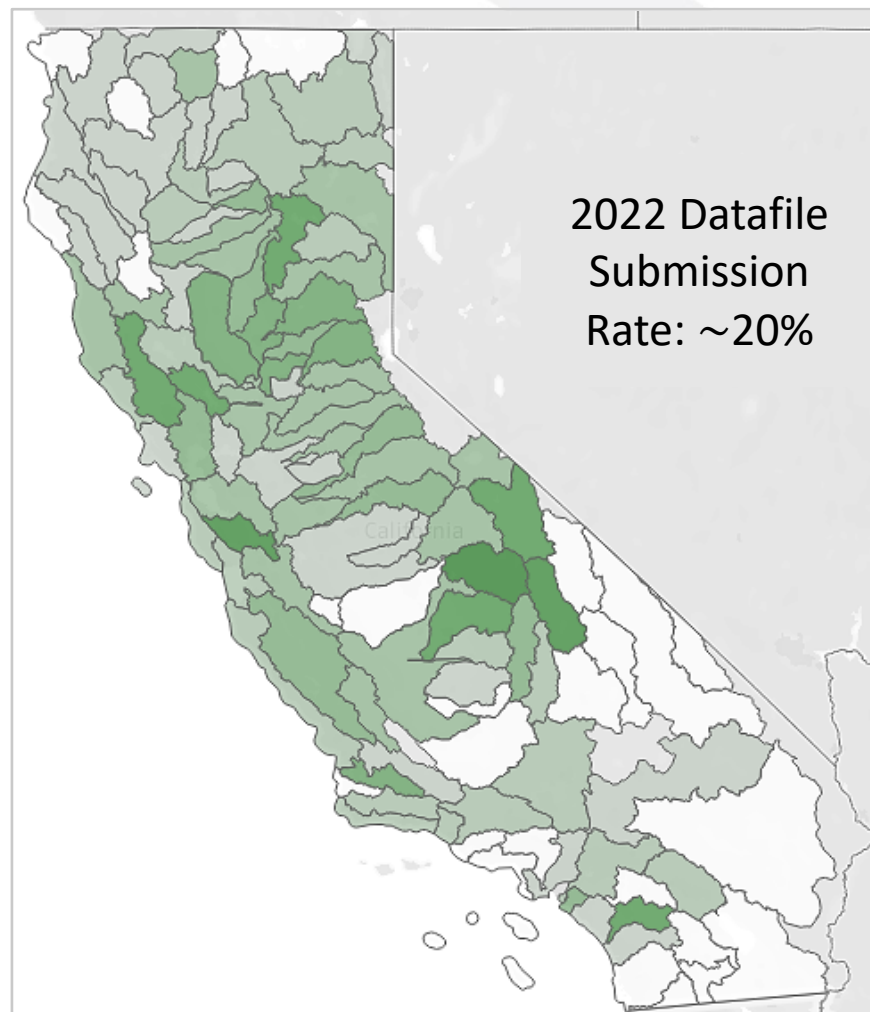
Telemetry

- *In addition to* other the other reporting requirements
- Display data on a public website
 - Daily measurement data
 - Update website weekly
- Applicability
 - Annual diversion amount exceeds **10,000 acre-feet**, *or*
 - Reservoir or pond with storage capacity of **10,000 acre-feet** or more, *or*
 - Diverts between **June 1 and September 30**, *and*
 - Diverts more than **30 cubic feet per second** at any time, *or*
 - Meets other stream-specific criteria
 - Applies to the sum of all rights/claims sharing a point of diversion

