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Detailed Explanation of the State of Montana's Proposal for the Resolution of the Confederated Salish & Kootenai Tribes' Claims to Off-Reservation Water Rights

for the Kootenai, Swan and Clark Fork Rivers

January 30, 2012

RWRCC, 1625 Eleventh Avenue, PO Box 201601, Helena, MT 59620-1601, Phone (406) 444-6841, Fax (406) 444-6721

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Introduction

In *The State of Montana's Proposal for the Resolution of the Off-Reservation Water Rights Claims of the Confederated Salish & Kootenai Tribes* (*Proposal*), transmitted to the Confederated Salish & Kootenai Tribes (Tribes) on July 20, 2011, the State of Montana (State) proposed, as part of a comprehensive settlement of the water rights claims of the Tribes, to recognize instream flow rights in the Kootenai and Swan River drainages with a time immemorial priority date. The State proposed establishing those rights at levels that would provide tangible biological benefits to the fisheries resources in those drainages, while protecting existing water right holders and leaving some water available for the future development of new consumptive uses in those drainages. In the *Proposal*, the State also proposed making the water rights associated with the former Milltown Dam[1] the centerpiece of the resolution of the Tribes' instream flow claims in the Upper Clark Fork drainage.[2]

As part of the *Proposal*, the State committed to developing for consideration by the Tribes and the United States specific ***Enforceable Hydrographs (EH)***[3] to quantify the instream flow rights in the Kootenai and Swan River drainages that were described in narrative form in the *Proposal*. The State has also worked to refine its approach for how the water rights associated with the former Milltown Dam fit into Clark Fork River section of the *Proposal*. This technical document specifically describes three proposed water rights located on the Kootenai, Swan and Clark Fork Rivers. It identifies the common attributes of these three water rights and presents specific summaries for each right and brief descriptions of the methods used to articulate them. It is intended to be construed as an integral part of the *Proposal*.

[1]The Milltown/Upper Clark Fork instream flow quantification discussed herein reflects a repurposing of the water rights associated with the former Milltown Dam and Reservoir that were non-consumptive in nature and formerly used to generate hydroelectric power. The State's Natural Resources Damages Program and Montana Fish, Wildlife & Parks intend for the State to retain ownership of all portions of the Milltown water right that were historically consumed and to use the water associated with those consumptive use rights to supply water to the new state park located at the site of the former Milltown Reservoir. It is anticipated that the purpose of these consumptive use rights, along with that of the non-consumptive rights that are discussed below, will be changed simultaneously through the compacting process (as opposed to being changed through the administrative process overseen by the Montana Department of Natural Resources and Conservation).

[2] The State acquired these rights as a result of the Consent Decree for the Milltown site entered in the action *United States of America v. Atlantic Richfield Company and Northwestern Corporation*, No. CV89-039-BU-SHE, to which both the State and the Tribes were parties.

[3] "Enforceable Hydrograph" means a static distribution of unique daily flow values, one each for every day of the year. If flow conditions fall below these daily flow values, the water right owner, or agent thereof, is entitled to make call on holders of junior water rights to cease their diversions until such time as river flow meets or exceeds the EH daily flow values, under the terms described in the specific water rights summaries below.

Common Water Right Attributes

All three of these proposed instream flow rights share some common characteristics:

1. They are described as varieties of *EH*, which are static daily flow hydrographs that enumerate an enforceable or callable flow rate for each day of the year.
2. They are purposed for the maintenance and enhancement of fish habitat and should not be eligible to be changed to a different or additional purpose in the future.
3. They each have individual discharge values for every day of the year, and their quantification points of measurement are collocated with real-time USGS stream flow gauges; the gauge information is intended to inform monitoring and facilitate the enforcement of priority-based water allocation.
4. In the event that flows drop below the levels set in the EHs for the amount of time specified in the summary for each water right, call may be made to ensure that flows return to the enforceable level. The State proposes limiting the categories of water rights against which call may be made to the following: 1) water rights whose purpose is identified as being for irrigation, supplied by a surface water source, and junior in priority to the priority date of the instream flow right; and 2) water rights whose purpose is identified as being for irrigation, supplied by a groundwater source, junior in priority to the priority date of the instream flow right, and whose flow rate is larger than 100 gallons per minute (GPM). Non-irrigation surface or groundwater water rights would not be subject to call to satisfy these instream water rights, nor would any irrigation water rights that are supplied by groundwater whose flow rate is 100 GPM or lower. This proposed limitation on the ability to call water users other than irrigators is not intended to apply to any water use developed after the date that the Montana legislature ratifies a water rights settlement between the Tribes and the State, all of which *would* be subject to call.[4]
5. Each water right has a period of use and a period of diversion from January 1 to December 31 of each year.
6. The point of diversion and place of use for each of these water rights is in channel; these water rights are not to be exercised in conjunction with any artificial diversion.
7. The EH for each of these water rights relies on real-time continuous flow measurements for enforcement. As such, these rights are unenforceable without the information provided by such measurements.[5]

[4] It should be noted that the term "call" is not intended to encompass an action brought to enjoin or otherwise force the discontinuation of any wasteful use of water. Nothing in the *Proposal*, including this document, is intended to limit any person's right to bring an action predicated on an assertion of wasting of water.

[5] Accordingly should any of the USGS real-time gauges associated with any of these EHs be discontinued, and should no other gauging device capable of providing such real-time data be installed in its place, no enforcement of any ungauged right would be possible. Consequently, it seems prudent to negotiate for a commitment from the United States to maintain these gauges in perpetuity as part of the obligations the United States undertakes in connection with this settlement.

Kootenai River Instream Flow Summary

For the Kootenai River, the State proposes to recognize a new instream flow water right with an EH to be measured at USGS streamflow gauge #1230500 located at Leonia, Idaho. The EH is diagramed in Appendix A, with specific daily flow rates set forth in Appendix B. This Kootenai River instream flow water right will carry a priority date of time immemorial and therefore be senior to all other water rights in the basin. The Kootenai River EH is based on 1929-1971 natural flow conditions, which reflect a period of record prior to the 1972 installation of the Libby Dam. As noted above, junior surface water irrigators, and junior groundwater irrigators whose rights have a flow rate above 100 GPM, could be called when the average daily flow on the Kootenai River, as located and measured at USGS gauge #1230500, drops below the enforceable value. Any such call should cease when the average daily flow rises back above the enforceable value. Because the operation of Libby Dam has so dramatically altered natural flow conditions, however, the State believes it is reasonable to suspend this ability to make call on junior users so long as: 1) Libby Dam remains in place; and 2) the Army Corps of Engineers, in its operation of Libby dam, adheres to the requirements of the Federal Columbia River Power System Biological Opinion[6] and the Montana Operation (*see* Appendix C) contained therein.

