

In total, BWCC storage water from Magic Reservoir and other BWCC water rights from the Big Wood and Little Wood Rivers are used to irrigate about 36,000 acres in the Richfield, Dietrich and North Shoshone tracts.

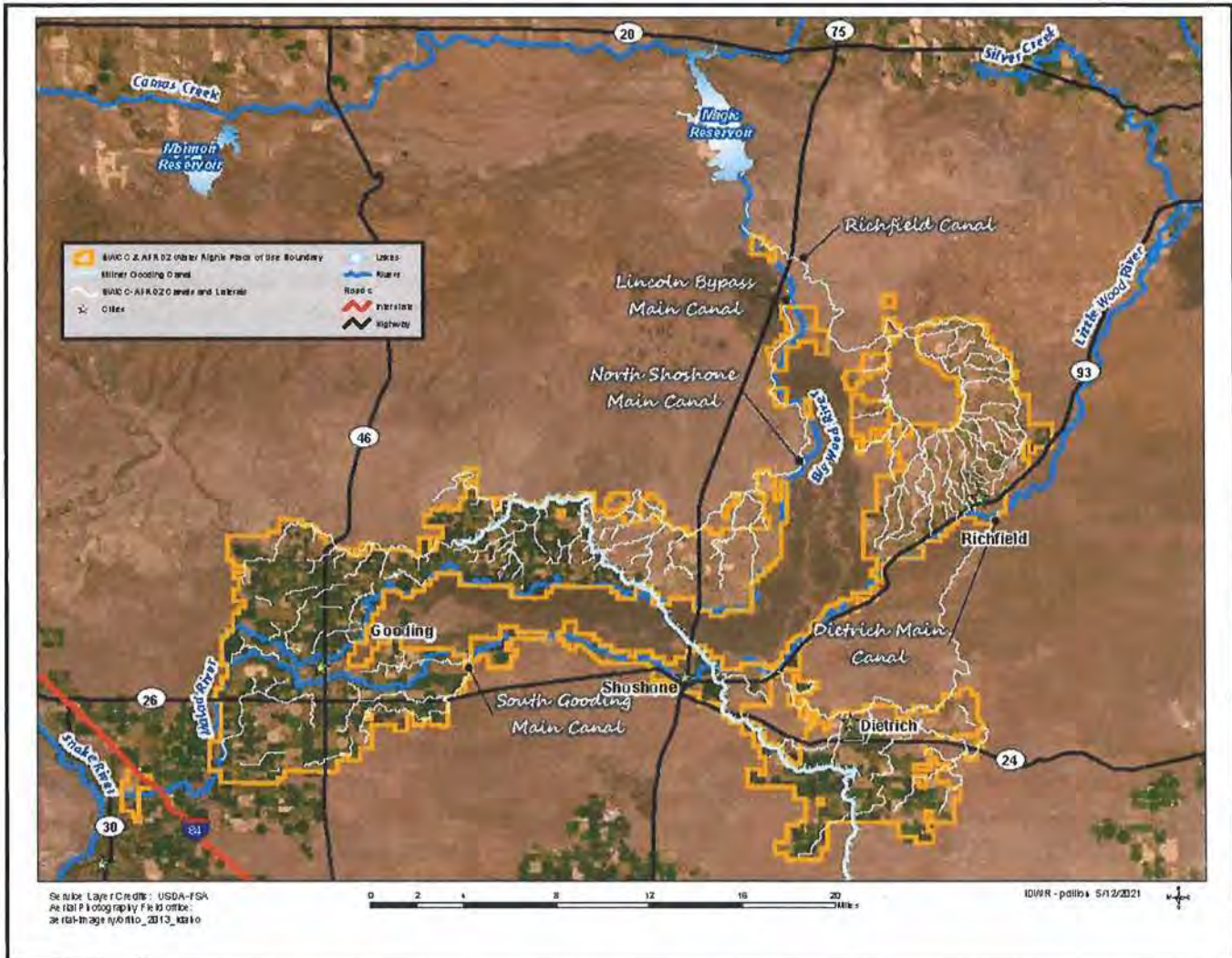


Figure 2. Big Wood R, Little Wood R & Silver Ck. with BWCC/ARFD2 Service Area

There are no diversions of any significance on the Big Wood River between the North Shoshone Canal and the confluence of the Big Wood River and Thorn Creek, located about 7 miles northeast of Gooding. Water from the Milner-Gooding Canal injected to Thorn Creek returns to the Big Wood River upstream of the Robertson and Union Ditches, located about one mile below Thorn Creek; all or most of the river flow below Thorn Creek is dependent on the Milner-Gooding Canal (Luke, 2015).

The BWCC shares a service area boundary with the American Falls Reservoir District No. 2 (“AFRD2”). The following excerpt from Luke (2015) describes AFRD2 and the shared BWCC-AFRD2 service area:

AFRD2 is an irrigation district that maintains the Milner-Gooding Canal to convey water from Milner Dam on the Snake River to irrigate lands within the AFRD2 and BWCC project areas. The district was created in 1925 for the purpose of delivering an additional supply of water from the American Falls Reservoir on the Snake River to the BWCC due to water shortages in the BWCC and Wood River drainages. The irrigation district was also formed to develop additional irrigated lands or “new lands” within the BWCC-AFRD2 service area located below the Milner-Gooding Canal. The Milner Gooding Canal crosses both the Little Wood and Big Wood Rivers in approximately the center of the BWCC-AFRD2 service areas near Shoshone as shown in Figure 2. Water delivered via the Milner Gooding Canal can be injected to the Little Wood River and re-diverted from the river downstream. The Milner Gooding Canal ends about 10.5 miles northeast of Gooding where it splits to the North Gooding Canal and Thorn Creek. Water from the Milner Gooding Canal injected to Thorn Creek returns to the Big Wood River upstream of the Robertson and Union Ditches.