Compliance Issues

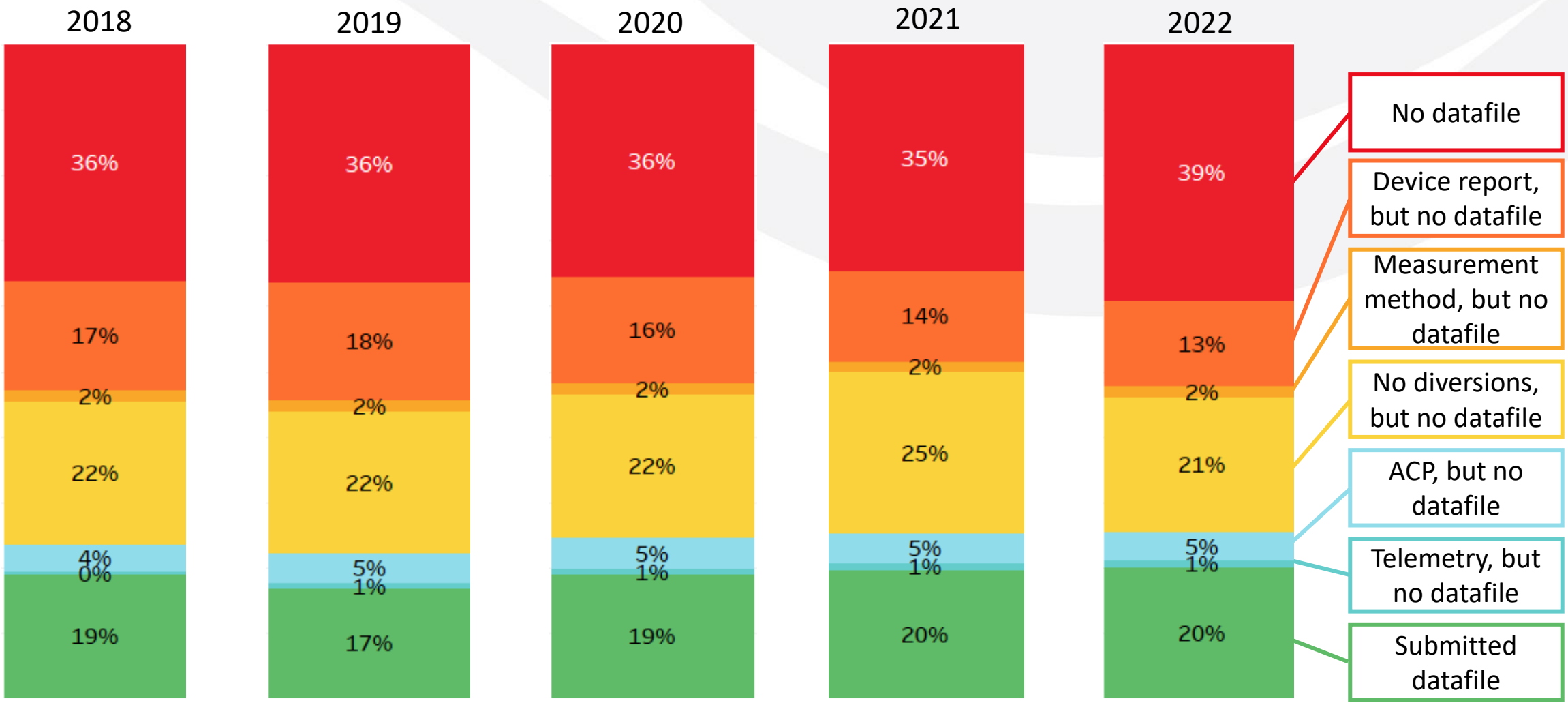
* The following visuals are a result of exploratory data analysis and were developed with the sole purpose of informing outreach and compliance assistance efforts.

Evaluating Compliance



- Datafile submission rate often cited with respect to compliance %
 - *Overestimates* compliance: incorrectly assumes all submitted data and measurement procedures meet the standards of the regulation
 - *Underestimates* compliance: ignores other attempted compliance actions (installing a device, submitting device report, etc.)
- Ultimately, the State Board wants a robust dataset, so we need to unpack the low submission rates

