



State of Idaho

DEPARTMENT OF WATER RESOURCES

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April 22, 2011

C. L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Interim Director

JIM RINDFLEISCH
BIG LOST RIVER IRRIGATION DISTRICT
PO BOX 205
MACKAY, ID 83251

RE: STORAGE AND USE OF THE BIG LOST RIVER BY THE BIG LOST RIVER IRRIGATION DISTRICT

Dear Jim:

In the letter you sent to me via email on April 8, 2011, you had asked me to provide some clarification on issues related to the use of water that has been released from the reservoir prior to the start of the irrigation season and the impacts that may have on your ability to fill the reservoir this year. This letter provides that clarification and also addresses some other questions related to storage, storage release, and use of released water that we discussed during our meeting on April 12, 2011 at your office in Mackay.

The attached memo *Administration of Big Lost River Irrigation District Storage Rights*, written in July 2006 provides a fairly detailed description of the BLRID storage rights and an overview of how the season and volume limits can affect the ability to store water. However, the memo does not address some of the questions you and I have discussed over the last few weeks, so I will present a few of those questions here to supplement the memo.

1. Can the BLRID release water from the reservoir prior to the start of the irrigation season?

Yes, from a water rights perspective, the water stored by the BLRID under its storage rights may be released at any time. However, the release does not reduce the amount accrued toward the total volume limit on the water right. Remember, it is the storage of the water, rather than the release of the water, that accrues toward annual storage volume limits. In other words, if BLRID chooses to store water or carry storage over from the previous year, they are exercising the storage portion of their right, which is subject to the volume limitations. Once water is stored, it counts toward the annual volume limit regardless of whether BLRID later releases that stored water.

2. If the BLRID releases water from storage prior to the irrigation season, when can it begin storing again, and how much can it store?

This is largely covered in the attached memo, but in short the answer is as follows: Prior to May 1, until the total, cumulative volume stored for the year reaches 43,581 AF, the BLRID may store the entire inflow to the reservoir except a 50-cfs release. If the 43,581 AF is reached prior to May 1 and the physical reservoir contents is less than 43,581 AF (the contents when the water level is at the spillway crest), the BLRID may continue to store water at an unlimited rate if all other water rights that are within their

period of use are satisfied. If the reservoir is not full to the spillway crest on May 1, the BLRID may store a portion of the inflow in priority with other rights on the river until the storage rights have been satisfied. At that time, an additional volume may be stored if all other rights are satisfied.

3. What can the BLRID do with water it has released from storage?

The BLRID water rights authorize irrigation storage and irrigation from storage. Additionally, the water rights authorize the use of the stored water (irrigation from storage) to occur between May 1 and October 15. Given these facts, any water the BLRID releases from storage must be used for irrigation purposes during the irrigation season or it becomes an addition to the natural flow and is available for diversion under water rights downstream of the dam.

In other words, if the release is made during the irrigation season, the BLRID may instruct the watermaster to deliver the released storage water to points of rediversion from the river to use for irrigation purposes. If the water is not to be rediverted as BLRID storage water, the released water becomes available for diversion on a priority basis under water rights as part of the natural flow below Mackay Reservoir.

If stored water is released during the non-irrigation season, the BLRID's water rights do not authorize rediversion, so the water becomes natural flow and is available to be rediverted under in-priority water rights downstream of the reservoir.

4. Can the BLRID divert water into canals prior to demand for water from its patrons?

Yes, any time from May 1 to October 15, the BLRID can instruct the watermaster to divert stored water into canals. However, this diversion should be for, or in support of, irrigation. For example, starting on May 1 the BLRID may divert storage water into its canals for purposes of preparing the canals for the expected demand for irrigation water. During the irrigation season, the BLRID can instruct the watermaster to divert storage water into its canals as necessary to deliver water to its patrons.

Additionally, water may be diverted into the BLRID canals under natural flow water rights at any time such water rights are deliverable, in priority, and called on by the water right holder. For example, the BLRID can consent to diverting recharge water into its canals at any time the watermaster has determined the recharge permits can be delivered and the recharge committee has called for recharge water in those canals.

5. How do we account for the storage, release and use of water by the BLRID and its patrons?

It is important to be very clear about the role of the watermaster and the role of the BLRID with respect to accounting for storage, release, and use of water by the BLRID and its patrons. With respect to storage water, the watermaster's role is to account for the diversion of natural flow into storage, and to consider storage releases and delivery of stored water in the delivery calculations. However, the watermaster is not involved in the allocation of stored water to BLRID patrons or in the accounting of whether those patrons receive their storage water. That is the role of the BLRID – to allocate the available stored water to its patrons and instruct the watermaster to convey the stored water to points of rediversion to satisfy the demand for storage water from BLRID patrons.

