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

- Canal Point of Diversion
- Irrigation District Service Area

River
Water Rights Owned by Individuals on Canal (Big Lost)

Canal A Point of Diversion
Canal B Point of Diversion

5-1-1884
5-1-1888
5-1-1890
5-1-1891
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.
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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