Statewide Submission Rates



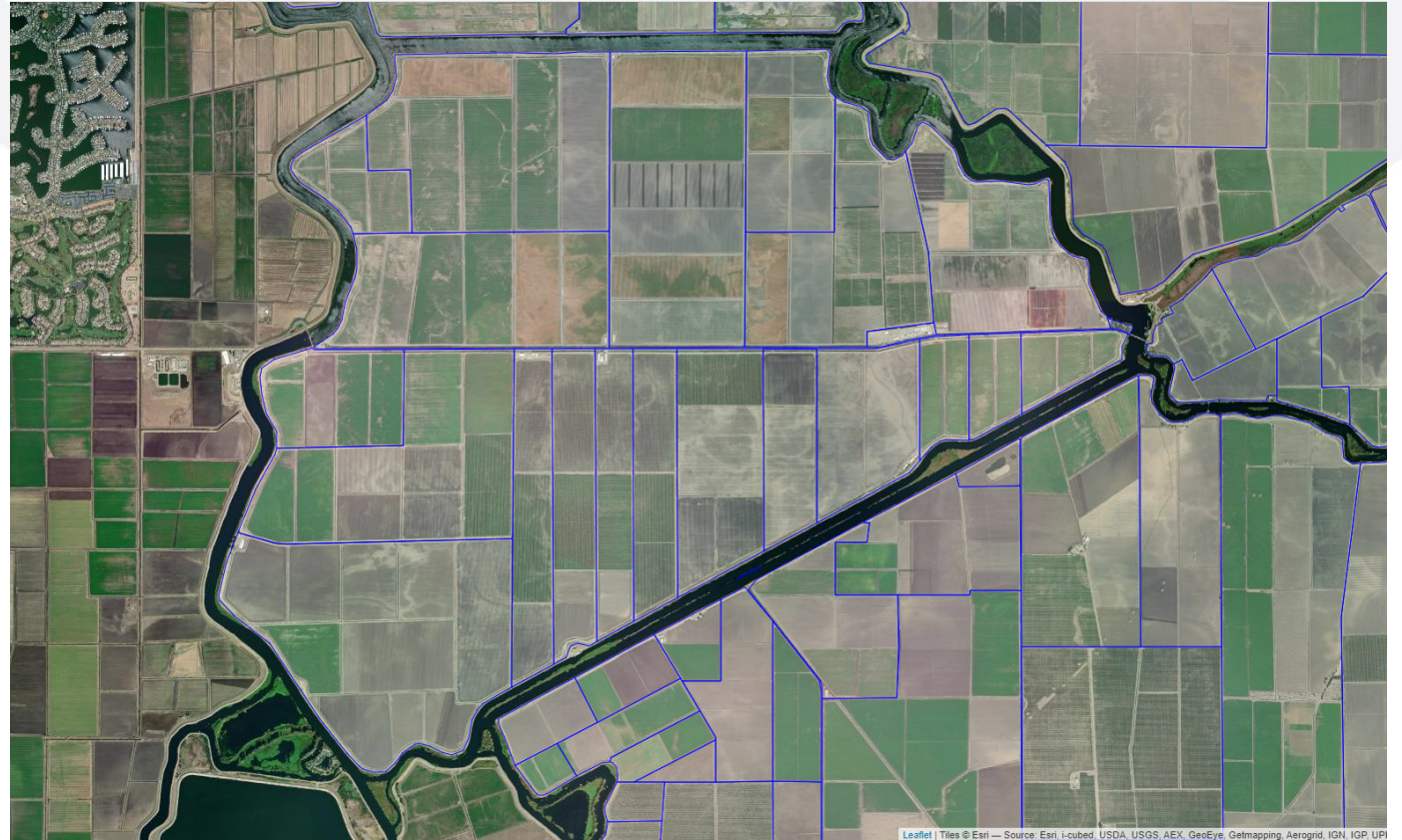
* Data shown does not include the Legal Delta

Alternative Compliance

Regional Alternative Compliance Plans

Delta ACP

- Regionally organized, coordinated with State Water Board
- Digitized Places of Use (POUs)
- Data from OpenET



Next Steps and Resources

Next Steps

Target Date	Item
August 3, 2023	Virtual Public Listening Session
August 10, 2023	In-Person Public Listening Session
Fall 2023	Release Compliance Assistance Guidance Potential Types of Guidance Include: <ul style="list-style-type: none"> • Website Updates • Datafile Templates • Public Memos and Fact Sheets • Subscription List Bulletin Announcements
October 1, 2023 – February 1, 2024	Water Year 2023 Reporting Season

Useful Links

Water Measurement Website



Regulation Text





Contact Us

Email:

DWR-Measurement@Waterboards.ca.gov

Phone: (916) 341-5300

Water Measurement Website:

<https://bit.ly/MeasurementWebsite>

Regulation Text:

<https://bit.ly/RegulationText>

Comment and Discussion Period

Comment and Discussion Period

Agenda

- 1. PowerPoint Presentations**
(Max. 10 minutes each)
Followed by opportunity to respond
- 2. Prepared Oral Comments**
(Max. 5 minutes each)
Followed by opportunity to respond
- 3. Discussion Opened to All Other Attendees**
(Max. 5 minutes each)

Logistics

- **PowerPoint Presentations:** Staff will be projecting and advancing slides
- Include clarifying questions in your speaking time
- Staff will be responding to questions submitted in the “Q&A”
- Staff will list upcoming speakers in the chat
- **Open Discussion Period:** Raise your hand to speak (or dial *9)



**We will now take a short break.
Please be ready to resume at 2:00pm**

Comment and Discussion Period

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Discussion Topic Agenda

1. Applicability of the Regulation
2. Measurement Device Requirements
3. Measurement Method Requirements
4. Alternative Compliance Plans
5. Requests for Additional Time
6. Annual Reporting and Data Submittal
7. General Barriers to Compliance
8. Other

Applicability of the Regulation

- Acceptable Measurement Parameters
- Measurement Frequency
- Telemetry Requirements
- Accuracy Requirements
- Installation, Calibration, Certification of Accuracy

Measurement Device Requirements

Measurement Method Requirements

Alternative Compliance Plans



Requests for Additional Time

- Reported Parameters
- Datafile Formatting
- Reporting for Multiple Water Rights or Claims
- How to Submit Data

Annual Reporting and Data Submittal

General Barriers to Compliance

- Requested Guidance Topics
- Other Sources of Ambiguity
- Preferred Formats for Receiving Guidance

Other

Thank you
for joining
us today!

Email:

DWR-Measurement@Waterboards.ca.gov

Phone: (916) 341-5300

Water Measurement Website:

<https://bit.ly/MeasurementWebsite>



Regulation Text:

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