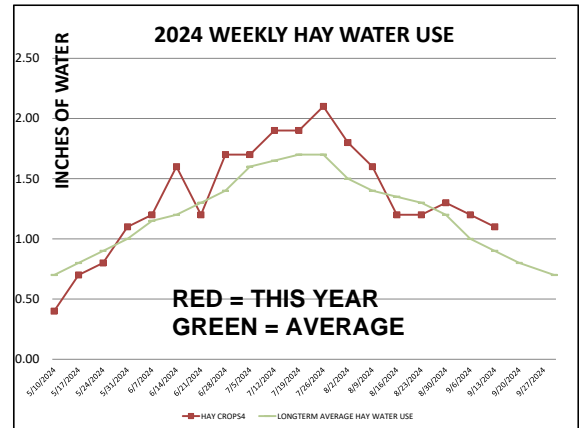


# BLACKFOOT CHALLENGE WEEKLY IRRIGATION REPORT

Friday September 13, 2024



This week started smoky and warm then it finally cooled off and rained. Next week will start cool with showers then warm with the chance of more rain. **Crop water use was about 1 inch and will be slightly lower next week.** Blackfoot River flows are finally on an upward trend due to recent rains. Flows have also had help from irrigators implementing drought plans. Driving throughout the watershed lately it's obvious that irrigators are sacrificing peak crop production to help maintain streamflows - thanks to all those irrigators! Please send us any ideas or questions to include with these reports. We will respond and share them with everyone.

## CHANGING WEATHER

It started out as another warm, smoky week then cooler temps and rain clouds caused a welcome change. Rain varied considerably across Blackfoot croplands this week from ½ to almost 1 inch. Next week will go from partly to mostly cloudy with rain possible all week. Highs will be in the 50s to 70s with lows in the 30s. The 30-day forecast says below average rainfall and above average temperatures. The 60-day forecast says average rainfall and above average temperatures.



*Your own rain gauge is your best source of rainfall information.*

## CROP WATER USE - SLIGHTLY ABOVE AVERAGE BUT LOWER NEXT

Crop water use was slightly above average this last week due to warm dry weather but should go down below average with cooler/wetter weather predicted for next week. **Most crops used about 1 inch of water this week and will use slightly under 1 inch next week.**

<b>WATER USE IN INCHES</b>	<b>LAST 7 DAYS</b>	<b>NEXT 7 DAYS TOTAL<sup>1</sup></b>	<b>NEXT 7 DAYS DAILY AVE<sup>2</sup></b>	<b>SEASON TOTAL<sup>3</sup></b>
<b>HAY CROPS</b>	<b>1.1</b>	<b>0.9</b>	<b>.13</b>	<b>24.9</b>
<b>PASTURE</b>	<b>1.0</b>	<b>0.8</b>	<b>.11</b>	<b>21.5</b>
<b>SPRING GRAINS</b>	<b>0.0</b>	<b>0.0</b>	<b>.00</b>	<b>19.9</b>
<b>WINTER WHEAT</b>	<b>0.0</b>	<b>0.0</b>	<b>.00</b>	<b>20.1</b>
<b>LAWNS</b>	<b>1.0</b>	<b>0.9</b>	<b>.13</b>	<b>24.5</b>

<sup>1</sup>Expected water use over the next week (range if weather becomes cooler or hotter than expected)

<sup>2</sup>Expected average daily water use over the next week (compare this with your soil moisture content)

<sup>3</sup>Beginning April 1 – note in 2010-13 we started our seasonal total on May 1 but since include April

The table on Page 1 provides a quick summary of crop water use this last week and an estimate for next week. The table and chart below summarize the entire irrigation season and compare it with average, hot and cool conditions so you can plan ahead. This table and chart will be updated weekly all season.

<b>BLACKFOOT 2024 GROWING SEASON WEEKLY RAINFALL &amp; CROP WATER USE</b> (INCHES OF WATER)										
WEEK ENDING	RAIN <sup>1</sup>	2024 WEEKLY POTENTIAL CROP WATER USE <sup>2</sup>						AVERAGE WEEKLY CROP WATER USE <sup>3</sup>		
	RAIN	HAY CROPS <sup>4</sup>	PASTURE	SPRING GRAINS 5-1 START	SPRING GRAINS 5-15 START	WINTER WHEAT	LAWNS	LONGTERM AVERAGE HAY WATER USE	HOT WEEK HAY WATER USE	COOL WEEK HAY WATER USE
APRIL	0.50	0.25	0.25			0.25	0.25			
5/10/2024	0.50	0.40	0.50			0.50	0.60	0.70	1.00	0.40
5/17/2024	0.10	0.70	0.80			1.00	1.00	0.80	1.10	0.60
5/24/2024	1.00	0.80	0.80	0.30	0.20	0.90	0.90	0.90	1.20	0.70
5/31/2024	0.50	1.10	0.90	0.50	0.40	1.20	1.20	1.00	1.30	0.70
6/7/2024	0.10	1.20	1.00	0.70	0.50	1.30	1.20	1.15	1.50	0.80
6/14/2024	0.01	1.60	1.40	1.10	0.90	1.70	1.50	1.20	1.70	0.80
6/21/2024	0.25	1.20	1.10	1.00	0.90	1.30	1.20	1.30	1.90	0.90
6/28/2024	0.10	1.70	1.40	1.60	1.40	1.80	1.60	1.40	2.00	1.00
7/5/2024	0.01	1.70	1.40	1.70	1.70	1.90	1.60	1.60	2.10	1.10
7/12/2024	0.01	1.90	1.60	2.10	2.10	2.10	1.80	1.65	2.20	1.10
7/19/2024	0.00	1.90	1.60	2.10	2.10	2.10	1.80	1.70	2.20	1.10
7/26/2024	0.25	2.10	1.80	2.50	2.50	1.80	2.00	1.70	2.20	1.10
8/2/2024	0.25	1.80	1.50	1.80	2.10	1.30	1.70	1.50	2.20	1.00
8/9/2024	0.50	1.60	1.30	1.00	1.60	0.70	1.50	1.40	2.20	1.00
8/16/2024	0.40	1.20	1.00	0.50	1.20	0.20	1.20	1.35	2.00	0.90
8/23/2024	0.30	1.20	1.00	0.00	1.10	0.00	1.10	1.30	2.00	0.90
8/30/2024	0.10	1.30	1.10	0.00	0.70	0.00	1.20	1.20	1.80	0.90
9/6/2024	0.01	1.20	1.00	0.00	0.50	0.00	1.10	1.00	1.40	0.60
9/13/2024	0.75	1.10	1.00	0.00	0.00	0.00	1.00	0.90	1.40	0.50
9/20/2024								0.80	1.20	0.50
9/30/2024								0.70	1.00	0.40
<b>TOTAL</b>	<b>5.14</b>	<b>25.95</b>	<b>22.45</b>	<b>16.90</b>	<b>19.90</b>	<b>20.05</b>	<b>25.45</b>	<b>25.25</b>	<b>35.60</b>	<b>17.00</b>

