Research Summary

Selected Findings From a 2009 Madison River Onsite Visitor Survey

HD Unit Research Summary No. 29

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The Madison River in southwest Montana is a popular destination for many river enthusiasts including anglers, recreational floaters, campers, picnickers, and those who enjoy beautiful scenery and watching wildlife. Popularity of the river has not come without its costs, however. Of late, some members of the public have expressed concerns about social conditions on this river. Examples of these concerns are conflicts between user groups and congestion at river access sites. To help access the scope of these concerns and identify specific issues, Montana Fish, Wildlife & Parks (FWP) conducted separate surveys of resident anglers (Lewis & Sperry, 2009a) and private landowners (Lewis & Sperry, 2009b) in the fall of 2008.

This past summer (2009), a *Madison River Onsite Visitor Survey* was conducted by FWP in an effort to build upon results from the resident angler and landowner surveys conducted the previous year. The primary goal of the onsite survey was to help river managers more comprehensively identify specific issues and/or concerns from the perspective of all current river users including anglers and non-anglers (e.g., recreational floaters, picnickers, campers, swimmers, sunbathers, wildlife observers, etc.), as well as resident and nonresident river users. Information from this survey will be used by FWP to help manage this highly popular river resource.

SURVEY METHODS

The Madison River Onsite Visitor Survey was conducted throughout the 2009 summer use season (June 18th – August 30th). The focus of the survey was on the 140-mile stretch of the Madison River between Quake Lake and Three Forks, Montana. River users were interviewed onsite at public river access sites found along three stretches of the river:

1. **Upper Stretch.** *Below Quake Lake to Lyon's Bridge*. This stretch of river is closed to fishing from boats. As such, bank/wade angling is a popular activity. The majority of visitors to this stretch of river are nonresidents.
2. **Middle Stretch.** *Lyon's Bridge to Ennis, Montana*. Floating fishing is the most popular activity on this stretch of river. Not unlike the upper river, the majority of visitors to this stretch of river are nonresidents.
3. **Lower Stretch.** *Mouth of Beartrap Canyon to Three Forks, Montana*. Angling in the spring/fall and inner-tubing during the hot summer months are popular activities. The lower river draws primarily resident use due to its close proximity to the city of Bozeman.

Because of their strategic location and amount of use, survey emphasis was placed on the following access sites: Raynolds Pass, Three Dollar Bridge, West Fork Road, Lyon's Bridge, Palisades, McAtee, Varney Bridge, Ennis, Bear Trap Road, the highway along the lower stretch of the Madison River, Red Mountain, and Black's Ford. While survey staff focused on these sites, other less frequently used sites were periodically visited throughout the study period.

Survey work was conducted on both weekday and weekend days to ensure representation of visitors to the river across a variety of days of the week. Survey staff contacted visitors at convenient times, and at times when visitors were most likely to be at river access sites. As an example, floaters were contacted at the end of their floats at take-out points. Non-floaters were contacted while recreating (making sure to proceed with the interview only if it was okay with the respondent). Individuals surveyed at a particular site were representative of the types of visitors who were at the site when the survey work was being conducted. For instance, if most visitors at a site were anglers, then primarily anglers were interviewed at that site. If there were an equal number of anglers and non-anglers at a site, then about an equal number of anglers and non-anglers were interviewed at that site. Etcetera. No more than 1-2 people were interviewed from each group of visitors contacted at a site in an effort to ensure representation from a variety of different groups of visitors to the river.

The primary focus of the survey was to gain input from current river users concerning the acceptability of several Madison River conditions, including:

- ***The number of people (and vehicles) at river access sites.***
- ***The number of people recreating on the river by type of activity (e.g., bank or wade fishing, float fishing, recreationally floating, recreating in general, etc.).***
- ***The amount of litter in the river, along river banks and shorelines, and at river access sites.***
- ***The amount of visitor-caused impacts to natural resources along the river.***
- ***The number of river access sites, and the number of sites that have a boat launch.***

RESULTS

A total of 570 surveys were completed throughout the study period. N=188 completed surveys in the upper stretch of the river (below Quake Lake to Lyon's Bridge). N=181 completed surveys in the middle stretch of the river (Lyon's Bridge to Ennis, Montana). N=201 completed surveys in the lower stretch of the river (mouth of Beartrap Canyon to Three Forks, Montana).