Jim Rindfleisch

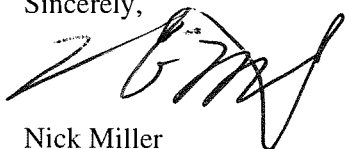
April 22, 2011

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With respect to delivery of previously stored water, the watermaster need not know which BLRID patron the stored water is intended for. However, due to the historic practice of the water district assessing the users directly for delivery of storage water, rather than assessing the BLRID as a single entity, the BLRID should provide the watermaster information related to how the assessment for delivery of storage water should be proportioned among the BLRID patrons.

I hope this letter and the attached memorandum provide the guidance you need to help you manage the storage in Mackay Reservoir and make the best use of the water. If you have any further questions, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Miller', written over a horizontal line.

Nick Miller
Water Distribution Section, IDWR

Enclosure:

- 1) *August 3, 2006 IDWR Memo - RE: Administration of Big Lost River Irrigation District Storage Rights (4 pages).*

cc:

IDWR Eastern Region, Idaho Falls

Roger Totten – Watermaster, Water District 34, PO Box 53, Mackay, ID 83251

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Memorandum

To: Append to *Water District 34 Guidelines for Operation Document*

From: Nick Miller

Date: August 3, 2006

Re: Administration of Big Lost River Irrigation District Storage Rights

This memo clarifies how the Watermaster of WD34 is to administer storage rights held by the Big Lost River Irrigation District (BLRID). Written instruction is necessary to ensure all parties (IDWR, BLRID, water users, and WD34 staff) share a common understanding of the administration of these storage rights. This memorandum discusses the administration of the BLRID storage water rights by the Watermaster of WD34 and does not address how the stored water is to be allocated to the BLRID patrons.

BLRID holds the following 9 water rights listed in order of priority:

RIGHT NO.	PRIORITY	RATE/VOLUME LIMITS	SEASON OF USE (STORAGE)*	REMARKS
34-00818	06/30/1880	3.2 CFS/556.5AF	05-01 to 10-15	
34-00811	06/30/1881	1.7 CFS/294 AF	05-01 to 10-15	
34-00810	06/01/1888	3.2 CFS/556.5AF	05-01 to 10-15	
34-10935	06/01/1896	6.4 CFS/1113 AF	05-01 to 10-15	
34-00817B	03/01/1902	0.8 CFS/140 AF	05-01 to 10-15	
34-00013	07/31/1905	100CFS	05-01 to 10-15	Antelope Cr Exchange w/ 3 in 1
34-10873	10/02/1905	20646 AF	01-01 to 12-31	Additional Vol. Allowed
34-00012	02/07/1916	17205 AF	01-01 to 12-31	Additional Vol. Allowed
34-02507	09/02/1959	6000 AF	01-01 to 12-31	Additional Vol. Allowed

* Season of use for irrigation deliveries is 5/1 to 10/15. Season of use for storage and irrigation from storage may be extended to as early as 4/20 and as late as 10/31 at the discretion of the Director of IDWR.

It is important to note that these rights are limited by season of use, storage volume, and, in some cases, flow rate. Storage volume limits are limitations on the total volume of water stored under a right each calendar year (Jan. 1 to Dec 31). Note that only three of the rights allow storage to accrue during the non-irrigation season. The BLRID storage rights fill as follows:

January 1st – Any carryover, including unused rotation credit storage from the previous irrigation season accrues against the volume limit of the earliest, in season storage right (34-10873).

Fill between January 1st and May 1st (before the irrigation season)– Only three of the BLRID water rights have a season of use that includes this period. Any water that is stored accrues against the volume limits of the earliest of these right first. 34-10873 fills first, then 34-12, then 34-2507. All water stored during this period must be stored in priority with other rights above the reservoir that are within their season of use, but is superior to all other rights below Mackay Reservoir, subject to a minimum flow at the 2B gage of 50 cfs. If the inflow to Mackay Reservoir is less than 50 cfs, no storage may occur, but BLRID is not required to release water to maintain 50 cfs at the 2B gage.

