

Yellowstone River Cultural Inventory—2006

Overall Summary Report

With River-Length Interest Group Analyses

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Research Team and Support Staff

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Yellowstone River Cultural Inventory—2006 Overall Summary

Introduction

The Yellowstone River has a long history of serving human needs. Native Americans named it the Elk River because of its importance as a hunting environment. William Clark explored much of the river in the spring of 1806 and found it teeming with beavers. By 1906, the US Bureau of Reclamation was sponsoring diversion projects that tapped the river as a source of irrigation waters. The river then enabled “twentieth-century progress” and today it supports many nearby agricultural, recreational and industrial activities, as well as many activities on the Missouri River.

Management of the shared resources of the Yellowstone River is complicated work. Federal and state interests compete with one another, and they compete with local and private endeavors. Legal rights to the water are sometimes in conflict with newly defined needs, and, by Montana law, the public is guaranteed access to the river even though 84 percent of the riverbank is privately owned.

Interestingly, in spite of the many services it provides, the Yellowstone River in 2006 remains relatively free-flowing. This fact captures the imaginations of many people who consider its free-flowing character an important link between contemporary life and the unspoiled landscapes of the Great American West. As a provider, as a symbol of progress, as a shared resource, as a management challenge, and as a symbol of our American heritage, the Yellowstone River is important.

The Yellowstone River Cultural Inventory—2006 documents the variety and intensity of different perspectives and values held by people who share the Yellowstone River. Between May and November of 2006, a total of 313 individuals participated in the study. They represented agricultural, civic, recreational, or residential interest groups. Also, individuals from the Crow and the Northern Cheyenne tribes were included.

There are three particular goals associated with the investigation. The first goal is to document how the people of the Yellowstone River describe the physical character of the river and how they think the physical processes, such as floods and erosion, should be managed. Within this goal, efforts have been made to document participants’ views regarding the many different bank stabilization techniques employed by landowners. The second goal is to document the degree to which the riparian zone associated with the river is recognized and valued by the participants. The third goal is to document concerns regarding the management of the river’s resources. Special attention is given to the ways

in which residents from diverse geographical settings and diverse interest groups view river management and uses. The results illustrate the commonalities of thought and the complexities of concerns expressed by those who share the resources of the Yellowstone River.

This overall summary provides several overviews of the Yellowstone River Cultural Inventory—2006. The first section provides an explanation of the research approach. It explains how the river was divided into five geographic segments, the recruitment of Native Americans and the efforts to include individuals from four interest groups: agriculturalists, local civic leaders, recreationalists and residentialists, within each of the five geographic segments.

The second section of this overall summary describes the steps taken in analyzing the textual data of the project. Well over 2700 pages of interview texts were generated by this project. The content of the interview texts was distilled by way of analytical steps that would retain geographical and interest group integrity.

The third section includes a brief overview of the key concerns and implications of the evidence gathered for each group: agriculturalists, local civic leaders, recreationalists, residentialists and Native Americans. Detailed river-length analyses for each group are found in later sections of this volume.

Overviews of the geographic segment analyses are found in the fourth section. These overviews describe the major themes of concern among the people of each segment: Missouri River to Powder River, Powder River to Big Horn River, Big Horn River to Laurel, Laurel to Springdale, and Springdale to Gardiner. The details of each segment-specific analysis are found in the companion volumes.

Fifth, this summary identifies the primary implications exposed in the evidence gathered. Attentions, here, are limited to three sets of understandings: 1) desires for the bank stabilization projects and ideas regarding the best methods for addressing erosion; 2) knowledge of the riparian zone and notions regarding its value; and 3) notions about river management as a means of protecting the river as a shared resource.

Finally, the structure of the companion volumes is explained.

The Research Approach

Identification of Geographic Segments: The Yellowstone River is over 670 miles in length. It flows northerly from Yellowstone Lake near the center of Yellowstone National Park in Wyoming. After exiting the park, the river enters Montana and flows through Paradise Valley toward Livingston, Montana, where it turns eastward. It then follows a northeasterly path across Montana to its confluence with the Missouri River in the northwestern corner of North Dakota.

Five geographic segments along the river are delineated for purposes of organizing the inventory. These five segments capture the length of the river after it exits Yellowstone National Park and as it flows through eleven counties in Montana and one county in North Dakota. The geographic delineations are reflective of collaborations with members of the Yellowstone River Conservation District Council and members of the Technical Advisory Committee and the Resources Advisory Committee.

Working from the confluence with the Missouri River towards the west, the first geographic segment is defined as Missouri River to Powder River. This geographic segment includes some of the least populated regions of the entire United States. This segment is dominated by a broad, relatively slow-moving river that serves an expansive farming community whose interests blend with those folks living along the seventeen miles of the Yellowstone River that traverse North Dakota. Here the Yellowstone River is also important as a habitat for paddlefish and Pallid sturgeon. At the confluence with the Missouri River, the size of the channel, significant flow and substantial sediment carried by the Yellowstone River makes its importance obvious to even the most casual of observers. Prairie, Dawson and Richland Counties of Montana are included in this segment, as well as McKenzie County, North Dakota.

The second geographic segment, Powder River to Big Horn River, is delineated to include the inflows of the Big Horn and Tongue Rivers as major tributaries to the Yellowstone River and to include the characteristics of the warm-water fisheries. This segment is delineated to recognize the significant agricultural activities of the area and the historical significance of the high plains cowboy culture. This segment includes Treasure, Rosebud and Custer Counties.

The third geographic segment, Big Horn River to Laurel, essentially includes only Yellowstone County, but it is a complex area. To begin, important out-takes near Laurel divert water to irrigations projects further east. Additionally, it is the one county along the length of the river with a sizable urban population. Billings is known as a regional center for agriculture, business, healthcare and tourism. This area is notable for its loss of agricultural bottomlands to urban development. Irrigation projects are important east of Billings, especially in the communities of Shepherd, Huntley and Worden. These communities and Laurel also serve as bedroom communities to Montana's largest city, Billings. It is in Yellowstone County that the river begins its transition to a warm-water fishery.

The fourth segment, Laurel to Springdale, ends at the northeastern edge of Park County, Montana. The river in this area is fast-moving and it supports coldwater fisheries. While there is little urban development in this segment, there are some rather obvious transformations occurring as agricultural lands near the river are being converted to home sites for retirees and vacationers. The geographic segment includes Sweet Grass, Stillwater, and Carbon Counties.

The last geographic segment is defined as Springdale to the boundary with Yellowstone National Park at Gardiner, Montana and is within the boundaries of Park County. The

river leaves Yellowstone National Park and enters Montana at Gardiner. It flows in a northerly direction through Paradise Valley and is fast-moving. It supports a cold-water fishery that is well-known for its fly fishing potential. Near Livingston, Montana the river turns easterly and broadens somewhat thus losing some of its energy. However, severe floods occurred in 1996 and 1997, and local groups have since spent many hours in public debates concerning river management.

Recruitment of Native Americans: Native Americans also have interests in the Yellowstone River. They are active in maintaining the cultural linkages between their histories and the local landscapes. For the purposes of this study a number of Native Americans from the Crow tribe and the Northern Cheyenne tribe were included. Native Americans were recruited by means of professional and personal contacts, either as referrals from state agency personnel, from Resource Advisory Committee members of the Yellowstone River Conservation District Council, or from other project participants.

Recruitment of Geographic Specific Interest Group Participants: The participants represent a volunteer sample of full-time residents of the towns and areas between the confluence of the Yellowstone and Missouri Rivers in North Dakota and the town of Gardiner, Montana at the north entrance to Yellowstone National Park. Participants were recruited from four major interest groups: agriculturalists, local civic leaders, recreationalists, and residentialists living near the river. A database of names, addresses and contact information was constructed for recruitment purposes. Nearly 800 entries were listed in the database, representing a relatively even contribution across the four major interest groups.

Individuals representing agriculture interests, including farmers and ranchers, were identified and recruited from referrals provided by the local Conservation Districts, the Yellowstone River Conservation District Council and the Montana Office of the Natural Resources Conservation Service.

Individuals holding civic leadership positions, including city mayors, city council members, county commissioners, flood plain managers, city/county planners, and public works managers, were identified and recruited through public records.

Individuals who use the Yellowstone River for recreational purposes, including hunters, fishers, boaters, floaters, campers, hikers, bird watchers, rock hunters, photographers, and others who use the river for relaxation and serenity, were identified and recruited from referrals provided by members of the Resource Advisory Committee. Participants were also identified and recruited by contacting various non-governmental organizations such as Ducks Unlimited, Trout Unlimited, the Audubon Society and by contacting local outfitting businesses.

The names of property owners holding 20 acres or less of land bordering the Yellowstone River, or within 500 feet of the bank, were obtained through a GIS search of public land ownership records. Twenty acres was used as a screening threshold to separate people who lived along the river corridor but whose incomes were from something other than

agricultural practices (residentialists) from those who were predominantly farmers or ranchers (agriculturalists). The names were sorted by county and randomized. Recruitment proceeded from the county lists. Other people living very near the river and whose primary incomes were not generated by agriculture were also recruited. These additional participants may not have had property that technically bordered the river and/or they may have owned more than 20 acres. In all cases, the recruits did not consider agricultural as their main source of income.

Participants were recruited by telephone and individual appointments were scheduled at times and meeting places convenient for them. Many interviews were conducted in the early morning hours and the late evening hours as a means of accommodating the participants' work schedules. A total of 313 people participated in the project, including 86 representatives from agriculture, 68 representatives in local civic roles, 76 representatives of recreational interests, 76 residentialists and seven Native Americans. A relatively equal representation was achieved in each geographic segment for each interest group.

Participants in Yellowstone River Cultural Inventory—2006						
	GEO SEG I: Missouri River to Powder River	GEO SEG II: Powder River to Big Horn River	GEO SEG III: Big Horn River to Laurel	GEO SEG IV: Laurel to Springdale	GEO SEG V: Springdale to Gardiner	TOTAL IN GROUP
AGRICULTURAL	22	22	16	12	14	86
CIVIC	14	14	18	14	8	68
RECREATIONAL	15	16	16	13	16	76
RESIDENTIAL	15	11	16	15	19	76
GEOGRAPHIC SEGMENT TOTAL	66	63	66	54	57	
NATIVE AMERICAN						7
PROJECT TOTAL						313

Description of Interviews and Collection of Participant Comments: A master protocol was designed from questions provided by the US Army Corps of Engineers and approved by the Office of Management and Budget (OMB approval # 0710-0001; see example in the appendix to this volume). Questions were selected that would encourage participants to describe the local environs, their personal observations of changes in the river, their uses of the river and any concerns they may have had about the future of the river as a shared resource. Open-ended questions were used as a means of encouraging participants to speak conversationally.

The questions were adapted to the participants' interest groups. For instance, interviews with agriculturalists began with the question, "How many years have you been in operation here?" while local civic leaders were asked, "How many years have you lived in this community?" Similarly, agriculturalists were asked, "Are there any problems associated with having property this close to the river?" and local civic leaders were asked, "Are there any problems associated with having private or public properties close to the river?" The overriding objective of the approach was to engage the participants in conversations about the river, its importance and their specific concerns.

Participants were promised confidentiality, and open-ended questions were asked as a means of encouraging the residents to talk about the river, the local environs and their personal observations and concerns in their own words. All respondents were interested in talking about their perspectives, and they represented a variety of views of the river, including: farming, ranching, agricultural science, commercial development, recreation, civic infrastructure, environmental activism, historical views and entrepreneurial interests.

With only three exceptions, the interviews were audio-recorded and verbatim transcripts were produced as records of the interviews. In the other three cases, hand-written notes were taken and later typed into an electronic format. The total resulting interview data totaled approximately 2,700 pages of interview text.

Steps of Data Analysis

Segment-Specific Interest Group Analyses: Taking all audio-recordings, transcripts and field notes as the complete data set, the research group first set out to determine the primary values and concerns for each geographic segment-specific interest group.

21 Segment-Specific Interest Group Analyses						
	GEO SEG I: Missouri River to Powder River	GEO SEG II: Powder River to Big Horn River	GEO SEG III: Big Horn River to Laurel	GEO SEG IV: Laurel to Springdale	GEO SEG V: Springdale to Gardiner	TOTAL IN GROUP
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GEOGRAPHIC SEGMENT TOTAL	66	63	66	54	57	
NATIVE AMERICAN						7
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The team began with the four interest groups from the segment Springdale to Laurel. Team members read individual interview transcripts and determined a core set of values and concerns for the individuals represented. As a team, notes were compared and a combined outline of values and concerns was constructed for each interest group in the geographic segment.

Quotes were then taken from each transcript in the set to illustrate the particular values and concerns. Outlines of the interest group analyses for the Springdale to Laurel segment were then used as aids in constructing the interest group analyses in all other geographic segments. Care was taken to adapt the interest group analyses to highlight if, and when, the core values and concerns were different in each geographic segment. The Native American perspective was addressed as an individual analysis with attention to the specifics of those perspectives. Each of the 21 segment-specific interest group analyses was then illustrated with quotes from interviews.

Segment-Specific Geographic Summaries: A summary of the values and concerns for each geographic segment was constructed using the sets of four geographic-specific interest group analyses. Geographic summaries were written to reflect the concerns that crossed all interests groups of the segment, either as points of agreement or disagreement, and were illustrated with quotes from the four relevant interest group analyses.

5 Segment-Specific Geographic Summaries						
	GEO SEG I: Missouri River to Powder River	GEO SEG II: Powder River to Big Horn River	GEO SEG III: Big Horn River to Laurel	GEO SEG IV: Laurel to Springdale	GEO SEG V: Springdale to Gardiner	TOTAL IN GROUP
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PROJECT TOTAL						313

River-Length Interest Group Summaries: River-length interest group summaries were constructed for each of the four primary interest groups. For example, agricultural concerns from the five geographic segments were compared and quotes were taken from the segment-specific interest group reports to illustrate commonalities and differences. Similar reports were constructed for local civic leaders, recreationalists and residentialists.

4 River-Length Interest Group Summaries						
	GEO SEG I: Missouri River to Powder River	GEO SEG II: Powder River to Big Horn River	GEO SEG III: Big Horn River to Laurel	GEO SEG IV: Laurel to Springdale	GEO SEG V: Springdale to Gardiner	TOTAL IN GROUP
AGRICULTURAL	22	22	16	12	14	86
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RECREATIONAL	15	16	16	13	16	76
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Key Concerns and Implications from Primary Interest Groups

Agriculturalists: There are five issues that seem to be most particular to riverfront agriculturalists. The first issue involves an apparent lack of effort, or success, by authorities and neighbors to eradicate noxious weeds. Salt cedar, leafy spurge, Canadian thistle, Russian olive, and spotted knapweed are all named as problems, and farmers and ranchers are unanimously concerned that their weed problems will only get worse. The second anxiety is related to the federal government's management of the flood plain. Many express fears about the creation of new regulations or restrictions on agricultural flood plain activity. Such regulations could affect the individual's productivity. The third concern is over the security of water rights. Changes in local and state demographic profiles are viewed with trepidation as agriculturalists fear that water adjudications could be affected. Fourth, agriculturalists often discuss the importance of storing water, especially as a means of keeping water for use in Montana. Finally, when taking all the issues into account, agriculturalists worry about the future of their livelihoods. At stake is far more than family incomes. Agriculturalists view the threats as potentially impacting their communities, their heritage, their culture and America's food supply.

It is apparent that the agricultural interest group views the various pressures on their livelihoods as real and threatening. It is also apparent that the agricultural interest group needs to develop new and more robust partnerships with agencies and other interest groups. Finally, it appears the Yellowstone Conservation District Council can play an important role in achieving constructive working relationships with the private agricultural producers that border the Yellowstone River.

Local Civic Leaders: There are several points of discussion that seem to carry great weight for individuals in local civic leadership roles. Conversations with these participants often include discussions about government and the philosophies behind democratic processes. They also discuss the challenges of local citizenries, the best ways to connect with state and federal entities and concerns about flood plain maps and official evaluations of local dikes.

Discussions with local civic leaders offer four implications for the future. First, there is a need to generate and share good information at the local level. Second, there is need to help local officials with the complexities of holistic management, especially new officials. Third, with limited resources and growing demands, it is obvious that not everyone will have everything they want. It seems certain that sharing the resources will only become more difficult. Finally, governance via rules and regulations will require multiple strategies and careful coordination across the various entities and agencies involved.

Recreationalists: Three concerns seem to be at the heart of the recreationalists' perspective when considering the future of the river. First, they are dedicated to the uniqueness of the river, and are advocates of keeping the river free-flowing. Second, they view the public access laws of Montana as essential rights which must be protected against all threats. Third, they attend to water quality issues and are committed to encouraging best practices on the part of agriculture and industry.

Four implications emerge from an analysis of the conversations with recreationalists. The first is that recreational activities add a great deal to Montana's local economies. Many of the changes in Montana's communities are a result of the recreational appeal of the river. Second, recreational interests are linked, often legally, to the missions and purposes of governmental agencies; thus, recreationalists are likely to partner with any agency looking out for the health of the river. The third implication is that recreationalists are willing and ready to collaborate with agriculturalists in order to solve mutual problems. The fourth implication is that recreationalists worry about pollution and other effects of industrial, municipal and residential activities. However, they recognize their loyalties and interests are often ironically splintered, and so they ready themselves to accept the complexities and difficulties of working to address all interests.

Residentialists: Residentialists are deeply committed to maintaining healthy wildlife populations and to high water quality standards. Yet, only a few of them are particularly well versed in explaining how the riparian areas contribute to each of these concerns. Rather, three different issues emerge as important when considering the residentialists'

perspectives. First, they are especially protective of their property rights. They value their privacy. While they generally acknowledge the public's right to be on the river, they express varying degrees of understanding for recreationalists who violate the "high water" designations. They mostly oppose recreationalists using their properties as if they are public access sites. Second, when asked if they worry that they might be flooded or that the river might erode the bank away, there is a sizable group of residentialists who agree that over time such possibilities are real but who also explain away these threats by saying, "Not In My Lifetime/Years." These residentialists were identified as NIMLYs. They are residentialists who view the river as mostly benign and who see no real threat to their properties. The third particular concern of residentialists is that they believe unchecked development near the river will eventually either ruin the privacies they have come to enjoy or force the sale of their homes as they will not be able to afford the subsequent increases in property taxes.

Four implications emerge from an analysis of the conversations with residentialists. The first is that residentialists are potentially strong allies when looking for individuals to support practices that will promote the health of the river and the riparian areas. However, at this point some are not well-enough informed to help. A second implication is that further residential development will decrease the informal paths that the public uses to access the river. Pressures will build for more public access sites. A third implication involves seemingly incompatible wishes. They appear to want a free-flowing river and the ability to protect private property. Given that the first wish is to some extent compromised every time the second wish is granted, it seems guidance is needed in the local communities regarding how to avoid further complicating matters with increasing riverfront developments. Finally, given that residentialists articulated so many different opinions and perspectives, it is apparent that every influx of new people and every new generation of adults will need to be educated and assisted in understanding the river, the management strategies, and the constraints of local governments.

Native Americans: There are three sets of concerns specific to Native Americans. They are concerned about pollution in the Yellowstone tributaries, especially as those problems are a function of faulty wastewater treatment facilities on the reservations. They are also concerned about the cultural separations occurring as each generation seems to be not only physically removed from the river, but spiritually removed as well. In some cases, these detachments from the Yellowstone River have caused tribes to relocate cultural practices onto the river's tributaries. The third set of concerns is articulated as vulnerabilities due to economic hardships and political problems that allow for unfortunate natural resource decisions.

Four implications are derived from discussions with Native Americans. The first is that the Yellowstone River should be managed according to holistic principles, those that include the entirety of the basin and its constituencies. Second, tribal communities should be given as much support as possible when dealing with problems that ultimately effect downstream water quality and quantity. Third, oral accounts of the river should be more fully gathered and incorporated into the official records of the river. And fourth, there are

many mutually-beneficial opportunities for partnerships between the interests of the Native Americans, other interest groups, and managers.

Exploring Additional Documents Concerning Interest Groups: Detailed analyses of each of the major interests groups overviewed above are provided in this volume as river-length summaries. Readers are encouraged to explore this volume further. The quotes used in each of the river-length summaries are used for illustrative purposes. They are taken from the detailed analysis found in other volumes of this work. For example, a quote identified as have been provided by a *Richland County Agriculturalist* would be found under the Agriculturalists Interest Group Analysis for the segment titled, Missouri River to Powder.

Key Discussions within Geographic Segments

Research data was collected by geographic segment from individuals representing each of the four interest groups, and segment-specific summaries are available for the purpose of describing how the four interest groups perspectives' co-exist within a particular geographic area. For instance, agriculturalists, local civic leaders, recreationalists and residentialists from the segment Missouri River to Powder River are compared and contrasted in the segment-specific summary for that area. The segment-specific summaries attempt to more holistically present the geographic communities by identifying the primary discussions or themes of discussion that are found across the groups from a particular geographic area. Those summaries are available in the companion documents (Parts I-V). Brief overviews of the segment-specific summaries are presented here.

Missouri River to Powder River: A review of the interview data for the segment, Missouri River to Powder River, suggests that people in this area engage in four primary discussions when asked about the Yellowstone River. First, the notion of Eastern Montana is not simply a geographic reference. It is a defining concept that captures the agricultural roots and the cultural values of the people living in the study segment, and the river is an essential element within their notion of Eastern Montana. Second, the river is discussed as a wholesome recreational outlet. However, shifting landownership is noted as an important change in the recreational context. Third, even though agricultural practices are viewed as the mainstay of the local economies, many participants discuss the long-term economic viability of their communities as a concern. Industrial and residential developments along the river's edge are seemingly remote possibilities and are generally discussed with references to flood plain restrictions and the stability of nearby dikes. Finally, discussions of managing the river are limited, but a variety of opinions are offered regarding bank erosion and stabilization techniques.

Powder River to Big Horn River: In the study segment, Powder River to Big Horn River, three conversations emerged across the four interest groups. The first conversation focuses on the "familiar way of life." The conversation exposes a local identity that is tied to agriculture and to traditional forms of recreation, such as hunting and fishing. When asked if the familiar management practices are sufficient in terms of sharing the

river's resources, some locals express concerns. The second conversation explicitly acknowledges that the demand for recreational access to the river's resources is in its infancy in terms of representing a problem. The third conversation focuses on controlling the river with rip-rap and dikes.