This proposed Kootenai River instream flow right also includes both basin and subbasin restrictions on new uses of water after the date on which a comprehensive water rights settlement among the Tribes, the State and the United States is ratified by the Montana legislature. Basin and subbasin restrictions take the form of monthly volume maximums for the issuance of post-Compact water permits by the Montana Department of Natural Resources and Conservation (DNRC). Subbasin limitations also include maximum monthly flow rate conditions for all post-Compact water permits that may be issued by the DNRC within the basin. The specific monthly flow rate and volume restrictions are itemized in Appendix D. These restrictions are not intended to apply to water appropriated after the approval of the Compact pursuant to the permit exceptions set forth in § 85-2-306, MCA. The subbasin protections cover core bull trout streams. All volume and flow rate quantifications apply to water that can be consumed from the source for any length of stream.[7]

The cumulative values for post-Compact subbasin permit limitations presented in Appendix D account for all existing water rights. In the case of two Kootenai Basin subbasins, Grave Creek and O'Brien Creek, existing rights fully exhaust the available volumes. The appropriation limits for both of these subbasins indicate no water is available for the issuance of new water use permits by the DNRC in these two subbasins, and the State therefore proposes closing these two

[6] "Biological Opinion" means any biological impact analysis of Libby Dam operations on any species listed as threatened or endangered through the consultation process of § 7(a)(2) of the Endangered Species Act.

[7] This qualification is important as it ensures that uses that might otherwise be deemed non-consumptive (such as hydropower developments) could not be developed if they would have the effect of removing water from the natural channel above the established volume and flow rate limits.

tributaries to future permitting by the DNRC as part of the Compact. Again, however, these limitations would not apply to future volume or flow rates appropriated pursuant to the permit exceptions set forth in § 85-2-306, MCA.

Swan River Instream Flow Summary

For the Swan River, the State proposes to recognize a new instream flow water right with an EH to be measured at USGS streamflow gauge #12370000, located immediately below Swan Lake near Big Fork, Montana. This EH is diagramed in Appendix E and its specific daily flow rates are enumerated in Appendix F. As with the Kootenai River right, this Swan River instream flow water right will carry a priority date of time immemorial and therefore be senior to all other water rights in the basin. The Swan River EH is based on the 1923 to 2010 period of record. The State again proposes that calls to enforce this right may be made only on junior surface water irrigators, and on junior groundwater irrigators whose rights have a flow rate above 100 GPM. Call may be made when the average daily flow on the Swan River, as located and measured at USGS gauge #12370000, drops below the enforceable value. Any such call should cease when the average daily flow rises back above the enforceable value.

Like the Kootenai Basin, the proposed Swan River instream flow right also includes both basin and subbasin restrictions on new uses of water after the date on which a comprehensive water rights settlement among the Tribes, the State and the United States is ratified by the Montana legislature. Swan Basin and subbasin restrictions take the form of monthly volume maximums for the issuance of post-Compact water permits by the DNRC. The subbasin limitations also include maximum monthly flow rate conditions for all post-Compact water permits that may be issued by the DNRC within the basin. The specific monthly flow rate and volume restrictions are itemized in Appendix G. These restrictions are not intended to apply to water appropriated after the approval of the Compact pursuant to the permit exceptions set forth in § 85-2-306, MCA. The subbasin protections cover core bull trout streams. As with the Kootenai, volume and flow rate restrictions apply to water that will be consumed from the source for any length of stream. The cumulative values for post-Compact subbasin permit limitations presented in Appendix D account for all existing water rights, but unlike the Kootenai, these subbasin restrictions do not result in the need to close any Swan Drainage subbasins to new permitting from the date the Compact is approved by the Montana legislature.

Clark Fork River Instream Flow Summary

The proposed instream flow for the Clark Fork River is based on the former Milltown Dam power generation water right 76M 94404-00 (Appendix H), of 2,000 CFS, which would be changed legislatively through the water right compacting process to a right purposed for instream flow for the benefit of fisheries resources. As set forth in the *Proposal*, the State believes this

changed right should be co-owned by the Tribes and Montana Fish Wildlife and Parks (FWP).[8] The measuring point for this water right is to be USGS gauge #12340500, below the former Milltown Reservoir. The right would maintain the December 11, 1904 priority date associated with the original hydropower water right and a flow rate of 2,000 CFS.

Unlike the Swan and Kootenai Rivers, the Clark Fork River water right does not include specific basin and subbasin protections as the Upper Clark Fork River Basin, whose lower boundary is collocated with this water right, has already been closed by the Montana legislature to the issuance of new water permits. Should that closure be rescinded, lifted, or otherwise modified in a way that allows for the permitting of new water right appropriations in the Upper Clark Fork River Basin, this proposed water right shall be considered in any determination of legal water availability, and the flow rate of this right for the purpose of calculating legal availability shall be 2,000 CFS for all days of the year. The State intends that, subject to the enforcement approach set forth below, this water right shall entitle the owners to appropriate up to 2,000 CFS for beneficial use on any day of the year, so long as that flow rate is physically available.

For enforcement of this water right, the State believes that it is reasonable to limit any call to being made against surface water rights used for irrigation that are junior to this water right and all junior groundwater irrigation water rights with a flow rate greater than 100 GPM. The enforceable level of this water right takes the form of an EH as diagramed in Appendix I with specific daily flow rates enumerated in Appendix J. The EH flow rate of this water right tracks the median of the driest 20% of mean daily discharge values as calculated using the entire period of record through the end of 2010, bound by an upper maximum value that corresponds to the existing water right's 2,000 CFS maximum and a lower minimum value that correspond to a minimum biological flow target of 1,100 CFS. Under this Proposal, call may be initiated on the day following a five-consecutive-day-period where four out of five average daily river flows fall below their respective daily EH threshold values. The flow rate of water that may be called shall be calculated by looking to the deficit between the river flow and the EH value from three days previous. Call may persist until such time as two average daily flows of the previous five-consecutive-day-period are in excess of their respective daily EH threshold values for those days.

This *Proposal* contemplates that the Tribes and FWP may also request enforcement of this right to the EH values by a water commissioner or other administrative means provided by law. In addition, this water right shall not be deemed diminished or partially abandoned by the Tribes or FWP by the discretionary act of making or declining to make call or requesting enforcement of the right by a water commissioner or by any other means at a level less than the full 2,000 CFS extent of the water right.

[8] As was also noted in the Proposal, the specifics of how co-ownership would work remains as a subject for further negotiation. Montana intends to outline its vision for co-ownership in the near future.

