IS-

The Yellowstone River Instream Reservation

DECEMBER 16, 1987 - DECEMBER 15, 1988

TENTH ANNUAL REPORT

Compiled by:
Liter Spence

Montana Department of Fish, Wildlife & Parks
Fisheries Division
1420 East Sixth Avenue
Helena, Montana 59620

THE YELLOWSTONE RIVER

INSTREAM

RESERVATION

TENTH ANNUAL REPORT

DECEMBER 16, 1987 - DECEMBER 15, 1988

Compiled by:
Liter Spence

Montana Department of Fish, Wildlife & Parks
Fisheries Division
1420 East Sixth Avenue
Helena, Montana 59620

TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

The Order of the Board of Natural Resources and Conservation establishing water reservations for the Yellowstone River basin was signed on December 15, 1978. As a result of that order, the Department of Fish, Wildlife and Parks (MDFWP) was granted an instream reservation for the Yellowstone River at Sidney of approximately 5.5 million acre-feet of water, with differing amounts granted in upstream reaches and tributaries.

The MDFWP applied for instream reservations on many streams and tributaries where little, if any, flow data were available. When granting instream reservations for those waters, the Board frequently granted a percentile flow rather than a specific amount of water in cfs or acre-feet. In such cases, the MDFWP was directed by the Board's Order, through Condition 116, to develop and submit to the Board within 5 years of December 15, 1978, a plan to convert the granted percentile flows into cubic feet of water per second and acre-feet of water per month.

Condition 117 states that the reservant shall submit an annual progress report to the Board setting forth accomplishments toward completion of such work as outlined in Condition 116 of the Board's Order, a schedule of anticipated progress, and other information as may be prescribed by the Board. This tenth annual progress report completes those requirements by presenting the quantified percentile flows for the "Shields River at its mouth", the last remaining stream to be quantified. It also discusses the 1988 drought.

INSTREAM FLOW QUANTIFICATIONS

History

The first annual progress report outlined a tentative plan for accomplishing the objectives in Condition 116 of the Board's Order. The tentative plan was then reviewed, commented on and revised. In the second annual report, a final plan to convert the minimum-flow instream reservations into cubic feet of water per second and acre-feet per month, using hydrologic modeling techniques, was submitted to the Board. This was done pursuant to the Board's order, specifically Condition 116(b). The Department of Natural Resources and Conservation (DNRC) concurred in the plan as presented and additionally suggested a provision for verifying the chosen methodology (Riggs' Method) using existing long-term gaging stations in the area. The testing and verification of the Riggs' Method were performed by Systems Technology, Inc. of Helena, Montana and presented verbally to the Board. A summary of the verification procedure was presented in the third annual report. The findings in general were very good, and the report states that better results than those obtained during verification can be achieved through a careful study of basin characteristics for all gaged streams in the Upper Yellowstone Basin, and the omission of hydrologically different streams.

The final plan for quantifying the percentile flows was approved by the Board on June 5, 1981. Streams in need of quantification at that time are shown in Table 1.

Table 1. Summary of streams where flow quantifications were required on June 5, 1981.

Basin/Sub-basin	Stream
UPPER YELLOWSTONE RIVER	
(Gardiner to Boulder River)	
Above Shields River	Bear Creek
	Cinnabar Creek
	Mol Heron Creek
	Cedar Creek
	Tom Miner Creek
	Rock Creek
	Big Creek
	Six Mile Creek
	Fridley Creek
	Eight Mile Creek
	Mill Creek
	Trail Creek
	Suce Creek
	Coke (Miner) Creek
	Billman Creek
	Fleshman Creek
	Armstrong Spring Creek
	Nelson Spring Creek
	McDonald Spring Creek
	Emigrant Spring Creek
Shields River	Smith Creek
	Flathead Creek
	Rock Creek
	Brackett Creek
	Shields River @ mouth
	Cottonwood Creek
	N.F. Brackett Creek
	M.F. Brackett Creek
	S.F. Brackett Creek
Below Shields River	Bridger Creek
	Lower Deer Creek
	Upper Deer Creek
	Sweet Grass Creek
	Mission Creek
	Little Mission Creek

MIDDLE YELLOWSTONE RIVER

(Boulder River to Bighorn River)	
Stillwater River	Castle Creek
	Picket Pin Creek
	W.F. Stillwater River
	Little Rocky Creek
	W. Fishtail Creek
	E. Fishtail Creek
	Fishtail Creek
	E. Rosebud Creek
	W. Rosebud Creek
Clarks Fork River	Clarks Fork River
	Butcher Creek
	Willow Creek
	Red Lodge Creek
	Clear Creek
	Dry Creek
	Rock Creek
	Sage Creek
	Bluewater Creek

LOWER YELLOWSTONE RIVER

(Bighorn River to North Dakota State line)	
Tongue River	Rosebud Creek
	Hanging Woman Creek
	Otter Creek
	Pumpkin Creek

Completed Quantifications

The quantifications of the granted percentile flows were completed by the Helena office of the USGS through a cooperative agreement with the MDFWP. During the first year of the agreement (phase 1), the needed flow data were collected for 22 stream sites within the Yellowstone River drainage upstream from the Shields River. The preliminary instream flow quantifications that were derived by the USGS for these sites were presented in the fifth annual report. During the second year of the agreement (phase 2), the needed flow data were collected for 19 stream sites in the Shields River drainage as well as the Yellowstone River drainage downstream from the Shields River. The preliminary flow quantifications for these sites were presented in the sixth annual report. The draft of a formal report that finalized the quantifications for phase 1 and 2 streams was completed by the USGS in September, 1985 and reviewed by this Department. The final USGS report was released in 1986, and is included in the eighth annual report as Appendix A.

