

# Summary of Research



Montana Fish,  
Wildlife & Parks

## Selected Findings From Resident Angler Surveys Conducted on Montana's Rock Creek (2004-05) and Bitterroot River (2005)

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Michael S. Lewis and Pat Saffel

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Located in western Montana, Rock Creek and the Bitterroot River offer quality trout fishing opportunities. Rock Creek is located about 25 miles east of Missoula, Montana where it flows north into the Clark Fork River near Clinton, Montana. It is a popular destination for anglers who primarily pursue rainbow and brown trout. The Bitterroot River is a larger stream that begins its flow near Conner, Montana. From there it flows 84 miles north through the beautiful Bitterroot Valley on its way to the confluence with the Clark Fork River near Missoula. It is also a popular destination for anglers who seek to catch not only rainbow and brown trout, but westslope cutthroat trout as well.

Both rivers have seen a steady increase in angling pressure over the past couple of decades, and there has been concern that the quality of the angling experience has diminished as a result. With this in mind, Montana Fish, Wildlife & Parks (FWP) recently conducted resident angler surveys on both Rock Creek (2004-05) and the Bitterroot River (2005) in an attempt to answer the following questions:

- *Are there formerly avid resident anglers on Rock Creek or the Bitterroot River who are no longer fishing these rivers or are infrequently fishing these rivers now due to "social" issues such as congestion, crowding, or user conflicts?*
- *If so, are these **displaced**<sup>1</sup> resident anglers fishing other Montana waters as a replacement or substitute?*
- *How do residents who have ever considered themselves to be avid Rock Creek or Bitterroot River anglers rate the acceptability of angling related conditions on these two rivers?*
- *Lastly, what are the most important factors that will influence future resident angling participation on these two rivers?*

In the past, FWP has traditionally conducted river surveys that have focused solely on "current" users who more often than not tend to rate their experiences as being acceptable. The focus of the Rock Creek and Bitterroot River surveys was to broaden the scope of FWP's survey efforts to do a better job of representing not only the current population of anglers on these two rivers, but represent formerly avid anglers from the past who may have unique viewpoints.

It is hoped that these two survey efforts will serve as a potential prototype that could be implemented on other Montana rivers in an effort to aid fisheries and river recreation planning and management efforts as needed.

## SURVEY METHODS

With the exception of minor river specific modifications made to some of the survey questions, identical survey methods were used on both rivers. For each river, mailback surveys were sent to a randomly selected sample of resident fishing license holders who live in FWP administrative Region 2 which includes Mineral, Missoula, Powell, Granite, Ravalli, and Deer Lodge Counties. Because of its geographic proximity, Silver Bow County in FWP administrative Region 3 was also added to the study area. A single follow-up postcard reminder was mailed to nonrespondents.



## RESULTS

**Rock Creek.** Over a two-year period (in the fall of 2004 and 2005), mailback surveys were successfully mailed to 3,793 resident fishing license holders in the study area. Overall, there were 1,328 respondents to the survey. The estimated response amongst those who have experience fishing Rock Creek was 75 percent. In total, 704 respondents reported they have fished the river, and 47 percent of those respondents (N=330) reported being an avid Rock Creek angler at some point in time either in the past or present. Eighty-six percent of these "avid" respondents (N=283) reported they first fished this river more than three years ago.

**Bitterroot River.** In the fall of 2005, mailback surveys were successfully mailed to 1,931 randomly selected resident fishing license holders in the study area. Overall, there were 685 respondents to the survey. The estimated response amongst those who have experience fishing the Bitterroot River was 79 percent. In total, 380 respondents reported they have fished the river, and 49 percent of those respondents (N=185) reported being an avid Rock Creek angler at some point in time either in the past or present. Ninety percent of these "avid" respondents (N=166) reported they first fished this river more than three years ago.

<sup>1</sup> In general, displacement refers to individuals who alter their patterns of recreation to avoid crowding. Herein, the term displacement refers to formerly avid resident anglers on a river who are no longer fishing that river or are infrequently fishing that river to avoid congestion, crowding, or user conflicts.

