

MEMO

State of Idaho

Department of Water Resources

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Date: May 17, 2021

To: Gary Spackman, Director

From: Tim Luke, Water Compliance Bureau Chief *TJL*

Subject: Responses to Request for Staff Memorandum – Basin 37 Administrative Hearing

This memorandum has been prepared in response to the *Request for Staff Memorandum In the Matter of Basin 37 Administrative Hearing* (“Request”) issued by the Director of the Idaho Department of Water Resources (“IDWR”) on May 11, 2021. This memorandum addresses items 3, 8, 9, 10 a. and 10.c of the Director’s Request. Sections of this memo are numbered in accordance with the items listed in the Request.

3. Description of Surface Water Deliveries in the Wood River Basin

The Wood River basin, identified by IDWR as Administrative Basin 37, is divided into separate water districts for purposes of administration of water rights. Figure 1 shows water districts in Administrative Basin 37.

This memorandum focuses on surface water deliveries and certain surface water delivery systems in Water District 37 (“WD37”), specifically, the Big Wood River below Magic Reservoir and the Little Wood River and Silver Creek. A fairly detailed description of delivery systems in these river reaches of WD37 was given in a staff memorandum for a previous proceeding (Luke, 2015).¹

WD37 includes the main Big Wood River and tributaries in the Wood River Valley to Magic Reservoir, the Big Wood River below Magic Reservoir to its confluence with the Malad River, the Little Wood River from its confluence with Silver Creek to the Malad River, including Silver Creek and its tributaries, and the Malad River from the confluence of the Big and Little Wood Rivers to approximately the Snake River canyon rim where Interstate 84 crosses the Malad River. WD37 also administers ground water rights in the Wood River Valley, including the Bellevue Triangle area, outside of the Eastern Snake Plain Aquifer Area of Common Ground Water Supply (“ESPA ACGWS”). WD37 administers all ground water rights in the

¹ Luke, T., 2015, *Staff Memorandum Regarding Big Wood and Little Wood Water Users Association Delivery Calls from the Big Wood and Little Wood Rivers – Response to Director’s Request for Memoranda Dated June 12, 2015*. Idaho Department of Water Resources, August 31, 2015. <https://idwr.idaho.gov/files/legal/CM-DC-2015-001/CM-DC-2015-001-20150831-Staff-Memo-Attachments-BWLWWUA-Calls.pdf>

aforementioned Wood River Valley area except groundwater rights used for domestic and stock water purposes as defined by Idaho §§ 42-111 and 42-1401A(11) and water rights used for in-stream watering of livestock as defined by Idaho Code § 42-113.

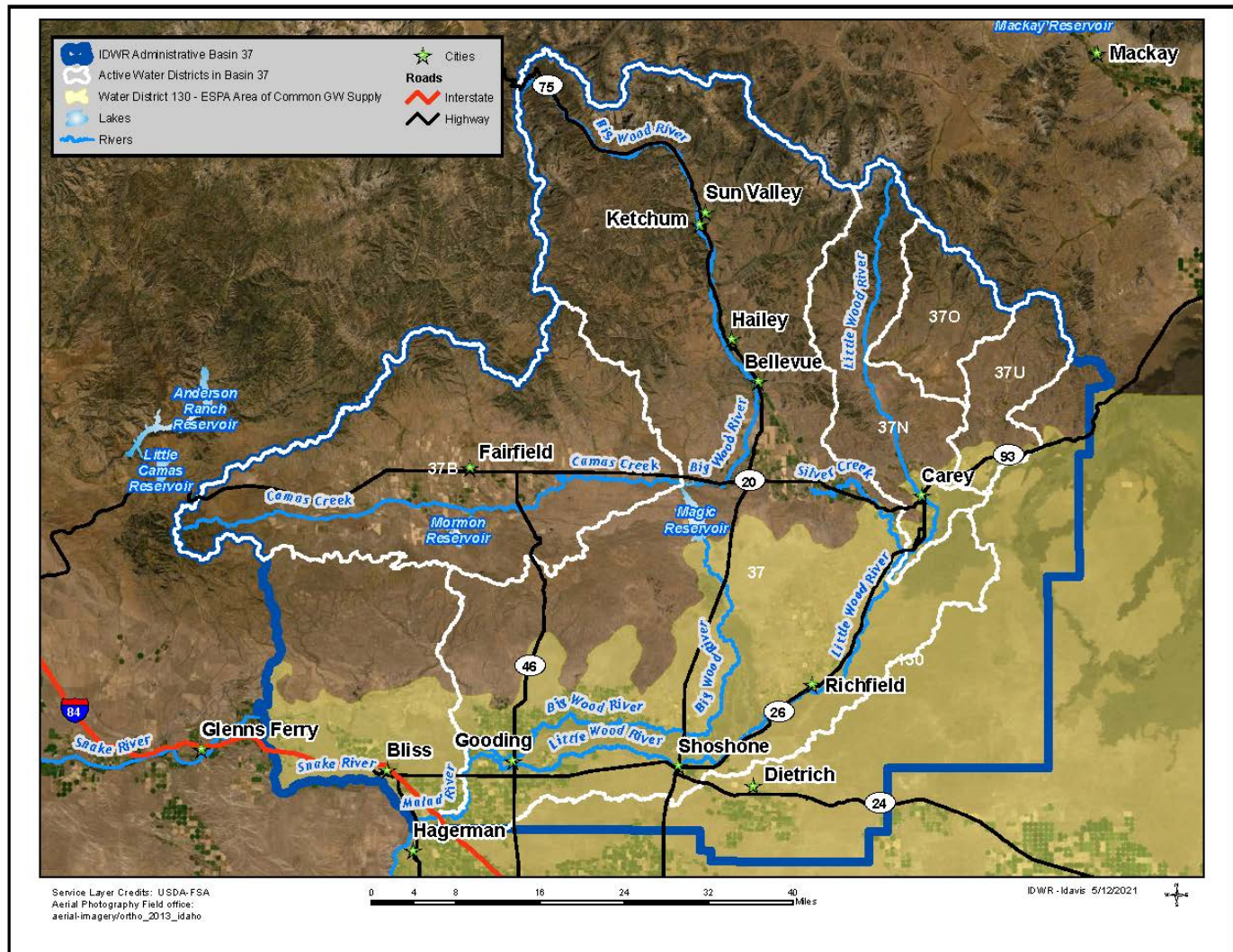


Figure 1. Administrative Basin 37 Water Districts

As reported in Sukow (2015),² the Little Wood River upstream of the confluence of Silver Creek is perched above the ESPA and generally dry except during periods of high surface runoff.

Surface water rights and diversions in the Little Wood River drainage area above Silver Creek are administered by Water District 37N, Upper Little Wood River (“WD37N”), and two separate

² Sukow, J., 2015, *Hydrology, hydrogeology, and hydrologic data, Big Wood & Little Wood Water Users Association delivery calls, CM-DC-2015-001 and CM-DC-2015-002*. Idaho Department of Water Resources, August 28, 2015, 25 p., <https://idwr.idaho.gov/files/legal/CM-DC-2015-001/CM-DC-2015-001-20150828-WRCall-Hydro-Memo-w-Attach.pdf>.

tributary water districts, Water District 37O, Muldoon Creek, and Water District 37U, Fish Creek (Luke, 2015).

Water District 37N includes the Little Wood Reservoir located north of Carey which is owned and operated by the Little Wood River Irrigation District. East Canal and West Canal, below Little Wood River dam divert the entire flow of the Little Wood River during the irrigation season, and most non-irrigation season flow is stored in the reservoir. The entire flow of Fish Creek is similarly diverted and stored (Sukow, 2015).

Over two dozen water rights in WD37N are senior in priority to water rights on the Little Wood River below Silver Creek. These rights, totaling about 20 cfs and bearing priority dates from 1880 to 1882, are diverted at or near the East and West Canals north of Carey. Water rights in the upper Little Wood River with priority dates starting in 1882 are then mixed with water right priorities in the lower Little Wood River. The combination of river losses, reservoir storage and senior priority water rights in the upper Little Wood River supports a long practice of separate water districts and administration of water rights between the upper and lower Little Wood River systems.

A. Surface Water Deliveries in Water District 37

WD37 is divided into three systems for delivery of surface water rights including: (1) the Big Wood River above Magic Reservoir, (2) the Big Wood River and Malad River below Magic Reservoir, and (3) the Little Wood River and Silver Creek, including streams tributary to Silver Creek. The WD37 watermaster makes separate water right priority determinations on these three systems.

Surface water delivery systems, water deliveries and water right priority cut procedures for the Big Wood River below Magic Reservoir (including the Malad River) and the Little Wood River below Silver Creek are generally described in Luke (2015). Additional water delivery and system information is summarized below.

1. Big Wood River Above Magic Reservoir

WD37 regulates numerous diversions from the Big Wood River and tributaries above Magic Reservoir from north of Ketchum to Stanton Crossing at Highway 20 upstream of Magic Reservoir. Most of the diversions are small to medium size irrigation ditch diversions, ranging in capacity from 1 cfs or less to 50 cfs or more. The largest diversion in this system, the District 45 Canal, diverts up to 200 cfs and serves a large area of the Bellevue Triangle.

Most of the Big Wood River Valley above Magic Reservoir was under irrigation by 1900 (Bartolino and Adkins, 2012).³ Surface water rights from the river above Magic Reservoir range

³ Bartolino, J.R., C.B. Adkins, 2012, *Hydrogeologic Framework of the Wood River Valley Aquifer System*, South-Central Idaho, U.S. Geological Survey Scientific Investigations Report 2012-5053, 36 p., 1 pl., <http://pubs.usgs.gov/sir/2012/5053/>.

in priority from 1880 to 2015. Most rights with priority dates after 1936 are used for non-irrigation purposes, and many are non-consumptive.

As reported by the WD37 watermaster, “in decades past, the standard for a good water year [on the Big Wood River above Magic Reservoir] was if the 1886 priorities remained deliverable. Since the mid to late 1980’s, droughts became more common and flows diminished. Today, the standard for a good water year is if the senior 1884 rights remain deliverable” (Water District 37 and 37M, 2010).⁴

The Dry Bed of the Big Wood River is a braided and losing river reach located south of Bellevue between approximately Glendale and Baseline Roads. Nearly all the flow of the Big Wood River is diverted each summer into the Baseline Bypass Canal just upstream of the Glendale Bridge. As described by Bartolino and Adkins (2012), the Bypass Canal was built in 1920 on the east side of the river to route water around the Dry Bed section of the Big Wood River to speed the passage of water through this section of the river and to reduce losses; flow can be routed south to the Baseline Bypass extension canal or west back to the braided channel of the Big Wood River in the lower part of the Dry Bed.

In dry years, the entire flow of Big Wood River near the Glendale Bridge may be diverted to the Baseline Bypass Canal early in the irrigation season. For example, on or about April 4, 2021, the river was dammed off above the Glendale Bridge and diverted down the Baseline Bypass and back to the river channel to reduce losses in the Dry Bed and increase inflows to Magic Reservoir.

The Water District 37 watermaster makes separate priority cuts on the Big Wood River above and below Magic Reservoir. An explanation of priority cut determinations on the Big Wood River both above and below Magic Reservoir is documented by Water District 37 Watermaster Kevin Lakey in his correspondence to IDWR dated June 16, 2015 in Luke (2015). In that correspondence, Lakey notes that “there is much more senior [priority] water above Magic Reservoir than there is below; when inflows into Magic become low enough to start cutting decrees, decrees with more senior priority have already been shut off above Magic.” The most senior priority rights below Magic Reservoir have 1883 priority dates. In contrast, there are about 60 rights above Magic Reservoir with priority dates senior to 1883, totaling about 84 cfs. Some of the most senior rights above Magic Reservoir (1880 priority) are located below or at the lower end of the Dry Bed and rely on use of the Baseline Bypass Canal for delivery.

2. Big Wood River Below Magic Reservoir

Flows in the Big Wood River below Magic Reservoir are controlled by reservoir operations. Magic Reservoir, located on the Big Wood River about 22 miles north of Shoshone, is owned and operated by the Big Wood Canal Company (“BWCC”). The reservoir has a storage capacity of 191,500 acre-feet. Magic Reservoir inflow primarily comes from the Big Wood River and

⁴ Water District No. 37 & 37M, *Water Distribution and Hydrometric Works – 2010*, 379 p.

Camas Creek. On average, approximately one-third of the reservoir inflow comes from Camas Creek (IDWR, 2021).⁵

The BWCC holds several water rights from the Big Wood River for storage in Magic Reservoir, ranging in priority from 1905 to 1920. Additionally, BWCC holds two natural flow rights from the Big Wood River for irrigation, including an 1897 priority right authorizing a diversion rate of 66.9 cfs and a 1908 priority right authorizing diversion of 3,000 cfs.

As described in Luke (2015), BWCC storage water from Magic Reservoir and BWCC natural flow water rights from the Big Wood River are diverted from the river below the reservoir at the Richfield and Lincoln Bypass Canals (see Figure 2).