Big Horn River to Laurel: The study segment Big Horn to Laurel includes data from the people of one large county, Yellowstone County. Three themes dominate conversations with the four interest groups. One theme focuses on the evolving communities of Yellowstone County, most of which are influenced by the economic success and sheer growth of Billings. The second theme focuses on the evolving relationships that the people have with the river. While traditional agricultural activities continue in the county, many people discuss notions related to urban and residential experiences and how the river becomes an asset that improves one's quality of life as an urban dweller. The third theme involves a complex tangle of pressures and demands that require managerial strategies capable of dealing with a future that has arrived.

Laurel to Springdale: In the study segment, Laurel to Springdale, three themes emerge as dominant across the four interest groups. One theme focuses on the changing riverbank profile as more and more residential homes are built on the river's edge. The second theme focuses on the river as a powerful and dynamic physical entity. The third is about the changing social profiles of their communities and how those changes influence user practices.

Springdale to Gardiner: The segment Springdale to Gardiner essentially takes in the river as it flows through Park County. A review of the interview data for Park County suggests that people in this area engage in five primary discussions when asked about the Yellowstone River. First, they seldom speak only of the river, as they are likely to broaden the conversation to a discussion of the changes that are occurring in Paradise Valley. They see their valley as changing rapidly. Second, the floods of 1996 and 1997 left lasting impressions on the people of Park County. Even newcomers are aware of those events and of the devastations visited upon locals. Third, many people in Park County are vocal participants in public deliberations concerning the management of the river. The 1997-2003 Task Force created a legacy that continues to define discussions of the river and its resources. Fourth, then, are the particular topics that continue to generate discussions in the wake of the Task Force. These include debates about rip-rap, setbacks and Mill Creek. Finally, a set of observations emerge as the Park County residents both reflect on the Task Force and move forward. These observations are shaping community members' concerns about the river, the role of governing agencies and local commitments to future public processes.

Exploring Additional Documents Concerning Geographic Segments: Detailed analyses of each of the geographic segments overviewed above are provided in the other volumes of this work. Readers are encouraged to explore those volumes as a means of furthering their understandings of how the concerns of the four interests group together into local conversations about sharing the river.

Each of the other volumes is dedicated to a specific geographic segment of the river (i.e., Missouri River to Powder River) and each includes: 1) an explanatory summary of the primary points of concerns for the particular segment, 2) an outline of the textual materials gathered from agriculturalists for that particular segment, 3) an outline of the textual materials gathered from local civic leaders for that particular segment, 4) an outline of the textual materials gathered from recreationalists for that particular segment, and 5) an outline of the textual materials gathered from residentialists for that particular segment. The quotes used in each of the geographic segment summaries are used for illustrative purposes, and are taken from the detailed analyses that follow those summaries. For example, if a quote used in the summary for Missouri River to Powder was provided by a *Richland County Agriculturalist*, the quote will also be found under the Agriculturalists Interest Group Analysis for that segment.

Primary Implications of the Yellowstone River Cultural Inventory--2006

Of greatest clarity across all groups is this notion: the Yellowstone River is the single, most important natural resource of southern and eastern Montana. Other conclusions can be drawn, but they can easily be challenged by evidence that demonstrates not everyone agrees. Moreover, general conclusions can simplify topics in ways that do not allow for nuances of understandings to be illuminated. Thus, even though the comments offered in this section are based on some overriding observations, they are not meant to serve as summations of how the people feel; rather, they are an attempt to offer resource managers some sense of the challenges that lay ahead.

Bank Stabilization: Along the course of the Yellowstone River, from the confluence with the Missouri River to Gardiner, Montana, rip-rap is a well-known method of bank stabilization. Across all interest groups, it is understood as a generally effective option for protecting property. Objections are raised by some, and alternatives are promoted by a few, but it appears that only one set of concerns keeps the majority of property owners from rip-rapping their riverbanks, the costs associated with rip-rap projects.

Put simply, the costs associated with materials and placements are viewed as prohibitive by many landowners. Stories of owners spending hundreds of thousands of dollars are commonly passed along as examples of why people have not rip-rapped their banks. Enthusiasms are sometimes diminished by knowledge gained from having watched the river “take what it wants,” even when rip-rap was already in place. However, rip-rap is considered a worthy effort even by those who doubt its overall permanence as a solution.

Permitting processes are understood to be time-consuming and frustrating. More than a few property owners simply do not “want the hassle of dealing with so many agencies,” and it is only those owners who hire someone else to deal with the design specifications and permitting details who are not overly offended by such requirements. Participants from all walks of life grasp the notion that pushing the problem onto your neighbor is not acceptable, but many people either implicitly or explicitly suggest that so long as one has

enough money to pay for the appropriate “engineering,” such issues can be resolved. While the permitting process is understood by many as a means of protecting neighbor from neighbor, it is seen as an impediment mostly working against the not-so-wealthy land owner.

Recreationalists discuss the need to avoid channelizing the river, but the cumulative effects of bank stabilization efforts are not topics that generate much conversation. Agriculturalists want to keep their productive lands, and residentialists, many of whom ironically value the free-flowing character of the river, want to protect their homes. Given that real estate interests are certain to push for continued development of residential uses near the river, questions concerning cumulative effects are likely to be even more pertinent in the future. Park County serves as the example to the entire valley. After major flooding events in 1996 and 1997, the number of people willing to put resources in to rip-rap projects increased dramatically and that community has since gone through extensive public debates regarding bank stabilization methods and cumulative effects.

As a whole, the people of Park County are well-versed in explaining the arguments for, and against, the further use of rip-rap as a means of controlling the river. Unfortunately, Park County also illustrates that even though community members can become rather sophisticated in their abilities to discuss issues, they probably will not reach a consensus regarding the best courses of action. The prolonged discussions of the Park County Task Force demonstrate that when “best practices” are not the best option for each individual, consensus is probably impossible and voluntary adoptions are perhaps unlikely.

Many property owners accept limits designed to protect neighbor from neighbor. However, they are resentful of rules that appear to privilege the wealthy, require of them a less-than-effective means of protecting their personal property, or are constantly changing. Resources managers should anticipate that as more property owners feel compelled to control the river, either because they can afford to do so as preventative measures, or because they feel immediately threatened, pressures to approve bank stabilization projects will increase. Moreover, because best management practices are likely to change over time, even at the local level, efforts to establish consensus agreements regarding such practices are likely to fail.

Efforts to engender wide-spread voluntary adoption of best management practices might succeed if individuals are convinced their personal interests are very well served, but resource managers must anticipate the objections that will be voiced and must generate the information needed to convince private owners that their interests will be served by the best management practices being advocated at any given time.

Riparian Zone Understandings: Ideas about, and observations of, the riparian areas vary greatly. Surprisingly detailed inventories of animal life are offered by many as, apparently, people often keep journals of their observations. Some people record their observations on a daily basis and some as a matter of taking their annual river trip. Many are committed to “knowing” the particular birds, beavers, and even bears of their area. Residentialists, in particular, pay a great deal of attention to the wildlife and the seasonal

migrations of birds and waterfowl. Agriculturalists and recreationalists, too, can offer extensive inventories of river animals. In these ways, the animals of the riparian areas are fairly well accounted.

With regard to the plants of the riparian areas, many people explain that they feel a great affection for the cottonwood tress. Many people are also aware of and concerned about invasive weeds. Agriculturalists and civic leaders seem to be the most informed. They speak of cottonwood trees as bank stabilizers and they identify specific noxious weeds and the strategies for dealing with them. However, knowledge across community members is not uniform, and people commonly complain about land owners who seem to be oblivious to the problems caused by lack of weed management. More than a few are disgusted by land owners who purposefully introduce Russian olive trees onto the riverbanks, and they are disheartened to see stands of weeds on river islands. In general, though, the plants of the riparian areas are seemingly less engaging than the wildlife. It was rare to find an individual with a journal chronicling the plant life of a given stretch of river, suggesting that plants are mostly taken for granted. For instance, only a few individuals express concerns regarding the age of the cottonwood stands.

It is only a few individuals in each geographic area that speak at length of the riparian areas as more than habitat for plant and animal life. For instance, only a few people explain that riparian areas can filter undesirable chemicals and nutrients out of run-off or irrigation discharge waters. Likewise, only a few explain that flood regimes are important to cottonwood tree regeneration. A few people discuss the impacts of grazing animals on riverbanks, but they seldom articulate in any detail the ecological impacts, positive or negative, of sediment transport processes. Least of all, individuals speak of hydrologic and geomorphologic processes as important to the health of the river. Those who have spent a great deal of time near the river are aware that the river is “constantly working,” and they rather vaguely explain that such workings are valuable in that they are natural. They offer few explanations of what those particular “natural” values might be. Attention to water quality is widespread, and many are concerned about the sewage contamination caused by inadequate treatment facilities, such as in Gardiner and on the tributaries.

The above observations suggest that much work is needed in educating the people of the river about the various functions of riparian areas. It seems that good riparian practices are currently, at best, a matter of attention to habitat. Specifically, it would be beneficial to help more people see the connections between wildlife abundance, clean water and healthy riparian functions. If more people were versed in explaining the linkages between wildlife, the physical processes, the plant life and the functions of the riparian areas, it seems many would be willing to protect those functions. As discussed above, voluntary adoption of best management practices must be attached to individuals’ self-interests. When they are convinced a particular practice is linked to their personal interests, vocational or vested, they are more likely to adopt it.

Managing a Shared Resource: The details of management concerns vary greatly across interest groups and across geographical segments; however, there is an obvious majority that regards management as essential to the long-term health of the river and its

resources. Virtually everyone agrees that management of the river is complicated work. Their priorities vary according to their personal and vocational interests, but everyone knows they share the river with others and that not everyone will get everything they want when they want it. As tempting as it may have been to overstate their personal needs, it seems generally true that the people of the Yellowstone River promote balanced approaches as the most fair when managing the shared resources of the river.

One specific refrain comes through with great clarity when asked about how authorities should balance the needs of the various user groups. Namely, the people of the Yellowstone River believe in local control. Agriculturalists, local civic leaders, and residentialists all call for local control of the river's resources. They express a great deal of faith in local control as they view it as balanced control. They worry that state and federal authorities are not "in touch" with local needs, and many people, recreationalists included, view state and federal authorities as "slow to respond." Recreationalists are perhaps the most likely group to call on state and federal agencies to defend their interests. Yet, recreationalists are not without sympathies for local interests and are among the first to argue for a clear sense of balance in protecting the river's resources.

Some participants indicated that they could trust local officials not to meddle and not to forget the needs of the local community. It seems people are more willing to trust their neighbors to protect their interests. Perhaps they regard local control as essentially less rigorous. If it is difficult to imagine neighbors attempting to control one another, then might the calls for local control simply be understood as calls for no control.

Fortunately, even a brief review of the comments from local civic leaders convinces the most cynical reader that local leaders spend far too many hours listening to their various constituencies, and far too many hours juggling and sorting the many layers of local, state and federal guidelines, to allow a local focus to exclusively privilege any one group's interests. Local civic leaders are excellent examples. They sometimes feel trapped between local needs and official rules, but they are, indeed, dedicated to balanced approaches. Many locals, from all categories, understand their communities cannot afford detailed analyses of river issues, and they understand that other communities need similar types of information. Local civic leaders explain that good information is critical both in making decisions and in upholding unpopular rulings. They willingly admit that they depend on other entities to supply information, and they stress the need for an entity that can serve as a clearing house.

Thus, while many of the people of the Yellowstone River opt for local control, they want state and federal agencies to provide information and guidance. Members of all interest groups indicate that they would benefit from an organization that would gather, distill, organize and disseminate information that could be understood and put to use at the local level.

Readers are encouraged to further their understandings of the people of the Yellowstone River by reading the river-length interest group summaries and the geographically organized materials found in the companion reports.

Organization of the Companion Reports

River-Length Interest Group Summaries—As noted earlier, comparisons were made across interest group representative from different geographic segments. In this way river-length interest group summaries were written for agriculturalists, local civic leaders, recreationalists and residentialists. As well, a detailed report of the Native American perspectives was constructed from the interview transcripts. Those five river-length interest group summaries are found in the following sections of this (in hand) volume.

Part I: Missouri River to Powder River—This volume includes the geographic summary for Missouri River to Powder River and the four relevant interest group reports: agricultural, civic leader, recreational, and residential.

Part II: Powder River to Big Horn River—This volume includes the geographic summary for Powder River to Big Horn River and the four relevant interest group reports: agricultural, civic leader, recreational, and residential.

Part III: Big Horn River to Laurel—This volume includes the geographic summary for Big Horn River to Laurel and the four relevant interest group reports: agricultural, civic leader, recreational, and residential.

Part IV: Laurel to Springdale—This volume includes the geographic summary for Laurel to Springdale and the four relevant interest group reports: agricultural, civic leader, recreational, and residential.

Part V: Springdale to Gardiner—This volume includes the geographic summary for Springdale to the boundary with Yellowstone National Park and the four relevant interest group reports: agricultural, civic leader, recreational, and residential.

Agricultural Interest Group: River-Length Overview

Eighty-six interviews were conducted with individuals representing agricultural interests, including farmers and ranchers. Participants were recruited from referrals provided by the local Conservation Districts, the Yellowstone River Conservation District Council, and the Montana Office of Natural Resources Conservation Service.

Participants in Yellowstone River Cultural Inventory—2006						
	GEO SEG I: Missouri River to Powder River	GEO SEG II: Powder River to Big Horn River	GEO SEG III: Big Horn River to Laurel	GEO SEG IV: Laurel to Springdale	GEO SEG V: Springdale to Gardiner	TOTAL IN GROUP
AGRICULTURAL	22	22	16	12	14	86
CIVIC	14	14	18	14	8	68
RECREATIONAL	15	16	16	13	16	76
RESIDENTIAL	15	11	16	15	19	76
GEOGRAPHIC SEGMENT TOTAL	66	63	66	54	57	
NATIVE AMERICAN						7
PROJECT TOTAL						313

Agriculturalists: Analysis Table

River-Length Concerns Among Agriculturalists

1. Land is Valued for its Productivity
2. Rural Life Valued as a Way of Life
3. Owning Riverfront Land is Risky
4. The Big Neighbor (the State) is Difficult
5. Rip-rap is a Worthy but Temporary Solution

River-Length Diversities Among Agriculturalists

1. Development Impacts Agriculture
2. The Viability of Agriculture is Threatened
3. Recreational Activities Compete with Agriculture

River-Length Specific Concerns Among Agriculturalists

1. Weeds are a Problem and We Need Help
2. Regulating the Flood Plain is Problematic
3. Water Rights May Not Be Secure
4. More Reservoirs Might Help
5. The Future of Agriculture

River-Length Implications of Agriculturalists Analysis

1. The Pressures on Agriculture are Real
2. Partnerships with Agencies and Other Interest Groups are Needed
3. Yellowstone River Conservation District Council has Credibility

Agricultural Interest Group: River-Length Summary

Introduction

A review of the interview data for this river-length summary suggests that agriculturalists share five common sensibilities when discussing the Yellowstone River. First, the Yellowstone River is valued for the productivity it supports on lands bordering the river. The water of the Yellowstone River is, and has been, essential to the agricultural community.

Second, agriculturalists love the rural lifestyle, the river and Montana. They are neighbor-oriented and respectful of others' private property rights. Because of this sentiment, agriculturalists believe that other users, in particular the recreationalists, also need to respect private property rights.

Third, owning and working the land along the river is risky. The cycles and variability of flows complicate their financial security. Stewardship is considered imperative and difficult.

Fourth, all riverfront landowners share one common neighbor, the State—its water, its wildlife and its various publics. Farmers and ranchers are skeptical of the management choices of this seemingly wealthy and powerful neighbor.

Finally, rip-rap is considered a worthy, but temporary solution for flooding. Rip-rap does protect land if done correctly, but agriculturalists know it can be quickly undone by flooding and ice jams. In the past, rip-rap was a “do-it-yourself” project. However, it has become costly and it is difficult to attain the appropriate permits. Rip-rap is known to sometimes divert problems to other properties, a fact that can cause social difficulties among neighbors.

Despite clear commonalities, agriculturalists express dissimilar opinions and beliefs based on their unique situations and geographic locations. There are three important differences across the river segments. First, agriculturalists experience different pressures due to residential and industrial development, and the differences are mostly dependent on the activities in the immediate geographic areas. In two segments, Missouri River to Powder River, and Powder River to Big Horn River, there is little mention of development. In the Bighorn River to Laurel segment, Billings' urban sprawl is a prominent topic of conversation. In the Laurel to Springdale and Springdale to Gardiner segments, second homes and absentee owners are bringing different values to the valley.

The second major difference among agriculturalists involves the different threats that individuals see in terms of their viability as agriculturalists. In the eastern segments there

are concerns regarding increasing interests in water conservation. Some agriculturalists are converting from flood irrigation to pivot-head irrigation, and others are concerned about what possible regulations would require them to do. In the western segments, the dominant concerns are related to the reductions in available productive lands as new owners are disinclined to lease acreages for farm or ranch purposes. This transformation is coupled with dramatic increases in land values, property taxes, inheritance taxes and a myriad of daily inconveniences such as increased road traffic.

Third, there are different types and densities of recreational activities across the five segments, each having different effects on agriculturalists and their communities.

Beyond the common concerns and diversities of opinions, there are five issues that seem to be most particular to riverfront agriculturalists. The first issue involves an apparent lack of effort, or success, by authorities and neighbors to eradicate noxious weeds. Salt cedar, leafy spurge, Canadian thistle, Russian olive, and spotted knapweed are all named as problems, and farmers and ranchers are unanimously concerned that their weed problems will only get worse.

The second anxiety is related to the federal government's management of the flood plain. Many express fears about the creation of new regulations or restrictions on agricultural flood plain activity. Such regulations could affect the individual's productivity.

The third concern is over the security of water rights. Changes in local and state demographic profiles are viewed with trepidation as agriculturalists fear that water adjudications could be affected. Fourth, agriculturalists often discuss the importance of storing water, especially as a means of keeping water for use in Montana.

Finally, when taking all the issues into account, agriculturalists worry about the future of their livelihoods. At stake is far more than family incomes. Agriculturalists view the threats as potentially impacting their communities, their heritage, their culture and America's food supply.

Taken as a group, the perspectives and concerns voiced by agriculturalists suggest that particular issues must be taken into account, both in the near future and in on-going resource management strategies. It is apparent that the agricultural interest group views the various pressures to be real and threatening. It is also apparent that the agricultural interest group needs to develop new and more robust partnerships with agencies and other interest groups.

Finally, it appears the Yellowstone Conservation District Council can play an important role in achieving constructive working relationships with the private agricultural producers that border the Yellowstone River.

Common Concerns Among Agriculturalists

The following concerns are common among agriculturalists, regardless of where one meets the individual.

Land is Valued for its Productivity: Agriculturalists view the irrigation waters as essential to the productivity of their lands. They are also sensitive to losing fertile areas near the river.

That guy, across the river there, he's farming, he's planting corn, and he's just three-quarters of a mile from me. He lives next to the river, he's planting corn there and he's thinking of this river to get water out of it, to raise...[his crop]. And he's looking at it [as] production only. That's what his land is going to sell for, based on production. And my land values are different....My personal values are different....When you lose that production value, you lose a lot of drive, and then personal pride. You know, it's not lazy, but you lose a lot. (*Prairie County Agriculturalist*)

Recreation is important. But it has nothing whatever in value compared to the high yield land and the farm possibilities on that river. And then the power generation, too; that comes from the river. (*Custer County Agriculturalist*)

There are a lot of people that are buying land on the Yellowstone now, not so much, say, from Big Timber down, but from Big Timber up. A lot of them are buying the land and they're not doing anything with it. Either irrigating it or not much at all, letting it just go back to wild....It ties up a lot of land that used to be available for leases or for grazing or something like that. And it makes that much more competition for the land that is available to lease. And it drives the price up a lot. Sometimes it doesn't even pay to lease it. (*Stillwater County Agriculturalist*)

Some of the land we leveled ourselves. We have two scrapers and we leveled quite a bit of the land ourselves. By leveling the land and making the irrigation more efficient, it accomplished two things: the land became more productive and we were able to use much less water. (*Yellowstone County Agriculturalist*)

I'd say we've lost...about a half a section....I'll bet we've lost seven acres, at least, from that little pretty bottom area down there,...probably six acres. It was only aesthetically valuable; agriculturally it didn't cost anything. (*Park County Agriculturalist*)

Rural Life is Valued as a Way of Life: Agriculturalists embrace a rural life-style. They are neighbor-oriented, enjoy the quietude of rural life and are respectful of the privacy and property of others.

