

**Montana  
Statewide Angling  
Pressure  
2019**

**Summary Report**



# **Angler Pressure 2019 Summary Report**

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## **1.0 INTRODUCTION**

Montana Fish, Wildlife and Parks has conducted statewide angling mail surveys for more than 50 years. Bishop (1959, 1960, 1961) conducted the first recorded mail survey of fishing pressure on a statewide basis for Montana from 1958-1960. In 1968 Holton (1970) again initiated the statewide angling pressure mail survey. Holton (1971) conducted another statewide survey for the 1969 license year. No results were reported because it was felt they were too high due to sampling problems. In 1975, Gaffney (unpublished data) conducted a statewide survey of angling pressure by mail. An attempt was made to continue that statewide survey in 1976 using the 1975 mailing lists. This did not provide adequate samples for nonresidents, so only resident pressure was obtained. The surveys were started again in 1982 and run for four consecutive years (McFarland, 1989). In 1986 the surveys were again canceled for lack of funding. In March 1989, the statewide angling use mail survey was again reinitiated, and has been conducted on a biennial basis since that time.

The number of questionnaires in the survey has varied over the years. Between 1989 and 2011, the number has been in the range of 89,000-97,000 for all but two surveys (68,505 in 2001 and 80,125 in 2005). In 2013, the effort was scaled back to 67,603 questionnaires, a drop of 25 % from 2011. The 2015 survey effort was 67,600 questionnaires, the same as 2013. In 2017 the survey was again scaled back due to budget cuts. A total of 40,300 surveys were mailed out in 2017, a 40% cut over 2015. The consequence of this change is that it increases error measurements for waters and decreases the number of waters for which a pressure estimate can be calculated. In 2019 the survey went back to the 2015 effort to decrease error and increase the number of waters for which a pressure estimate can be calculated.

In the current survey there have been only a few new changes made to the maps that accompany the questionnaire. It is still worthy of mention because any change has the potential to influence the angler response, and ultimately angler pressure estimates. The Clark Fork River map underwent minor changes designed to help anglers identify their fishing location. The title of the map was changed to include the reservoirs and the reservoir names were put in bold font in the hopes that anglers would more easily differentiate fishing in the river versus the reservoirs. Each section was also designated by a note indicating the end points of the section. Beaver Creek was moved to the back page while the Gallatin River and Big Spring Creek maps were moved to the front page of the survey letter along with a note to let anglers know that there were more maps on the back side. The Bitterroot River and the Gallatin River are included in 2019 while the Boulder River was excluded for lack of space. When there is no map, the nearest town or landmark is used to determine which section of the river was fished when the respondent does not include the section.

Contents of the questionnaire changed slightly in 2019. All license holders surveyed were asked whether they knew that any watercraft (boat, kayak, raft, drift boat, jet ski, etc.) must stop at roadside Watercraft Inspection Stations. Questions regarding Fishing Access Site (FAS) use were included again in this survey and the type of fishing (shore, boat, both, or ice) question

from the 2013 (and all prior) survey was once again included. The primary purpose of the FAS question was to quantify the percentage of anglers who use FASs to access waterbodies. This information also proved helpful in identifying specific sections of rivers that were fished.

## **2.0 METHODS**

### **2.1 MAIL SURVEYS**

The 2019 statewide angling mail pressure survey was conducted during the license year beginning March 2019 and ending February 2020. The methods used by R. McFarland for surveys conducted from 1989 through 2009 provided the framework for the 2019 survey.

Samples were drawn from the Department's Automated Licensing System (ALS) on the first day of each month. All anglers who purchased a two-day or ten-day license valid for use in the previous month as well as all anglers who purchased or held a season fishing license valid for use in the previous month were included in the eligible angler population. A computer program was written in ORACLE to create three populations of anglers from which to draw samples. A season population, a 2-day population, and a 10-day population were created each month. The licenses that comprise these three populations of anglers are:

1. NonResident 2-day license: enables the nonresident angler to fish for two consecutive days of their choice. Anglers may purchase as many two-day licenses as they want.
2. NonResident 10-day license: enables the nonresident angler to fish for 10 consecutive days of fishing. Anglers may purchase as many ten-day licenses as they want.
3. NonResident Season license includes:
  - combo license - combines a nonresident conservation license and seasonal fishing license.
  - seasonal license
  - deer combo license - includes a deer tag and a fishing license.
  - big game combo - includes a conservation license, an elk tag, a deer "A" tag, a black bear tag, a fishing license and an upland game bird license.
4. Resident 2-day license: valid for 2 consecutive days at a reduced cost.
5. Resident Season license includes:
  - season license
  - combo license - combines a season fishing license and a conservation license
  - sportsman's license - provides a deer "A" tag, elk tag, optional bear tag, conservation license, a game bird stamp and a fishing license
  - "senior" license - 62 years of age and older
  - "youth" license - ages 12 to 17
  - disabled license - certified as permanently and substantially disabled

An ACCESS table was used to pull a random sample from each population. Sampling was done on a monthly-stratified basis (Table 1). The number pulled from each population was proportionally derived from the angling pressure each population exerted based on previous surveys. A 25/75 ratio to sample non-resident and resident anglers was used in the current survey--the same ratio that has been used since 2007 as reported by McFarland (2009) who found that residents provide approximately 75% of angling pressure. The ratio is 25/75 for this current survey.

The individual samples from each population (by month) were assigned to a wave (Table 1) and given sequential serial numbers. The database of names and addresses were run through a software program (a service provided by Print & Mail Service in Helena) to validate addresses and assign correct 4-digit zip code extensions. Only addresses that passed the mail validation were included in the final sample. This helped reduce the number of non-deliverable surveys. An ACCESS report was written to export the monthly sample data into a spreadsheet for mail merging with the survey WORD document. The merged file contained a single page for each angler included in the sample. This merged file and a separate map file were sent to Print & Mail Services (State of Montana) in Helena, MT where the survey was printed (two-sided), stuffed into envelopes and mailed via first class mail.

**Table 1. Period-of-time covered for waves for the 2019-2020 Statewide Angling Survey.**

Wave	Time Period Covered	Season Designation
1	March 2019	Winter
2	April	Winter
3	May	Summer
4	June	Summer
5	July	Summer
6	August	Summer
7	September	Summer
8	October	Winter
9	November	Winter
10	December	Winter
11	January 2020	Winter
12	February	Winter

The sample size for the 2019 survey was the same as the 2015 survey. Actual numbers of questionnaires sent varied slightly from wave to wave (Table 2). For the "summer" waves (3 through 7) 8,400 residents and nonresidents were sampled each month. In the "winter" waves (8 through 12 plus 2), the rate dropped to 4,200 residents and nonresidents. Because wave 1 had fewer license holders from which to sample, this wave was sampled at a less intense level.

A single questionnaire was used for all groups. The questionnaire (see Section 6.0 for an example), included questions on: what water was fished; nearest landmark or town; section of stream or river fished (taken from maps on the front survey page and the map page on the back of the survey); number of days fished; number of days fished at an FAS and the name(s) of the FAS; the one fish species they were primarily fishing for. The question on FAS use (new in 2015 and included in 2017) was retained in the 2019 survey. The type of fishing (shore, boat, ice or a combination) was also included again in 2019 (it was removed in 2015 and reinstated in 2017).

To ease the sorting process, different colored forms were used for each wave as well as for initial and remail mailings. Surveys were mailed "first class pre-sort" for all the waves.

**Table 2. Number of questionnaires sent for each wave by residency for the 2019 license year.**

Wave	Mailed		Useable (mailed minus undeliverable)		Returns (initial and remail)		Return Rate Percentage	
	Res	Nonres	Res	Nonres	Res	Nonres	Res	Nonres
01	300	100	290	94	117	31	40.34%	32.98%
02	3150	1050	3067	1010	1216	342	39.65%	33.86%
03	6300	2100	6087	2017	2222	647	36.50%	32.08%
04	6300	2100	6095	2033	2134	676	35.01%	33.25%
05	6300	2100	6059	2031	2003	645	33.06%	31.76%
06	6300	2100	6058	2033	2090	712	34.50%	35.02%
07	6300	2100	6018	2015	2162	715	35.93%	35.48%
08	3150	1050	2995	1015	1124	375	37.53%	36.95%
09	3150	1050	3023	1000	1097	320	36.29%	32.00%
10	3150	1050	3006	1003	1115	333	37.09%	33.20%
11	3150	1050	2985	1003	1164	339	38.99%	33.80%
12	3150	1050	3022	1012	1112	319	36.80%	31.52%

Remail questionnaires were mailed to those individuals who had not yet responded, from four to six weeks after the initial mailing. Returns for each wave were monitored and when they slowed down to a few each day the remail was sent. Included on the remail survey was a note explaining that we hadn't received their survey yet but if they had sent one in and our mail crossed paths, to please disregard this second request (see Section 6.0 for survey examples). Returns were grouped and counted according to type of license (residency), wave and mailing (initial or remail). Surveys returned as undeliverable were subtracted from the sample size.

Returned questionnaires were sorted into those that had fished in Montana during the period in question and those that had not. The "yes" respondents were keyed into an Access database using forms and lookup fields. A record was entered for each stream or lake fished. Both the stream or lake name and the nearest town or landmark was entered for each record. These data were used to identify a specific watercode for each record. Edits were run to correct invalid water codes and data out of normal ranges.

Phone surveys have been used in the past for the purpose of determining nonresponse bias associated with the mail surveys and for making adjustments to pressure estimates accordingly. The most recent phone survey was conducted in 1997. It showed no statistically significant difference in response rate between the phone and mail surveys. No phone surveys were conducted in 2019, so it was assumed that there was no nonresponse bias and no adjustment necessary.

Fishing pressure estimates were made for individual waters based upon the formula:

$$P_j = \sum_{i=1}^n \left[ \frac{E_{ij} * D_{ij}}{R_{ij}} \right] * A_{ij}$$

where  $P_j$  = Pressure for an individual water by the  $j^{\text{th}}$  residency

$E_{ij}$  = Number of eligible anglers for the  $i^{\text{th}}$  wave and  $j^{\text{th}}$  residency

$D_{ij}$  = Days fished that particular water for the  $i^{\text{th}}$  wave and  $j^{\text{th}}$  residency

$R_{ij}$  = Number of respondents from the survey for the  $i^{\text{th}}$  wave and  $j^{\text{th}}$  residency

$A_{ij}$  = Adjustment factor for non-response for the  $i^{\text{th}}$  wave and  $j^{\text{th}}$  residency

$n$  = number of waves in the estimate year or season

$j$  = number of residency types (resident, nonresident, or total)

The variance was then calculated using:

$$VAR(P_j) = \sum_{i=1}^n \left[ \frac{E_{ij}^2 * VAR(D_{ij})}{R_{ij}} \right] * A_{ij}^2$$

where  $P_j$ ,  $E_{ij}$ ,  $R_{ij}$ ,  $D_{ij}$ , and  $A_{ij}$  are the same as above.

Pressure estimates between waves and residency were assumed to be independent so variances were summed to obtain total variances. The square root of the variance was calculated and this number was reported as the error for fishing pressure.

## **3.0 RESULTS**

### **3.1 ANGLER PRESSURE ESTIMATES ANNUAL (MARCH 2019-FEBRUARY 2020)**

Licensed anglers fishing on Montana waters were estimated to have exerted 3,143,022 angler days of pressure for the 2019 license year (Table 3). Residents accounted for 1,927,654 angler days (61%) and nonresidents made up the remaining 1,215,367 angler days (39%). Estimates for individual waters were sorted alphabetically and are presented in Appendix A of this report.

The distribution of angler pressure among Fish, Wildlife and Parks regions (Figure 1) is heavily skewed toward the western and central portions of the state (Chart 1). Region 3 received the most angling pressure with 863,369 angler days (27.5%), followed by Region 4 with 590,972 angler days (18.8%). Regions 2, 1 and 5 were next in order and close to each other, with 548,130 (17.4%), 474,955 (15.1%), and 349,356 (11.1%) angler pressure days respectively. The easternmost regions of 6 and 7 were the lowest in pressure with 234,891 (7.5%) and 69,014 (2.2%) angler days respectively.

Residents (Chart 1) exerted the majority of angling pressure in 2019 in all regions but Region 3. The percent of angling pressure by residents for each region was: Region 1 – 72.1%, Region 2 – 61.6%, Region 3 – 44.5%, Region 4 – 74.2%, Region 5 – 55.6%, Region 6 – 70.6%, and Region 7 – 80.9%. July (wave 5) was, overall, the peak fishing period, while March (wave 1) was the least fished period during the year (Table 4). Residents fished the most in July (wave 5) and nonresidents also fished the most during July (wave 5). Residents fished least in December (wave 10) while nonresidents fished least in March (wave 1).

Angling on lotic waters (streams/rivers) accounted for 64.7% (2,025,288 angler days) of the statewide pressure while lentic waters (lakes/ponds/reservoirs) accounted for 35.3% (1,103,251 angler days) of the pressure (Table 3).

Regions 1 and 6 were the two regions in which lake angling pressure exceeded stream pressure (63.2% and 78.6%, respectively from lakes), although the lake pressure in Region 6 was due primarily to angling on one water (Fort Peck Reservoir) (Table 3, Chart 2). Region 4 was relatively balanced between stream and lake angling, although the lake angling pressure in Region 4 was the greatest for any region of the state (272,322 angler days). Regions 2, 3, 5 and 7 were dominated by stream anglers, and while Region 3 had the highest number of stream anglers for any region (715,921 angler days), Region 5 had the highest percentage (85%) of anglers that were stream anglers.

**Table 3. Angling Pressure in angler days by Region by Lake or Stream for the 2019 survey license year.**

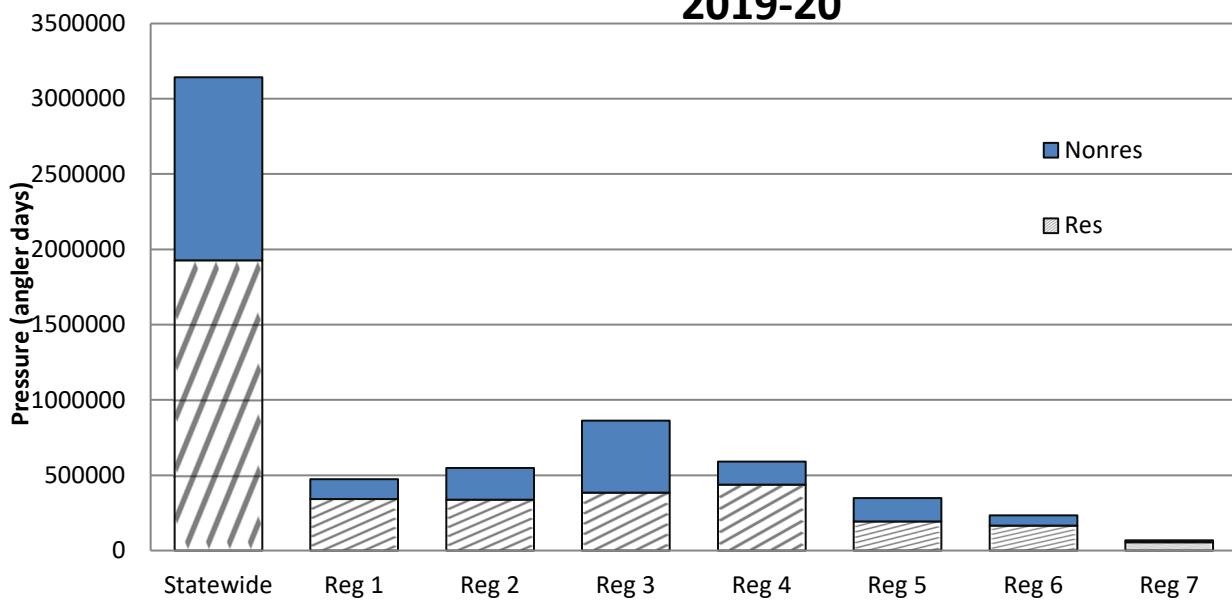
	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Region: 1</b>						
Undesig	473	4			473	4
Lake	299,662	2,606	238,059	2,155	61,603	451
Stream	174,820	1,488	104,309	987	70,510	501
<b>Total:</b>	<b>474,955</b>	<b>4,098</b>	<b>342,368</b>	<b>3,142</b>	<b>132,586</b>	<b>956</b>
<b>Region: 2</b>						
Undesig	0	0	0	0		
Lake	123,772	1,079	99,077	923	24,695	156
Stream	424,357	3,530	238,296	2,172	186,061	1,358
<b>Total:</b>	<b>548,130</b>	<b>4,609</b>	<b>337,373</b>	<b>3,095</b>	<b>210,756</b>	<b>1,514</b>
<b>Region: 3</b>						
Undesig	463	5			463	5
Lake	146,984	1,202	88,385	771	58,600	431
Stream	715,921	5,752	295,892	2,704	420,029	3,048
<b>Total:</b>	<b>863,369</b>	<b>6,959</b>	<b>384,277</b>	<b>3,475</b>	<b>479,092</b>	<b>3,484</b>
<b>Region: 4</b>						
Undesig	386	4	386	4		
Lake	272,322	2,617	247,378	2,435	24,944	182
Stream	318,265	2,726	190,460	1,741	127,804	985
<b>Total:</b>	<b>590,972</b>	<b>5,347</b>	<b>438,224</b>	<b>4,180</b>	<b>152,748</b>	<b>1,167</b>
<b>Region: 5</b>						
Undesig	694	4	84	1	610	3
Lake	52,422	502	39,757	408	12,665	94
Stream	296,239	2,465	154,521	1,427	141,719	1,038
<b>Total:</b>	<b>349,356</b>	<b>2,971</b>	<b>194,362</b>	<b>1,836</b>	<b>154,994</b>	<b>1,135</b>
<b>Region: 6</b>						
Lake	184,588	1,560	124,292	1,201	60,296	359
Stream	50,302	480	41,644	421	8,658	59
<b>Total:</b>	<b>234,891</b>	<b>2,040</b>	<b>165,936</b>	<b>1,622</b>	<b>68,954</b>	<b>418</b>
<b>Region: 7</b>						
Undesig	130	2	130	2		
Lake	23,501	226	17,235	188	6,265	38
Stream	45,383	456	38,453	390	6,930	66
<b>Total:</b>	<b>69,014</b>	<b>684</b>	<b>55,818</b>	<b>580</b>	<b>13,195</b>	<b>104</b>

