

Division 5 Measurement Rules

Stakeholder Meetings

October 20 – Grand Junction

October 21 – Edwards

October 22 – Kremmling

October 30 – Virtual

November 12 – Frisco

November 17 – Glenwood Springs



COLORADO
Division of Water Resources
Department of Natural Resources



Article XVI, Section 5 and Section 6

“The water of every natural stream...is hereby declared to be the property of the public...subject to appropriation as hereinafter provided.”

“Priority of appropriation shall give the better right as between those using the water for the same purpose...”



Why is measurement important?

Intrastate administration during a call

- Maximize beneficial use within the prior appropriation system

Compact administration

- Ensure compliance with interstate obligations while maximizing Colorado use

Data

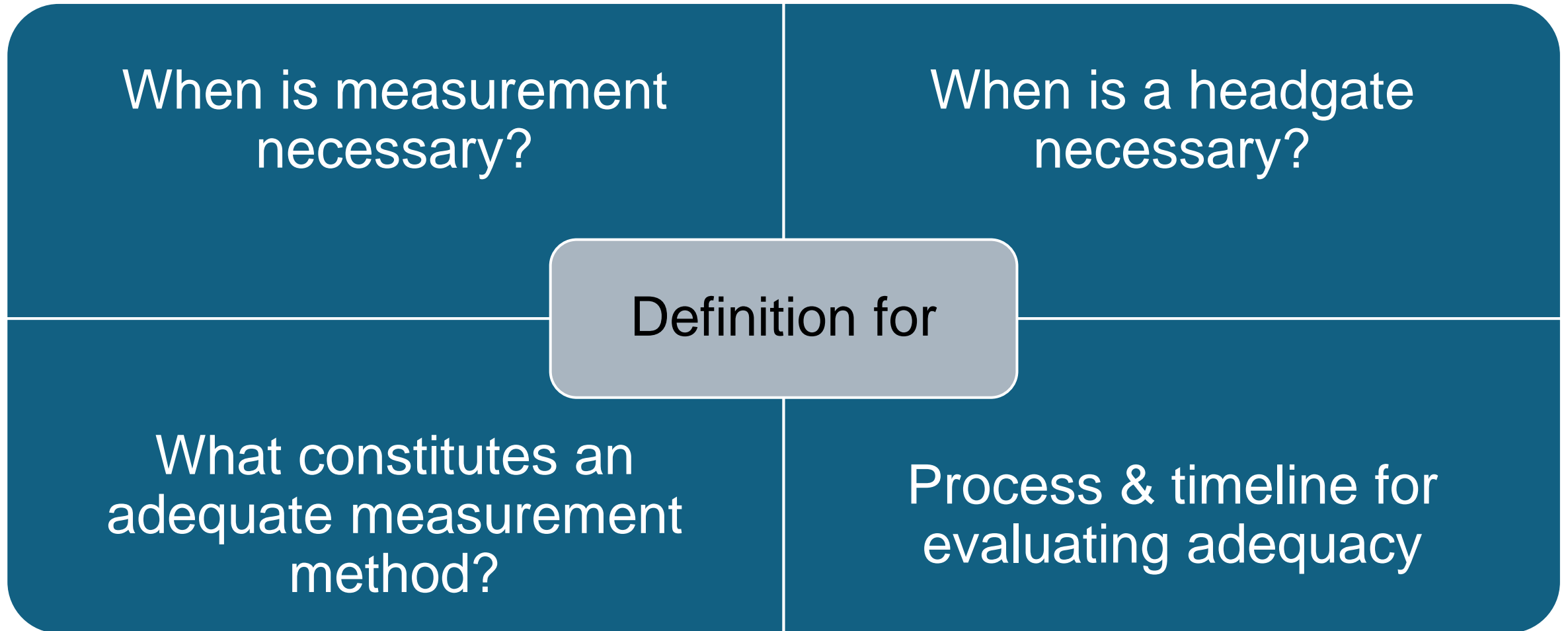
- To protect individual water rights
- To protect Colorado water users during compact administration
- Diversion records required by statute

Section 37-84-112, C.R.S.