Enforceable Hydrograph Methodology

For the Swan and Kootenai drainages, an EH methodology is used to quantify protectable daily flows at specific USGS gauging stations. The first step of the EH methodology arranges and averages historic USGS daily flow records, from multiple consecutive historic years of interest, to create a single hydrograph shape known as a ***Representative Hydrograph***[9] (RH). The formulas used to generate an RH are two-fold: 1) RH daily flows for October 1st to the following May 31st periods, which largely characterize base flows outside the irrigation season, are simple daily flow averages for each respective day during the historic years of interest; and 2) RH Daily flows for April 1st to September 30th periods, which describe both the irrigation season and higher flow periods, are derived by aligning all individual yearly hydrographs and associated daily flows by their peak spring flows during the historic years of interest and situating those aligned peaks around the common ***Average Peak Flow Day***,[10] and then the daily flow averages of this phase-shifted flow information become the RH daily flow values for the April 1-September 30 period. Although the RH uncouples the original link between a particular peak flow rate and the specific day on which it occurs, the individual daily flow orientation to days-from-peak-runoff is maintained but time-shifted to make the RHs more compatible with average peak flow timing for the site. As a final step in generating an RH, once individual years are arranged around the average peak flow day and the averages for base and winter flows are calculated, ***Seven-day Moving Averages***[11] of the resultant daily flows yield the final individual daily flow values of an RH.

The RH generally describes an average hydrograph for the period of record and therefore depicts a middle value, or arithmetic average, of flows as related to their averaged orientation to spring run-off. It should be noted that, for any given year, the more the peak flow day deviates from the predicted average peak flow day, the greater the chance that the RH will not accurately describe that water year. Additionally, for any given year, the more the flow magnitudes diverge from the average flow magnitudes, the greater the chance that the RH will not accurately describe that water year. To ameliorate the effects of these less typical events, and to accommodate for dryer years for which RH values would most certainly exceed naturally occurring streamflows, the RH is converted to an EH for purposes of setting instream flow protections for fish that are protective during dry years, when large flow rate river diversions made by holders of junior water rights are

[9] "Representative Hydrograph" means an artificial hydrograph that depicts typical flow distributions for one specific river location.

[10] "Average Peak Flow Day" means the average day of occurrence of peak flow at a specific location; this number is derived by calculating the chronologic average of all peak flow days for the entire period of interest.

[11] "Seven-day Moving Average" means an averaging of seven days for the purposes of smoothing the hydrograph shape of daily flow distributions. Each daily value is averaged with the three preceding and the three following days.

likely to limit fish survivorship and productivity. An EH is based on the shape of an RH, whose magnitude is lowered by RH enforcement factors.

For the Kootenai and Swan Rivers, there were several steps involved in converting an RH to an EH. First, RH adjustment factors were applied. These factors functionally reduce the magnitude of an RH so that its flow distributions fall close to the median of the driest 20% of mean daily discharge values during rising and falling limbs of the hydrograph. Then, as the RH adjustment factor would disproportionately alter low, base, and winter flows if left uncorrected, an "if/then, min/ max" function was used to select the larger of the flows between the RH and the median of the driest 20% of mean daily discharge values. As enumerated in the appendices, the resulting EH has both a defined graphical hydrograph and daily flow values that form the enforceable number at which call can be made. The Clark Fork River EH, by contrast, is more largely based on the former Milltown Dam hydropower water rights and fisheries flow targets for that location.

Basin and Subbasin Post-Compact New Permit Limits Methodology

Post-Compact limits on new water use permits that may be issued by the DNRC only apply to the Kootenai and Swan River drainages, as the Upper Clark Fork River Basin has been legislatively closed to the development of new water appropriations. To be clear, these restrictions do not limit the exercise of existing water rights, but only provide a cap on the volume (and in some cases, the flow rates) of post-Compact new water use permits that may be issued by the DNRC. The volumes and flow rates refer to water consumed to the source for any length of stream.[12] Basin limits take the form of monthly acre-foot maximums, while subbasin limits have maximum monthly flow rate restrictions in addition to monthly acre-foot limits.

The volumetric limits for both of these basins were derived by estimating the volumes associated with the upper ten percent of daily RH flow rates for each month. The ten percent number was largely based on *A Desk-top Method for Establishing Environmental Flows in Alberta Rivers and Streams*,[13] which generally holds that under typical conditions up to 15% of natural flows can be withdrawn without detriment to fisheries habitat. The Alberta recommendation of 15% was reduced to 10% for purposes of compensating for depletions caused by the exercise of existing water rights in these basins.

The first step in quantifying post-Compact subbasin limits was to multiply the basin upper ten percent daily RH values by the portion of the total basin comprised of each individual subbasin's potentially irrigable acreage. Then, various subbasin flows were compared to basin flows and additional correlation corrections were estimated for each month. Because each subbasin is an important bull trout stream, the correlation corrections were additionally weighted to ensure

[12] As noted above, this qualification is important as it ensures that uses that might otherwise be deemed non-consumptive (such as hydropower developments) could not be developed if they would have the effect of removing water from the natural channel above the established volume and flow rate limits.

[13] http://www.environment.gov.ab.ca/info/library/8371.pdf

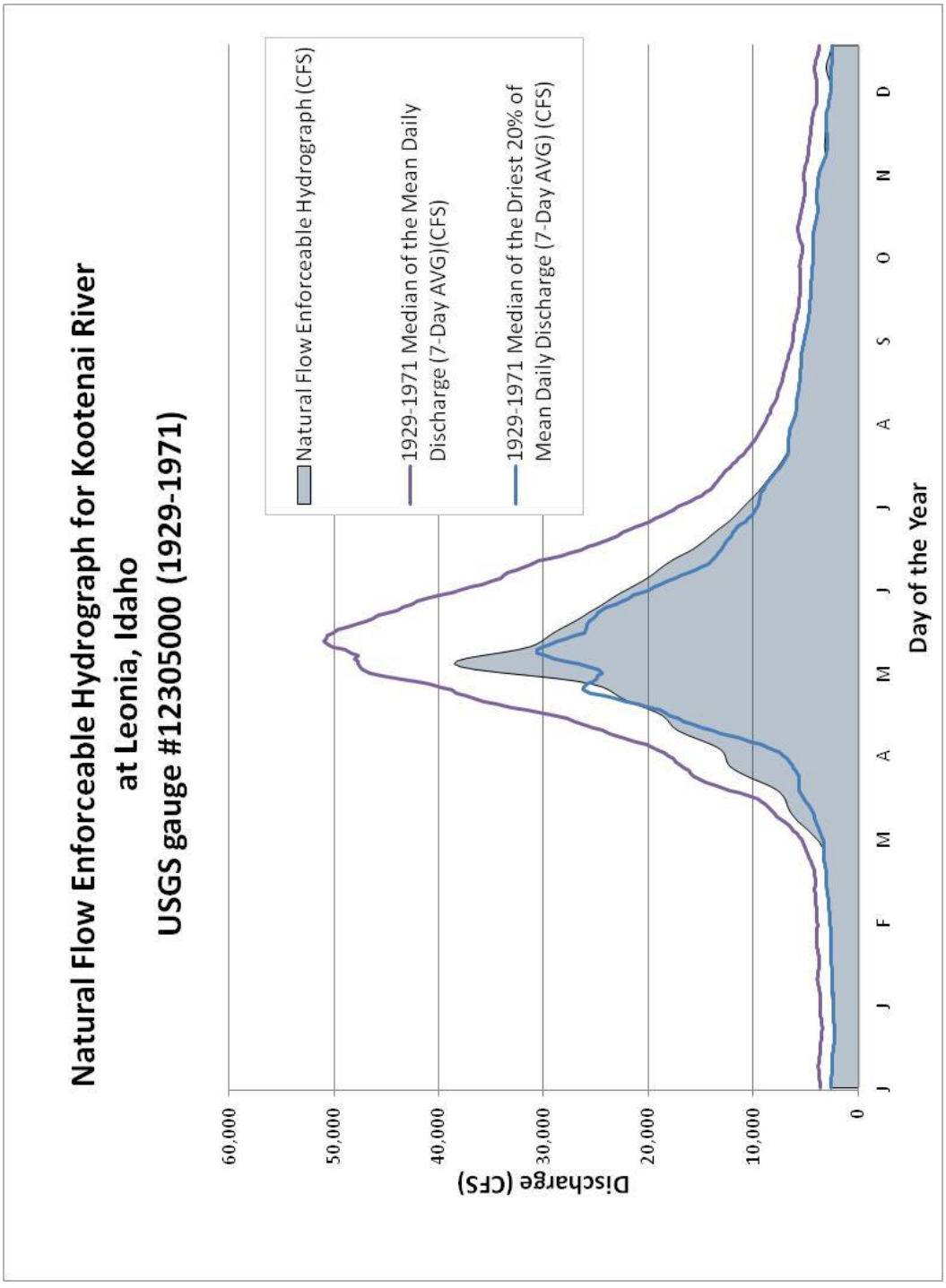
fishery flow targets would be approximated, a process that included replacing May, June, and July flow rate values with the August flow rates in an effort to ensure that channel maintenance flows during the spring are achieved every year. November to April flow levels associated with potential new permits were reduced by approximately 62-68%, but correction factors were specific for each month and each basin and, when applied, yielded the final flow rates used to identify an appropriate limit for post-Compact permits as expressed by monthly flow rates so that no new water rights can be issued with a maximum flow rate for any period that exceeds these monthly flow rates.