It's just beautiful. It's like a huge greenhouse, basically. You know everything is green, and everything is clean. You know, we really take pride in this valley. (*McKenzie Country, ND Agriculturalist*)

One thing we have...is an irrigation ditch association, so we're bonded all together on this ditch. And it's for everybody's benefit that things are done well and right. (*Rosebud County Agriculturalist*)

You've got to allow the owner of the land to do what is in his best interest and the land's best interest. And if you start stepping on that, then you're violating their property rights and their personal rights, and that isn't quite what this country was founded on. (*Yellowstone County Agriculturalist*)

I like it here....I never wanted to do anything besides be a farmer or rancher. (*Carbon County Agriculturalist*)

There is a relationship that forms working with the land. You learn to love it, and it becomes part of you. It becomes part of your character. It has some very formative influences on who you are. It becomes part of your soul. I think of the legacy and the heritage. Our kids understand that formative influence on their character. This place defines who they are. (*Park County Agriculturalist*)

Owning Riverfront Land is Risky: Agriculturalists are aware that owning and working the land along the river is risky and that they are not blessed with financial security. Stewardship is considered critical, yet the economies of agriculture do not allow for environmental altruisms:

I noticed that the river has probably come in 100 feet, and I've lost property down here. I have the river coming in, and it's sort of making another channel. It's taken quite a little property, the erosion. But I haven't got any qualms about that. I know living here that we're going to have to put up with some of that. (*Dawson County Agriculturalist*)

The erosion is a big one. You can't believe the erosion. I will take you right over to it over there. There is a house over here. We rented that piece of ground when I was in high school. That was 80 acres and there is maybe an acre left. That...[happened over] 40 years. (*Treasure County Agriculturalist*)

Agencies say the rip-rapping isn't worth the investment. But once a piece of productive land is gone, there's no revenue from it. It isn't just the revenue the farmer [lost]....[Farming] supports a lot of businesses in the community....It's a hard thing to figure. The land might have been worth \$1,500 to \$2,000 an acre....but when you figure the production over ten, 15, 20 years, it grosses a lot....And it takes hundreds of years to get it back. (*Yellowstone County Agriculturalist*)

I never know where my property line is at....The river takes a little every year. In real high water years, it's more aggressive. It takes fertile soil real fast....I'm not whining, I'm resigned....I've resigned myself to this in sadness. (*Stillwater County Agriculturalist*)

Some of the people have told me, 'You are never going to win against the river,' and I think that is probably true. As an agriculturalist, I don't deny that that is going to happen. Mother Nature is cruel, tough and hard. If I didn't do anything because I was afraid my crop would freeze or flood then nothing would get done. You gather up and do the best you can, and you might fail. She might cut you down. (*Park County Agriculturalist*)

The Big Neighbor (the State) is Difficult: Agriculturalists who own property along the river have a politically and financially powerful neighbor, the State of Montana. As compared to other agriculturalists, they must interact with far more agency personnel. The 310 bank stabilization permit process stands as a fitting example of the networks of persons, paperwork, regulations, and reports that must be navigated in order to do what previous generations of agricultural producers simply went out and did. For example, one agriculturalist counted interactions with 31 different agency persons in order to get approval of his bank stabilization permit. No one argued it is likely to get better in the future. Farmers and ranchers are skeptical of the management choices of this seemingly wealthy and powerful neighbor. Even those that participate in local groups, such as the Task Force in Park County are skeptical (see Part V for complete description of Task Force):

They fooled with the river...[when] they put the jetties in, and that stuff. You'd think now that they fooled with Mother Nature, somebody should be committed to keep it from washing....They should...[see] to it that it don't wash....If [the jetties] were put there, they should have been maintained....I've had it stuck in the back of my mind, but I don't know who a guy would see [to have it looked into]. The Corps of Engineers? (*McKenzie County, ND Agriculturalist*)

I do know that I consider the riverbed not mine, I consider the river not mine and I consider up to the high water mark not mine. Like when the water is running right now in the June rise, everything above that is mine, everything below that is the State's or [it's] Federal or [it's] the people's. (*Custer County Agriculturalist*)

I own this property, and the State owns that river. I understand that and I am perfectly fine with it. I can't go out in that river and mess around, because that is the State's. So, I think the State should have to keep that river off of my property, too. If I can't mess with the river, why can the river mess with me? (*Yellowstone County Agriculturalist*)

I've worried a time or two about some of these regulations that the government has on it to where you can't get some very simple things done in a timely fashion. By the time you wrestle with them, why, the condition has changed, or gotten

worse, or whatever. That would be one of the complaints:...by the time you deal with all these government agencies, you can get a little bit goofy, you know. And then you get disgusted, and then you get discouraged, and then you quit,...[and] just say, 'The hell with it. They're going to do what they want to do anyway'....But there's got to be communication. There's absolutely got to be communication. And you've got to have it from the engineer, and the hydrologist, and the old farmer/rancher, and grandma and grandpa, and everybody. And you got to talk about it, and discuss it, and see what you can come up with. That's just that simple. (*Stillwater County Agriculturalist*)

It's the people's river. So, that is what got me on the Task Force in the first place....If my dog goes over on the neighbor's, and causes difficulty, it is my responsibility. If that is the people's river, it is their responsibility to keep it within the bounds. (*Park County Agriculturalist*)

Rip-rap is a Worthy but Temporary Solution: The historical approach to living with the river was simple, don't build too close to the river. By keeping one's investment out of the flood plain, one minimized losses due to flooding. However, flood plains are used for productive purposes, and agriculturalists suffer real losses when their properties are washed away. Rip-rap is known among agriculturalists as a temporary solution for flooding. It protects land when correctly applied, but it can be quickly undone by flooding and ice jams. Rip-rap can also divert water to your neighbors' land. Rip-rap has become costly, and it is difficult to attain the appropriate permits:

I am not the expert, but I have lived here, and I have seen the river do some strange things. It may work for a few years if you do it right, but you could get a bad year, and it will wash it all out. (*Dawson County Agriculturalist*)

In my opinion, most of all the rip-rap projects...have been done wrong. It's because people have not taken the time to assess, 'What am I doing? What do I want this to look like? and What are the true reasons [why] I am doing this?' You know, if you analyze all those things before you go in there,...hopefully you'd come to the realization that you'd give the river some room, so that when it comes its day in June that it needs to go over the banks....It has...[somewhere] to go. You could stack the dirt up 40 feet high and just keep narrowing it up. Well, the river is going to rev up so fast that Jesus Christ himself couldn't stand on the bank and keep the bank from disappearing....I mean, we've just got to pay attention. (*Prairie County Agriculturalist*)

They rip-rapped the whole thing, and it...[sped] up the river [so] that it created a whole wet land where ever it wasn't rip-rapped you know, and it came out, and that's what the rip-rapping does. You know, before there was any of that, it had spread out a little bit everywhere and it would fill channels and fill sloughs along the way. And I think that filling those sloughs and the channels during high water is what helps to recharge the river in the wintertime. Because the river in the wintertime is lower than I've ever seen it last year. And it just seems like it keeps

getting lower. And I think a lot of that's due to those sloughs and things not getting filled from flooding. (*Stillwater County Agriculturalist*)

Water finds its own level, as you're well aware, and that's what the Yellowstone will do. If you stop it from meandering [in one] place, it's going to meander someplace else. (*Yellowstone County Agriculturalist*)

Some of it was rip-rapped before we came. I know it is a controversial thing. You rip-rap here, and the water hits it and sends it across the river, and it does more damage to the guy that lives next door. You are sending the problem further down the river. I am slowly learning that...[but when] you see your own land disappearing, it is hard. (*Park County Agriculturalist*)

Diversities of Opinions Among Agriculturalists

Among agriculturalists there are a number of topics that generate diverse opinions. These diversities can occur among immediate agricultural neighbors, but they are more likely to appear as differences along the length of the river.

Development Impacts Agriculture: The rise of professional economies brings new people to the Yellowstone River Valley, many of whom wish to locate their residences near the river. The resulting residential developments are relatively expensive investments that result in rising property values, in rising taxes and an increase in the total number of people that use the river. Some agriculturalists accept that the Yellowstone River valley is no longer hidden. It is no longer a secret to recreationalists, vacationers or second-home buyers. Agriculturalists also worry that these newcomers are simply drawn to the river's beauty and that they lack the necessary respect for the river and its capacities. As well, the newcomers often have little understanding of rural communities, practices, norms and agricultural operations. Almost all agriculturalists noted these different attitudes, values and beliefs that have arrived with the second-home owners, retirees and (often) former urbanites. Almost all are attempting to adjust. The different rates and types of development affect agricultural practices in distinct ways:

I just like living here. The best thing about this country is there's nobody here....It's just being able to do something without people around you all the time, you know. Like, when you're traveling, or in the cities, [and] you want to turn around but there's always a car coming, there's always someone. You get out on these roads, and go. You got to look, but it's just something not having someone watch you all the time, just being able to be a little more of a free spirit....It's just nice to be able to do what you want. You want to take a leak? You do whatever you want to do. (*McKenzie County, ND Agriculturalist*)

Our community is kind of dying. The high school has 30 students. The town is turning into a retirement community. There is nothing to keep the youth here. It is a typical Eastern Montana town. Hunting is getting to be a big deal. We are

getting a lot of non-agriculture people buying for hunting. It is hard to compete when you are trying to make the land pay. (*Treasure County Agriculturalist*)

Down around Columbus, you start getting into row crops, and corn, and beets, and into a lot more expensive land—a lot more productive land....We've got to protect some of that. Urban sprawl is taking that out. (*Yellowstone County Agriculturalist*)

It's changing rapidly....I was talking today to a man selling his ranch who has two offers on it right now. And I think that a lot of people don't realize how quickly it's changing....I think Montana needs to decide, do they want tourists?...Montanans need to sit down and decide the future of Montana, [and] plan it. What do they want it to be? Want it to be this? How do you keep it this way, or make it this way?...It's going the other way....[Montanan's have] got to be the author of the future. They've got the opportunity, now, because it hasn't been ruined like many places in America....Seize this opportunity, and do it together, work in a cooperative way, and work out the future. Well, that's a lot to say,...[and] hard to do. (*Sweet Grass County Agriculturalist*)

There used to be 65 or more different ranches in this valley. Now there are probably 15, and the population along the river here has increased dramatically. (*Park County Agriculturalist*)

The Viability of Agriculture is Threatened: There are various threats to the viability of agriculture that appear to be immediate:

In ten years, I foresee that irrigation will be different. There's going to be a lot more conservation as far as water. You're going to see a lot more pivots. I don't think you'll see this [flood] irrigation system like we have here. I really don't....If everybody had a pivot, and it worked, there would be no drains at all and there'd be very little water coming. I mean, there'd be a third of the water coming down that big canal. (*Richland County Agriculturalist*)

We are third and fourth generation. We are farmers and we are stewards of the land. We don't really want to give that up....People from other places come in and the land here is cheaper and a lot of places are getting bought up. People come to hobby farm, not to invest. It drives the prices up. The second, third and fourth generations are in jeopardy. It is financial. (*Rosebud County Agriculturalist*)

The prime agricultural land that's down along the Yellowstone...should be prioritized for protection. (*Yellowstone County Agriculturalist*)

I hate to see the way it's going up, not just up here, but when you get down to Billings, and it seems like Billings just keeps creeping west farther and farther, taking valuable farm land and really putting some people out of business just

because of zoning. And, all of the sudden, they were in agriculture trying to grow crops and they're having to pay taxes and you know they are a lot higher than they used to be, and they just can't afford it. (*Stillwater County Agriculturalist*)

We've become a minority anymore it seems, and it's pretty tough. We don't have near the money that these other organizations can put together, and some of these battles get kind of tough. I know that when that Task Force deal was going, there were things said....They said, 'Well, the ranchers are on the way out—deal with it' ...I guess we're not ready to hear that. (*Park County Agriculturalist*)

Recreational Activities Compete with Agriculture: New populations use and value the river differently than agriculturalists. These groups shift the cultural significance and meaning of the Yellowstone River away from historic production values. This evolution of the river's cultural meaning seemingly competes with agricultural values. Furthermore, various environmental and watershed organizations are seemingly successful in exercising political power. These organizations seem to promote non-production-oriented relationships with the river. The members of these organizations appear to invest financial resources and personal time in proactive efforts that influence policy decisions.

One agriculturalist noted the lack of participation by his peers and was shocked that “real estate people” were the ones participating in public forums and planning boards. Across the geographic segments of this study, agriculturalists offer somewhat divergent concerns regarding the degree to which recreational interests are considered competitive interests:

Occasionally, you'll see boats. That's always kind of a highlight when you're down there hanging out, to see a boat or a raft go by. You wave; they wave back. (*Prairie County Agriculturalist*)

I get a little pleasure watching people hunt and fish and enjoy themselves. [Maybe] get a deer or a big fish, or a big agate. It's kind of neat. We enjoy campers, too, because we'll go down there and pester them. Make them feed us. (*Custer County Agriculturalist*)

You can go to a Montana farmer and rancher, not to the New York boys or the Californians that have bought [land], but go to a Montana farmer or rancher, and you ask permission to go hunting or fishing, and nine times out of ten you're going to get that authorization. (*Yellowstone County Agriculturalist*)

Recreation is coming on faster and faster; every year there...[are] more boats. In fact, I wonder sometimes if it's going to get to where it has so many boats in some places that they'll have restrictions for motors, and it'll be just float boats. I think maybe in the future, something might happen like that, just because of the impact and the noise. I don't know if it will, but I look for something like that maybe to happen. (*Stillwater County Agriculturalist*)

We are almost a bedroom community to Bozeman. And, as fishing becomes more popular, we'll see 20, 30 boats go past here in a day at least. That's a lot. And fishing is [meant to help people] get away from crowds....[They] don't want to play bumper boats. (*Park County Agriculturalist*)

Specific Concerns Among Agriculturalists

The concerns identified here are, more or less, specific to this interest group. In most cases, the issues are linked directly to the vested interests of these individuals as agriculturalists.

Weeds Are a Problem and We Need Help: Invasive weed management needs to be a shared responsibility, involving upstream and downstream neighbors, as well as private and public entities. It must be given more priority as a problem:

This salt cedar, or Tamarisk, or whatever it is....You lose your willows when that stuff comes up. It's not a vegetation that's edible for wildlife or anything, so you're going to lose in every respect....And that's what's going to be some of our biggest problems in the next few years. (*Dawson County Agriculturalist*)

The salt cedar and stuff like that—I'm sure that I'm not the first one that's mentioned salt cedar. It's a big problem. It hasn't been, but it is now. You've got the Canadian thistle; you've got the knapweed. You've got everything coming down the river....It's getting down here and it's coming down the river. (*Rosebud County Agriculturalist*)

The County came out here, and they told us all these things we needed to do [about the weeds,]...or they can come out and spray it and charge me money. I told them, 'You go up to the head of the Yellowstone River and you kill all the knapweed and spurge down to me, and then I will kill mine, and then you can go on down there. Until then, there's nothing we can do about it.' I can...show you every place that river has ever overflowed—it just spreads them weeds, and that is exactly where the knapweed and spurge is. (*Yellowstone County Agriculturalist*)

I have to tell you, the first 20 years I spent a lot of time spraying but you never seem to get ahead. So the sheep we're putting in now will be eating the spurge. Frankly, the spurge beetles we put out in some parts of the ranch have gotten rid of 95 percent of the spurge; in other parts of the ranch, I can't tell that they've made any difference. And I'm sure it's just a difference in habitat. The island right across this channel right here, we can look at it when we get done, but this time of year there would just be a field of yellow with all the spurge. And we've put some beetles over there, and it got rid of 90 percent of it. I don't quite understand why it worked there and it doesn't other places. But bio controls make a huge difference. Not only that, they're really cheap. (*Sweet Grass County Agriculturalist*)

Weed control becomes an issue...because when the floods come, we get the weed seeds [coming from the National Park]. Even fishermen who use the river on a regular basis are bringing weeds along with them from wherever they have been. I would like to see the fishermen that park on the islands for lunch go pull weeds and share in the responsibility. (*Park County Agriculturalist*)

Regulating the Flood Plain is Problematic: Agriculturalists express a number of worries over governmental regulations related to the flood plain:

I've heard 'corridor,' ...and I don't know what the actual measurements would be. I've heard they want to establish a corridor five miles from the river in each direction where everything's protected. What a bunch of crap that is! That's what worries people. If they did that, they'd have control of this entire place, and you wouldn't be able to do anything. You hear of these Heritage River deals, where they come along and see a house that you can see from the river, 'Well, you've got to take it down.' They can really shut you down. I think that's what a lot of...[environmentalists] want. And, the really radical ones, they don't care if I'm here or not. They couldn't care less about me, or anybody like me. They'd like to see us gone, actually. They'd like to see a buffalo range, and me in a sustainable village doing something that the government mandates that I do. (*Dawson County Agriculturalist*)

When you...mention a river corridor, I think there's going to be a 'dam' police here. That's my honest opinion...I mean, if they put an interstate through here, well, the first thing they'd do is they'd get to put a highway patrolman here. I don't want you to think I'm an outlaw or anything, but that's what I think of. (*Prairie County Agriculturalist*)

As I understand it, they want to take land from the landowners along the river and make this river corridor. Let's say they have a corridor of a quarter-of-a-mile wide. That would take a good share of our productive land. I object to that. That's how we make our living. Then let's say the river continues in its wild, untamed fashion and it washes into that corridor....They'll want another quarter-of-a-mile. (*Yellowstone County Agriculturalist*)

[Concerning public access,]...the courts took our riverbank without compensation. (*Stillwater County Agriculturalist*)

I think the majority of the people would like to see more legislation or regulation along the river flood plain area. And I think that in this study the state conducted...they put a hell of a lot of land in the floodway and the flood plain. It encompassed a huge area, and I think that their numbers were jaded. They used a method of finding elevations, which I think was sort of arbitrary. I don't think it was scientific and accurate. I mean, we should be underneath the Yellowstone according to their maps, [but] we've never had water flowing through here. (*Park County Agriculturalist*)

Water Rights May Not Be Secure: As communities grow and change, water needs also change. New demands on the water resources suggest that the water rights of agriculturalists may not be secure:

It's used for barge traffic...[but] why should Montana lose [its] water when it's Montana's water to start with? There should be more control left to the states to control their own water. (*Dawson County Agriculturalist*)

With the water and the amount of people that there is anymore, we're more in jeopardy of losing our water rights, so we need to keep our water rights....A lot of your downstream people come up with some idea [that] this water is theirs, too. They pay taxes. They're a citizen of the U.S. We need to keep all of it here that we can, for development and agriculture and those types of things in Montana. (*Rosebud County Agriculturalist*)

Sure, they want our water. They need it for commerce downstream. And now we have the environmental sector,...the tree-huggers from back east, and the Fish and Game has gotten involved....And it's almost a sacred word, 'Don't touch our Yellowstone.' Well, wait a minute here. God put that water here for it to be used. (*Yellowstone County Agriculturalist*)

Being an Ag individual,...of course I'd want agriculture to have a priority. But I do know from when I was on a Conservation District, that drinking water comes first, then Ag water, which kind of makes sense, too. (*Stillwater County Agriculturalist*)

I think it's important to be able to continue to use the water from the Yellowstone. Our livelihood depends on our water rights from the Yellowstone River. That's a pretty important issue to me. Then I think keeping the wide-open spaces is important. Because without cropland, we'd be out of business here....Instead of mowing hay, we'd be mowing lawns. (*Park County Agriculturalist*)

More Reservoirs Might Help: Many agriculturalists bring up the idea of more water storage, especially as it could be done with reservoirs. While they seem to be generally in favor of the idea, many are certain such plans would not come to fruition and at least a few are not certain reservoirs would be especially helpful:

Down around Scotts Bluff and Mitchell...they irrigate out of reservoirs, but they were out of water. (*Richland County Agriculturalist*)

I think just keeping water back, like that Yellowtail Dam is the best....We've talked about putting in reservoirs...upstream to hold back some of this water....It's a good idea, everybody likes it, but it's who's going to stand the expense to put it in? We feel that it should be the Corps of Engineers, because they seem to have pretty much the say-so....I can't think of anybody who would

object, because we [would] have recreation on that reservoir—fishing, boating. (*Dawson County Agriculturalist*)

We have had a lot of flooding, but not in the last few years. It's been pretty good. Depends on how they operate that Yellowtail Dam....If they wait and release water when this Yellowstone is high,...it floods....Last time they did it, they flooded everything. They waited until June, which is our high water time anyway. And they opened that thing up. We lost a lot of crop. Water...sat out there for two weeks; not only that, but it changed the whole channel of this river completely....They never should have done it....They probably have caused more erosion than all the farmers could cause in the next 100 years. (*Rosebud County Agriculturalist*)

[In order to have a lot more water] you'd have to build a dam up in...Paradise Valley or somewhere up in there. And that is such a beautiful area, you'd hate to see that lost....I'd have a lot of misgivings in this day and time. At one time, I was real strong in favor of it. I think it is important for future generations. You know, I suppose that's as important as the land we irrigate now, [but] we already can overproduce what we sell. So, it's hard to say. (*Custer County Agriculturalist*)

I think it is too bad we can't divert it somehow, the high water, and put it to use. Once it leaves this state, it is gone. I think we could develop more agriculture if we had some diversion. I'm not sure how'd you do it. Maybe it would take a dam and that would be pretty hard to do anymore. (*Yellowstone County Agriculturalist*)

I think there will always be plenty of water in the Yellowstone until late in the fall. There will be some shortages that show up in the fall, for irrigation mainly. The river gets so low then that people have to pump and that is expensive. I don't think they will ever put a dam on the Yellowstone. I think there is too much public pressure. The only thing is, if they could divert some of the high water, and use it when the river is low. I don't know anybody that is in favor of a dam. (*Yellowstone County Agriculturalist*)

The dam is a way to control the water, but I personally don't want to see a dam on it, especially if it's up above me. If they're going to build one, then build her on down the way. Hopefully this place would remain an area that would benefit the wildlife, and we can get along without setting right on the river's bank, you know; we can live without doing that. (*Stillwater County Agriculturalist*)

I think there could be some small dams and things like that to slow the run-off, and maybe support some of the streams a little better. You know, the smaller streams. And I think that would help control a lot of it. (*Sweet Grass County Agriculturalist*)

I think there are some things that could be done, not particularly to the Yellowstone, but to the tributaries of the Yellowstone to conserve water so less water would need to be taken out of the Yellowstone. We have several streams on us, [and] if we were allowed to dam up the stream to build up a reservoir, ... there would be less water drawn from the Yellowstone. ... Most of [our] water would be [drawn from] the reservoirs [that] would fill up during run-off time. (*Park County Agriculturalist*)

We need some off-stream storage. We need to preserve some of this water. There's times when this river runs [very high]. And the climate is changing; we know that. And the run-off is coming a lot quicker than it used to. It used to be the river held up until August. As it is [now,] it starts to go way down in the first of May, June and July. (*Park County Agriculturalist*)

The Future of Agriculture: The agricultural way of life is more and more difficult to sustain. Impacts are felt from increasing residential and industrial development, rising property taxes, falling and instable commodity prices, increasing costs of equipment and fuel, and the rise of the recreational tourism, to name a few:

I've already told my son that he'll be going to college and that I'll be the last generation farmer. I won't put him through that. It's too tough, way too tough. I mean, you already see the decline of farmers. It's sad. ... I mean, unless something changes, ... you can't make it. You just can't. It's a struggle. ... We'll rent out. ... Some days, I wish that I wasn't here but there's that dedication thing in there. (*Richland County Agriculturalist*)

I think it's all going to be corporate-owned and tenant-farmed, that's what I think is going to happen. Because there is a lot of money out there, but it's not in agriculture. And these people coming in, buying this land, are not buying it with money they made in agriculture, unless they sold a place in California and bought some cheap land in Eastern Montana. It's an investment; it's not going to work to buy it and pay for it and stuff. (*Rosebud County Agriculturalist*)

The biggest problem that I think is going to be faced on the Yellowstone is ignorance of the natural process, and bad practices. They blame everything on the farmer and rancher. Well, there aren't many left. ... Those guys [still farming] are getting old, and they're selling off. (*Yellowstone County Agriculturalist*)

Land prices are going up all the time. It is tempting for people to sell. ... You can't buy the land and make it produce enough to make payments. That is changed in my lifetime. (*Sweet Grass County Agriculturalist*)

We've looked at our inputs, such as fertilizer and fuel going up a third or more in one year. That's a pretty big hit for a small business. We don't have anyone to pass that along to. Our prices are pretty much set. We sell at what the market

offers us. And in a business where the margins are pretty slim, it makes a big impact. I don't know how long Ag will be viable. (*Park County Agriculturalist*)

Implications of Agriculturalists' Perspectives

Taken as a group, the perspectives and concerns voiced by agriculturalists suggest that particular issues must be taken into account if resource management strategies are to be successful.