“The owners (of ditches, etc.)...shall erect **where necessary** and maintain in good repair...a suitable and proper headgate...to control the water...and proper measuring flumes, weirs, and devices...”



What are Measurement Rules?



Where do Measurement Rules not apply?

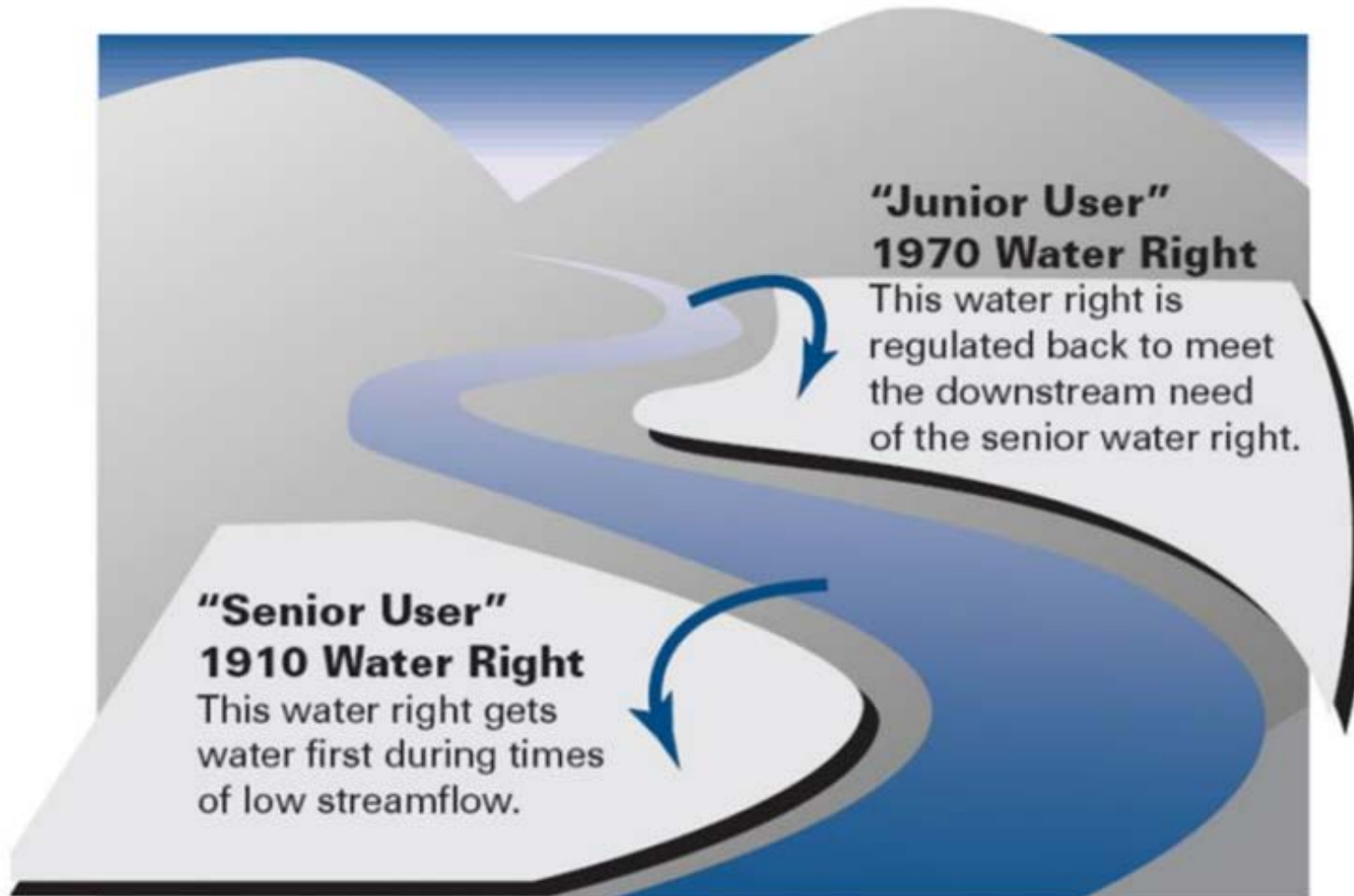
Laterals off ditches

Exempt domestic wells (home wells)