The quantifications of the granted percentile flows were originally scheduled to be completed for all Yellowstone tributaries in 1985. However, unforseen MDFWP budget constraints prevented the USGS from completing all scheduled tasks during the allotted contract period. The MDFWP renegotiated its contract with the USGS and rescheduled the remaining tasks.

The USGS decided during the second year of the agreement (phase 2) to extend streamflow records at all gages used in the regression analyses (Riggs' Method) to a common 1934-82 base period. The purpose of the record extension was to eliminate any bias that might result from using a short-record gage that might not be representative of long-term hydrologic conditions. Therefore, final quantifications (except Hanging Woman, Otter, and Pumpkin creeks) are based on this common period.

For Hanging Woman, Otter, and Pumpkin creeks, the Board granted the "historic minimum monthly flows," rather than percentile flows, as the instream reservations. There were only limited gage records available on these streams at the time of the Board's Order. A reliable method for synthesizing flows on these prairie streams was not available prior to establishment of gages on each stream. Therefore, the historic record was limited to the period the gages were operated. More than 10 years' record was obtained on each stream, and these records were used to quantify the historic minimum monthly flows. These records include the drought years of 1977 and 1984.

The six flow quantifications listed on pages 3 and 4 of the fifth annual report were recalculated by the USGS to encompass the 1934-82 base flow period, and were presented in Table 1 of the seventh annual report. These six sites and their USGS gage numbers are:

1. Bluewater Creek (Mouth-Headwaters) #06207800
2. Brackett Creek (Mouth-Sheep Creek) #0619400
3. Rock Creek (Mouth-Custer National Forest) #06209500
4. Sweet Grass Creek (Mouth-Forest Service boundary) #06200500
5. Clarks Fork Yellowstone River (near Belfry) #06207500
6. Clarks Fork Yellowstone River (at Edgar) #06208500

The quantifications of the granted percentile flows for the Yellowstone spring creeks and tributaries to the Stillwater and Clarks Fork Yellowstone rivers were completed during phase 3 of the USGS/MDFWP agreement. These quantifications are presented in Appendix A of the ninth annual report. The four spring creeks required special treatment due to the unusual nature of their flows.

The ninth annual report contains all of the final quantifications presented in the eighth annual report <u>plus</u> most of those which remained at the time the eighth report was completed (see table 3 of eighth annual report). This tenth annual report completes the requirements of the Board's Order by presenting the quantified

flows for the "Shields River at its mouth", the last stream requiring quantification.

The percentile quantification for the Shields River at its mouth is as follows:

	90th Percentile January - December	
	cfs	AF
January	86.2	5,300
February	87.3	4,848
March	106	6,518
April	131	7,795
May	460	28,284
June	945	56,231
July	99.0	6,087
August	85.6	5,263
September	87.5	5,207
October	132	8,116
November	125	7,438
December	107	6,579
		147,666 AF/Yr.

As has been the procedure with all the other quantifications, these flows are adjusted to the 1934-1982 base period, and are based on nine years of continuous streamflow records at the USGS gage near the mouth of the Shields River correlated with records at 11 other gaging stations in the area. (See Appendix A).

Remaining Quantifications

There are no remaining quantifications. The quantification requirements in Condition 116 of the Board's Order are now complete. For reasons stated in footnotes to Table 3 of the eighth annual report, percentile flows on the following stream reaches were not quantified:

1) Cedar Creek - Second Fork to North Fork
2) Eight Mile Creek - Big Draw to North Fork
3) Rock Creek (Shields) - Forest Service boundary in Sec. 8 to Smeller Creek
4) Trail Creek - Mouth to West Pine Creek

Throughout the 10-year study period, flows were quantified for 73 stream reaches on 57 individual streams. Quantifications were required only on those streams in which the Board granted percentile flows without reference to specific flow numbers. The 9th and 10th annual reports do not contain all the flows granted by the Board in the Yellowstone basin, but only those which could not be quantified in cfs and acre-feet at the time of the Board's Order. (On those reservation streams where sufficient USGS flow

data were already available, the Board granted monthly percentile flows as well as the approximate monthly flows in cfs and acre-feet. These flows were, therefore, quantified at the time of the Board's Order and were not included in the requirements of Condition 116.) With the inclusion of the "Shields River at its mouth" in this report, the 9th and 10th annual reports contain all the quantifications required by the Board. The next step is for the Board to approve the quantified amounts so that all the granted reservations will be designated in cfs and acre-feet.

1988 DROUGHT

Introduction

Since the Board established the Yellowstone Water Reservations on December 15, 1978, a number of water use permits have been issued by DNRC which are junior to the Yellowstone Reservations. The MDFWP holds substantial instream flow reservations in the Yellowstone basin which can affect water availability for junior water permit holders under certain low flow conditions.

Through the water use permit application objection process, the MDFWP notifies all junior water permit applicants, at the time they apply for a water use permit, of the existence of the instream flow reservations. They are informed that, under certain flow conditions, the instream flow reservations may affect water availability for their projects. All water use permits in the Yellowstone basin which are junior to the instream flow reservations are conditioned to recognize the instream reservations. 1988 was a year when those junior permits were affected by the instream reservations.

1988 was the third drought that occurred in the last four years. January, 1988 mountain snowpacks ranged from 49% of normal in the Kootenai River basin to 67% of normal in the Gallatin River basin. Scanty precipitation during the fall of 1987 (another drought year) resulted in low soil moisture reserves in many areas of the state, and substantial spring moisture was needed to ease the shortages. Past precipitation deficits were also reflected in winter streamflows that ranged between 40 and 70% of average because of reduced baseflow.

