



ADMINISTRATIVE RULES OF MONTANA



36.12.1902 CHANGE APPLICATION - HISTORIC USE

- (1) The description of the historic information is related to a date that is dependent on the type of water right being changed. The following dates are applicable for each type of water right:
 - (a) historic information for a statement of claim must be described as it was used prior to July 1, 1973, unless the Water Right Claim was subject to a previous change in which case it is the date of completion of the change;
 - (b) historic information for a provisional permit must be described as it was used at the filing date of the completion notice;
 - (c) historic information for a certificate of water right must be described as it was used at the filing date of the completion notice;
 - (d) historic information for an exempt or nonfiled water right must be described as it was completed prior to July 1, 1973; and
 - (e) when a change application has been granted on or after July 1, 1973, the department may request additional historic information for a statement of claim as it was used prior to July 1, 1973.
- (2) Final Water Court approved stipulations and master's reports related to the water right being changed must be referenced with the application; however, this information or an abstract of a water right from the department or the Montana Water Court by itself is not sufficient to prove the existence or extent of the historical use.
- (3) The amount of water being changed for each water right cannot exceed or increase the flow rate historically diverted under the historic use, nor exceed or increase the historic volume consumptively used under the existing use.
 - (a) The department may use column H in Table 1 for proposed irrigation to compare the historic consumptive use (HCU) to the amount of water being changed.
- (4) The department shall compare historical acres irrigated to acres identified as irrigated in the Water Resources Survey, if available for the place of use. If the Water Resources Survey does not support the historical irrigation alleged in the application, the applicant shall explain why. Information from irrigation journals, logs, or old aerial photographs can be submitted for consideration.

- (5) For an application to change multiple irrigation water rights, the total number of acres for each water right located within the place of use must be identified.
- (6) For an application to change water rights that overlap the historic place of use, an applicant shall include those water rights in the change application or shall explain how each of the water rights has been historically used and how the unchanged water rights will be used if the change authorization were granted. If water will continue to be used at the historic place of use, the applicant shall explain how the continued use will not increase the combined historic maximum diverted flow rate, the historic diverted volume, and the historic consumptive volume.
- (7) The department will corroborate the historic use, including the following of each water right being changed:
 - (a) water right number and the priority date;
 - (b) most recent year the water right was used;
 - (c) historic point of diversion;
 - (d) historic period of diversion;
 - (e) historic means of diversion;
 - (f) typical historic diversion schedule and operation pattern;
 - (g) means of conveyance;
 - (h) historic ditch capacity;
 - (i) maximum historic flow rate diverted from each point of diversion and how the amount was determined;
 - (j) historic place of use for each purpose;
 - (k) maximum number of acres historically irrigated;
 - (l) typical historic period of use for each purpose;
 - (m) annual or monthly historic diverted volume and how this amount was determined;
 - (n) the annual or monthly historic consumptive volume for each purpose;
 - (i) for irrigation, an applicant may choose to use the methodology described in (16); and
 - (ii) for irrigation, an applicant who chooses not to use the methodology described in (16), shall provide the factual basis for the historic consumptive volume calculation and why the historic consumptive use is less than or greater than the methodology described in (16);
 - (o) the historic efficiency including the diversion, conveyance, and overall system;
 - (p) the legal land description of a reservoir;
 - (q) the maximum volume in acre-feet of stored water;
 - (r) evaporation loss of stored water (evaporation standards can be found in ARM 36.12.116);
 - (s) maximum number of times a reservoir was filled during a year; and
 - (t) maximum period of time when water was legally collected for storage.

