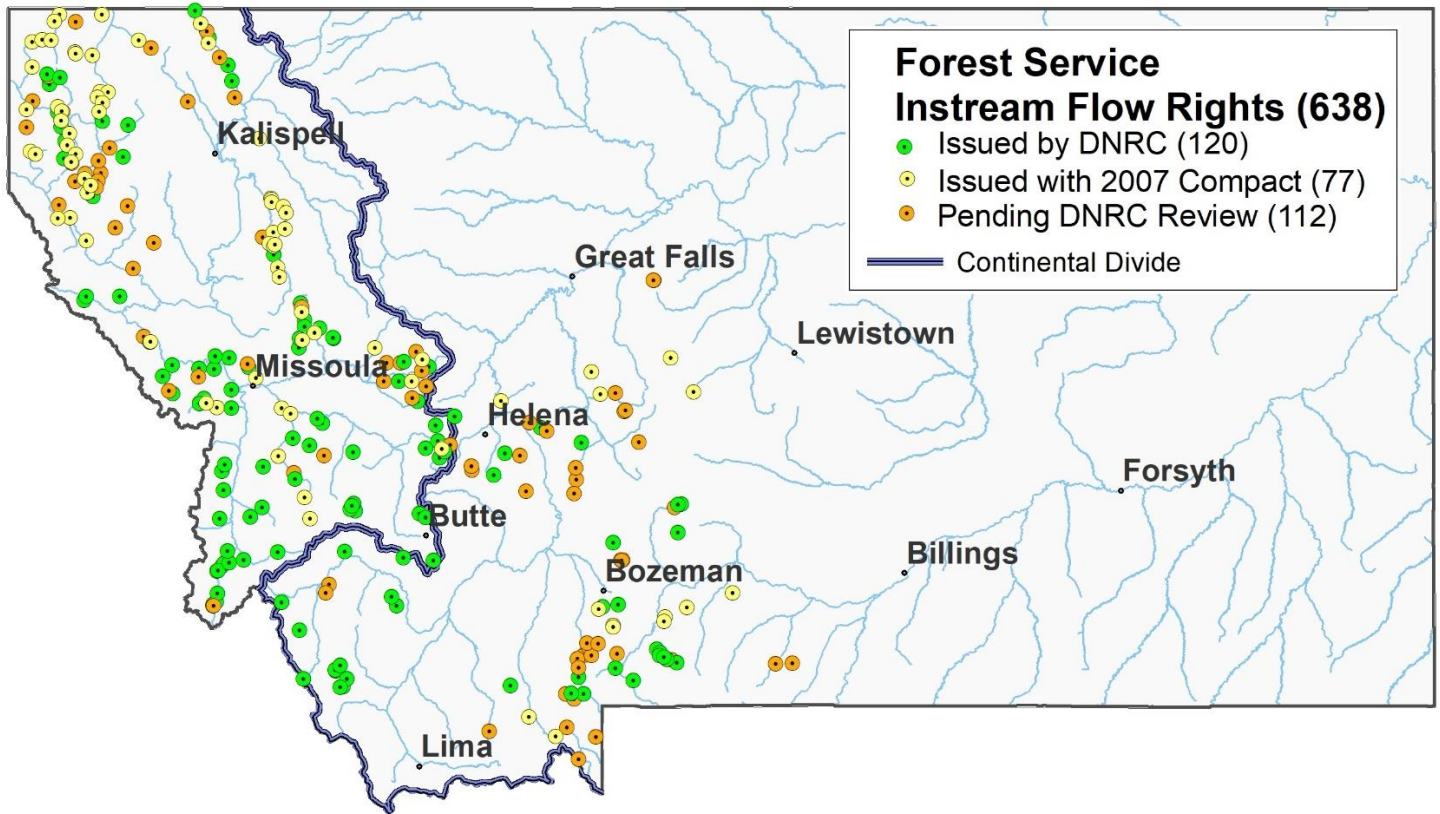


# 2019 REPORT DNRC IMPLEMENTATION OF USDA FOREST SERVICE WATER RIGHTS COMPACT



Submitted to: Water Policy Interim Committee

Report Date: January 1, 2020

Prepared by: Ethan Mace, Surface Water Hydrologist  
Map by Joel Harris

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**MONTANA DEPARTMENT OF NATURAL RESOURCES AND  
CONSERVATION - Water Resources Division**