If the reservoir fills prior to May 1st, the three year-round rights have been satisfied. Storage is cumulative; anything that is stored, even if released for flood control, counts toward the annual volume limit. See the following example:

Date	Res. Contents	Change in Storage	Cum. stored	Rights filled		
	acre-feet	acre-feet	acre-feet	34-10873	34-12	34-2507
1/1	20,000	0	20,000	20,000 of 20,646	0 of 17,205	0 of 6,000
3/1	25,000	5,000	25,000	Right Full - 20,646	4,354 of 17,205	0 of 6,000
3/10	22,000	-3,000	25,000	Right Full - 20,646	4,354 of 17,205	0 of 6,000
3/20	25,000	3,000	28,000	Right Full - 20,646	7,354 of 17,205	0 of 6,000
4/15	38,000	13,000	41,000	Right Full - 20,646	Right Full - 17,205	3,149 of 6,000
4/28	40,851	2,851	43,851	Right Full - 20,646	Right Full - 17,205	Right Full - 6,000
5/1	44,500	3,649	47,500	Additional Volume allowed by WR Condition		

In the above example, water is released for flood control on 3/10, but that water still had accrued toward volume limits. This, (along with the fact that the annual volume limit for these three rights is less than the 44,500 acre-feet of capacity in Mackay Reservoir) would prevent the reservoir from ever filling prior to the irrigation season were it not for a condition on these rights that reads:

A VOLUME OF WATER IN ADDITION TO THE VOLUME DESCRIBED ABOVE FOR STORAGE PURPOSES MAY BE STORED IN A SINGLE YEAR IF: A) THE ADDITIONAL VOLUME IS STORED USING THE STORAGE CAPACITY OF MACKAY RESERVOIR, AND B) ALL WATER RIGHTS EXISTING AT THE TIME OF STORAGE (INCLUDING WATER RIGHTS WITH JUNIOR PRIORITY AND OTHER RIGHTS FOR STORAGE PURPOSES) THAT ARE WITHIN THEIR PERIOD OF USE ARE SATISFIED.

In other words, as in the example above, even though the volume limits for the rights are met (on 4/28 in the example), an additional volume could be (and was in the example) stored because all other rights were satisfied. It is likely that recharge may be occurring during this period, but the WD34 recharge plan of operations indicates that recharge will not occur upstream of Mackay Reservoir without consulting BLRID.

If the reservoir does not completely fill, or if the volume limits for the three rights are otherwise not filled by May 1st, storage proceeds as described below.

Fill between May 1st and October 15th (irrigation season)– During this period, all of the BLRID storage rights are within their seasons of use and any storage accrues in priority with all other rights. These rights are subject to their volume and rate limitations as well. In years where the reservoir does not fill prior to the start of the irrigation season, the remaining fill occurs in priority and accrues against the volume limits of the oldest right first.

In the example below, storage deliveries began after May 10th. The reservoir contents for 5/30 and 6/5 do not directly equate with the increase in cumulative stored water because storage water is being stored and delivered, so storage may accrue against the volume limitations without a corresponding net change in reservoir contents. The important volume from an administrative point of view is the cumulative stored volume because that determines which rights have filled. As an example, if the contents of Mackay reservoir contents are increasing at a rate of 1 cfs, and 4 cfs of storage water are being delivered, then 5 cfs must be accrued against a storage right. In that example, the net change in reservoir contents does not reflect how much water is actually being stored during that period.

In the example below, the reservoir never filled to capacity but the rights reached their volume limits. Additional volume was not stored on the three rights that allow an additional volume because priority cuts were being made to 1975, so some rights being called for were not filled in this example. However, an additional volume of water may be stored in Mackay Reservoir under water right 34-13 as described later in this memorandum.

			1-May	3-May	10-May	30-May	5-Jun
Reservoir Contents (AF)			25,000	26,000	20,000	25,000	34,000
Net Change in Contents (AF)*			0	1,000	-6,000	5,000	9,000
Cumulative Stored (AF)			25,000	26,000	26,000	36,000	46,511
Priority date on BLR			All on	All on	All on	1975	1965
34-00818	6/30/1880	3.2 CFS/556.5AF	0 of 556.5	Full	Full	Full	Full
34-00811	6/30/1881	1.7 CFS/294 AF	0 of 294	Full	Full	Full	Full
34-00810	6/01/1888	3.2 CFS/556.5AF	0 of 556.5	149.5 of 556.5	149.5 of 556.5	Full	Full
34-10935	6/01/1896	6.4 CFS/1113 AF	0 of 1,113	0 of 1,113	0 of 1,113	Full	Full
34-00817B	3/1/1902	0.8 CFS/140 AF	0 of 140	0 of 140	0 of 140	Full	Full
34-10873	10/2/1905	20646 AF	Full	Full	Full	Full	Full
34-00012	2/7/1916	17205 AF	4,354 of 17,205	4,354 of 17,205	4,354 of 17,205	12,694 of 17,205	Full
34-02507	9/2/1959	6000 AF	0 of 6,000	0 of 6,000	0 of 6,000	0 of 6,000	Full

* Net change in contents does not accurately reflect storage accrual when storage deliveries are being made.