These subbasin flow rates were then used to calculate monthly volumes limits on post-Compact permits that could be issued in these subbasins. For months with irrigation (May, June, July, August, and September) a standard for potential future irrigation was used to estimate the amount of acreage that could be irrigated with August flows as distributed continuously for all days. August flows represent the most limiting period of irrigation water supply in these drainages. Accordingly, the amount of acreage that could be irrigated in August with the given flow rate was used to calculate the volume needed to irrigate that same number of acres for all other irrigation months.

These volume estimates represent an allowable amount of water that can be withdrawn while simultaneously maintaining these highly important subbasin bull trout fisheries. Therefore, the final step in quantifying these volumes was to subtract the existing water right appropriations, by volume, to yield an appropriate value available for future permitting that will maintain protection of these high value fisheries. To do this, a water right database query was performed for the basin. Irrigation water rights' volumetric requirements were estimated based on irrigation water requirements, acreage, and claimed flow rate, while volumes associated with non-irrigation water rights were evenly distributed throughout all months. These monthly distributions were totaled, still by month, and subtracted from the aforementioned monthly volume calculations, thereby yielding the final post-compact monthly volume limits.

To implement and enforce these basin-wide and subbasin restrictions, the Water Resources Division of the DNRC will be responsible for tracking and tallying all post-Compact new appropriations within the basin and each applicable subbasin. When the cumulative volumes of authorized new developments meet the set maximums, the DNRC will cease the issuance of permits for new appropriations in that subbasin or in the basin as a whole, as applicable.

Appendix A: Kootenai River Enforceable Hydrograph



Appendix B: Kootenai River Enforceable Hydrograph – Table of Daily Values

Primary Enforceable Hydrograph (CFS)												
	Month											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2,581	2,523	2,676	4,844	14,129	35,769	19,027	8,715	5,689	4,565	3,984	3,172
2	2,560	2,549	2,689	5,140	14,812	33,965	18,669	8,514	5,652	4,554	3,931	3,159
3	2,563	2,576	2,708	5,457	15,519	32,420	18,283	8,301	5,606	4,542	3,884	3,144
4	2,547	2,588	2,731	5,786	16,213	31,347	17,866	8,072	5,579	4,529	3,846	3,128
5	2,499	2,583	2,748	6,014	16,848	30,657	17,389	7,841	5,541	4,516	3,848	3,103
6	2,478	2,575	2,760	6,244	17,357	30,192	16,846	7,631	5,517	4,511	3,879	3,058
7	2,478	2,579	2,780	6,449	17,717	29,819	16,291	7,440	5,490	4,501	3,886	2,991
8	2,474	2,604	2,799	6,612	17,940	29,442	15,814	7,267	5,469	4,489	3,891	2,953
9	2,475	2,620	2,863	6,729	18,137	29,019	15,417	7,095	5,446	4,465	3,908	2,857
10	2,483	2,623	2,897	6,819	18,388	28,547	15,048	6,925	5,436	4,436	3,889	2,816
11	2,485	2,624	2,929	6,907	18,741	28,037	14,682	6,767	5,406	4,404	3,868	2,773
12	2,478	2,628	2,971	7,032	19,231	27,520	14,345	6,616	5,382	4,376	3,836	2,724
13	2,463	2,638	3,009	7,221	19,862	27,011	14,025	6,601	5,358	4,340	3,796	2,686
14	2,439	2,639	3,025	7,470	20,604	26,537	13,702	6,620	5,341	4,321	3,766	2,651
15	2,410	2,614	3,026	7,805	21,362	26,108	13,355	6,614	5,324	4,308	3,741	2,646
16	2,375	2,589	3,009	8,263	22,026	25,689	12,981	6,587	5,279	4,296	3,682	2,643
17	2,337	2,572	3,032	8,860	22,569	25,231	12,610	6,559	5,226	4,284	3,649	2,660
18	2,302	2,564	3,061	9,518	23,026	24,752	12,274	6,531	5,166	4,285	3,571	2,704
19	2,278	2,567	3,097	10,172	23,429	24,310	11,972	6,487	5,114	4,286	3,476	2,788
20	2,267	2,563	3,146	10,768	23,867	23,906	11,698	6,386	5,066	4,284	3,374	2,884
21	2,267	2,556	3,184	11,317	24,492	23,499	11,444	6,244	5,014	4,267	3,256	2,963
22	2,276	2,555	3,209	11,821	25,461	23,057	11,188	6,128	4,956	4,251	3,159	3,032
23	2,298	2,558	3,231	12,212	26,965	22,572	10,927	6,033	4,904	4,238	3,153	3,065
24	2,325	2,576	3,226	12,439	29,049	22,062	10,665	5,969	4,858	4,230	3,183	3,056
25	2,358	2,610	3,323	12,565	31,620	21,553	10,386	5,916	4,808	4,227	3,203	3,009
26	2,386	2,626	3,457	12,641	34,318	21,051	10,105	5,866	4,754	4,226	3,209	2,916
27	2,408	2,640	3,599	12,725	36,564	20,577	9,847	5,826	4,699	4,214	3,203	2,813
28	2,433	2,650	3,757	12,869	37,997	20,128	9,601	5,815	4,652	4,178	3,184	2,727
29	2,466		4,030	13,120	38,573	19,718	9,368	5,808	4,621	4,132	3,164	2,664
30	2,490		4,298	13,535	38,322	19,364	9,142	5,791	4,595	4,074	3,171	2,613
31	2,508		4,568		37,338		8,923	5,746		4,028		2,587

