

DEPARTMENT OF NATURAL RESOURCES  
AND CONSERVATION



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To: Chairman Brad Hamlett, Water Policy Interim Committee

From: Tim Davis, Administrator, Water Resources Division, DNRC

RE: WATER AVAILABILITY CASE STUDIES

DNRC put together the following four case studies as examples of how communities have made water available for future growth within the prior appropriation system. These examples are in no way meant to be exhaustive.

CITY OF BILLINGS

The four pre-1973 water rights owned by the city of Billings from the Yellowstone River total 172 CFS up to 70,435 AF. The city also has 4 water right permits from groundwater used for dust control with a 1974 priority date. They also have a 2013 permit for Hogan's Slough for a conservation project (there is a fishing pond) that is also used as a storm water retention and drainage project. They also have 20 groundwater irrigation and lawn & garden certificates which total 1,525 GPM (3.4 CFS); 119.5 AF; and 122.58 acres. The city of Billings also has a water reservation from the Yellowstone River for 74 CFS up to 53,550 AF. At the pace the city grew from 1890 to 2014, it will take 164 years to perfect the right as allowed in the master's report.

Year	Population	AF	Increase in AF from year to year
1890	836	234	
1895	2,030	336	102
1900	3,221	902	566
1910	10,031	2,809	1907
1973 (Yellowstone County)	93,600	26,211	23402
2014	108,869	30,487	4276
2178 *	251,523	70,435	39948

\*Using the figure of 250 GPD/capita in the master's report, to reach 70,435 AF allowed in the master's report, the population would have to be 251,523.

### MOUNTAIN WATER COMPANY

The Mountain Water Company provides water to the city of Missoula. On June 28, 2012 Mountain Water Company filed combined permit and change to mitigation applications with the Department. The applications are for a water development in the northern Bitterroot Basin which is closed to new appropriations of surface water. This was Mountain Water Company's second attempt to secure a water right for a proposed new well field in the lower Miller Creek Valley. Miller Creek is an area in Missoula that has seen rapid growth and development during the past 20 or more years. Mountain Water Company applied for a flow rate of 2000 gpm and a volume of 622.9 acre-feet from the well field to supply domestic water to 1,477 households and for irrigation of 176.8 acres of lawn and garden irrigation consisting of both yards and parks.

In order to mitigate adverse effects to Bitterroot River surface water users the Mountain Water Company's mitigation plan called for no longer irrigating 233 acres of historically irrigated pasture land and leaving the water in Miller Creek to offset depletions from pumping the proposed wells. In addition to drying up farmland in the Miller Creek Valley, Mountain Water Company also changed an unperfected water right permit that was granted by the Department to a developer in Miller Creek. This unperfected permit was originally for multiple domestic and 56 acres of irrigation to be supplied water from a groundwater well. Water that would have been pumped from the well for these uses is now left in the groundwater aquifer providing some year-round mitigation benefits.

DNRC's evaluation of the applications found that the proposed mitigation plan would offset the depletions to the Bitterroot River in sufficient amounts to ensure no adverse effect; however, Mountain Water Company did not have to fully mitigate their depletions. Full mitigation was not required because there were some months where the Department found water to be legally available in the Bitterroot River using a comparison of the 50<sup>th</sup> percentile flows (median of the mean monthly flow) versus existing water rights on record.

The applications were found to be correct and complete on January 14, 2013 and publically noticed on July 3, 2013. The applications received one objection that was filed by the Montana Department of Fish, Wildlife and Parks (FWP). Prior to a hearing being conducted on the FWP's objection, FWP and Mountain Water Company entered into a private agreement that resolved FWP's objection. The files were remanded back to the Missoula Regional Office and both the permit and mitigation change were granted. The private agreement required Mountain Water Company to dry up more historically irrigated acreage in the lower Miller Creek Valley and change the purpose of those water rights to mitigation.

### UTILITY SOLUTIONS LLC

Utility Solutions LLC is a privately held water and waste water utility serving the unincorporated areas located near Four Corners in Gallatin County and within the Upper Missouri River Basin Closure area. Utility Solutions LLC was one of the first public water systems in Montana to successfully mitigate (synonymous with earlier term was augment) new public water supply wells with existing historical irrigation water rights. Mitigation is mainly accomplished using an aquifer recharge basin, another first in the state. Five permits and five change applications, along with an additional permit and change

application that were purchased later, make up the water supply water rights of Utility Solutions, LLC, which was recently purchased by the Four Corners W&SD.