If the reservoir fills after natural flow rotation has begun, the rotated volume becomes BLRID storage water and that volume is accrued against the BLRID storage right limitations and that water accrues to the most senior right first.

If the reservoir filled prior to the start of the irrigation season, the volume limitation on the three non-irrigation season rights has been met, but an additional volume of water may be stored under the following rights: 34-00013, 34-00810, 34-00811, 34-00818, 34-10935, and 34-00817B. These rights must be in priority and are limited to the volume limits and diversion rate limits of the individual rights (although rights may be stored concurrently if they are in priority). Note that these rights may accrue into storage while the reservoir is full, provided that storage deliveries are being made concurrently. If the reservoir is full, not being drawn down, and storage is being delivered, then storage must accrue against an in priority storage right. Such storage accrual is subject to priority date, flow rate, and volume limitations. WR 34-13 is subject to additional limitations, as described below.

WR # 34-13 is an exchange water right held by BLRID. This right entitles BLRID to store water in Mackay Reservoir in exchange for diverting an equal amount from Antelope Creek to the 3 in 1 ditch at the south fork of Antelope Creek. This right is to be administered as follows:

When water right 34-13 is in priority, and BLRID is calling for delivery of this right, the Watermaster must determine which rights that take Big Lost River water from the 3 in 1 below Antelope Creek are currently called for and deliverable. The sum of these rights may be called the "exchange flow rate". The Watermaster must adjust the diversion at the head of the 3 in 1, reducing it by the exchange flow rate, and he must divert Antelope Creek into the 3 in 1 at the South Fork of Antelope Creek at the exchange flow rate. Under 34-13, BLRID may only store at a rate equal to the exchange flow rate and may only do so while Antelope Creek is being diverted to those users on the 3 in 1 and when those users are in priority and are calling for their water.

The basis of this right is that the BLRID cannot physically store water from Antelope Creek, so instead they provide Antelope Creek water to users on the 3 in 1 and store an equal amount in Mackay Reservoir. The stored water may then be delivered as storage water to BLRID patrons. The users on the 3 in 1 receive their natural flow water rights as they normally would and nothing out of the ordinary happens from their perspective. It is important to note that these users receive their natural flow in this exchange. BLRID is not delivering any storage water in this exchange. This simply allows them to store under their Antelope Creek right. It is also important to stress that, although the right bears a diversion rate of 100 cfs, 34-13 is limited to the rate of flow that users on the 3 in 1 are calling for and that is deliverable.

Fill between October 16th and December 31st (after the irrigation season)– Following the end of the irrigation season; any rotated water that has not been delivered becomes BLRID storage water. During this period, water may be stored under rights 34-10873, 34-12, and 34-2507. At this point the volume limits will likely have been met earlier in the year for these rights. Additionally, the general provisions allow all inflow to Mackay Reservoir to be stored during this period subject to a 50 cfs minimum release. Therefore, any rights above Mackay Reservoir that are within their season of use and are called for must be satisfied, but BLRID may store all inflow to the reservoir beyond that required to satisfy the 50 cfs minimum flow at the 2B gage.

Watermaster’s Role in Administration of BLRID Rights– Given the above description of BLRID water rights, the Watermaster must perform a number of checks throughout the season to ensure BLRID is storing within their water rights:

- On May 1st, or as early as April 20th if the irrigation season has been extended:
 - If the reservoir is full, the three year-round rights are satisfied.
 - If the reservoir is not full, the Watermaster must ensure that the storage rights are filled in priority.
- When BLRID is making storage deliveries:
 - It is possible that BLRID may store water at the same rate they are delivering it. In this case, the reservoir contents will not change, but volume still accrues toward the volume limits of the in priority storage rights. The Watermaster should verify that the in priority storage rights are not exceeding their flow rate or volume limitations. During this period, the following should be true:

$$[\text{reservoir outflow}] = [\text{rotation storage outflow}] + [\text{storage release out flow}] + [\text{natural inflow}] - [\text{Storage inflow}] - [\text{inflow of rotation credits}]$$

Storage inflow is determined by the Watermaster based on which BLRID storage rights are in priority and have not met their annual volume limitation. 34-13 is limited to the flow rate of in priority Big Lost River water rights on the 3 in 1 below Antelope Creek and is further limited to that volume of water that can be supplied to those users from Antelope Creek under WR#34-13.

- Following the irrigation season:
 - Ensure that all other rights are satisfied above the reservoir unless volume limitations remain on the three year round rights, in which case they can be filled in priority with above the reservoir rights.
 - Ensure that the flow at the 2B gage is either 50 cfs or is equal to the inflow to the reservoir, if the inflow is less than 50 cfs.