## Executive Summary

This report summarizes Montana Department of Natural Resources and Conservation's (DNRC) implementation of portions of the USDA Forest Service Water Rights Compact (MCA 85-20-1401) (Compact). The Compact allows the Forest Service to apply for state water reservations purposed to maintain minimum flows for fish. These applications use special procedures specified in the Compact and are submitted to DNRC on Form 638, attached to the end of this report.

The table below documents activity relating to 638 instream flow applications and processing by year. During 2018 & 2019, sixty-two new applications were filed by the Forst Service, for which the DNRC collected \$49,600 in application fees. Forty reservations have been reviewed and issued during that time.

<b>US Forest Service Instream Water Reservations Summary Information by Year</b>													
	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<b>Total</b>
Original Compact Reservations	-	-	-	-	-	-	-	-	-	-	-	-	<b>77</b>
638 Applications Received	4	9	4	5	27	50	19	35	12	12	28	34	<b>239</b>
638 Reservations Issued	0	6	7	4	1	25	37	4	11	9	5	35	<b>144</b>
638 Applications Terminated	0	0	0	0	1	4	0	0	0	0	0	2	<b>7</b>
638 Applications Pending	0	0	0	0	0	3	8	13	4	7	19	34	<b>88</b>
DNRC Field Visited	0	0	0	0	0	5	0	4	29	3	5	39	<b>85</b>
DNRC Fees Collected		\$7,200	\$3,200	\$40,000	\$28,000	\$9,600	\$27,200						
	\$3,200	\$3,200	\$20,800	\$15,200	\$9,600	\$22,400	<b>\$189,600</b>						

\*percent based on 2016 to present

## Background

The Compact between the State of Montana and the United States Department of Agriculture Forest Service was approved by the Montana Legislature and signed by Governor Brian Schweitzer and the appropriate Federal agencies in April of 2007. The Compact generally provides for a resolution to federal reserved water rights for all Forest Service System Lands in the State of Montana and specifically addresses key issues including: discrete administrative uses, dispersed administrative uses, new water reservation applications pursuant 85-2-316 general rules, which can include in situ uses – such as wetland water rights, and new water reservation applications for instream flow pursuant 85-20-1401 Article VI, section B Specific Procedure in Limited Circumstances. Activity under section B is the subject of this report and explained below.

## **Article VI, section B Specific Procedures Applications (Form 638)**

The Compact allows the Forest Service to apply for state water reservations using special procedures so long as the purpose of the reservation is to maintain a minimum flow for fish and the amount requested is based on the Wetted Perimeter Methodology<sup>1</sup>.