The Pressures on Agriculture are Real: Agriculturalists along the Yellowstone River face a challenging climate, changing social and political landscapes and a myriad of economic difficulties. They depend on the river for irrigation, but many agriculturalists are concerned that when they attend public meetings they feel horribly underrepresented. One participant was upset when applying for a rip-rap permit because he had to attend a series of public meetings. He expressed his frustration this way:

I don't want to be a public person. All I wanted to do is ranch and do my thing. I had no idea I would become a public figure. (*Park County Agriculturalist*).

There is a heritage among agriculturalists that promotes a spirit of independence, a commitment to individual rights and a desire to minimize regulations. This heritage is rooted in a historical context that more or less demanded such values. In particular, none of the homesteaders would have been successful if they had not embodied at least some of this spirit. Today, however, some agriculturalists recognize that those who wish to be self-reliant may, ironically, jeopardize that wish simply by exercising it. If agricultural interests are detached from recreational, municipal, and residential interests, by virtue of standing apart they may become victims of their self-reliance. A handful of agriculturalists have resigned themselves to this irony and are attempting to understand the common interests that are exposed at managerial forums.

Numerous agriculturalists noted that it is essential that agriculture's interests be represented in the public forums and decision-making bodies. To remain an active member of any citizen group is always challenging. Providing for one's family and actively maintaining a farm or ranch are full-time responsibilities making those agriculturalists who recognize the importance of involvement, and who are willing to be involved, invaluable to the community as a whole. The uncertainties of commodity prices, the rise of land prices, the accompanying increases in property taxes and the increasing costs of operation may not, in the long run, determine agriculture's viability. Rather, it may be a function of whether or not agriculturalists are actively and constructively involved in public managerial forums.

Partnerships with Agencies and Other Interest Groups are Needed: Large-scale agricultural operations along the Yellowstone River are advantageous to many constituencies beyond the agricultural community. A hayfield better supports riparian functions than a housing development. Recreational users prefer pastoral scenes, and residentialists regard the rural landscapes as the heart of the appeal when deciding to live

near the river. As well, agriculturalists have local and historical expertise from which resource managers can benefit. It seems, then, that a number of partnerships between agriculturalists and other constituencies would be forthcoming. Unfortunately, a great deal of mistrust exists among agriculturalists with regard to these other entities. These mistrusts must be addressed, both from the outside and from within the agricultural community if the interests of agriculturalists are to be protected.

It takes very few negative encounters between agriculturalists and agency personnel to severely damage the credibility of an entire governmental agency. Moreover, broadly held negative attitudes result when agriculturalists share the stories of this negative encounters. It matters little whether or not the agriculturalist telling the story was directly involved. Agency employees should make themselves aware of historic troubles, and they should assume that many agriculturalists distrust government. Every interaction is an opportunity to build a lasting relationship, but it may be that negative feelings are already at the base of that relationship. Also, agriculturalists' describe their approaches as based in common sense and economic feasibility. Yet, their comments suggest that agency personnel are not always successful in making technical information valuable. Information packets and presentations are often laden with jargon and sometimes seem completely irrelevant. When government-endorsed practices are costly, time intensive, and/or seemingly irrelevant, the likelihood of adoption is slim.

It is important that agriculturalists also attempt to remedy relationships with agency personnel. This is especially critical if agriculturalists hope to find agency support for programs and policies that contribute to the viability of the agricultural sector while protecting the broader resources. Agriculturalists should demonstrate their commitments to stewardship. They should look for and voluntarily adopt practices that protect the river's resources. By doing so, agriculturalists will build a positive base for partnering with the various agencies. The goal should be to establish mutual understandings of the biological resources, the economic realities, and the pragmatic limitations of managing and sharing the river.

In some areas, riverfront properties are becoming quite valuable. The ranches and farms of the river create sublime backdrops that entice many people to purchase land on the river. The enormous profitability of selling property for developmental purposes is in stark contrast to the virtual non-profitability of producing livestock or crops. Many agriculturalists are resigned to the idea that their retirements depend on the eventual selling of their properties. They only hope that they will not need to sell it all. For most, the anticipation of a handsome profit is little comfort for the cruel irony of their situation. Namely, riverfront agriculturalists survive only so long as they are willing to subsidize the sublime.

In some areas, developmental activities have advanced to the point that environmental and recreational groups now decry those activities. They appear to be ready to assist in the preservation of agricultural activities. Yet, little progress has been made in building partnerships. From the agriculturalist's perspective, the prospect of saving the farm for environmental or recreational groups is no more appealing than saving the farm for the

pleasure of the residentialist across the way. Furthermore, if saving agricultural lands means that the agriculturalist must forfeit the opportunity for a secure retirement the plan may as well be nonexistent for all of the support it will garner. A successful partnership between agriculture, recreation and environmental groups will need to be based on innovative programs that allow agriculturalists to maintain their lifestyles and that allow them to participate in and benefit from, the preserved value. Those who wish to preserve the sublime must not ask agriculturalists to subsidize the view, and agriculturalists should recognize that a guaranteed future is unlikely. Recreationalists may be willing to support creative programs that ensure against the riverbank being cluttered with houses, but the carpenters and plumbers who fish the river wonder, too, how they will afford retirement.

Yellowstone River Conservation District Council has Credibility: Agriculturalists express a growing need for educational resources, and they refer to the Yellowstone River Conservation District Council as a source with a great deal of credibility. The Council is positioned to act an informational source, a translator, a liaison and a sponsor of research activities.

A key effort would be to promote and further develop a river-length invasive weed management plan. Agriculturalists and many residentialists identified this as a high priority, especially in terms of leafy spurge and spotted knapweed. When upstream neighbors do not manage weeds, because of ignorance, disinterest or absence, the downstream landowner suffers. Many agriculturalists willingly put in time, effort and money into managing their weeds, and they have come to know which strategies are working and which are not. The Council could function as the clearinghouse for advice, innovations and best practices. It could identify impediments to full compliance and develop strategies for targeting negligent landowners. Simply providing a list of local advisors might be helpful. Unfortunately, many agriculturalists noted that areas of State land, especially islands, and Federal lands, such as Yellowstone National Park, are not managed for weed abatement. If the Council could function to demand better management of weed control on those lands, individual property owners might be more willing to engage in the prescribed best practices.

The Council should disseminate information about bank stabilization methods, permitting processes and flooding. Convention and convenience have convinced many agriculturalists that large and bulky rip-rap is the only means of effective bank stabilization. Alternative methods, such as weirs and bank sloping, have worked in some areas but are known to a very few people. Many agriculturalists view the permitting processes as an impediment only. It clearly prohibits the traditional do-it-yourself approach, and it seemingly introduces unreasonable costs. A few landowners discussed the need for better understandings among agriculturalists of the benefits of flooding. One agriculturalist wondered whether or not there were ways to encourage the benefits of flooding while preventing major damage. These discussions suggest the need for the Council to make a concerted effort to address concerns about the cumulative effects of bank stabilization projects and best management practices for living with a free-flowing river.

Agriculturalists expressed a need for better informational guides for newcomers and recreationalists. For newcomers to an area, they suggest such resources should include information about river safety, access points, high water demarcations, private property rights, local manners, and customs, flooding potentials and weed control responsibilities. They see a need for recreational maps to include information about access points, private property holdings, local conventions, codes and laws. The maps provided by Montana Afloat and in the BLM Floater Guide are good models but they are either incomplete or not widely distributed. The Council could publish a series of information guides that address the river as a whole and that include community-specific information. If communities or groups have already developed guides, the Council could assist in updating, refining and disseminating the information provided.

Finally, because the viability of agriculture and the management of the Yellowstone River are intertwined, the Council, among its many research agendas, should continue to sponsor activities that are meaningful to the agricultural community. Beyond research project that will help agriculturalists understand the physical processes of the river, the Council could investigate and provide guidance for understanding tax shields, open space programs, Farm Bill legislation, and water quality trading programs, and recreational revenue streams that have minimal impact on traditional agricultural activities. Agriculturalists trust the Council to understand their interests, and they trust the Council to promote innovative approaches that have a common sense base. It is worth noting that the Council stands apart from the greatest concerned voiced by agriculturalists:

There are too many people [who] are too far away from having a little dirt under their fingers from working the soil, and they just don't understand exactly what all of this is. (*Yellowstone County Agriculturalist*)

Local Civic Leaders: A River-Length Overview

Sixty-eight interviews were conducted with individuals holding civic leadership positions, including city mayors, city council members, county commissioners, flood plain managers, city/county planners, and water/wastewater treatment managers. Participants were identified through public records. In a few instances, individuals were identified as local leaders even though those communities have no formal local government.

Participants in Yellowstone River Cultural Inventory—2006						
	GEO SEG I: Missouri River to Powder River	GEO SEG II: Powder River to Big Horn River	GEO SEG III: Big Horn River to Laurel	GEO SEG IV: Laurel to Springdale	GEO SEG V: Springdale to Gardiner	TOTAL IN GROUP
AGRICULTURAL	22	22	16	12	14	86
CIVIC	14	14	18	14	8	68
RECREATIONAL	15	16	16	13	16	76
RESIDENTIAL	15	11	16	15	19	76
GEOGRAPHIC SEGMENT TOTAL	66	63	66	54	57	
NATIVE AMERICAN						7
PROJECT TOTAL						313

Local Civic Leaders: Analysis Table

River-Length Concerns Among Local Civic Leaders

1. The River is a Resource for the Community as a Whole
2. Good Information Helps
3. Local Needs are Various and Must be Balanced
4. The River provides Water but Can Threaten Health and Safety
5. Sympathies for Agriculture and Recreation

River-Length Diversities Among Local Civic Leaders

1. Valuing Private Property Rights and Public Rights
2. Local Economies and the Future
3. Managing for the Future
4. Help is Needed with Noxious Weeds

River-Length Specific Concerns Among Local Civic Leaders

1. Philosophies About Government
2. The Challenges of Local Citizenries
3. Connecting Local Government with State and Federal Entities
4. Flood Plains and Official Designations

River-Length Implications of Local Civic Leaders Analysis

1. There is a Need to Generate and Share Good Information
2. There is a Need to Help Local Officials with Complexities
3. With Limited Resources Everybody Will Not Get Everything They Want
4. Governance and Regulations Will Require Multiple Strategies and Coordination

Local Civic Leaders: A River-Length Analysis

Introduction

The local civic leaders interviewed for this project were a diverse group of individuals, and many of them could have served as excellent representatives for the other interest groups, meaning they often also had vested interests in agriculture, recreation and/or residential concerns.

Even though local civic leaders sometimes have particular personal interests, and even though they represented twelve different counties, a number of municipalities and a numerous unincorporated communities, a number of commonalities emerged from this group. Namely, these local leaders view the river as a shared resource that provides broad benefits to their communities. As well, they are more comfortable making decisions when they feel well informed, in particular because they struggle to balance the various needs that are presented locally. They especially value the river a source of drinking water, but they are aware that the river presents dangers. Finally, they express sympathies for both agricultural and recreational interest groups.

In other ways, they expressed a diversity of opinions, both within and across geographic segments. Diverging opinions are found when looking at comments concerning private and public rights, local economies, managing for the future, and problems associated with noxious weeds.

There are particular points of discussion that seem to carry great weight for these individuals as they work to fulfill official duties. Conversations often turn to philosophies about governing, the challenges of local citizenries, the best ways to connect with state and federal entities and concerns about flood plain maps and official evaluations of local dikes.

Finally, discussions with local civic leaders offer four implications for the future. First, there is a need to generate and share good information at the local level. Second, there is need to help local officials with the complexities of holistic management, especially new officials. Third, with limited resources and growing demands, it is obvious that not everyone will have everything they want. Finally, governance via rules and regulations will require multiple strategies and careful coordination across the various entities and agencies involved.

The following sections explain the commonalities, the diversities, the particular points of concern and some of the implications of their comments.

Common Concerns Among Local Civic Leaders

The following concerns are common among local civic leaders, regardless of where one meets the individual.

The River is a Resource for the Community as a Whole: Among local civic leaders there is an expressed commitment to the river as a shared resource, to which various groups have rights, and from which their communities prosper:

The Yellowstone was very influential with settlers being in the area initially. Some large cattle and sheep ranches [were established]. Then the railroad went from the western border to the eastern border of Montana. I would say the Yellowstone might be the single most important entity for establishing Glendive, and [it is still] the reason [Glendive] is here today. A lot of small communities have dried up and gone away. Glendive continues to be a lifeline in Eastern Montana because of the river. (*Dawson County Public Official*)

From our standpoint as commissioners, the [river provides] economic benefits for the local area....[It] provides irrigation for the farmers....It brings...the hunting and fishing people...[and it serves] our own recreational uses. (*Rosebud County Public Official*)

If you follow the valleys down, you'll find that throughout Eastern Montana...the vast majority of the economy is within the boundaries of that river....And it's not a whole lot of land....[And] the water that the City of Billings takes from the river,...there would be no growth potential if they couldn't do that. (*Yellowstone County Local Civic Leader*)

More than anything else, I think...we live in a society that creates a lot of pressure and tension. People work 24/7, almost just to try and make ends meet, and they need a way to get away. Right down here [at our park,]...all summer long, you will see people there come in just to get away and replenish the soul. I just feel as long as you set reasonable policies I think you can let people have access to even your smaller tributary areas that feed the Yellowstone. (*Stillwater County Local Civic Leader*)

As anywhere, [we have] a very complex stew of interests. I think the County Commission that has a lot of power that they are reluctant to use because [they are] balancing interests. I think you've got some fairly enlightened folks on the County Commission. I think that they're only now gaining enough confidence as a commission to take steps to protect the river. (*Park County Local Civic Leader*)

Good Information Helps: It is evident that local civic leaders consider good information important, both in making decisions and in helping others in their communities understand the decisions that are made:

Erosion is constant....The problem is, if [we address erosion] here, we're affecting everything downstream. They have learned that...small changes on this river cause major changes downstream....We have a bridge out here that [the river] flowed straight through the piers. It now flows [parallel] to the bridge. Minor changes have had major effects on that river....You can't control this river....One year, this guy lost 600 feet of agriculture land. (*Dawson County Public Official*)

We can always use examples of strategies that have proven to be successful in an area that is not that different from the area where we live. An example is the National Main Street Program....Miles City can look at a database of communities that have made these changes, and what the challenges were, and how they overcame those challenges. [The Yellowstone River Conservation District Council] could give us some models as to how we can manage the bottomland of the Yellowstone. How do we zone the area around the river so it is preserved for the kinds of activities that are most important to us, like Ag and recreation, [with] security against flooding, and [protection for] wildlife and fishery habitat?...[We need] some set of priorities that the [local community] can then start working on incrementally. (*Custer County Public Official*)

Once I explained... 'Hey this fishery is the best thing that could happen to you....You're downstream of the need to have 2000 CFS in the [Big Horn River] for the fishery. So, don't cuss at those trout, because that's the best thing you could have. Now you've got the fishery people on your side....They don't care that much whether you're taking the water as long as it gets past Two Leggings [drainage]—the end of the blue ribbon stretch is in there.' And once they figure that out, they liked that idea. (*Yellowstone County Local Civic Leader*)

I think the flood plain is...expansive along the Yellowstone....We've got maps that would show that, and it's all elevation relative to high water mark that occurs over so many years back. I think we probably depend heavily on the State for that information, so we would have maps. (*Stillwater County Local Civic Leader*)

Our old maps are terrible to use and the new maps, with elevations and overlays on aerial photos, are so wonderful to use. What little we have been able to use them has been very helpful....[The maps] have to be accepted by the commissioners, and then they go to DNRC,...then to FEMA, and then they have to review and put them on a rate map to drive the flood insurance. Some of the meetings that are scheduled for approval are [scheduled] for 2008....It has gotten political. They have talked about moving the flood plain and it is a big financial burden on those people. (*Park County Local Civic Leader*)

Local Needs are Various and Must be Balanced: Local leaders and officials are aware of the various needs of their communities' members. They also explain that, often not everyone will be fully accommodated and that they must attempt to balance a variety of local demands:

In our community, where everybody knows everybody, they know someone that has access somewhere. If they don't, there are public access sites. I have never heard of anybody complaining that they were denied access to the river. (*Dawson County Public Official*)

Rather than a flat 500-foot setback, there's usually an identifiable meander channel where the river wiggles back and forth over time. And that could be the no-build zone....[The no-build zone] would depend on the topography. We have some steep hills coming up to the river's edge, and there is no meander channel....[We could be] flexible...based on some criteria. (*Custer County Public Official*)

There is a critical balance....It would be ticklish....Those who are really sensitive to the water [rights] would have some immediate red flags....It is a critical balance that we have right now....It is a real touchy balance. (*Yellowstone County Local Civic Leader*)

Irrigation in this county is a huge deal. From the county's perspective, we are trying to construct facilities that are safe for the river, in terms of fish habitat, etc., but [also] trying to protect the agriculture users. They are a huge part of this community. Some people say they don't care about Ag, they care about the 'viability of the river.' Once you get past the base minimum standards, those are local decisions. I think a locality can choose to be more protective....I understand that can be messy, but I can't think of anything that isn't [messy] when you are doing grassroots planning. You can't exist in a vacuum and say that it has no effect on anyone else. You can't say that with the Yellowstone. You can't have this over-arching 'We know what is best for you.' (*Sweet Grass County Local Civic Leader*)

It takes some persuasion and education in terms of the public. The public is so used to thinking of the river as being something you need protection from and I think we need to understand that it is a dynamic resource, and we need to learn to live with that dynamism in a way that doesn't degrade the river in terms of fish productivity,...aesthetics,...natural functions...[or] seasonal changes. (*Park County Local Civic Leader*)

The River Provides Water But Can Threaten Health and Safety: Local civic leaders are especially aware of the importance of water for human health needs, but they also regard the river environs as areas that potentially pose risks to the safety of their local citizenry:

It's difficult to save people from themselves, so I think that one of the most important things a governmental entity has to do is persuade rather than demand. And I think that's where the involvement in the decision making process is critical....You have to be open and receptive to public comment—you have to be empathetic without necessarily having to agree. And I think in the instances when we don't agree, you have to convey [that you are] understanding without necessarily being in agreement....The Corps, in the past, has not been as sensitive as they might have been in terms of conveying to the public that they are listening, not necessarily agreeing....[With] set-backs, you're trying to save people from themselves—it's a very hard sell. (*Park County Local Civic Leader*)

We draw millions of gallons of water out of the river daily. It is our lifeline for the city....We are probably one of the only communities that take water directly out of the river, and we don't worry about getting sick. (*Dawson County Public Official*)

There's disagreement among hydrologists [about] whether that [1918 flood] was the 100-year flood or the 500-year flood. If it was the 100-year flood, we're due for it again. I have a picture of the [1918] owner in a boat on the front porch [of my house] so that really pretty much took care of everything in town. Everything was flooded. (*Rosebud County Local Civic Leader*)

[Billings takes] about 24 million gallons a day, peaking at over 50 million in the summer and down to about 15 to 16 million in the winter....We aren't even a pipsqueak compared to irrigators....We return 75 percent of it to the river [and] another 10 to 15 percent is returning to the aquifer. Ok, so we've evapotranspired 15 percent, but we've gained great things from that. (*Yellowstone County Local Civic Leader*)

The river is not safe [for human consumption] as it is. We remove all the fine particles, all the bacteria, and the viruses that are harmful....We improve its potability in the sense of its aesthetic quality to users. It's clear; it has a good quality taste....People find it pleasant....There's lots of water that's safe drinking water but not potable. The [Yellowstone River] is a good quality source. It's a bicarbonate water. We're pretty far up the watershed. There's only a minimal amount of interference from man, but enough that it wouldn't be safe for anybody to drink as it comes down the river. (*Yellowstone County Local Civic Leader*)

One of our obligations is to keep the roads and bridges open, and that would be for emergency services primarily but also for...school buses. (*Stillwater County Local Civic Leader*)

What shakes out first is public health and safety. I would say you are balancing those other factors. Beyond public health and safety, I wouldn't give a number to any of the others. I am not suggesting that if an irrigation project required rip-rap [that you shouldn't do it]....You look at the pros and cons in any kind of planning

[and] I think you are looking at a potential for impacts and how they can be mitigated, rather than a choice of either/or. It is a balancing act. (*Sweet Grass County Local Civic Leader*)

With respect to the river, I am not panicked about the river in the next ten years. I feel pretty good about where we are going with the Corps of Engineer's works and that they will come up with some measures that will prevent big floods. I have also lived around rivers enough to know that sometimes a river will just jump. Unless you have 14-foot flood retaining walls, there may come a time,...despite the best efforts,...[when the river] will jump. That is somewhat incumbent on living by a river. I certainly realize it is something that we may have to go through. (*Park County Local Civic Leader*)

Sympathies for Agriculture and Recreation: In general, even though many local officials view agriculture as economically important and a foundation of their communities, they also view recreational activities as important. They appear to have sympathies for both:

It is the 'too' country—too dry, too wet, too windy, too cold, too hot. It is always too much of something. We never have an average year. We have averages on the Internet that will tell you, 'Wow, that is a pretty nice average temperature,' but you will never see that temperature. I guess it is an extreme country. It has a lot of extremes. (*Prairie County Public Official*)

The river is very wide at this end because it's the end of the river. That's just what it is. I mean, it's over a mile wide down here...if you went all the way across. (*McKenzie County, ND Public Official*)

This is an agricultural valley. There are many crops grown here [like] grains, and sugar beets; sugar beets are a prominent crop. When you get away from the river valley, it goes to cattle...If there was not the river, we would not have irrigation; if there was not irrigation, we would not have sugar beets, spring wheat, winter wheat, [or] any of the crops that...[are] in abundance along the river valley. (*Treasure County Public Official*)

I know a lot of people who will go down and do recreation on the river. A lot of people fish on the river....It gives people an opportunity to get away from the everyday stress and just go sit at the river banks without having to drive a long distance. (*Richland County Public Official*)

The river helps make a nice community, with the trees and stuff. That is probably why I moved to Miles City. I was real hesitant to come until I got here and saw what they had to offer. I fished on it for a number of years. I know that, without the Yellowstone and the Tongue coming from the other direction, the recreation would be very sparse. (*Custer County Local Civic Leader*)

I know what the most important aspect[s] now...[are] agriculture [and] irrigation. But, I think the tourist attraction of [the river] as a natural, scenic resource will become more important over time...[Recreation] should have equal importance to agriculture. It is a tremendously diverse riparian ecosystem along the river. It has historical and cultural significance. It is beautiful. So, people will pay to come and use it, to see it, or they will consider lifestyle changes that involve the fact there is an undammed river nearby that they can appreciate and see. (*Yellowstone County Local Civic Leader*)

I don't think agriculture should have priority on the river. I think at best...[agriculture] should...be on par with recreation. Agriculture, you know, feels they have a right to the river, and no matter how hot the water gets, or how low it gets, they figure they got the right to what's left and to hell with the fish, to hell with everybody else, to hell with the whole living system around it. And I don't agree with that...You'll see it later this year, as the heat continues...It will stress everything along the river,...from deer to muskrats. (*Yellowstone County Local Civic Leader*)

[We] try to protect the people that have been here with their agriculture. You know, irrigation ditches. Things that have been there will be there. And [we] try to make sure that nothing infringes on that. (*Carbon County Local Civic Leader*)

I think even the people that live in Billings and [in] Yellowstone County to the east consider us their playground, which is fine. If I lived over there, I'd want to come over here, too. (*Stillwater County Local Civic Leader*)

When I was a kid, agriculture, and particularly livestock, was far and away what everybody was engaged in. They were all working farms and ranches. Recreation was interesting, but it was way down there [in terms of economic importance]. Now everybody that has any land out there has either sold it or is waiting to sell it. [There is] hardly any livestock...A lot of ranches exist in name, and maybe in area, but they are purchased by absentee owners or part-timers, and they don't have any interest in livestock. It has been a whole different slant on the vegetative and ecological part...The farm ground is worth so much...they can't afford to not sell. (*Park County Local Civic Leader*)

It is easy to describe because people have a picture of what Yellowstone Park is even if they have never been there. I describe it as an extension of Yellowstone [Park]. You attach things like the fishing culture, the hiking, the outdoor mountain recreation. I don't think anyone gets a sense until they have been there. (*Park County Local Civic Leader*)

Diversities of Opinions Among Local Civic Leaders

Among local civic leaders there are a number of topics that generate diverse opinions. These diversities can occur among immediate neighbors, but they can also appear as differences along the length of the river.