Peak snowpack in most river basins in the state reached 70-75% of average peak. Though snowpack began its seasonal decline in late April, May storms substantially increased snowpack in certain areas, particularly the Gallatin and Madison river basins, parts of the Yellowstone river basin, and the upper Clark Fork. However, general moisture conditions along the northern tier and in the southeast remained considerably drier than normal.

With spring temperatures much warmer than normal, snowmelt runoff peaked in mid to late May, 2-3 weeks earlier than normal, and depleted an already low snowpack. Because of this early melting of a far below normal snow pack, it was apparent that summer

streamflows would be low unless the state received considerable amounts of late spring and summer precipitation to generate runoff and reduce irrigation demand.

By mid June, snowpacks were nearly exhausted, with only a few higher elevation sites continuing to hold snow. Streamflow forecasts through September for the 11 major river basins ranged from 55-75% of average, assuming normal summer precipitation would be received. Actual streamflows approached the lowest of record for the times of year in the Smith, Jefferson, Missouri, Gallatin, and Yellowstone Rivers. Much higher than normal temperatures and low precipitation throughout the summer boosted irrigation demands on reservoirs and streams. Soils were extremely dry across most of the state. Long term moisture indicators showed severe to extreme drought conditions in all areas of the state except the south central region.

It was, therefore, obvious that flows would fall below those reservation amounts granted by the Board for the protection of fish and wildlife habitat and water quality. To protect these instream reservations, the MDFWP, on June 28, 1988, sent a letter to the 116 junior water permit holders in the basin, notifying them of the potential drought and the fact that the instream reservations could affect their water use during the irrigation season (see 1st notification letter in Appendix B). The letter stated that we would notify them again should flows fall below our reservations, and that they would be asked to cease their junior diversion(s).

DFWP began monitoring flows twice per week on June 20, 1988 at 10 USGS gage sites in the basin. On that date, flows were below the reservations at 8 of the 10 sites. This situation persisted through June, July and August.

On July 22, 1988, a second letter was sent only to the five junior users in the Clarks Fork Yellowstone basin (excluding Rock Creek and its tributaries) because the Clark Fork was practically dry near Bridger and extremely low (well below the DFWP reservation) in other areas (See 2nd notification letter and attachments in Appendix B. Note: All the attachments shown were not sent to each junior user. Only that gage site which pertained to his/her permit was included with the letter).

On July 29, 1988, DFWP sent the second notification letter to junior users in the rest of the basin telling them that they must cease their junior diversions and assigning them a USGS stream gage to monitor streamflows. This letter was sent to all of the original 116 junior users except for six permittees in the Bighorn River (where flows were close to the reservation due to releases from Yellowtail Dam), 14 permittees on the Yellowstone River and its tributaries above Livingston (where flows had not dropped substantially and where the junior water use permits are too small in total amount to affect streamflow), and the Clarks Fork basin permittees (who had already been notified to cease their diversions). Letters were also sent this time to permittees on

Rock Creek and its tributaries. (See 2nd notification letter and attachments in Appendix B).

Above normal temperatures and growing season precipitation shortages continued largely unabated during July and August. There were occasional (but temporary) improvements in soil moisture from summer storms in some areas. Streamflows in most drainages continued at exceptionally low levels because of the almost complete lack of runoff, low baseflow conditions, and high irrigation demand. Flows at certain locations in the Jefferson, Musselshell, Milk, and Yellowstone Rivers were the lowest ever recorded for that time of year over periods of record that sometimes extended for almost 50 years.

DFWP continued flow monitoring until November 10. Flows improved after the irrigation season, but still did not rise above the instream reservations with the exception of the Yellowstone River at Miles City and Sidney, where flows rose above the reservations in September but dropped below again in October and November. The Powder River was dry at its mouth most of the summer, but improved substantially in September and October when flows were well above the reservation amount. All other streams remained well below the reservations all summer long and into November. It is anticipated this trend will continue into the 1988-89 winter period unless substantial precipitation occurs.

Comparison of 1988 Drought With Conditions In 1985 and 1987

This section and parts of the previous discussion are from "1988 Drought Summary, prepared September, 1988, for the Water Policy Committee by the Department of Natural Resources and Conservation". Anonymous. 3 pp mimeo.

Drought episodes have occurred to one degree or another in 3 out of the last 4 years in various regions of the state. In 1985, spring weather caused runoff from a moderately low snowpack to occur 2-4 weeks earlier than normal. Extremely low precipitation and high temperatures during June created critical low flow conditions in many rivers and streams and severely reduced dryland agricultural output. Persistent rainfall in August and September, however, provided relief at a time when streamflows are often at their seasonal lows.

In 1987, snowpack was lower than it had been in 1985. However, soil moisture at the beginning of the summer of 1987 was high, thanks mostly to good precipitation during the fall of 1986. In addition, storage in both large and small reservoirs throughout the state was in good shape heading into the spring and early summer. While summer precipitation was below normal over most of the state, the overall drought conditions could be characterized as relatively mild. Several short summer storm events helped alleviate the immediate effects of the drought on streamflows.

In comparison, 1988 began with poor soil moisture conditions. Snowpack was significantly below average but better than in either 1985 or 1987. However, a warm spring again caused runoff 2-3 weeks earlier than normal. Continued hot temperatures and low summer precipitation together with existing low soil moisture reserves increased demands from already low streamflows. This time, there was no substantial summer precipitation to provide the needed relief, and streamflows continued to decline. Little or no precipitation occurred in September and October.

The ending of the irrigation season provided some increase in flow levels in most of the Yellowstone basin, but even these improved flows were well below normal for the time of year.