Figure 1

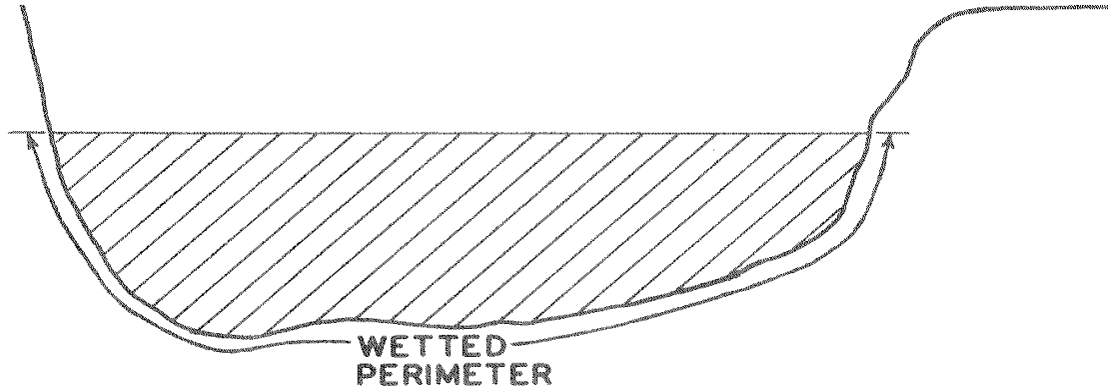
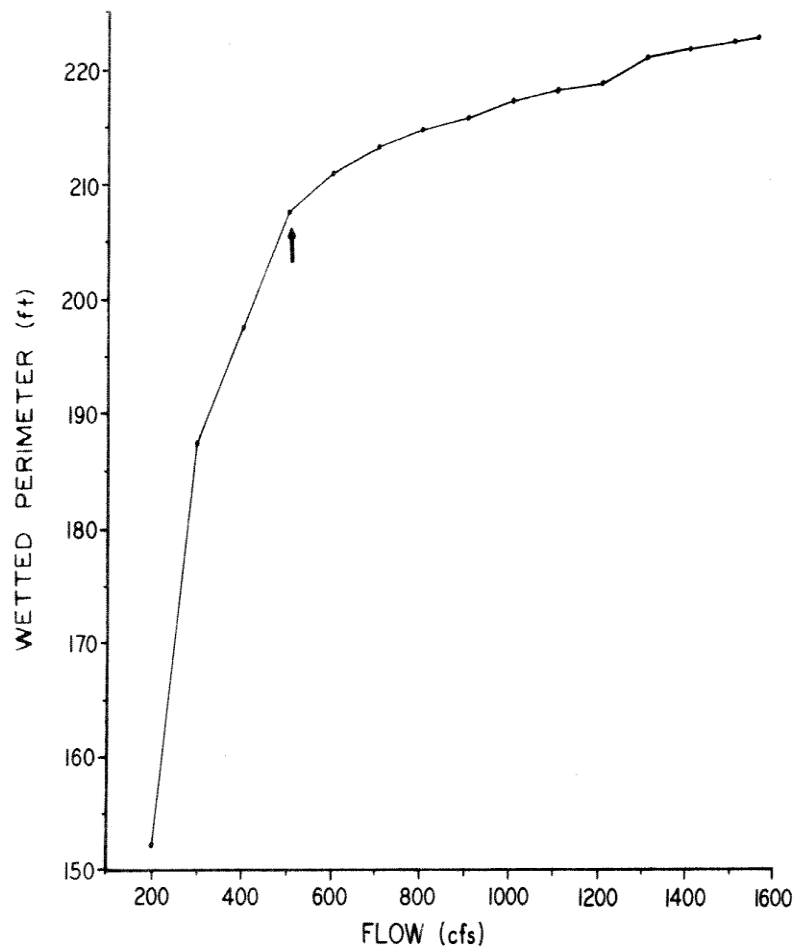


Figure 2

The Wetted Perimeter Method is a Montana-developed method used by the Department of Fish, Wildlife, and Parks for deriving instream flow recommendations. The method assumes that there is a direct relation between wetted perimeter in a riffle and fish habitat in the stream. Wetted perimeter is the distance along the bottom and sides of a channel cross-section in contact with water (Figure 1). As the discharge in a stream channel decreases, the wetted perimeter also decreases, but the rate of loss of wetted perimeter is not constant throughout the entire range of discharges. Starting at zero discharge, wetted perimeter increases rapidly for small increases in discharge up to the point where the stream channel nears its maximum width. Beyond this break of inflection point, the increase of wetted perimeter is less rapid as discharge increases. An example of a wetted perimeter discharge relationship showing a well-defined inflection point is given in Figure 2. The instream flow recommendation is selected at or near inflection points. (Fred Nelson, DFWP 1984)



<sup>1</sup> The Compact does allow for the consideration of other methods pursuant Article VI, section B.1.(b)

## **DNRC Form 638 Application Evaluation and Processing**

Upon receiving applications, DNRC enters 638 applications into the water rights database, maps the locations, posts the applications to our website, and initiates review. Review often requires site visits and focuses on assuring the following:

1. All required application information is present and organized;
2. The applications are for stream reaches located on Forest Service System Lands;
3. The cross-sections were located on stream channels appropriate for the Wetted Perimeter Method;
4. The Wetted Perimeter field data was collected correctly;
5. The Wetted Perimeter calculations were done correctly; and
6. There is information to support the presence of the fish species cited in the application.