Valuing Private Property Rights and Public Rights: It is generally understood among local leaders and officials that they must deal with the tensions generated between private property rights and public rights. Each will express a commitment to not over-reaching on behalf of the public, but within and across geographic segments these individuals place varying emphases on private rights:

As far as a residential house, if the guy wants to build it there, ok, it's his land. Build it. But I don't think he should be allowed to say, 'I'm going to armor the riverbank'[And], like I said, nobody does that around here, because it floods. But, I know that further up the river that's done all the time, and [on the] lower river too. You go down below Bismarck, North Dakota [and] there are a lot of big homes built right on the river. And they're all rock and everything....It's beautiful. But let's say something happens, and it washes...[those] people away. Then, to me, too bad. I mean, that's the way we should look at it. (*McKenzie County, ND Public Official*)

The people that come off the ranch, and have had a great deal of latitude in terms of what they can do on the ranch...learn first-hand the statutes that control the city zoning and planning decisions....[Some of them] go ballistic or feel some real indignity....Part of the attitude is rooted in the economic scarcity [that] people who have lived here for generations [endured]....The good times come around so seldom and [people think] 'Let's make hay while the sun shines.' (*Custer County Public Official*)

You know, the Constitution of the United States, with its Bill of Rights, as well as the Montana Constitution, absolutely lists as an inalienable right your right to property, both personal and real. And you should be able to develop that to the highest and best use. The biggest problem that we get into then is the responsibility of the property owner....It was absolutely wrong for people to develop their copper at the expense of everybody else's environment. That was wrong. It is wrong today for somebody to build a house that is inappropriate and...destroys other people's values. So the balance between our right to own a piece of property, and to develop that piece of property as we see fit, either for our own aesthetic value or market value,...between all of those bundles of rights and the responsibility of a good citizen, as a neighbor...that's where, I guess, government and rules and regulations and so on come in....What is responsible in my opinion may differ from your opinion....Refereeing the property rights [is important, but,]...without a question, we're going to defend private property rights....People should be able to hone that property and invest and make money

in it, or sell it, or whatever. But there is a responsibility that goes with that ownership. (*Yellowstone County Local Civic Leader*)

Oh, yeah, sure we can [have management]. You know, private property rights are hard to...step on,...but there's sometimes when, maybe, you have to do something, or [you have to] mitigate,...or hope, or give them a carrot, or whatever. (*Carbon County Local Civic Leader*)

If you get flooded out and lose your home, why would you rebuild there? Because it only happens every 100 years? Can you get insurance? No. I do think that if you are going to take the risk, *you* should do it....As long as you handle your sewage properly, and you know that you can't get insurance, and the Feds aren't going to have to bail you out, if you want to do it and it isn't hurting anybody else, you can do it and take the risk. That is what our country is built on—...people that were risk takers....Your home is your castle. You should be able to do that. (*Stillwater County Local Civic Leader*)

Public safety has to be number one. Number two is probably...protection of property rights....I would put a high premium on property rights. (*Sweet Grass County Local Civic Leader*)

There's a culture of property rights and courts and so I think that the County Commission is certainly faced with a difficult balancing act in making decisions regarding things like set-backs. (*Park County Local Civic Leader*)

It's a real tussle sometimes between property rights and community values and who owns community resources. The river, like it or not, is fundamentally and primarily a community resource with very private sector edges, and that dynamic is not going to go away. The problems there and the conflicts are only going to intensify....I saw a really different dynamic when I worked in Colorado....They don't have the stream access law that we do....At least [in Montana]...there's a little bit more power held by the public than there would be in other places. The problem is how do you mobilize the public support for valuing the public aspects of this resource. I think there's not that realization that things could be different. And people have always lived within this environment in terms of river ownership, the public ownership of river rights, not understanding that it's not the common situation, it's very exceptional. (*Park County Local Civic Leader*)

Local Economies and the Future: Perhaps the greatest diversity of thought that is traced to the geographic segments is in terms of the local civic leaders' thoughts regarding the economic futures of their communities:

I think the main goal of this area would be [to] keep the river usage as it was, as we've been using it. I think it should remain for the agricultural part, you know, the irrigation part. I think the recreational part has been used for years and years, and I think it should remain that way. I don't want to see controls put on the river

by any government department...I don't want to see them trying to change the river...for something frivolous. I mean, if it was something that was going to destroy a water intake system, I think that's something that's legitimate....[It] should be protected, because it effects a lot of people, like in a city....Other than that, I hope people come and enjoy the river,...[that they] realize when it's private property to visit with the owners of the land, and try to be...good stewards.
(*McKenzie County, ND Public Official*)

I think that the energy thing is our biggest asset....The environmentalists and the...people [in power] need to get together and have a program where we have a safe removal of the coalbed methane. That is a big controversy, and they can't be bull-headed because it is a big asset to our community....Eastern Montana has ten percent of the coal reserve. And we have got to develop it, but we have to be environmentally friendly, within reason, and that is all I can ever see that really can help Glendive grow. (*Dawson County Public Official*)

People are becoming older [and there are] more retirees. I think this would be a fair statement. We've already seen [this happen in] the community of Hysham.
(*Treasure County Public Official*)

As a city council member [in Forsyth], one of my concerns is to encourage different businesses that would hold our kids, where they could go to [college] and come back and have something to work for. Right now, there's nothing.
(*Rosebud County Public Official*)

There's quite a bit of money spent by hunters in town here. You always see them in town at noon. They stay overnight at the motels, they stop in at the Friendly Corner, down here and buy stuff. Quite a bit of money gets spent here because of them. (*Treasure County Public Official*)

Priorities have been lopsided towards the environmentalists and communities have not been considered....I think [the] conservationists,...[who] are already doing things as far as the land [goes],...get penalized and shut out because it doesn't quite suit some environmentalists...[who] don't have a clue what it's like out here. (*Custer County Public Official*)

A lot of people from this area see the river as a recreational resource....Sometimes that can take precedence over a real good logical use of the river. (*Custer County Public Official*)

Those who are interested in the future of this urban area should be interested in the calling cards to the area, one of which is the river. If you allow a few to own it, you've lost that calling card. Would it suffice for the ecosystem if it were a park? Absolutely it would, because it's a huge area. Riverfront Park is a pretty good example. It needs a lot more extensions. You can go to many cities, Boise is a good example...and fair amounts of Missoula's Clark Fork are in public

ownership....Their urban area is right on top of it....The Yellowstone is a beautiful possibility for an open wildlife corridor. (*Yellowstone County Local Civic Leader*)

I think we're going to see a lot of change because we have endless amounts of subdivisions going in. That brings a lot of problems with it. And they're wonderful people. We have doctors, and veterinarians, and all kinds of people living out in the hills here. They just want to be left alone, but they're going to get terribly bored after a couple of years. And we just wait for that, so we can put them to work as a volunteer. They're really wonderful people. (*Stillwater County Local Civic Leader*)

It's very special to have this river here, and, of course, we want to protect it. We want to make sure that any housing developments follow the DEQ rules, [especially] septic should be placed according to DEQ. I guess I don't believe in setbacks. I think the property owners have the right to be as close to the river as they want, without damaging the river. If they do not damage the river, I think it's their property line. (*Stillwater County Local Civic Leader*)

People come out to Montana and they are enthralled by the views and the attitudes of the people and...they settle in here and they want to have it all, but by some of their actions they are responsible for destroying the things that they admire....They want their big castle back in the trees, or up on a ridge, or right next to the river. They have destroyed what made it beautiful....The wide open spaces aren't wide open anymore. (*Park County Local Civic Leader*)

It's changing....There...[are] a lot more houses than there used to be....It is just a reflection of the whole transition from an agricultural based economy...to a tourist and recreation area. (*Park County Local Civic Leader*)

We have CEOs from big companies...that fly in with their jets and helicopters. They will spend a day, or a few days, and then they are out of here. The rest of the year, we are taking care of it. We worry about weeds and roads...[while] they have one little ranch manager whose authority is limited to keeping people out....We don't want to be a rich man's Disneyland. They come, they go....We are trying to maintain something and still be progressive. (*Park County Local Civic Leader*)

The land prices are high, at least agricultural lands. It's being influenced by recreational ranch buyers. (*Park County Local Civic Leader*)

Managing for the Future: Local civic leaders are fairly consistent in arguing that local control is better than Federal, or even State, control. Yet, the call for local control is generally outmatched by comments that acknowledge Federal and State standards as the primary means for protecting communities from unnecessary expenses and for protecting the future of the river's resources. A great deal of emphasis is placed on the need to

accept the river as a dynamic and changing entity that requires respect if one intends to manage for the future. Comments suggest that at least some officials attempt to anticipate problems before they are unmanageable and that they attempt to work with groups to help them understand future implications of personal actions:

There are already rules by FEMA that say you have to buy flood plain insurance, which means you have to abide by their rules. Enforcement of [the rules] is something important that you have to do. Pierre, South Dakota is a great example in that they let a subdivision build in a flood plain, [and later it] cost...millions of dollars to buy out 300 homes. In Billings, they just kicked some people off the flood plain. It is for the saving of dollars and lives. (*Dawson County Public Official*)

Anybody that lives along the river has to have problems with bank erosion. Five years ago, there used to be one of the best cornfields in the whole area, upstream about five miles...[Then the] river took one of its classic loops way off to the other side...[and] it went right through the middle of that cornfield. It took out 40 acres of that field and abandoned 120 acres where it had run before. And [now] if you look at that abandoned section, occasionally in high water [the river] will move through there, but there are young trees in there, and there's shrubs and bushes....So, as the river moves, it both creates and destroys, as it has always done....I happen to be a fan of wild rivers. I hate to see people lose their homes, and I have a certain amount of sympathy for a home that has been standing for 100 years,...but the river changes....I think a person should be able to protect their property, but I am absolutely opposed to new construction in the flood plain. That's an accident waiting to happen....That is eminently foolish. (*Rosebud County Public Official*)

What's the cumulative effect [of development] on the underground aquifers?...I don't think it is as big an impact as people are trying to make it to be....I think we have plenty of water. It snows like heck every time, and we [have] water coming down the Yellowstone....And if you read in Genesis, God set the whole thing up to where the river comes down, [and] evaporates, and the salt sea is almost a purifier....Now, that's a pretty good ventilation system that He developed. And that's here in Montana. Now we are running through some droughts, and you can get into global warming....But what I see in Montana is, we've got lots of water. We are not going to run out of water unless there is this global shift that changes things. (*Yellowstone County Local Civic Leader*)

People will tell you they need the access, but that's usually too late because they realize that their access is being blocked. I think [it helps] bringing in somebody that has some experience in another place...[and make judgments] based on maybe projected population...and characteristics of the river....You might need some outside help. (*Yellowstone County Local Civic Leader*)

Keep the Feds out of it. It should be done on a local basis. The people that have the most clout in the county are the county commissioners. They are local people. For the most part, they know what has happened. They are accessible. They are common sense individuals. They should really have the final say on it. Community planners...[are] part of it...[It's] like designing a sewer system. You could get a local guy [to] do it for \$100,000. No, you have to get engineers and all the other stuff, and pretty soon, it is two million. (*Stillwater County Local Civic Leader*)

It is meander-land, and nobody can own that...There were river changes in that '98 flood, and, of course, some islands were created, and it washed down banks....Some people lost acres and acres of land....I know of one group who ended up with an island, and they claim it's theirs, because the river ran right through their property and created an island....Nobody pays taxes on it....For example, if this is a lake, and the water comes up in high water years to cover most of [the land], you wouldn't think that would reduce your taxes, [and] it doesn't. Or, if it goes down, and you can farm this for a while, you still don't pay taxes on it. But, you can't claim it either;...its no-man's land....[It] used to be that the Corps of Engineers could come in and just change things at will, and that caused its own set of problems, here and there. I don't like the idea of changing the direction of the river....It has its own set of problems that come with it. It might help this guy who lost some acreage to reroute the water away, but it ultimately, someplace else, will cause a problem....I think rivers should meander wherever they naturally go. (*Sweet Grass County Local Civic Leader*)

I think that preserving the agricultural aspect of the community is really important and a lot of it can be done through education. I don't think it is a win-lose situation....I think, for the most part, ranchers are pretty responsible. I think that they can do things better, but that is more of an educational process than intent to harm the resource. (*Sweet Grass County Local Civic Leader*)

I think the city will continue to struggle with subdivisions, whether they should or shouldn't be allowed. We only have one zoning district outside of the city limits and it is voluntary. We are going to put our land into a zoning district and in this district you can't carve off less than 160 acres. By voluntary, I mean when they created that district that carved out anyone that didn't want to be part. County or city can come in and say we are going to zone. Outside of the city limits, Sweet Grass County is un-zoned except for that one area. I think in ten years there may be more zoning, either private, although there has been more discussion if there would be interest in county zoning for a certain distance. I am not advocating or suggesting it is a bad or good idea. I am just saying that these are being discussed. I don't know that I know what I think of it yet. (*Sweet Grass County Local Civic Leader*)

The most important thing is to be proactive and not assume that problems will solve themselves. The only thing that happens with that passage of time is the two

sides of the issues become more concrete in their positions and less willing to look at the common elements of interest. So, if I were to talk to someone in a county that's maybe 20 years behind where we are in terms of growth...[I'd say] start from the perspective of trying to determine what values are generally held in common by the whole community. Work with those commonalities and keep the focus on the commonalities...It won't [necessarily] prevent the polarization, but it will certainly keep people focused on avenues to solutions that recognize commonalities. (*Park County Local Civic Leader*)

Help is Needed with Noxious Weeds: Almost without exception local leaders note noxious weeds and invasive plants as problems near the river. However, there are great differences of opinion regarding whether or not the current efforts to control these plants are effective and regarding who is responsible for the problem:

The noxious weed program [is] absolutely [important]. We have a multi-county [effort] working on the salt cedar...and leafy spurge. We actually have some spotted knapweed on the river, particularly on the north side of it, now, that is of great concern to us. (*Prairie County Public Official*)

Salt cedar—that's a big issue, and a pile of money gets spent on it. There's some knapweed, but, you know,...they were brought it in for honey bees. I was just reading about it the other day. They brought it in up around Idaho and it took a long time to get started, but once it got growing...[it didn't stop]. (*Treasure County Public Official*)

The only other issue that's the big one is the noxious weeds....There's just about every horrible weed you can find on the Yellowstone....I don't know how it got started, but it definitely goes down the river. If you just go on the riverbanks and look, that salt cedar is just about everywhere now. We can't hardly go anywhere without seeing leafy spurge and...it's a very competitive plant. It'll take a field over....You can't just kill...knapweed and spurge....I can only imagine if we don't get a handle on that how that will look in ten years....Salt cedar is an issue we used to only talk about around Sidney. Now...it's all over the Big Horn. (*Yellowstone County Local Civic Leader*)

Small tract owners....We have people who bought their 40 acres and don't have a clue what to do with it because they've lived in town all their life. So, what do we end up with? A whole bunch of weeds. Don't allow anybody on it, 'This is mine. Let's not graze it, let's not do anything with it so the fireman will have something to look after.' That's really real out here. They don't allow any grazing or anything to use that tall grass that's out there, waiting to burn. That's hard for me. We need to harvest things if we expect them to grow. I've watched an awful lot of pastures [and,] when they're managed right, you get good strands of grass and a good ecosystem. And if you don't manage it, you've got a mess. And we have subdivisions that are a mess, although we've had a really active weed department, and they finally realized that there are other ways of controlling these weeds,

biological, do little with livestock, spray the perimeters so we don't spread it over the neighbors. If somebody is highly allergic, or their value system says I don't want anything to do with pesticides, far be it for us to suggest to use it. Let's give them a few bugs and they're tickled to death. We've got a real diversified sort of a weed management system, or we don't call it weed management; it's plant management. (*Stillwater County Local Civic Leader*)

The Governor has proposed spending a sack load of money on new public access. What is typically not in those acquisition dollars is maintenance dollars. And Fish, Wildlife and Parks has always been short of maintenance dollars. It's easy for them to get Federal money or grant money to buy land, but they don't take care of the weeds, they don't take care of the trees, they don't take care of the whole ecosystem, if you want to talk about that....I continually say that the tree-huggers, or whatever you want to call them, don't give enough credit to private landowners...They'd like to see the whole valley owned by the government, but the government can't take care of what they've got. (*Park County Local Civic Leader*)

Specific Concerns Among Local Civic Leaders

The concerns identified here are, more or less, specific to this interest group. In most cases, the issues are linked directly to the role of local leader.

Philosophies about Government: Not surprisingly, local leaders engage in thoughtful discussions concerning the role of governing agencies in managing river resources. While the specifics of “good government” can vary quite a lot, it is obvious that many local leaders believe that rules and regulations are necessary and that “good government” is possible. Their efforts are varied and earnest. The most obvious distinction is geographic—the communities in the eastern-most reaches of the river are much less convinced that rules and regulations are necessary, whereas those in the western-most reaches are almost unanimously convinced:

I've had a lot of people say, 'We'd better have some rules and regulations along this river....Aren't you afraid that people are going to start building right on the river bank?' Well, no. That river itself will take care of that problem. I've lived here all my life, and ice chunks and water will destroy a house very fast....You'd have to construct a sort of levy around your house because it just floods every so often. (*McKenzie County, ND Public Official*)

The next [Miles City] Mayor's Task Force is a quality-of-life task force. [The group will consider how we] can provide amenities that leverage some of our best natural assets. The trees are something that we have an abundance of, [and] we are looking at becoming a 'Tree City.' We have these rivers and the levee....These could be scenic walking, biking and horse paths. [Right now] we have ATVs and four-wheel vehicles that are ripping around....It will be an uphill battle to ask, 'Why are you abusing this resource?' If we don't do it ourselves

then I fully expect other people to come in and say, ‘We built this dike and the activity is going to stop.’ The city council and the mayor’s office have been dominated by people that have grown up here and have a maverick spirit...[but,] if we are going to ever be attractive to people from out-of-town, we need to start treating those resources with a little more respect. (*Custer County Public Official*)

Bad policy...makes people angry. And the one thing that we found out is that you don’t force things down people’s throats. You sit and work with them and you work on a solution to get it done. That is what creates the balance...We sit down and work it out...This is really a feather in Commissioner Reno’s cap. We are going to actually have a grand opening...for a boat ramp access to a big island down on Pompey’s Pillar. And that has been a site where there have been [both] trespassers and legal access to the river off a county right-of-way for the last 150 years. It is a great spot [for access]. (*Yellowstone County Local Civic Leader*)

[When] you have people who are talking emotionally, [you can] get caught up in the emotion, rather than the facts. That’s why it’s important that you have people who can present the facts...Make the decision that’s for the betterment of the community. A lot of times, if you get caught up in the emotional decisions,...you walk away and say, ‘What did I just do?’ (*Yellowstone County Local Civic Leader*)

I want people to get along so that, in the end, we have a free-flowing Yellowstone River that behaves itself—if that’s possible. But I really believe in people respecting others’ thoughts, and not doing things just because the law is on their side, or [because] they can [afford] a lawyer. They can threaten people and get away with it...There isn’t a problem that can’t be solved if we work on it and reach a little consensus, but some people are so ticked-off that they won’t come to the table. They know that they won’t be treated properly...There’s enough of these high rolling dudes in the country that they intimidate folks...Meanwhile, the river runs. I’m going to start a new soap opera series and call it *As the Still Water Ripples*. I tell you, we could keep that thing running for years. (*Stillwater County Local Civic Leader*)

Oh, yeah, sure we can [have management]. You know, private property rights are hard to...step on,...but there’s sometimes when, maybe, you have to do something, or [you have to] mitigate,...or hope, or give them a carrot, or whatever. (*Carbon County Local Civic Leader*)

You do the best you can. People have the right to live where they want to live. I think there is a growing awareness that [rules sometimes] change. It is tough to deal with, but just making the people...more aware of the problems that we all face, and having them taking some responsibility...[will] help make that change positive instead of negative. (*Park County Local Civic Leader*)