Water diverted to the Richfield Canal is conveyed a distance of about 12 miles southeast where the canal splits into three main channels including the Jim Byrns Slough, the East Main Canal, and the West Main Canal. The East and West Main Canals deliver BWCC water to the Richfield Tract located north of Richfield and the Little Wood River, and east of the Big Wood River. The total irrigated area within the Richfield tract is roughly 19,000 acres (Luke, 2015).

The Jim Byrns Slough conveys water about 16 miles around the east side of the Richfield Tract before connecting to the Little Wood River near the head of the Dietrich Main Canal located just south of Richfield. The water injected to the Little Wood River from the Jim Byrns Slough is measured at a gage station on the slough a short distance above its confluence with the river. The injected water is then diverted to the Dietrich Main Canal and conveyed eight to ten miles southwest to the Dietrich tract. The total irrigated area within the Dietrich tract is about 8,200 acres (Luke, 2015).

The BWCC holds a number of water rights from the Little Wood River that can be diverted to the South Dietrich Main Canal for irrigation within the Dietrich tract. Water diverted under these rights may be commingled with BWCC water supplies diverted from the Big Wood River and injected to the Little Wood River near the head of the South Dietrich Main Canal. The BWCC Little Wood River rights range in priority from 1883 to 1920. BWCC's more senior priority rights, from 1883 to 1887, have a cumulative diversion rate of 16.65 cfs. The more junior priority rights have diversion rates that vary from 15.3 cfs (1896 priority) to 304 cfs (1907 priority).

The Lincoln Bypass Canal diverts water from the Big Wood River approximately 10 miles around a dry or losing reach of the river to the head of the North Shoshone Canal. The North Shoshone Canal flows southwest to irrigate lands above the Milner Gooding Canal and north of the Big Wood River, known as the North Shoshone tract. The BWCC delivers water to about 8,800 irrigable acres in the North Shoshone tract. Water conveyed through the North Shoshone Canal may commingle with water from the Milner Gooding Canal to irrigate lands below or west of the Milner Gooding Canal and north of the Big Wood River known as the North Gooding tract (Luke, 2015).

⁵ Idaho Department of Water Resources, *Wood River Basin Hydrologic and Hydrogeologic Relationships*, Prepared for the BWRGWMA Advisory Committee – IDWR Observations, March 17, 2021, 11 p.

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.

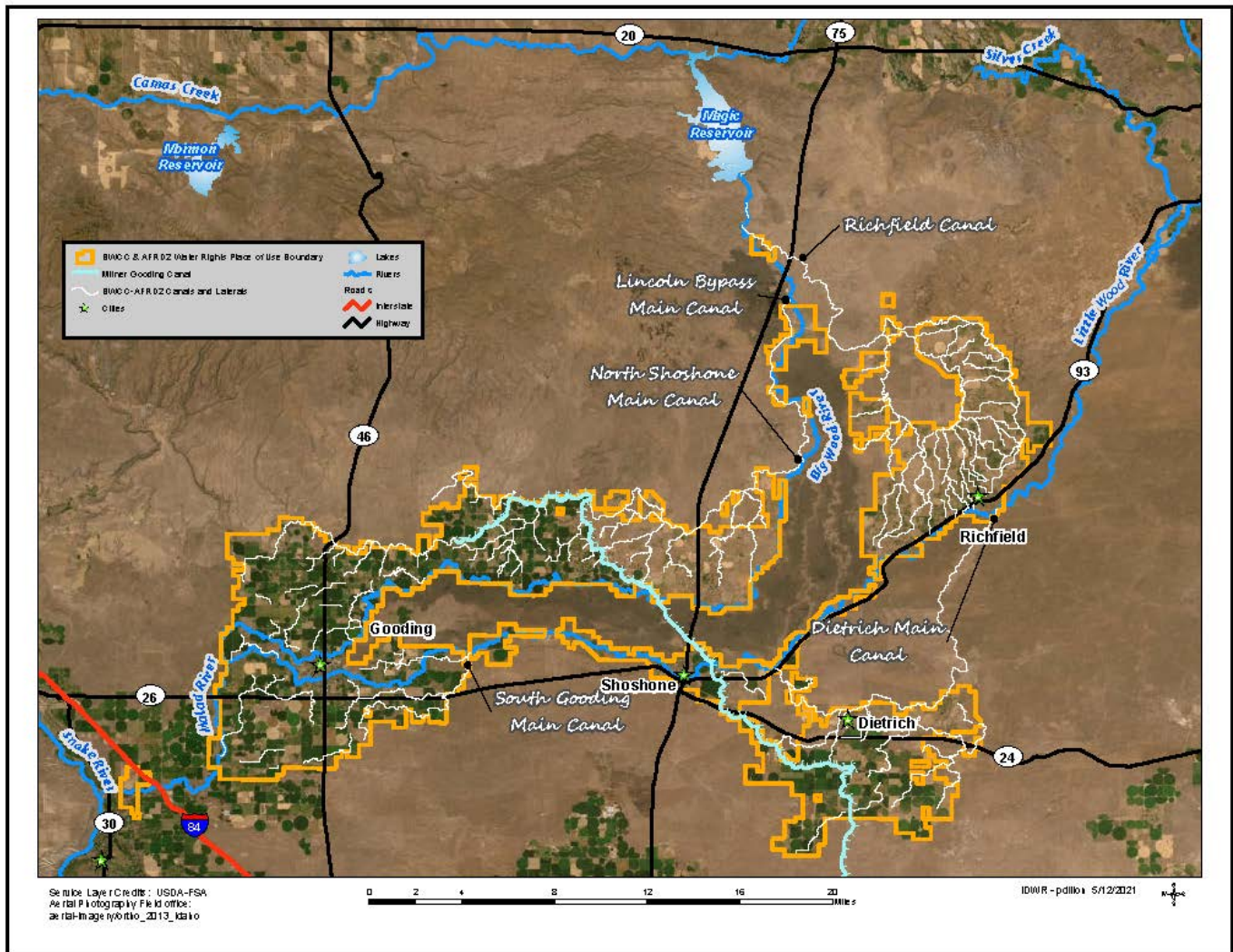


Figure 2. Big Wood R, Little Wood R & Silver Ck. with BWCC/ARFD2 Service Area

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-ARFD2 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.⁶ 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 21.⁷

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

⁶ Personal and email communication with Kevin Lakey, March 17, 2021.

⁷ 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,⁸ 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.

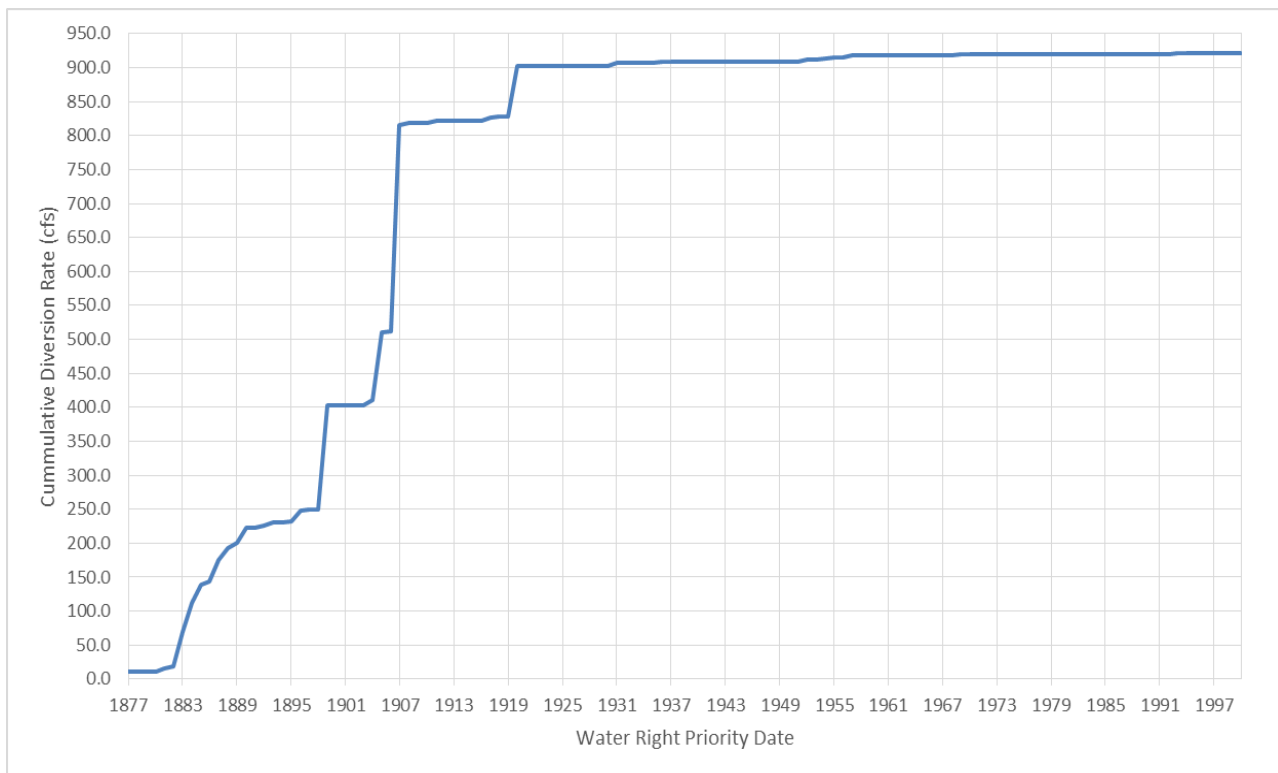


Figure 3. Cumulative water right diversion rates for irrigation uses from Little Wood River & Silver Creek

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.

⁸ 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.

Source	Cumulative Diversion Rate (cfs) All Rights	Cumulative Diversion Rate (cfs) Rts. Senior to 1900
Little Wood River	733.5	253.3
Silver Creek & tributaries	181.8	143.4
Total: L Wood + Silver Ck & tribs.	915.4	396.8

Table 1. Cumulative water right diversion rates for irrigation uses within the Little Wood River-Silver Creek system, WD37

Figure 4 shows the cumulative rate of diversion for irrigation water rights separately on Little Wood River and Silver Creek, with priorities senior to 1900. Note that the cumulative rate of diversion by priority is generally greater than the Little Wood River except for the period from 1884 through 1886, and from 1899 to 1900. The oldest or most senior priority rights, those through 1883, are located on Silver Creek or Silver Creek tributaries.

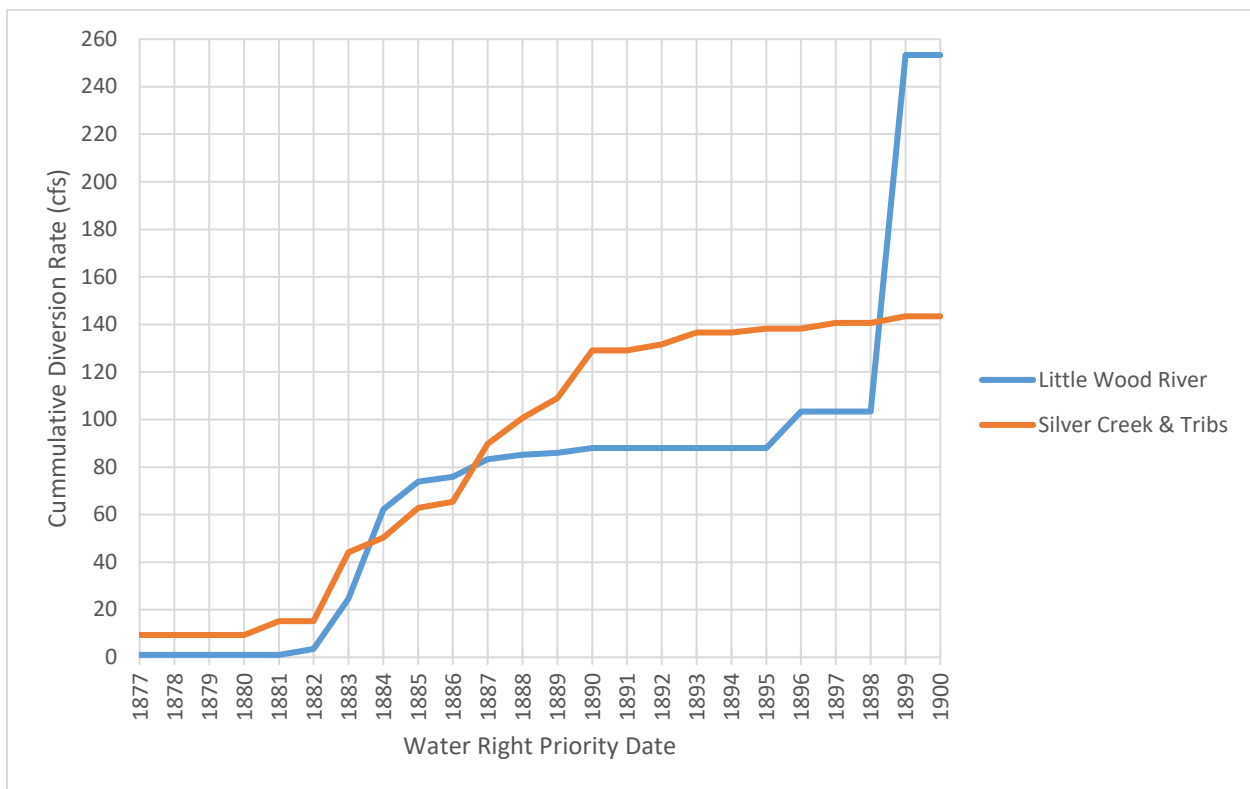


Figure 4. Figure 5. Cumulative water right diversion rates for irrigation uses from Little Wood River & Silver Creek, water rights with priority dates senior to 1900

Little Wood River Exchange Condition Water Rights

Thirty-eight (38) water rights from the Little Wood River have the BOR contract Exchange Condition described in items 3.2 and 8 of this memo. All 38 rights have points of diversion and places of use located below the Milner-Gooding Canal. These rights range in priority from 1877 through 1906 but most have 1883 or 1884 priority dates. Further information about the delivery and administration of these Little Wood River Exchange Condition rights is addressed in item 8 of this memo.