The table below summarizes 638 Public Notice and Objection information by year:

<b>US Forest Service Instream Water Reservations (Form 638) Public Notice and Objection Information by Year</b>													
	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	Total
Public Notices	0	6	7	4	2	39	24	2	12	12	1	35	<b>144</b>
Valid Objections	0	0	0	0	0	2	4	0	1	0	0	0	<b>7</b>
Invalid Objections	0	2	0	0	0	18	10	0	7	0	0	1	<b>38</b>

### **Conclusion**

DNRC will continue to receive and administer Forest Service instream water reservations pursuant the Compact.



# Water Reservation Application for Instream Flow

**FILING FEE: \$800**

## For Department Use Only

- Use this form to apply for instream flow water reservations allowed under Article VI, section B of the Montana-US Forest Service Compact (Compact).
- A separate application must be submitted for each reach of a water source for which a State water reservation is sought.
- Filing fee should be submitted at the time of application.

Application No. \_\_\_\_\_ Basin \_\_\_\_\_  
 Date Received \_\_\_\_\_  
 Time \_\_\_\_\_  
 Rec'd by \_\_\_\_\_  
 Fee Rec'd \_\_\_\_\_  
 Check No. \_\_\_\_\_  
 Refund \$ \_\_\_\_\_  
 Date \_\_\_\_\_

1. Applicant Name: U.S. Forest Service

2. Mailing Address

Email Address

Phone Number

Contact Person:

Check, if contact is an attorney

NOTE: IF A CONTACT PERSON IS IDENTIFIED AS AN ATTORNEY, ALL COMMUNICATION WILL BE SENT ONLY TO THE ATTORNEY UNLESS THE ATTORNEY PROVIDES WRITTEN INSTRUCTION TO THE CONTRARY.  
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3. Source of water supply

Stream Name: \_\_\_\_\_  
 Tributary to: \_\_\_\_\_  
 Basin Number: \_\_\_\_\_

4. Purpose (check one):  beneficial use to maintain a minimum flow of water for fish  
 other (if other, use Form No. 610B – Application for Reservation of Water – Instream Uses)

5. Need (check one):  instream flow needed for fish  
 other (if other, use Form No. 610B – Application for Reservation of Water – Instream Uses)

6. Amount of instream flow applied for: \_\_\_\_\_ cubic feet per second (cfs)

7. Methodology:  WETP (Wetted Perimeter)  
 approved methodology; specify \_\_\_\_\_  
 (requires approval as described in Article VI, section B of Compact)  
 other; specify \_\_\_\_\_  
 (use Form No.610B – Application for Reservation of Water–Instream Uses)

8. Provide evidence that the methodology is appropriate for the stream reach:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

9. Fish species present (check):  
 Bull Trout  
 Westslope Cutthroat Trout  
 Columbia River Redband Trout  
 Yellowstone Cutthroat Trout  
 Arctic Grayling  
 T&E Species -- specify: \_\_\_\_\_  
 date listed: \_\_\_\_\_  
 other -- specify: \_\_\_\_\_  
 (if other, limited to lower inflection point)

Proof of population present in the stream (attach documentation or explain):  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

10. Provide evidence that methodology was accurately applied:

(a) Attach photos of transects for each data collection date  
 See Attachments 10(a)1 through 10(a)\_\_\_\_

(b) Attach transect benchmark, flow, and analysis spreadsheets; include all applicable data  
 See Attachments 10(b)1 through 10(b)\_\_\_\_