### Statewide Pressure Estimates for the 2019 Survey License Year.

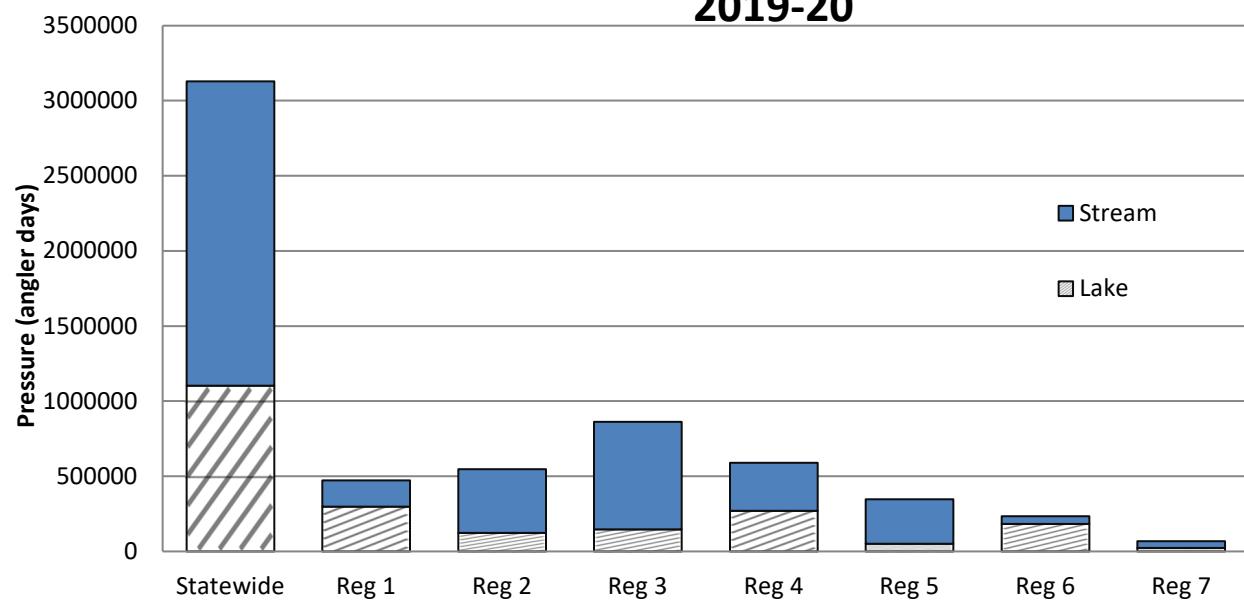
	----- Totals -----	----- Resident -----	----- Non-Resident -----
Undesignated	Pressure 12,823	Trips 124	9,466 98 3,356 26
Lake	1,104,995	9,808	854,696 8,088 250,299 1,720
Stream	2,025,288	16,897	1,063,576 9,842 961,712 7,055
<b>Statewide Total</b>	<b>3,143,106</b>	<b>26,829</b>	<b>1,927,738 18,028 1,215,367 8,801</b>

**Chart 1. Statewide Angling Pressure Comparing Region and Residency**

**2019-20**



## Chart 2. Statewide Angling Pressure Comparing Region and Water Type 2019-20



**Table 4. Pressure in angler days by wave for the 2019 survey license year.**

Wave	Month	Total	Resident	Nonresident
01	March	67,248	61,421	5,827
02	April	144,007	83,731	60,276
03	May	242,823	167,620	75,203
04	June	423,983	294,390	129,593
05	July	637,253	411,753	225,500
06	August	555,284	347,697	207,587
07	September	381,139	211,847	169,292
08	October	224,515	109,057	115,458
09	November	121,618	51,045	70,572
10	December	92,056	44,497	47,559
11	January	128,950	80,352	48,599
12	February	124,230	64,329	59,901

Angling pressure was summarized by the 40 major drainages within the state as identified in the 2019 Statewide Fisheries Management Program and Guide (Figure 1, Table 5). The pressure by drainage ranged from a high of 325,896 angler days for the Madison River drainage to a low of 184 angler days for the Powder River drainage. The drainage with the highest percent of resident anglers was the Upper Milk River (96.7%), while the Little Missouri River had the lowest percentage of resident anglers (0%). The Fort Peck Reservoir drainage had the highest percentage of lake anglers (91.9%) (the Little Missouri River drainage had 100% but that was for only 2 trips), mainly due to the influence of Fort Peck Reservoir, while the Missouri River-Dearborn and Belt Creek had the lowest percentage of lake anglers (1.4% and 0.0%).

## Statewide Management Plan Drainages

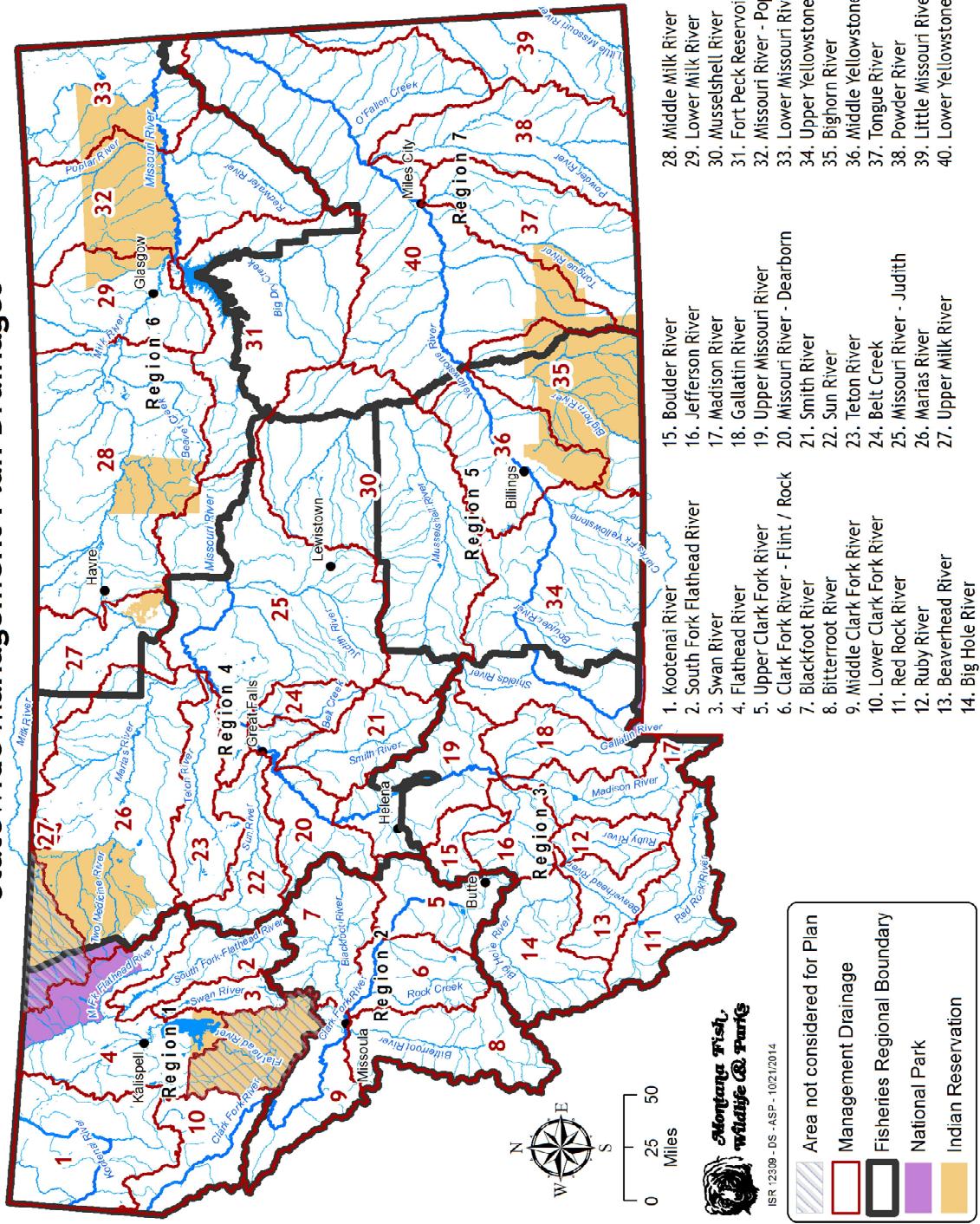


Figure 1: Statewide Management Plan Drainages

**Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2019 survey license year.**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>2019</b>						
<b>Beaverhead River</b>						
Lake	1,571	9	1,571	9		
Stream	27,738	240	12,222	116	15,516	124
<b>Total:</b>	29,309	249	13,793	125	15,516	124
<b>Belt Creek</b>						
Stream	11,505	104	8,703	85	2,802	19
<b>Total:</b>	11,505	104	8,703	85	2,802	19
<b>Big Hole River</b>						
Lake	10,915	110	10,423	106	493	4
Stream	103,169	941	56,072	578	47,096	363
<b>Total:</b>	114,084	1,051	66,495	684	47,589	367
<b>Bighorn River</b>						
Lake	5,513	48	2,737	29	2,777	19
Stream	136,900	1,060	36,552	322	100,348	738
<b>Total:</b>	142,413	1,108	39,289	351	103,125	757
<b>Bitterroot River</b>						
Lake	8,878	82	7,618	72	1,261	10
Stream	147,742	1,228	77,674	715	70,067	513
<b>Total:</b>	156,620	1,310	85,292	787	71,328	523
<b>Blackfoot River</b>						
Lake	47,546	435	42,175	403	5,371	32
Stream	80,845	697	49,922	464	30,923	233
<b>Total:</b>	128,391	1,132	92,097	867	36,294	265
<b>Boulder River</b>						
Lake	929	9	929	9		
Stream	5,216	47	4,867	45	349	2
<b>Total:</b>	6,145	56	5,796	54	349	2
<b>Clark Fork River - Flint / Rock</b>						
Lake	57,809	460	40,461	351	17,347	109
Stream	90,175	726	38,526	356	51,649	370
<b>Total:</b>	147,984	1,186	78,987	707	68,996	479
<b>Flathead River</b>						
Lake	145,086	1,239	115,053	1,024	30,033	215
Stream	76,387	661	48,332	458	28,055	203
<b>Total:</b>	221,472	1,900	163,385	1,482	58,088	418

**Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2019 survey license year (continued).**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Fort Peck Reservoir</b>						
Lake	137,645	1,177	85,435	863	52,210	314
Stream	12,378	117	8,454	94	3,924	23
<b>Total:</b>	<b>150,023</b>	<b>1,294</b>	<b>93,889</b>	<b>957</b>	<b>56,134</b>	<b>337</b>
<b>Gallatin River</b>						
Lake	18,815	152	12,802	111	6,013	41
Stream	157,940	1,208	83,032	688	74,908	520
<b>Total:</b>	<b>176,755</b>	<b>1,360</b>	<b>95,834</b>	<b>799</b>	<b>80,921</b>	<b>561</b>
<b>Jefferson River</b>						
Lake	10,109	84	8,821	74	1,288	10
Stream	10,740	93	5,265	56	5,475	37
<b>Total:</b>	<b>20,849</b>	<b>177</b>	<b>14,086</b>	<b>130</b>	<b>6,763</b>	<b>47</b>
<b>Kootenai River</b>						
Lake	59,980	513	43,498	390	16,482	123
Stream	31,633	265	17,940	171	13,693	94
<b>Total:</b>	<b>91,614</b>	<b>778</b>	<b>61,438</b>	<b>561</b>	<b>30,175</b>	<b>217</b>
<b>Little Missouri River</b>						
Lake	388	2			388	2
<b>Total:</b>	<b>388</b>	<b>2</b>			<b>388</b>	<b>2</b>
<b>Lower Clark Fork River</b>						
Lake	68,109	601	57,935	525	10,174	76
Stream	33,501	289	21,388	200	12,113	89
<b>Total:</b>	<b>101,610</b>	<b>890</b>	<b>79,323</b>	<b>725</b>	<b>22,287</b>	<b>165</b>
<b>Lower Milk River</b>						
Lake	626	4	626	4		
Stream	4,133	47	3,894	44	239	3
<b>Total:</b>	<b>4,760</b>	<b>51</b>	<b>4,520</b>	<b>48</b>	<b>239</b>	<b>3</b>
<b>Lower Missouri River</b>						
Lake	1,096	10	1,016	9	80	1
Stream	1,259	15	1,152	14	107	1
<b>Total:</b>	<b>2,355</b>	<b>25</b>	<b>2,168</b>	<b>23</b>	<b>187</b>	<b>2</b>
<b>Lower Yellowstone River</b>						
Lake	5,423	53	4,965	49	458	4
Stream	34,678	354	29,856	300	4,822	54
<b>Total:</b>	<b>40,101</b>	<b>407</b>	<b>34,821</b>	<b>349</b>	<b>5,280</b>	<b>58</b>

**Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2019 survey license year (continued).**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Madison River</b>						
Lake	62,161	521	22,108	222	40,053	299
Stream	263,735	2,026	66,085	611	197,650	1,415
<b>Total:</b>	<b>325,896</b>	<b>2,547</b>	<b>88,193</b>	<b>833</b>	<b>237,703</b>	<b>1,714</b>
<b>Marias River</b>						
Lake	29,390	285	26,812	269	2,577	16
Stream	6,121	62	5,743	60	378	2
<b>Total:</b>	<b>35,510</b>	<b>347</b>	<b>32,555</b>	<b>329</b>	<b>2,955</b>	<b>18</b>
<b>Middle Clark Fork River</b>						
Lake	4,743	48	4,264	45	479	3
Stream	75,057	626	49,828	446	25,229	180
<b>Total:</b>	<b>79,800</b>	<b>674</b>	<b>54,092</b>	<b>491</b>	<b>25,708</b>	<b>183</b>
<b>Middle Milk River</b>						
Lake	32,815	236	25,118	193	7,697	43
Stream	13,520	124	12,521	118	1,000	6
<b>Total:</b>	<b>46,335</b>	<b>360</b>	<b>37,639</b>	<b>311</b>	<b>8,697</b>	<b>49</b>
<b>Middle Yellowstone River</b>						
Lake	9,790	105	8,949	99	841	6
Stream	30,189	294	28,266	281	1,923	13
<b>Total:</b>	<b>39,980</b>	<b>399</b>	<b>37,215</b>	<b>380</b>	<b>2,764</b>	<b>19</b>
<b>Missouri River - Dearborn</b>						
Lake	2,489	26	2,489	26		
Stream	170,421	1,364	91,581	769	78,840	595
<b>Total:</b>	<b>172,910</b>	<b>1,390</b>	<b>94,070</b>	<b>795</b>	<b>78,840</b>	<b>595</b>
<b>Missouri River - Judith</b>						
Lake	9,638	82	8,707	77	931	5
Stream	34,875	336	26,958	281	7,918	55
<b>Total:</b>	<b>44,513</b>	<b>418</b>	<b>35,665</b>	<b>358</b>	<b>8,849</b>	<b>60</b>
<b>Missouri River - Poplar</b>						
Lake	1,060	11	846	9	215	2
Stream	16,236	155	12,966	130	3,270	25
<b>Total:</b>	<b>17,296</b>	<b>166</b>	<b>13,812</b>	<b>139</b>	<b>3,485</b>	<b>27</b>
<b>Musselshell River</b>						
Lake	12,221	106	10,496	97	1,725	9
Stream	5,033	45	3,359	32	1,674	13
<b>Total:</b>	<b>17,254</b>	<b>151</b>	<b>13,855</b>	<b>129</b>	<b>3,399</b>	<b>22</b>

**Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2019 survey license year (continued).**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>NA</b>						
Lake	6,722	77	4,937	56	1,785	21
Stream	1,546	10	1,133	7	413	3
<b>Total:</b>	<b>8,268</b>	<b>87</b>	<b>6,070</b>	<b>63</b>	<b>2,198</b>	<b>24</b>
<b>NA - St. Mary and Belly Rivers</b>						
Lake	368	3	209	2	160	1
<b>Total:</b>	<b>368</b>	<b>3</b>	<b>209</b>	<b>2</b>	<b>160</b>	<b>1</b>
<b>Powder River</b>						
Lake	104	1	104	1		
Stream	80	1			80	1
<b>Total:</b>	<b>184</b>	<b>2</b>	<b>104</b>	<b>1</b>	<b>80</b>	<b>1</b>
<b>Red Rock River</b>						
Lake	24,802	185	16,866	128	7,935	57
Stream	8,656	79	1,703	18	6,953	61
<b>Total:</b>	<b>33,458</b>	<b>264</b>	<b>18,569</b>	<b>146</b>	<b>14,888</b>	<b>118</b>
<b>Ruby River</b>						
Lake	8,298	43	7,058	35	1,240	8
Stream	13,293	93	6,006	40	7,288	53
<b>Total:</b>	<b>21,591</b>	<b>136</b>	<b>13,064</b>	<b>75</b>	<b>8,528</b>	<b>61</b>
<b>Smith River</b>						
Lake	10,029	96	9,462	93	567	3
Stream	38,669	380	18,524	199	20,145	181
<b>Total:</b>	<b>48,698</b>	<b>476</b>	<b>27,986</b>	<b>292</b>	<b>20,712</b>	<b>184</b>
<b>South Fork Flathead River</b>						
Lake	8,015	84	7,085	75	930	9
Stream	24,067	189	10,398	96	13,669	93
<b>Total:</b>	<b>32,082</b>	<b>273</b>	<b>17,483</b>	<b>171</b>	<b>14,599</b>	<b>102</b>
<b>Sun River</b>						
Lake	16,768	149	13,575	126	3,193	23
Stream	6,022	54	4,960	46	1,062	8
<b>Total:</b>	<b>22,790</b>	<b>203</b>	<b>18,535</b>	<b>172</b>	<b>4,255</b>	<b>31</b>
<b>Swan River</b>						
Lake	15,897	144	12,105	117	3,792	27
Stream	7,686	74	5,119	55	2,568	19
<b>Total:</b>	<b>23,583</b>	<b>218</b>	<b>17,224</b>	<b>172</b>	<b>6,360</b>	<b>46</b>

**Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2019 survey license year (continued).**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Teton River</b>						
Lake	3,532	35	3,317	33	215	2
Stream	4,829	46	4,397	42	432	4
<b>Total:</b>	8,361	81	7,714	75	647	6
<b>Tongue River</b>						
Lake	17,267	166	12,166	138	5,100	28
Stream	10,626	101	8,597	90	2,028	11
<b>Total:</b>	27,892	267	20,763	228	7,128	39
<b>Undesignated R1</b>						
Undesig	473	4			473	4
<b>Total:</b>	473	4			473	4
<b>Undesignated R2</b>						
Undesig	84	1	84	1		
<b>Total:</b>	84	1	84	1		
<b>Undesignated R3</b>						
Undesig	463	5			463	5
<b>Total:</b>	463	5			463	5
<b>Undesignated R4</b>						
Undesig	386	4	386	4		
<b>Total:</b>	386	4	386	4		
<b>Undesignated R5</b>						
Undesig	694	4	84	1	610	3
<b>Total:</b>	694	4	84	1	610	3
<b>Undesignated R7</b>						
Undesig	130	2	130	2		
<b>Total:</b>	130	2	130	2		
<b>Undesignated Statewide</b>						
Undesig	9,210	88	7,519	75	1,691	13
Lake	1,744	16	513	7	1,231	9
<b>Total:</b>	10,954	104	8,032	82	2,922	22
<b>Undesignated Western District</b>						
Undesig	1,381	16	1,263	15	118	1
<b>Total:</b>	1,381	16	1,263	15	118	1
<b>Upper Clark Fork River</b>						
Lake	5,005	56	4,768	54	237	2
Stream	30,623	254	22,430	192	8,193	62
<b>Total:</b>	35,628	310	27,198	246	8,430	64

**Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2019 survey license year (continued).**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Upper Milk River</b>						
Lake	12,454	135	12,041	132	413	3
Stream	2,776	22	2,658	21	118	1
<b>Total:</b>	<b>15,230</b>	<b>157</b>	<b>14,699</b>	<b>153</b>	<b>531</b>	<b>4</b>
<b>Upper Missouri River</b>						
Lake	188,198	1,824	173,354	1,715	14,844	109
Stream	55,193	455	35,007	309	20,186	146
<b>Total:</b>	<b>243,392</b>	<b>2,279</b>	<b>208,361</b>	<b>2,024</b>	<b>35,030</b>	<b>255</b>
<b>Upper Yellowstone River</b>						
Lake	41,044	386	31,282	311	9,763	75
Stream	240,096	2,015	141,486	1,293	98,610	722
<b>Total:</b>	<b>281,140</b>	<b>2,401</b>	<b>172,768</b>	<b>1,604</b>	<b>108,373</b>	<b>797</b>

### **3.2 ANGLER PRESSURE ESTIMATES SUMMER (MAY-SEPTEMBER)**

The "summer" season for angling in Montana is considered that period of the year from the first of May through the end of September. In 2019, 2,240,482 (71.3%) days of angling pressure occurred during this period (Table 6). Residents accounted for 1,433,306 angler days (64%) and nonresidents made up the remaining 807,176 angler days (56.3%). Estimates for individual waters were sorted alphabetically and are presented in Appendix B of this report. Monthly estimates for all waters are also provided in Appendix D.

The distribution of angler pressure among Fish, Wildlife and Parks regions during summer (Chart 3, Table 6) is heavily skewed toward the western and central portions of the state. Region 3 received the most angling pressure with 609,440 angler days (27.2%), followed closely by Region 4 with 419,337 angler days (18.7%). Regions 2, 5 and 1 were next in order and close to each other, with 400,558 (17.9%), 235,267 (10.5%), and 362,243 (16.2%) angler days respectively. The easternmost regions of 6 and 7 were the lowest in pressure with 149,694 (6.7%) and 52,452 (2.3%) angler days respectively.

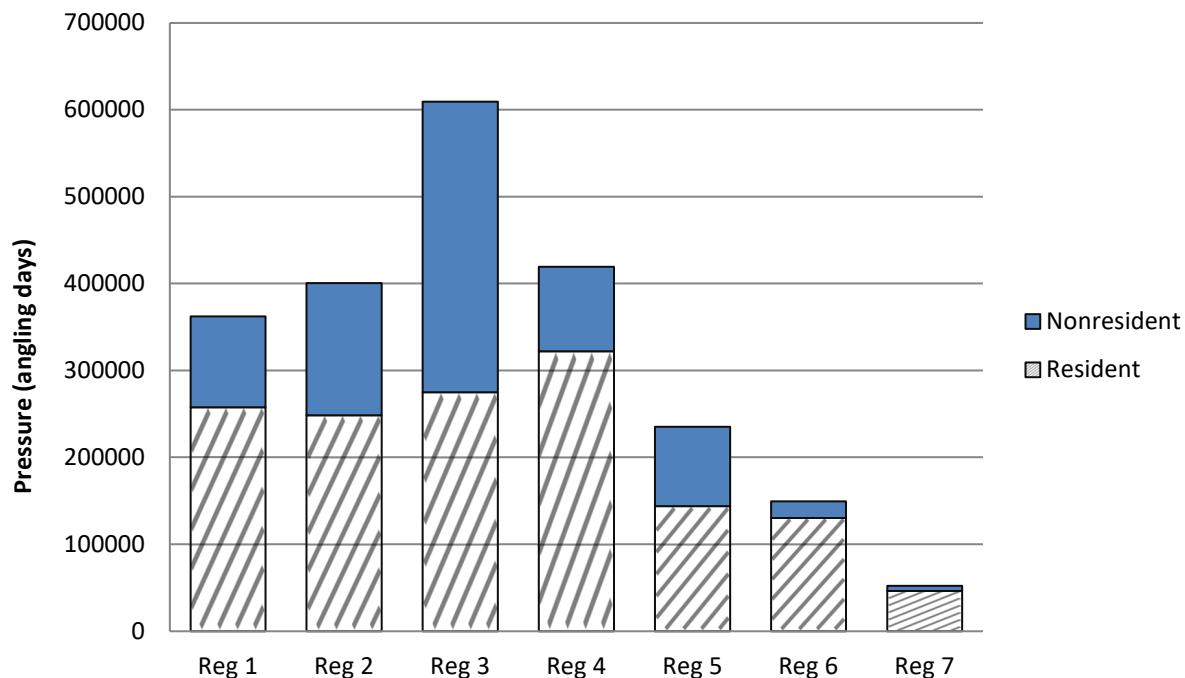
Residents (Chart 3) exerted the majority of angling pressure during the summer season in 2019 in all regions but Region 3. The percent of angling pressure by residents for each region was: Region 1 – 71.1%, Region 2 – 62.1%, Region 3 – 45.1%, Region 4 – 76.8%, Region 5 – 61.2%, Region 6 – 87.2%, and Region 7 – 88.7%.

Angling on lotic waters (streams/rivers) accounted for 64.1% (1,436,206 angler days) of the statewide pressure during the summer season while lentic waters (lakes/ponds/reservoirs) accounted for 35.4% (793,047 angler days) of the pressure and undesignated waters accounted for 0.5% (11,229 angler days) of the pressure (Table 6).

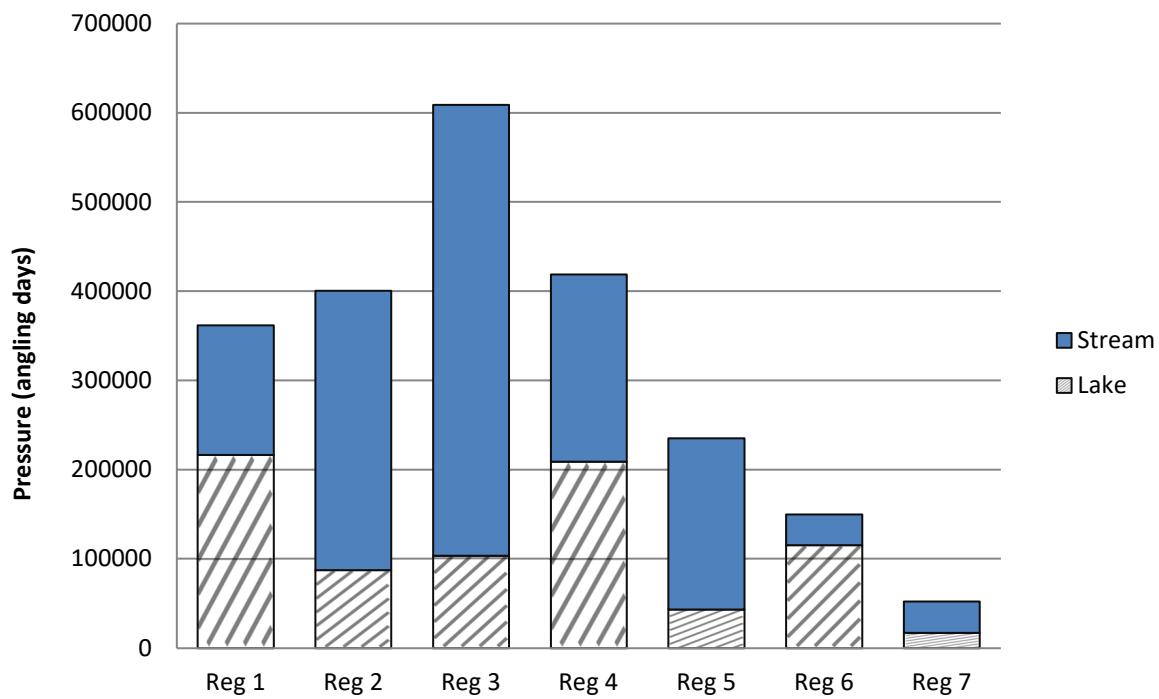
Regions 1 and 6 were the two regions in which lake angling pressure exceeded stream pressure during the summer season (59.8% and 76.5%, respectively, from lakes), although the lake pressure in Region 6 was due primarily to angling on one water (Fort Peck Reservoir) (Table 6, Chart 4). Region 4 was relatively balanced between stream and lake angling (49.8 and 50.1%, respectively). Regions 2, 3, 5 and 7 were dominated by stream anglers, and Region 3 had the highest number of stream anglers for any region (505,535 angler days) and the second highest percentage (82.9%) of anglers that were stream anglers (Region 5 had 81.5% but only 191,760 angler days for streams).

Angling pressure during the summer was summarized within the 40 major drainages (Figure 1, Table 7). The pressure by drainage ranged from a high of 226,179 angler days for the Madison River drainage to a low of 184 angler days for the Powder River drainage. The drainages with the highest percentage of resident anglers were the Tongue River, Marias River, and Boulder River at 97%, while the Madison had the lowest percentage of resident anglers (27.8%). Fort Peck Reservoir had the highest percentage of lake anglers (92%) followed closely by the Upper Milk River Drainage (90.6%) and the Marias (83.6%), mainly due to the influence of Tiber Reservoir, while the Beaverhead had the lowest percentage of lake anglers (1.5%) except for the Belt Creek Drainage where there was no lake fishing reported.

**Chart 3. Statewide Angling Pressure Comparing Region and Residency - Summer Months 2019**



**Chart 4. Angling Pressure Comparing Region and Water Type Summer Months 2019**



**Table 6. Angling Pressure in angler days by Region by Lake or Stream for the summer season of May through September for the 2019 survey license year.**

	----- Totals ----- Pressure	----- Trips -----	----- Resident ----- Pressure	----- Trips -----	----- Non-Resident ----- Pressure	----- Trips -----
<b>Region: Undesignated</b>						
Undesig	9,725	99	8,150	87	1,575	12
Lake	1,744	16	513	7	1,231	9
<b>Total:</b>	<b>11,469</b>	<b>115</b>	<b>8,663</b>	<b>94</b>	<b>2,806</b>	<b>21</b>
<b>Region: 1</b>						
Undesig	473	4			473	4
Lake	216,579	2,198	171,345	1,835	45,235	363
Stream	145,191	1,326	86,255	887	58,936	439
<b>Total:</b>	<b>362,243</b>	<b>3,528</b>	<b>257,600</b>	<b>2,722</b>	<b>104,644</b>	<b>806</b>
<b>Region: 2</b>						
Undesig	84	1	84	1		
Lake	87,360	878	74,991	785	12,369	93
Stream	313,114	2,859	173,642	1,780	139,472	1,079
<b>Total:</b>	<b>400,558</b>	<b>3,738</b>	<b>248,717</b>	<b>2,566</b>	<b>151,841</b>	<b>1,172</b>
<b>Region: 3</b>						
Undesig	346	4			346	4
Lake	103,559	990	61,443	649	42,116	341
Stream	505,535	4,575	213,651	2,253	291,884	2,322
<b>Total:</b>	<b>609,440</b>	<b>5,569</b>	<b>275,094</b>	<b>2,902</b>	<b>334,346</b>	<b>2,667</b>
<b>Region: 4</b>						
Undesig	386	4	386	4		
Lake	208,856	2,247	195,589	2,128	13,267	119
Stream	210,116	2,100	126,227	1,380	83,889	720
<b>Total:</b>	<b>419,358</b>	<b>4,351</b>	<b>322,202</b>	<b>3,512</b>	<b>97,156</b>	<b>839</b>
<b>Region: 5</b>						
Undesig	84	1	84	1		
Lake	43,424	441	32,698	357	10,726	84
Stream	191,760	1,842	111,125	1,165	80,634	677
<b>Total:</b>	<b>235,267</b>	<b>2,284</b>	<b>143,907</b>	<b>1,523</b>	<b>91,360</b>	<b>761</b>
<b>Region: 6</b>						
Lake	114,519	1,219	99,574	1,088	14,945	131
Stream	35,175	386	31,010	350	4,165	36
<b>Total:</b>	<b>149,694</b>	<b>1,605</b>	<b>130,584</b>	<b>1,438</b>	<b>19,110</b>	<b>167</b>

**Table 6. Angling Pressure in angler days by Region by Lake or Stream for the summer season of May through September for the 2019 survey license year (continued).**

	----- Totals ----- Pressure	----- Trips -----	----- Resident ----- Pressure	----- Trips -----	----- Non-Resident ----- Pressure	----- Trips -----
<b>Region: 7</b>						
Undesig	130	2	130	2		
Lake	17,006	192	16,104	182	902	10
Stream	35,315	389	30,306	333	5,009	56
<b>Total:</b>	<b>52,452</b>	<b>583</b>	<b>46,540</b>	<b>517</b>	<b>5,911</b>	<b>66</b>

**Statewide Summer Pressure Estimates for the 2019 Survey License Year**

	----- Totals ----- Pressure	----- Trips -----	----- Resident ----- Pressure	----- Trips -----	----- Non-Resident ----- Pressure	----- Trips -----
Undesig	11,229	115	8,834	95	2,395	20
Lake	794,090	8,181	653,299	7,031	140,791	1,150
Stream	1,435,162	13,477	771,173	8,148	663,990	5,329
<b>Statewide Total</b>	<b>2,240,482</b>	<b>21,773</b>	<b>1,433,306</b>	<b>15,274</b>	<b>807,176</b>	<b>6,499</b>

**Table 7. Angling Pressure in angler days by Drainage by Lake or Stream for the 2019 Summer season (May - September) by Survey License Year**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Beaverhead River</b>						
Lake	318	3	318	3		
Stream	21,170	200	8,939	93	12,231	107
<b>Total:</b>	<b>21,488</b>	<b>203</b>	<b>9,257</b>	<b>96</b>	<b>12,231</b>	<b>107</b>
<b>Belt Creek</b>						
Stream	10,184	97	7,382	78	2,802	19
<b>Total:</b>	<b>10,184</b>	<b>97</b>	<b>7,382</b>	<b>78</b>	<b>2,802</b>	<b>19</b>
<b>Big Hole River</b>						
Lake	10,829	109	10,336	105	493	4
Stream	89,890	862	51,309	548	38,582	314
<b>Total:</b>	<b>100,719</b>	<b>971</b>	<b>61,645</b>	<b>653</b>	<b>39,075</b>	<b>318</b>
<b>Bighorn River</b>						
Lake	3,969	38	2,181	24	1,788	14
Stream	68,392	655	19,610	224	48,782	431
<b>Total:</b>	<b>72,361</b>	<b>693</b>	<b>21,791</b>	<b>248</b>	<b>50,570</b>	<b>445</b>
<b>Bitterroot River</b>						
Lake	7,384	73	6,123	63	1,261	10
Stream	98,817	925	55,686	583	43,131	342
<b>Total:</b>	<b>106,201</b>	<b>998</b>	<b>61,809</b>	<b>646</b>	<b>44,392</b>	<b>352</b>
<b>Blackfoot River</b>						
Lake	35,260	366	32,853	349	2,408	17
Stream	70,882	641	42,478	424	28,404	217
<b>Total:</b>	<b>106,142</b>	<b>1,007</b>	<b>75,331</b>	<b>773</b>	<b>30,812</b>	<b>234</b>
<b>Boulder River</b>						
Lake	929	9	929	9		
Stream	4,396	43	4,236	42	160	1
<b>Total:</b>	<b>5,326</b>	<b>52</b>	<b>5,165</b>	<b>51</b>	<b>160</b>	<b>1</b>
<b>Clark Fork River - Flint / Rock</b>						
Lake	36,854	355	28,869	294	7,985	61
Stream	67,468	593	27,224	285	40,244	308
<b>Total:</b>	<b>104,322</b>	<b>948</b>	<b>56,093</b>	<b>579</b>	<b>48,229</b>	<b>369</b>
<b>Flathead River</b>						
Lake	99,364	1,017	80,177	860	19,186	157
Stream	64,653	596	40,415	413	24,238	183
<b>Total:</b>	<b>164,016</b>	<b>1,613</b>	<b>120,592</b>	<b>1,273</b>	<b>43,424</b>	<b>340</b>
<b>Fort Peck Reservoir</b>						
Lake	88,784	934	74,936	812	13,849	122
Stream	7,846	91	6,695	82	1,151	9
<b>Total:</b>	<b>96,630</b>	<b>1,025</b>	<b>81,631</b>	<b>894</b>	<b>15,000</b>	<b>131</b>
<b>Gallatin River</b>						
Lake	12,180	119	8,889	92	3,290	27
Stream	101,138	916	51,922	543	49,216	373
<b>Total:</b>	<b>113,318</b>	<b>1,035</b>	<b>60,811</b>	<b>635</b>	<b>52,506</b>	<b>400</b>