## ARE THERE ANY RESIDENT ANGLERS WHO HAVE BEEN DISPLACED DUE TO SOCIAL REASONS?

Rock Creek. Of the 283 respondents who have ever considered themselves to be avid Rock Creek anglers and first fished this river more than three years ago, 68 percent (N=192) reported they are no longer fishing there or are infrequently fishing there now due to a variety of reasons (e.g., too busy, not enough time, other priorities, too crowded, dissatisfaction with fishing regulations, etc.). Forty-two percent of these “formerly avid resident anglers from the past” (N=81) said their primary reason for no longer fishing there or infrequently fishing there now was due to “social” issues such as congestion, crowding, or users conflicts. These anglers were identified as being displaced due to social reasons.

Bitterroot River. Of the 166 respondents who have ever considered themselves to be avid Bitterroot River anglers and first fished this river more than three years ago, 60 percent (N=99) reported they are no longer fishing there or are infrequently fishing there now due to a variety of reasons. Thirty-nine percent of these “formerly avid resident anglers from the past” (N=37) were identified as being displaced due to social reasons.



## ARE DISPLACED RESIDENT ANGLERS FISHING OTHER MONTANA WATERS AS A REPLACEMENT OR SUBSTITUTE?

Rock Creek. Most displaced resident anglers (93 percent) reported they are fishing another water body in Montana as a replacement/substitute for no longer fishing or infrequently fishing Rock Creek now due to social reasons. The most frequently mentioned water bodies were: (1) Clark Fork River, (2) Blackfoot River, and (3) Bitterroot River.

Bitterroot River. A strong majority of the displaced resident anglers (68 percent) reported they are fishing another water body in Montana as a replacement/substitute for no longer fishing or infrequently fishing the Bitterroot River now due to social reasons. The Clark Fork River was by far the most frequently mentioned water body.

## HOW ACCEPTABLE ARE ANGLING RELATED CONDITIONS?

Respondents who have ever considered themselves to be avid anglers on each respective river either in the past or present were asked to rate the acceptability of a variety of angling related conditions. Displaced resident anglers reported by far the lowest levels of acceptability (see Tables 1 and 2). Compared to Rock Creek, ratings on the Bitterroot River were much more favorable.

**Table 1.** Response to: “In your opinion, how acceptable or unacceptable are the following conditions on **ROCK CREEK?**” (Responses from all respondents who have ever considered themselves to be avid Rock Creek anglers either in the past or present **-and-** responses from displaced resident anglers compared to all other current or formerly avid resident Rock Creek anglers)

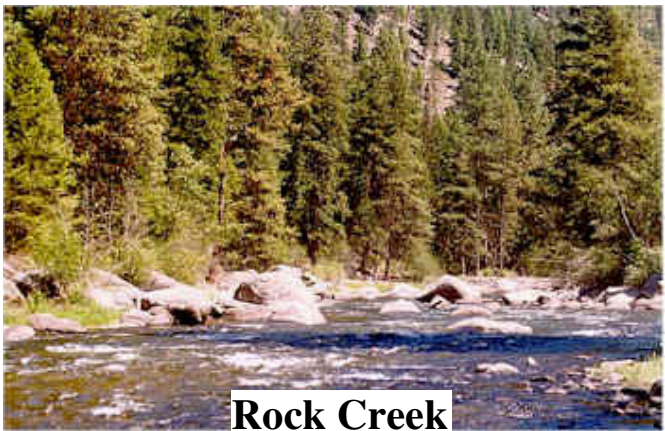
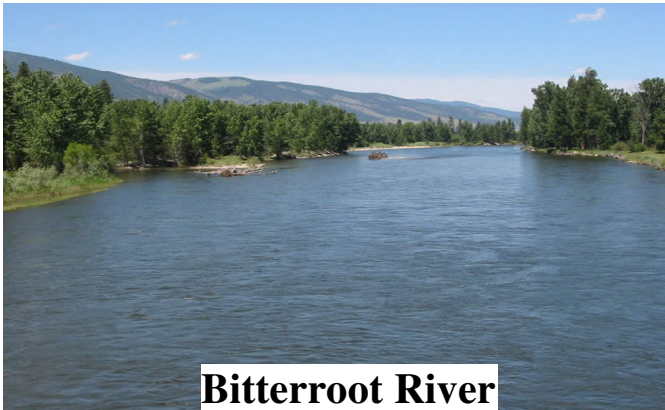
CONDITION:	PERCENT Responding Very Unacceptable or Unacceptable			PERCENT Responding Acceptable or Very Acceptable		
	All respondents	Displaced resident anglers*	All other current or formerly avid resident anglers	All respondents	Displaced resident anglers*	All other current or formerly avid resident anglers
The overall quality of the fishing experience	12.3	34.3	5.5	80.8	50.6	90.4
The quality of the fishing experience...						
During the spring float season (mid-May to June 30)	23.5	53.0	12.0	60.9	32.4	71.8
During the general non-float season (July 1 to Nov. 30)	13.6	34.4	6.2	76.3	49.3	86.1
The number of people (and their vehicles) at river access points...						
During the spring float season (mid-May to June 30)	48.8	80.8	35.8	29.3	5.9	38.7
During the general non-float season (July 1 to Nov. 30)	38.0	72.3	25.7	43.1	9.7	54.8
The number of people fishing the river...						
During the spring float season (mid-May to June 30)	40.7	72.8	27.5	36.6	15.7	45.2
During the general non-float season (July 1 to Nov. 30)	34.4	68.5	22.2	46.3	16.5	57.0
The number of people FLOAT FISHING the river during the spring float season (mid-May to June 30)	45.9	70.2	35.6	35.1	16.4	42.9
The number of people BANK/WADE FISHING the river...						
During the spring float season (mid-May to June 30)	21.5	42.3	13.1	54.2	29.6	64.6
During the general non-float season (July 1 to Nov. 30)	26.1	51.4	17.3	54.0	24.4	64.9
The amount of traffic on the river access road...						
During the spring float season (mid-May to June 30)	41.9	70.4	30.1	35.4	9.9	46.0
During the general non-float season (July 1 to Nov. 30)	31.1	62.5	19.9	42.6	15.3	52.4