[We might want to assume] people are rational actors, that they process things and they act in rational ways. Well, they don't always. A lot of times people will act in ways that are not only not maximizing their profit, but...they act contrary to those ways because...[their] biases and heuristics and rules of thumb...systematically, and very predictably, distort their perception....[For instance,] someone buys property right on the river for the accessibility of fishing....Then he puts a bunch of rip-rap down there to save his property....[The rip-rap] is damaging the resource in very predictable ways and diminishing his property values....[If] he'd built back, say 150 feet, [he would have] maintained the productivity of the river along that reach. So I think that's the heuristic that's based on ignorance of how the resource works, how the system works. So, to that extent, education is helpful, but you also need persuasion in terms of the credibility of the argument. (*Park County Local Civic Leader*)

The Challenges of Local Citizenries: Local civic officials discuss a wide variety of experiences in dealing with their neighbors. Sharing is apparently much more difficult when the limits of the resources are within sight. Comments regarding interactions with the local citizenry reveal that the communities of the upper reaches of the river find the task of sharing a contentious process:

In our community, where everybody knows everybody, they know someone that has access somewhere. If they don't, there are public access sites. I have never heard of anybody complaining that they were denied access to the river. (*Dawson County Local Civic Leader*)

Landowners are getting extremely reluctant to allow people from the federal government to come in and inventory anything on their places....Landowners do not want more intervention on how they manage their property. As we move forward, we need to make sure that the inventory isn't used as a starting point for a change in management practices along the river. It is fine to suggest [new ways] and to tell people why it is important to do those things, but in my opinion it is not appropriate to force them to do these things....Our role is to help people understand the changes, not to dictate that they will change. I think it is appropriate to have control of things...[but] these federal mandates tend to get scary because, at the federal level, they are very gifted at the one-size-fits-all style of regulation. (*Custer County Public Official*)

People have to realize that there are two sides to every story, maybe one good, one bad, but there's two sides. I learned a long time ago when I was working that I had to listen to both sides, and then maybe my side really wasn't right, but maybe the other person was right. And so you learn that...you're always going to have pessimists in whatever you do, but I think...people [need to] understand what you're trying to do...[and] keep them involved. Don't do it behind their back, because you'll lose everything. (*Yellowstone County Local Civic Leader*)

The good old Yellowstone is a cantankerous old thing. That river is wonderful, but it's also wonderful to watch it. It's going to go wherever it wants to go. I'm kind of torn...because we have people [who] defy us to do any rip-rapping, or to save a public structure, or anything like that. We're not supposed to do that, I guess. That's what I'm hearing. But, darn it, you've got a two million dollar bridge sitting there, and the thing's washing out, you better do something. We can't shut all the traffic off....This bridge down here was in jeopardy. So, they brought in a lot of rock and fixed it. It's fine. We had it protected.... We've [also] had some subdividers that have gone on their own and put in some Mickey Mouse things, jetties. But it really didn't upset the river a whole lot; it's got a mind of its own. (*Stillwater County Local Civic Leader*)

Montana is interesting to me in that it goes beyond public information and public comment to public decision-making. Folks don't just expect to know what is going on or have access, or be able to make comments, they expect to be seated at the table with the ability to put their hand in the air and cast a vote. I appreciate the interest that people have. It can present challenges if a lot of people feel like there has to be a consensus before a decision can be made. That can be difficult. (*Park County Local Civic Leader*)

Some of these people don't take no for an answer. Now, developers come and bring a staff of lawyers, hydrologists, engineers....They will come to the planning board meetings with their attorneys. They will set up their own sound systems so they can record everything. This is a kind of intimidation where they will sue you if you don't do something they want, 'We are recording every word that you are saying.' They have a whole entourage of people working for them, and you are one person, trying to do the best for the county, and you have to face their staff. That is how they are now....They will hire their own stenographers for meetings. They will go to the commissioners meetings when it is their turn to decide something. They intimidate....First, they will try and schmooze you. They will put on a luncheon. If that doesn't work, they will get tighter and angry. Then come the lawyers. (*Park County Local Civic Leader*)

To some extent,...irreconcilable situations occur when ideologies start from a position...and therefore [the person] only admits the evidence that applies to that position. I think that's the danger. (*Park County Local Civic Leader*)

Connecting Local Government with State and Federal Entities: Ideas about how the local entities should work with State and Federal entities are numerous, but it is clear that local leaders want to be engaged and they desire greater coordination of efforts:

How the flood plain[s] themselves are delineated is just based on seat-of-the-pants [guesswork], basically....As you travel the interstate, you can see people are within 50 feet of the bank of the Yellowstone. They can't get close enough if it was up to them. Yeah, I do have a problem with that....From the planning board perspective,...in general, I guess I agree with setbacks....[But,] just case by case.

Someone has to make that judgment [as] part of generalizing to a rule,...[but] the river...varies every quarter [of a] mile....No one could agree on how to word [the rule]. (*Richland County Public Official*)

Our other problem is that they are understaffed. With this economy, enforcement [of regulations] is not an option....In order to do the enforcement you have to have the tools. It has to work from the top down. You have to have a county attorney that is willing to prosecute. (*Dawson County Public Official*)

I think we like to be left alone....Don't come in and try to take it away from us. I have heard some stories from up at Billings where they come in and actually run farmers off the riverbank....The regulations said he could not be on the riverbank even though it was his private land. He could not dump his rocks down there because he was messing up the river. (*Prairie County Public Official*)

You don't want the troublesome fight....For example, [when] the Hysham water ditch system [needed to have some work done],...they had a tough time getting permission for that. (*Treasure County Public Official*)

Right now, my major concern is the infrastructure. Like so many entities across this country, and in this state, the infrastructure, as far as the delivery of water, is very old....The lines were [last] repaired in the '40s or the '50s, or even early '60s....Forsyth has no industrial base, so the availability of funds is always a burden on the individual taxpayer, that means small business people and homeowners in this community....State statute mandates that the water system is self-supporting. So, you can't pay for it out of a gift,...[or] from the general fund. It has to create its own revenues. That didn't seem so bad when that statute was first put in place in the early '50s. But, with the rising cost of this and that, how is it going to support itself [except by] a continual rise in water rates and sewer rates? That really frosts me. It just does. I think government has certain responsibilities, and to me that would be one: provide basic services to the public. (*Rosebud County Public Official*)

The question is, should there be coordination? And who's responsible for doing that? You can have a Federal program, you can have a State program, you can do all that, [but] those only work if people want them to work. It has to come from the people. You cannot mandate that stuff....If this report ends up saying that there are a lot of issues and that there is no consensus, well, we already know that....There needs to be time to process and think about something and not make snap decisions. (*Rosebud County Public Official*)

Now, we are very fortunate in Montana that those major rivers supply a tremendous amount of water....The State of Montana...owns the water. And the thing that bothers me most...is the Federal government and the Corps of Engineers and their control over our water. They [can] demand

water...downstream...[to] float barges in the Mississippi....That is always bothersome to us. (*Yellowstone County Local Civic Leader*)

You have the Fish, Wildlife and Parks with the mission of access....Then you have...the road department that tells the private owner that, if you give me a right-a-way, we will fence it and keep the public off your property....Down by Duck Creek...you have a river,...a private property owner and...you have a bridge. [The area by the river] is all within the high water mark so [the public] can [be] down there...[but] to get down there, people do what? They drive down,...violating this guy's right....because the State said, 'If you give me my road right-a-way through here, I'll fence it.' So [the State ran the] fence...up to the bridge [and] the public can't get from this public right-a-way to this public right-a-way without climbing over the fence. [So] they cut the fence....There are solutions:...pedestrian gates through there, and better enforcement by Fish, Wildlife and Parks. They often will open an area up but they count on the Sheriff's Department or somebody else to put out the bonfires and the keggers....[This] is a State issue....They sign those agreements for 'highway uses only'....Quite honestly,...you need to provide adequate access where you can because [the river] is a public resource. (*Yellowstone County Local Civic Leader*)

I would like to see nice fishing...accesses developed that Montana Fish, Wildlife and Parks might have to spend some money to preserve the appreciation of the river. And good parking....They need to step up and get some good spots, and they're going to have to pay for them. (*Stillwater County Local Civic Leader*)

[Our former] planner...noticed the local people don't like the local people telling them what the regulations are, but if it comes from the state or the federal government they are fine with that. They don't want a local official bossing them. They feel [the local official] could be more biased than a state or federal agency....We get it constantly....If I can say, 'I have to administer [this way]...it's from FEMA and I don't have a choice'...then they say, 'Oh, okay.' (*Park County Local Civic Leader*)

The state and federal government input needs to be sensitive to the local commercial economic needs...[and] the concerns of residents, especially on the east side of town that are currently at risk of either flood damage or having to leave their homes. And one of the options in that 205 study is a buy-out....I think that those kind of options certainly need to be discussed in a way the community is comfortable with....We've seen cases in which there were decisions made at the federal and state level that appears to be made at the city level. The city government takes a lot of heat for things that have actually occurred in a different level of decision making....I think it needs to be a process by which there's not just a public meeting, it needs to be a neighborhood by neighborhood communication [process]....Convey [information about the risks] in a way that's understandable and a way that allows participation...both directions, from the residents to the governmental agency, and vice versa. I think that all too often the

government agency does the research and makes a decision on their own, and then conveys their decision to the public. There doesn't seem to be a lot of opportunity for public participation in terms of understanding. (*Park County Local Civic Leader*)

Flood Plains and Official Designations: It is a common call among local leaders that flood plain maps are essential to their communities and to the economies of local families and businesses. Some express concerns over timeliness and credibility of the available maps, but all seem committed to using “good maps.” Similar sentiments are expressed when discussing official determinations regarding the dikes that protect their towns. As a group, they desire maps and evaluations in which they can place their confidences. Those from communities considering setback requirements acknowledge the difficulties in developing local support for such changes:

When the Corps built the flood dike, they built it to the current standards, and it is not [now] acceptable as a 100-year flood dike....To raise the dike it would be ten or 12 million dollars....To buy out the property, and demolish everything, and return everything back to the Yellowstone Basin, would be 18 million. You are talking to a community that doesn't have the money. (*Dawson County Public Official*)

We have been working on [flood plans], off and on, for 12 years....It got pretty hectic because that one time we had a lot of rain, and we had a flood situation, and they wanted insurance. You can't buy flood insurance in this town until we have it tied up with [a] flood plan. And we started working on it....The only thing is, if you are in the flood plain, you have [to meet] certain specifications...in order to get flood insurance. I cannot buy flood insurance for my house,...but anybody can buy insurance...if you have a flood plain plan. Nobody can buy insurance if you don't. But...you can enforce specifications on people if they do build in the flood plain. And some of them are pretty...[strict]—where it is not very feasible to build in the flood plain. (*Prairie County Public Official*)

I believe the dike is stable. I haven't heard a lot of negative on it....It does cause a lot of people to pay high insurance. There is a moratorium, or restrictions, on building in some areas. A pretty big chunk of town is affected by that—everything north of the railroad tracks. (*Custer County Public Official*)

I have an idea: if we ever have a real wet winter, all...[of a] sudden we will find the weaknesses in [the levee,]...[and that] will become an issue. But we haven't had enough runoff or water to say it's been a problem. There was a period of three or four years when there was quite a bit of ice buildup and ice jams....My husband was working out at the packing plant at the time and one night he really got scared. He heard the ice breaking up and there was ice coming on shore....If there is one of those winters where there is a deep snow pack and then we have a lot of snow—the two combined—then it could be interesting. (*Custer County Public Official*)

Do you want me to come in and tell you what you can do with your 160 acres? And what if that is where you put all our resources...and your plan ultimately was to...pay for your retirement? Then along comes the government and says now we are going to make this a riparian area. This is a green space and you can't develop that. I have just wiped out your assets. The government has to be careful that controls don't go overboard...[and] start infringing on private development rights. (*Yellowstone County Local Civic Leader*)

Flood plains are sacred. We just cannot break in flood plains like we used to. There are some things...[that the] law requires: you have to have a three-foot differential, the land where you're going to build your house has to be at least three feet above where the water table is. Well, if that's based on a dry year, and you build your house and then you have average years again, or normal years, you might have a problem. The law doesn't account for that. (*Stillwater County Local Civic Leader*)

It is hard to change regulations. That is a hard thing to do. We talk about rewriting the regulations, but that is a scary thing. People go ballistic. Not because of logical reasoning, it is because they don't want anymore regulations from the government. It ends up in the same kind of fight. (*Park County Local Civic Leader*)

Implications of Local Civic Leaders' Perspectives

Taken as a group, the perspectives and concerns voiced by local civic leaders suggest that very particular issues must be accounted for, both in the near future and in on-going resource management strategies.

There is a Need to Generate and Share Good Information: It is noted above that local leaders desire information that is locally credible, and they express a desire to have information from other places evaluated and presented in ways that are useful to their specific context:

A couple of weeks ago we were looking at maps on this growth plan. They have these GIS maps, and they are not even...close, especially around Glendive. It doesn't even show what it is [already in Glendive]. (*Dawson County Public Official*)

You look at the flood issues in other states, and...[how they allow] development right up to the water[']s edge—is there something to be learned? Should we protect the riparian area? Should we be considering a setback as a tool?...The Red River Valley in North Dakota floods frequently and they go right back in and build again....I hate having...[regulations], but you have to. If each county is different, how is that managing the overall river? I see a broader scope of application, either through the council [the Yellowstone River Conservation

District Council] or state law, that would allow us [control and still] not get backed into the one-size-fits-all type of regulations. (*Custer County Public Official*)

Analyze the information you have from everyone...and identify the best ones—best practices. That is how you come up with one...[But be honest during the process]...You have everybody, and they are nodding their heads, and then someone says, ‘No, you can’t do that. It is against this blah, blah, blah.’ Well, you just shot that [idea] down and you just wasted three hours! Lay your cards on the table and be honest about it, for God’s sake. (*Yellowstone County Local Civic Leader*)

We should be able to develop [information] that would serve all of our counties....To say, here’s some of the pros...[and] here’s some of the bad ideas we came up with....To make sure every county follows the same sets of rules that we make for everybody. And sometimes maybe one set of rules don’t fit everybody, but education would work....If you could think ahead....Education is the biggest thing when trying to educate people to...think out of the box. (*Yellowstone County Local Civic Leader*)

The increase in population pressure never stops....We need to find a way to protect the river assets because there is getting to be more and more and more of us. And we all want a piece of the river for our own private purposes and...you can’t do that. I think we need to do some planning on the river before you destroy what you love....By taking a look and starting to appreciate...what a tremendous resource the river is....You have to look at use options and priority settings and water rights. And I think you have to work together with agriculture, recreation and industry. I don’t like to see the either/or options being thrown around. No one ever benefits by that. I guess that is what I mean about planning. (*Yellowstone County Local Civic Leader*)

I would like to see a lot better mapping on the Yellowstone River. Most of our maps are 1982 FEMA maps. Some of the Yellowstone has had some updating, and...that is helpful, but there needs to be some better mapping and better understanding of activities in the flood plain, and how to best undertake those, both from a safety issue and also trying to protect the resource. (*Sweet Grass County Local Civic Leader*)

Sometimes the information that comes from public agencies, governmental agencies, is suspect. At least that’s the perception. And I think that there is also a perception that the best practices benefit the public at large, but they may not benefit me personally from an economic standpoint. And I think that’s where the persuasion comes in, demonstrating how those incentives really work on a personal level....People know what they know, and how do you get through that. (*Park County Local Civic Leader*)

I would like to see some better science on the effects of hard armoring and rip-rap on the...fish production...[and] habitat areas [such as those created in] flood stage....We've lost a lot of that. (*Park County Local Civic Leader*)

There is a Need to Help Local Officials with Complexities: Local leaders, especially elected local officials, are often thrown into situations that are quite complex. The first few years in office can be stressful and some are not shy about asking for help. They admit to running on instinct and common wisdoms, but they often make an explicit appeal for help:

My gut tells me,...if they look at the entire river, they get a better feel for what [upstream] changes can do [downstream]. I have heard stories about how, all of the sudden, the channel changes, taking away a bank upstream, and, all of the sudden a farmer has lost 100-feet of his field. I have also heard stories about someone rip-rapping their bank, and pretty soon, you have another adverse effect downstream. The natural course of the river has been altered. (*Dawson County Public Official*)

By the time you realize that [the community is changing], then you've got a mess on your hands, and that's really too late. The agriculture guys don't want land-use planning, and they don't want to be told they can't farm the flood plain because that's the best ground, that's their easiest access to water. And for years the irrigation method of choice was flood irrigation, which is the most wasteful, but it is the least expensive. It's far easier to take the water out of the ditch and run it through the...pipe and send it down the rows, than it would be to buy pivots. (*Rosebud County Public Official*)

What is lacking for me in my job is [information about] the state-of-the-art. What is going on in Delaware or Kansas? What is going on in Gallatin County relative to these issues?...If only somebody will bring to me the current trends. I was amazed when Gallatin County...put in a mechanism where voters voted to tax themselves to buy view sheds. [They didn't] want lights on top of Bozeman Mountain so, rather than zone it, [they] are going to buy it. When that was explained, it made me wish I knew some of the current best practices. (*Yellowstone County Local Civic Leader*)

There needs to be better mapping and more compilation of the flood plain. With the flooding of '96 and '97, there is more information that wasn't there in 1982. More of a site-specific analysis....From the planning perspective,...[we need] a better understanding of the hydrology, ecology, the geomorphology,...the safety features, irrigation facilities, bridges and abutments, a better understanding of the river and how the river changes, and the kind of things you need to anticipate. (*Sweet Grass County Local Civic Leader*)

I think that [the Yellowstone River Conservation District Council] has a lot of opportunity. The thing that they have to avoid is looking like they're a

gorilla....[Avoid] breeding defensive reactions....Work at a community level and genuinely engaged people. It sounds like such a simple thing, but it's all too rare that an agency genuinely appears to show concern for folks....Encourage people to define goals and force some rationality that wouldn't otherwise be there....Offer guidance in terms of what works mechanically and what works within the framework of the river as a river. (*Park County Local Civic Leader*)

With Limited Resources Everybody Will Not Get Everything They Want: It is both implied and explicit that the resources of the river are limited, while demands are growing. More local officials have a clear notion that decisions about sharing the resources will only become more difficult:

When you have good flow on the rivers, you do not have any problems with who gets to use the water because there is lots of water. Then, all of a sudden, when it gets a little short, the fish need water, and the wildlife need water, and the people need water, and the farmers need water, and there is not enough to go around. In most cases, and I tend to think more and more all the time, agriculture is going to be on the short end of the stick....Oh, yes, we see that up west already...because there is less and less political clout...[as] we have...[fewer and fewer] people in agriculture. That is just the way it goes. (*Prairie County Public Official*)

Those land-use planning...ordinances, or flood plain ordinances, or DEQ, or whatever the ordinance may be, people forget that it's not just because somebody wants to keep you out of some place. And it's not a situation of, 'Well, I've got lots of money, so if my house is washed away, it's my loss and don't worry about it.' It doesn't have anything to do with that. It has to do with loss of life....And, if that gets washed downstream, it messes everything up, and scatters all that material in the river where it doesn't need to go. (*Rosebud County Public Official*)

Water rights are very important....One of our subdivisions has junior water rights....[and a few years ago, during] the second year of the drought,...Fish, Wildlife and Parks...said, 'You no longer can pull water out of the Yellowstone River...because you guys have junior water rights'....We asked, 'Where we were going to get water [for the subdivision]?' and they said, 'The City of Billings.' Where is the City of Billings getting it? The same river. But, the City of Billings had senior water rights. (*Yellowstone County Local Civic Leader*)

Because of the in-stream needs of the fishery, and because of the way that the water laws are set up to reserve water rights, before the Big Horn comes in, in order to develop new irrigation systems, you've got to have a water right and that water is going to be junior to the needs of the fishery. Once you get past the Big Horn, and it reverses, then you can develop senior to the fisheries. (*Yellowstone County Local Civic Leader*)

We'll grow at a rate of two or three percent a year. Maybe a little bit more because some of that becomes geometric after a time....[The growth will affect

the river] indirectly only....As [our] infrastructure improves, and things grow, this county will just have more visitors, more tourists, and more people from surrounding areas coming to visit and play on the river. (*Stillwater County Local Civic Leader*)

To some degree, the Corps has been maybe too quick to grant the permits for hard armoring without...necessarily educating land owners that there are alternatives. And I'd like to see that. There are certainly a lot of soft armoring techniques that are quite feasible and, in the long run, have lower maintenance [costs]. I think a lot of landowners, if they were aware of those options, might choose those [soft] options....I think we need to look at alternatives. (*Park County Local Civic Leader*)

It isn't that we have to change it or protect it to death. We need to maintain it and respect it. I hate to say it, but the usage is going to have to be limited. You can't just send 200 boats a day down that river. There has to come a point, like with the Smith River, it will have to be limited or on a permit basis....You will have to be a resident, and they will give out so many non-resident permits....I don't know what the answer is, but we have to do something to change or we can forget it. (*Park County Local Civic Leader*)

Governance and Regulations Will Require Multiple Strategies and Coordination: It is clear from speaking with local officials that they desire help with coordinating the efforts of the many agencies and entities that have interests in the river. Adding more "interests" is not desirable, but they do desire assistance in managing the multiplicities of their local situations:

The Army Corps holds the key to a lot of future development in Glendive. You might have noticed a dike that was built in Glendive back in the '50s to prevent high water and flooding on that side of the river....Unfortunately,...[the Corps says we are] vulnerable to flooding and high water.... Because of our problem with the dike, and the 100-year flood plain, they are allowing no building, no additions, no anything, on the west side of the river....It is handicapping Glendive. For the community of Glendive, solving our flood plain issue is our number one priority. (*Dawson County Public Official*)

I don't think those are things that we have any control over. A lot of this is going to be Corps of Engineers, Lower Yellowstone Irrigation, Fish and Game. It is not going to be our problem....We just don't deal much with the river, unless it is a road issue. The only dealing we have had with the river is this boat ramp and, there we dealt with Fish, Wildlife and Parks. (*Richland County Public Official*)

The new people want to hunt from the rocking chair on the porch as opposed to the long-standing residents that aren't afraid to get out and hunt. It is not just them and the cannon; it is the house, and the well, the septic, and all the traffic in the riparian areas....Local people hunt and fish and then they leave that [river] area to

go to their house. [The] people coming in want to have their house in there.
(*Custer County Public Official*)