Water Reservations Administration

This year was the first time during the 1985-1988 drought cycle that low streamflows were not improved by summer rains. Consequently, enforcement of DFWP's "Call" for the water from junior users was widely implemented and continued all summer long. DNRC assisted in this program by sending their own letter to junior users in the Yellowstone basin, reinforcing DFWP's call and emphasizing the seniority system of water rights. (See Appendix C).

Enforcement of the reservations was principally voluntary on the part of the junior users. Limited contacts indicated that some of the junior users did comply with the second notification letter. However, our experiences with instream rights administration in other parts of the state indicated that a larger proportion did not comply at all or may have done so only after they completed an irrigation cycle with their junior water. In the long term, adequate administration of the reservations must await the ability to use court-appointed water commissioners after decrees are issued on the reservation streams in the Yellowstone basin through the S.B. 76 adjudication process.

Cedar Park Subdivision

One particular problem which developed in 1988 was the issue of the water use permit held by Cedar Park Subdivision near Billings, whose residents utilize domestic water from their pumping station on the Yellowstone River. Cedar Park Subdivision's permit is junior to DFWP's reservation and they were sent both notification letters. DFWP's priority date is December 15, 1978. Cedar Park's permit has a priority date of May 3, 1985 (the date of their application) and is for use of 200 gpm of water (up to 128 acre-feet per year) from the Yellowstone River for municipal purposes.

When Cedar Park first made their permit application in 1985, several objections were made to issuance of the permit, one of which was from DFWP. At that time, DFWP also informed Cedar Park of the water which had been reserved by the City of Billings for municipal uses. (The city's reservation for municipal use was

granted during the Yellowstone River reservation proceedings and has a higher priority than DFWP's instream reservation). DFWP pointed out to Cedar Park that if the application was not for a portion of this reserved water, their permit would be junior to DFWP's instream flow reservation.

In its objection to Cedar Park's application, DFWP clearly pointed out that a situation like the 1988 drought could very likely occur in the near future. DFWP stated "water for project use will be severely limited in a drought year, as is presently occurring" (1985). Also, DFWP stated that Cedar Park would be much better off obtaining water from the City of Billings' municipal water reservation which would have priority over the instream reservation held by DFWP.

Cedar Park subsequently contacted the City of Billings for use of its reserved water. The City of Billings would not agree to use of its reserved water, but agreed to sell Cedar Park water from its other water right holdings if Cedar Park agreed to 10 conditions, one of which was that 100 percent of the residents file a waiver of their right to protest annexation to the city. (See the city's letter to Cedar Park in Appendix D). These conditions were unacceptable to Cedar Park and they proceeded with their application for permit. DFWP and the other objectors eventually withdrew their objections to the application because the applicant agreed to the following permit conditions:

> "This permit is subject to the Yellowstone River Basin Reservations granted by the Board of Natural Resources and Conservation on December 15, 1978 and as amended by Board Order on November 21, 1980.
>
> The waters appropriated pursuant to this permit shall only be diverted when the flow of the Yellowstone River exceeds the reservations that are being put to beneficial use. As the downstream conservation districts and municipalities begin to develop and appropriate their reserved waters, the amount of water needed to pass the USGS gauge to satisfy all reserved rights will increase.

The following list is only the "instream flow" reservation at the USGS gauge at Billings.

Monthly Breakdown	Acre-Feet	Cubic Feet/Second
January	152688	2483
February	137940	2484
March	177278	2883
April	213048	3580
May 1-20	203132	5121
May 21-30	266177	12200
June 1-7	239306	17236
June 8-30	853816	18716
July 1-10	203781	10274
July 11-31	166611	4000
August	215205	3500
September	184878	3107
October	219694	3573
November	206976	3478
December	171008	2781

NOTICE: It is the responsibility of the Permittee to determine when the stream flow is in excess of the flows at the USGS gauge station needed to satisfy reserved waters being used. Stream flow information may be obtained by calling the Water Rights Bureau field office in Billings at (406) 657-2105".

In its seventh annual report to the Board of Natural Resources and Conservation, DFWP expressed some concerns about the issue of entitlement of Cedar Park to water reserved by the City of Billings and we expressed the concern that the issue should be addressed. We also recommended some procedures which Cedar Park could utilize to try and resolve the problem. (See Appendix D).

DFWP and DNRC met with Cedar Park representatives on August 24, 1988 to try and resolve the problem of shutting off Cedar Park's sole water supply. DFWP had already made an internal policy decision that it would not require Cedar Park to actually shut off its water. However, to be consistent with the appropriation doctrine, Cedar Park would have to find a long term alternative to their junior permit in order to not remain a junior user to DFWP.

Some of the options suggested to Cedar Park are given below.

1. Purchase water on subcontract from Cooney Reservoir for delivery at their water intake. DNRC and the Rock Creek Water Users Association would have to be involved in this transaction.

2. Reopen negotiations with the City of Billings for use of its reserved municipal water or other water rights with a senior priority date.

3. Agree to the conditions posed by the City of Billings for purchase of water, utilize that water and terminate the water use permit, provided that the priority date of the new water is before December 15, 1978.

4. Utilize available procedural avenues through the Board of Natural Resources and Conservation to resolve the question of the City of Billings' refusal to allow Cedar Park Subdivision the use of its reserved water.

5. Purchase a water right(s) from another water user(s) in the basin which is senior to the DFWP reservation and move the point of division to their existing intake point.

When this report was completed, a long term solution was still being sought. The problem has also become involved in the 10-year review of Yellowstone water reservations now before the Board of Natural Resources and Conservation. The City of Billings has refused to allow Cedar Park use of its reserved water because they claim Cedar Park was not included in the original projected service area for their granted municipal reservation. The city is also adhering to the 10 conditions they required of Cedar Park for use of the city's unused water rights which have a pre-1978 priority date(s).