\*Formerly avid resident Rock Creek anglers who are no longer fishing there or are infrequently fishing there now to avoid congestion, crowding, or user conflicts.

**Table 2.** Response to: “In your opinion, how acceptable or unacceptable are the following conditions on the **BITTERROOT RIVER?**”  
(Responses from all respondents who have ever considered themselves to be avid Bitterroot River anglers either in the past or present -and- responses from displaced resident anglers compared to all other current or formerly avid resident Bitterroot River anglers)

CONDITION:	PERCENT Responding Very Unacceptable or Unacceptable			PERCENT Responding Acceptable or Very Acceptable		
			All other current or formerly avid resident anglers			All other current or formerly avid resident anglers
	All respondents	Displaced resident anglers*		All respondents	Displaced resident anglers*	
The overall quality of the fishing experience	13.6	41.7	6.5	76.7	44.5	85.0
The quality of the fishing experience...						
During the spring (March 1 – June 14)	12.2	34.4	6.3	70.7	44.8	77.5
During the summer/fall (June 15 – November 30)	19.4	50.0	12.1	66.0	31.3	74.4
The number of people (and their vehicles) at river access points...						
During the spring (March 1 – June 14)	22.3	60.0	11.0	57.0	16.6	69.0
During the summer/fall (June 15 – November 30)	34.0	67.7	24.6	42.9	11.7	51.7
The number of people fishing the river...						
During the spring (March 1 – June 14)	24.2	65.5	12.6	59.9	20.6	70.8
During the summer/fall (June 15 – November 30)	32.3	67.7	22.9	50.9	17.6	59.8
The number of people FLOAT FISHING the river...						
During the spring (March 1 – June 14)	28.2	70.0	15.9	51.9	6.6	65.4
During the summer/fall (June 15 – November 30)	29.2	78.8	21.8	49.3	9.1	60.5
The number of people BANK/WADE FISHING the river...						
During the spring (March 1 – June 14)	7.4	10.0	6.7	74.9	56.7	80.0
During the summer/fall (June 15 – November 30)	12.5	14.7	11.9	68.8	50.0	73.8

\*Formerly avid resident Bitterroot River anglers who are no longer fishing there or are infrequently fishing there now to avoid congestion, crowding, or user conflicts.