Little Wood River-Silver Creek Water Right Administration

WD37 administers water rights on the Little Wood River and Silver Creek as one system. An explanation of priority cut determinations on the Little Wood River and Silver Creek is given by WD37 Watermaster Kevin Lakey in his correspondence to IDWR dated June 16, 2015 in Luke (2015).

The watermaster's 2015 correspondence states that he bases his "priority cut date on flows at Station 54 at Shoshone." Station 54 is located on the river just upstream of the Milner-Gooding Canal. The watermaster notes that Station 54 accounts for return flows to the Little Wood from the Richfield tract. While the watermaster's 2015 explanations about priority cuts are unchanged, he has recently clarified that his cuts are also based on the list of water rights below Station 54.⁹ For example, if the watermaster determines there is 24 cfs of available natural flow in the Little Wood River at Station 54, he looks at his list of water rights on the Little Wood with points of diversion located below Station 54, sorted by priority; he then finds the priority date where the cumulative water right rates of diversion are equivalent to 24 cfs and sees that all water rights with priority dates through 5/15/1885 can be delivered. The next senior priority date on the list of rights below Station 54, 6/3/1884, is the priority date cut called by the watermaster. In this example, all water rights on both the Little Wood River and Silver Creek (including tributaries to Silver Creek) with a priority date of 6/3/1884 or junior are cut or shut off.

Variability in Water Right Priority Deliveries in WD37

The depth and duration of water right priority cuts within WD37 may vary considerably depending on annual water supply and runoff conditions.

The IDWR staff memorandum from Sean Vincent dated May 17, 2021 ("Vincent Memo"), describes the Surface Water Supply Index (SWSI) as a predictive indicator of surface water availability in a basin compared to historic supply. The NRCS publishes a table with 10-, 30-, 50-, 70-, and 90-percent exceedance forecasts for the coming season along with measured total annual water supply volumes for the previous 30 years which are ranked from highest to lowest.

The IDWR staff memorandum from Phil Blankenau dated May 17, 2021 describes selection of three years having above-median, near-median and below-median water supply conditions based in part on water supply volumes and rankings over the past 30 years for the Big Wood River

⁹ Lakey, Kevin, Watermaster, Water District 37. Personal communication. May 14, 2021.

above Hailey, 1991 – 2020. The three select years are representative of a good water supply year, a normal or average water supply year and a water short year. Table 2 summarizes the measured total annual runoff volumes, SWSI values and rankings for the three select years as reported by the NRCS.¹⁰

Year	Stream Flow Apr - Sep (KAF)	30-Year Rank (1991-2020)	SWSI	Annual Water Supply Comment
2011	321	10	1.5	Good water supply year
2016	236	15	0.1	Normal water supply year
2013	154	22	-1.7	Water-short year

Table 2. Select water years representing above average, average and below average water supply conditions, Big Wood River above Hailey

The three select years listed in Table 2 are similarly ranked for the Big Wood River below Magic Reservoir based on NRCS published SWSI data, with 2011, 2016 and 2013 ranked 9th, 14th and 27th respectively. In 2013, the approximate fill in Magic Reservoir was only about 54, 000 AF (54 KAF). Although 2013 was a low runoff year for Big Wood River below Magic Reservoir, reservoir contents may have been affected in part by repairs to the dam late in 2012.

Tables 3, 4 and 5 show WD37 water right priority cuts in 2011, 2013 and 2016 for the three river systems in which separate priority cut determinations are made.

Focusing attention on the Little Wood River and Silver Creek, the tables show that nearly all water rights were delivered through a majority of the irrigation season in 2011, a good water supply year. According to the WD37 2011 report, “only the extreme junior [priority] (1960) Little Wood decrees were cut.”

In the normal or average water supply year, 2016, rights senior to April 1, 1899 were deliverable from April 20 to June 16, at which point rights with priorities of April 1, 1887 and junior were cut. By mid to late July, 1884 priority rights were cut for the rest of the season.

In the water-short year, 2013, the season started with a cut to 1902 priority rights. Rights were then cut to an 1887 priority by June 11, and to the April 1, 1884 priority date by July 9. Three days later on July 12, the September 9, 1883 priority rights were cut, followed by cuts to the April 1886 priority rights from mid-August to late August and early September. The April 1, 1884 rights were not restored until late September.

In 2013, Magic Reservoir was shut off about July 1. As discussed in IDWR’s Hydrologic Observations (2021), reservoir shutoff is typically seen as an abrupt, sustained decrease in the flow rate at the below Magic Dam gage from more than 500 cfs to less than 10 cfs. Typical reservoir releases are about 800 to 900 cfs.

¹⁰ https://www.wcc.nrcs.usda.gov/ftpref/states/id/webftp/sws/tables/Apr/Big_Wood_above_Hailey_Apr.pdf

An early season shut off of Magic Reservoir can impact the natural flow and water right priority deliveries on the Little Wood River between Richfield and Shoshone due to lack of return flows from the Richfield tract. Moreover, storage deliveries from Magic are not injected to the Little Wood River near the Main Dietrich Canal via conveyance from the Jim Byrns Slough. As a result, occasional storage spills past the Main Dietrich Canal that benefits natural flow and senior priority rights are not available after the reservoir is shut off. As reported in the WD37 2011 report, “if Magic Reservoir is able to run a full season, the decrees on the Little Wood are upheld with return flows out of Richfield and Dietrich.”

In 2016, Magic Reservoir was shut off on approximately September 12, and in 2011, Magic Reservoir was shut off on approximately October 2.

Examples of water right priority cuts for two additional below average water years, 2020 (ranked 26 with a -2.8 SWSI and 121 KAF runoff) and 2004 (ranked 25 with a -2.6 SWSI and 136 KAF runoff), are given in Table 11 and discussed in Item 10 of this memo.

Water District 37 & 37M 2011 Priority Cuts				
BIG WOOD RIVER ABOVE MAGIC RESERVOIR				
WATER DISTRICT 37				
Date Priority Cut Made		Date of Priority Cut to and including:		Remarks
July 26, 2011		June 1, 1901		
August 29, 2011		May 10, 1887		
September 2, 2011		June 15, 1885		
September 7, 2011		July 10, 1884		
September 15, 2011		June 15, 1883		
BIG WOOD RIVER BELOW MAGIC RESERVOIR				
WATER DISTRICT 37				
Date Priority Cut Made		Date of Priority Cut to and including:		Remarks
August 4, 2011		April 1, 1906		
August 8, 2011		April 1, 1905		
August 15, 2011		April 27, 1896		
August 24, 2011		May 1, 1887		
SILVER CREEK & LITTLE WOOD RIVER				
WATER DISTRICT 37M				
Date Priority Cut Made		Date of Priority Cut to and including:		Remarks
August 11, 2011		May 6, 1960		
August 12, 2011		May 27, 1899		Cottonwood Decree

Table 3. WD37 priority cuts in above average water year: 2011

Water District 37 2016 Priority Cuts				
BIG WOOD RIVER ABOVE MAGIC RESERVOIR				
Date Priority Cut Made		Date of Priority Cut to and including:		Remarks
July 7, 2016		June 15, 1891		
July 12, 2016		May 1, 1886		
July 16, 2016		October 15, 1884		
July 19, 2016		June 30, 1884		
July 20, 2016		June 20, 1884		
July 25, 2016		May 15, 1884		
July 26, 2016		June 26, 1883		
July 29, 2016		June 15, 1883		
BIG WOOD RIVER BELOW MAGIC RESERVOIR				
Date Priority Cut Made		Date of Priority Cut to and including:		Remarks
June 30, 2016		April 1, 1906		
July 5, 2016		April 1, 1905		
July 13, 2016		June 15, 1890		
July 26, 2016		April 3, 1889		
SILVER CREEK & LITTLE WOOD RIVER				
Date Priority Cut Made		Date of Priority Cut to and including:		Remarks
March 31, 2016		Oct. 29, 1891		
April 20, 2016		April 1, 1899		Reinstate & Senior
May 24, 2016				Reinstate all Decrees
June 16, 2016		April 1, 1887		
June 30, 2016		April 1, 1886		
July 7, 2016		May 27, 1899		Cottonwood Decree
July 18, 2016		May 15, 1884		
July 26, 2016		April 1, 1884		

Table 4. WD37 priority cuts in average water year: 2016

Water District 37 & 37M 2013 Priority Cuts			
BIG WOOD RIVER ABOVE MAGIC RESERVOIR			
WATER DISTRICT 37			
Date Priority Cut Made	Date of Priority Cut to and including:		Remarks
April 23, 2013	June 1, 1901		
May 1, 2013	June 1, 1901 & Junior		Reinstate
July 8, 2013	September 18, 1885		
July 9, 2013	October 15, 1884		Cut 50%
July 10, 2013	July 10, 1884		
July 11, 2013	June 15, 1883		
July 19, 2013	April 17, 1883		
July 23, 2013	March 24, 1883		Cut 50%
August 2, 2013	March 24, 1883		Cut 100%
August 6, 2013	December 19, 1882		
August 8, 2013	August 1, 1882		
August 19, 2013	May 15, 1882		
August 26, 2013	July 31, 1881		
August 30, 2013	July 1, 1881		
September 4, 2013	August 1, 1882		Reinstate
BIG WOOD RIVER BELOW MAGIC RESERVOIR			
WATER DISTRICT 37			
Date Priority Cut Made	Date of Priority Cut to and including:		Remarks
April 26, 2013	July 1, 1889		
April 30, 2013	May 10, 1897		Reinstate
May 13, 2013	All Decrees		Reinstate
June 24, 2013	May 1, 1897		
June 28, 2013	All Decrees		Magic Off
September 6, 2013	April 15, 1887		Reinstate
SILVER CREEK & LITTLE WOOD RIVER			
WATER DISTRICT 37M			
Date Priority Cut Made	Date of Priority Cut to and including:		Remarks
April 30, 2013	August 2, 1902		
June 11, 2013	June 15, 1887		
June 25, 2013	May 27, 1899		Cottonwood Decree
July 9, 2013	April 1, 1884		
July 12, 2013	September 1, 1883		
August 14, 2013	April 6, 1883		
August 19, 2013	April 1, 1883		
August 27, 2013	April 1, 1883		Reinstate 50%
September 6, 2013	April 6, 1883		Reinstate
September 10, 2013	September 1, 1883		Reinstate 30%
September 18, 2013	September 1, 1883		Reinstate 60%
September 24, 2013	September 1, 1883		Reinstate 85%
September 26, 2013	April 1, 1884		Reinstate 100 %

Table 5. WD37 priority cuts in below average water year: 2013

8. Water Right Exchange Condition

The water right Exchange Condition is generally described in item 3.2 of this memo and in further detail by Luke (2015). The Exchange Condition is also explained in a recent IDWR memorandum to WD37 watermaster Kevin Lakey (Luke, 2021).¹¹ See Attachment B. Please refer to these memorandums for more detailed explanations of the condition.

As reported in Luke (2021), Snake River water from the Milner-Gooding Canal is delivered by AFRD2 to the Exchange Condition river rights, and water from the Big and Little Wood Rivers that would be delivered to the Exchange Condition river rights but for the delivery of Snake River water is instead delivered to water rights and lands located above the Milner-Gooding Canal.

In accordance with the Exchange Condition, the WD37 watermaster has been instructed to withhold the physical delivery or conveyance of the natural flow from the Little Wood or Big Wood Rivers below the Milner-Gooding Canal to benefit the Exchange Condition water rights, and deliver any natural flow from the rivers available to fill the Exchange Condition rights to BWCC's diversions located above the Milner-Gooding Canal. In the event BWCC has no demand or need for water above the Milner-Gooding Canal that is deliverable by priority to the Exchange Condition water rights, the water shall then be distributed to the next available rights in priority either above or below the Milner-Gooding Canal on the Big Wood River, and the Little Wood River and Silver Creek.

Based on recent communication with AFRD2 representatives and the WD37 watermaster,¹² as well as past correspondence from the WD37 watermaster attached to Luke (2015), IDWR understands that most or all of the Exchange Condition water right places of use have a supplemental supply of water from the Snake River delivered by AFRD2 via the Milner-Gooding Canal. The watermaster has explained that when a river right place of use has AFRD2 supplemental water and the river right is cut by priority, the supplemental water replaces the river right after the right is cut (Lakey correspondence, June 16, 2015, in Luke, 2015).