Cedar Park is currently working through Yellowstone County to try and solve their problem. If Yellowstone County was to obtain a portion of the City of Billings' reserved water through the Board of Natural Resources and Conservation, they could allow Cedar Park use of that water and it would have a higher priority than DFWP's reservation. However, jurisdictional questions must still be resolved through the Board. The Board has conditionally approved all of the reservations in its 10-year review. However, it ordered that petitions for a more critical review of any of the granted reservations be submitted to them by December 1, 1988. Yellowstone County and the City of Billings both submitted petitions to address the Cedar Park problem. Board action on the petitions will not be initiated until 1989, following a 60-day response period by those reservants affected by the petitions.

APPENDICES

United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
Federal Building, Room 428
301 South Park Avenue, Drawer 10076
Helena, Montana 59626-0076

November 9, 1988

Mr. Liter Spence
Water Resources Supervisor
Montana Department of Fish,
Wildlife, and Parks
1420 East 6th Avenue
Helena, Montana 59620

Dear Liter:

As you recently requested, we have determined the 90th-percentile monthly mean discharges for the Shields River near Livingston, Montana (station 06195600) for the 1934-82 base period. The flow record was extended to this base period using a record-extension program developed by William M. Alley and Alan W. Burns of the U.S. Geological Survey (1983). Eleven gages in the upper Yellowstone River basin were used to extend the Shields River flow record, with the Yellowstone River at Corwin Springs (06191500) being the gage site most often used to estimate missing monthly discharges.

The 90th-percentile monthly mean discharges are shown in the enclosed table. If you have any questions about the table or the method used to extend the flow records, please give me a call.

Sincerely,

Charles Parrett
Hydrologist

Enclosure

Appendix A. Letter from USGS forwarding the quantified flows for the Shields River at its mouth

Monthly Mean Discharge
Exceeded 90% of the Time (Years)
for Shields River near Livingston, MT (06195600)
Based on 1934-82 Extended Base Period

Month	Discharge in ft^3/s
October	132
November	125
December	107
January	86.2
February	87.3
March	106
April	131
May	460
June	945
July	99.0
August	85.6
September	87.5

Appendix B. Notification letters sent to junior water users in the Yellowstone basin in 1988

Sent 6-30-88
1st Yellowstone letter

Montana Department of Fish, Wildlife & Parks

1420 East Sixth Ave.
Helena, MT 59620
June 28, 1988

Dear Water Permit Holder:

Once again Montanans are faced with the likelihood that streamflows will be unusually low in many of our streams. These low flows are an inconvenience, and at times even a hardship, to those persons who depend on that water for their livelihood, and they also have adverse affects on fish and wildlife.

Foreseeing such possibilities, the 1973 Montana legislature passed the Montana Water User Act, which established a process for reserving water in Montana's streams for fish, wildlife and water quality. Between 1974-1979 the reservation process was completed in the Yellowstone River basin. The Board of Natural Resources allocated flows among the reservants by an order signed on December 15, 1978. A significant portion of the flows were reserved for instream purposes. Consequently, Yellowstone basin water use permits having priority dates after December 15, 1978 are subject to the instream flows granted by the Board.

During drought years, flows are likely to fall below the instream reservations on many Yellowstone basin streams. When these conditions occur, the Department of Fish, Wildlife and Parks notifies all junior water permit holders to cease their diversions for as long as flows are below our reservations.

Streamflows on some streams are already below the instream reservations for this time of year. However, the purpose of instream flows during a normal spring high water period is to provide flushing flows which maintain the size and shape of the stream channel which provides the physical habitat for fish and other aquatic life. This year spring flows were not high enough to perform those functions, yet they are still high enough that the fishery itself has not yet been adversely affected. Therefore, the department will not enforce the provisions of the reservations until the high flow period ends and we begin to experience lower summer flows. At that time, if flows fall below the instream reservations, we will notify you to cease your diversion(s).

This letter is being sent to water users of record who have permits junior to the instream flow reservations. If you have several water rights or permits, please be informed that our instream rights are senior only to those permits you may have obtained after December 15, 1978.

While it is not our intent to cause undue hardship, it is incumbent upon us to protect the rights granted for the protection of fish, wildlife and water quality and to inform you of our position. Your adherence to the law and judicious use of water during this drought period will aid us in that endeavor.

Thank you for your cooperation.

Sincerely,

James W. Flynn
Director

drg

2nd Yellowstone letter And attachments

Montana Department of Fish, Wildlife & Parks

1420 East Sixth Avenue
Helena, Montana 59620
July 29, 1988

Dear Water Permit Holder:

In our letter to you dated June 28, 1988, we said we would again contact you regarding your junior use of water when stream flows in the Yellowstone basin dropped below our instream reservations which have a priority date of December 15, 1978.

Flows have now dropped below our reservations. If you have not already ceased your junior diversion(s), you are required to do so at this time so as to be in compliance with the terms of your water use permit. You must discontinue water use for as long as flows are below our reservations.

Ten USGS gage sites within the Yellowstone basin have been chosen to monitor flow conditions. The gage assigned to monitor <u>your</u> diversion is listed on the enclosure. Also listed are the granted instream flows by month which that gage monitors. Current streamflow levels for your designated gage can be obtained by calling the Department of Natural Resources and Conservation Water Rights Bureau field office in Billings (657-2105), Bozeman (586-3136), or Miles City (232-6359). When flows are no longer below the instream reservations, you can again utilize your water use permit. It is the responsibility of the permit holder to monitor flow conditions so as to remain in compliance with the terms of his water use permit.

Thank you for your cooperation. Your adherence to the law and conscientious use of water during this drought period will assist us in protecting the flows granted for the protection of fish, wildlife and water quality.