- (8) The following information may be used by the department to establish the requirements under (7):
- (a) aerial photographs depicting irrigated land:
 - (i) 1979, 1997, and 2005 photos showing the irrigated land;
 - (b) aerial or other photographs showing diversion or conveyance structures;
 - (c) Water Resources Survey book information;
 - (d) Water Resources Survey field notes;
 - (e) water commissioner field notes;
 - (f) Natural Resources Conservation Service (NRCS) information, such as field specific soils information;
 - (g) affidavits from persons with first-hand knowledge of historic use;
 - (h) calculation of historic ditch capacities;
 - (i) description of irrigation equipment, field treatments, means of conveyance, control structures, and other onsite features related to water use;
 - (j) description of water supply availability;
 - (k) log books or diaries of previous irrigators or farm operations, crop yield records, or diversion records; or
 - (l) an evaluation of the seniority of the water right in relation to other users.
- (9) The annual or monthly historic diverted volume must be based on the appropriator's typical historic operation of their diversion, irrigation, and harvest schedule throughout the period of diversion and the period of use. If applicable, in addition to the information required in 36.12.1902(7), if a secondary diversion from a ditch or reservoir exists, an applicant shall identify the diversion means and the typical operation of that secondary diversion.
- (10) The department shall calculate the historic diverted volume for water rights with the purpose of irrigation using the following equation: $\text{Historic Diverted Volume} = (\text{Volume}_{\text{historic consumptive use}} / \text{On-farm efficiency}) + \text{Volume}_{\text{conveyance loss}}$:
- (a) "conveyance loss" means the portion of water diverted at the headgate that does not arrive at the irrigated place of use due to seepage and evapotranspiration from the ditch;
 - (b) "seepage loss" means $((\text{flow area}) * (\text{ditch length}) * (\text{loss rate}) * (\text{days})) / 43,560 \text{ ft}^2 / \text{ac}$; and
 - (c) "on-farm efficiency" refers to the percent of the water delivered to the field that is used by the crop.
- (11) If the applicant chooses not to use the methodology in (10), they shall provide additional information on the Historic Water Use Addendum.
- (12) Historic consumptive volume must be based on the acre-feet of water used for the beneficial purpose, such as water transpired by growing vegetation, evaporated from soils or water surfaces, or incorporated into products that do not return to ground or surface water.

- (13) The following may be used to calculate ditch capacity, historic available water supply, and reservoir capacity:
- (a) Manning's equation;
 - (b) Orsborn's equation;
 - (c) Blaney-Criddle equation; and
 - (d) the department will determine the acceptability of other reports or methods on a case-by-case basis.
- (14) The historic consumptive use methodology that the department shall use to determine historic consumptive use for water rights with a purpose of irrigation is based on data from the United States Department of Agriculture (USDA) National Agricultural Statistics Service (NASS), and generated using the USDA NRCS Irrigation Water Requirements (IWR) program. If the applicant chooses not to accept the methodology used by the department, the applicant shall provide additional information on the Historic Water Use Addendum.
- (15) IWR Data for Seasonal Alfalfa Evapotranspiration County Management Factor are shown in Table 1 and will be used by the department to identify the historic consumptive volume unless additional information is provided by the applicant on the Historic Water Use Addendum. If this table is used to establish the historic consumptive volume, the department will recognize that volume as a reasonable calculation, unless a valid objection is received which offers proof that the volume is inaccurate.
- (16) To determine the historic consumptive volume using the table, the department will complete the following steps:
- (a) determine which weather station (column B) is the most representative for the place of use (column C). The most representative weather station may not be in the county of the place of use, but must be nearby and about the same elevation and climatic conditions as the irrigated acres. A map showing the weather stations is located on the Internet at: https://dnrc.mt.gov/docs/water/Water-Rights-Forms/IWR_weatherstation_location_map.pdf;
 - (b) find the evapotranspiration inches based on whether the historic irrigation is flood, wheeline, handline, or center pivot, to estimate the historic IWR (columns D or E);
 - (c) identify the county in which the irrigated acres are located to determine the county management factor percentage (column F or G);
 - (d) multiply the IWR estimate found in column D or E by the management factor percentage in column F or G. The result is the number of inches used per irrigated acre;
 - (e) multiply the number of total acres within the historic place of use by the county adjusted inches used per irrigated acre calculated in (d) above to determine the historic consumptive inches for those acres; and
 - (f) divide the cumulative historic consumptive inches from (e) by 12 to determine the cumulative historic consumptive acre-feet for the total acres.
 - (g) If the historic consumptive volume determined by this methodology exceeds the historic diverted amount, the department may request additional information in order to resolve the discrepancy. This may result in a reduction of the consumptive volume.

Table 1 - Montana County Weather Station IWR Data for Seasonal Alfalfa Evapotranspiration and Montana County Management Factor.