IDWR staff finds there may be some lack of clarity or understanding among water users and the water delivery entities regarding the delivery of Exchange Condition rights and the extent of AFRD2 supplemental water delivered to the lands covered by such rights. Unless additional information is furnished regarding available water supplies for lands with Exchange Condition water rights, IDWR assumes such lands have a full supply of water in 2021 and most other

¹¹ Luke, T., 2021, *Delivery of Water Rights in Water District 37 from the Big Wood and Little Wood Rivers having the BOR-AFRD2-BWCC Exchange Condition*. Idaho Department of Water Resources, April 27, 2021.

¹² Personal communication with Craig Hobdey, AFRD2 attorney (retired), and Kevin Lakey, WD 37 Watermaster, at meeting of AFRD2, BWCC and BWRGWMA Advisory Committee representatives, March 31, 2021, Shoshone, ID (participation via Zoom conference call).

years.¹³ Therefore, IDWR assumes that the Exchange Condition rights are not injured from depletion of river flows caused by groundwater pumping.

9. Identification of Irrigated Lands Potentially Injured by Groundwater Pumping

This section describes technical information relevant to IDWR analysis to identify lands irrigated from the Little Wood River and Silver Creek that could be injured by depletions caused by groundwater pumping within the 2021 irrigation season. Lands identified for potential injury were further analyzed by IDWR staff using an evapotranspiration (ET) model as further described in a separate staff memorandum.

Water Right Data

Water Right spatial data, including GIS feature layers representing Points of Diversion (POD) and Places of Use (POU), are available through IDWR's GIS Data and Mapping Hub.¹⁴ Irrigation water right POD's with sources from the Little Wood River, Silver Creek, and Silver Creek tributaries within Water District 37 were selected using IDWR's water rights GIS and database information search tools.

A water right POU from one source may have overlapping water rights from other sources. Many irrigated areas within WD37 have overlapping groundwater and surface water right POUs (Figure 1).

Upon selection of all water rights from the described surface water sources in WD37, IDWR staff then excluded water rights having the following features or attributes:

- water rights having a source described as “drain” or “wastewater” because the source may be dependent on other water sources or irrigation practices, or may be unreliable;
- water rights owned by the BWCC and AFRD2 since lands may receive water from other sources;
- water rights having the Exchange Condition described in items 3 and 8 of this memo; many or most of those water right POUs may have an adequate supply of water; and
- all water rights that have an overlapping POU from a groundwater source.

IDWR staff added water rights 37-351B and 37-352B to the resulting water rights list. These rights list “groundwater” as the authorized source of water but include conditions limiting the use of water to times when water is deliverable from Silver Creek under the rights' priority dates.

The resulting list of water rights are listed in Attachment A of this memo. The water right POU locations are displayed in Figure 6. The list of water rights and associated POU GIS shape files were made available to IDWR staff as input to the ET model as discussed in the IDWR staff memorandum from Phil Blankenau dated May 17, 2021.

¹³ According to Water District 01 records, AFRD#2 has had a full (100%) storage allocation in 29 of the previous 30 years, IDWR (2021).

¹⁴ IDWRs GIS data and Mapping Hub, <https://data-idwr.opendata.arcgis.com/>.

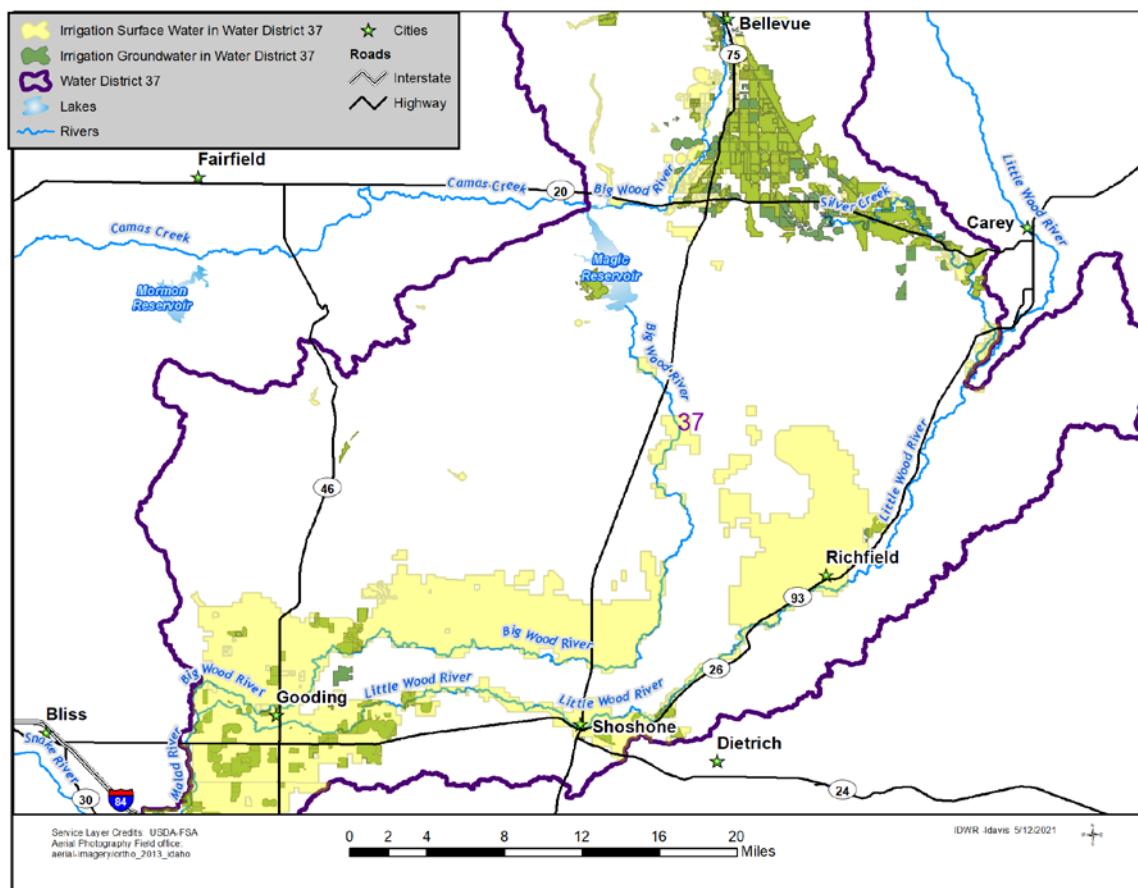


Figure 5. Water right irrigation POU's from both groundwater and surface water sources in WD37

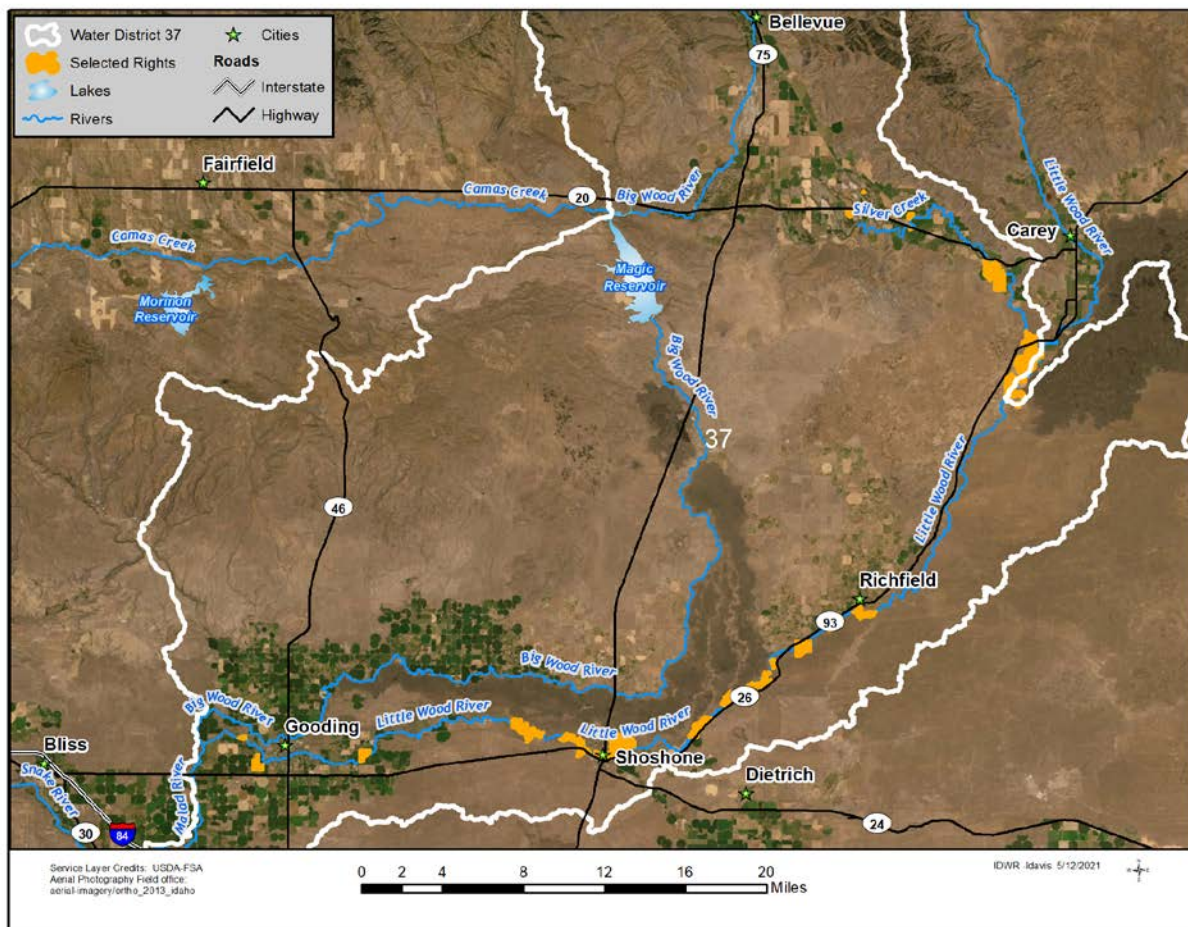


Figure 6. Selected Water Right POUs from Silver Creek, Silver Creek Tributaries, and the Little Wood River

10. Analysis of Possible Injury

The following analysis of possible injury is limited to water rights on the Little Wood River and Silver Creek.

A. Comparison of Little Wood River and Silver Creek Water Right Priorities: 2021 vs. Pre-Groundwater Development

Water right priority date deliveries on the Little Wood River and Silver Creek are published in annual water district reports. Reports are available for most years from 1919 through 2020.¹⁵ Annual reports are missing for some early years between 1919 and 1934. Some available reports from these early years do not include summaries of water right priority deliveries or cuts.

As discussed in the IDWR staff memorandum from Jennifer Sukow dated May 17, 2021 (“Sukow Memo”), groundwater development within the Wood River Valley “increased steadily between the late 1940s and 1991.” The pre-groundwater development period for which water right delivery records are available for the Little Wood River and Silver Creek is limited to 1919 through the mid-1940s.

As described in the IDWR staff memorandum from Sean Vincent dated May 17, 2021 (“Vincent Memo”), “the SWSI for the Big Wood River above Hailey is a better choice for predicting the available supply for surface water users in the Wood River Valley as well as downstream users that don’t have access to Magic Reservoir but instead divert from Silver Creek or the Little Wood River. The 2021 April SWSI [50% chance exceedance forecast] for the Big Wood River above Hailey was -2.7 with a predicted April through September runoff volume of 127 KAF.”

The 2021 predicted April SWSI value of -2.7 published by the NRCS is based on a SWSI analysis period from 1981 to present. Upon request by IDWR, the NRCS completed an expanded SWSI analysis at the Big Wood River above Hailey for the 104-year historical period of record, 1917 through 2020. The 2021 April SWSI 50% chance exceedance value for the historical period of record is -3.1 and among the lowest ranked SWSI values for the 104-year period. Other years with the same -3.1 April SWSI value include 1988 and 1961, ranked respectively at 91 and 92. The next two closest years are 1939 (-3.0 SWSI) and 1937 (-3.2 SWSI), ranked respectively at 90 and 93. Both 1939 and 1937 are in the pre-groundwater development period for which water right priority delivery records are available. The next two closest years from the pre-groundwater development period are 1929 and 1926 (-3.5 SWSI, and runoff of 116 KAF and 114 KAF respectively), but annual water district reports are not available for those years.

Table 6 shows the 2021 April SWSI 50% chance exceedance value compared to similar years from the pre-groundwater development period for the Big Wood River above Hailey.

¹⁵ The annual reports are titled “Water Distribution and Hydrometric Works.” Silver Creek and the Little Wood River below Silver Creek was originally designated as Water District 11-AB. In 1971, Water District 11-AB was renumbered as Water District 37-M. Effective 2014, Water District 37-M was combined with Water District 37, Big Wood River and tributaries excluding Camas Creek and tributaries.

Year	SWSI 1917-2020	Stream Flow Apr-Sep (KAF)	SWSI Rank	Most Sr. Water Rt. Priority Filled	Comment
1939	-3.0	131	90	7/8/1884	7/8/1884 priority filled all season
2021	-3.1	127			
1937	-3.2	123	93	4/1/1884	4/1/1884 priority filled all season
1929	-3.5	116	96	NA	Delivery records not available
1926	-3.5	114	97	NA	Delivery records not available

Table 6. 2021 Predicted SWSI and comparable years from pre-groundwater development period for Big Wood River above Hailey.