AFRD2 holds a contract with the United States Bureau of Reclamation (“BOR”) for 393,550 acre-feet of storage space in American Falls Reservoir on the Snake River. Water stored pursuant to this contract is used within the BWCC-AFRD2 place of use boundary. The total irrigated acres in the BWCC-AFRD2 project area is about 98,667 acres.

In addition to the BOR storage contract referenced above, AFRD2 also holds a 1921 priority natural flow water right from the Snake River authorizing diversion of up to 1,700 cfs for irrigation use within the BWCC-AFRD2 service area.

Contracts between the BWCC, AFRD2 and the BOR describe the water supplies delivered by the BWCC and AFRD2 within their shared service area. These contracts also include provisions allowing the exchange of water supplies. These contracts are described in further detail by Luke (2015) and in item 8 of this memorandum. In short, the contracts stipulate that water supplies and rights held by BWCC from Magic Reservoir, the Big Wood River and the Little Wood River, shall be used to irrigate the approximate 36,000 acres in the BWCC-ARD2 shared service area above the Milner-Gooding Canal, while remaining lands in the shared service area below the Milner-Gooding Canal are irrigated using AFRD2 water supplies from the Snake River delivered via the Milner-Gooding Canal.

There are approximately 130 natural flow irrigation water rights on the Big Wood River and Malad River below Magic Reservoir, including several natural flow water rights held by the BWCC. Many of these water rights have places of use from the Big Wood and Malad Rivers below the Milner-Gooding Canal. The priority dates of these rights range from 1883 to 1940 (one irrigation right has a 1981 priority).