Sincerely,

James W. Flynn
Director

drg

YELLOWSTONE RIVER

INSTREAM RESERVATION

Yellowstone River near Sidney (Gage # 06329500)

Month	Cubic Feet Per Second (CFS)
January	3,738
February	4,327
March	6,778
April	6,808
May	11,964
June	25,140
July	10,526
August	2,670
September	3,276
October	6,008
November	5,848
December	3,998

YELLOWSTONE RIVER

INSTREAM RESERVATION

Yellowstone River at Billings (Gage #06214500)

Month	Cubic Feet Per Second (CFS)
January	2,483
February	2,484
March	2,883
April	3,580
May (1-20)	5,121
May (21-31)	12,200
June (1-7)	17,236
June (8-30)	18,716
July (1-10)	10,274
July (11-31)	4,000
August	3,500
September	3,107
October	3,573
November	3,478
December	2,781

YELLOWSTONE RIVER

INSTREAM RESERVATION

Yellowstone River at Miles City (Gage #06309000)

Month	Cubic Feet Per Second (CFS)
January	3,829
February	3,998
March	6,359
April	5,848
May	12,280
June	26,188
July	10,278
August	3,862
September	4,338
October	5,849
November	5,508
December	4,009

POWDER RIVER

1. The DFWP senior instream water reservation is for the Powder River at its mouth.

2. The priority date of the instream right is December 15, 1978.

3. The USGS gage assigned to monitor flow levels and protect this right is on the Powder River near Locate.

4. The DFWP instream flows by month which the above gage monitors are:

January	31.9	cfs[1]
February	71.8	cfs
March	291	cfs
April	347	cfs
May	424	cfs
June	184	cfs
July	70	cfs
August	14.5	cfs
September	8.87	cfs
October	9.43	cfs
November	61.6	cfs
December	61	cfs

You must not divert water under your junior permit as long as the flow is below that shown for the period indicated.

Your cooperation is appreciated.

---

1 Cubic feet per second. 1 cfs equals 448.8 gallons per minute or 40 miners inches.

STILLWATER RIVER

1. The DFWP senior instream water reservation is for the Stillwater River at its mouth.

2. The priority date of the instream right is December 15, 1978.

3. The USGS gage assigned to monitor flow levels and protect this right is on the Stillwater River near Absarokee.

4. The DFWP instream flows by month which the above gage monitors are:

January	200 cfs1
February	205 cfs
March	210 cfs
April	225 cfs
May	560 cfs
June	2,075 cfs
July	1,030 cfs
August	480 cfs
September	480 cfs
October	380 cfs
November	225 cfs
December	225 cfs

You must not divert water under your junior permit as long as the flow is below that shown for the period indicated.

Your cooperation is appreciated.

---

1 Cubic feet per second. 1 cfs equals 448.8 gallons per minute or 40 miners inches.

BOULDER RIVER

1. The DFWP senior instream water reservation is for the Boulder River at Big Timber.

2. The priority date of the instream right is December 15, 1978.

3. The USGS gage assigned to monitor flow levels and protect this right is on the Boulder River at Big Timber.

4. The DFWP instream flows by month which the above gage monitors are:

January	80 cfs1
February	80 cfs
March	80 cfs
April	80 cfs
May	300 cfs
June	1,690 cfs
July	490 cfs
August	60 cfs
Septmber	95 cfs
October	130 cfs
November	80 cfs
December	80 cfs

You must not divert water under your junior permit as long as the flow is below that shown for the period indicated.

Your cooperation is appreciated.

---

1 Cubic feet per second. 1 cfs equals 448.8 gallons per minute or 40 miners inches.

TONGUE RIVER

1. The DFWP senior instream water reservation is for the Tongue River at its mouth.

2. The priority date of the instream right is December 15, 1978.

3. The USGS gage assigned to monitor flow levels and protect this right is on the Tongue River at Miles City.

4. The DFWP instream flows by month which the above gage monitors are:

January 1 - December 31	75 cfs[1]

You must not divert water under your junior permit as long as the flow is below that shown for the period indicated.

Your cooperation is appreciated.

---

1 Cubic feet per second. 1 cfs equals 448.8 gallons per minute or 40 miners inches.

Appendix C. Letter sent by DNRC to water users junior to DFWP's Yellowstone reservation

August 24, 1988

Dear Water Right Permittee:

The Department of Fish, Wildlife and Parks (DFWP) holds a water right in the Yellowstone River Basin with a priority date of December 15, 1978. Your water use permit within that basin is later in priority and therefore junior to that agency's water right. Your water permit specifically states that you are subject to senior water rights. Flows in the Yellowstone River Basin have dropped to critically low levels due to severe drought conditions and are considerably below those necessary to meet the DFWP water right. Because your permit is junior to the water right held by the DFWP, that agency has advised you that you must cease exercising your water use permit.

The Department of Natural Resources and Conservation, as the agency that administers the Montana Water Use Act and granted your water use permit, is concerned that your water use permit is exercised according to its terms. Because your water right is junior to the instream water right of the DFWP, and because that agency has notified you that it wants you to cease diversion, any water use pursuant to your permit may violate the provisions of your permit.

This Department will be field-checking a number of water right permit holders to see if they are using water in violation of their permits. If water right permittees junior to the rights of DFWP are using water pursuant to their permits, then this Department can take one of the following actions.

(1) Require the permittee to explain in a hearing why his permit should not be modified or revoked.

(2) Seek court action to stop the illegal water use.

There may be legitimate reasons that you can continue to use water pursuant to your permit, even though it is junior to the DFWP water right. For example, if your water use is from storage, then the priority system for natural flow waters does not apply. If you feel that you have a valid reason to continue diversion, please notify Keith Kerbel, 657-2105, at our Billings Field Office.