1939 Water Right Priority Deliveries

In 1939, all water rights bearing a priority date of 4/1/1884 and senior on the Little Wood River and Silver Creek system were filled throughout the irrigation season. The next junior priorities, 6/3/1884 through 7/17/1884, were cut for two days from May 10 to May 12. The next junior water right priority date on the system is 4/1/1885, which was cut or partially cut for a total of 26 days including 10 days during mid to late May, and 16 days from August 20 to September 5.

In 1939, Magic Reservoir filled to capacity on approximately April 9.¹⁶

1937 Water Right Priority Deliveries

In 1937, all water rights bearing a priority date of 5/5/1884 and senior on the Little Wood River and Silver Creek system were filled throughout the irrigation season. The next junior priority, 5/15/1884, was cut for six days from May 22 to May 28. The next junior priority, 6/3/1884, was cut for seven days from July 30 to August 6. The next junior priority, 7/8/1884, was cut for a total of 22 days, from May 28 to June 11 (14 days), and again from July 30 to August 6 (8 days).

Magic Reservoir did not fill to capacity in 1937; maximum reservoir fill reached about 172 KAF on about May 18, 1937. The 1937 fill included 92,000 acre-feet of carryover at the close of the 1936 irrigation season.¹⁷

The 1939 and 1937 water right priority cut tables are included in Table 11 of this memo.

Analysis of Watermaster Records for 2021 Analog Years

As noted in the Vincent Memo, the potential analog years for the Wood River Valley, based on review of SWSI data for the period 1991 to 2020, are 2004 (-2.6 SWSI) and 2020 (- 2.8 SWSI). For the full period of record 1917 to 2020, the years with the most similar total supplies to the 50% exceedance forecast for 2021 are 1988 and 1961 (SWSI = -3.1). The years 2020 and 2004 are selected as the most analogous years to 2021 for predicting water right priority cuts on the Little Wood and Silver Creek system because they are more recent and should be more

¹⁶https://waterdata.usgs.gov/id/nwis/dv?cb_00054=on&format=html&site_no=13142000&referred_module=sw&period=&begin_date=1938-10-01&end_date=1939-10-01

¹⁷ WD 37 and 11, 1937 *Water Distribution and Hydrometric Work, Big Rivers and Little Wood Rivers*.

representative of groundwater pumping in 2021. The 2020 and 2004 water right priority cut tables are included in Table 11 of this memo.

2020 Water Right Priority Deliveries

In 2020, all water rights bearing a priority date of 4/1/1883 and senior on the Little Wood River and Silver Creek system were filled throughout the irrigation season.¹⁸ The next junior priority dates, 4/6/1883 through 4/1/1884, were cut from early to mid-September to the end of the irrigation season. The 5/1/1884 priority rights were cut on July 22 through the end of the season.

2004 Water Right Priority Deliveries

In 2004, all water rights bearing a priority date of 9/1/1883 and senior on the Little Wood River and Silver Creek system were filled throughout the irrigation season. The next junior priority date, 4/1/1884, was cut from September 4 through the end of the season.

In 2004, Magic Reservoir filled to only 77 KAF on about May 1; the reservoir was shut off on approximately July 1.

Comparison of Water Right Priority Cuts: 1939 and 1937 vs. 2020 and 2004

Comparison of the 2020 and 2004 water right priority cuts with the 1939 and 1937 water right priority cuts generally indicates that the 1884 priority rights were cut more frequently and longer in 2020/2004 than 1939/1937.

Tables 7 through 10 compare the 2020 and 2004 water right priority cuts with the water right priority cuts in 1939 and 1937. Specifically, the tables compare the number of days the different priorities were cut between the more recent years and the older years. For example, in 2004, the 4/1/1885 priority right was cut, or off, a total of 69 days from July 22 through the end of the season. In comparison, the 4/1/1885 priority right was off a total of 25 days in 1939. The difference between the number of days off (44 days in this example), is multiplied by the 4/1/1885 priority water rights cumulative diversion rate to calculate a total net volume of water cut between the two years. Totals are given in cubic feet per second (“cfs”) and acre-feet (“AF”). The net volume represents the additional amount of water cut under the 4/1/1885 priority in 2004 versus 1939. This example is repeated for each priority cut in 2020 versus 1939 and 1937, and each priority cut in 2004 versus 1939 and 1937.

As shown in the tables, the total net curtailment volume in 2020 versus 1939 and 1937 is 5,312 AF and 4,225 AF respectively. The total net curtailment volume in 2004 versus 1939 and 1937 is 3,416 and 2,269 AF respectively. Note that the 1937 net curtailment volume is lower primarily because cuts to the 4/1/1885 priority in 1937 were greater than both 1939 and 2004 (the 4/1/1885 priority was cut a total of 86 days in 1937 compared to 69 days in 2004).

¹⁸ The 2020 WD37 annual report shows the 4/1/1883 priority was cut on 9/24/2020. Per communications with the WD37 watermaster and local water users, the typical irrigation shut off date in WD37 is about September 25. IDWR therefore removed the 4/1/1883 priority date curtailment on 9/24/2020, and assumed the priority was delivered through the year.

The analysis summarized in Tables 7 through 10 uses an irrigation season from May 1 through September 25. The September 25 end date is representative of the normal irrigation shut off date in WD37.

Priority Date Cut in 2020	Date First Cut in 2020	Priority Cut in 1939?	Number of Days Off in 1939	Number of Days Off in 2020	Difference in No. Days Off (2020 - 1939)	Priority Right Cumulative Diversion Rate (cfs)	Net Cut Total 24 hr-cfs	Net Cut Volume (Acre Ft.)
4/1/1885	7/13/2020	Cut 5/10-12, 5/17-24, 8/20-9/5	25	66	41	10.1	413.3	819.7
7/17/1884	7/22/2020	Cut 5/10 -5/12	2	66	64	1.4	89.6	177.7
7/8/1884	7/22/2020	Cut 5/10 -5/12	2	66	64	2.4	153.6	304.7
6/3/1884	7/22/2020	Cut 5/10 -5/12	2	66	64	4.0	256.0	507.8
5/15/1884	7/22/2020	No - on all season	0	66	66	6.5	429.0	850.9
5/5/1884	7/22/2020	No - on all season	0	66	66	6.2	409.2	811.6
5/1/1884	7/22/2020	No - on all season	0	66	66	1.9	125.4	248.7
4/30/1884	9/9/2020	No - on all season	0	16	16	5.0	80.0	158.7
4/15/1884	9/9/2020	No - on all season	0	16	16	1.8	28.8	57.1
4/1/1884	9/9/2020	No - on all season	0	16	16	14.6	233.6	463.3
9/1/1883	9/10/2020	No - on all season	0	15	15	20.0	300.0	595.1
6/14/1883	9/10/2020	No - on all season	0	15	15	6.6	99.0	196.4
4/6/1883	9/17/2020	No - on all season	0	8	8	7.6	60.4	119.8
							2,677.9	5,311.6

Table 7. Water Right Priority Cut Comparison: 2020 vs. 1939

Priority Date Cut in 2004	Date First Cut in 2004	Priority Cut in 1939?	Number of Days Off in 1939	Number of Days Off in 2004	Difference in No. Days Off (2004 - 1939)	Priority Right Cumulative Diversion Rate (cfs)	Net Cut Total 24 hr-cfs	Net Cut Volume (Acre Ft.)
4/1/1885	7/19/2004	Cut 5/10-12, 5/17-24, 8/20-9/5	25	69	44	10.1	443.5	879.7
7/17/1884	7/19/2004	Cut 5/10 -5/12	2	69	67	1.4	93.8	186.1
7/8/1884	7/19/2004	Cut 5/10 -5/12	2	69	67	2.4	160.8	318.9
6/3/1884	7/19/2004	Cut 5/10 -5/12	2	69	67	4.0	268.0	531.6
5/15/1884	9/4/2004	No - on all season	0	21	21	6.5	136.5	270.7
5/5/1884	9/4/2004	No - on all season	0	21	21	6.2	130.2	258.3
5/1/1884	9/4/2004	No - on all season	0	21	21	1.9	39.9	79.1
4/30/1884	9/4/2004	No - on all season	0	21	21	5.0	105.0	208.3
4/15/1884	9/4/2004	No - on all season	0	21	21	1.8	37.8	75.0
4/1/1884	9/4/2004	No - on all season	0	21	21	14.6	306.6	608.1
							1,722.1	3,415.8

Table 8. Water Right Priority Cut Comparison: 2004 vs. 1939

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Priority Date Cut in 2020	Date First Cut in 2020	Priority Cut in 1937?	Number of Days Off in 1937	Number of Days Off in 2020	Difference in No. Days Off (2020 - 1937)	Priority Right Cumulative Diversion Rate (cfs)	Net Cut Total 24 hr-cfs	Net Cut Volume (Acre Ft.)
7/17/1884	7/22/2020	Cut 5/22 - 28; 7/30 - 8/6; 8/23 - 8/30	20	66	46	1.4	64.4	127.7
7/8/1884	7/22/2020	Cut 5/22 - 5/28; 7/30 - 8/6;	13	66	53	2.4	127.2	252.3
6/3/1884	7/22/2020	Cut 5/22-5/28; 7/30 - 8/6	13	66	53	4.0	212.0	420.5
5/15/1884	7/22/2020	Cut 5/22 - 5/28	6	66	60	6.5	390.0	773.6
5/5/1884	7/22/2020	No - on all season	0	66	66	6.2	409.2	811.6
5/1/1884	7/22/2020	No - on all season	0	66	66	1.9	125.4	248.7
4/30/1884	9/9/2020	No - on all season	0	16	16	5.0	80.0	158.7
4/15/1884	9/9/2020	No - on all season	0	16	16	1.8	28.8	57.1
4/1/1884	9/9/2020	No - on all season	0	16	16	14.6	233.6	463.3
9/1/1883	9/10/2020	No - on all season	0	15	15	20.0	300.0	595.1
6/14/1883	9/10/2020	No - on all season	0	15	15	6.6	99.0	196.4
4/6/1883	9/17/2020	No - on all season	0	8	8	7.6	60.4	119.8
							2,130.0	4,224.9

Table 9. Water Right Priority Cut Comparison: 2020 vs. 1937

Priority Date Cut in 2004	Date First Cut in 2004	Priority Cut in 1937?	Number of Days Off in 1937	Number of Days Off in 2004	Difference in No. Days Off (2004 - 1937)	Priority Right Cumulative Diversion Rate (cfs)	Net Cut Total 24 hr-cfs	Net Cut Volume (Acre Ft.)
7/17/1884	7/19/2004	Cut 5/22 - 28; 7/30 - 8/6; 8/23 - 8/30	20	69	49	1.4	68.6	136.1
7/8/1884	7/19/2004	Cut 5/22 - 5/28; 7/30 - 8/6;	13	69	56	2.4	134.4	266.6
6/3/1884	7/19/2004	Cut 5/22-5/28; 7/30 - 8/6	13	69	56	4.0	224.0	444.3
5/15/1884	9/4/2004	Cut 5/22 - 5/28	6	21	15	6.5	97.5	193.4
5/5/1884	9/4/2004	No - on all season	0	21	21	6.2	130.2	258.3
5/1/1884	9/4/2004	No - on all season	0	21	21	1.9	39.9	79.1
4/30/1884	9/4/2004	No - on all season	0	21	21	5.0	105.0	208.3
4/15/1884	9/4/2004	No - on all season	0	21	21	1.8	37.8	75.0
4/1/1884	9/4/2004	No - on all season	0	21	21	14.6	306.6	608.1
							1,144.0	2,269.1

Table 10. Water Right Priority Cut Comparison: 2004 vs. 1937

Table 11. WD 37 Water Right Priority Cut Tables for Little Wood River and Silver Creek, 2020, 2004, 1939 and 1937

Year: 2020

SILVER CREEK & LITTLE WOOD RIVER				
Date Priority Cut Made		Date of Priority Cut to and including:		Remarks
April 26, 2020		May 27, 1899		Cottonwood Decree
May 13, 2020		May 27, 1899		Reinstate - Dam washed out
June 3, 2020		April 1, 1905		
June 11, 2020		All Decrees		All rights reinstated
June 16, 2020		May 27, 1899		Cottonwood Decree
June 22, 2020		June 1, 1887		
July 13, 2020		May 31, 1885		
July 22, 2020		May 1, 1884		
September 9, 2020		April 1, 1884		
September 10, 2020		June 14, 1883		
September 17, 2020		April 6, 1883		
September 24, 2020		April 1, 1883		
October 6, 2020		April 6, 1883		33% reinstate

Year: 2004

SILVER CREEK & LITTLE WOOD RIVER				
WATER DISTRICT 37M				
Date of Priority		Date Priority Cut Made		Remarks
Cottonwood Rights		May 24, 2004		
October 25, 1892		June 18, 2004		
June 1, 1889		July 6, 2004		
April 1, 1886		July 12, 2004		
June 3, 1884		July 19, 2004		
April 1, 1884		September 4, 2004		