How acceptable are conditions on the Madison River?

Survey respondents were asked to rate the acceptability of a variety of Madison River conditions. A strong majority of respondents rated most river conditions as being acceptable or very acceptable. That's not to say some conditions were not of concern to some respondents. For example, 14 percent of respondents in the lower reach of the river indicated that the amount of litter in the river and along river banks and shorelines was unacceptable or very unacceptable. As another example, approximately 12 percent of respondents in the upper and lower reaches of the river reported the number of people (and vehicles) at river access sites as being unacceptable or very unacceptable. Table 1 on the following page provides detailed survey findings for each of the three stretches of the river studied (e.g., the upper, middle, and lower river stretches).

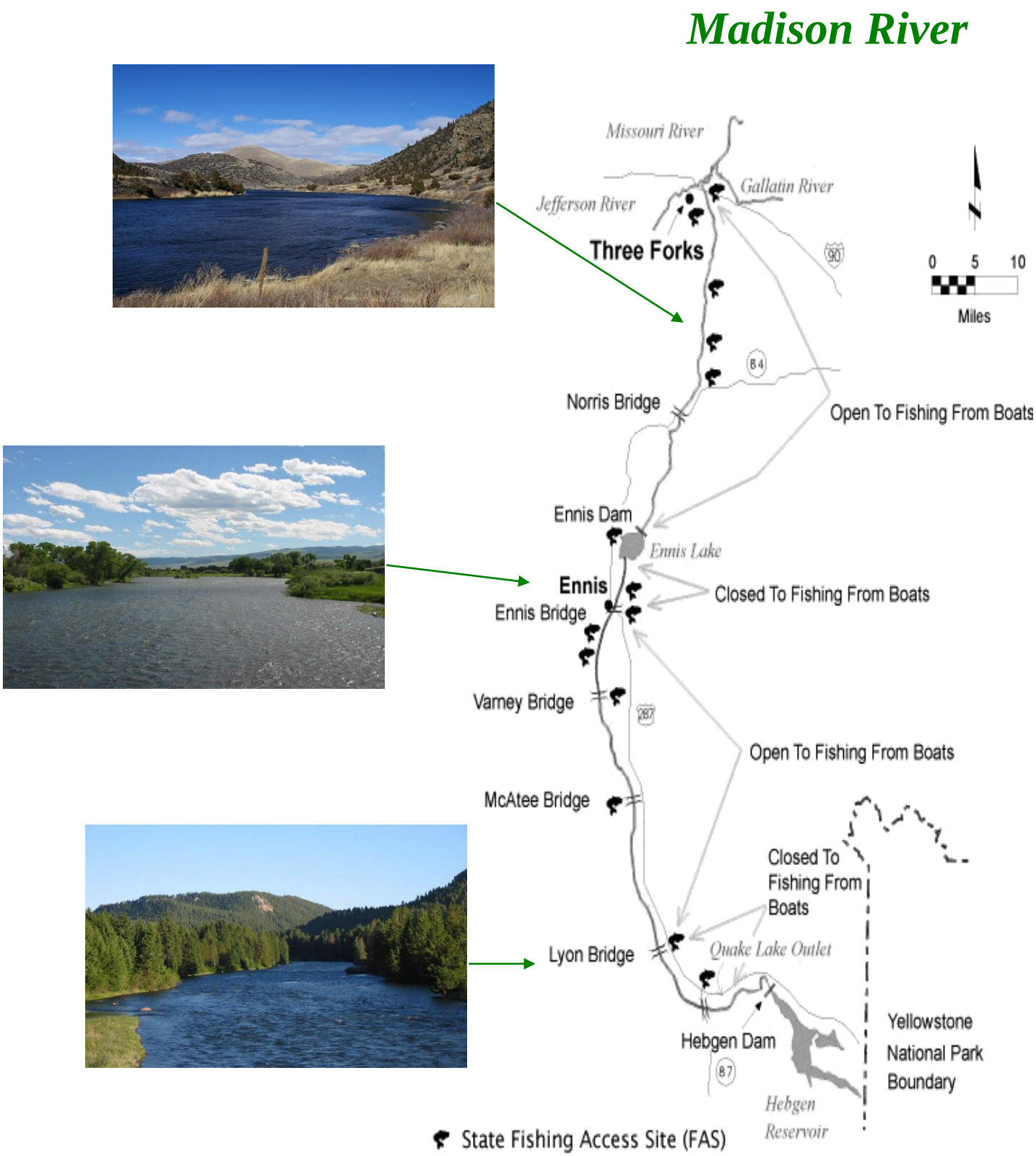

Table 1. Response to: "How acceptable or unacceptable were the following conditions during your visit to the Madison River today?" Results presented by stretch of the river (upper, middle, and lower).

CONDITION:	PERCENT Responding…		
	Very Unacceptable or Unacceptable	Neither Acceptable or Unacceptable	Very Acceptable or Acceptable
The number of river access sites:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	3.7	6.5	89.8
Middle Stretch (Lyon's Bridge to Ennis)	2.3	5.2	92.5
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	3.5	3.0	93.5
The number of river access sites that have a boat launch:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	2.2	9.0	88.8
Middle Stretch (Lyon's Bridge to Ennis)	0.7	6.8	92.5
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	8.1	8.8	83.1
The number of people (and vehicles) at river access sites:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	11.9	28.5	59.6
Middle Stretch (Lyon's Bridge to Ennis)	7.8	16.0	76.2
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	12.2	13.1	74.7
The number of people FLOAT FISHING* the river:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	11.0	19.0	70.0
Middle Stretch (Lyon's Bridge to Ennis)	8.0	13.7	78.3
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	1.1	14.4	84.5