**Table 7. Angling Pressure in angler days by Drainage by Lake or Stream for the Summer season (May - September) by Survey License Year**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Jefferson River</b>						
Lake	5,571	58	4,472	49	1,099	9
Stream	8,973	83	4,676	52	4,297	31
<b>Total:</b>	<b>14,545</b>	<b>141</b>	<b>9,148</b>	<b>101</b>	<b>5,396</b>	<b>40</b>
<b>Kootenai River</b>						
Lake	42,898	426	28,874	317	14,024	109
Stream	24,229	228	14,658	155	9,571	73
<b>Total:</b>	<b>67,126</b>	<b>654</b>	<b>43,532</b>	<b>472</b>	<b>23,595</b>	<b>182</b>
<b>Lower Clark Fork River</b>						
Lake	50,986	518	43,481	456	7,505	62
Stream	25,248	241	16,373	171	8,875	70
<b>Total:</b>	<b>76,234</b>	<b>759</b>	<b>59,854</b>	<b>627</b>	<b>16,380</b>	<b>132</b>
<b>Lower Milk River</b>						
Lake	209	2	209	2		
Stream	2,450	29	2,211	26	239	3
<b>Total:</b>	<b>2,658</b>	<b>31</b>	<b>2,420</b>	<b>28</b>	<b>239</b>	<b>3</b>
<b>Lower Missouri River</b>						
Lake	694	8	614	7	80	1
Stream	1,259	15	1,152	14	107	1
<b>Total:</b>	<b>1,953</b>	<b>23</b>	<b>1,766</b>	<b>21</b>	<b>187</b>	<b>2</b>
<b>Lower Yellowstone River</b>						
Lake	4,187	47	3,920	44	267	3
Stream	28,382	313	23,560	259	4,822	54
<b>Total:</b>	<b>32,569</b>	<b>360</b>	<b>27,480</b>	<b>303</b>	<b>5,089</b>	<b>57</b>
<b>Madison River</b>						
Lake	52,426	469	19,695	208	32,731	261
Stream	173,753	1,513	43,248	471	130,505	1,042
<b>Total:</b>	<b>226,179</b>	<b>1,982</b>	<b>62,943</b>	<b>679</b>	<b>163,236</b>	<b>1,303</b>
<b>Marias River</b>						
Lake	22,871	247	22,215	241	656	6
Stream	4,494	47	4,494	47		
<b>Total:</b>	<b>27,364</b>	<b>294</b>	<b>26,709</b>	<b>288</b>	<b>656</b>	<b>6</b>
<b>Middle Clark Fork River</b>						
Lake	3,325	33	2,846	30	479	3
Stream	55,239	510	35,172	357	20,067	153
<b>Total:</b>	<b>58,565</b>	<b>543</b>	<b>38,018</b>	<b>387</b>	<b>20,546</b>	<b>156</b>
<b>Middle Milk River</b>						
Lake	13,218	147	12,510	140	708	7
Stream	9,624	100	9,388	98	237	2
<b>Total:</b>	<b>22,842</b>	<b>247</b>	<b>21,898</b>	<b>238</b>	<b>945</b>	<b>9</b>
<b>Middle Yellowstone River</b>						
Lake	6,727	82	6,077	77	650	5
Stream	23,402	249	21,873	238	1,528	11
<b>Total:</b>	<b>30,128</b>	<b>331</b>	<b>27,950</b>	<b>315</b>	<b>2,178</b>	<b>16</b>

**Table 7. Angling Pressure in angler days by Drainage by Lake or Stream for the 2019 Summer season (May - September) by Survey License Year**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Missouri River - Dearborn</b>						
Lake	2,056	21	2,056	21		
Stream	100,813	976	51,119	554	49,694	422
<b>Total:</b>	<b>102,870</b>	<b>997</b>	<b>53,175</b>	<b>575</b>	<b>49,694</b>	<b>422</b>
<b>Missouri River - Judith</b>						
Lake	5,571	66	5,412	65	160	1
Stream	27,612	286	22,764	248	4,849	38
<b>Total:</b>	<b>33,184</b>	<b>352</b>	<b>28,176</b>	<b>313</b>	<b>5,009</b>	<b>39</b>
<b>Missouri River - Poplar</b>						
Lake	852	10	637	8	215	2
Stream	11,735	127	9,422	107	2,313	20
<b>Total:</b>	<b>12,587</b>	<b>137</b>	<b>10,059</b>	<b>115</b>	<b>2,528</b>	<b>22</b>
<b>Musselshell River</b>						
Lake	6,839	73	6,839	73		
Stream	3,720	35	2,428	24	1,291	11
<b>Total:</b>	<b>10,559</b>	<b>108</b>	<b>9,267</b>	<b>97</b>	<b>1,291</b>	<b>11</b>
<b>Powder River</b>						
Lake	104	1	104	1		
Stream	80	1			80	1
<b>Total:</b>	<b>184</b>	<b>2</b>	<b>104</b>	<b>1</b>	<b>80</b>	<b>1</b>
<b>Red Rock River</b>						
Lake	10,355	113	7,466	86	2,889	27
Stream	7,886	75	1,703	18	6,183	57
<b>Total:</b>	<b>18,241</b>	<b>188</b>	<b>9,169</b>	<b>104</b>	<b>9,072</b>	<b>84</b>
<b>Ruby River</b>						
Lake	2,459	26	2,219	24	239	2
Stream	7,783	69	2,918	31	4,865	38
<b>Total:</b>	<b>10,241</b>	<b>95</b>	<b>5,137</b>	<b>55</b>	<b>5,104</b>	<b>40</b>
<b>Smith River</b>						
Lake	8,742	88	8,582	87	160	1
Stream	35,328	356	17,289	193	18,039	163
<b>Total:</b>	<b>44,069</b>	<b>444</b>	<b>25,871</b>	<b>280</b>	<b>18,199</b>	<b>164</b>
<b>South Fork Flathead River</b>						
Lake	7,810	83	6,879	74	930	9
Stream	23,148	184	9,479	91	13,669	93
<b>Total:</b>	<b>30,958</b>	<b>267</b>	<b>16,358</b>	<b>165</b>	<b>14,599</b>	<b>102</b>
<b>Sun River</b>						
Lake	11,462	120	9,916	106	1,546	14
Stream	4,702	47	4,046	41	656	6
<b>Total:</b>	<b>16,163</b>	<b>167</b>	<b>13,962</b>	<b>147</b>	<b>2,202</b>	<b>20</b>
<b>Swan River</b>						
Lake	13,752	133	10,164	107	3,589	26
Stream	7,289	72	5,119	55	2,170	17
<b>Total:</b>	<b>21,041</b>	<b>205</b>	<b>15,283</b>	<b>162</b>	<b>5,759</b>	<b>43</b>

**Table 7. Angling Pressure in angler days by Drainage by Lake or Stream for the 2019 Summer season (May - September) by Survey License Year**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Teton River</b>						
Lake	2,016	23	1,801	21	215	2
Stream	3,693	37	3,260	33	432	4
<b>Total:</b>	<b>5,709</b>	<b>60</b>	<b>5,061</b>	<b>54</b>	<b>647</b>	<b>6</b>
<b>Tongue River</b>						
Lake	12,396	140	12,080	137	316	3
Stream	6,854	75	6,747	74	107	1
<b>Total:</b>	<b>19,250</b>	<b>215</b>	<b>18,827</b>	<b>211</b>	<b>423</b>	<b>4</b>
<b>Upper Clark Fork River</b>						
Lake	4,745	53	4,508	51	237	2
Stream	20,792	191	13,166	132	7,626	59
<b>Total:</b>	<b>25,537</b>	<b>244</b>	<b>17,674</b>	<b>183</b>	<b>7,863</b>	<b>61</b>
<b>Upper Milk River</b>						
Lake	11,749	131	11,336	128	413	3
Stream	1,218	14	1,100	13	118	1
<b>Total:</b>	<b>12,967</b>	<b>145</b>	<b>12,436</b>	<b>141</b>	<b>531</b>	<b>4</b>
<b>Upper Missouri River</b>						
Lake	148,337	1,588	139,264	1,511	9,073	77
Stream	28,832	310	20,033	230	8,800	80
<b>Total:</b>	<b>177,169</b>	<b>1,898</b>	<b>159,297</b>	<b>1,741</b>	<b>17,873</b>	<b>157</b>
<b>Upper Yellowstone River</b>						
Lake	36,789	360	27,421	287	9,368	73
Stream	181,165	1,660	107,670	1,089	73,495	571
<b>Total:</b>	<b>217,954</b>	<b>2,020</b>	<b>135,091</b>	<b>1,376</b>	<b>82,863</b>	<b>644</b>
<b>Statewide Summer Pressure Estimates for the 2019 Survey License Year</b>						
	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Undesig	11,229	115	8,834	95	2,395	20
Lake	794,090	8,191	653,299	7,041	140,791	1,150
Stream	1,435,162	13,467	771,173	8,138	663,990	5,329
<b>Statewide Total</b>	<b>2,240,482</b>	<b>21,773</b>	<b>1,433,306</b>	<b>15,274</b>	<b>807,176</b>	<b>6,499</b>

### **3.3 ANGLER PRESSURE ESTIMATES WINTER (OCTOBER-APRIL)**

The "winter" season for angling is from March through April and October through February of the following year. In 2019-2020, 902,624 angler days (28.7%) of the annual fishing pressure occurred during this period (Table 8). Residents accounted for 494,432 angler days (54.8%) and nonresidents made up the remaining 408,192 angler days (45.2%). Estimates for individual waters for the winter season sorted alphabetically are presented in Appendix C of this report. Monthly estimates for the winter months for waters sorted alphabetically are provided in Appendix E.

The distribution of angler pressure distributed among Fish, Wildlife and Parks regions during winter (Chart 5, Table 8) is heavily skewed toward the western and central portions of the state. Region 3 received the most angling pressure with 253,929 angler days (28.1%), followed closely by Region 4 with 171,615 angler days (19%). Regions 2, 5 and 1 were next in order and close to each other, with 147,656 (16.4%), 114,088 (12.6%), and 112,711 (12.5%) angler days respectively. The easternmost regions of 6 and 7 were the lowest in pressure with 85,196 (9.4%) and 16,562 (1.8%) angler days respectively.

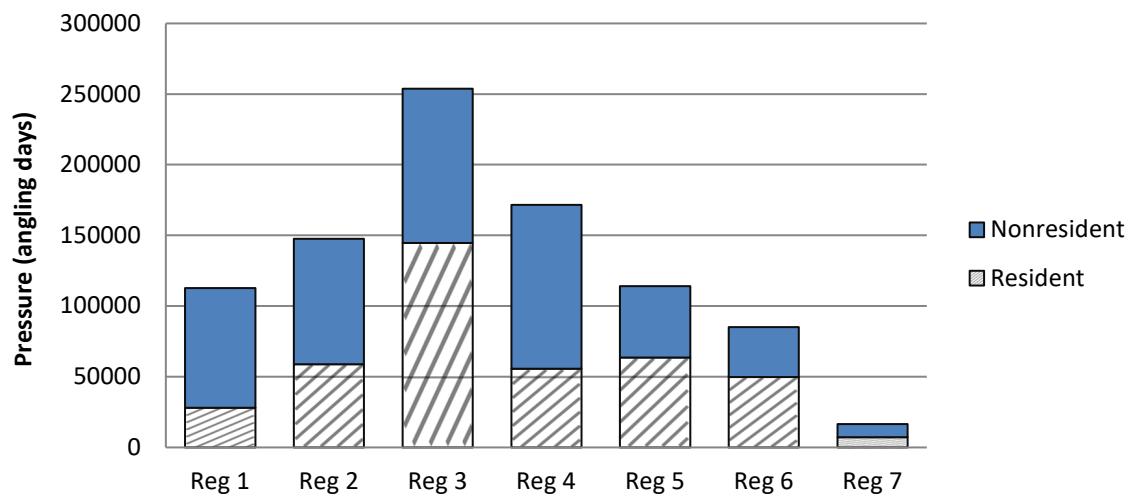
Residents (Chart 5) exerted the majority of angling pressure during the winter season in 2019 in all regions but Regions 3, 5 and 6. The percent of angling pressure by residents for each region was: Region 1 – 75.2%, Region 2 – 60.1%, Region 3 – 43%, Region 4 – 67.6%, Region 5 – 44.2%, Region 6 – 41.5%, and Region 7 – 56%.

Angling on lotic waters (streams/rivers) accounted for 65.4% (589,082 angler days) of the statewide pressure during the winter season while lentic waters (lakes/ponds/reservoirs) accounted for 34.6% (311,948 angler days) of the pressure and undesignated waters accounted for less than 0.2% (1,594 angler days) of the pressure (Table 8).

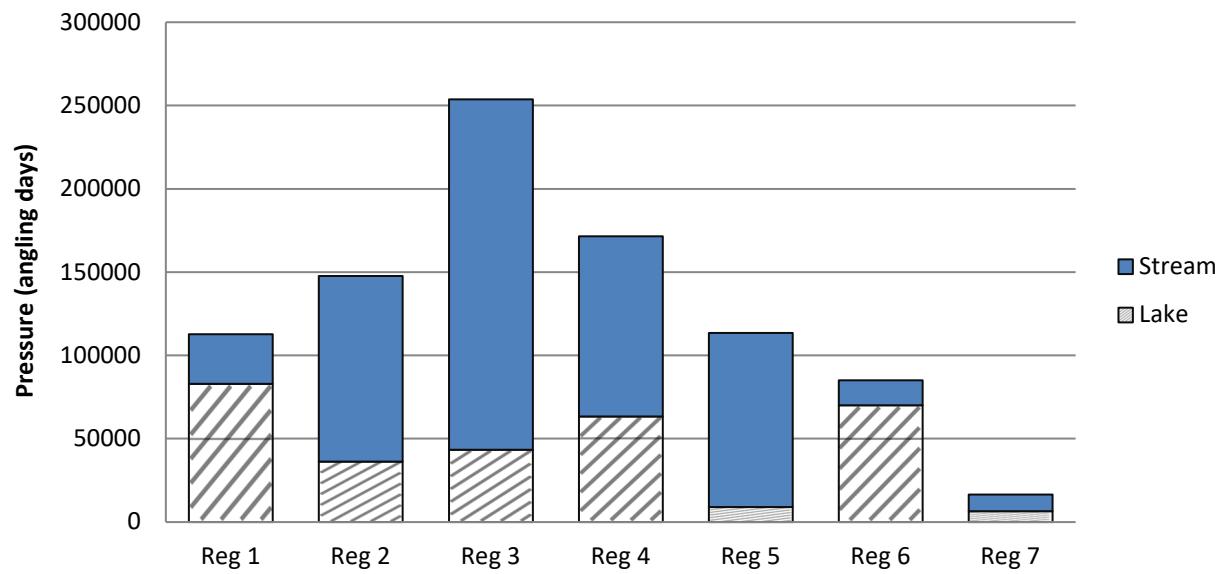
Regions 6, 1 and 4 were the regions in which lake angling pressure exceeded stream pressure during the winter season (82.2%, 73.7% and 37%, respectively, from lakes), although Region 1 had the highest number of lake anglers (83,082) (Table 8, Chart 6). Region 7 had a significant percent of lake anglers, but stream angling was dominant (39.2% and 60.8%, respectively). Regions 2, 3, 5 and 7 were dominated by stream anglers, and Region 3 had the highest number of stream anglers for any region (210,387 angler days) while Region 5 had the highest percentage (91.6%) of anglers that were stream anglers.

Angling pressure during winter was summarized within the 40 major drainages (Figure 1, Table 9). The pressure by drainage ranged from a high of 99,718 angler days for the Madison River drainage to a low of 388 angler days for the Little Missouri River drainage. The drainages with the highest percentage of resident anglers were the Belt Creek, Little Missouri River, Lower Milk River, Lower Missouri River, South Fork Flathead River, South Fork Flathead River, Teton River and Upper Milk River all at 100%, while the Bighorn River, Tongue River, Fort Peck Reservoir and Madison River drainages had the lowest percentage of resident anglers (25%, 22.4%, 23% and 25.3%). The Little Missouri River and Lower Missouri River drainages had the highest percentage of lake anglers (100%), but based on only two trips for each drainage; this was followed by the Red Rock River drainage with 94.9%, mainly due to the influence of Clark Canyon Reservoir. The Belt Creek, Boulder River and Missouri River - Dearborn drainages had the lowest percentage of lake anglers at 0% to 0.6%.