Appendix C: The Montana Operation for Libby Dam

General goals of the Montana Operation include:

1) A preference for tiered flows, which designate a variable discharge volume from May through July based on the May 1 water supply forecast, shaped to aid natural reproduction by Kootenai River white sturgeon;
2) Flow ramping rates and seasonal minimum discharges from Libby Dam designed to protect bull trout;
3) Variable flow rates (VARQ) implemented through the Libby Dam Biological Opinion to improve reservoir refill probability, and increase the amount of water available for spring and summer flow augmentation for the benefit of Kootenai River white sturgeon and bull trout;
4) Reducing reservoir drawdown to increase the probability of refill to full pool, to maximize biological production in the reservoirs for the benefit of bull trout, westslope cutthroat trout and other resident fish; and
5) Restoration of the most natural and stable flow regime possible, to mimic a natural, pre-dam hydrograph.

Operational attributes of the Montana Operation include:

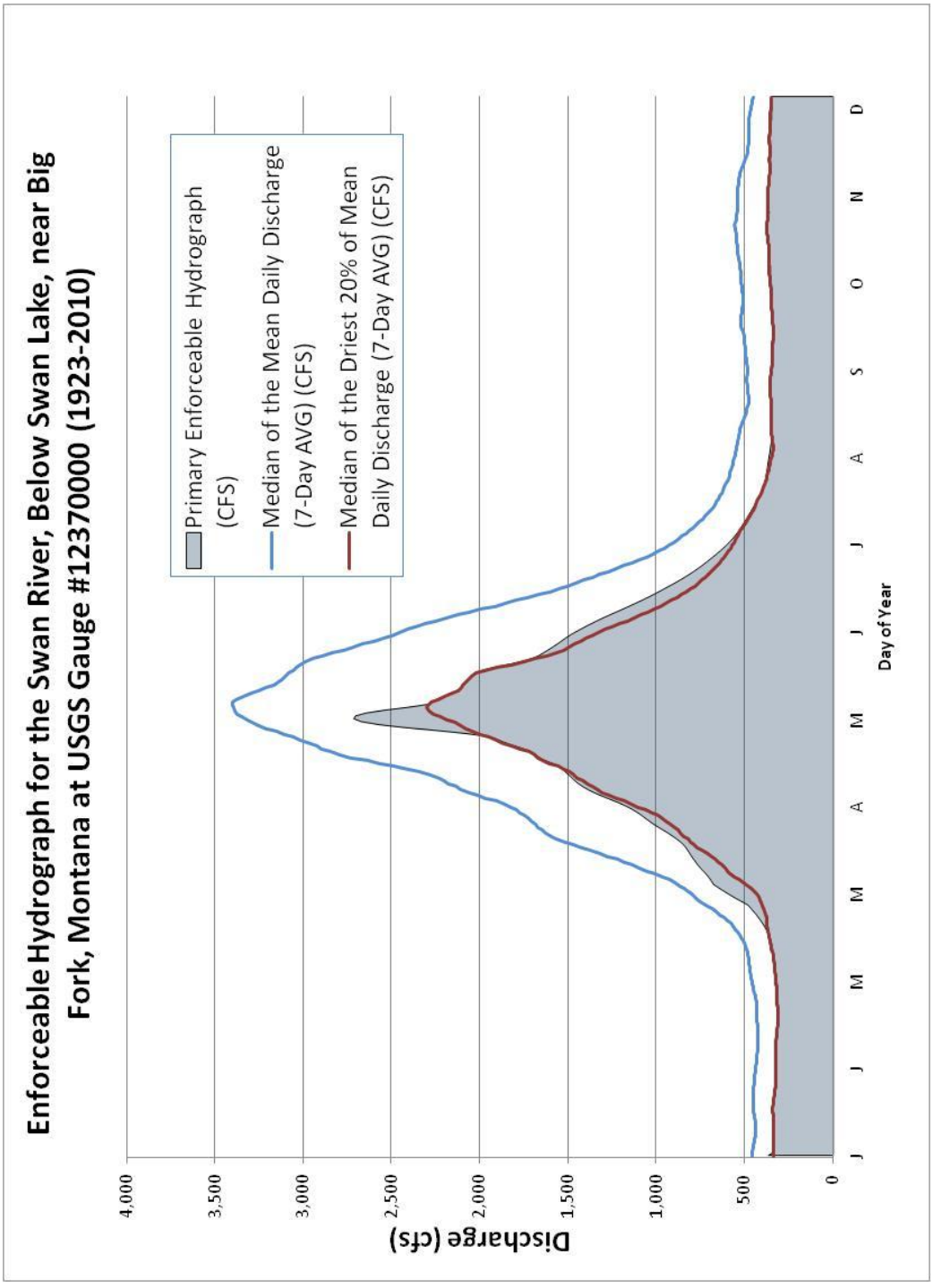
1) Reservoir refill rates for the reservoirs behind Libby and Hungry Horse Dams that adjust to prevent spill and associated gas supersaturation in the river downstream;
2) Any summertime flow augmentation for anadromous fish called for in a Federal Columbia River Power System Biological Opinion being released at a constant or gradually declining flow rate over the months of July through September, in accordance with the Northwest Power and Conservation Council's 2004 Mainstem Amendments;
3) The establishment of a constant discharge target, if a reservoir fails to refill, to draft the reservoir to the appropriate draft limit at the end of September, taking into account forecasts of future inflows. If the reservoir pool's surface elevation falls below the draft target during the summer, reservoir discharge shall meet the minimum bull trout flow-during the summer months;
4) The minimization of flow fluctuations through the use of ramping rates to reduce stranding of fish and insects. Flow ramping rates shall be based on the shape of the river channel, and adjust within three ranges of river discharge; and
5) Minimum flow in the Kootenai River immediately downstream of Libby Dam shall follow a "sliding scale" adjustment based on water availability as determined through annual forecasts and modeling. Specifically, the bull trout minimum flows shall be set at no less than 4000 cfs year round. For the period of May 15-June 1 and the month of September, the minimum flows shall be no less than 6000 cfs. For the period of June 2-August 31, the minimum flows shall be set at between 6000 and 9000 cfs, based on the water supply during that period. Or, in tabular form:

Bull Trout Operations Kootenai River	Year round	4000 cfs	minimum
	May 15 – June 1, September	6000 cfs	minimum
	June 2 - August 31	6000 cfs - 9000 cfs	Adjusts based on water supply

Appendix D: Kootenai Basin and Subbasin Post-Compact Appropriation Limits

		Month												Year
	Per Year Limits	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Kootenai River	Volume (KAF)	24	23	30	88	239	250	133	63	42	39	33	29	994
Libby Creek	Flow Rate (CFS)	0.9	0.9	1.0	3.2	5.9	5.9	6.0	5.9	3.1	1.4	1.2	1.0	
abv Swamp Creek	Volume (AF)	23	22	35	151	59	264	369	315	158	55	43	33	1,527
Libby Creek	Flow Rate (CFS)	1.8	1.9	2.2	6.8	12.3	12.3	11.8	12.3	6.6	2.9	2.5	2.1	
between Swamp and Big Cherry Creeks	Volume (AF)	102	99	127	302	116	519	724	618	384	169	142	122	3,424
Libby Creek	Flow Rate (CFS)	3.0	3.2	3.7	11.3	20.5	20.5	20.5	20.5	11.0	4.8	4.2	3.5	
blw Big Cherry Creek	Volume (AF)	146	140	188	529	202	903	1,259	1,075	615	257	213	179	5,705
Midas Creek	Flow Rate (CFS)	0.1	0.1	0.1	0.3	0.5	0.5	0.6	0.5	0.3	0.1	0.1	0.1	
	Volume (AF)	5	5	6	17	6	27	38	32	17	8	6	6	171
Swamp Creek	Flow Rate (CFS)	0.3	0.4	0.4	1.3	2.4	2.4	2.0	2.4	1.3	0.6	0.5	0.4	
	Volume (AF)	20	20	25	42	19	86	120	103	75	33	28	24	596
Bear Creek	Flow Rate (CFS)	0.2	0.2	0.2	0.7	1.3	1.3	1.5	1.3	0.7	0.3	0.3	0.2	
	Volume (AF)	12	11	14	43	15	67	94	80	42	19	16	14	427
Big Cherry Creek	Flow Rate (CFS)	0.6	0.7	0.8	2.4	4.3	4.3	4.2	4.3	2.3	1.0	0.9	0.7	
abv Granite	Volume (AF)	12	11	20	103	42	186	259	221	110	35	26	19	1,041
Big Cherry Creek	Flow Rate (CFS)	1.1	1.2	1.3	4.1	7.5	7.5	7.2	7.5	4.0	1.8	1.5	1.3	
blw Granite	Volume (AF)	14	12	29	170	71	316	441	377	186	55	39	26	1,736
Granite Creek	Flow Rate (CFS)	0.3	0.4	0.4	1.3	2.4	2.4	2.8	2.4	1.3	0.6	0.5	0.4	
	Volume (AF)	21	20	26	77	27	122	170	145	75	34	29	25	770
Pipe Creek	Flow Rate (CFS)	0.9	0.9	1.1	3.3	6.0	6.0	5.8	6.0	3.2	1.4	1.2	1.0	
	Volume (AF)	44	42	56	148	57	255	356	304	181	77	64	54	1,638
Quartz Creek	Flow Rate (CFS)	0.5	0.5	0.6	1.7	3.1	3.1	2.4	3.1	1.7	0.7	0.6	0.5	
	Volume (AF)	27	26	34	57	24	108	150	128	99	44	38	32	768
O'Brien Creek	Flow Rate (CFS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Volume (AF)	0	0	0	0	0	0	0	0	0	0	0	0	0
Keeler Creek	Flow Rate (CFS)	0.7	0.7	0.8	2.5	4.5	4.5	4.8	4.5	2.4	1.0	0.9	0.8	
	Volume (AF)	39	38	49	129	47	210	293	250	142	64	54	47	1,362
Grave Creek	Flow Rate (CFS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Volume (AF)	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix E: Swan River Enforceable Hydrograph



Appendix F: Swan River Enforceable Hydrograph – Table of Daily Values

Primary Enforceable Hydrograph (CFS)												
	Month											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	336	320	319	600	1,175	2,707	1,426	570	357	341	357	362
2	337	319	321	626	1,211	2,648	1,395	556	355	340	357	360
3	338	321	322	652	1,251	2,541	1,363	543	352	341	358	360
4	338	322	324	677	1,292	2,406	1,329	532	350	341	358	359
5	337	323	326	688	1,332	2,294	1,294	521	348	341	358	357
6	337	323	327	700	1,369	2,273	1,257	510	345	340	359	356
7	338	324	329	712	1,400	2,237	1,220	500	347	338	359	356
8	337	324	331	727	1,427	2,196	1,183	490	347	338	360	357
9	336	322	332	743	1,450	2,152	1,147	480	347	338	362	358
10	334	320	334	757	1,470	2,120	1,111	470	347	336	363	357
11	333	318	337	771	1,487	2,105	1,076	461	347	335	366	356
12	334	317	341	783	1,504	2,095	1,043	451	347	335	369	357
13	334	316	345	795	1,523	2,076	1,010	441	346	337	370	357
14	336	313	348	806	1,542	2,062	980	433	345	339	371	357
15	337	312	351	817	1,562	2,046	949	424	346	341	371	357
16	339	311	356	827	1,604	2,021	919	416	347	342	372	358
17	339	310	361	839	1,645	1,971	889	409	348	343	372	358
18	339	310	368	854	1,671	1,899	861	402	350	344	371	357
19	337	309	376	873	1,691	1,819	834	396	352	345	369	356
20	335	310	384	895	1,724	1,749	808	391	355	345	366	355
21	332	312	394	918	1,769	1,693	783	386	356	345	364	354
22	330	313	405	944	1,821	1,662	760	382	357	346	365	352
23	327	315	416	971	1,868	1,634	737	379	357	346	365	351
24	325	316	428	998	1,906	1,608	716	376	356	347	367	351
25	325	316	441	1,024	1,956	1,582	695	374	353	349	367	351
26	325	317	455	1,047	2,087	1,558	675	372	351	350	368	351
27	325	318	469	1,069	2,251	1,535	656	370	348	351	368	351
28	324	318	485	1,091	2,426	1,512	636	367	346	353	369	349
29	322	318	514	1,115	2,574	1,485	618	365	344	354	367	349
30	321		544	1,143	2,671	1,457	601	362	343	355	365	348
31	320		573		2,716		585	359		357		346