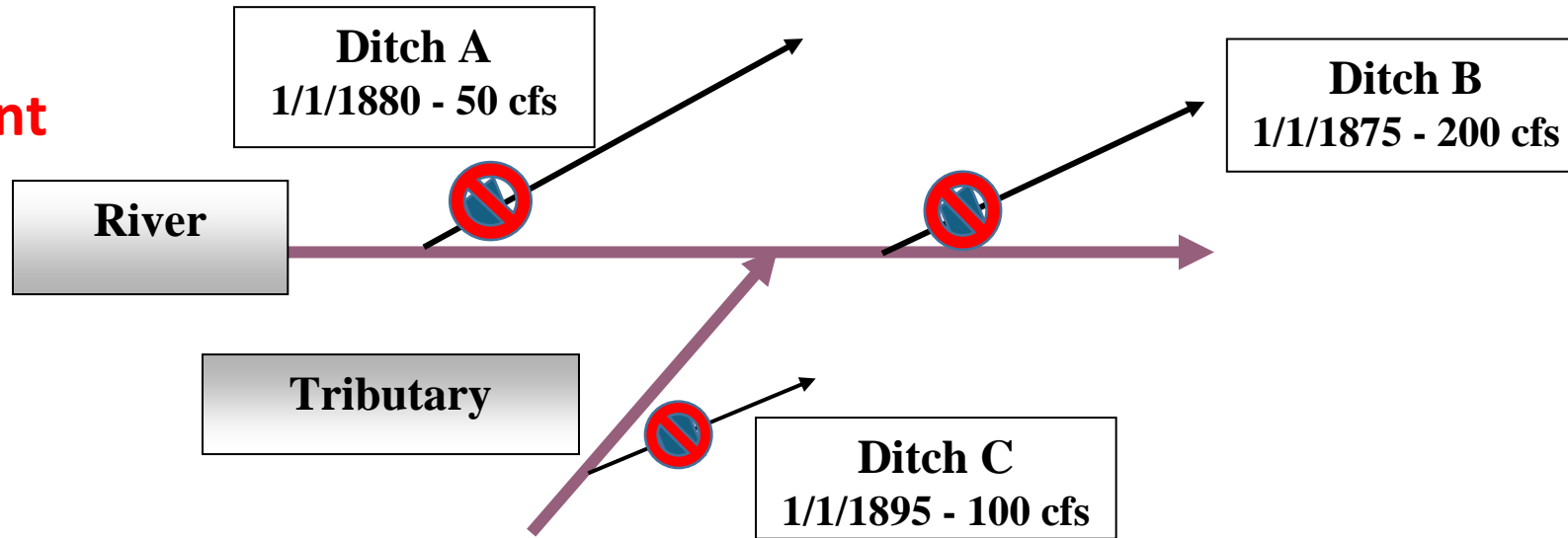
Other exceptions outlined in rules

- Ponds for limited purposes of livestock watering, wildlife watering, and fire protection (3.1.2)
- Surface water diversions, including springs, that do not exceed 15 gallons per minute and are used for limited domestic purposes (3.1.4)

What is administration?