### WHAT ARE THE MOST IMPORTANT FACTORS THAT WILL INFLUENCE FUTURE RESIDENT ANGLING PARTICIPATION?

All respondents to the Rock Creek and Bitterroot River surveys (including those who have never fished these rivers) were asked to rate the importance of a number of factors that might influence their future angling participation on each river. The overall response for both rivers was nearly identical. The most important factors, in order of magnitude, were as follows:

1. Opportunity to catch lots of fish.
2. Opportunity to catch some big fish.
3. Opportunity to see beautiful scenery.
4. Having enough time to go fishing.

Not unexpectedly, displaced resident anglers offered very different responses when compared to the overall response.

Rock Creek. The most important factors for displaced resident anglers were: (1) opportunity to see relatively few other people fishing, (2) opportunity to see relatively few other people float fishing, (3) opportunity to see relatively few other people in general, and (4) opportunity to see relatively few other people bank/wade fishing.

Bitterroot River. The most important factors for displaced resident anglers were: (1) opportunity to see relatively few other people float fishing, (2) opportunity to catch some big fish, (3) opportunity to catch lots of fish, and (4) opportunity to see relatively few other people in general.

# CHARACTERISTICS OF ROCK CREEK AND BITTERROOT RIVER ANGLERS

## Rock Creek:

- 87 percent bank/wade fish a majority of the time (not floating the river).
- 5 percent float fish a majority of the time.
- 8 percent spend about an equal amount of time bank/wade fishing and float fishing.
- 59% prefer to fish the river during the general non-float season (July 1 to November 30).
- 33% prefer to fish the river during the spring float season (mid-May to June 30).
- 8% prefer to fish the river during the winter season (December 1 to mid-May).

## Bitterroot River:

- 54 percent bank/wade fish a majority of the time (not floating the river).
- 26 percent float fish a majority of the time.
- 20 percent spend about an equal amount of time bank/wade fishing and float fishing.
- 71% prefer to fish the river during the summer/fall (June 15 to November 30).
- 24% prefer to fish the river during the spring (March 1 to June 14).
- 5% prefer to fish the river during the winter (December 1 to February 28).

## DISCUSSION

Both the Rock Creek (2004-05) and the Bitterroot River (2005) resident anglers surveys revealed there are common opinions about the fishing experience on these two rivers. Also, it was revealed there are some formerly avid resident anglers from the past who are no longer fishing these rivers or are infrequently fishing these rivers now due to “social” reasons such as congestion, crowding, or conflicts among various river users. The majority of these displaced resident anglers are fishing other Montana waters as a replacement or substitute. They include the Clark Fork and Blackfoot rivers in FWP administrative Region 2.

As expected, displaced resident anglers offered unique responses to both river surveys. While the majority of all other respondents generally rated angling related conditions on these two rivers as being acceptable (or at the very least neither acceptable nor unacceptable) during the spring, summer and fall seasons, a high percentage of displaced resident anglers rated most conditions during these time periods as being unacceptable. Furthermore, compared to all other respondents, displaced resident anglers offered very different responses about the types of factors that will most influence whether or not they will fish these two rivers in the future.

What does this all mean? More than anything, these two surveys demonstrate there are diverse opinions about how rivers might be managed by FWP. For instance, from this study we know there are some anglers who prefer solitude and opportunities get away from other people while they fish. There are other anglers who don’t care how many other people they see as long as they have the opportunity catch lots of fish or occasionally catch some big fish while fishing in a beautiful river setting.

Comprehensively, Rock Creek, the Bitterroot River, the Blackfoot River (including the North Fork Blackfoot), and the Clark Fork River provide a variety of diverse angling and river recreation opportunities in the western part of Montana. These surveys illustrate the interconnected use of these river resources. FWP needs to consider regional planning and management efforts when it comes to providing quality recreational opportunities on rivers in this part of the state. To the extent feasible, FWP should continue to contact diverse stakeholder groups as part of conducting survey research that is used to support fisheries and river recreation planning and management activities. In particular, the Rock Creek and Bitterroot River resident angler surveys demonstrate the importance of contacting not only current river users, but formerly avid users from the past who may have unique viewpoints altogether. 🌐

## ABOUT THE AUTHORS

Michael S. Lewis, Human Dimensions Specialist, Responsive Management Unit of FWP, Helena, Montana.

Pat Saffel, Region 2 Fisheries Manager, Fisheries Division of FWP, Missoula, Montana.

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Contact the Responsive Management Unit of FWP by phone at (406) 444-4758.

