

# BLACKFOOT CHALLENGE

## WEEKLY IRRIGATION REPORT

Friday August 28, 2020



Seven weeks with only a trace of rain was great for sunny skies but turned to smoke and haze this week. A change comes this weekend with rain showers and much cooler temperatures all week. Crop water use was down to about 1 inch for most crops and will decrease further next week. Blackfoot River flows dropped to 725 CFS which is average and irrigation restrictions are unlikely this year. Congratulations - local crops are looking exceptional for the second year in a row due to good initial soil moisture and an extended period of rainy weather followed by hot, dry weather for harvest!

We provide weekly summaries of weather, crop water use and soil moisture conditions as well as tips for irrigation, soil health and crop production. A condensed overview of suggestions for the entire irrigation season is presented on the last page of this report. Use it to look ahead and plan or to compare what you're doing now. If you would like other information please contact Jennifer Schoonen - Blackfoot River Steward (360-6445) or Barry Dutton – Soil and Irrigation Consultant (240-7798).



### WEATHER - HAZY THEN SHOWERS AND COOLER

Only scattered traces of rain fell on Blackfoot croplands this week and the smoke-free skies I have praised lately could not be seen through the haze. A few showers over the weekend and much cooler temperatures will dominate next week. High temperatures will be in the 50 and 60s with lows in the 30s and 40s. The 30-day forecast says above average temperatures and average rainfall. The 90-day forecast says above average temperatures and rainfall.

### CROP WATER USE - DROPPING WITH COOLER WEATHER

Crop water use dropped this week due to cooler temperatures. Most small grains have matured and many have been harvested. Crops used 1 to 1 1/4 inches of water this week and water use will decrease next week due to lower temperatures. Crop water use continues to be above average for this time of year as we experience an extended season due to cool, rainy weather earlier this summer. The result has been exceptional crop growth for the second year in a row. The table below provides a quick summary of crop water use this last week and an estimate for next week. The table and chart on Page 2 summarize the entire irrigation season and compare it with average, hot and cool conditions so you can plan ahead.

<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>1.3</b>	<b>1.1</b> (0.9 - 1.2)	<b>.16</b>	<b>22.2</b>
<b>PASTURE</b>	<b>1.1</b>	<b>0.9</b> (0.6 - 1.1)	<b>.13</b>	<b>18.5</b>
<b>SPRING GRAINS</b>	<b>0.5</b>	<b>0.0</b> (0.0 - 0.0)	<b>.00</b>	<b>16.7</b>
<b>WINTER WHEAT</b>	<b>0.0</b>	<b>0.0</b> (0.0 - 0.0)	<b>.00</b>	<b>15.9</b>
<b>LAWNS</b>	<b>1.2</b>	<b>1.0</b> (0.8 - 1.1)	<b>.14</b>	<b>20.8</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

**BLACKFOOT 2020 GROWING SEASON WEEKLY RAINFALL & CROP WATER USE (INCHES OF WATER)**

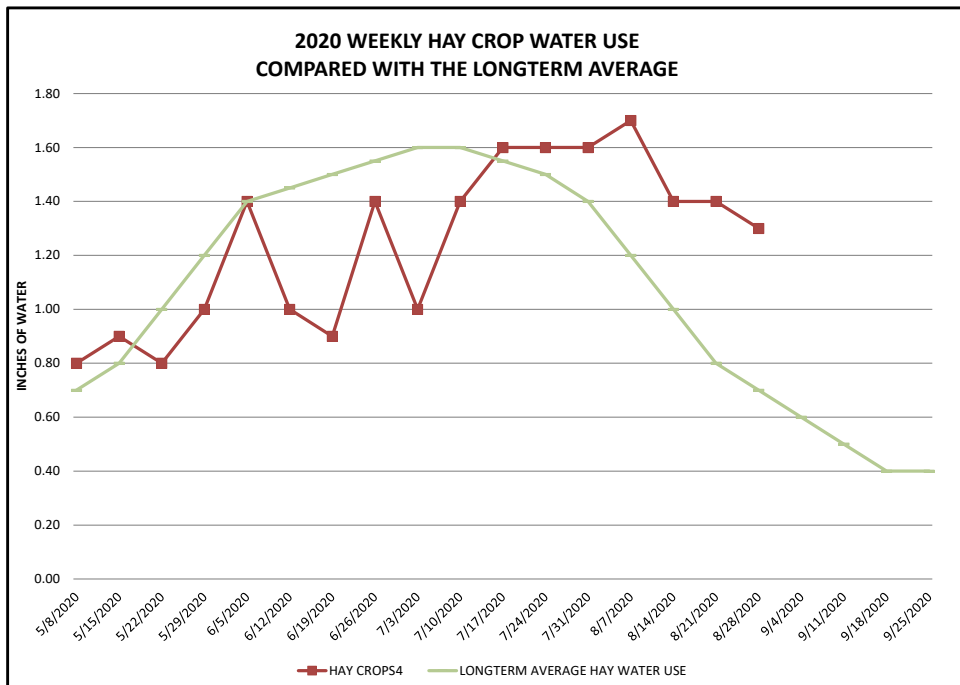
WEEK ENDING	RAIN <sup>1</sup>	2020 WEEKLY POTENTIAL CROP WATER USE <sup>2</sup>						AVERAGE WEEKLY CROP WATER USE <sup>3</sup>		
	RAIN	HAY CROPS <sup>4</sup>	PASTURE	SPRING GRAINS 5-1 START	SPRING GRAINS 5-15 START	WINTER WHEAT	LAWNS	LONGTERM AVERAGE HAY WATER USE	HOT WEEK HAY WATER USE	COOL WEEK HAY WATER USE
5/8/2020	0.01	0.80	0.70	0.10	0.10	0.90	0.90	0.70	1.00	0.30
5/15/2020	0.30	0.90	0.80	0.10	0.10	0.90	0.90	0.80	1.10	0.50
5/22/2020	1.25	0.80	0.70	0.30	0.20	0.80	0.80	1.00	1.20	0.60
5/29/2020	0.10	1.00	0.80	0.70	0.40	1.20	0.90	1.20	1.30	0.80
6/5/2020	1.00	1.40	1.20	1.00	0.70	1.50	1.30	1.40	1.50	1.00
6/12/2020	1.00	1.00	0.90	1.00	0.90	1.10	1.00	1.45	1.70	1.00
6/19/2020	0.25	0.90	0.70	0.90	0.90	1.00	0.80	1.50	1.90	1.10
6/26/2020	0.25	1.40	1.20	1.70	1.70	1.70	1.30	1.55	2.00	1.10
7/3/2020	1.00	1.00	0.80	1.20	1.20	1.20	0.90	1.60	2.10	1.30
7/10/2020	0.01	1.40	1.10	1.50	1.50	1.40	1.20	1.60	2.00	1.20
7/17/2020	0.01	1.60	1.30	1.80	1.80	1.20	1.50	1.55	2.00	1.20
7/24/2020	0.01	1.60	1.30	1.80	1.80	0.80	1.50	1.50	2.20	1.10
7/31/2020	0.01	1.60	1.30	1.80	1.80	0.80	1.50	1.40	2.20	1.10
8/7/2020	0.01	1.70	1.40	1.20	2.00	0.25	1.60	1.20	1.50	0.90
8/14/2020	0.01	1.40	1.20	0.50	1.00	0.00	1.30	1.00	1.30	0.70
8/21/2020	0.01	1.40	1.10	0.00	0.50	0.00	1.20	0.80	1.20	0.60
8/28/2020	0.01	1.30	1.00	0.00	0.00	0.00	1.20	0.70	1.10	0.50
9/4/2020								0.60	1.00	0.40
9/11/2020								0.50	0.90	0.40
9/18/2020								0.40	0.70	0.30
9/25/2020								0.40	0.70	0.30
<b>TOTAL</b>	<b>6.49</b>	<b>22.20</b>	<b>18.50</b>	<b>15.70</b>	<b>16.70</b>	<b>15.85</b>	<b>20.80</b>	<b>22.85</b>	<b>30.60</b>	<b>16.40</b>