(c) Attach wetted perimeter graphs showing inflection point and R2 values  
 See Attachments 10(c)1 through 10(c)\_\_\_\_

(d) Data collection location, farthest downstream data collection point:  
 Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_;  
 \_\_\_ 1/4, \_\_\_ 1/4, \_\_\_ 1/4, Section \_\_, Township \_\_, Range \_\_, County \_\_\_\_\_

(e) If quantification point is not close to the downstream end of reach, explain why it is a suitable representation of the downstream end of the reach:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

(f) Flows measured: Attach spreadsheet that includes all applicable data.

Date \_\_\_\_\_ cfs \_\_\_\_\_  
 Date \_\_\_\_\_ cfs \_\_\_\_\_  
 Date \_\_\_\_\_ cfs \_\_\_\_\_

(g) Data Analysis:

(1) Name of computer program used for analysis:

\_\_\_\_\_

(2) Number of transects used:

\_\_\_\_\_

(3) Inflection point chosen, its origin, and a justification for selection:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(4) Upper and lower inflection points with R-square analysis of rating curves:

(h) List personnel, including title, involved in data collection, data analysis, and application preparation (specify role):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

11. Physical Water availability:

(a) Estimated mean annual flow \_\_\_\_\_ cfs

(b) Mean Monthly Flow as per *Procedure for Natural Flow Estimates for Selected Streams and Rivers in Montana*, USFS Northern Region Water Team (USGS Feb, 2001)

12. Location of downstream end of reach, not to extend beyond Forest Service boundary:

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_;

\_\_ 1/4, \_\_ 1/4, \_\_ 1/4, Section \_\_, Township \_\_, Range \_\_, County \_\_\_\_\_

13. Location of upstream end of reach; indicate headwaters, property boundary, tributary, etc.:

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_;

\_\_ 1/4, \_\_ 1/4, \_\_ 1/4, Section \_\_, Township \_\_, Range \_\_, County \_\_\_\_\_

14. Length of stream to be protected: \_\_\_\_\_ (map derived miles).

**19.** Legal Description of Stream Reach to be Protected (indicate the legal description of each parcel along the entire stream reach. Attach additional pages if necessary).

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

\_\_ ¼, Section \_\_, Township \_\_, Range \_\_, County\_\_\_\_\_

**20.** Attach Map – See Attachment 20(1) through 20(\_\_\_\_)  
Include: north arrow, scale, section corners and numbers, township and range numbers, downstream-most data, protected reach, and property ownership of the place of use; U.S. Geological Survey quadrangle map or equivalent topographic map (1:24000 scales)



**Public Interest:** This application is in the public interest if it is otherwise correct and complete because under the Compact an application that is otherwise correct and complete establishes a prima facie showing of public interest that can only be overcome by an objection based on a projected development that satisfies the requirements of [Section 1] Article B.3.(b) of the Compact.

**Affidavit:** I declare under oath that the information provided for this application is, to the best of my knowledge and belief, true and correct. In submitting this application, I acknowledge that I serve in a representative capacity for the United States Department of Agriculture, Forest Service.

Applicant's Signature: \_\_\_\_\_ Date \_\_\_\_\_  
(signature of Forest Service Representative)

Name: \_\_\_\_\_  
(typed or printed name of Forest Service Representative)

Title: \_\_\_\_\_  
(title of Forest Service Representative)

Address: \_\_\_\_\_  
(address of Forest Service Representative)

Phone number: \_\_\_\_\_

Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Notary's Signature \_\_\_\_\_  
(Typed, Stamped, or Printed Name of Notary)

Notary for the State of \_\_\_\_\_  
Residing at \_\_\_\_\_  
My commission expires \_\_\_\_\_

Submit the application and filing fee to the  
Department of Natural Resources and Conservation, Water Resources Division, Missoula Regional Office  
1610 S. 3<sup>rd</sup> Street, PO Box 5004, Missoula, Montana 59806-5004