County	Weather Station	Elevation	IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)	IWR Center Pivot Irrigation Seasonal ET (inches)	Management Factor Percentage 1964 - 1973 (pre-July 1, 1973 HCU)	Management Factor Percentage 1973 - 2006 (post-July 1, 1973 HCU)	Management Factor Percentage 1997 - 2006 (proposed use)
Beaverhead	Dillon	5239	18.34	20.74	63.70%	82.80%	88.30%
	Wisdom	6060	7.34	9.29			
	Jackson	6480	8.35	10.3			
	Lakeview	6710	8.39	10.67			
	Lima	6583	13.75	16.01			
Big Horn	Busby	3430	20.32	22.88	55.40%	78.70%	88.10%
	Hardin	2905	27.46	29.96			
	Hysham 25	3100	20.25	22.86			
	Wyola	3750	19.19	21.89			
	Yellowtail Dam	3305	28.07	31.3			
Blaine	Chinook	2420	20.8	23.57	58.70%	63.60%	66.00%
	Harlem	2362	21.62	24.27			
Broadwater	Townsend	3840	19.42	21.88	69.20%	79.50%	87.10%
	Trident	4040	20.64	23.31			
Carbon	Joliet	3776	22.41	25.12	58.30%	66.80%	70.80%
	Red Lodge	5500	15.57	18.41			
Carter	Ekalaka	3425	20.13	23.14	38.40%	54.70%	54.10%
	Ridgeway	3320	20.28	23.01			
Cascade	Cascade 20	4600	14.12	16.63	57.30%	70.00%	78.80%
	Cascade 5	3360	17.9	20.75			
	Great Falls	3675	19.78	22.55			
	Neihart	4945	12.17	15.08			
	Sun River	3340	18.1	20.65			
Chouteau	Big Sandy	2700	21.52	24.37	52.50%	64.90%	77.90%
	Fort Benton	2640	21.98	24.75			
	Geraldine	3130	20.3	23.27			
	Iliad	2950	21.55	24.27			
	Loma	2700	22.64	25.37			
	Shonkin	4300	13.32	16.7			
Custer	Miles City	2628	26.68	29.55	54.50%	72.00%	81.10%
	Mizpah	2480	23.8	26.57			
	Powderville	2800	24.83	27.68			
Dawson	Glendive	2076	26.01	28.99	56.80%	63.60%	72.00%

Deer Lodge	No weather station				See appropriate adjacent county		
Fallon	Plevna	2780	22.48	25.34	47.60%	47.80%	47.60%
Fergus	Denton	3620	15.39	18.12	48.80%	65.80%	68.30%
	Lewistown	4167	15.54	18.44			
	Roy	3450	19.94	22.78			
	Winifred	3240	17.86	20.75			
Flathead	Creston	2949	14.97	17.81	87.60%	94.50%	96.60%
	Hungry Horse Dam	3160	14.66	18.06			
	Kalispell	2972	16.45	19.03			
	Olney	3165	12.5	15.16			
	Polebridge	3600	10.2	12.5			
	West Glacier	3154	13.74	16.78			
	Whitefish	3100	15.74	18.61			
Gallatin	Bozeman Exp Farm	4775	16.84	19.55	73.50%	92.10%	98.60%
	Bozeman MT State	4913	18.42	21.39			
	Hebgen Dam	6667	10.09	12.77			
Garfield	Cohagen	2710	22.36	24.99	43.40%	50.60%	46.10%
	Jordan	2661	23.58	26.32			
	Mosby	2750	24.51	27.34			
Glacier	Babb	4300	12.12	14.87	59.70%	73.60%	73.90%
	Cut Bank	3855	16.01	18.6			
	Del Bonita	4340	14.61	17.3			
	East Glacier	4810	10.6	13.26			
	St Mary	4560	13.64	16.6			
Golden Valley	Ryegate	4440	17.6	20.17	62.60%	65.50%	64.60%
Granite	Philipsburg Ranger Station	5270	12.9	15.26	86.50%	87.40%	96.60%
Hill	Fort Assinniboine	2613	22.42	25.2	54.10%	59.80%	60.40%
	Guilford	2820	19.54	22.06			
	Havre	2585	20.94	23.46			
	Simpson	2815	19.67	22.13			
Jefferson	Boulder	4904	17.08	19.47	61.00%	77.90%	81.10%
Judith Basin	Moccasin Exp Station	4243	16.17	19.06	49.30%	68.00%	68.80%
	Raynesford	4220	16.14	19.05			
	Stanford	4860	16.74	19.69			
Lake	Bigfork	2910	17.37	20.61	55.00%	69.20%	68.70%
	Polson	2949	20.46	23.23			