Specific Application Details:

- Permit 41H-115469-00
  - o Filed on 3/9/2001 – originally for both geothermal heating and cooling and municipal purposes. District Court denied municipal purposes as not a proper basin closure exception – this resulted in any further/current public supply well permit application needing augmentation/mitigation.
- Permit 41H-30012025
  - o Filed on 8/27/2005 – 8 wells supplying two subdivisions, granted for 800 GPM up to 318.8 AF for municipal use.
  - o Augmentation application is 41H 30014080.
- Permit 41H-30013629
  - o Filed on 5/4/2005 – granted for 100 GPM up to 29.45 AF for municipal (no irrigation).
  - o Augmentation application is 41H 30014080.
- Change Application 41H 30014080
  - o Filed on 2/9/2005 (also originally included augmentation for municipal uses in Permit 41H-115469-00) Augmentation use granted for 146 AF of volume for aquifer recharge basin input for Permits 41H-30013629 and 41H-30012025.
- Permit 41H-30019215
  - o Filed on 1/4/2006 – granted for 373 GPM up to 194.6 AF for municipal use – included an additional well and place of use for two additional subdivisions.
  - o Augmentation application is 41H 30021139
- Change Application 41H-30021139
  - o Filed on 3/28/2006 – granted for 11.6 AF of augmentation.
  - o Augmentation for Permit 41H-30019215
- Change Application 41H-30024735
  - o Filed on 10/12/2006 – to change details on Permit 41H-110168-00, which was originally granted to supply water for Elk Grove Subdivision, which Utility Solutions purchased.
- Permit 41H-30026244
  - o Filed on 1/26/2007 – granted for 1273 GPM and 103.6 AF for municipal use.
  - o Augmentation application is 41H-30026245.
- Change Application 41H-30026245
  - o Filed on 1/26/2007 – granted for 6.12 AF of augmentation.
  - o Augmentation for Permit 41H-30026244.
- Permit 41H-30046241 – Combined Application
  - o Filed on 6/29/09 – granted for 3420 GPM up to 1140.68 AF for municipal use with 8 wells.
  - o Mitigation Changes – 41H-30046242 and 41H-30046243
- Change Application 41H-30046242 – Combined Application
  - o Filed on 1/26/2007 – granted for 17.46 AF of mitigation.
- Change Application 41H-30046243 – Combined Application
  - o Filed on 1/26/2007 – granted for 96.38 AF of mitigation.

GRASS VALLEY FRENCH DITCH

Grass Valley French Ditch (GVFD) is the first irrigation district in Western Montana to take advantage of 2011 law allowing for changes to marketing for mitigation. The law can be found at MCA 85-2-420. Their application was submitted on October 25, 2011, found to be correct and complete on December 12, 2012 and ultimately issues on December 17, 2014. The processing times on this application are far longer than a normal application due to complexity and the Department providing a considerable amount of assistance to the applicant. The applicant waived the statutory timelines associated with processing a permit which allowed for us to work with the irrigation district closely.

The water right being changed has a priority date of November 25, 1901, a flow rate of 105.75 CFS and a place of use listing 5,489 acres. Of the acreage claimed the Department found 4,383 acres to be the maximum irrigated. The proposal calls for GVFD to retire acres from irrigation as shares are sold for mitigation and to then reduce their diversion by the flow rate associated with the acreage changed to mitigation. Ultimately the irrigation district can retire 3,304 historically irrigated acres which will provide up to 3,733.5 acre-feet of mitigation water to the Clark Fork River. Each acre changed to mitigation will provide 5.2 gpm up to 3.24 acre-feet to the Clark Fork River, however, only the consumed volume of 1.13 acre-feet associated with each acre retired actually performs mitigation. Through the processing of this change the effective reach for mitigation was determined to be from the historic headgate just west of Reserve Street in Missoula down to the Noxon Rapids Dam, which is now the place of use for mitigation. This area is not located within any closed basins and the need for mitigation is the result of the Thompson River Lumber application which found that an appropriation of 200 gpm would cause adverse effect to the power generation at Noxon Dam.

This year will be the first year for GVFD to report whether or not any acreage was changed to mitigation. To my knowledge none have and we have not received a permit application for a new water use requiring mitigation in the lower Clark Fork River.