Seventy-two (72) of Big Wood River water rights below Magic Reservoir include a condition, known as the Exchange Condition, which stipulates that delivery of each right is subject to the water exchange provisions contained in the contracts between BOR, AFRD2 and BWCC. As a result, AFRD2 delivers water to these 72 rights, when they are deliverable, from the Snake River using the Milner-Gooding Canal. The amount of natural flow in the Big Wood River for these 72

rights, when deliverable, is delivered to the Lincoln Bypass and North Shoshone canals and distributed to lands within the North Shoshone tract above the Milner-Gooding Canal.

In dry years, reservoir releases from Magic Reservoir may be shut off in July or earlier. For example, in 2002, Magic Reservoir was shut off on or about July 15, thus making delivery of reservoir inflow unavailable for delivery of natural flow rights below the reservoir (IDWR, 2021). In this scenario, any inflow to the reservoir during the remaining irrigation season may accrue as storage to BWCC. When there is sufficient inflow to satisfy any senior natural flow rights below Magic Reservoir after the reservoir is shut off, BWCC and AFRD2 deliver water to the holders of those rights from the Milner-Gooding Canal if the water right places of use are located below the Milner-Gooding Canal.<sup>6</sup> This practice may be consistent with the exchange provisions of the BOR contracts but, due to physical limitations, water cannot be delivered to the holders of any deliverable senior priority rights with places of use located above the Milner-Gooding Canal.

As previously noted, an explanation of priority cut determinations on the Big Wood River below Magic Reservoir is documented by WD37 Watermaster Kevin Lakey in his correspondence to IDWR dated June 16, 2015 in Luke (2015).

As described in the watermaster's 2015 correspondence, the long standing method for determining priority cuts on the Big Wood River below Magic Reservoir is based on totaling reservoir inflows and subtracting a standard river loss (about 60.6 cfs) in the channel between the reservoir and the North Shoshone Canal. While this method may be appropriate for determining priority right deliveries below the reservoir based on reservoir inflows, it does not account for gains to the lower reaches of the Big Wood and Malad Rivers. A limited review of reach gains in the Big Wood River between Gooding and the USGS gage station on the Malad River indicates that gains and unused flow injected to the river from the AFRD2 Milner-Gooding Canal system and the North Side Canal Company X Canal should be sufficient to satisfy decreed priority rights in this reach and two irrigation stations below Station 21.<sup>7</sup>

### *3. Little Wood River and Silver Creek*

Administration of water rights on the Little Wood River and Silver Creek drainage system includes all of the Little Wood River from the confluence with Silver Creek to the confluence with the Big Wood River at the head of the Malad River, and all of Silver Creek, including tributary spring fed creeks located within the Bellevue Triangle near Picabo.

Irrigation development from Silver Creek occurs along the creek and its tributaries from the Picabo area downstream to its confluence with the Little Wood River about 2.5 miles southwest of where Silver Creek crosses State Highway 93. Irrigation development and diversions from the Little

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<sup>6</sup> Personal and email communication with Kevin Lakey, March 17, 2021.

<sup>7</sup> Idaho Department of Water Resources, *Return Flows and Reach Gains, IDWR Presentation to the Big Wood River Ground Water Management Area Advisory Committee*, January 5, 2021. <https://idwr.idaho.gov/files/groundwater-mgmt/big-wood-gwma-advisory-comm/20210105-Big-Wood-GWMA-Advisory-Committee-Meeting-Materials.pdf>

Wood River occurs along the river from Richfield downstream to its confluence with the Big Wood River. Most of the diversions and development occurs between Richfield and Gooding.

There are nearly 300 irrigation consumptive use surface water rights in this system with priority dates ranging from 1877 to 2011. Other authorized water right uses in the system include hydropower, ground water recharge, stock water, and minimum instream flow. Figure 3 shows the cumulative rate of diversion for all irrigation water rights,<sup>8</sup> by priority date, within the WD37 Little Wood River-Silver Creek system. The chart shows several large diversion rate increases from about 1900 to 1907. The increases represent three high runoff water supply appropriations by the BWCC totaling about 540 cfs including an 1899 priority right for 150 cfs, a 1905 priority right for 87 cfs, and a 1907 priority right for 303.6 cfs. BWCC also holds a 1920 priority right for 87 cfs.