	Polson Kerr Dam	2730	21.37	24.08			
	St Ignatius	2940	19.53	22.33			
Lewis & Clark	Augusta	4070	17.51	20.13	60.10%	79.00%	79.70%
	Austin	4790	15.41	17.96			
	Helena	3828	20.23	22.69			
	Holter Dam	3490	23.88	26.61			
	Lincoln Ranger Station	4575	12.87	15.22			
Liberty	Chester	3132	19.28	21.74	54.80%	65.70%	63.90%
	Joplin	3300	19.01	21.4			
	Tiber Dam	2850	22.98	25.46			
Lincoln	Eureka Ranger Station	2532	20.63	23.26	47.10%	56.30%	58.80%
	Fortine	3000	16.09	18.69			
	Libby Ranger Station	2096	21.2	23.71			
	Libby	3600	11.06	13.36			
	Troy	1950	19.9	22.68			
Madison	Alder	5800	14.33	16.75	65.20%	79.00%	83.30%
	Ennis	4953	17.19	19.71			
	Glen	5050	17.81	20.01			
	Norris	4750	20.88	23.97			
	Twin Bridges	4777	16.98	19.22			
	Virginia City	5770	15.57	18.13			
McCone	Brockway	2630	20.74	23.35	43.70%	55.00%	60.60%
	Circle	2480	22.23	25.01			
	Fort Peck Power Plant	2070	25.37	28.16			
	Vida	2400	21.74	24.65			
Meagher	Lennep	5880	11.93	14.38	57.30%	70.40%	78.30%
	Martinsdale	4800	15.19	17.73			
	White Sulphur Spr	5060	16.41	18.89			
Mineral	St Regis Ranger Stn	2680	17.61	20.05	56.10%	63.30%	63.60%
	Superior	2710	21.94	24.54			
Missoula	Lindbergh Lake	4320	14.63	17.22	69.50%	67.50%	69.40%
	Missoula	3420	18.85	21.49			
	Missoula WSO AP	3199	19.45	21.89			
	Potomac	3620	14.05	16.26			
	Seeley Lake Ranger	4100	14.86	17.31			

	Station						
Musselshell	Melstone	2920	24.22	27.17	50.00%	58.70%	56.20%
	Roundup	3386	23.98	26.79			
Park	Cooke City	7460	8.68	11.63	56.90%	66.10%	67.50%
	Gardiner	5275	22.46	24.7			
	Livingston	4870	16.59	19.41			
	Livingston FAA AP	4656	18.63	21.39			
	Wilsall	5840	13.2	16.01			
Petroleum	Flatwillow	3133	22.27	25.01	44.00%	50.00%	43.20%
Phillips	Content	2340	21.15	23.97	54.70%	54.70%	54.90%
	Malta 35	2650	20.28	22.99			
	Malta 7	2262	21.61	24.39			
	Port of Morgan	2830	20.15	22.72			
	Saco	2180	20.13	22.7			
	Zortman	4660	14.38	17.4			
Pondera	Conrad	3550	16.93	19.42	71.40%	81.00%	83.70%
	Valier	3810	18.31	20.96			
Powder River	Biddle	3597	21.87	24.66	38.50%	49.30%	53.30%
	Broadus	3032	23.03	25.69			
	Moorhead	3220	23.72	26.42			
	Sonnette	3900	18.32	20.96			
Powell	Deer Lodge	4678	13.14	15.32	77.60%	90.00%	100.0% ¹
	Ovando	4109	12.28	14.43			
Prairie	Mildred	2510	22.92	25.58	59.60%	73.60%	84.30%
	Terry	2248	22.82	25.47			
	Terry 21	3260	18.65	21.34			
Ravalli	Darby	3880	18.91	21.44	79.50%	88.60%	96.10%
	Hamilton	3529	19.93	22.34			
	Stevensville	3380	19.19	21.44			
	Sula	4475	12.09	14.42			
	Western Ag Research	3600	19.82	22.15			
Richland	Savage	1990	23.61	26.59	56.00%	72.90%	88.40%
	Sidney	1931	22.49	25.45			
Roosevelt	Bredette	2638	19.99	22.86	46.50%	64.90%	74.60%
	Culbertson	1942	20.84	23.73			
	Wolf Point	1985	24.16	27.03			
Rosebud	Birney	3160	24.57	27.29	47.70%	67.70%	72.70%
	Brandenberg	2770	23.83	26.52			
	Colstrip	3218	23.32	26.1			
	Forsythe	2520	25.17	28.04			
	Ingomar	2780	23.18	25.83			