## **Chart 5. Statewide Angling Pressure Comparing Region and Residency - Winter Months 2019-20**



## **Chart 6. Statewide Angling Pressure Comparing Region and Water Type - Winter Months 2018-20**



**Table 8. Angling Pressure in angler days by Region by Lake or Stream for the winter season of October through February of the 2019 Survey License Year.**

	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Region 1</b>						
Lake	83,082	408	66,714	320	16,368	88
Stream	29,629	162	18,055	100	11,574	62
<b>Total:</b>	112,711	570	84,769	420	27,942	150
<b>Region 2</b>						
Lake	36,412	201	24,087	138	12,326	63
Stream	111,243	671	64,654	392	46,589	279
<b>Total:</b>	147,656	872	88,741	530	58,915	342
<b>Region 3</b>						
Undesig	117	1			117	1
Lake	43,425	212	26,941	122	16,484	90
Stream	210,387	1,177	82,241	451	128,146	726
<b>Total:</b>	253,929	1,390	109,182	573	144,747	817
<b>Region 4</b>						
Lake	63,466	370	51,789	307	11,677	63
Stream	108,149	626	64,234	361	43,915	265
<b>Total:</b>	171,615	996	116,023	668	55,592	328
<b>Region 5</b>						
Undesig	610	3			610	3
Lake	8,998	61	7,060	51	1,939	10
Stream	104,480	623	43,396	262	61,084	361
<b>Total:</b>	114,088	687	50,456	313	63,633	374
<b>Region 6</b>						
Lake	70,069	341	24,719	113	45,351	228
Stream	15,127	94	10,634	71	4,493	23
<b>Total:</b>	85,196	435	35,353	184	49,844	251
<b>Region 7</b>						
Lake	6,495	34	1,131	6	5,364	28
Stream	10,068	67	8,147	57	1,921	10
<b>Total:</b>	16,562	101	9,278	63	7,285	38

**Statewide Pressure Estimates for Winter months by Survey License Year**

	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Undesig	1,594	9	632	3	961	6
Lake	311,948	1,627	202,440	1,057	109,508	570
Stream	589,082	3,420	291,360	1,694	297,723	1,726
<b>Statewide Total</b>	902,624	5,056	494,432	2,754	408,192	2,302

**Table 9. Angling Pressure in angler days by Drainage by Lake or Stream for the Winter season (March - April and October - February of the 2019 Survey License Year.**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Beaverhead River</b>						
Lake	1,252	6	1,252	6		
Stream	6,568	40	3,283	23	3,285	17
<b>Total:</b>	<b>7,821</b>	<b>46</b>	<b>4,535</b>	<b>29</b>	<b>3,285</b>	<b>17</b>
<b>Belt Creek</b>						
Stream	1,321	7	1,321	7		
<b>Total:</b>	<b>1,321</b>	<b>7</b>	<b>1,321</b>	<b>7</b>		
<b>Big Hole River</b>						
Lake	87	1	87	1		
Stream	13,279	79	4,764	30	8,515	49
<b>Total:</b>	<b>13,365</b>	<b>80</b>	<b>4,851</b>	<b>31</b>	<b>8,515</b>	<b>49</b>
<b>Bighorn River</b>						
Lake	1,544	10	555	5	989	5
Stream	68,508	405	16,942	98	51,566	307
<b>Total:</b>	<b>70,052</b>	<b>415</b>	<b>17,497</b>	<b>103</b>	<b>52,555</b>	<b>312</b>
<b>Bitterroot River</b>						
Lake	1,494	9	1,494	9		
Stream	48,925	303	21,989	132	26,936	171
<b>Total:</b>	<b>50,419</b>	<b>312</b>	<b>23,483</b>	<b>141</b>	<b>26,936</b>	<b>171</b>
<b>Blackfoot River</b>						
Lake	12,286	69	9,322	54	2,963	15
Stream	9,964	56	7,444	40	2,520	16
<b>Total:</b>	<b>22,249</b>	<b>125</b>	<b>16,766</b>	<b>94</b>	<b>5,483</b>	<b>31</b>
<b>Boulder River</b>						
Stream	820	4	631	3	189	1
<b>Total:</b>	<b>820</b>	<b>4</b>	<b>631</b>	<b>3</b>	<b>189</b>	<b>1</b>
<b>Clark Fork River - Flint / Rock</b>						
Lake	20,955	105	11,592	57	9,363	48
Stream	22,707	133	11,302	71	11,405	62
<b>Total:</b>	<b>43,661</b>	<b>238</b>	<b>22,894</b>	<b>128</b>	<b>20,768</b>	<b>110</b>
<b>Flathead River</b>						
Lake	45,722	222	34,876	164	10,846	58
Stream	11,734	65	7,917	45	3,817	20
<b>Total:</b>	<b>57,456</b>	<b>287</b>	<b>42,793</b>	<b>209</b>	<b>14,663</b>	<b>78</b>
<b>Fort Peck Reservoir</b>						
Lake	49,066	244	10,705	52	38,361	192
Stream	4,326	25	1,553	11	2,773	14
<b>Total:</b>	<b>53,392</b>	<b>269</b>	<b>12,258</b>	<b>63</b>	<b>41,134</b>	<b>206</b>

**Table 9. Angling Pressure in angler days by Drainage by Lake or Stream for the Winter season (March - April and October - February of the 2019 Survey License Year (continued).**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Gallatin River</b>						
Lake	6,636	33	3,913	19	2,723	14
Stream	56,802	292	31,109	145	25,692	147
<b>Total:</b>	<b>63,437</b>	<b>325</b>	<b>35,022</b>	<b>164</b>	<b>28,415</b>	<b>161</b>
<b>Jefferson River</b>						
Lake	4,537	26	4,348	25	189	1
Stream	1,767	10	589	4	1,177	6
<b>Total:</b>	<b>6,304</b>	<b>36</b>	<b>4,937</b>	<b>29</b>	<b>1,366</b>	<b>7</b>
<b>Kootenai River</b>						
Lake	17,083	87	14,624	73	2,458	14
Stream	7,405	37	3,282	16	4,123	21
<b>Total:</b>	<b>24,487</b>	<b>124</b>	<b>17,906</b>	<b>89</b>	<b>6,581</b>	<b>35</b>
<b>Little Missouri River</b>						
Lake	388	2			388	2
<b>Total:</b>	<b>388</b>	<b>2</b>			<b>388</b>	<b>2</b>
<b>Lower Clark Fork River</b>						
Lake	17,124	83	14,455	69	2,669	14
Stream	8,253	48	5,015	29	3,237	19
<b>Total:</b>	<b>25,376</b>	<b>131</b>	<b>19,470</b>	<b>98</b>	<b>5,906</b>	<b>33</b>
<b>Lower Milk River</b>						
Lake	418	2	418	2		
Stream	1,684	18	1,684	18		
<b>Total:</b>	<b>2,102</b>	<b>20</b>	<b>2,102</b>	<b>20</b>		
<b>Lower Missouri River</b>						
Lake	402	2	402	2		
<b>Total:</b>	<b>402</b>	<b>2</b>	<b>402</b>	<b>2</b>		
<b>Lower Yellowstone River</b>						
Lake	1,236	6	1,045	5	191	1
Stream	6,296	41	6,296	41		
<b>Total:</b>	<b>7,532</b>	<b>47</b>	<b>7,341</b>	<b>46</b>	<b>191</b>	<b>1</b>
<b>Madison River</b>						
Lake	9,735	52	2,413	14	7,322	38
Stream	89,982	513	22,837	140	67,145	373
<b>Total:</b>	<b>99,718</b>	<b>565</b>	<b>25,250</b>	<b>154</b>	<b>74,467</b>	<b>411</b>
<b>Marias River</b>						
Lake	6,519	38	4,597	28	1,922	10
Stream	1,627	15	1,249	13	378	2
<b>Total:</b>	<b>8,146</b>	<b>53</b>	<b>5,846</b>	<b>41</b>	<b>2,300</b>	<b>12</b>
<b>Middle Clark Fork River</b>						
Lake	1,418	15	1,418	15		
Stream	19,817	116	14,656	89	5,161	27
<b>Total:</b>	<b>21,235</b>	<b>131</b>	<b>16,074</b>	<b>104</b>	<b>5,161</b>	<b>27</b>

**Table 9. Angling Pressure in angler days by Drainage by Lake or Stream for the Winter season (March - April and October - February of the 2019 Survey License Year (continued)).**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Middle Milk River</b>						
Lake	19,597	89	12,608	53	6,989	36
Stream	3,896	24	3,133	20	763	4
<b>Total:</b>	<b>23,493</b>	<b>113</b>	<b>15,741</b>	<b>73</b>	<b>7,752</b>	<b>40</b>
<b>Middle Yellowstone River</b>						
Lake	3,064	23	2,872	22	191	1
Stream	6,788	45	6,393	43	395	2
<b>Total:</b>	<b>9,851</b>	<b>68</b>	<b>9,265</b>	<b>65</b>	<b>586</b>	<b>3</b>
<b>Missouri River - Dearborn</b>						
Lake	433	5	433	5		
Stream	69,607	388	40,462	215	29,145	173
<b>Total:</b>	<b>70,040</b>	<b>393</b>	<b>40,895</b>	<b>220</b>	<b>29,145</b>	<b>173</b>
<b>Missouri River - Judith</b>						
Lake	4,067	16	3,296	12	771	4
Stream	7,263	50	4,194	33	3,069	17
<b>Total:</b>	<b>11,330</b>	<b>66</b>	<b>7,490</b>	<b>45</b>	<b>3,840</b>	<b>21</b>
<b>Missouri River - Poplar</b>						
Lake	209	1	209	1		
Stream	3,457	18	2,501	13	957	5
<b>Total:</b>	<b>3,666</b>	<b>19</b>	<b>2,710</b>	<b>14</b>	<b>957</b>	<b>5</b>
<b>Musselshell River</b>						
Lake	5,381	33	3,656	24	1,725	9
Stream	1,314	10	931	8	383	2
<b>Total:</b>	<b>6,695</b>	<b>43</b>	<b>4,587</b>	<b>32</b>	<b>2,108</b>	<b>11</b>
<b>Red Rock River</b>						
Lake	14,446	72	9,400	42	5,046	30
Stream	770	4			770	4
<b>Total:</b>	<b>15,217</b>	<b>76</b>	<b>9,400</b>	<b>42</b>	<b>5,816</b>	<b>34</b>
<b>Ruby River</b>						
Lake	5,839	17	4,839	11	1,000	6
Stream	5,511	24	3,088	9	2,422	15
<b>Total:</b>	<b>11,350</b>	<b>41</b>	<b>7,927</b>	<b>20</b>	<b>3,422</b>	<b>21</b>
<b>Smith River</b>						
Lake	1,287	8	880	6	407	2
Stream	3,341	24	1,235	6	2,107	18
<b>Total:</b>	<b>4,629</b>	<b>32</b>	<b>2,115</b>	<b>12</b>	<b>2,514</b>	<b>20</b>
<b>South Fork Flathead River</b>						
Lake	206	1	206	1		
Stream	919	5	919	5		
<b>Total:</b>	<b>1,124</b>	<b>6</b>	<b>1,125</b>	<b>6</b>		

**Table 9. Angling Pressure in angler days by Drainage by Lake or Stream for the Winter season (March - April and October - February of the 2019 Survey License Year (continued).**

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
<b>Sun River</b>						
Lake	5,307	29	3,659	20	1,648	9
Stream	1,320	7	914	5	407	2
<b>Total:</b>	<b>6,627</b>	<b>36</b>	<b>4,573</b>	<b>25</b>	<b>2,055</b>	<b>11</b>
<b>Swan River</b>						
Lake	2,145	11	1,941	10	203	1
Stream	397	2			397	2
<b>Total:</b>	<b>2,542</b>	<b>13</b>	<b>1,941</b>	<b>10</b>	<b>600</b>	<b>3</b>
<b>Teton River</b>						
Lake	1,516	12	1,516	12		
Stream	1,137	9	1,137	9		
<b>Total:</b>	<b>2,653</b>	<b>21</b>	<b>2,653</b>	<b>21</b>		
<b>Tongue River</b>						
Lake	4,871	26	87	1	4,784	25
Stream	3,772	26	1,851	16	1,921	10
<b>Total:</b>	<b>8,642</b>	<b>52</b>	<b>1,938</b>	<b>17</b>	<b>6,705</b>	<b>35</b>
<b>Upper Clark Fork River</b>						
Lake	260	3	260	3		
Stream	9,831	63	9,264	60	567	3
<b>Total:</b>	<b>10,091</b>	<b>66</b>	<b>9,524</b>	<b>63</b>	<b>567</b>	<b>3</b>
<b>Upper Milk River</b>						
Lake	705	4	705	4		
Stream	1,558	8	1,558	8		
<b>Total:</b>	<b>2,264</b>	<b>12</b>	<b>2,263</b>	<b>12</b>		
<b>Upper Missouri River</b>						
Lake	39,862	236	34,090	204	5,772	32
Stream	26,361	145	14,974	79	11,387	66
<b>Total:</b>	<b>66,223</b>	<b>381</b>	<b>49,064</b>	<b>283</b>	<b>17,159</b>	<b>98</b>
<b>Upper Yellowstone River</b>						
Lake	4,255	26	3,861	24	395	2
Stream	58,930	355	33,816	204	25,115	151
<b>Total:</b>	<b>63,186</b>	<b>381</b>	<b>37,677</b>	<b>228</b>	<b>25,510</b>	<b>153</b>
<b>Statewide Pressure Estimates for Winter Months of the 2019 Survey License Year</b>						
	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Undesig	1,594	9	632	3	961	6
Lake	311,948	1,627	202,440	1,057	109,508	570
Stream	589,082	3,420	291,360	1,694	297,723	1,726
<b>Statewide Total</b>	<b>902,624</b>	<b>5,056</b>	<b>494,432</b>	<b>2,754</b>	<b>408,192</b>	<b>2,302</b>

### **3.4 PRIMARY SPECIES FISHED FOR**

The mail questionnaire asked anglers to indicate the primary species they were fishing for. The answers to this question provide a good generalization regarding angler preferences and intentions but are probably inaccurate on some waters because anglers often will intentionally fish for more than one species but can only indicate one on the questionnaire. Another inaccuracy occurs in situations where anglers are fishing for one of many species of co-existing trout in a lake or stream. The angler may typically expect to catch a rainbow, cutthroat, brown, or brook trout depending on the situation. It is most likely for this reason that a common response to the survey, particularly in the trout-dominant rivers of southwestern Montana, was “trout.”

On a statewide basis, the most common response was “trout” (41.43%), followed by Rainbow Trout (12.36%), Walleye (10.92%), Brown Trout (6.85%), Cutthroat Trout (5.80%), and Bass (2.35%) (Table 10). Salmonids (trout, salmon, char, whitefish and grayling) collectively are indicated as the primary species by 72.11% of anglers.

Although salmonid fishing dominates on a statewide basis in terms of angler days, there are notable geographic differences (Table 11). Salmonid fishing comprises the majority of angling pressure in every drainage west of the Continental Divide except for the lower Clark Fork, which is heavily influenced by fishing on Noxon Rapids Reservoir for pike, walleye, bass and yellow perch. The salmonid-dominant drainages west of the divide have some notable differences. Lake trout are a very highly sought species in the Flathead River drainage (10.98%), primarily due to Flathead Lake. Cutthroat trout constitute the majority of angling interest in the South Fork Flathead drainage (65.2%), where FWP is actively working to eliminate the presence of any rainbow trout. Salmon (Kokanee plus salmon) are the dominant species of interest in the Kootenai River drainage, primarily due to fishing on Lake Koocanusa.

The Missouri headwater drainages in southwest Montana are dominated by trout fishing, primarily for rainbow and brown trout in the valley-bottom rivers. For these two species plus “trout”, the percentage ranges from 78.57% in the Boulder River drainage to 85.14% in the Beaverhead River drainage. Cutthroat and brook trout, where indicated as the primary species, are numerically low (typically below 18%), but are often the only game species in the mountain lakes and streams in these drainages.

The upper and middle Missouri River and the drainages in Region 4 represent a transition from salmonids to cool-water species. The Upper Missouri River drainage, which contains Canyon Ferry, Hauser and Holter reservoirs is dominated by “trout” and rainbow trout as a primary species (47.22%), although walleye represent a significant component (42.35%). Downstream in the Missouri-Dearborn drainage, “trout,” rainbow trout and brown trout are the overwhelming favorite species and make up close to 91.45% of the effort. Further downstream in the Missouri River-Judith drainage, “trout”/rainbow trout still comprise the majority of species being fished for, but cool-water species such as walleye (25%) and bass (2.88%) are important to anglers. The Marias River drainage is the most notable tributary to the Missouri in Region 4, due to its high emphasis on walleye (68.3%) and Yellow Perch (2.02%).

The lower Missouri River mainstem drainages within Region 6 are dominated by walleye and northern pike fishing. Combined, these two species comprise 69.23% of angler preference in Fort Peck Reservoir, 77.71% in the Missouri River-Poplar, and 52% in the Lower Missouri drainage. Yellow Perch are sought in many of the drainages within Region 6, especially in the Lower

Missouri River drainage (12.0%).

Species preferences within the Yellowstone River drainage show a longitudinal shift from salmonid fishing in the headwaters to cool-water species in eastern Montana. In the Upper Yellowstone drainage within Region 3, the combination of “trout,” rainbow trout, brown trout and cutthroat trout comprise 91.35% of angler preferences. Further downstream in Region 5, but still within the Upper Yellowstone drainage, these same species make up over 80.76% of preferences. The Middle Yellowstone River drainage still has a substantial component of anglers seeking trout (roughly 32% for “trout,” rainbow trout and brown trout), but cool-water species dominate, led by Bass (19.05%). The Lower Yellowstone River drainage is dominated by fishing for coolwater species, starting with Paddlefish (17.69%) followed by Walleye (13.51%), Bass (7.62%), Smallmouth Bass (3.93%) and Sauger (3.19%). Notable tributary drainages to the Yellowstone include the Bighorn River drainage (90.07% for “trout,” rainbow trout and brown trout), and the Tongue River drainage which has high levels for walleye (35.96%) and crappie (26.59%) based primarily on fishing in Tongue River reservoir.