I commend you for your cooperation if you have ceased your diversion based upon notification from the DFWP. However, we have received complaints from water users who have stopped water use that others are continuing to use water in apparent violation of their water use permit conditions. In response to these complaints, the alleged violations will be investigated.

I hope this letter adequately explains how Montana's water rights system applies to your permit. If not, please call me at 444-6605, Larry Holman at 444-6610, or Keith Kerbel at 657-2105.

Sincerely,

Gary Fritz
Administrator
Water Resources Division

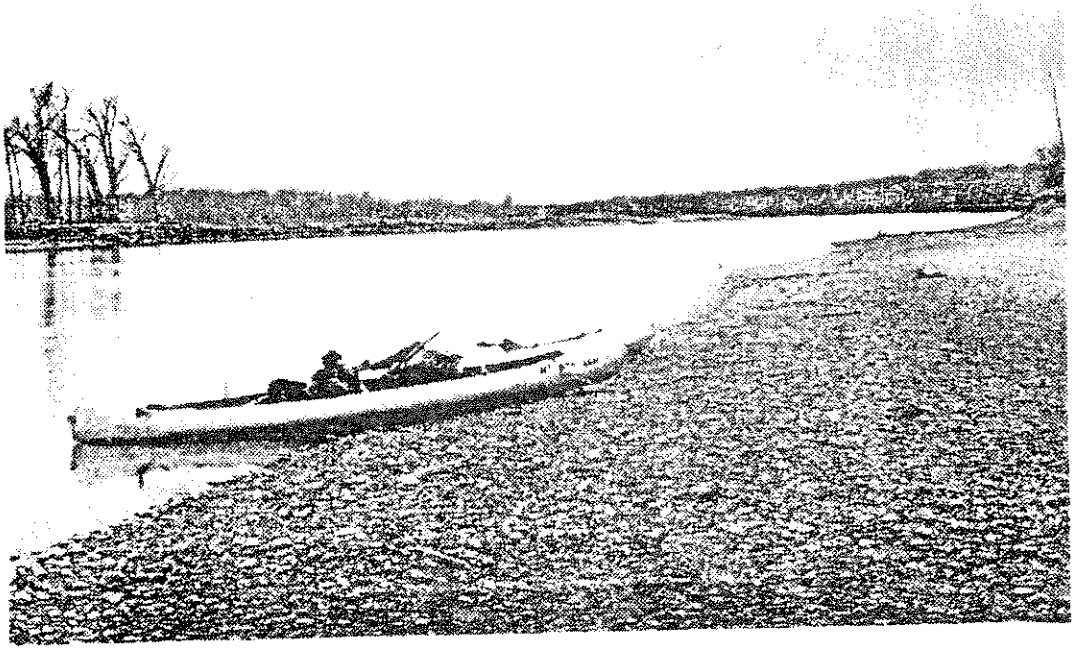
GF:rmb

Appendix D. Excerpt from Seventh Annual Report which discusses municipal water reservation including Cedar Park Subdivision water use permit application

#7

The Yellowstone River Instream Reservation

December 16, 1984 - December 15, 1985



SEVENTH ANNUAL REPORT

Compiled By
Larry Peterman and Fred Nelson

Montana Department of Fish, Wildlife and Parks
Fisheries Division
1420 East Sixth Avenue
Helena, Montana 59620

with a similar letter on July 24. Twice a week between July 8 and October 3, 1985 the MDFWP obtained from the USGS the current flow readings for the 10 gaging sites, recorded these flows along with the amounts of the instream reservation for each site on data sheets (see example in Appendix C) and sent these to he Water Rights Field offices to relay to the callers.

The MDFWP closely monitored stream flows throughout the summer. By early August flows had dropped far below the reserved instream flows on a number of streams and little relief was in sight. Critically low streams having a significant number of junior permit holders included the Stillwater, Big Horn and Tongue rivers. Junior permittees on these 3 streams (34 in total) were informed by letter on August 20 that if they had not already ceased withdrawing water, they were required to do so at this time (see letter in Appendix D).

Above normal rainfall in August and September helped to alleviate the drought, and, by mid to late September, many streams were flowing at or near normal levels.

MUNICIPAL WATER RESERVATIONS

Water permit applications for two subdivisions within the Billings area have raised a number of questions regarding the Board's intent when water reservations were granted in 1978 to various cities within the Yellowstone Basin. The two subdivisions, Lockwood (#54172-S43Q) and Cedar Park (#57973-S43Q), applied to appropriate water from the Yellowstone River for municipal purposes.

The MDFWP informed each applicant of the water reserved to the City of Billings for municipal uses, and that if the application is not for a portion of this reserved water, the permit would be junior to the Department's instream flow reservation for the Yellowstone River. A municipality needs a dependable, continuous, year-round water supply, requirements that could not be satisfied in all months in all years if the permit was subject to the terms of the instream reservation.

The stipulations imposed by the City of Billings for use of a portion of its reserved waters were unacceptable to Lockwood and use of these waters was subsequently denied by Billings. Cedar Park was also not willing to agree to the conditions proposed by the City of Billings, a copy of which is attached as Appendix E. Lockwood then applied for a provisional permit under 85-2-311, MCA. The objections of a number of Conservation Districts to Lockwood's application resulted in the scheduling of a hearing. The question of whether or not Lockwood was entitled to be issued a permit for the use of reserved waters was considered by the hearings examiner under Section 85-2-316(7), MCA, and under the authority granted in paragraph 18(b) of the Board's 1978 Order as amended by subsequent Order of September 12, 1980. The examiner, however, was unable to

make a determination without clearer evidence of the Board's intent when it granted municipal reservations to Billings and other cities. DNRC adopted the hearing examiner's proposal without any significant changes in substance as DNRC's final order. The major issues needing clarification by the Board and brought to light in the DNRC's final order were:

1. In support of their reservation applications, municipalities projected what their future water needs would be based on the anticipated population growth within a specified planning area. If a subdivision or other land unit was included in this planning area, are the present and future residents therefore entitled to a portion of the reserved water and, if so, does the city have the authority to impose stipulations, such as annexation and connection to the city's water lines, as requirements for the use of these waters? If the Board intended to allow stipulations, what stipulations are reasonable?