The number of people floating the river for recreational purposes other than fishing:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	6.3	12.0	81.7
Middle Stretch (Lyon's Bridge to Ennis)	2.0	5.7	92.3
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	4.5	4.0	91.5
Overall, the number of people floating the river:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	9.1	19.5	71.4
Middle Stretch (Lyon's Bridge to Ennis)	5.0	14.5	80.5
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	3.5	7.6	88.9
The number of people BANK/WADE FISHING the river (no watercraft involved):			
Upper Stretch (below Quake Lake to Lyon's Bridge)	11.3	18.7	70.0
Middle Stretch (Lyon's Bridge to Ennis)	2.8	7.3	89.9
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	0.0	13.9	86.1
Overall, the number of people fishing the river:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	10.1	25.0	64.9
Middle Stretch (Lyon's Bridge to Ennis)	7.2	12.2	80.6
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	1.0	15.2	83.8
Overall, the number of people on river banks and shorelines:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	8.1	23.2	68.7
Middle Stretch (Lyon's Bridge to Ennis)	0.6	5.6	93.8
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	1.5	8.0	90.5
The amount of litter in the river and along river banks and shorelines:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	2.7	4.8	92.5
Middle Stretch (Lyon's Bridge to Ennis)	2.8	1.7	95.5
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	14.1	8.6	77.3
The amount of litter at river access sites:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	3.3	10.3	86.4
Middle Stretch (Lyon's Bridge to Ennis)	1.1	5.0	93.9
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	10.1	7.6	82.3
The amount of visitor-caused impacts to natural resources along the river:			
Upper Stretch (below Quake Lake to Lyon's Bridge)	5.2	24.3	70.5
Middle Stretch (Lyon's Bridge to Ennis)	4.6	12.6	82.8
Lower Stretch (Mouth Beartrap Canyon to Three Forks)	6.8	18.5	74.7

* The upper stretch of the river is closed to fishing from boats. However, some anglers float this river stretch, making periodic stops to get out of the boat and fish.