**Table 10. Percent of Trips for each Primary Species Fished for Statewide for the 2019 Survey License**

Trout	41.43%	Arctic Grayling	0.16%
Rainbow Trout	12.36%	Burbot	0.16%
Walleye	10.92%	Common Carp	0.11%
Brown Trout	6.85%	Sauger	0.09%
Cutthroat Trout	5.80%	Bull Trout	0.08%
Bass	2.35%	Bluegill	0.06%
Yellow Perch	1.79%	Golden Trout	0.04%
Brook Trout	1.36%	Rainbow Trout X Cutthroat	0.04%
Lake Trout	1.32%	Goldeye	0.03%
Nothern Pike	1.19%	Lake Whitefish	0.03%
Kokanee salmon	1.07%	Sturgeon	0.02%
Salmon	0.91%	Coho Salmon	0.02%
Whitefish	0.64%	Northern Pike X Muskie	0.01%
Smallmouth Bass	0.47%	Sunfish	0.01%
Paddlefish	0.44%	Chinook Salmon	0.01%
Crappie	0.32%	Channel Catfish	0.01%
Largemouth Bass	0.26%		

**Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage For the 2019 Angler Survey License Year.**

Drainage	Primary Species Fished for	Percent of days for species
<b>Region: 1</b>		
Flathead River (46.36% of days fished in this Region.)		
Trout	18.00%	
Cutthroat Trout	15.42%	
Lake Trout	10.95%	
Yellow Perch	9.68%	
Whitefish	7.32%	
Bass	7.21%	
Rainbow Trout	5.32%	
Kokanee salmon	3.37%	
Salmon	2.11%	
Northern Pike	1.68%	
Smallmouth Bass	1.00%	
Largemouth Bass	0.58%	
Arctic Grayling	0.53%	
Lake Whitefish	0.47%	
Crappie	0.37%	
Bull Trout	0.26%	
Coho Salmon	0.26%	
Brook Trout	0.16%	
Rainbow Trout X Cutthroat Trout Hybrid	0.11%	
Peamouth	0.05%	
Kootenai River (18.98% of days fished in this Region.)		
Trout	24.16%	
Rainbow Trout	17.10%	
Kokanee salmon	15.30%	
Salmon	9.00%	
Bass	6.30%	
Yellow Perch	2.96%	
Brook Trout	2.57%	
Cutthroat Trout	2.57%	
Largemouth Bass	1.29%	
Bluegill	0.64%	
Lake Trout	0.64%	
Smallmouth Bass	0.39%	
Northern Pike	0.39%	
Crappie	0.26%	
Sunfish	0.13%	
Lower Clark Fork River (21.72% of days fished in this Region.)		
Bass	17.30%	
Walleye	16.40%	
Trout	15.39%	
Rainbow Trout	7.87%	
Smallmouth Bass	5.96%	
Yellow Perch	4.61%	
Northern Pike	4.27%	
Cutthroat Trout	2.81%	
Salmon	2.81%	
Kokanee salmon	1.91%	
Brown Trout	1.46%	
Largemouth Bass	1.12%	
Lake Trout	0.79%	
Brook Trout	0.67%	

**Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for the 2019 Angler Survey License Year.**

Drainage	Primary Species Fished for	Percent of days for species
South Fork Flathead River (6.66% of days fished in this Region.)		
Cutthroat Trout	65.20%	
Trout	22.71%	
Bull Trout	5.13%	
Rainbow Trout	3.66%	
Salmon	1.10%	
Swan River (5.32% of days fished in this Region.)		
Trout	30.28%	
Rainbow Trout	7.34%	
Cutthroat Trout	7.34%	
Nothern Pike	5.96%	
Lake Trout	4.13%	
Yellow Perch	3.67%	
Bass	3.67%	
Brook Trout	2.75%	
Kokane salmon	1.83%	
Brown Trout	1.38%	
Salmon	0.92%	
<b>Region: 2</b>		
Bitterroot River (28.37% of days fished in this Region.)		
Trout	54.05%	
Cutthroat Trout	18.20%	
Rainbow Trout	9.10%	
Brown Trout	8.18%	
Whitefish	0.76%	
Bass	0.46%	
Brook Trout	0.38%	
Nothern Pike	0.31%	
Rainbow Trout X Cutthroat Trout Hybrid	0.23%	
Largemouth Bass	0.15%	
Lake Trout	0.08%	
Kokane salmon	0.08%	
Blackfoot River (24.56% of days fished in this Region.)		
Trout	41.17%	
Rainbow Trout	15.90%	
Cutthroat Trout	11.04%	
Yellow Perch	4.59%	
Brown Trout	4.33%	
Bass	3.45%	
Kokane salmon	3.18%	
Nothern Pike	2.30%	
Brook Trout	1.94%	
Salmon	1.59%	
Lake Trout	0.27%	
Whitefish	0.18%	
Rainbow Trout X Cutthroat Trout Hybrid	0.09%	
Smallmouth Bass	0.09%	

**Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage For the 2019 Angler Survey License Year.**

Drainage	Primary Species Fished for	Percent of days for species
<b>Clark Fork River - Flint / Rock (25.73% of days fished in this Region.)</b>		
Trout		56.32%
Rainbow Trout		15.18%
Brown Trout		11.30%
Cutthroat Trout		9.19%
Kokanee salmon		1.69%
Brook Trout		1.26%
Salmon		0.93%
Lake Trout		0.34%
Arctic Grayling		0.17%
Whitefish		0.08%
Bass		0.08%
<b>Middle Clark Fork River (14.62% of days fished in this Region.)</b>		
Trout		50.00%
Rainbow Trout		19.88%
Cutthroat Trout		8.61%
Brown Trout		1.78%
Bass		1.63%
Nothern Pike		0.59%
Brook Trout		0.45%
Whitefish		0.45%
Rainbow Trout X Cutthroat Trout Hybrid		0.30%
Sunfish		0.15%
<b>Upper Clark Fork River (6.70% of days fished in this Region.)</b>		
Trout		46.93%
Brown Trout		18.12%
Rainbow Trout		17.48%
Cutthroat Trout		11.97%
Brook Trout		3.56%
Salmon		0.32%
<b>Region:</b>	<b>3</b>	
<b>Beaverhead River (3.58% of days fished in this Region.)</b>		
Trout		45.78%
Brown Trout		32.53%
Rainbow Trout		6.83%
Brook Trout		3.61%
Arctic Grayling		0.40%
<b>Big Hole River (15.10% of days fished in this Region.)</b>		
Trout		50.71%
Brown Trout		21.22%
Rainbow Trout		9.71%
Brook Trout		5.14%
Cutthroat Trout		5.14%
Arctic Grayling		2.00%
Burbot		0.76%
Whitefish		0.29%
Walleye		0.29%
Lake Trout		0.19%
Golden Trout		0.10%

**Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage For the 2019 Angler Survey License Year.**

Drainage	Primary Species Fished for	Percent of days for species
Boulder River (0.80% of days fished in this Region.)		
Trout		44.64%
Rainbow Trout		30.36%
Brook Trout		17.86%
Brown Trout		3.57%
Gallatin River (19.54% of days fished in this Region.)		
Trout		54.93%
Rainbow Trout		19.19%
Brown Trout		10.88%
Cutthroat Trout		6.25%
Brook Trout		1.76%
Bass		0.59%
Smallmouth Bass		0.37%
Yellow Perch		0.22%
Whitefish		0.22%
Bluegill		0.15%
Golden Trout		0.07%
Largemouth Bass		0.07%
Jefferson River (2.54% of days fished in this Region.)		
Trout		46.89%
Brown Trout		16.38%
Rainbow Trout		16.38%
Cutthroat Trout		7.91%
Brook Trout		4.52%
Sucker		0.56%
Madison River (36.60% of days fished in this Region.)		
Trout		60.97%
Rainbow Trout		18.85%
Brown Trout		13.98%
Cutthroat Trout		1.85%
Bass		0.47%
Brook Trout		0.20%
Whitefish		0.20%
Bluegill		0.12%
Lake Trout		0.12%
Bull Trout		0.04%
Red Rock River (3.79% of days fished in this Region.)		
Trout		59.09%
Cutthroat Trout		11.36%
Rainbow Trout		9.47%
Brown Trout		6.06%
Burbot		2.65%
Brook Trout		2.27%
Lake Trout		1.52%
Common Carp		0.38%
Ruby River (1.95% of days fished in this Region.)		
Trout		51.47%
Rainbow Trout		18.38%
Brown Trout		15.44%
Cutthroat Trout		8.82%
Brook Trout		2.21%
Whitefish		1.47%

**Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage For the 2019 Angler Survey License Year.**

Drainage	Primary Species Fished for	Percent of days for species
Upper Clark Fork River (0.01% of days fished in this Region.)	Rainbow Trout	100.00%
Upper Missouri River (1.72% of days fished in this Region.)	Trout	56.67%
	Walleye	17.50%
	Brook Trout	4.17%
	Arctic Grayling	4.17%
	Brown Trout	3.33%
	Common Carp	2.50%
	Cutthroat Trout	2.50%
	Rainbow Trout	0.83%
Upper Yellowstone River (14.27% of days fished in this Region.)	Trout	59.42%
	Rainbow Trout	12.59%
	Cutthroat Trout	10.88%
	Brown Trout	8.46%
	Yellow Perch	2.52%
	Walleye	0.81%
	Brook Trout	0.60%
	Whitefish	0.10%
	Bullhead	0.10%
<b>Region: 4</b>		
Belt Creek (1.95% of days fished in this Region.)	Trout	54.81%
	Rainbow Trout	12.50%
	Brown Trout	7.69%
	Brook Trout	5.77%
	Cutthroat Trout	2.88%
Marias River (6.49% of days fished in this Region.)	Walleye	68.30%
	Trout	7.78%
	Rainbow Trout	6.34%
	Yellow Perch	2.02%
	Cutthroat Trout	2.02%
	Nothern Pike	0.86%
Missouri River - Dearborn (26.00% of days fished in this Region.)	Trout	59.93%
	Rainbow Trout	25.76%
	Brown Trout	5.76%
	Walleye	3.02%
	Largemouth Bass	0.58%
	Yellow Perch	0.50%
	Brook Trout	0.36%
	Cutthroat Trout	0.29%
	Burbot	0.22%
	Rainbow Trout X Cutthroat Trout Hybrid	0.14%
	Bass	0.14%
	Nothern Pike	0.07%

**Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage For the 2019 Angler Survey License Year.**

Drainage	Primary Species Fished for	Percent of days for species
<b>Missouri River - Judith (7.78% of days fished in this Region.)</b>		
Trout		30.29%
Walleye		25.00%
Brown Trout		6.49%
Rainbow Trout		5.05%
Bass		2.88%
Yellow Perch		1.92%
Nothern Pike		1.44%
Brook Trout		1.44%
Paddlefish		1.20%
Cutthroat Trout		0.72%
Northern Pike X Muskie Hybrid		0.48%
Smallmouth Bass		0.24%
Freshwater Drum		0.24%
Goldeye		0.24%
Sturgeon		0.24%
<b>Musselshell River (1.89% of days fished in this Region.)</b>		
Trout		61.39%
Rainbow Trout		16.83%
Walleye		12.87%
Brook Trout		2.97%
Yellow Perch		1.98%
<b>NA - St. Mary and Belly Rivers (0.06% of days fished in this Region.)</b>		
Rainbow Trout		66.67%
Trout		33.33%
<b>Smith River (8.90% of days fished in this Region.)</b>		
Trout		60.92%
Brown Trout		18.70%
Rainbow Trout		11.13%
Brook Trout		2.94%
Salmon		1.68%
Kokanee salmon		0.84%
Cutthroat Trout		0.63%
Burbot		0.42%
<b>Sun River (3.80% of days fished in this Region.)</b>		
Trout		53.69%
Rainbow Trout		19.70%
Cutthroat Trout		5.91%
Arctic Grayling		2.46%
Northern Pike X Muskie Hybrid		0.99%
Nothern Pike		0.99%
Yellow Perch		0.49%
White Sucker		0.49%
Burbot		0.49%
Brown Trout		0.49%
Bluegill		0.49%
<b>Teton River (1.51% of days fished in this Region.)</b>		
Trout		37.04%
Rainbow Trout		25.93%
Bass		3.70%
Goldeye		2.47%
Nothern Pike		1.23%
Brook Trout		1.23%
Cutthroat Trout		1.23%

**Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage For the 2019 Angler Survey License Year.**

Drainage	Primary Species Fished for	Percent of days for species
Upper Milk River (0.21% of days fished in this Region.)		
Trout		54.55%
Walleye		36.36%
Northern Pike		9.09%
Upper Missouri River (40.38% of days fished in this Region.)		
Walleye		42.33%
Trout		35.25%
Rainbow Trout		11.95%
Yellow Perch		3.66%
Kokanee salmon		0.88%
Common Carp		0.69%
Burbot		0.65%
Brown Trout		0.56%
Salmon		0.46%
Largemouth Bass		0.32%
Bass		0.32%
Northern Pike		0.28%
Brook Trout		0.05%
Cutthroat Trout		0.05%
<b>Region:</b>	<b>5</b>	
Bighorn River (37.29% of days fished in this Region.)		
Trout		57.22%
Brown Trout		17.33%
Rainbow Trout		15.52%
Walleye		3.16%
Smallmouth Bass		1.08%
Bass		0.99%
Northern Pike		0.45%
Crappie		0.45%
Common Carp		0.27%
Sauger		0.27%
Goldeye		0.18%
Burbot		0.09%
Cutthroat Trout		0.09%
Yellow Perch		0.09%
Bitterroot River (0.07% of days fished in this Region.)		
Cutthroat Trout		100.00%
Middle Yellowstone River (13.43% of days fished in this Region.)		
Trout		30.83%
Bass		19.05%
Walleye		1.75%
Common Carp		1.50%
Sauger		1.50%
Yellow Perch		1.50%
Smallmouth Bass		1.25%
Burbot		1.00%
Largemouth Bass		0.75%
Brown Trout		0.50%
Goldeye		0.25%
Sauger / Walleye		0.25%
Rainbow Trout		0.25%

**Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage For the 2019 Angler Survey License Year.**

Drainage	Primary Species Fished for	Percent of days for species
<b>Musselshell River (1.68% of days fished in this Region.)</b>		
	Brook Trout	20.00%
	Trout	14.00%
	Brown Trout	4.00%
	Kokanee salmon	4.00%
	Nothern Pike	4.00%
<b>Upper Yellowstone River (47.39% of days fished in this Region.)</b>		
	Trout	55.97%
	Rainbow Trout	12.50%
	Brook Trout	6.82%
	Walleye	6.25%
	Brown Trout	5.47%
	Cutthroat Trout	4.33%
	Golden Trout	0.64%
	Yellow Perch	0.64%
	Bass	0.36%
	Lake Trout	0.36%
	Whitefish	0.28%
	Largemouth Bass	0.14%
	Rainbow Smelt	0.07%
<b>Region:</b>	<b>6</b>	
<b>Fort Peck Reservoir (63.24% of days fished in this Region.)</b>		
	Walleye	60.23%
	Nothern Pike	8.76%
	Lake Trout	7.60%
	Salmon	4.26%
	Paddlefish	3.10%
	Bass	1.32%
	Smallmouth Bass	0.62%
	Trout	0.62%
	Chinook Salmon	0.23%
	Rainbow Trout	0.16%
<b>Lower Milk River (2.50% of days fished in this Region.)</b>		
	Walleye	29.41%
	Channel Catfish	3.92%
	Yellow Perch	3.92%
<b>Lower Missouri River (1.23% of days fished in this Region.)</b>		
	Nothern Pike	28.00%
	Walleye	24.00%
	Yellow Perch	12.00%
	Trout	4.00%
	Smallmouth Bass	4.00%
<b>Middle Milk River (17.65% of days fished in this Region.)</b>		
	Walleye	34.44%
	Trout	21.94%
	Rainbow Trout	18.89%
	Nothern Pike	4.17%
	Brown Trout	2.22%
	Yellow Perch	1.94%
	Cutthroat Trout	1.39%
	Bass	0.28%
	Brook Trout	0.28%

**Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage For the 2019 Angler Survey License Year.**

Drainage	Primary Species Fished for	Percent of days for species
Missouri River - Judith (0.10% of days fished in this Region.)		
Walleye		100.00%
Missouri River - Poplar (8.14% of days fished in this Region.)		
Walleye		63.25%
Northern Pike		14.46%
Lake Trout		3.01%
Trout		2.41%
Bluegill		1.81%
Bass		1.20%
Sauger		1.20%
Upper Milk River (7.16% of days fished in this Region.)		
Walleye		86.30%
Trout		6.16%
Bass		1.37%
Northern Pike		1.37%
Yellow Perch		0.68%
<b>Region: 7</b>		
Little Missouri River (0.29% of days fished in this Region.)		
Rainbow Trout		100.00%
Lower Yellowstone River (59.50% of days fished in this Region.)		
Paddlefish		17.69%
Walleye		13.51%
Bass		7.62%
Smallmouth Bass		3.93%
Sauger		3.19%
Yellow Perch		1.97%
Trout		1.97%
Northern Pike		1.72%
Largemouth Bass		0.98%
Sturgeon		0.98%
Burbot		0.98%
Goldeye		0.74%
Bluegill		0.74%
Rainbow Trout		0.49%
Channel Catfish		0.25%
Bull Trout		0.25%
Black Crappie		0.25%
Shovelnose Sturgeon		0.25%
Sunfish		0.25%
Powder River (0.29% of days fished in this Region.)		
Trout		50.00%
Tongue River (39.04% of days fished in this Region.)		
Walleye		35.96%
Crappie		26.59%
Bass		12.36%
Northern Pike		1.87%
Yellow Perch		1.50%
Trout		1.50%
Smallmouth Bass		1.12%
Rainbow Trout		0.75%
Largemouth Bass		0.37%
Sturgeon		0.37%

### **3.5 FISHING ACCESS SITE USE**

Anglers were asked to indicate if they used an FWP Fishing Access Site (FAS) to access the water they fished. If they answered in the affirmative, they were then asked to provide the name of the FAS. The FAS icon (a fish facing a hook and line) accompanied this question to try to make it clear which sites were FWP sites. The location of a few FASs was increased on the maps for the 2019 survey relative to the 2017 survey, also to try to help the angler answer the question correctly.

A majority of anglers indicated that they had used an FAS (62.7% of residents and 65.7% of non-residents). In terms of total reported angler days, 33.3% and 40.8% of resident and nonresident days respectively, indicated that an FWP FAS was used. These numbers were determined to be inaccurate however, because when many of the anglers identified the access site, it was in fact an access site provided by other public agencies. In order to quantify this error, the names of access sites which were provided were evaluated for correctness. Overall, 60.7% of resident angler days and 61.4% of non-resident angler days were attributed to an FWP site, while the remainder was attributed to sites owned by other agencies, access from bridge rights-of-way, or even private property. These “correction factors” were then used to estimate the actual percentage of angler days using FWP FASs, as follows:

Non-residents:  $0.408 \times 0.614 = .403$  or 40.3% of non-resident angler days occurring through the use of a Montana FWP FAS

Residents:  $0.333 \times 0.607 = 0.381$  or 38.1% of resident angler days occurring through the use of a Montana FWP FAS.

The initial question in this survey was similar to one that was asked as part of the 2007 statewide mail survey, where the angler was asked if they had used a bridge, fishing access site, or other means to gain access to the fishery. Overall, 5.1% of the access was from bridges, and 55.5% of the access was from fishing access sites. Respondents in the 2007 survey were not asked to identify the name of the access site, so there were undoubtedly some respondents that gained access at sites not provided by FWP.

