

IDAHO Department of Water Resources



Water District 34 Demand Database

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Water Right Accounting Program

- Currently used in:
 - Bear
 - Boise
 - Payette
 - Upper Snake

- Developed as a tool to help a watermaster distribute the water in a river.

- Distributes natural flow based on water right priorities.

- Documents the priority date on the river.

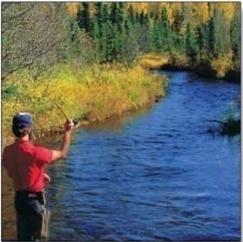
- Calculates natural flow and storage used by each diversion.

Water Right Accounting - Water District 34



➤ Big Lost Water Right Accounting program developed in 1993.

➤ Unique factors

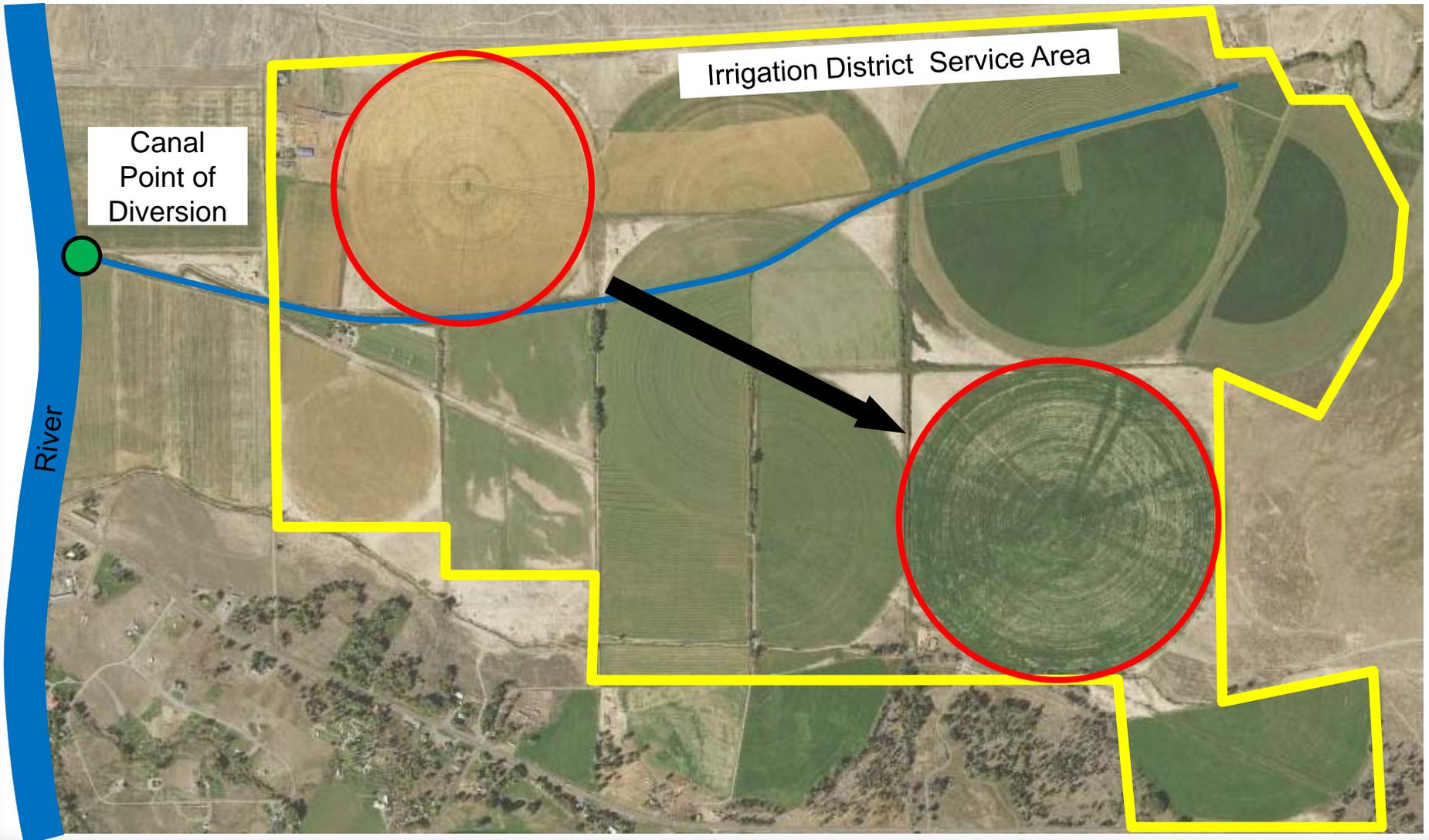


- Rotation credit for natural flow water rights.
- River conveyance losses are proportioned between natural flow and storage.
- For users on canals, natural flow water rights are owned by individuals, storage water rights owned by an irrigation district.

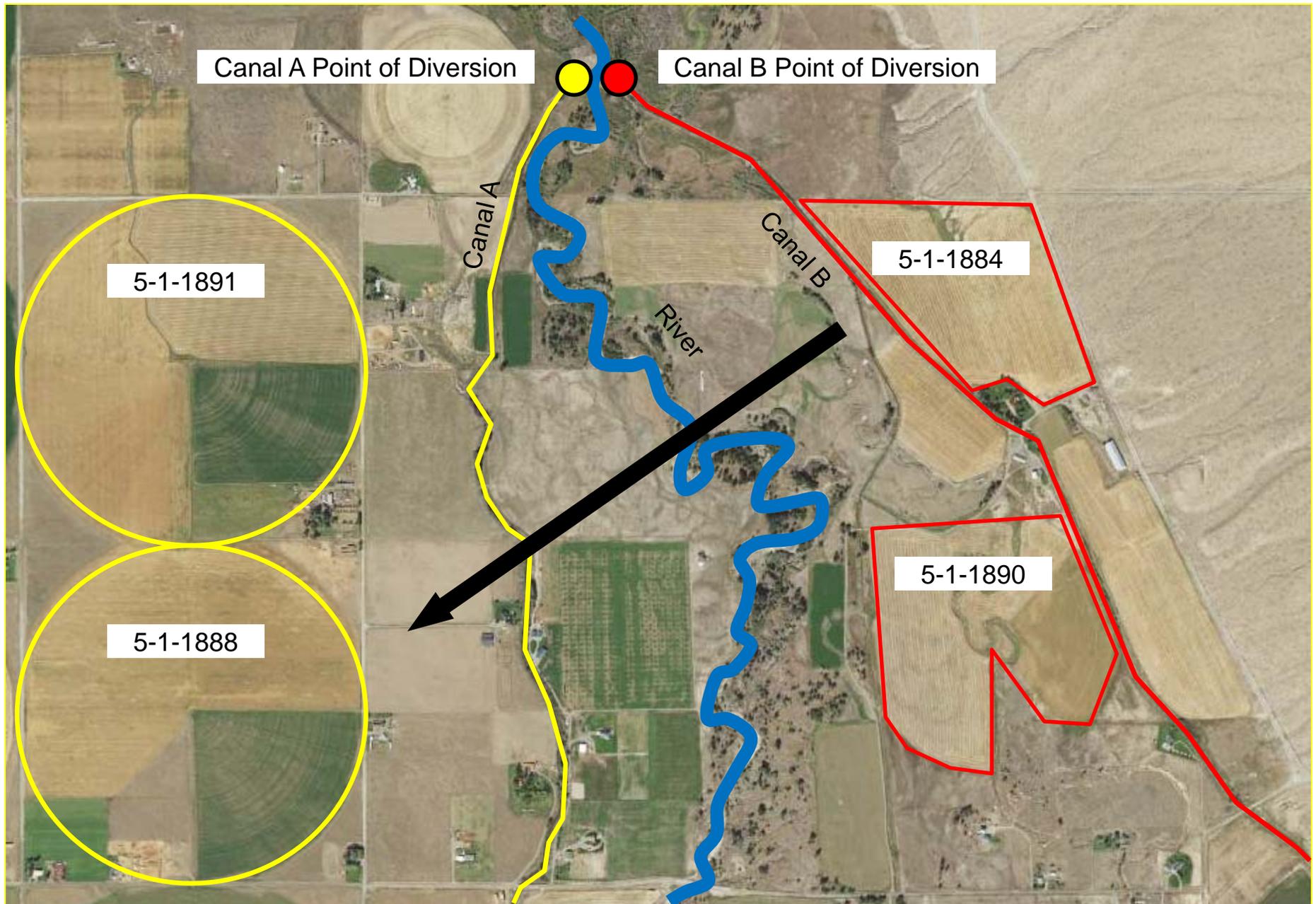


- In most areas of Idaho, all water rights on a canal are owned by a canal company or irrigation district.