Year: 1939

Water District 11-AB			
Priority	When Expired	Again Supplied	Remarks
April 1, 1886	May 4th		
April 15, 1885	May 7th		
June 3, 1884	May 10th		
April 1, 1885		May 12th	50% Good
April 1, 1885		May 14th	100% Good
April 1, 1885	May 17th		
April 1, 1885		May 24th	
May 31, 1885		June 8th	
June 1, 1886		June 20th	
Nov. 1, 1889		July 10th	
April 1, 1888	July 12th		
June 1, 1887	July 14th		
June 1, 1886	July 16th		
Nov. 1, 1885	July 18th		
May 31, 1885	July 24th		
May 15, 1885	Aug. 5th		
Apr. 15, 1885	Aug. 7th		
April 1, 1885	Aug. 20th	Sept. 5th	

Year: 1937

Water District No. 11-AB			
Priority	When Expired	Again Supplied	Remarks
June 1, 1885	May 14th		
April 1, 1885	May 15th		
May 15, 1884	May 22nd	May 28th	
July 8, 1884		May 28th	
April 1, 1885		June 11th	
April 1, 1885	June 15th	June 19th	
April 15, 1885		June 19th	
April 1, 1885	June 25th		
April 1, 1885		June 29th	50% good
May 31, 1885		July 1st	
June 15th, 1885		July 9th	
April 1, 1885	July 20th		50% good
April 1, 1885	July 23rd		
June 3, 1884	July 30th		
July 17, 1884		August 6th	
July 17, 1884	August 23rd		
July 17, 1884		August 30th	
April 15, 1885		September 12th	
May 15, 1886		September 16th	
June 15, 1886		September 26th	

ATTACHMENT A

List of Water Rights with Places of Use for ET Model Analysis

Owner	Source	WaterRight	SplitSuffix	PriorityDate	DecreedDate	OverallMax	Uses
SCHOEN, LAWRENCE	GROUND WATER	37-352B	B	6/15/1887	9/24/2010	0	IRRIGATION
SCHOEN, LAWRENCE	GROUND WATER	37-351B	B	6/1/1886	9/24/2010	0	IRRIGATION
ALTON & PAULA HUYSER TRUST	LITTLE WOOD RIVER	37-10561A	A	18840505	9/21/2006	4	IRRIGATION
ALTON & PAULA HUYSER TRUST	LITTLE WOOD RIVER	37-10561B	B	18840505	9/21/2006	2.2	IRRIGATION
MATHENEY, JOE; MATHENEY, MELISSA	LITTLE WOOD RIVER	37-1125		5/20/1908	9/29/2006	3.2	IRRIGATION
LEGG, CARL; LEGG, SUSAN DIANE	LITTLE WOOD RIVER	37-1126		4/8/1908	12/11/2007	0.8	IRRIGATION
UNITED STATES OF AMERICA ACTING THROUGH	LITTLE WOOD RIVER	37-14264		4/6/1906	9/21/2006	5.5	IRRIGATION
LARSON, JOHN A; LARSON, SHELLY	LITTLE WOOD RIVER	37-177D	D	18830401	9/29/2006	0.2	IRRIGATION, STOCKWATER
BENCK JR, GERHARDT J; BURGESS-BENCK , LA VON M	LITTLE WOOD RIVER	37-177H	H	18830401	9/29/2006	0.04	IRRIGATION
UHRIG, JOHN T; UHRIG, LENNIE L	LITTLE WOOD RIVER	37-177J	J	18830401	9/29/2006	0.3	IRRIGATION
HALLER, ALEXIA; HALLER, ROD	LITTLE WOOD RIVER	37-177K	K	18830401	9/29/2006	0.16	IRRIGATION
ACHTENBERG, FERN V	LITTLE WOOD RIVER	37-177L	L	18830401	9/29/2006	0.04	IRRIGATION
MAGIC VALLEY GROWERS LTD	LITTLE WOOD RIVER	37-2043A	A	5/10/1906	9/29/2006	1.25	IRRIGATION
NEWELL, CHARLES E	LITTLE WOOD RIVER	37-21135		4/15/1985	3/12/2007	0.78	IRRIGATION
LRM LLC	LITTLE WOOD RIVER	37-21164		18840415	9/21/2006	1.58	IRRIGATION
ONEIDA, MICHAEL PETE	LITTLE WOOD RIVER	37-21165		18840415	9/21/2006	0.22	IRRIGATION
LRM LLC	LITTLE WOOD RIVER	37-21166		18840501	9/21/2006	1.67	IRRIGATION
ONEIDA, MICHAEL PETE	LITTLE WOOD RIVER	37-21167		18840501	9/21/2006	0.23	IRRIGATION
LRM LLC	LITTLE WOOD RIVER	37-21168		18830401	9/21/2006	0.49	IRRIGATION
ONEIDA, MICHAEL PETE	LITTLE WOOD RIVER	37-21169		18830401	9/21/2006	0.07	IRRIGATION
LRM LLC	LITTLE WOOD RIVER	37-21170		18850401	9/21/2006	0.144	IRRIGATION
ONEIDA, MICHAEL PETE	LITTLE WOOD RIVER	37-21171		18850401	9/21/2006	0.02	IRRIGATION
LUTHER, MARGARET A; LUTHER, MARTIN H	LITTLE WOOD RIVER	37-21656		3/4/1907	9/28/2006	0.2	IRRIGATION
LUTHER, CHARLES M	LITTLE WOOD RIVER	37-21660		3/4/1907	9/28/2006	0.92	IRRIGATION
LUTHER, CARTER V	LITTLE WOOD RIVER	37-21661		3/4/1907	9/28/2006	0.12	IRRIGATION
TS RANCH LLC	LITTLE WOOD RIVER	37-21838		18880615	4/30/2007	1.56	IRRIGATION, STOCKWATER
UNITED STATES OF AMERICA ACTING THROUGH	LITTLE WOOD RIVER	37-21839		18880615	4/30/2007	0.44	IRRIGATION, STOCKWATER
LARSON, JOHN A; LARSON, SHELLY	LITTLE WOOD RIVER	37-2242		7/15/1912	9/29/2006	0.47	IRRIGATION
NAYLOR, JAMIE; NAYLOR, WILLIAM	LITTLE WOOD RIVER	37-2634A	A	5/6/1960	9/29/2006	0.38	IRRIGATION
7 MILE RANCH LLC	LITTLE WOOD RIVER	37-321		18840430	12/11/2007	3	IRRIGATION
BARBARA FARMS LLC	LITTLE WOOD RIVER	37-344A	A	18830406	4/30/2007	4	IRRIGATION
NEWELL, CHARLES E	LITTLE WOOD RIVER	37-432		18850415	3/12/2007	2.6	IRRIGATION
MATHENEY, JOE; MATHENEY, MELISSA	LITTLE WOOD RIVER	37-471		18840430	9/29/2006	2	IRRIGATION
HUBSMITH, KAYSI SHARON; HUBSMITH, RODNEY FRED	LITTLE WOOD RIVER	37-472		18840401	9/29/2006	1.2	IRRIGATION
KOOSH INC	LITTLE WOOD RIVER	37-485		18830401	9/29/2006	1.1	IRRIGATION
RITTER, JAMES B; RITTER, LINDA	LITTLE WOOD RIVER	37-49		18830401	9/29/2006	4.2	IRRIGATION
CITY OF SHOSHONE	LITTLE WOOD RIVER	37-560A	A	18821128	9/29/2006	0.4	IRRIGATION
CITY OF SHOSHONE	LITTLE WOOD RIVER	37-560B	B	18821128	9/29/2006	0.14	IRRIGATION
CITY OF SHOSHONE	LITTLE WOOD RIVER	37-606C	C	18821128	9/29/2006	1	IRRIGATION
REGALADO, ANA L; REGALADO, HUGO	LITTLE WOOD RIVER	37-606D	D	18821128	4/30/2007	0.04	IRRIGATION
LINCOLN COUNTY CEMETERY MAINT DISTRICT	LITTLE WOOD RIVER	37-606E	E	18821128	9/29/2006	0.16	IRRIGATION
ROSE, KENNETH O; ROSE, MARY D	LITTLE WOOD RIVER	37-691B	B	18850401	9/29/2006	0.24	IRRIGATION
HAYS II, EDGAR W	LITTLE WOOD RIVER	37-691E	E	18850401	9/29/2006	0.04	IRRIGATION
CITY OF SHOSHONE	LITTLE WOOD RIVER	37-691G	G	18850401	9/29/2006	1.136	IRRIGATION
BARBARA FARMS LLC	LITTLE WOOD RIVER	37-973		18840401	4/30/2007	2	IRRIGATION
BUICH 1995 FAMILY TRUST	SILVER CREEK	37-1223		18770329	8/30/2011	1.6	IRRIGATION, STOCKWATER
HOFSTETTER RANCH LLC	SILVER CREEK	37-1224A	A	18770329	12/5/2011	0.651	IRRIGATION, STOCKWATER
THE FOSTER FAMILY TRUST	SILVER CREEK	37-1224C	C	12/28/1932	8/5/2010	0.2	IRRIGATION
J R SIMPLOT CO	SILVER CREEK	37-141		18851101	12/1/2010	0.2	IRRIGATION
J R SIMPLOT CO	SILVER CREEK	37-142		18870901	12/1/2010	0.4	IRRIGATION
J R SIMPLOT CO	SILVER CREEK	37-143		18880401	12/1/2010	0.4	IRRIGATION
BLACKBURN FAMILY IRREVOCABLE TRUST A	SILVER CREEK	37-20835		18830614	9/21/2006	3.3	IRRIGATION
WILLIAMS MARKELL PROPERTIES LLLP	SILVER CREEK	37-21180		18770329	5/3/2011	0.173	IRRIGATION
WILLIAMS MARKELL PROPERTIES LLLP	SILVER CREEK	37-21182		18851101	9/24/2010	0.049	IRRIGATION
WILLIAMS MARKELL PROPERTIES LLLP	SILVER CREEK	37-21184		18880401	9/24/2010	0.098	IRRIGATION
WILLIAMS MARKELL PROPERTIES LLLP	SILVER CREEK	37-21186		18950630	9/24/2010	0.17	IRRIGATION
RINKER, RODRICK H	SILVER CREEK	37-22503		18770329	8/30/2011	0.16	IRRIGATION
RINKER, RODRICK H	SILVER CREEK	37-22504		18770329	8/30/2011	0.39	IRRIGATION
RINKER, RODRICK H	SILVER CREEK	37-22505		18851101	6/15/2010	0.047	IRRIGATION
RINKER, RODRICK H	SILVER CREEK	37-22506		18851101	6/15/2010	0.112	IRRIGATION
RINKER, RODRICK H	SILVER CREEK	37-22507		18880401	6/15/2010	0.095	IRRIGATION
RINKER, RODRICK H	SILVER CREEK	37-22508		18880401	6/15/2010	0.223	IRRIGATION
RINKER, RODRICK H	SILVER CREEK	37-22509		18950630	6/15/2010	0.164	IRRIGATION
RINKER, RODRICK H	SILVER CREEK	37-22510		18950630	6/15/2010	0.386	IRRIGATION
THE MC GRATH 1998 TRUST	SILVER CREEK	37-22988		18870901	9/29/2006	0.2	IRRIGATION
THE MC GRATH 1998 TRUST	SILVER CREEK	37-22989		18880401	9/29/2006	0.2	IRRIGATION
THE MC GRATH 1998 TRUST	SILVER CREEK	37-22990		18900401	9/29/2006	0.4	IRRIGATION
THE MC GRATH 1998 TRUST	SILVER CREEK	37-22991		8/4/1936	12/11/2009	0.5	IRRIGATION
THE MC GRATH 1998 TRUST	SILVER CREEK	37-22992		11/7/1918	9/29/2006	0.5	IRRIGATION
THE MC GRATH 1998 TRUST	SILVER CREEK	37-22993		18851101	9/29/2006	0.1	IRRIGATION
BLACKBURN FAMILY IRREVOCABLE TRUST A	SILVER CREEK	37-267A	A	18840515	12/1/2006	2	IRRIGATION
BLACKBURN FAMILY IRREVOCABLE TRUST A	SILVER CREEK	37-267B	B	18840515	9/29/2006	1.5	IRRIGATION
BLACKBURN FAMILY IRREVOCABLE TRUST A	SILVER CREEK	37-317B	B	18830614	9/29/2006	1.5	IRRIGATION