With regard to development, the State ties your hands in some regards. And the worst regard...is that water issues don't need to be addressed under subdivision....We had a subdivision here and it barely has enough water for itself because it is outside of the City of Laurel. If a sub-divider comes in and says he will build a subdivision right here, and the next one comes in and builds here, at what point can we say, 'You can't do this because then [the people in the first subdivision] don't have water'? We can't do that because the State won't allow it....The link to the Yellowstone River is [that] they will eventually say, 'Please annex this and get us water'....We let a subdivision build in that same type of situation...[but] we did require them to put in ponds to recharge the ground for the subdivision below them. (*Yellowstone County Local Civic Leader*)

I am an advocate of local control. I think it should be a local thing....They know that community best. They understand the needs of the community and the different constraints. It should be a ground up focus. I don't think you can say it is 100 percent local. If you are dealing with a river like the Yellowstone, you are dealing with something that affects other states and areas....Local control should be primary, but not the only consideration. (*Sweet Grass County Local Civic Leader*)

I wish they would be more responsive when there was an emergency. We've had some rip-rap that's been washed out in two spots by the Grey Bear Fishing Access. We would like to have got it repaired before flood season. And we still haven't heard back on our permits....[The river] just washed out two pieces probably: one was probably about 15 feet long and the other one was probably 20 feet long. But there's a good chance with high water now it will probably all be gone....So it's one of those deals where we could have got to it right away when we found out it was...and part of that is our problem for not really looking at it close enough until we started thinking about high water. (*Sweet Grass County Local Civic Leader*)

You try to protect [the river] as much as you can through setbacks and trying to maintain water quality, making sure it is used right....It is not just the river itself, but all the animals and the birds that depend on [the river] and its watershed...[including] all of the streams. There are a tremendous amount of streams that enter it. (*Park County Local Civic Leader*)

I'm really hoping we get something in the way of creative solutions, something beyond the floodwall. I think the floodwall was the reactive solution to the situation—it's sort of a 1950s solution. And we know better now; we know more about rivers...[and] I don't think the existing levy gives much in the way of real flood protection. I think we're going to have to have some kind of engineering solution....In a perfect world, [the solution will] involve some kind of service

step-back, designated floodway, and flood plain area, versus trying to build a structure that would require a fair amount of maintenance on the City's part, and [that would] also be fairly destructive of the resources we have in terms of recreation...trails [and] amenities along the river. (*Park County Local Civic Leader*)

As clear as these overall implications seem to be, it is worth noting that that various geographic segments are defined by particular situations and challenges. As one speaks to leaders from the various areas, it is obvious that the pressures to share the river are different in degree and form:

I've never had a call from somebody saying, 'What's the status of the Yellowstone River?' ...It's there, it will always be there. I'm not that worried about it. (*McKenzie County, ND Public Official*)

We have to make sure [future generations] have access and have the opportunity to enjoy the same things that previous generations have had with the river....It's going to get tougher because demand is in its infancy. As the pressure gets more...there will be more issues. Right now, it's in the beginning stage. (*Rosebud County Public Official*)

Bureaucracy is a tool that you can either use to your advantage or disadvantage. The fellow that [complains] probably doesn't realize the benefit he's getting from these layers of bureaucracy. (*Yellowstone County Local Civic Leader*)

Two things come to mind right now. Although I believe in personal property rights,...I believe, too, that...not everybody is going to get everything they want. It just has to be that way. (*Stillwater County Public Official*)

[In this] culture,...nobody sweetens their tea. It's the attitudes. It is a very self-reliant culture,...[an] everybody-takes-care-of-their-own type of culture. The view of government out here is not just suspicious. It is flat-out distrust. If government is involved, something is wrong....In other communities they at least give you a chance to screw up. Here they assume you already have and they haven't found out about it. (*Park County Local Official*)

Even though the differences and the similarities among local civic leaders are numerous, it is clear that they are a dedicated group and that, as individuals, they are nearly limitless in their desires to help the local communities. Each local leader, in one way or another, seemed just as sincere and dedicated as this Park County public official:

Maybe I would like to do something else. But...the thought goes through my mind, 'If I don't do this, who would?' There isn't anybody else....Other people [are now] working and learning...and thank God. (*Park County Local Civic Leader*)

Recreational Interest Group: River-Length Overview

Interviews were conducted with 76 individuals who use the Yellowstone River for recreational purposes, including hunters, fishers, boaters, floaters, campers, hikers, bird watchers, rock hunters, photographers, and others who use the river for relaxation and serenity. Many of the recreationalists participants were recruited from referrals provided by members of the Resource Advisory Committee of the Yellowstone River Conservation District Council. Participants were also identified and recruited by contacting various organizations such as Ducks Unlimited, Walleyes Unlimited and by contacting local outfitting businesses.

Participants in Yellowstone River Cultural Inventory—2006						
	GEO SEG I: Missouri River to Powder River	GEO SEG II: Powder River to Big Horn River	GEO SEG III: Big Horn River to Laurel	GEO SEG IV: Laurel to Springdale	GEO SEG V: Springdale to Gardiner	TOTAL IN GROUP
AGRICULTURAL	22	22	16	12	14	86
CIVIC	14	14	18	14	8	68
RECREATIONAL	15	16	16	13	16	76
RESIDENTIAL	15	11	16	15	19	76
GEOGRAPHIC SEGMENT TOTAL	66	63	66	54	57	
NATIVE AMERICAN						7
PROJECT TOTAL						313

Recreationalists: Analysis Table

River-Length Concerns Among Recreationalists

1. The Yellowstone River Reprieve
2. Respect for the River's Ecology and Its Natural Processes
3. Respect for Other Recreationalists and for Private Rights
4. Access is Difficult and the River is Getting Crowded

River-Length Diversities Among Recreationalists

1. Impacts of Rip-rap
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River-Length Specific Concerns Among Recreationalists

1. Montana Must Maintain the River's Uniqueness and Free-Flowing Character
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River-Length Implications of Recreationalists Analysis

1. Recreationalists Add to Montana's Economies
2. Recreationalist Interests are Linked to Governmental Agencies
3. Recreational Interests are Linked to Agriculture
4. Recreational Interests are Linked to Industry

Recreational Interest Group: River-Length Summary

Introduction

A review of the interview data for this river-length summary suggests that the recreationalists of the Yellowstone River share in four common sensibilities. First, the Yellowstone River is revered for its ability to provide the user with a refuge from the stresses of everyday life. They agree that river recreation helps individuals regain their sense of well-being. Second, recreationalists have the desire to maintain and improve the ecological health of the river. They are inclined to view erosion as a natural process that may not need to be controlled. Third, they have a strong desire to see that others respect the river's resources, the other users and the residents who live along the river. Fourth, recreationalists highly value having access to the river, even though many of them do not reside near the river. However, they worry that the river is getting crowded and that access across private lands is becoming more difficult to attain.

There are two topics about which recreationalists are not in consensus. The first is that recreationalists disagree about whether or not rip-rap causes negative impacts. Some feel rip-rap should not be used because of its detrimental impacts on river ecology. Others feel that rip-rap can be designed and implemented correctly and is appropriate under some circumstances. The second set of differing perspectives is found when examining perspectives regarding the impacts of development. In the eastern segments, recreationalists anticipate an increase in housing development, but they are not concerned about negative impacts. In contrast, recreationalists from the western segments are likely to endorse measures to curb the growth.

Three concerns seem to be at the heart of the recreationalists' perspective when considering the future of the river. First, they are dedicated to the uniqueness of the river, and are advocates of keeping the river free-flowing. Second, they view the public access laws of Montana as essential rights which must be protected against all threats. Third, they attend to water quality issues and are committed to encouraging best practices on the part of agriculture and industry.

Four implications emerge from an analysis of the conversations with recreationalists. The first is that recreational activities add a great deal to Montana's local economies. Many of the changes in Montana's communities are a result of the recreational appeal of the river. Second, recreational interests are linked, often legally, to the missions and purposes of governmental agencies; thus, recreationalists are likely to partner with any agency looking out for the health of the river. The third implication is that recreationalists are willing and ready to collaborate with agriculturalists in order to solve mutual problems. The fourth implication is that recreationalists worry about pollution and other effects of industrial, municipal and residential activities. However, they recognize their loyalties

and interests are often ironically splintered, and so they ready themselves to accept the complexities and difficulties of working to address all interests.

Common Concerns Among Recreationalists

The following concerns are common among recreationalists, regardless of where one meets the individual.

The Yellowstone River Reprieve: The Yellowstone River is a highly valued as a refuge. It provides the solitude needed for regenerative contemplation, and it provides exhilarating physical and social venues that countermand the stresses of everyday life. It provides spectacular beauty, abundant wildlife, varying recreational possibilities and a seemingly limitless medium of change:

It's a very beautiful river. You can start in the western side of the state, and it is very mountainous and beautiful, [and] when you come here, it is more calming and soothing. It is more restful....The sunsets here are gorgeous. A friend of mine took a picture that is just breathtaking....It shows the hillsides reflecting on the water. It's just gorgeous....It's so fun to go exploring on. You can find anything, from recently dead animals, to skeletons, to fossils. So, it is always a pleasure to be out there. (*Richland County Recreationalist*)

I'm in one of those jobs where, if you start to get bent out of shape, you need to walk away from it. It's my mental health that keeps me coming back to that river. (*Richland County Recreationalist*)

I spend a surprising amount of time just down by the river doing not much. My wife makes me pick asparagus while I'm down there. The other thing is the sense of solitude there. (*Treasure County Recreationalist*)

It's a seasonal elixir for my obsessive compulsive disorder. I have two things that I might consider to be OCD: one is pheasant hunting and the other is river rafting. (*Treasure County Recreationalist*)

We're avid touring kayakers. We love to go on the river kayaking and watch the wildlife, the deer, the birds, the eagles, hawks, beaver, lots of beaver....It puts you in touch with nature and the cycles of nature....It's just amazing what diversity you see along the river....It's a pretty special place. (*Yellowstone County Recreationalist*)

When you go down [to the river] you might see somebody else. But you could be down there all day, or all morning, and probably not see somebody else. I have an eight to five job, where I answer the phone 100 times a day and solve everybody's problems, and when I go out duck hunting or fishing or hiking, the only problem is, 'Should we stop here for lunch or over there?' (*Yellowstone County Recreationalist*)

You get on this river and she will carve out a new experience every year.
(*Stillwater County Recreationalist*)

Even though you're flowing down a river valley that is pretty-much paralleled the entire way by a major interstate highway and a railroad,...it still provides an experience of solitude. The natural environment. That's what I try to convey, too, when I'm using the river commercially. I try to convey that experience to my clients. It's not just about going out and catching a bunch of fish, or whatever. It's seeing the eagle's nest, or seeing the eagles, or seeing the other wildlife, or just experiencing the outdoors and having conversations about the uses of the river, or [conversations about] the historical significance of the river as you float along. Those kinds of things. (*Stillwater County Recreationalist*)

You're dealing with a raw force of nature....This river,...it won't tell its secrets....You turn those rocks over....You find those nymphs....You watch the river year round....You put it all together and after three or four years of study, the river might just give you a trout or two...but...by then it becomes not a matter of catching fish. It becomes a matter of you're...one with the river....It has a different character around every bend....It acts different in the spring than it does in late summer. It's different in the winter. It's an incredibly complex ecosystem, that if one person in their lifetime can figure out a little bit of it, it's quite an accomplishment and that's what transcends the actual fishing. (*Park County Recreationalist*)

The Yellowstone [River] is my cathedral. That's my church; that's my spirituality....It's where I charge my batteries. It's my connection to the natural world. (*Park County Recreationalist*)

There are some differences in the recreational uses depending on where along the nearly 700 miles of river one visits. In the east, recreation involves big game hunting, waterfowl hunting, fishing, and agate picking. In the western segments, fly fishing, river rafting, bird watching, and hiking dominate the recreational activities. Yet, all recreationalists agree that the river offers a great variety of possibilities:

We are a hidden secret right now, but that ain't gonna last. I fish on it. I hunt on it. I have a jet boat that I play in the river with. Sometimes you go and float the river and relax. (*Richland County Recreationalist*)

Focusing just on Treasure County, what I like about the river is that it provides a haven, a safe haven for waterfowl, which in turn provides this tremendous population base which we can harvest, and hunt, and recreate. (*Treasure County Recreationalist*)

The river is a multi-use river. It's used for agriculture, it's used for recreation, it's used for generating energy....There's agate hunting, fishing, bird

watching,...kayaking,...water for cities, and towns. I guess that's about it....Oh, [and] mushroom picking. (*Yellowstone County Recreationalist*)

Back east, they grow all of them in hatcheries. One of the greatest things is the Yellowstone has all wild fish. A lot of places, they don't get this. It is like going to a game reserve and shooting birds, versus getting your dog out and going hunting. There is no fascination with a refuge. (*Sweet Grass County Recreationalist*)

Not just the fishing, people come just to float, to walk by it. We have a bench down there by the river, they come down and sit and just look at the river. (*Park County Recreationalist*)

Respect for the River's Ecology and Its Natural Processes: Recreationalists have a strong desire to maintain and improve the ecological health of the river. They are passionate about maintaining the abundance of the fish, game, and wildlife. They often connect the health of the ecological resources to the health of riparian zone, but they do not always agree that the resources are being protected:

I am concerned...that the Fish and Game [is not attentive to] how fragile the river [and] the fisheries are. They have always said the fish would take care of themselves. (*Dawson County Recreationalist*)

As far as fishing goes, the Fish and Game has done a good job of managing the fishery. They don't do a hell of a lot. When I say managing, I mean restricting how much is taken out. They have limited the paddlefish to 1,000 per year. At one time, they were taking over 3,000 fish a year from Intake. The population was in a downward spiral at that point. We were concerned about that. (*Dawson County Recreationalist*)

My number one [priority] would be [to] keep the river natural and clean. Then it's going to take care of itself. The vegetation is going to grow. The fish are going to reproduce. There's going to be good water for all the cities and farm ground. So I think the main issue is keeping the water in as natural a state as possible, not like a dam. A dam puts pretty clear water out because the silt is on the other side of the lake. As much as you can, keep it natural the way it is, and keep it from getting polluted. (*Treasure County Recreationalist*)

Well, I guess Aldo Leopold probably said it the best, 'The flood plain belongs to the river.' (*Yellowstone County Recreationalist*)

The tributaries, the backwaters, the swamp, the sloughs: Nobody has rights to those, as far as I am concerned....Those are sensitive areas. Riparian areas shouldn't be treaded-up....[Those are] nesting habitat. (*Carbon County Recreationalist*)

The cutthroat population is headed in a not very positive direction. They have talked about listing the cutthroat [as endangered]. I am not sure if that is necessary, yet, but I would think it will be at some point. I would like to stem the tide before they have to be listed. (*Park County Recreationalist*)

The desire to protect and improve the health of the ecological resources is coupled with an understanding that the physical processes associated with a free-flowing river are sometimes essential to those goals. For instance, recreationalists generally view erosion as natural function that need not, necessarily, be controlled:

[The course of the river] is always...changing....[It] could change drastically from one year to the next. Every year, it's a change. (*Richland County Recreationalist*)

I prefer it not to be stabilized because I think we need that flood plain to be utilized by the river. It's there for a purpose; even though floods impact a lot of people, it has a lot of benefits too. It recharges the soil. It spreads out water so that floods aren't as severe downstream. So, the more we stabilize our banks, the more we armor them, the more intense the flooding will be downstream. So, that needs to be managed. There must be a master plan for managing bank stabilization. (*Custer County Recreationalist*)

That is [the river's] own renewal. Yeah, it does eat away at the bank, but that's the nature of that. Again, nature is the operative word; it's natural. I guess I don't see a benefit to try to control something that is that big and powerful. (*Treasure County Recreationalist*)

Sometimes it's heartbreaking to see [erosion]....But, on the other hand, it's a wild river and it's expressing itself in such a way that it makes it what it is. It's a living entity that gobbles up one bank one year and might turn around and gobble up the other bank the next year. That's what's uncontrollable and that's what makes it wild and adventurous for those of us who like to get on that sort of thing. (*Yellowstone County Recreationalist*)

[The Yellowstone River] is a meandering river. And you look all over the face of this globe, and see rivers that are in the stage of development that the Yellowstone is, and you'll see that the Yellowstone is doing what it's always done. (*Yellowstone County Recreationalist*)

I don't see that the erosion itself is a huge problem, unless you are a farmer that is losing ground, which is big. I don't think there is much fighting [erosion]. I think rip-rap is a mistake. I think rip-rap is almost an arrogant way that man tries to control a force much bigger than himself. (*Sweet Grass County Recreationalist*)

We have a little erosion every year...There always will be some erosion inevitably. (*Park County Recreationalist*)

Respect for Other Recreationalists and for Private Rights: Many recreationalists express concerns about the habits of others. They are frustrated by the apparent lack of respect that some users exhibit toward the resources and toward other users:

If you are going down there, you are using somebody's property. Whether it is state, federal, or privately-owned lands, you need to respect it. What you take in, you take out. Leave it the way you want it when you go down there....Mostly, the trash that's along banks and stuff...[is from] people throwing bottles and beer cans in the water, [and from] not taking care of the plastic bags and the rings from the six-packs....The birds get wrapped up in those, and then that's not pretty. I've seen some animals that were laying there with [plastic] wrapped around them....Take your trash out. Pick it up, take it home, put it in the garbage can. It's easy. (*Richland County Recreationalist*)

[Just] like everybody, out of 100 hunters, one of them is going to do something stupid, and that's the one they remember and makes a bad name for everybody else...It's up to the rest of us to police them and to keep them in line, which we do pretty well, but people are people. Not everybody has the same value system that we do. They just don't care; they're here for months in their life and they're gone. They don't have to live with the repercussions. (*Rosebud County Recreationalist*)

[There was] a place that had wonderful waterfowl recreation....Now...there are so many kids going in there shooting the ducks....They've absolutely just ruined it to the point where I'm not sure if any of us will go back anymore because there's just so much pressure on it....With waterfowl you can't pressure things too much or pretty soon they'll just go away....I think the only way you could do it is to try to educate [people]. (*Yellowstone County Recreationalist*)

An unspoken [rule is,] if we're out there floating, and somebody's fishing, we try to go on around them. We cut them slack, and not whoop and holler, and jump in the river. We wave at each other as we're going by....It's been that way here for a long time....We're usually all pretty courteous. (*Sweet Grass County Recreationalist*)

Lot of landowners have a problem with [stream access laws] and it's because some of the public is thoughtless and abuse...the river and therefore are abusing the landowner who abuts the river, and that's a little flaw in human nature that's pretty much a constant. (*Park County Recreationalist*)

Access is Difficult and the River is Getting Crowded: Historically, recreationalists have enjoyed access to the river via public access points and via personal arrangements with private property owners. However, recreationalists are aware that fewer and fewer private land owners allow recreationalists to cross their properties. To some recreationalists this shift is an affront to local values. To others, it is more simply illustrates the need to improve public access in areas where the distances between access

points is extensive, where recreational uses are increasing, and where more private landowners are denying or privatizing access:

I hate the ideology of, ‘I want to buy my piece of the last best place and then lock it up and keep everybody else away.’ I can’t see that. Access...[has] to be a key thing. One thing about our rivers in Montana...[that is] different than a lot of other states [is that] the State owns the water—the people...[own it]. (*Richland County Recreationalist*)

One of the concerns around here is access for people to just go fishing. Not necessarily everyone is going to float a boat. (*Dawson County Recreationalist*)

Harder access—access is much harder as it is everywhere. (*Rosebud County Recreationalist*)

If you’re going to float the length of [the river], you don’t know where you can stop, where it’s legal to stop. You’re not sure where you might get off to get re-supplied or to have people meet you. There needs to be maps. There are some sections where the access is really poor. (*Yellowstone County Recreationalist*)

Access is a big deal on the Yellowstone. There are sections of this river that you can’t get on without camping overnight. Access can be 20-some or 30 miles between access points. With jet boats, it is not a problem; they can just zip, zip. Nothing against the jet boaters, but that upper area is so much more eroded due to jet boat traffic. (*Stillwater County Recreationalist*)

[Ranchers] have sold...the hunting and fishing rights to corporations or private concerns and so only those people can hunt and fish on their property....It’s harder for my husband now to find a place to hunt. (*Park County Recreationalist*)

Recreationalists also name a number of threats to the quality of the recreational experience. This anxiety comes from human changes in landscape scenery, overcrowding and changes in the quality of resources.

More people, more and more boats every year. Five years ago, if you went on the river, you might see one or two people. Now, it’s not uncommon to run into five or six different boats. (*Dawson County Recreationalist*)

We have been doing it a long time and the traffic anymore....They have big, fancy boats, jet boats....There was one that came by us last year that was as big as a school bus. I thought we were going to sink. It is not rustic anymore. They...[aren’t] hunting. (*Custer County Recreationalist*)

I think another problem with people building so close to the river is that aesthetically it’s not very pleasing....From what I understand, they’re going to put in some riverside trails....Hopefully [those trails] will keep the areas pristine and

wild....It ought to be just like the rims, [with] easements that set aside that [area]....Don't allow people to [build] right up to the river. (*Yellowstone County Recreationalist*)

Everybody wants a little piece of land on the river, and then they build right on the river, which kind of sucks....You go up by Livingston, and you see the houses. I mean, house, after house, after house, after house, built right on the river. (*Sweet Grass County Recreationalist*)

The real-estate developers...know it's wide open....There...are no constraints on developers and I think that's holding a knife to the heart of the Yellowstone....There's no plan. The county planning commission is populated by real estate developers....I see a very deep connection to the river of all of the people here, but nothing that says, 'Wait a minute this is a real gem and let's keep this at least like it is, without further degradation.' (*Park County Recreationalist*)

The increase in recreational users is also seen by some as reason for public attention and careful management. They link recreational activities to the health of the local economies:

I think recreation is very, very close to [generating the same economic inputs as] agriculture....I buy a pickup truck and a trailer. I buy thousands and thousands of dollars of decoys. I buy a lot of fuel. We buy breakfast. We [spend] lease money. We have shotguns, shells,...licenses. When I have guests coming in from all over Montana to hunt with us, we go out to dinner. (*Treasure County Recreationalist*)

Tourism is I believe the second biggest industry in Montana....Tourism relates to the beauty of that river out there and the fish in it. And people come here and spend their money going fishing and hiking and camping. (*Park County Recreationalist*)

Diversities of Opinions Among Recreationalists

Among recreationalists there are a number of topics that generate diverse opinions. These diversities can occur among recreationalists from across the various segments, from within the same town, or from friends sitting at the same table.