2. Is the term "planning area" equal to the term "water service area" which was ultimately used in granting Billings' reservation?

Lockwood was eventually granted a provisional permit that was subject to all existing rights and reservations. The circumstances of the recent Cedar Park application were similar and resolved in a like manner. In effect, the use of reserved water was denied to both Lakewood and Cedar Park.

There are at least two procedural avenues by which the above questions could come before the Board for resolution. First, an entity, such as Lockwood Water Users Association or Cedar Park Subdivision, could make an application directly to the Board. The application, probably in the form of a request for a declaratory ruling by the Board, would ask the Board to rule on the meaning of the Orders granting a reservation for municipal use to the City of Billings. The Board would be asked to determine if the applicant is eligible to use the municipal reservation and, if eligible, whether the City of Billings may impose conditions on the use of the reserved water. Additionally, if the City of Billings may impose conditions, what conditions may be imposed without violating the terms and conditions of the municipal water reservation.

Second, the DNRC may issue a permit for reserved water. Specifically, DNRC "...may, with the approval of the Board, issue the permit subject to such terms and conditions it considers necessary for the protection of the objectives of the reservation." Section 85-2-316(7), MCA. DNRC declined to consider granting a permit for reserved water because it could not determine whether Lockwood Water Users Association was entitled to use a portion of the municipal reservation of the City of Billings. See Proposal and Final Order In the Matter of the Application for Beneficial Water Use Permit No. 54172-S43Q by Lockwood Water Users Association. MDFWP believes

that a reasonable approach to resolving these issues would be for the DNRC itself to ask the Board for a declaratory ruling as to the meaning of the Board's Orders granting a water reservation to the City of Billings or to ask for the Board's approval under Section 85-2-316(7), MCA, and certified to the Board for resolution any issues as to the meaning of the Board's Orders. Such a process would be within the specific meaning and intent of Section 85-2-316(7), MCA, and within the meaning and intent of the reservation system taken as a whole.

Subdivisions around Billings will probably continue to opt to develop their own water systems due to the high cost of meeting the stipulations required for the use of the city's reserved waters. This development of municipal water supplies that are independent of the municipal reservations appears contrary to the intent of the Board when it established the municipal reservation. We believe the issues raised by these two applications require clarification by the Board and the establishment of guidelines for the allotment of a municipality's reserved waters.

CITY OF BILLINGS
PUBLIC UTILITIES DEPARTMENT
P.O. BOX 30858
BILLINGS, MT 59111
PHONE (406) 657-8305

November 13, 1985

Mr. Henry Lindgren
4408 Bowman Drive
Billings, MT 59101

re: CEDAR PARK SUBDIVISION - WATER USE PERMIT APPLICATION WITH DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

Dear Henry:

As you requested, we recently met with various officials of the Department of Natural Resources and Conservation (DNRC) here in Billings and discussed your application for a water use permit with them. Our attorneys have also studied this matter.

Consequently, we are now in a position to recommend to the City Administrator and City Council that the City offer a sale of untreated water to your subdivision, subject to the following conditions:

1. The maximum amount of untreated water to be sold to your subdivision is 200 gallons per minute. For this amount we will charge a nominal fee of about $100 per year. We will accomplish the sale by written agreement, which will have a term of 5 years and be re-negotiated at the end of that time.

2. The sale of water will be under the City's water rights and not under its water reservation. (This offer by the City is restricted solely to a sale of a quantity of water under the City's water rights, and it does not involve any rights relating to reservation of water under the Montana Water Use Act of 1973.)

3. If such is required by DNRC, your subdivision will be responsible for filing with them an application for an additional point of diversion to take water from the Yellowstone River under the City's water rights.

4. Your subdivision will be responsible for constructing your own diversion, treatment, transmission, storage and distribution facilities. The cost of constructing all such facilities will be borne by your subdivision, not the City.

5. The sale of untreated water will be subject to the condition that one hundred percent of the owners of property in your subdivision file a waiver of their right to protest annexation to the City of Billings as well as any other conditions deemed appropriate by the City Council.

6. Your subdivision will not obtain under the water sale agreement any license, conveyance, or other interest whatever in the City's water rights, and of course not any interest in the City's water reservation either.

7. Your subdivision must use the purchased water only for municipal purposes.

8. Your subdivision must construct its water facilities in accordance with the standards of the State Department of Health and Environmental Sciences. In addition, your subdivision must assume full legal and operational responsibility for its water facilities as a privately owned system. Further, your subdivision must hold the City harmless from any and all claims and liabilities.

9. This sale of untreated water does not obligate the City to provide any other service to your subdivision, nor does it constitute the inclusion of your subdivision within the City's water service area.

10. This sale of untreated water is also conditioned upon your subdivision's keeping the City fully informed about all matters that may impact in any way the City's water rights and/or water reservation.

If the above terms and conditions regarding the sale of untreated water are agreeable to your subdivision, please so advise me and I'll draft a water sale agreement incorporating such terms and conditions therein and submit it to the City Administrator and City Council for their review and consideration.

Very truly yours,

Gerald D. Underwood

Gerald D. Underwood, P.E.
Public Utilities Director

GDU:slh

cc: Mr.Calvin Calton
File