BLACKBURN FAMILY IRREVOCABLE TRUST A	SILVER CREEK	37-318A	A	18830614	9/29/2006	1.8 IRRIGATION
BLACKBURN FAMILY IRREVOCABLE TRUST A	SILVER CREEK	37-319		18850515	9/29/2006	1 IRRIGATION
THE WILLOWS AT SILVER CREEK LLC	SILVER CREEK	37-426B	B	18870401	9/24/2010	1.05 IRRIGATION
J R SIMPLOT CO	SILVER CREEK	37-465		18880401	9/29/2006	2.5 IRRIGATION
PAYNE, RICHARD D	SILVER CREEK	37-526A	A	18810601	9/29/2006	2.78 IRRIGATION
MOLYNEUX, WILLIAM L	SILVER CREEK	37-6		18810501	9/29/2006	3 IRRIGATION
J R SIMPLOT CO	SILVER CREEK	37-692A	A	18890501	12/1/2010	0.88 IRRIGATION
J R SIMPLOT CO	SILVER CREEK	37-692B	B	18890501	9/29/2006	1.52 IRRIGATION
MOLYNEUX, WILLIAM L	SILVER CREEK	37-7		18850401	9/29/2006	2.5 IRRIGATION
HRSTROM, RICARD RIGGS	SILVER CREEK	37-7790		7/10/1979	9/24/2010	0.04 IRRIGATION
MOLYNEUX, WILLIAM L	SILVER CREEK	37-8		18870401	9/29/2006	0.6 IRRIGATION
HOFSTETTER RANCH LLC	SILVER CREEK	37-88A	A	18851101	9/24/2010	0.192 IRRIGATION
HOFSTETTER RANCH LLC	SILVER CREEK	37-89A	A	18880401	9/24/2010	0.384 IRRIGATION
BUICH 1995 FAMILY TRUST	SILVER CREEK	37-90C	C	18950630	8/30/2011	0.4 IRRIGATION, STOCKWATER
HOFSTETTER RANCH LLC	SILVER CREEK	37-90D	D	18950630	9/24/2010	0.48 IRRIGATION
J R SIMPLOT CO	SILVER CREEK	37-939		8/1/1920	12/1/2010	1 IRRIGATION
ORVIK, NINA MOLYNEUX; ORVIK, WAYNE D	LOVING CREEK	37-21997		18930529	9/24/2010	0.013 IRRIGATION
ORVIK, NINA MOLYNEUX; ORVIK, WAYNE D	LOVING CREEK	37-21999		18870615	9/24/2010	0.012 IRRIGATION
ORVIK, NINA MOLYNEUX; ORVIK, WAYNE D	LOVING CREEK	37-22001		18870401	9/24/2010	0.013 IRRIGATION
ORVIK, NINA MOLYNEUX; ORVIK, WAYNE D	LOVING CREEK	37-22003		18970603	9/24/2010	0.013 IRRIGATION

ATTACHMENT B

IDWR Memo to WD37 Regarding Delivery of Exchange Condition Rights

MEMO

State of Idaho

Department of Water Resources

322 E Front Street, P.O. Box 83720, Boise, Idaho 83720-0098

Phone: (208) 287-4800 Fax: (208) 287-6700

Date: April 27, 2021

To: Kevin Lakey, Water District 37 Watermaster

From: Tim Luke, Water Compliance Bureau Chief 

Subject: Delivery of Water Rights in Water District 37 from the Big Wood and Little Wood Rivers having the BOR-AFRD2-BWCC Exchange Condition

Purpose of Memo

This memo instructs you regarding the administration of water rights from the Big Wood and Little Wood Rivers that have the following condition, referred herein as the “Exchange Condition” or “Condition No. 161”:

Delivery of this right is subject to the water exchange provisions contained in Bureau of Reclamation contract no. 14-06-W-73, executed October 14, 1954, between the United States of America and American Falls Reservoir District No. 2, as supplemented by Bureau of Reclamation contract no. 14-06-100-6031, executed June 1, 1962, between and among the United States of America, American Falls Reservoir District No. 2, and the Big Wood Canal Company.

For purposes of this memo, Bureau of Reclamation contract no. 14-06-W-73 is referred to as the “BOR 1954 Contract”, and Bureau of Reclamation contract no. 14-06-100-6031 is referred as the “BOR 1962 Contract”.

Background

During recent Big Wood River Groundwater Management Area (“BWRGWMA”) Advisory Committee meetings, participants questioned you about your delivery of water rights from the Big Wood and Little Wood Rivers that have the above referenced Exchange Condition. In correspondence from you to the Idaho Department of Water Resources (“Department”) dated June 16, 2015, you explained you had only recently become aware of Condition No. 161 and that you “have never delivered water from either the Big Wood or Little Wood Rivers in relation to this condition.” Based on discussions in which you participated during recent BWRGWMA committee meetings, the Department understands you continue to deliver water and make priority cut determinations from the Big Wood

River below Magic Reservoir, and from the Little Wood River and Silver Creek, without consideration of the Exchange Condition.

The Exchange Condition is included on 72 water rights from the Big Wood River and 38 water rights from the Little Wood River shown in separate tables in Attachment 1 of this memo. The Exchange Condition is included in Snake River Basin Adjudication (“SRBA”) partial decrees for all 110 water rights identified in Attachment 1. During the SRBA, the Department assigned a number, 161, to the Exchange Condition. All water rights with the Exchange Condition have a place of use located below the Milner-Gooding Canal and within the service areas of American Falls Reservoir District No. 2 (“AFRD2”) and the Big Wood Canal Company (“BWCC”).

Article 28 of the BOR 1954 Contract¹ states in pertinent part:

- a. It is one of the objects of this contract to provide each irrigable acre of the old lands within the [American Falls Reservoir] District, whether located above or below the main canal, with substantially the same benefits from American Falls storage and other sources available to the District, either directly or indirectly.
- b. To carry out this object, it is agreed that:
 - 1. The owners of old lands below the main canal who are entitled to water from the Big Wood or the Little Wood River or Magic Reservoir are deemed to agree that the water from those sources may be used on old lands above the main canal, and to accept in lieu of water from those sources, an equal amount of water from American Falls storage and other sources available to the District, all to the extent necessary to permit the old lands above the main canal to benefit equally, as far as possible, with the old lands below the canal in the water supply made available under this contract.

The BOR 1954 Contract describes the “main canal” as the Milner-Gooding Canal.² Both the BOR 1954 Contract and the BOR 1962 Contract define “old lands” as “78,167.1 acres of irrigable lands within the [American Falls Reservoir] District ... including those 4,263 acres of land designated as “river-right lands.”³

Both the BOR 1954 Contract and the BOR 1962 Contract state that the [American Falls Reservoir] District “will deliver water made available under the United States-District amendatory contract ... into the Big Wood and Little Wood rivers for diversion by river-right lands.”⁴

¹ *Amendatory Contract Between the United States of America and American Falls Reservoir District No. 2, October 14, 1954*, at 35; and *Company-District Contract Among the United States of America, American Falls Reservoir District No.2 and Big Wood Canal Company, June 1, 1962* at 35.

² *Ibid.* at 5.

³ *Ibid.* at 3, and *Company-District Contract Among the United States of America, American Falls Reservoir District No.2 and Big Wood Canal Company, June 1, 1962*, at 3.

⁴ BOR 1954 Contract at 31 and BOR 1962 Contract at 5.

Due to repeated questions from some BWRGWMA Advisory Committee members, the BWCC arranged a separate meeting between you, advisory committee members, representatives from both AFRD2 and BWCC, and Department staff on March 31, 2021. In that meeting, Mr. Craig Hobdey, former and recently retired attorney for BWCC, stated that he was familiar with the Exchange Condition assigned to SRBA partial decrees for water rights from the Big Wood and Little Wood Rivers. Mr. Hobdey reported that AFRD2 delivers water from the Snake River conveyed via the Milner-Gooding Canal to lands within AFRD2 and BWCC service areas having water rights from the Big Wood and Little Wood Rivers with the Exchange Condition. Mr. Hobdey explained that, in accordance with the BOR contracts, Snake River water from the Milner-Gooding Canal is delivered to the Exchange Condition river rights, and water from the Big and Little Wood Rivers that would be delivered to the Exchange Condition river rights but for the delivery of Snake River water is instead delivered to water rights and lands located above the Milner-Gooding Canal.

During the March 31, 2021 meeting, you advised meeting participants that you have never delivered water from the Big Wood and Little Wood Rivers in the manner described by Mr. Hobdey. You reported that you make no distinction between river rights with or without the Exchange Condition when delivering water or making priority cut determinations. Department staff participating in the meeting advised that the Department would issue guidance to you regarding the delivery of water to Exchange Condition water rights given the different explanations and the Department's current understanding that the rights are not administered consistently with the condition.

Watermaster Guidance Regarding Delivery of Exchange Condition Water Rights

Upon review of the Exchange Condition, the BOR contracts, and information obtained from you and representatives of AFRD2 and BWCC, the Department directs you to administer the water rights in accordance with the exchange provisions of the contracts referenced in the Exchange Condition. In doing so, it is understood that the Exchange Condition water rights, to the extent they are in priority, shall receive Snake River water conveyed by the Milner-Gooding Canal in coordination with AFRD2. As a result, you shall not physically deliver or convey natural flow from the Little Wood or Big Wood Rivers below the Milner-Gooding Canal to benefit the Exchange Condition water rights. Pursuant to the Exchange Condition and provisions of the BOR exchange contracts, any natural flow from the Big Wood and Little Wood Rivers that is available to fill the Exchange Condition water rights below Milner-Gooding Canal, shall be delivered to BWCC's diversions located above the Milner-Gooding Canal for the benefit of "old lands" above the canal.

Starting immediately, and until given further notice, you shall implement the following procedures regarding the delivery of water to the Exchange Condition water rights from the Big Wood and Little Wood Rivers referenced in Attachment 1 of this memo:

1. Determine the available natural flow and river right priority cuts for the Big Wood River below Magic Reservoir, and for Silver Creek-Little Wood River using the same methods for those river reaches you have employed in the past;
2. Based on your priority cut determination in Step 1, identify the Exchange Condition water rights from each source that are in priority and sum the diversion rates for those deliverable rights by source (Little Wood River or Big Wood River). The sum of the deliverable Exchange Condition water rights by source shall be distributed respectively to BWCC's diversions from the Big Wood and Little Wood Rivers above the Milner-Gooding Canal (the Lincoln Bypass/North Shoshone Canals on the Big Wood River, and the Main Dietrich Canal on the Little Wood River).
 - a. If the BWCC has no demand or need for water above the Milner-Gooding Canal that is deliverable by priority to the Exchange Condition water rights, then the water shall be distributed to the next available rights in priority (rights that do not have the Exchange Condition) either above or below the Milner Gooding Canal on the Big Wood River, and the Little Wood River and Silver Creek.
3. In making your priority cut determination on all surface water sources in Water District 37, you should require the holders of all rights to call for initial delivery of water at or near the start of the irrigation season and then make subsequent calls or requests during the season for any change in delivery (example: increase or decrease delivery, turn off or turn on). Delivery based on user demand may allow delivery of additional priority rights when demand decreases. Similarly, you should account for rights that are not used for any reason, such as enrollment in crop set-aside programs or lease to water supply bank, and adjust priority cut determinations accordingly.

ATTACHMENT 1
Big Wood River Water Rights with Exchange Condition

Owner	Water Right	Priority Date	Div Rate (cfs)	Uses	Source	RiverReach
OPPIO LAND & LIVESTOCK LLC	37-238A	18830415	2	IRRIGATION	MALAD RIVER	Sta 9 to Sta 21
SHERI PATTERSON INC	37-20385	18830415	0.04	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
SLIMAN LAND & LIVESTOCK	37-21163	18830415	0.76	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
SABALA FARMS INC	37-619A	18840501	2.4	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
WESTENDORF, JENNIFER L; WESTENDORF, NICHOLAS K	37-619B	18840501	0.8	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
BLISS POINT CATTLE INC	37-22658	18840601	0.77	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
CRUZ, ALFREDO; LAGUNAS, JUANA	37-21749	18840601	0.05	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
DESERT ROSE RANCH INC	37-287A	18840601	0.33	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
FAULKNER, KIM; FAULKNER, TOM	37-22534	18840601	1.41	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
GARY L & LUCY C OSBORNE FAMILY LTD PARTNERSHIP	37-359B	18840601	1.121	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
HARRIS, ALTA K; HARRIS, DALE E	37-21747	18840601	0.36	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
KOCHERT, MICHAEL M; KOCHERT, PHYLLIS K	37-359D	18840601	0.34	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
LAGUNAS, AMALIA; LAGUNAS, FRANCISCO	37-21748	18840601	0.05	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
OSBORNE, GARY L; OSBORNE, LUCY C	37-359E	18840601	1.08	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
COLEMAN, CAROLYN F; COLEMAN, GARY R	37-239D	18840829	0.68	IRRIGATION	MALAD RIVER	Sta 9 to Sta 21
OPPIO LAND & LIVESTOCK LLC	37-239A	18840829	1.72	IRRIGATION	MALAD RIVER	Sta 9 to Sta 21
M & M FARMS	37-72B	18850401	2.2	IRRIGATION, STOCKWATER	BIG WOOD RIVER	MGC to Sta 9
M & M FARMS	37-72B	18850401		IRRIGATION, STOCKWATER	BIG WOOD RIVER	Sta 9 to Sta 21
RIXON, CARL H; RIXON, KARIN	37-72A	18850402	0.44	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
COLEMAN, CAROLYN F; COLEMAN, GARY R	37-607D	18860815	1.29	IRRIGATION	MALAD RIVER	Sta 9 to Sta 21
KOYLE, BONNIE M; KOYLE, RANLEY A	37-607B	18860815	0.14	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
PIERSON, MARGARET A; PIERSON, MARVIN E	37-10642	18860815	0.49	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
SLIMAN, DAVID; SLIMAN, LESTER	37-607F	18860815	0.48	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9