Appendix G: Swan Basin and Subbasin Post-Compact Appropriation Limits

		Month												Year
	Per Year Limits	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Swan River	Volume (AF)	2,980	2,780	3,805	8,306	17,044	18,324	9,524	4,346	3,173	3,267	3,468	3,380	80,398
Cold Creek	Flow Rate (CFS)	0.8	0.8	1.0	2.2	3.3	3.3	3.3	3.3	1.7	1.7	0.9	0.9	
	Volume (AF)	48	43	61	133	35	140	103	176	103	106	55	54	1,056
Elk Creek	Flow Rate (CFS)	0.6	0.6	0.8	1.7	2.5	2.5	2.5	2.5	1.4	1.3	0.7	0.7	
	Volume (AF)	37	34	48	104	30	122	90	154	80	83	43	42	867
Goat Creek	Flow Rate (CFS)	0.5	0.5	0.6	1.4	2.1	2.1	2.1	2.1	1.1	1.1	0.6	0.6	
abv Squeezer Creek	Volume (AF)	31	28	39	86	25	103	76	129	67	69	36	35	722
Jim Creek	Flow Rate (CFS)	0.4	0.4	0.6	1.2	1.8	1.8	1.8	1.8	1.0	1.0	0.5	0.5	
	Volume (AF)	26	24	34	74	6	25	19	32	57	59	31	30	416
Lion Creek	Flow Rate (CFS)	0.7	0.7	1.0	2.2	3.1	3.1	3.1	3.1	1.7	1.7	0.9	0.8	
	Volume (AF)	46	41	58	128	38	153	113	192	99	102	53	52	1,074
Lost Creek	Flow Rate (CFS)	0.3	0.3	0.4	1.0	1.4	1.4	1.4	1.4	0.7	0.7	0.4	0.4	
North Fork	Volume (AF)	21	18	26	57	6	22	16	28	44	46	24	23	332
Lost Creek	Flow Rate (CFS)	0.4	0.4	0.5	1.1	1.6	1.6	1.6	1.6	0.8	0.8	0.5	0.4	
South Fork	Volume (AF)	23	21	29	64	19	77	57	97	50	51	27	26	542
Lost Creek	Flow Rate (CFS)	0.7	0.7	0.9	2.0	3.0	3.0	3.0	3.0	1.6	1.6	0.9	0.8	
entire drainage	Volume (AF)	44	39	56	122	25	99	73	125	94	97	51	49	874
Piper Creek	Flow Rate (CFS)	0.3	0.3	0.4	0.8	1.2	1.2	1.2	1.2	0.6	0.6	0.3	0.3	
	Volume (AF)	17	16	22	49	8	32	23	40	38	39	20	20	322
Soup Creek	Flow Rate (CFS)	0.4	0.3	0.4	1.0	1.5	1.5	1.5	1.5	0.8	0.8	0.4	0.4	
	Volume (AF)	22	19	27	60	18	72	53	90	47	48	25	24	505
Squeezer Creek	Flow Rate (CFS)	0.3	0.3	0.4	1.0	1.4	1.4	1.4	1.4	0.7	0.7	0.4	0.4	
	Volume (AF)	20	18	26	57	17	68	50	85	44	45	24	23	477
Goat CReek	Flow Rate (CFS)	0.5	0.5	0.6	1.4	2.1	2.1	2.1	2.1	1.1	1.1	0.6	0.6	
below Squeezer Creek	Volume (AF)	31	27	39	85	25	102	75	128	66	68	36	35	716
Scout Creek	Flow Rate (CFS)	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1	
	Volume (AF)	4	4	5	11	3	13	10	16	8	9	5	4	92
S Woodward Creek	Flow Rate (CFS)	0.3	0.3	0.4	1.0	1.4	1.4	1.4	1.4	0.8	0.8	0.4	0.4	
	Volume (AF)	21	19	27	59	17	71	52	89	46	47	25	24	496
Woodward Creek	Flow Rate (CFS)	0.6	0.6	0.7	1.7	2.4	2.4	2.4	2.4	1.3	1.3	0.7	0.7	
	Volume (AF)	36	32	45	99	29	119	88	150	77	79	41	40	837

January 27, 2012
76M 94404-00

Page 1 of 1
General Abstract

STATE OF MONTANA
DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

GENERAL ABSTRACT

Water Right Number: 76M 94404-00 STATEMENT OF CLAIM
Version: 1 -- ORIGINAL RIGHT
Version Status: ACTIVE

Owners: MONTANA, STATE OF DEPT OF JUSTICE
NATURAL RESOURCE DAMAGE PROGRAM
PO BOX 201425
HELENA, MT 59620-1425

Priority Date: DECEMBER 11, 1904

Enforceable Priority Date: DECEMBER 11, 1904

Type of Historical Right: FILED

Purpose (use): POWER GENERATION

Maximum Flow Rate: 2,000.00 CFS

Maximum Volume: 1,451,556.00 AC-FT

Source Name: CLARK FORK RIVER

Source Type: SURFACE WATER

Point of Diversion and Means of Diversion:

ID	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1		SENE	20	13N	18W	MISSOULA

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: DAM

Reservoir: ON STREAM **Reservoir Name** MILLTOWN RESERVOIR

Govt Lot	Qtr Sec	Sec	Twp	Rge	County
	SWNE	20	13N	18W	MISSOULA

Diversion to Reservoir: DIVERSION # 1

Period of Use: JANUARY 1 to DECEMBER 31

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1			SENE	20	13N	18W	MISSOULA

Remarks:

STARTING IN 2008, PERIOD OF DIVERSION WAS ADDED TO MOST CLAIM ABSTRACTS, INCLUDING THIS ONE.