SATISFACTION RATINGS

Respondents were asked how satisfied they were with their overall recreation experience using a scale from 1 (very dissatisfied) to 5 (very satisfied). The vast majority of respondents in each stretch of river studied were satisfied with their experiences:

	Percent Responding…				
	(Very Dissatisfied) 1	2	3	4	(Very Satisfied) 5
Upper Stretch	0%	3%	3%	29%	65%
Middle Stretch	0%	1%	5%	24%	70%
Lower Stretch	0%	1%	2%	15%	82%

ABOUT THE RESPONDENTS TO THE SURVEY

Upper stretch (below Quake Lake to Lyon's Bridge):

- Ninety-three percent of the respondents reported fishing was their primary recreation activity. Ninety-six percent of those respondents indicated that they were bank/wade fishing. Only two percent reported the use of a commercial fishing outfitter or guide.
- Less than one percent of the respondents reported they floated the river for recreational purposes other than fishing.
- Eleven percent of the respondents were Montana residents. Eighty-nine percent were nonresidents. Average group size (2-3 people).

Middle stretch (Lyon's Bridge to Ennis, Montana):

- Eighty-nine percent of the respondents reported fishing was their primary recreation activity. Eighty-three percent of those respondents indicated that their fishing experience included the use of watercraft to float the river. Forty-two percent reported the use of a commercial fishing outfitter or guide.
- Only eight percent of the respondents reported they floated the river for recreational purposes other than fishing. None of those respondents reported the use of a commercial river outfitter or guide.
- Twenty-five percent of the respondents were Montana residents. Seventy-five percent were nonresidents. Average group size (2-3 people).

Lower stretch (mouth of Beartrap Canyon to Three Forks, Montana):

- Twenty-one percent of the respondents reported fishing was their primary recreation activity. Fifty-two percent of those respondents indicated that their fishing experience included the use of watercraft to float the river. Only seven percent reported the use of a commercial fishing outfitter or guide.
- Sixty-two percent of the respondents reported they floated the river for recreational purposes other than fishing, with nearly 53 percent reporting the use of inner-tubes. None of those respondents reported the use of a commercial river outfitter or guide.
- Seventy-five percent of the respondents were Montana residents. Twenty-five percent were nonresidents. Average group size (5-6 people).

DISCUSSION

Results from the 2009 Madison River Onsite Visitor Survey suggest that the Madison River continues to be an ideal destination for most current river users. Overall, a majority of survey respondents rated a variety of conditions on the river as being acceptable or unacceptable. And, a vast majority of respondents rated their overall recreation experience as being satisfactory.

A comparison of the results obtained from this survey to the results from the resident angler and landowners surveys conducted in 2008 revealed that respondents to the resident angler and landowner surveys were more critical of some river conditions. As an example, about half of the respondents to the resident angler and landowner surveys reported the number of people float fishing the middle stretch of the river as being unacceptable or very unacceptable. This compares to eight percent of the respondents to the onsite visitor survey. These results are not surprising, however. The resident angler and landowner surveys conducted in 2008 focused solely on individuals who have considerable experience with the Madison River[1]. The 2009 onsite visitor survey focused on a mix of all current river users, including both experienced and inexperienced users, residents and nonresidents users, as well as anglers and non-anglers. Past outdoor recreation research demonstrates that the more experience an individual has with a recreation resource, the more critical they will be of that resource. Despite some differences in finding between the surveys, a strong majority of respondents from all three surveys reported the overall quality of the recreational experience on the river as being acceptable or very acceptable.

Combined, results from each of these three survey are helping FWP to better understand recreational use of the Madison River, as well identify issues/concerns (from the perspective of many different river users and stakeholders groups) that might need to be addressed to help manage this highly popular river. It is intended that data from these surveys, combined with other data and observations in the field, will be used to aid river recreation and fisheries management efforts on the Madison River.

REFERENCES

Lewis, Michael S. and Charlie Sperry. 2009a. *Selected Findings From a 2008 Survey of Resident Anglers Concerning the Madison River in Montana.* RMU Research Summary No. 26. Helena, MT: Montana Fish, Wildlife & Parks.

Lewis, Michael S. and Charlie Sperry. 2009b. *2008 Survey of Property Owners Concerning the Madison River.* RMU Fact Sheet. Helena, MT: Montana Fish, Wildlife & Parks.

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[1] The focus of the 2008 Madison River Resident Angler Survey was on current and/or formerly avid Madison River resident anglers. Avidity was self-determined by survey respondents based upon the amount of experience they have fishing the Madison River. The focus of the 2008 Landowner Survey was on private landowners who own property that touches the Madison River.