ATTACHMENT 1
Big Wood River Water Rights with Exchange Condition

Owner	Water Right	Priority Date	Div Rate (cfs)	Uses	Source	RiverReach
COLEMAN, CAROLYN F; COLEMAN, GARY R	37-608D	18870415	0.422	IRRIGATION	MALAD RIVER	Sta 9 to Sta 21
KOYLE, BONNIE M; KOYLE, RANLEY A	37-608B	18870415	0.098	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
PIERSON, MARGARET A; PIERSON, MARVIN E	37-10643	18870415	0.16	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
SLIMAN, DAVID; SLIMAN, LESTER	37-608C	18870415	0.12	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
EDEN, GARY; EDEN, GLENNA R	37-365	18880601	3	IRRIGATION, STOCKWATER	BIG WOOD RIVER	Magic Res to MGC
MORRIS, AUDREY; MORRIS, HOWARD L; MORRIS, JEREMY; MORRIS, RHONDA K	37-11131	18890701	5.6	IRRIGATION, STOCKWATER	MALAD RIVER	Blw Sta 21
MORRIS, HOWARD L; MORRIS, JEREMY; MORRIS, MEKENZIE; MORRIS, RHONDA K	37-447D	18890701	0.8	IRRIGATION	MALAD RIVER	Blw Sta 21
MORRIS, HOWARD L; MORRIS, RHONDA K	37-447C	18890701	4	IRRIGATION, STOCKWATER	MALAD RIVER	Blw Sta 21
NORTH SIDE CANAL CO LTD	37-507	18900615	15	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
NORTH SIDE CANAL CO LTD	37-507	18900615		IRRIGATION	MALAD RIVER	Sta 9 to Sta 21
SABALA FARMS INC	37-620	18910501	1.3	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
OPPIO LAND & LIVESTOCK LLC	37-240A	18950601	2.28	IRRIGATION	MALAD RIVER	Sta 9 to Sta 21
COLEMAN, CAROLYN F; COLEMAN, GARY R	37-240D	18950829	0.92	IRRIGATION	MALAD RIVER	Sta 9 to Sta 21
EDEN, GARY; EDEN, GLENNA R	37-366	18960415	1.4	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
4 BROS DAIRY INC	37-11114B	18960427	5.3	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
BROWN, ANN A; BROWN, PHILIP A	37-600B	18960427	0.5	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
SABALA, SUSAN M	37-669A	18960430	1.6	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
LEGUINECHE, JOE; LEGUINECHE, LINDA	37-178	18960501	2.5	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
PIERSON, MARGARET A	37-175A	18970501	0.8	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
PIERSON, MARGARET A; PIERSON, MARVIN E	37-10644	18970501	0.6	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
NORTHVIEW FARMS LP	37-616	18970510	2.7	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
ADAMS, RUTH M	37-84A	18970515	0.087	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9

ATTACHMENT 1
Big Wood River Water Rights with Exchange Condition

Owner	Water Right	Priority Date	Div Rate (cfs)	Uses	Source	RiverReach
BIG SKY DAIRY	37-84B	18970515	0.74	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
BIG SKY DAIRY	37-675A	18970520	0.8	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
PIERSON, MARGARET A; PIERSON, MARVIN E	37-10641	18970520	1.48	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
DRY CREEK PARTNERS	37-865A	4/1/1905	1.03	IRRIGATION, WILDLIFE STORAGE, AESTHETIC STORAGE, DIVERSION TO STORAGE	BIG WOOD RIVER	MGC to Sta 9
DRY CREEK PARTNERS	37-865B	4/1/1905	4.57	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
JUSTICE DITCH CO	37-1175	4/1/1906	3.34	IRRIGATION, STOCKWATER	MALAD RIVER	Blw Sta 21
JUSTICE DITCH CO	37-4091	4/1/1934	9.1	IRRIGATION, STOCKWATER	MALAD RIVER	Blw Sta 21
BILBAO, EDWARD; BILBAO, ROSEMARIE; BILBAO, STACIE A; BILBAO, STEVEN; HANEY, CARL A	37-367A	4/15/1902	1.6	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
DRY CREEK PARTNERS	37-580	4/2/1906	3.2	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
SABALA FARMS INC	37-581	4/2/1906	3.2	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
TURNER, CODY R; TURNER, TORI J	37-583	4/2/1906	3.2	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
TURNER, CODY R; TURNER, TORI J	37-584	4/2/1906	3.2	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
CRUZ, ALFREDO; LAGUNAS, JUANA	37-21752	4/20/1907	0.025	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
GARY L & LUCY C OSBORNE FAMILY LTD PARTNERSHIP	37-1164G	4/20/1907	0.89	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
HARRIS, ALTA K; HARRIS, DALE E	37-21750	4/20/1907	0.17	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
KOCHERT, MICHAEL M; KOCHERT, PHYLLIS K	37-1164H	4/20/1907	0.22	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
LAGUNAS, AMALIA; LAGUNAS, FRANCISCO	37-21751	4/20/1907	0.025	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
OSBORNE, GARY L; OSBORNE, LUCY C	37-1164D	4/20/1907	0.06	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
OSBORNE, GARY L; OSBORNE, LUCY C	37-1164L	4/20/1907	1.01	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
HULTS, DAVID; HULTS, NICOLE	37-22795	5/1/1905	1.2	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
PALACIO, WILLIAM M	37-174D	5/1/1905	0.4	IRRIGATION, STOCKWATER	BIG WOOD RIVER	MGC to Sta 9

ATTACHMENT 1
Big Wood River Water Rights with Exchange Condition

Owner	Water Right	Priority Date	Div Rate (cfs)	Uses	Source	RiverReach
PIERSON, MARGARET A; PIERSON, MARVIN E	37-174C	5/1/1905	0.12	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
PIERSON, MARGARET A; PIERSON, MARVIN E	37-10645	5/1/1905	0.18	IRRIGATION	BIG WOOD RIVER	MGC to Sta 9
RIVER VIEW FARMS	37-499B	5/1/1905	0.3	IRRIGATION	BIG WOOD RIVER	Sta 9 to Sta 21
JUSTICE DITCH CO	37-1160	5/31/1900	4	IRRIGATION, STOCKWATER	MALAD RIVER	Blw Sta 21
BRAUN, ENNICE; BRAUN, RONALD	37-21658	8/6/1902	0.07	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
BRAUN, ENNICE; BRAUN, RONALD	37-21659	8/6/1902	0.53	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
WESTENDORF, JENNIFER L; WESTENDORF, NICHOLAS K	37-1191	9/2/1902	2.4	IRRIGATION	BIG WOOD RIVER	Magic Res to MGC
M & M FARMS	37-21279	11/1/1913	6.4	IRRIGATION, STOCKWATER	BIG WOOD RIVER	MGC to Sta 9
M & M FARMS	37-21279	11/1/1913		IRRIGATION, STOCKWATER	BIG WOOD RIVER	Sta 9 to Sta 21

ATTACHMENT 1
Little Wood River Water Rights with Exchange Condition

Owner	Water Right	Priority Date	Div Rate (cfs)	Uses	Source	River Reach
CITY OF GOODING	37-282	18770401	1	GROUND WATER RECHARGE	LITTLE WOOD RIVER	16 to 17
CITY OF GOODING	37-271A	18820630	0.32	GROUND WATER RECHARGE	LITTLE WOOD RIVER	16 to 17
ARKOOSH, CARRIE R; ARKOOSH, JOHN W	37-326	18821101	0.4	IRRIGATION	LITTLE WOOD RIVER	14 to 16
CITY OF GOODING	37-262A	18830222	3.16	GROUND WATER RECHARGE	LITTLE WOOD RIVER	16 to 17
CITY OF GOODING	37-709A	18830222	0.74	GROUND WATER RECHARGE	LITTLE WOOD RIVER	16 to 17
STATE OF IDAHO	37-10839	18830222	0.66	IRRIGATION	LITTLE WOOD RIVER	16 to 17
GLANBIA FOODS INC	37-177M	18830401	0.14	IRRIGATION	LITTLE WOOD RIVER	14 to 16
FLF SAWTOOTH LLC	37-177N	18830401	0.06	IRRIGATION	LITTLE WOOD RIVER	14 to 16
KUNTZ, CALVIN D; KUNTZ, JOYCE DARLENE	37-193A	18830401	1	IRRIGATION	LITTLE WOOD RIVER	17X to Malad
CITY OF GOODING	37-960A	18830401	0.57	GROUND WATER RECHARGE	LITTLE WOOD RIVER	16 to 17
GARZA, MELISSA; GARZA, ROMAN	37-20847	18830401	0.04	IRRIGATION	LITTLE WOOD RIVER	16 to 17
HOSKOVEC, BARBARA; HOSKOVEC, STANLEY E	37-21173	18830401	0.04	IRRIGATION	LITTLE WOOD RIVER	16 to 17
INFANGER, DEBRA A; INFANGER, JOHN N	37-21649	18830401	0.2	IRRIGATION, GROUND WATER RECHARGE	LITTLE WOOD RIVER	17X to Malad
SIMPSON, CARL D	37-21650	18830401	0.04	IRRIGATION	LITTLE WOOD RIVER	16 to 17
BURNETT, CHRISTA L; BURNETT, SCOTT O	37-22832	18830401	0.08	IRRIGATION	LITTLE WOOD RIVER	16 to 17
RIGBY, DEVIN O; RIGBY, KRISTEN; RIGBY, MATHEW ODELL; RIGBY, RAE LYN	37-194A	18840401	0.06	IRRIGATION	LITTLE WOOD RIVER	16 to 17
DAVENPORT, LEWIS M; DAVENPORT, NITA F	37-194B	18840401	0.24	IRRIGATION	LITTLE WOOD RIVER	16 to 17
MC DADE, ERNEST J; MC DADE, JOYCE A	37-609B	18840401	0.17	IRRIGATION	LITTLE WOOD RIVER	16 to 17
SPOONER, KATHRYN R	37-609E	18840401	2.22	IRRIGATION	LITTLE WOOD RIVER	16 to 17
CHAMBERS, JOHN F	37-609F	18840401	0.15	IRRIGATION	LITTLE WOOD RIVER	16 to 17
MAGIC VALLEY GROWERS LTD	37-613	18840401	3.2	IRRIGATION	LITTLE WOOD RIVER	14 to 16
GALLUP, JOHN; GALLUP, MELANIE A	37-10933B	18840401	0.045	IRRIGATION	LITTLE WOOD RIVER	16 to 17
DAVENPORT, LEWIS M; DAVENPORT, NITA F	37-22177	18840401	0.025	IRRIGATION	LITTLE WOOD RIVER	16 to 17
BARNETT, CAROLE	37-22178	18840401	0.05	IRRIGATION	LITTLE WOOD RIVER	16 to 17
ULRICH, THOMAS J	37-23126	18840401	0.03	IRRIGATION	LITTLE WOOD RIVER	16 to 17
ARKOOSH, KAREN A; ARKOOSH, WILLIAM	37-327	18840515	2.2	IRRIGATION	LITTLE WOOD RIVER	14 to 16
GLANBIA FOODS INC	37-374A	18840515	0.56	IRRIGATION	LITTLE WOOD RIVER	14 to 16
FLF SAWTOOTH LLC	37-374B	18840515	0.24	IRRIGATION	LITTLE WOOD RIVER	14 to 16
ARKOOSH, CARRIE R; ARKOOSH, JOHN W	37-460	18840603	4	IRRIGATION	LITTLE WOOD RIVER	14 to 16
ARKOOSH, CARRIE R; ARKOOSH, JOHN W	37-461	18840717	1.4	IRRIGATION	LITTLE WOOD RIVER	14 to 16
ARKOOSH, CARRIE R; ARKOOSH, JOHN W	37-328	18850401	0.6	IRRIGATION	LITTLE WOOD RIVER	14 to 16
MAGIC VALLEY GROWERS LTD	37-375A	18850515	0.2	IRRIGATION	LITTLE WOOD RIVER	14 to 16
CITY OF GOODING	37-662	18850615	1.42	GROUND WATER RECHARGE	LITTLE WOOD RIVER	16 to 17
ARKOOSH, KAREN A; ARKOOSH, WILLIAM	37-329	18860515	2	IRRIGATION	LITTLE WOOD RIVER	14 to 16
MAGIC VALLEY GROWERS LTD	37-614	18890501	0.8	IRRIGATION	LITTLE WOOD RIVER	14 to 16

ATTACHMENT 1
Little Wood River Water Rights with Exchange Condition

Owner	Water Right	Priority Date	Div Rate (cfs)	Uses	Source	River Reach
ARKOOSH, KAREN A; ARKOOSH, WILLIAM	37-176	18900401	2	IRRIGATION	LITTLE WOOD RIVER	16 to 17
ARKOOSH, CARRIE R; ARKOOSH, JOHN W	37-1127	4/1/1905	1.6	IRRIGATION	LITTLE WOOD RIVER	14 to 16
ARKOOSH, KAREN A; ARKOOSH, WILLIAM	37-1131	8/1/1906	2.4	IRRIGATION	LITTLE WOOD RIVER	16 to 17