### 3.6 ANGLER ACCESS

On the questionnaire, anglers were asked if they had mostly fished from shore, boat, both shore and boat, or ice. When considered on a drainage basis (Table 12), the Fort Peck Reservoir had the lowest percentage (10.36%) fishing from shore. The Upper Milk River had the highest percent fishing from boats (68.15%) while Belt Creek, Boulder River and Little Missouri River drainages had no boat fishing. The Boulder River drainage had the most fishing from shore (100%) and the least fishing from a boat (0%). For those drainages where there was ice fishing, the drainages with the least were the South Fork Flathead River and the Upper Clark Fork River (0.73 and 0.32%), while the Fort Peck Reservoir, Little Missouri River, Middle Milk River, Red Rock River, and Tongue River drainages all had greater than 10% of the anglers fishing through the ice.

Region 6 had the lowest percentage of anglers fishing from shore (22.94%) while Regions 2 and 3 had the greatest percent (58.56% and 58.51%) (Table 13). In terms of fishing from a boat, Regions 5, 2 and 3 were the lowest (25.78%, 27.76% and 29.44%), while Region 6 was highest at 55.98%. Region 5 had the lowest level of ice anglers (0.78%), while Region 6 had the highest level (15.15%). Residents were slightly more likely to fish from shore (47.11%) than were non-residents (45.52%) (Table 14). Residents and nonresidents were equally likely to fish from a boat (39.0% and 36.08%), but nonresidents were slightly more likely to fish from both a boat and shore (11.55%) than residents (9.37%). Appendix G provides percentage of anglers accessing the water by each of these types for individual waterbodies.

**Table 12. Angler types of fishing by drainage (total days fished and percentages) for the 2019 License Year.**

Drainage Name	Shore	Boat	Shore/ Boat	Ice	Ice /Shore	Total trips
Beaverhead River	141 (56.63%)	59 (23.69%)	40 (16.06%)	4 (1.61%)		249
Belt Creek	86 (82.69%)		1 (0.96%)			104
Big Hole River	449 (42.72%)	507 (48.24%)	86 (8.18%)			1051
Bighorn River	190 (17.15%)	445 (40.16%)	459 (41.43%)			1108
Bitterroot River	729 (55.61%)	366 (27.92%)	184 (14.04%)			1311
Blackfoot River	491 (43.37%)	477 (42.14%)	107 (9.45%)	52 (4.59%)		1132
Boulder River	56 (100%)					56
Clark Fork River - Flint / Rock	810 (68.24%)	182 (15.33%)	95 (8%)	85 (7.16%)	1 (0.08%)	1187
Flathead River	590 (31.05%)	1004 (52.84%)	128 (6.74%)	140 (7.37%)		1900
Fort Peck Reservoir	134 (10.36%)	858 (66.31%)	70 (5.41%)	218 (16.85%)		1294
Gallatin River	1224 (90%)	70 (5.15%)	19 (1.4%)	30 (2.21%)		1360
Jefferson River	77 (43.5%)	68 (38.42%)	15 (8.47%)	10 (5.65%)		177
Kootenai River	271 (34.83%)	377 (48.46%)	103 (13.24%)	21 (2.7%)		778
Little Missouri River				2 (100%)		2
Lower Clark Fork River	301 (33.82%)	450 (50.56%)	90 (10.11%)	48 (5.39%)		890
Lower Milk River	37 (72.55%)	5 (9.8%)		2 (3.92%)		51
Lower Missouri River	15 (60%)	8 (32%)		2 (8%)		25
Lower Yellowstone River	252 (61.92%)	114 (28.01%)	35 (8.6%)	6 (1.47%)		407
Madison River	1299 (51%)	851 (33.41%)	329 (12.92%)	43 (1.69%)		2547
Marias River	121 (34.87%)	190 (54.76%)	9 (2.59%)	14 (4.03%)		347
Middle Clark Fork River	427 (63.35%)	218 (32.34%)	20 (2.97%)			674
Middle Milk River	188 (52.22%)	73 (20.28%)	9 (2.5%)	73 (20.28%)		360
Middle Yellowstone River	287 (71.93%)	73 (18.3%)	30 (7.52%)	6 (1.5%)		399
Missouri River - Dearborn	456 (32.81%)	722 (51.94%)	178 (12.81%)			1390
Missouri River - Judith	236 (56.46%)	114 (27.27%)	44 (10.53%)	9 (2.15%)		418
Missouri River - Poplar	58 (34.94%)	80 (48.19%)	6 (3.61%)	12 (7.23%)		166

**Table 12. Angler types of fishing by drainage (total days fished and percentages) for the 2019 License Year (continued).**

Drainage Name	Shore	Boat	Shore/ Boat	Ice	Ice /Shore	Total trips
Musselshell River	96 (63.58%)	36 (23.84%)	9 (5.96%)	8 (5.3%)		151
Powder River	1 (50%)	1 (50%)				2
Red Rock River	157 (59.47%)	58 (21.97%)	3 (1.14%)	37 (14.02%)		264
Ruby River	104 (76.47%)	13 (9.56%)	9 (6.62%)	10 (7.35%)		136
Smith River	114 (23.95%)	258 (54.2%)	97 (20.38%)	5 (1.05%)		476
South Fork Flathead River	176 (64.47%)	49 (17.95%)	46 (16.85%)	2 (0.73%)		273
Sun River	114 (56.16%)	57 (28.08%)	14 (6.9%)	15 (7.39%)		203
Swan River	102 (46.79%)	82 (37.61%)	18 (8.26%)	9 (4.13%)		218
Teton River	60 (74.07%)	11 (13.58%)	5 (6.17%)		5 (6.17%)	81
Tongue River	69 (25.84%)	139 (52.06%)	25 (9.36%)	34 (12.73%)		267
Upper Clark Fork River	246 (79.35%)	37 (11.94%)	24 (7.74%)	1 (0.32%)		310
Upper Milk River	43 (27.39%)	107 (68.15%)	3 (1.91%)	3 (1.91%)		157
Upper Missouri River	705 (30.93%)	1320 (57.92%)	133 (5.84%)	101 (4.43%)	1 (0.04%)	2279
Upper Yellowstone River	1480 (61.64%)	630 (26.24%)	240 (10%)	19 (0.79%)		2401

**Table 13. Angler types of fishing by Region (days fished and percentages) for the 2019 License Year .**

Region (Year)	Shore	Boat	Shore/ Boat	Ice	Ice /Shore	Total
1	1440 (35.48%)	1962 (48.34%)	385 (9.49%)	220 (5.42%)		4059
2	2700 (58.56%)	1280 (27.76%)	430 (9.33%)	138 (2.99%)	1 (0.02%)	4611
3	4069 (58.51%)	2047 (29.44%)	620 (8.92%)	139 (2%)		6954
4	1877 (35.5%)	2669 (50.47%)	482 (9.11%)	150 (2.84%)	6 (0.11%)	5288
5	1516 (51.1%)	765 (25.78%)	620 (20.9%)	23 (0.78%)		2967
6	468 (22.94%)	1142 (55.98%)	86 (4.22%)	309 (15.15%)		2040
7	322 (47.21%)	254 (37.24%)	60 (8.8%)	42 (6.16%)		682

**Table 14. Angler types of fishing by residency within the state (percent is based on the total number of days which includes null responses) for the 2019 License Year.**

Residency	Shore	Boat	Shore/ Boat	Ice	Ice /Shore	Total
R	8413 (47.11%)	6965 (39%)	1673 (9.37%)	531 (2.97%)	7 (0.04%)	17859
N	3979 (45.52%)	3154 (36.08%)	1010 (11.55%)	490 (5.61%)		8742

### 3.7 WATERCRAFT INSPECTION STATIONS

All anglers receiving the survey were asked if they knew that motorists hauling or carrying any watercraft (boat, kayak, raft, drift boat, jet ski, etc.) must stop at roadside Watercraft Inspection Stations. The yes or no responses were tallied (Table 15) by residency for respondents who did not fish, those who did fish as well as the combined total of all returned surveys. Most anglers (60%-79%) responded that they knew that they had to stop at a Watercraft Inspection Station. Nearly 20% of all anglers surveyed did not answer the question (% DNR).

**Table 15. Angler responses to Watercraft Inspection Station question on the 2019 Statewide Angler Survey.**

**Did not fish**

Residency	Total	no	null	yes	% NO	% DNR	% YES
NonResident	2757	467	633	1657	16.9%	23.0%	60.1%
Resident	13256	439	2520	10297	3.3%	19.0%	77.7%

**Fished**

residency	Total	No	null	Yes	% NO	% DNR	% YES
NonResident	2759	380	577	1802	13.8%	20.9%	65.3%
Resident	4473	103	856	3514	2.3%	19.1%	78.6%

**Combined Response**

Residence	Total	No	null	Yes	% NO	% DNR	% YES
NonResident	5516	847	1210	3459	15.4%	21.9%	62.7%
Resident	17729	542	3376	13811	3.1%	19.0%	77.9%
All	23245	1389	4586	17270	6.0%	19.7%	74.3%

## **4.0 DISCUSSION AND ANALYSIS**

### **4.1 SCOPE OF ANGLING PRESSURE**

The statewide angling pressure survey was conducted from March 2019 through February 2020. Estimates of pressure by residents and nonresidents were for licensed anglers only. This would encompass anglers 12 years of age and older. Spence (1971) found that the unlicensed angler (ages 2- 14) comprised 9% of the pressure on Rock Creek near Missoula. Peterson (1970) found that the unlicensed angler accounted for 21% and 19% of the total number of anglers on Big Spring Creek near Lewistown during 1968 and 1969 respectively. On the Bighorn River near Hardin, Stevenson (1975) found that the unlicensed angler accounted for 14.2% and 15.8% of the total number of anglers during 1972 and 1973 respectively. Fredenberg (1984) found that 10% of the anglers on Bighorn Lake and 13% of the anglers on the Yellowtail Afterbay were unlicensed. It appears that the unlicensed angler makes up between 9% and 21% of the fishing pressure depending on the type of water being fished.

Some angling pressure was obtained on Indian reservations and National Parks within Montana. This pressure was incidental to other fishing trips and only included those anglers that had purchased a Montana fishing license. Since national parks and reservations require different licensing, a complete pressure estimate of waters within those regions was not obtained.

### **4.2 ACCURACY**

#### **4.2.1 SAMPLING**

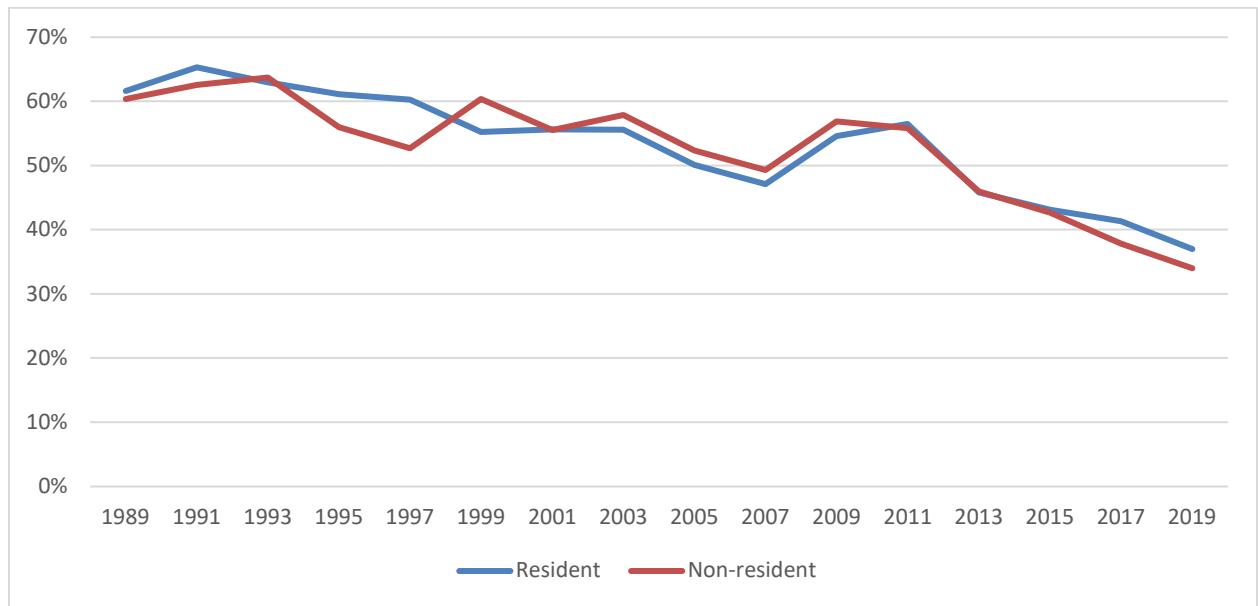
Samples were drawn and questionnaires sent to the selected anglers as soon as possible. This was usually 1-2 days after the wave being sampled had ended (see discussion under Methods for details). The use of ALS allows for samples to be drawn right after the month has ended which minimizes inaccurate responses resulting from memory loss over time.

### **4.3 RETURN RATES**

Return rates (# of respondents / [# of surveys sent – nondeliverables] \* 100) were calculated for every wave by residency (Table 2). The weighted average total return rates for residents and nonresidents were 36.8% and 33.5% respectively. These are the lowest rates since the surveys first began in 1983, and reflect a consistent downward trend over that time period (Chart 7). Low return rates do reduce the number of trips reported for individual waterbodies, and increase the associated error surrounding the pressure estimate. Even more problematic is the possibility that the lower return rates are causing or a result of a non-response bias, in which license holders with certain common traits are disproportionately choosing to not participate in the survey. If these non-respondents are more or less likely to be fishing than are the respondents, then it may be affecting the accuracy of the pressure estimates.

Due to the trend of lower response rates, a phone survey of a sub-set of non-respondents from the upcoming 2021/22 mail survey should be conducted to determine if a non-response bias is occurring that may affect pressure estimates. Specifically, license holders will be asked if they fished during the month and then to identify waters fished and number of days fishing on each water.

**Chart 7. Return rate of mail questionnaires for residents and non-residents from 1989 to 2019.**



#### **4.4 NUMBER OF LICENSED ANGLERS VS PRESSURE**

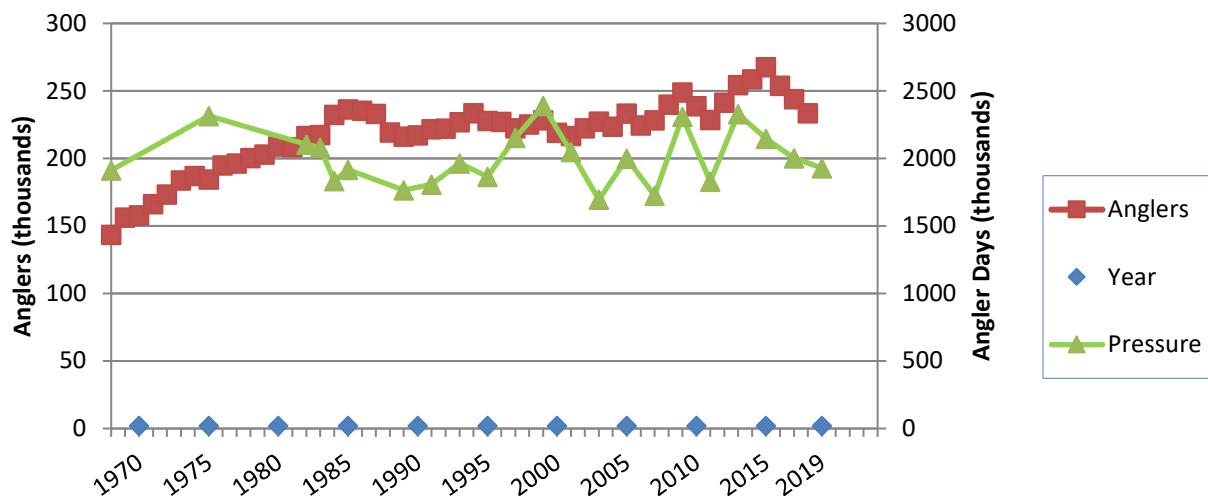
The number of resident anglers showed steady increases from 1967 to 1985 (Chart 8, Table 14). Since 1985 when there were 236,455 licensed anglers, the number has remained within 10%, reaching a low of 216,412 in 1989 and a high of 267,846 in 2015. There has been a slow but steady decline in resident angler numbers since 2015 (2019 data is not yet available). The notable decline from 2010 (238,942) to 2011 (228,589) may be theorized to be due to stormy weather in the early summer of 2011 that kept many people indoors. Nonresident licensed angler numbers showed strong growth between 1965 and peak numbers in 2002 (Chart 9), increasing from 51,798 to 220,946 during the period. Nonresident license sales then dropped markedly from 2002 through 2011, when 126,617 anglers purchased licenses, but has rebounded and increased to a high of 192,364 in 2016 before declining slightly in 2017 and 2018 (2019 data is not yet available).

Comparing statewide angling use from the mail survey versus number of anglers shows general agreement between the two variables, at least in terms of long-term trends. The relationship between angler use and number of anglers has remained remarkably consistent for resident anglers (Chart 8). The trend for non-resident anglers is much different. The number of licensed anglers peaked in 2002 and then declined to a 21-year low in 2011. Since then number of licensed anglers increased almost every year to a high of 267,846 in 2015 after which there has been a slow but steady decline through 2018 (2019 data is not yet available). The number of licensed non-resident anglers is only 13% higher in 2018 than 2007. Non-resident angling pressure however, has increased by almost 94% since 2007 (Chart 9) and indicates a trend toward non-residents spending more days fishing in Montana.