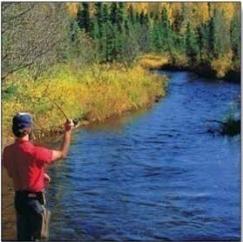
Water Rights Owned by Irrigation District



Water Rights Owned by Individuals on Canal (Big Lost)



Water Right Accounting - Water District 34



- Run sporadically, most recently run in 2010.
- Did not gain acceptance in Water District 34
- In 2012, users told IDWR & legislators they wanted to follow WD34 water administration rules
 - Watermaster delivers natural flow
 - Users must call watermaster for water delivery 48 hours in advance
 - Track rotation demand & rotation credit
 - Complete and transparent records
 - IDWR: Big Lost Water Right Accounting program

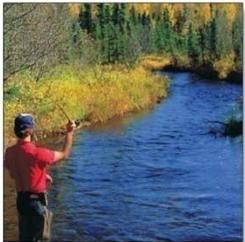
Demand Database

- Unique to WD34.
- Designed to be used by the watermaster to store daily records:
 - Users rotating natural flow to reservoir.
 - 48 hour notice of natural flow water rights each user wants delivered (Demand) each day of the irrigation season.
 - Data used to predict priority date on the river
 - Natural flow available above and below reservoir
 - Only those water rights users want delivered.
- Maintains water right & rotation data needed to run the Big Lost Water Right Accounting.

Software Demonstration



- Water right data entry



- Demand data entry



- Predict priority date

July 6, 2015

Above Reservoir = 209.5

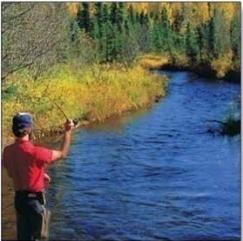
Below Reservoir = 60.9



Estimated Demand Database Workload



- Some data entry required.



- Designed so data entry only necessary if a user changes natural flow delivery.



- Estimated time commitment using Big Lost River Irrigation District (BLRID) storage balances spreadsheets.