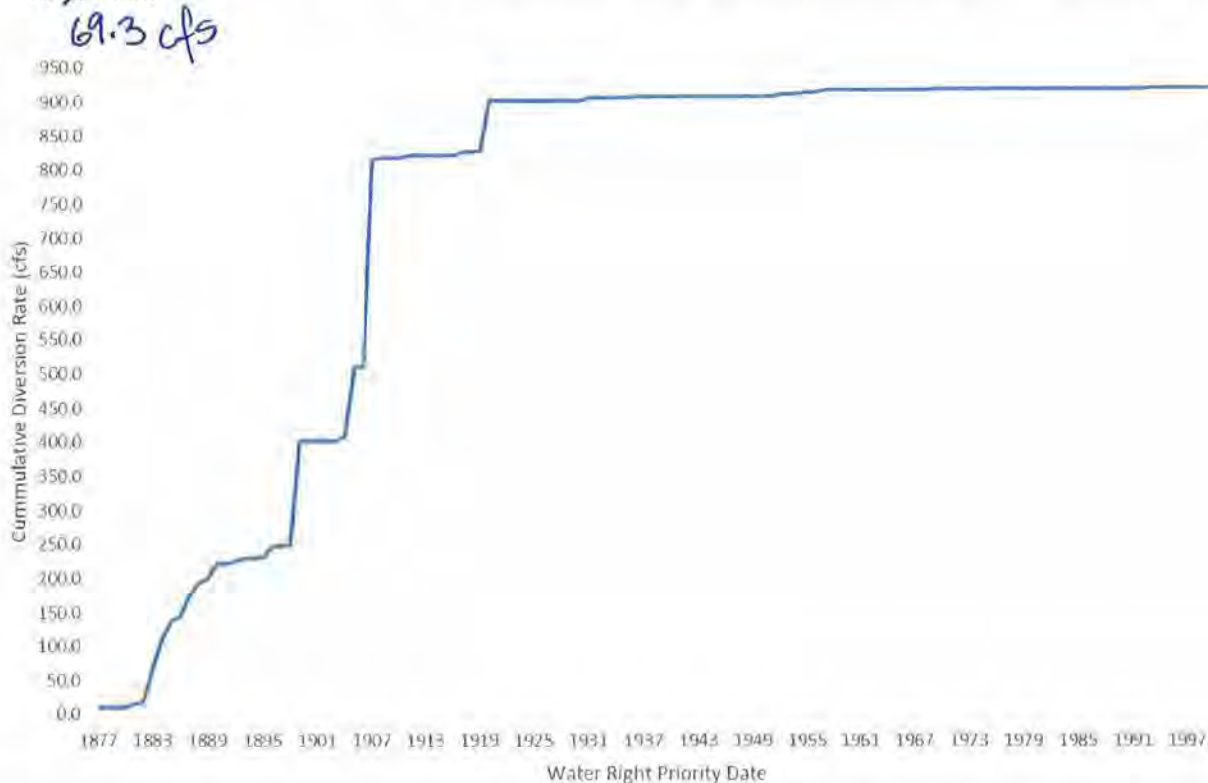


Figure 3. Cumulative water right diversion rates for irrigation uses from Little Wood River & Silver Creek

As shown in Table 1, the total cumulative rate of diversion for all irrigation rights in the Little Wood River-Silver Creek system exceeds 900 cfs. The total cumulative diversion rate of all rights with priority dates senior to 1900 is about 400 cfs, including the BWCC 1899 priority right for 150 cfs.

<sup>8</sup> Figures 3 and 4, and Table 1 includes senior priority water rights for groundwater recharge held by the City of Gooding that are used during the irrigation season. The purpose of use under these rights were changed from irrigation to groundwater recharge.