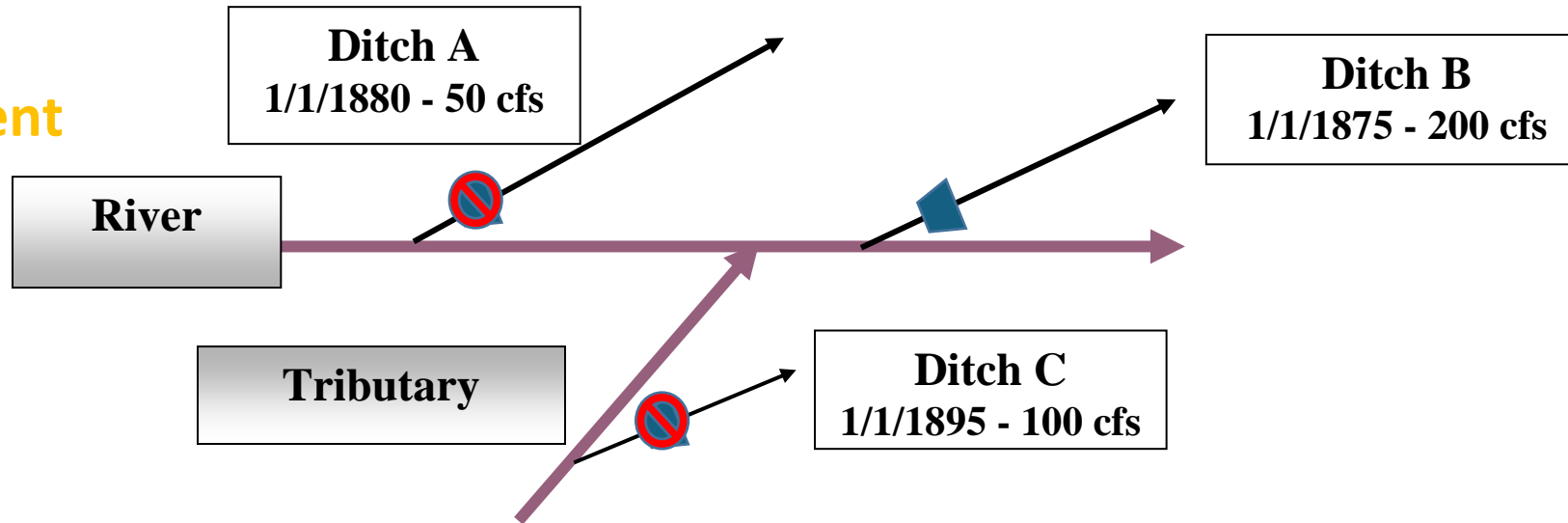
NO Measurement



Example:

- Ditch A diversion = ?? cfs;
- Ditch C diversion = ??? cfs;
- Ditch B owner calls the commissioner & claims to be 120? cfs short.
- What does the commissioner do?
 - How do they know B is actually short and by how much?
 - What if A is taking 100 cfs (50 cfs too much)?
 - Is it right to curtail C completely?
 - What if C doesn't have a Headgate?