OWNERSHIP UPDATE RECEIVED

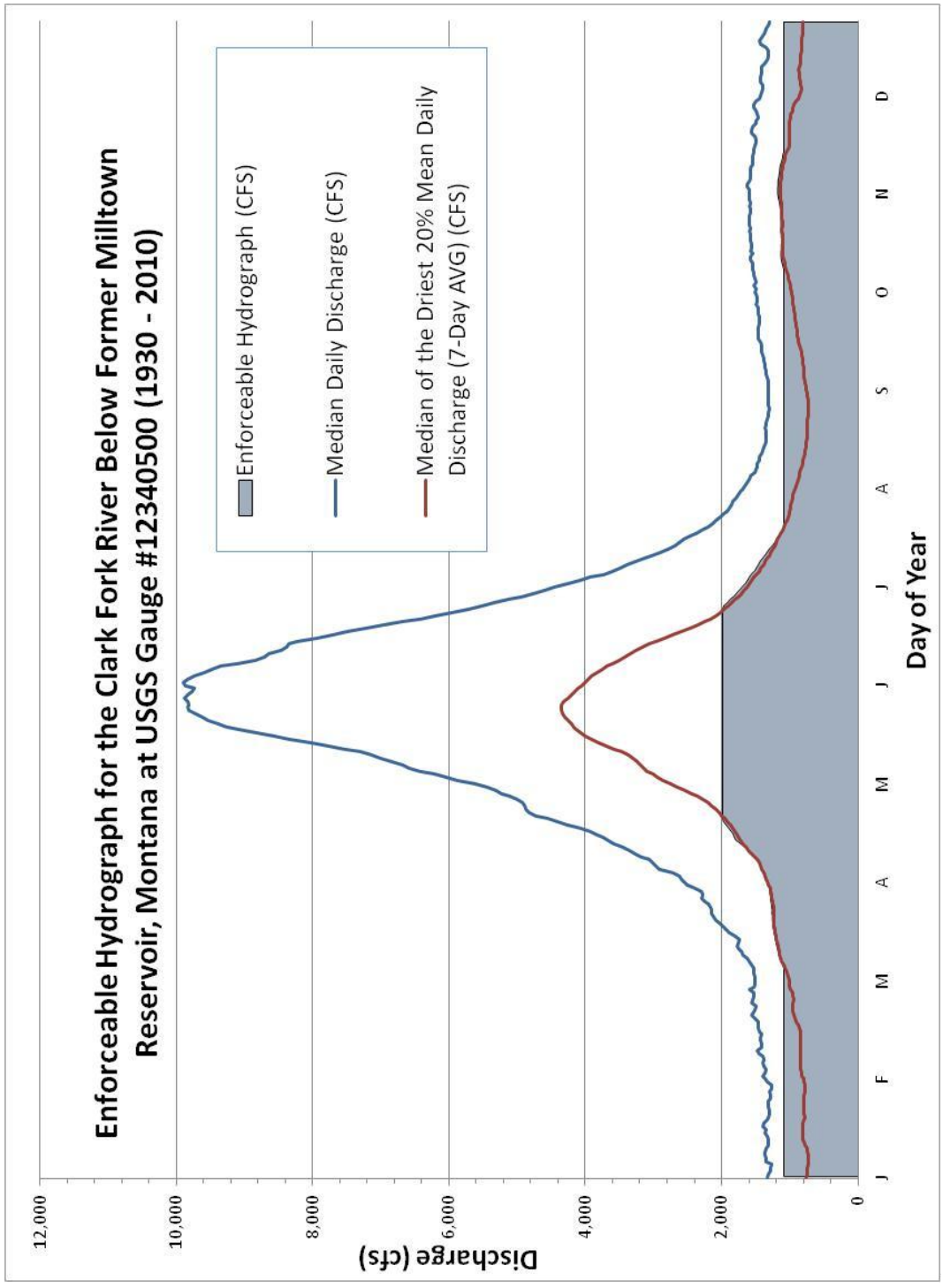
OWNERSHIP UPDATE TYPE 608 # 21999 RECEIVED 06/02/2005.

OWNERSHIP UPDATE TYPE DOR # 94718 RECEIVED 12/16/2010.

THIS APPROPRIATION OF WATER USES WATER IN THE THE CLARK FORK RIVER BASINS (76M AND 76G) AND IN THE BLACKFOOT RIVER BASIN (76F). AS A RESULT IT WILL BE DECREED IN ALL THREE BASINS AND SUBJECT TO OBJECTION IN EACH BASIN BEFORE BECOMING FINAL.

THIS USE MAY CONSUME SOME WATER, BUT UNTIL THAT AMOUNT IS QUANTIFIED, IT IS PRESUMED THAT THE USE IS NON-CONSUMPTIVE.

Appendix I: Clark Fork River Enforceable Hydrograph



Appendix J: Clark Fork Enforceable Hydrograph – Table of Daily Values

Primary Enforceable Hydrograph (CFS)												
	Month											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1,100	1,100	1,100	1,303	2,000	2,000	1,927	1,100	1,100	1,100	1,149	1,100
2	1,100	1,100	1,100	1,317	2,000	2,000	1,891	1,100	1,100	1,100	1,151	1,100
3	1,100	1,100	1,100	1,331	2,000	2,000	1,830	1,100	1,100	1,100	1,159	1,100
4	1,100	1,100	1,100	1,349	2,000	2,000	1,793	1,100	1,100	1,100	1,164	1,100
5	1,100	1,100	1,100	1,367	2,000	2,000	1,753	1,100	1,100	1,100	1,176	1,100
6	1,100	1,100	1,100	1,389	2,000	2,000	1,710	1,100	1,100	1,100	1,186	1,100
7	1,100	1,100	1,100	1,411	2,000	2,000	1,664	1,100	1,100	1,100	1,191	1,100
8	1,100	1,100	1,104	1,429	2,000	2,000	1,636	1,100	1,100	1,100	1,191	1,100
9	1,100	1,100	1,124	1,441	2,000	2,000	1,609	1,100	1,100	1,100	1,189	1,100
10	1,100	1,100	1,149	1,451	2,000	2,000	1,573	1,100	1,100	1,100	1,187	1,100
11	1,100	1,100	1,164	1,491	2,000	2,000	1,527	1,100	1,100	1,100	1,187	1,100
12	1,100	1,100	1,176	1,536	2,000	2,000	1,501	1,100	1,100	1,100	1,176	1,100
13	1,100	1,100	1,187	1,581	2,000	2,000	1,474	1,100	1,100	1,100	1,170	1,100
14	1,100	1,100	1,196	1,627	2,000	2,000	1,449	1,100	1,100	1,100	1,163	1,100
15	1,100	1,100	1,209	1,681	2,000	2,000	1,411	1,100	1,100	1,113	1,159	1,100
16	1,100	1,100	1,214	1,746	2,000	2,000	1,373	1,100	1,100	1,126	1,149	1,100
17	1,100	1,100	1,227	1,807	2,000	2,000	1,341	1,100	1,100	1,136	1,131	1,100
18	1,100	1,100	1,236	1,831	2,000	2,000	1,309	1,100	1,100	1,141	1,120	1,100
19	1,100	1,100	1,246	1,849	2,000	2,000	1,264	1,100	1,100	1,143	1,114	1,100
20	1,100	1,100	1,254	1,886	2,000	2,000	1,231	1,100	1,100	1,139	1,100	1,100
21	1,100	1,100	1,263	1,921	2,000	2,000	1,201	1,100	1,100	1,139	1,100	1,100
22	1,100	1,100	1,264	1,960	2,000	2,000	1,166	1,100	1,100	1,136	1,100	1,100
23	1,100	1,100	1,271	1,994	2,000	2,000	1,134	1,100	1,100	1,134	1,100	1,100
24	1,100	1,100	1,267	2,000	2,000	2,000	1,100	1,100	1,100	1,136	1,100	1,100
25	1,100	1,100	1,276	2,000	2,000	2,000	1,100	1,100	1,100	1,139	1,100	1,100
26	1,100	1,100	1,273	2,000	2,000	2,000	1,100	1,100	1,100	1,143	1,100	1,100
27	1,100	1,100	1,280	2,000	2,000	2,000	1,100	1,100	1,100	1,141	1,100	1,100
28	1,100	1,100	1,284	2,000	2,000	2,000	1,100	1,100	1,100	1,140	1,100	1,100
29	1,100		1,294	2,000	2,000	2,000	1,100	1,100	1,100	1,141	1,100	1,100
30	1,100		1,297	2,000	2,000	1,983	1,100	1,100	1,100	1,144	1,100	1,100
31	1,100		1,304		2,000		1,100	1,100		1,146		1,100