	Rock Springs	3020	21.35	23.93			
Sanders	Heron	2240	14.82	17.73	58.80%	69.10%	62.80%
	Thompson Falls Power	2380	22.49	25.36			
	Trout Cr Ranger Station	2356	16.6	19.4			
Sheridan	Medicine Lake	1975	21.64	24.49	44.80%	68.50%	80.70%
	Plentywood	2063	20.64	23.48			
	Raymond Border Station	2384	19.13	22.04			
	Redstone	2300	17.86	20.58			
	Westby	2120	18.1	21.033			
Silverbow	Butte FAA AP	5545	14.73	17.06	68.80%	90.30%	93.60%
	Divide	5350	15.25	17.58			
Stillwater	Columbus	3602	22.31	25.09	46.50%	62.90%	72.50%
	Mystic Lake	6544	13.57	16.57			
	Nye	4840	15	17.93			
	Rapelje	4125	20.35	23.07			
Sweet Grass	Big Timber	4100	20.6	23.47	44.70%	53.60%	49.40%
	Melville	5370	12.83	15.49			
Teton	Blackleaf	4240	14.74	17.34	68.80%	80.20%	88.40%
	Choteau Airport	3845	20.53	23.07			
	Fairfield	3980	19.1	21.76			
	Gibson Dam	4724	13.57	16.22			
Toole	Goldbutte	3498	16.3	18.96	51.80%	66.50%	70.80%
	Sunburst	3610	18.74	21.46			
	Sweetgrass	3466	18.22	21.22			
Treasure	Hysham	2660	25.01	27.78	53.40%	75.20%	91.50%
Valley	Glasgow WSO AP	2293	23.48	26.12	57.90%	66.60%	74.90%
	Hinsdale	2670	22.18	25.25			
	Opheim 10	2878	16.19	18.86			
	Opheim 16	3258	16.73	19.34			
Wheatland	Harlowton	4162	17.83	20.56	46.60%	58.70%	54.40%
	Judith Gap	4573	13.77	16.4			
Wibaux	Carlyle	3030	19.87	22.75	See appropriate adjacent county		
	Wibaux	2696	18.69	21.5			
Yellowstone	Billings Water Plant	3097	26.16	28.92	59.50%	71.40%	77.80%
	Billings WSO	3648	25.49	28.22			

	Huntley Exp Station	3034	21.92	24.61			
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¹ The 1997-2006 county management factor was calculated to be slightly greater than 100%, therefore the 1997-2006 Management Factor is set to 100%.

- (17) In addition to the amount determined by the methodology described in (14) and (15), the department will add the following consumptive loss components to account for irrecoverable losses at the field:
- (a) 5% of the volume applied to the field for flood systems; and
 - (b) 10% of the volume applied to the field for sprinkler systems.

Authorizing statute(s): 85-2-112, 85-2-113, 85-2-302, MCA

Implementing statute(s): 85-2-302, 85-2-401, 85-2-402, 85-2-407, 85-2-408, 85-2-436, MCA

History: NEW, 2004 MAR p. 3036, Eff. 1/1/05; AMD, 2009 MAR p. 2259, Eff. 11/26/09; AMD, 2012 MAR p. 2071, Eff. 10/12/12; AMD, 2013 MAR p. 1344, Eff. 7/26/13.