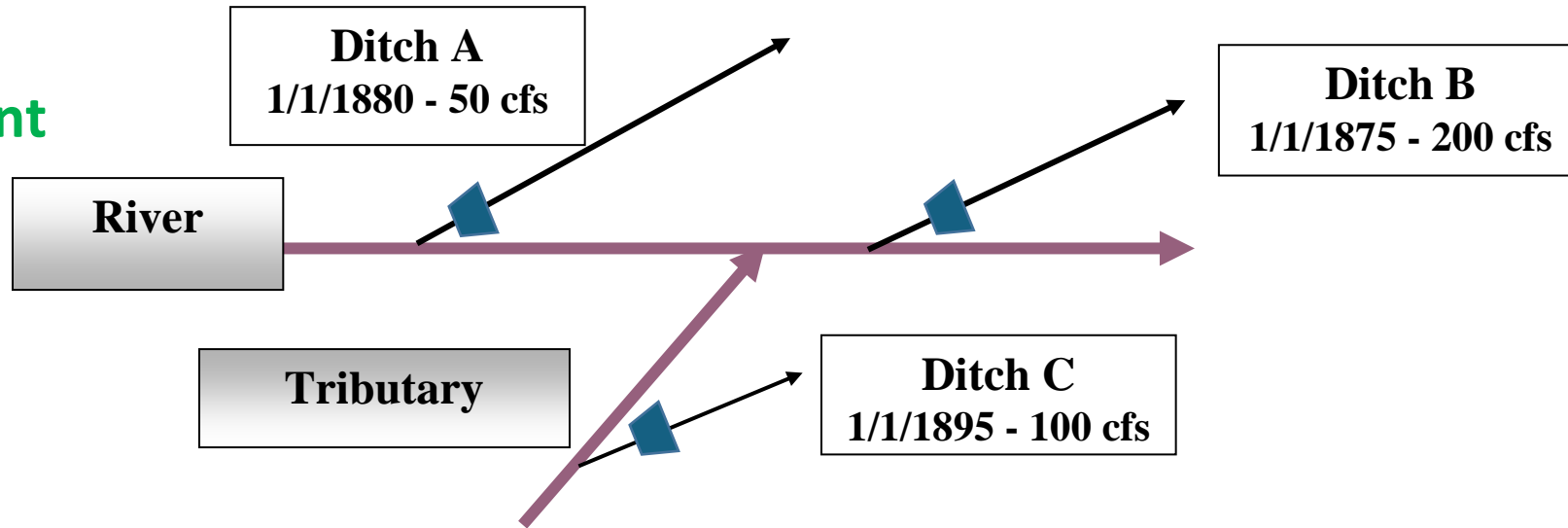
Some Measurement



Example:

- Ditch A diversion = ?? cfs
- Ditch C diversion = ??? cfs.
- Ditch B owner calls the commissioner & claims to be 120 cfs short.
- What does the commissioner do?
 - What if A is taking 100 cfs (50 cfs too much) & C is taking only 80 cfs.
 - Is it right to curtail C completely?
 - How much is A curtailed?

Full Measurement



Example:

- Ditch A diversion = 50 cfs
- Ditch C diversion = 100 cfs
- Ditch B owner calls the commissioner and IS 120 cfs short.
- What does the commissioner do? -
 - Ditch C is completely curtailed
 - Ditch A is reduced to 30 cfs & required to bypass 20 cfs to Ditch B, resulting in a "Call Priority" of 1/1/1880.

What does the Division Engineer need to administer rights?

- Decree for beneficial use - amounts, dates, & accurate location
- Headgate or control structure
- Measuring device
- Location where a water user will make the beneficial use



What is a functioning headgate or control structure?

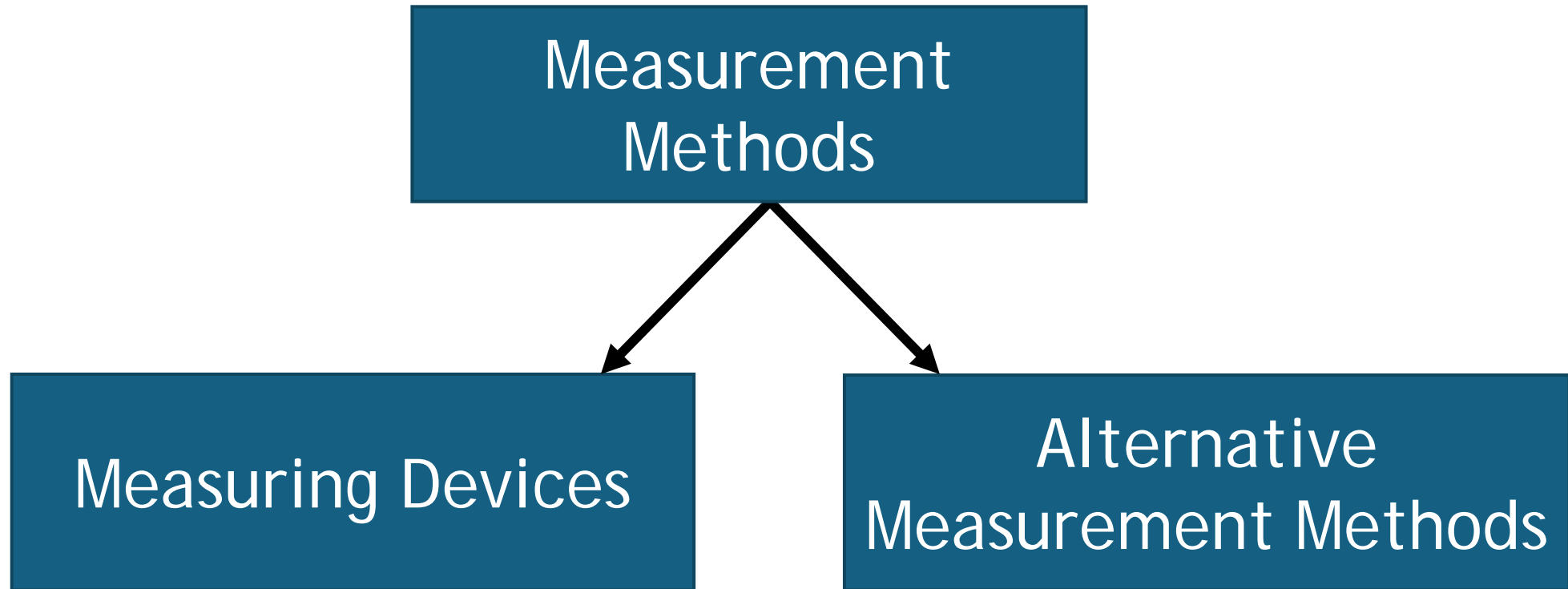
- Easily adjusted
- Close to the measuring device
- Lockable