<sup>1</sup> Average across watershed (50-80% gets to the crop depending on irrigation method, weather, evaporation from crop and soil surfaces)

<sup>2</sup> This years potential water use by healthy crops that are well-fertilized and irrigated, disease and insect-free. Varies across watershed.

<sup>3</sup> Longterm average water use for each crop each week based on long-term historic data.

<sup>4</sup> Hay Crop water use drops from these figures approximately 2/3 the first week after cutting, 1/2 the second and 1/3 the third.

## STREAMFLOWS FINALLY INCREASING

Blackfoot River flows started what is hopefully a continuous climb out of this year's drought. After bottoming out at about 375 CFS on Tuesday, flows increased to 407 CFS today. There is a possibility of rain throughout the coming week. Today the flow at Bonner is about 407 CFS compared to an average of about 654 CFS for this date. The highest flow on this date was about 1,280 CFS in 1899 while the lowest was about 381 CFS in 1988. Weather predictions for the next 30 days are for below average rainfall and above average temperatures so streamflows will continue well below average.



For further information contact Clancy Jandreau, Blackfoot Challenge Water Steward, 406-304-5423 or Barry Dutton, Soil Scientist, 406-240-7798 [barry@landandwaterconsulting.net](mailto:barry@landandwaterconsulting.net)

## THE BLACKFOOT DRAINAGE IRRIGATION SEASON IN BRIEF

This is a summary of general activities and recommendations for the whole season (more detail in the irrigation guide).

### APRIL – GET READY AND PLAN YOUR IRRIGATION STRATEGY!

- Get your irrigation system ready – perform maintenance and test system.
- Evaluate soil moisture conditions and weather predictions then plan for irrigation and drought if needed.



### MAY – CHECK SOIL MOISTURE & BE READY FOR UNUSUAL HEAT OR COLD!

- Check the soil moisture content at the start of growing season and fill up the soil to its water holding capacity during early irrigations (2-4 inches).
- Watch for dry soil conditions, especially with new plantings and apply water to ensure good germination and emergence.
- Irrigate deeply at least once early in the season to promote deep root growth.
- Apply 2-5 inches of irrigation to hay and pasture crops in May depending on weather. Apply 0-2 inches to spring grains and new plantings as needed based on weather and growth. Apply extra water to fill up the soil (2-4 in).

### JUNE – THIS IS THE TIME TO MAKE YOUR BIGGEST EFFORT SO POUR IT ON!

- Apply 6-8 inches of irrigation in June to hay and pasture crops and winter wheat depending on weather. Apply 5-8 inches to spring grains and new plantings as needed based on weather and growth.
- Consider irrigating deeply to fill up soil root zone and promote deep root growth.
- Be sure small grains are irrigated well during their critical periods of boot, bloom and early heading.



### JULY – POUR IT ON UNTIL HARVEST AND RETURN QUICKLY

- Apply 1 - 2 ½ inches of irrigation per week in July to all crops - depending on weather, streamflows and drought conditions.
- Cutting is a critical stress period for hay crops, especially alfalfa so irrigate deeply to fill up the root zone before cutting then get back across the field quickly after cutting. Crop water use declines when hay is cut so this is a good opportunity to fill up the soil again. Irrigate at least once after cutting. Small grains harvested for seed are usually irrigated up to the milk to soft dough stage but be sure soil moisture remains to prevent kernel shriveling. Small grains for forage are often harvested earlier when plants are less dry and seeds soft.

### AUGUST- BE DROUGHT AWARE!

- Apply 1 - 2 inches of irrigation per week in August to hay and pasture crops for full production depending on weather. Irrigate new plantings as needed.
- Many folks irrigate for pasture following their one hay cutting. Irrigate according to how much pasture you seek and with consideration for other water needs in the drainage, especially in drought years.
- Reduce river withdrawals by rotating systems and reducing the amount of irrigation at one time. Stop irrigating if you can.



### SEPTEMBER – APPLY AS NEEDED/AVAILABLE & GET READY FOR SPRING!

- Apply ½ - 1 ½ inches of irrigation per week in September to hay and pasture crops for full production depending on weather. Irrigate new plantings as needed. Prepare the system for winter and an early start next spring.