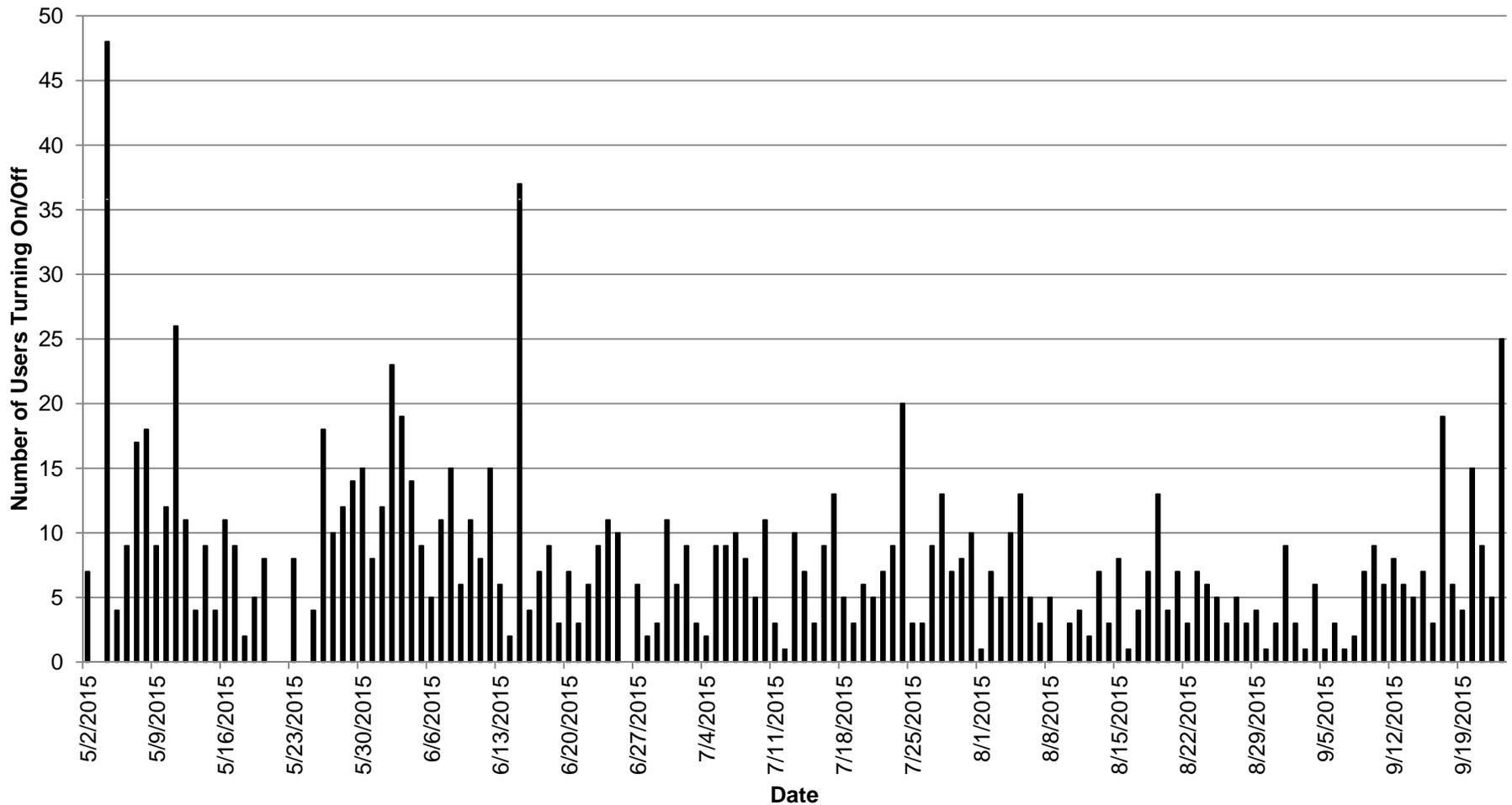


Estimated User Demand Changes Based on BLRID Delivery at Canal Head Data

Min = 0

Average = 8

Max = 48

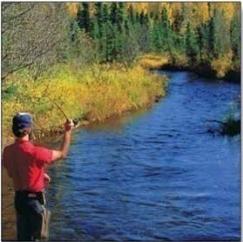


Estimated Demand Database Workload



➤ Manage Water rights

- Prior to irrigation season = 4 hours
- During irrigation season = 1 hour



➤ Daily calls from ditch riders = ? hours



➤ Data entry (Estimated from BLRID data)

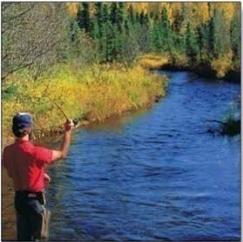
- First day of irrigation season ~50 users = ~1.5 hours
- Multiple canals turning on/off ~35 users = ~1 hour
- Daily ~10 users = ~20 minutes



Demand Database Progress

- First version was presented to the District 34 watermaster in May 2015.
- Based on feedback from the watermaster, enhanced to automatically import user data from the BLRID and use as demand.
 - BLRID data are available end of the next business day.

Demand Database - Feedback

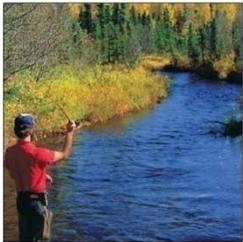


- Does the Demand Database do all of the things the users said in 2012 that were needed to follow the WD34 water administration rules?
- How to do data entry for the Demand Database?
 - Manual data entry
 - Import BLRID data and assume deliveries are current demand
 - Not 48 hour notice of delivery
 - Might not always be available
 - Decision by January 1, 2016

Demand Database Timeline



➤ Database installed at WD34: April 1, 2016



➤ Written instructions: April 1, 2016



➤ Training at WD34: April 15, 2016

➤ Start using: May 1, 2016

- IDWR staff at WD34



Questions?

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