Good or bad headgate?



Measurement Methods, Measuring Devices, and Alternative Measurement Methods



“Measurement Devices”

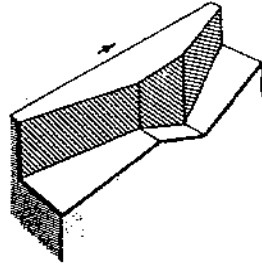
Devices
typically used
at diversions

Flumes

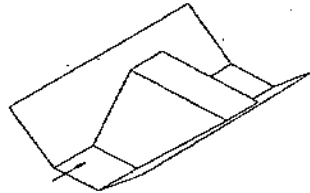
- Parshall
- Cutthroat
- Ramp

Weirs

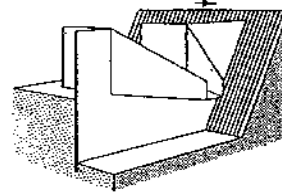
- V-notch
- Rectangular
- Cipoletti



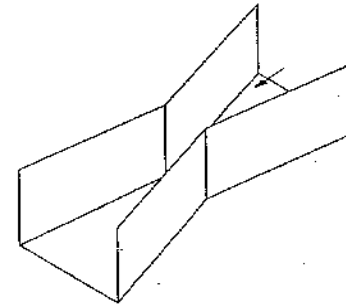
Parshall



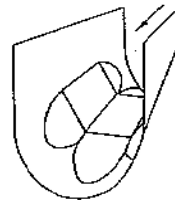
Ramp



H-Flume



Cutthroat



Palmer-Bowles



What is a proper installation?



Which one works?



Which one works?



“Alternative Measurement Methods”

Typical “Alternative Methods” of measuring flow indirectly

Rated sections

- More common for measuring stream flow

Power Consumption



Reading a Staff Gage at a Device

Size of Flume

Parshall

2.00 Foot

GH	GH	GH	GH	GH	GH	GH	GH
0.10	0.23	0.29	1.17	0.48	2.57	0.67	4.30
0.11	0.26	0.30	1.24	0.49	2.65	0.68	4.40
0.12	0.30	0.31	1.30	0.50	2.73	0.69	4.50
0.13	0.34	0.32	1.37	0.51	2.82	0.70	4.60
0.14	0.38	0.33	1.44	0.52	2.90	0.71	4.71
0.15	0.42	0.34	1.50	0.53	2.99	0.72	4.81
0.16	0.47	0.35	1.57	0.54	3.08	0.73	4.91
0.17	0.51	0.36	1.64	0.55	3.17	0.74	5.02
0.18	0.56	0.37	1.71	0.56	3.26	0.75	5.12
0.19	0.61	0.38	1.79	0.57	3.35	0.76	5.23
0.20	0.66	0.39	1.86	0.58	3.44	0.77	5.34
0.21	0.71	0.40	1.93	0.59	3.53	0.78	5.44
0.22	0.77	0.41	2.01	0.60	3.62	0.79	5.55
0.23	0.82	0.42	2.09	0.61	3.72	0.80	5.66
0.24	0.88	0.43	2.16	0.62	3.81	0.81	5.77
0.25	0.93	0.44	2.24	0.63	3.91	0.82	5.88
0.26	0.99	0.45	2.32	0.64	4.01	0.83	5.99
0.27	1.05	0.46	2.40	0.65	4.10	0.84	6.11
0.28	1.11	0.47	2.48	0.66	4.20	0.85	6.22

Flow Rate (CFS)

Staff Reading (ft)



Why record & report diversions?