<sup>1</sup> Rainfall should be reduced to account for immediate evaporation from crop and soil surfaces (0.1-April,May and Sept, 0.15-June and August, 0.2-July) (This rainfall figure is an average across all Blackfoot croplands - use your own rain gauge for better accuracy)

<sup>2</sup> **This years** maximum water use by healthy crops that are well-fertilized and irrigated, disease and insect-free. Will vary slightly across the drainage.

<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 approximately 2/3 the first week after cutting, 1/2 the second and 1/3 the third.





## SOIL MOISTURE - DROPS 1 to 1 1/4 INCHES IF IRRIGATED

Where there was soil moisture it dropped by 1 to 1 1/4 inches this week depending on crop type and whether you just cut or not. Crop water use decreases with cutting by 2/3 the first week and 1/3 the second week before returning to the crop's full potential in the third week after cutting.

Soil near 100% of its water holding forms a ball when squeezed and leaves the hand moist. Water is visible on the surface of the soil and the hand as a shiny surface. Bouncing the soil in the hand usually brings water to the surface. Soil near 75% of its water holding capacity also forms a ball and leaves the hand moist but no actual water is visible on the hand or soil.



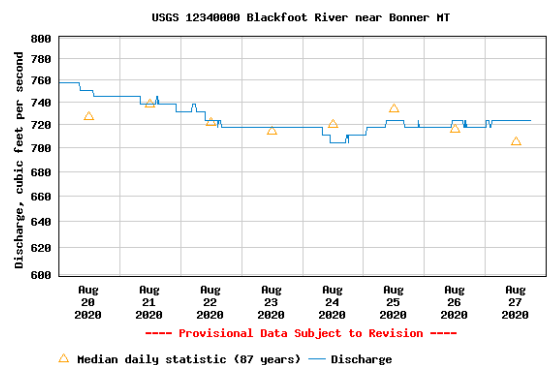
## WEEKLY TIPS

### Blackfoot River Flow is Still About Average



<b>TODAY:</b>	<b>724 CFS</b>
<b>AVERAGE:</b>	<b>717</b>
<b>HIGHEST:</b>	<b>1,580 (1899)</b>
<b>LOWEST:</b>	<b>338 (1988)</b>

Blackfoot River flows continue to drop slowly and remain at average levels for this time of year. Flows are not expected to cause drought restrictions for irrigators.



### Is There Such a Thing as Irrigation Humor for Stressful Times?

- *What did a rancher say to the spouse/child/dog during the pandemic?*

*You're starting to irrigate me.*

- *Jim says to his teacher: It's H-I-J-K-L-M-N-O*

*The Teacher says to Jim: That's not correct. How did you think of that?*

*Jim: You said it was H to O.*

- *My friend keeps saying "cheer up it could be worse, you could be stuck underground in a hole full of water."*

*I know he means well.*



For further information contact Jennifer Schoonen, Blackfoot Challenge Water Steward, 406-360-6445 or Barry Dutton, Professional 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.
- 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- REDUCE OR CEASE IRRIGATING IF POSSIBLE DURING DROUGHTS!

- Apply 1 - 2 ½ 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.