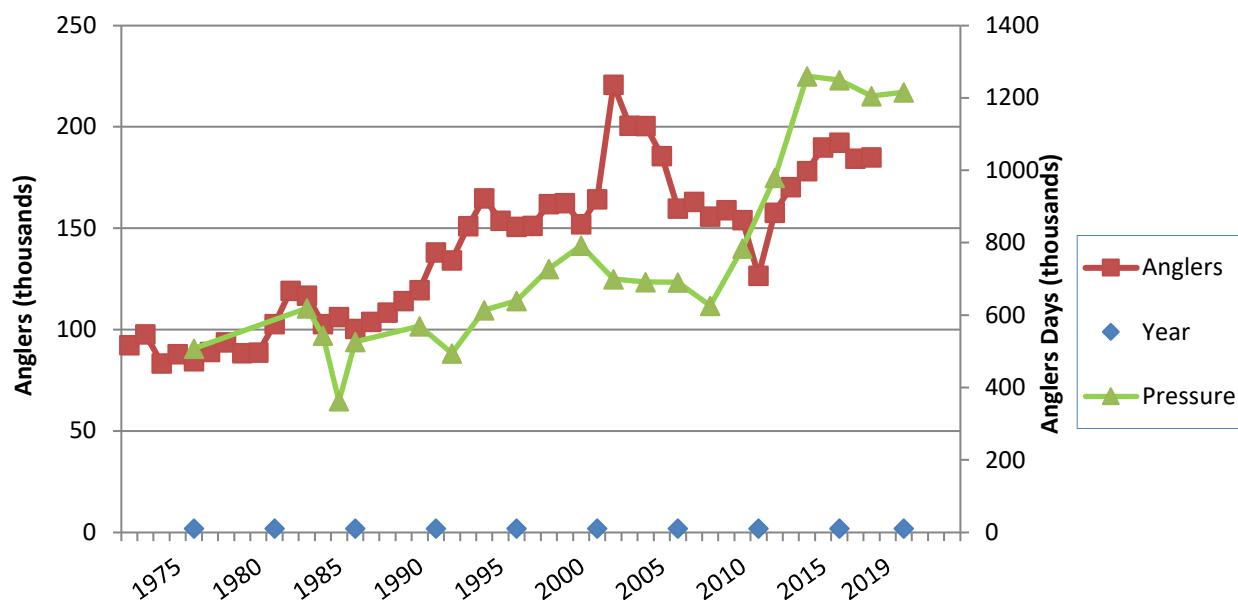
**Table 16. - Number of licensed anglers from 1982 through 2018 by residency.**

Year	Resident Anglers	Nonresident Anglers
1982	216,689	119,293
1983	217,483	116,875
1984	232,485	102,843
1985	236,455	106,304
1986	235,403	100,456
1987	233,111	103,936
1988	219,299	108,471
1989	216,412	114,254
1990	217,370	119,611
1991	221,723	138,243
1992	222,186	134,212
1993	226,992	151,192
1994	233,630	164,841
1995	227,849	153,887
1996	227,282	150,881
1997	222,442	151,244
1998	222,329	162,067
1999	228,419	162,572
2000	219,282	152,158
2001	216,858	164,470
2002	222,510	220,946
2003	227,562	200,647
2004	223,560	200,562
2005	233,295	185,689
2006	224,526	159,846
2007	228,415	163,088
2008	240,030	155,858
2009	248,945	159,032
2010	238,942	154,184
2011	228,589	126,617
2012	241,519	157,763
2013	254,473	170,415
2014	258,846	178,290
2015	267,846	189,916
2016	254,016	192,364
2017	244,012	184,495
2018	233,597	185,045

**Chart 8. Angling pressure versus number of anglers for residents from 1965 to 2019.**



**Chart 9. Angling pressure versus number of anglers for non-residents from 1965 to 2019.**





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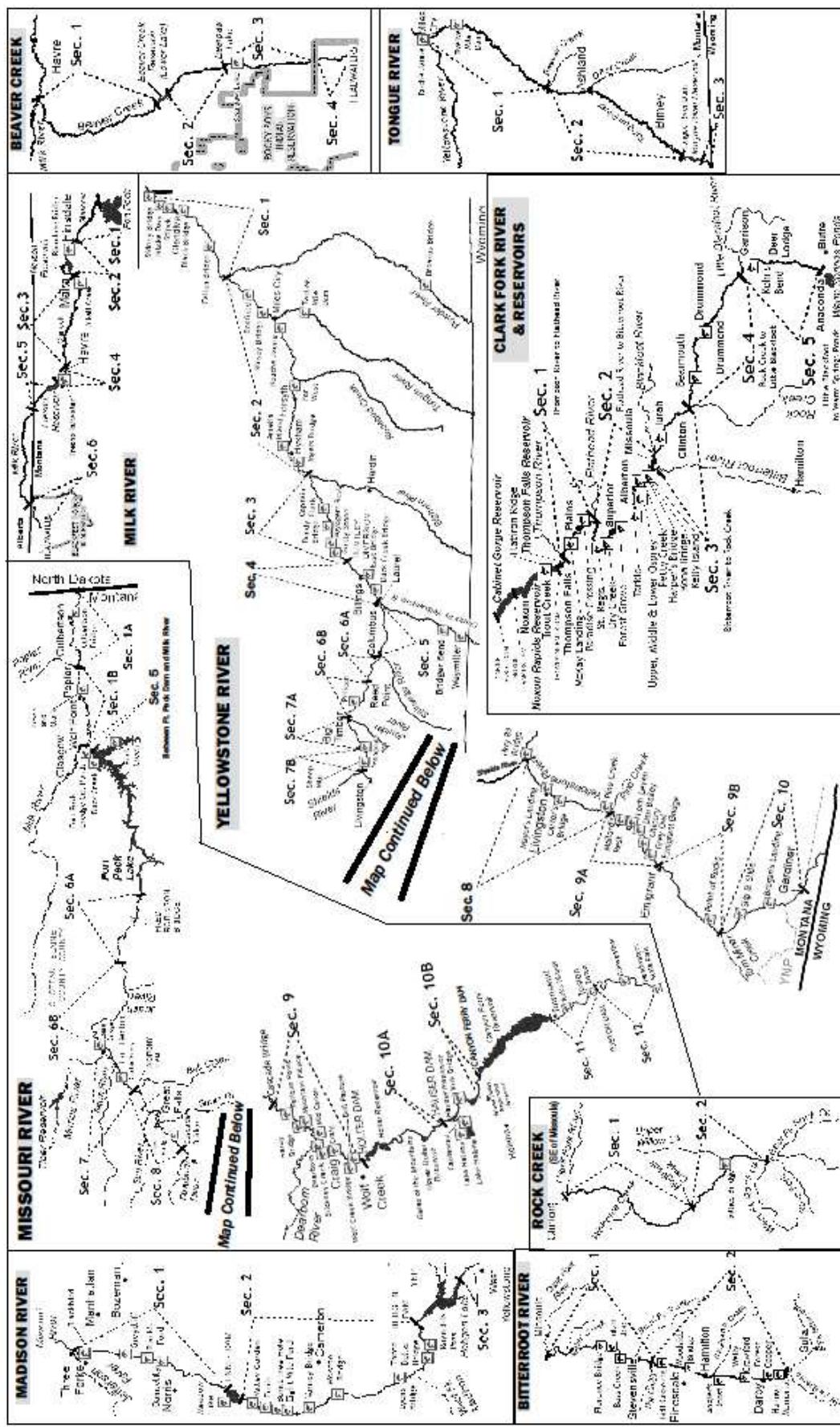


## **6.0 EXAMPLES OF QUESTIONNAIRES**

The August 2019 questionnaire is an example of an initial mail form, while the February 2020 questionnaire is an example of a re-mail form. The map page is printed on the back side of each survey.







## 7.0 BOUNDARIES OF WATERS BROKEN INTO SECTIONS

<b>STREAM NAME</b>		<b>WATER CODE</b>	<b>DOWNSTREAM POINT</b>	<b>UPSTREAM POINT</b>
BEAVER CREEK	SEC 01	15-0280	MOUTH	BEAVER CREEK RES.
	SEC 02	15-0320	BEAVER CREEK RES	BEAR PAW LAKE
	SEC 03	15-0340	BEAR PAW LAKE	ROCKY BOY INDIAN R
	SEC 04	15-0360	ROCKY BOY INDIAN RES	HEADWATERS
BIG HOLE R.	SEC 01	02-0425	MOUTH	DIVIDE CREEK
	SEC 02	02-0450	DIVIDE CREEK	PINTLAR CREEK
	SEC 03	02-0475	PINTLAR CREEK	HEADWATERS
BIG SPRING CR.	SEC 01	16-0301	JUDITH RIVER (MOUTH)	COTTONWOOD CREEK
	SEC 02	16-0310	COTTONWOOD CREEK	HEADWATERS
BIGHORN RIVER	SEC 01	22-0490	MOUTH	LITTLE BIGHORN RIVER
	SEC 02	22-0495	L.BIGHORN R	BIG HORN FAS (ACCESS CR)
	SEC 03	22-0496	BIG HORN FAS (ACCESS CR)	AFTERBAY
BITTERROOT R.	SEC 01	03-0475	MOUTH	BIG CREEK
	SEC 02	03-0500	BIG CREEK	HEADWATERS
BLACKFOOT R.	SEC 01	04-0600	MOUTH	CLEARWATER RIVER
	SEC 02	04-0630	CLEARWATER RIVER	N FK BLACKFOOT RIVER
	SEC 03	04-0645	N FK BLACKFOOT RIVER	ARRASTRA CREEK
	SEC 04	04-0660	ARRASTRA CREEK	HEADWATERS
BOULDER RIVER	SEC 01	22-0742	MOUTH	BOULDER FALLS (NAT BRDG)
	SEC 02	22-0756	BOULDER FALLS (NAT BRDG)	BRIDGE CREEK
	SEC 03	22-0770	BRIDGE CREEK	HEADWATERS
CLARK FORK R.	SEC 01	05-1440	THOMPSON RIVER	FLATHEAD RIVER
	SEC 02	05-1456	FLATHEAD RIVER	BITTERROOT RIVER
	SEC 03	06-1118	BITTERROOT RIVER	ROCK CREEK
	SEC 04	06-1121	ROCK CREEK	LITTLE BLACKFOOT R
	SEC 05	06-1140	LITTLE BLACKFOOT R	HEADWATERS
CLARKS FK YELLOWSTONE RIVER				
	SEC 01	22-1162	MOUTH	BRIDGER
	SEC 02	22-1176	BRIDGER	WYOMING BORDER
	SEC 03	22-1190	WYOMING BORDER	HEADWATERS
CROW CREEK	SEC 01	07-1000	MOUTH	LOWER CROW RESERVOIR
	SEC 02	07-1020	LOWER CROW RESERVOIR	HEADWATERS
CUT BANK CREEK	SEC 01	14-1080	MOUTH	CUT BANK
	SEC 02	14-1120	CUT BANK	GLACIER PARK
FLATHEAD RIVER	SEC 01	07-1540	MOUTH	FLATHEAD LAKE
	SEC 02	07-1560	FLATHEAD LAKE	S FK FLATHEAD R
GALLATIN RIVER	SEC 01	09-2090	MOUTH	E GALLATIN RIVER
	SEC 02	09-6878	E GALLATIN RIVER	SPANISH CREEK
	SEC 03	09-6916	SPANISH CREEK	HEADWATERS

<b>STREAM NAME</b>		<b>WATER CODE</b>	<b>DOWNTSTREAM POINT</b>	<b>UPSTREAM POINT</b>
HYALITE CREEK	SEC 01	09-2546	MOUTH	HYALITE RESERVOIR
	SEC 02	09-6802	HYALITE RESERVOIR	HYALITE LAKE
JUDITH RIVER	SEC 01	16-1800	MOUTH	PLUM CREEK
	SEC 02	16-1820	PLUM CREEK	HEADWATERS
LITTLE BIGHORN RIVER				
	SEC 01	22-3654	MOUTH	LODGE GRASS CREEK
	SEC 02	22-3668	LODGE GRASS CREEK	HEADWATERS
LITTLE BLACKFOOT R				
	SEC 01	06-3772	MOUTH	ELLISTON
	SEC 02	06-3591	ELLISTON	HEADWATERS
MADISON RIVER				
	SEC 01	13-3400	MOUTH	ENNIS DAM
	SEC 02	13-3440	ENNIS LAKE	HEBGEN DAM
	SEC 03	13-3520	HEBGEN LAKE	YELLOWSTONE PARK
MARIAS RIVER				
	SEC 01	14-3240	MOUTH	TIBER DAM
	SEC 02	14-3280	LAKE ELWELL	CUT BANK CREEK
MILK RIVER	SEC 01	15-2680	MOUTH	HINSDALE
	SEC 02	15-2720	HINSDALE	MALTA
	SEC 03	15-2760	MALTA	HAVRE
	SEC 04	15-2800	HAVRE	FRESNO DAM
	SEC 05	15-2840	FRESNO RESERVOIR	CANADA
	SEC 06	15-2880	CANADA	MIDDLE & SOUTH FORKS
MISSOURI RIVER				
	SEC 01A	16-2420	N DAKOTA BORDER	POPLAR RIVER
	SEC 01B	16-2421	POPLAR RIVER	MILK RIVER
	SEC 05	16-2500	MILK RIVER	FORT PECK DAM
	SEC 06A	16-2521	FT PECK RES	BLAIN/CHOUT CO LINE
	SEC 06B	16-2522	BLAIN/CHOUT CO LINE	MARIAS RIVER
	SEC 07	17-4864	MARIAS RIVER	MORONY DAM
	SEC 08	17-4880	MORONY DAM	CASCADE BRIDGE
	SEC 09	17-4896	CASCADE BRIDGE	HOLTER DAM
	SEC 10A	17-4913	HOLTER LAKE	HAUSER DAM
	SEC 10B	17-4914	HAUSER LAKE	CANYON FERRY DAM
	SEC 11	17-4928	CANYON FERRY RES	TOSTON DAM
	SEC 12	17-4944	TOSTON DAM	HEADWATERS
MUSSELSHELL RIVER				
	SEC 01	18-4320	MOUTH	RT 3 BRIDGE NEAR LAVINA
	SEC 02	18-4350	RT 3 BRIDGE NEAR LAVINA	HEADWATERS
POPLAR RIVER	SEC 01	16-2820	MOUTH	E FK POPLAR RIVER
	SEC 02	16-2375	E FK POPLAR RIVER	CANADA
PRYOR CREEK	SEC 01	22-4802	MOUTH	PRYOR
	SEC 02	22-4816	PRYOR	HEADWATERS

<u>STREAM NAME</u>		<u>WATER CODE</u>	<u>DOWNTSTREAM POINT</u>	<u>UPSTREAM POINT</u>
RED ROCK RIVER				
	SEC 01	01-6140	MOUTH	LIMA DAM
	SEC 02	01-6160	LIMA RESERVOIR	UPPER RED ROCK LK
ROCK CREEK	SEC 01	06-5263	MOUTH	HOGBACK CREEK
	SEC 02	06-5282	HOGBACK CREEK	HEADWATERS
ROCK CREEK	SEC 01	22-4928	MOUTH	W FK (CHROME CAMP)
	SEC 02	22-4956	W FK (CHROME CAMP)	HEADWATERS
RUBY RIVER	SEC 01	01-6360	MOUTH	RUBY RESERVOIR
	SEC 02	01-6380	RUBY RESERVOIR	HEADWATERS
SHIELDS RIVER				
	SEC 01	22-5334	MOUTH	CLYDE PARK
	SEC 02	22-5348	CLYDE PARK	WILSALL
	SEC 03	22-5362	WILSALL	HEADWATERS
SMITH RIVER	SEC 01	17-6816	MOUTH	HOUND CREEK
	SEC 02	17-6832	HOUND CREEK	CAMP BAKER
	SEC 03	17-6833	CAMP BAKER	HEADWATERS
STILLWATER R	SEC 01	22-6104	MOUTH	WEST FORK (NYE)
	SEC 02	22-6118	WEST FORK (NYE)	HEADWATERS
SUN RIVER	SEC 01	20-6050	MOUTH	MUDDY CREEK
	SEC 02	20-6100	MUDDY CREEK	GIBSON DAM
SWAN RIVER	SEC 01	07-4560	MOUTH	SWAN LAKE
	SEC 02	07-4580	SWAN LAKE	HEADWATERS
TETON RIVER	SEC 01	14-6000	MOUTH	CHOTEAU
	SEC 02	14-6040	CHOTEAU	HEADWATERS
THOMPSON RIVER				
	SEC 01	05-7248	MOUTH	BEND RANGER STATION
	SEC 02	05-7264	BEND RANGER STATION	HEADWATERS
TONGUE RIVER				
	SEC 01	21-1150	MOUTH	BEAVER CREEK
	SEC 02	21-1200	BEAVER CREEK	TONGUE RIVER DAM
	SEC 03	21-1250	TONGUE RIVER RES	WYOMING BORDER
W FK STILLWATER RIVER				
	SEC 01	22-6664	MOUTH	IRON CREEK
	SEC 02	22-6678	IRON CREEK	HEADWATERS
YAAK RIVER	SEC 01	11-7740	MOUTH	FALLS
	SEC 02	11-7760	FALLS	HEADWATERS
YELLOWSTONE RIVER				
	SEC 01	21-1350	N DAKOTA BORDER	POWDER RIVER
	SEC 02	21-1400	POWDER RIVER	BIGHORN RIVER
	SEC 03	22-7001	BIGHORN RIVER	HUNTLEY DIVERSION

<b><u>STREAM NAME</u></b>	<b><u>WATER CODE</u></b>	<b><u>DOWNSTREAM POINT</u></b>	<b><u>UPSTREAM POINT</u></b>
YELLOWSTONE RIVER (con't)			

SEC 04	22-7015	HUNTLEY DIVERSION	CLARKS FORK RIVER
SEC 05	22-7028	CLARKS FORK RIVER	STILLWATER RIVER
SEC 06A	22-7043	STILLWATER RIVER	REED POINT BRIDGE
SEC 06B	22-7044	REED POINT BRIDGE	BOULDER RIVER
SEC 07A	22-7057	BOULDER RIVER	SPRINGDALE
SEC 07B	22-7058	SPRINGDALE	SHIELDS RIVER
SEC 08	22-7071	SHIELDS RIVER	PINE CREEK
SEC 09A	22-7072	PINE CREEK	EMIGRANT BRIDGE
SEC 09B	22-7073	EMIGRANT BRIDGE	TOM MINER CREEK
SEC 10	22-7084	TOM MINER CREEK	GARDINER