Valuable to the user

- Value of a water right is based on its beneficial use
- Protect against abandonment
- Optimize operations

Valuable for the system

- Accurate data for modeling and protecting Colorado's entitlement under compacts

Transparency

- Builds trust in the system
- Enhances cooperative efforts



Typical Recording



10:39 65%

FieldDATA
All records synced

Structure
PIONEER DITCH
4000736

DIV RECS SITE NOTES PHOTOS SITE INFO

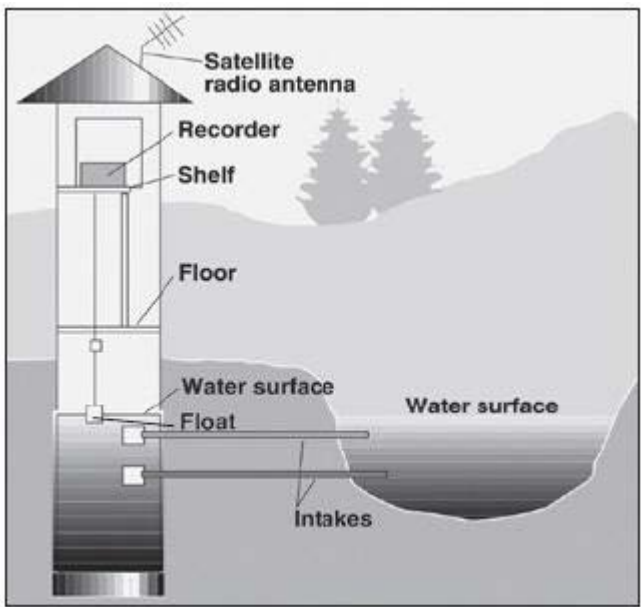
Water Class
S:1 U:1

Last Visit Date: 04/28/2025
Last Visit Flow: 0.76

Current Date: 04/30/2025
Enter flow

☒ (*) Amt. Observed ☐ (S) Amt. Estimated
☐ (K) User Provided Known Reliability ☐ (U) User Provided Unknown Reliability

DELETE

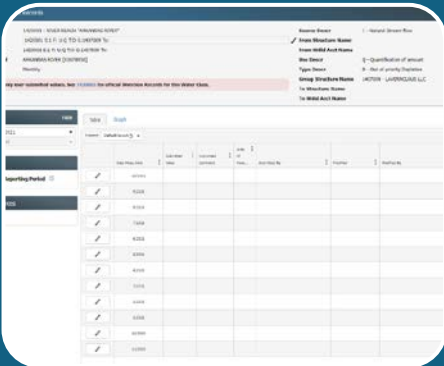


Reporting



Typical reporting types

- Water commissioner visits
- Data recorder download
- Telemetry
- User supplied



Pathways for user supplied data

- Sent to the water commissioner or Division Engineer's office
- Via a web interface

Water Court Process

File with water court

- Publish in resume
- Publish in local newspapers

Protests to the court due by end of 2nd month after filing

Judge sets case management order (schedules/deadlines)

Hearing (if needed)

Judge approves rules or remands for changes

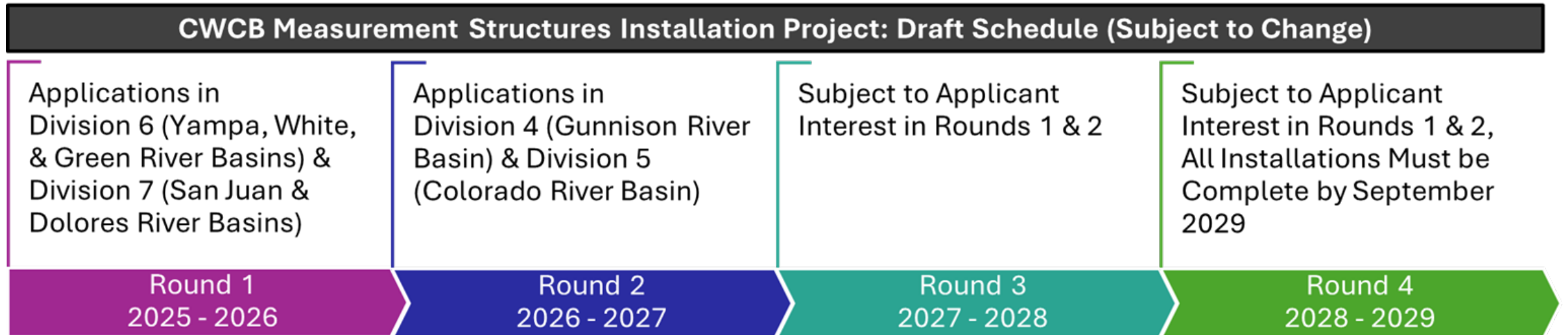


Diversion Measurement Installation Program

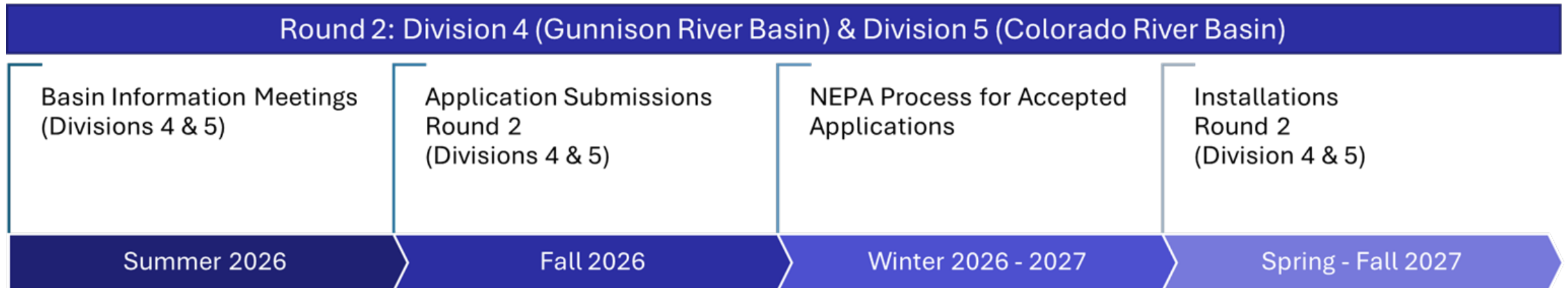
- \$7 million available through 2029 for installation of *free* measurement structures.
- Application-based program administered by CWCB in coordination with DWR. Facilitated by contractor, SGM.
- Initial earmark of 25% to each west-slope Division.



Timeline - Overview



Timeline - Round 2



Next Steps: Statement of Interest Form

Who?

Any water users who are interested in all Divisions 4, 5, 6 (except in the North Platte River Basin), and 7.

Why?

To stay informed and receive timely updates about the program. You will receive notice when applications are open each year.

Who will be eligible for 2025/2026?

The 2025 application for the 2026 program will open **ONLY** to water users in Divisions 6 and 7. Other divisions will be eligible in later years.



Program website and email

- Website: <https://cwcb.colorado.gov/diversionmeasurement>
- Email: DNR_diversionmeasurement@state.co.us

Next Steps

Gather feedback from stakeholders

- Submit comments to DWR through form
- Use link to a Comment form
- December 19, 2025 Deadline for Comments

Review comments and amend Rules where appropriate

Provide opportunity to review any amendments to Rules

Prepare to file in water court

Contact Info

Notification List requests:

- marie.sullivan@state.co.us

Questions or comments:

- jason.ullmann@state.co.us
- james.heath@state.co.us

Website:

- <https://dwr.colorado.gov/division-offices/division-5-office#rulemaking>



Comment Form QR Code