Impacts of Rip-rap: Recreationalists disagree about whether or not bank stabilization techniques negatively impact the recreational resources, specifically the fisheries. Some feel rip-rap should not be used because of its detrimental impacts on river ecology. They are concerned that as more and more banks are rip-rapped, the water moves faster causing problems in the fisheries. Others argue rip-rap can be used correctly and is appropriate if the river is threatening personal properties:

If it is destroying somebody's livelihood, acres of some farmland, probably it should be controlled. But, where it is just a natural state, I don't think so. It's

really hard to say because I don't own land down by the river. So, to me it's not a problem. But, to people who own land along the river, I am sure it is. (*Richland County Recreationalist*)

You'll see a lot of places along the bank where they're putting rip-rap and taking big chunks of concrete or rocks and throwing them along the bank to keep it from eroding. That's fine with me, I guess. How else you could you protect it? I don't know what they could do. (*Dawson County Recreationalist*)

I kind of like the idea instead of armoring the banks, use barbs or jetties to try to move the velocity of the stream....You got to take into account the nature of the force you are dealing with, the water. Some techniques are just going to be less impacting, dealing with that hydraulic force, and they are going to be more effective. (*Custer County Recreationalist*)

Landowners put rip-rap or whatever....You just cause the problem to shift somewhere else. I think if you are fortunate to own land on the Yellowstone then you ought to take what it gives you. (*Rosebud County Recreationalist*)

[As] a hydrologist, I studied river mechanics and fluvial geomorphology and from that perspective, the channelization really changes the character of the river. [Channelization] creates...an artificial river system, really. Often times the so-called channel protection work that's done in one place, causes impacts immediately down the stream. The river is not allowed to meander and shift as a mature river like the Yellowstone wants to do. It can cause unnatural artificial areas of degradation and aggradation, or deposition, or erosion of stream materials, or loss of streamside vegetation. We're losing the cottonwood trees and much of the riverine environment is changing as a result of man's uses and developments. (*Yellowstone County Recreationalist*)

There's a guy between Laurel and Billings...that...put big rock jetties out into the river to stop the washing. I don't think it's impeded anything. In fact, sometimes some of that stuff gives the fish more cover, more places to go and hide. (*Yellowstone County Recreationalist*)

I always figured rip-rap made habitat for the fish....They say it's [only for] the big fish, but you can have two people with the same study, one for one group and one for the other, and you will never have the same answer. (*Carbon County Recreationalist*)

It's a real fine balance, in my opinion. I have the utmost respect for other interests....I know we have to work together. So I think that's why it's important that we do strike a balance in terms of some of the things people are looking at. For example, putting the rip-rap on the banks...may prevent erosion of their property and their interests, but, if it's not done properly, it could have some sort of adverse impact on the fishery, which concerns me. And then it takes away from

that pristine environment....I like the fact that,...in this section [of the river, in] very few places do you see any man-made changes to the river. It meanders; it's pretty natural, and, as you can see [today], it's really roaring....When it starts to lower itself down, some new side channels will [form]; there'll be new obstructions,...new fish habitat, and so on. (*Stillwater County Recreationalist*)

I don't see that the erosion itself is a huge problem, unless you are a farmer that is losing ground, which is big. I don't think there is much fighting [erosion]. I think rip-rap is a mistake. I think rip-rap is almost an arrogant way that man tries to control a force much bigger than himself. (*Sweet Grass County Recreationalist*)

When you rip-rap the river, you get a series of jagged turns, big holes, and no ripples, no runs, no flats....It makes everything deep, and it doesn't allow that river to flatten out and create the ripples and runs....From a fishing standpoint, you are much more successful in a ripple, run, or tail-out situation. (*Sweet Grass County Recreationalist*)

The Yellowstone left to its own devices would take care of itself because it is a wild river, but if you continue to rip-rap it....It can't handle that amount of rip-rap. The river goes where it needs to go, and when you change it, it doesn't just affect the flow; it affects many, many things....It reaches a saturation point. (*Park County Recreationalist*)

When you channelize the river, it takes away its wild characteristics....but every time you stabilize that bank, you tame the river more....The Yellowstone isn't allowed to spread out....It stays in one channel and it just digs a big deep trench over the years....A lot of people think [rip-rap] provides great habitats for fish [but]...the fish studies that have been done have documented that surprisingly the [smaller] fish aren't there like they thought they would be. (*Park County Recreationalist*)

Impacts of Development: Recreationalists have differing perspectives regarding the impacts of development on the recreational experience. In the eastern segments, recreationalists anticipate an increase in housing development but voice few worries regarding any negative impacts. Lively discussions of the negative consequences of development occur in the western segments where many recreationalists are in favor of efforts to curb the increase of residential development along the river's edge:

In Sidney, the largest [building] project was the Assisted Living [facility], down by Pamida. That's on a flood plain. I've been in two foot of water, standing right in the middle of that spot. It hasn't flooded since they built it, but I'm not that old. I've been in floodwater right where they built that. That's why we need the Planning Commission. (*Richland County Recreationalist*)

There are very few people in Prairie County that utilize the river. It is very undeveloped. (*Prairie County Recreationalist*)

Decisions would have to be local, but it's going to be tough for a community—for Treasure County or Prairie County—to come to some sort of a regulation. I can see the Council coming up with a template, 'Here is a riparian management scheme regarding development'....Then the county can take it...[and] rebuild it to what their needs are....In Prairie County, they may have concerns about putting feedlots down in a flood plain....That may not be a problem in Sweet Grass County [where] they're worried about houses....[We need some] kind of a template on developing things that will impact that zone. (*Custer County Recreationalist*)

Encroachment of people into the river valleys, you know....That's where I think, maybe, you're getting more of the demand for people to stabilize those river banks because, of course, you've just bought your 100 acres or 50 acres and the river runs through it and you don't want to see it washed down to Billings. (*Custer County Recreationalist*)

When they...develop in the flood plain...their actions can affect others. We have laws that limit what people can do on their property....Their development in the flood plain is not in the greater public interest and the greater public interest is what really needs to hold sway. (*Yellowstone County Recreationalist*)

[We need to] develop setbacks, like 300 feet back, and prohibit any development in the flood plain....We shouldn't allow any building out to the 500-year flood plain. Unless there is a high cliff, there should be a rigid setback in the planning. (*Yellowstone County Recreationalist*)

Recreationalists aren't really happy seeing a house right above them, or a row of houses, and looking on their back decks and patios as they are recreating. And people sitting on their back decks watching the river, or watching people recreate don't always appreciate...people who are having fun [and getting] loud....It is a great little view, but everyone is in view. And people that buy on rivers have to realize that...there are more people recreating. (*Stillwater County Recreationalist*)

I would rather see [setbacks of] 500 feet....There was a guy down-river that had his whole house go into the river....You shouldn't build that close to the river. That is where the setback comes in. If it is back far enough, and the river does change, it has room to change. Instead of saying, 'The river is going to take away my house...[so] I am going to change the river.' (*Sweet Grass County Recreationalist*)

I think one of the things that we see more is encroachment of development in the river corridor....Now you see a big house on the skyline instead of a natural habitat. (*Park County Recreationalist*)

It took three years at least of really difficult meetings to come up with a plan for Park County that was a comprehensive plan....The only way they were brave

enough to approve it was to specifically preclude any zoning....It was all about private property rights....There's many people who don't like planning, think its sort of a communist plot; it is breaching their private property rights. Well, I also own private property....I see it as...a balancing between my rights and my neighbors' rights, and...if the neighbor does something that is really obnoxious to me, do I have any recourse?...So I view it as protection of private property rights...and others view it as an infringement. It's a fundamental difference in outlook. (*Park County Recreationalist*)

Specific Concerns Among Recreationalists

The concerns identified here are, more or less, specific to this interest group. In most cases, the issues are linked directly to the vested interests of these individuals as recreationalists.

Montana Must Maintain the River's Uniqueness and Free-Flowing Character: For many recreationalists the river is treasure that must be appreciated for its uniqueness, for the richness it brings to people's lives, and for its power to impress:

I grew up close to the Mississippi. I was on the Mississippi all the time,...fishing...and a little trapping. Down there it's 'Old Man River.' This one here—this is the 'Prom Queen.' (*Richland County Recreationalist*)

This isn't a Cabela's fantasy....[We've] been making this three-day trip, annually, for 33 years....We build our own homemade canvas-covered boats...[and when] we poked a hole in one, we pulled over and all got to chewing gum and patched it on both sides. (*Custer County Recreationalist*)

It is a symbol of nature and a symbol of godliness....It is at the river that I best understand my role as a human being on this planet. I am part of nature, as you are and we all are. When you stand by the river you have a tendency to realize that. (*Yellowstone County Recreationalist*)

First of all, [the Yellowstone River] is a link to our historical past and...our cultural heritage here in the west. And I'm very much personally oriented towards that concept,...the historical significance....We're floating right down the same river that Captain Clark came down 200 years ago. I think that's important in preserving our western cultural heritage. (*Stillwater County Recreationalist*)

It's a pretty remarkable river. With ten years of drought, you don't hear of problems on the Yellowstone. It's like an old survivor. It's being well used now [and it] can continue very easily. (*Sweet Grass County Recreationalist*)

If you live on the banks of the river, it's a jewel, it's a free river....take care of it...it may be a little battered a little worn, but it still deserves a little TLC. (*Park County Recreationalist*)

Hopefully into the future, this river will throw a flood every now and then and will astonish everyone with its power. (*Park County Recreationalist*)

The free-flowing nature of the river is unanimously important to recreationalists. They cite its ecological uniqueness, its healthy habitats for fish and game, and its importance as a national symbol as reasons for maintaining its free-flowing character:

You don't want to dam this river. This is one of the—the—last wild river in Montana, and it may be *the* last wild river in the nation. There is no dam on the Yellowstone, and we really don't want a dam on the Yellowstone. (*Richland County Recreationalist*)

A lot of landowners are paying taxes for land that's actually in the river now. I think that's all part of that natural free-flowing-river thing. It's been like this ever since the world has been created; why change it now? (*Dawson County Recreationalist*)

I would hate to see them dam the Yellowstone. Isn't it the last free-flowing river, or at least one of the last? When they make changes, like when they put in that Yellowtail [Dam], that seemed to kind of effect the flow. (*Prairie County Recreationalist*)

Without any dams on the river, it goes through a normal cycle like a river ought to, but the channel changes a lot because of that, a lot of new gravel bars come and go, and the river channel moves and changes. I put a boat ramp in here and five years later it's sitting on a gravel bar. So, you can't blame anyone for that; it's just the way it is. (*Rosebud County Recreationalist*)

I would like to keep the Yellowstone a free-flowing river. It is a national treasure. (*Treasure County Recreationalist*)

You know, every other river in the country is dammed, and it is nice to have something that's wild in your backyard. (*Yellowstone County Recreationalist*)

[A free-flowing river] helps with cottonwood regeneration along the river. Cottonwoods are important for breeding birds....Cottonwoods need sandbars to germinate the seeds, and if you don't have a free-flowing river to help shift the course of the sandbars in the river then cottonwoods can't regenerate. And if you don't have trees along the river, it decreases the [habitat] for the birds. (*Yellowstone County Recreationalist*)

Get an appreciation for it...[as] the longest un-dammed river on the continent of North America....And talk about the diverse interests: agriculture, and recreation, and things of that nature. (*Stillwater County Recreationalist*)

I love it. I mean, I've used it my whole life. And I don't think it would be as grand if it wasn't the way it is....I think of this dam [idea], and think of what you would cover up. Think of the beautiful country you would cover up. I mean, for God's sake. (*Sweet Grass County Recreationalist*)

It is the longest free-flowing river in the United States and it should be maintained as that. (*Park County Recreationalist*)

This Yellowstone River is the longest remaining free-flowing river in the lower 48 states. It's...unique in that sense. (*Park County Recreationalist*)

Montana Must Maintain Strong Public Access Laws: Coupled closely with concerns for the unique character of the river are concerns regarding public access. As access via private lands is less and less likely, many recreationalists argue for an increase in the number of public access sites:

Fifteen years ago, if you went up to a landowner and ask permission, seven out of ten times they'd let you go....[But] now, it's paid hunting. They want money, or they have it leased out to outfitters. This river bottom has a lot of outfitters now, where it wasn't [that way] before. (*Dawson County Recreationalist*)

One more thing you can put under important items is Montana needs to maintain its stream access law. That's real critical, although there are plenty of landowners who would like to see it go away. (*Custer County Recreationalist*)

It seems like every couple of years, someone takes a run at the stream access law, and that's pretty important to our way of life....The riverbed is public property, [and] a pretty big asset to us. And, if they take that away, that would pretty much put the kibosh on most uses of the river. (*Rosebud County Recreationalist*)

Montana is blessed. We are blessed because we have a tremendous access law....Compared to Wyoming and Colorado, this is paradise, because people can walk up and down the high water mark and not be trespassing. In Wyoming or even in Colorado, the landowner owns the riverbed, and, theoretically, you can't drop your drift boat anchor on his property because you'd be trespassing. (*Treasure County Recreationalist*)

If you look back at the history of the United States, the public land and the public water have been enormously important. Our champions are people like Theodore Roosevelt and the national forest, the national park, the national wildlife refuge, the national monuments. All of those are part of the public estate, and we think the public estate is very, very important to our society—equally as important as private property....Our position is, what's private is private, but what's public is public and it should be treated with the same level of respect....You can't have private water where the Constitution says it's public anymore than you can have public water if the Constitution said it was private. And we don't just sue every

time we turn around. We talk to people. We try to convince them it's wrong, that they shouldn't do it, but we have a hammer and we'll use it. (*Yellowstone County Recreationalist*)

I can think of a situation where a guy across the river bought a place for fishing. He bought a couple miles of it. The guy on the other side of the river was letting whoever wanted to come and go fishing. [The new owner] didn't like that, so he got a buddy to come in and buy the land on the other side of the river. So now you can't access the river from either side. A lot of that's happening. (*Sweet Grass County Recreationalist*)

Having all of these access points is a good thing...You don't have to be the monied gentry to get to the river and enjoy it. And our stream access law allows...you [to] walk up and down that bank a little bit and you can fish and that's a great thing. (*Park County Recreationalist*)

I have been involved in the fly fishing industry all my life....Those access points are crucial to my business and my soul. (*Park County Recreationalist*)

Water Quality Concerns: Recreationalists link their concerns to the long-term viability of Montana's communities. With regard to water quality, they mention many issues:

When you flood irrigate—they've got all the statistics—if you don't do it at the right time, you can flood out some of your herbicides, pesticides, and fertilizers. That'll go directly into the river systems....A settling pond, before the water could get [back in the river], would be good. Or, reuse the water again, before you put it back into the system.... The settling pond itself would take care of a lot of problems as far as pollution going back into the river....If you're a pregnant woman, there are constant warnings....I don't want to see those [chemicals] going back in there at such a high rate. Put it in a settling pond, let it set. Let Mother Nature do her work. (*Richland County Recreationalist*)

When you go into Fallon from here, you will notice all this white stuff along the riverbanks, from irrigation cuts. I guess it is saline. I am sure that's from irrigation. They haven't been irrigating so long, maybe ten years. I never did notice it before. It's almost like it runs out of the bank....[It] kind of seeps out of the side [of the bank]. (*Prairie County Recreationalist*)

Go back to Sidney, go to the west, and climb that hill. You can see the watershed. Look at the top of the watershed. It is an auto graveyard and an industrial site. And that all flows downhill, right through town and into the river. And that's the stupidest place to build something like that. If they'd gone just over the hill they would have been in a bowl, and they could have kept all of that out of the river. But, there it sits....It's 30- or 40-years-old, and abandoned now so nobody's responsible. And there it sits, [our biggest] pollution runoff issue....At some point, the county is going to own it [and] is going to have to find the money to

clean up that mess. And, you know, it is only about a mile from the Conservation District office. They have to look at it everyday because they are on that same hill. (*Richland County Recreationalist*)

You might want to take a look at spill response on the railroad. The railroad parallels that river for a long ways, and if you have a train wreck, how do we get to that stuff? It's pretty isolated, rural, most of this point. How do you get to it? Is the railroad in a position to get materials on that river to sop anything that's spilled into it? Probably not. And that railroad ownership changes hands from BN Santa Fe to Montana Railways, so really, [you've] got two railroads that traverse the Yellowstone. (*Custer County Recreationalist*)

It seems like the feedlot runoff is not being regulated very well. If you look at the size of feedlots now, they are huge. You can see one on the north side of the Yellowstone, a big brown streak running right parallel to the river. I mean, where's all that runoff going to? (*Custer County Recreationalist*)

I suspect that a lot of our fertilizers and poisons and stuff get into the river. I don't think that's good....[It comes] from agriculture, [but] not just agriculture....[It's] from our town [too]....We need to educate everybody more on all that....Everybody used to [think] more chemicals will do the job better, but that's not necessarily the case. People need to be knowledgeable about what they're putting in there....I think they're getting better, but people are still thinking a little bit more is better....It's hard to get people to understand that. (*Treasure County Recreationalist*)

[When] the high water comes, or you have an ice jam, or...the spring run-off [comes], you flood your septic tank or cesspool...[and] that material in that pool goes right into the river. There's a capacity for the Yellowstone....You can exceed that capacity, and then you have a real problem....We need those setbacks. (*Yellowstone County Recreationalist*)

Regrettably the water quality particularly below Laurel has been compromised in places primarily as a result of agricultural use along the tributaries. And stream flows have been reduced to undesirably low levels during the summer. That's a result of large diversions on the river. (*Yellowstone County Recreationalist*)

You go down the Stillwater and they have sewer problems like crazy because the sanitarian let them build too close to the river. There is no way it can not violate the water table. It has happened several times with this community [because] the sanitarian, who got fired over there,...came over here. They allow people to build right on the river, and they allow them to pump their sewage up the hill so they can pass a perk test. That is not in the interest of the community or the resource....I think it [comes down to], basically, how well you know the sanitarian. I know he is congenial with some, and not so much with others. As far as septic law is concerned,...I know you have to have your septic system 100 or

150 yards away from your well. Other than that, it is where [the sanitarian] determines you can get perked. It is really a gray area. It is violating the water table on the Stillwater. Every time we allow someone to build on the flood plain, it is a public liability, from a water quality standpoint, from an erosion standpoint, and a liability for FEMA when the sanitarian allowed that to happen. (*Sweet Grass County Recreationalist*)

The longevity of the Yellowstone and making sure of our water quality [are both important]...I honestly think we could make it better. We have irrigation upon irrigation, [and] that...water is coming out and going back in. You should have to send water from a field that is maybe not as clean, [and]...run it through a panel or something to clean it up. I don't know the solution. I am not a scientist, and I don't want to make it hard on the Ag community. Sometimes they put garbage water back in there after taking palatable water out. The wild fisheries in the states are evaporating. Colorado has had whirling disease so bad that a lot of their natural fisheries had to be helped by the state. I would say, when I am dead and gone, that river is going to be rolling like it is today. (*Sweet Grass County Recreationalist*)

Of course you've got septic tanks and lawn fertilizers and the cutting down of the trees. I think that development is probably one of the biggest things [and] one of the main problems...on the Yellowstone. (*Park County Recreationalist*)

Development brings sewage...My neighbor...[has] the sprinkling system. [He] waters that five acres every night and then he puts chemicals on there to keep the dandelions down...and all of that is just going right back into the river eventually and into our aquifers. (*Park County Recreationalist*)

What resonates from both sides...is water quality...[But what is] water quality? Is it simply the chemical analysis?...Or is water quality [connected to] the system?...If you started from water quality, and worked gently outward...describing the mountains that create water quality, then there may be an incremental way to bring people into consensus. They [need to]...fundamentally understand why this water is good and why it is bad. Start from why is water so important to us. It may sound elementary. (*Park County Recreationalist*)

Implications of Recreationalists' Perspectives

Recreationalists may be playing a more of a financial role in local and regional economies than many Montanans realize. Not only is Montana's population growing, but a significant portion of that growth is occurring in the communities that border the river. Park and Yellowstone Counties have the most obvious increases in population, but Sweet Grass, Stillwater, and Carbon Counties are also growing. Each of these counties is experiencing increasing recreational pressures. Life-long residents and newcomers view the recreational opportunities associated with the river as a key component in their

quality of life, and recreational opportunities are linked directly and indirectly to the new economies of several Yellowstone River communities. Towns benefiting from the economic inputs of recreational users must ensure that they preserve the ecological resources that draw people to them. The agrarian landscape and the undeveloped river are attractive to tourists, floaters, anglers, rock hounds, hunters and others.

Interrupting the river viewsheds with homes, developments and human obstructions may jeopardize the Yellowstone from being seen as a remote experience. If the banks were lined with homes, then there would be no reason to travel to Montana. As one recreationalist noted, 'No one wants to float through a subdivision.' Access opportunities, promises of abundant wildlife and healthy fisheries are appealing. For communities to maintain their recreational appeal, visionary measures may be needed. Calls for stricter planning regulations are not simply applauded by recreationalists, as they often initiate those calls. Landowning recreationalists do not tend to view zoning regulations as an assault on their individual private property rights. Rather they see regulations as a means of protecting everyone, including themselves from irresponsible neighbors.

Of course, the "crowdedness" of one's recreational experience is a subjective matter. For newcomers, the river is a terrific recreational resource regardless of where they access it, whereas long-term recreationalists view the western segments as nearly intolerable and they have taken to traveling to the eastern areas as a means of escaping the throngs. The solitudes of the smaller communities are appealing to recreationalists, and positive experiences in a particular environment often engender a sense of attachment. Recreationalists are known to return repeatedly to their favorite places.

The increasing numbers of recreational users are changing both the economic structures and the cultural character of many of the smaller communities found in Eastern Montana. As positive impacts, some recreationalists who travel to the smaller towns shop at the local stores and use the local guides. Their desires for recreational solitude also prompt them to purchase exclusive leases and in these ways local economies benefit even when residential development is minimal. Unfortunately, as more lands are privatized, access becomes limited and the local friendliness of the small town seems to slip away.

Notably, many of the specific concerns that recreationalists voice are more generally mandated as concerns of the state and federal governments. Many of their interests are explicitly protected by law. For instance, regardless of the fact that over 80 percent of the riverbanks are under private ownership, the public has a legal right to enjoy the resources of the river. This is indisputable under the current access laws and it is obvious that recreationalists will vigorously oppose threats to these rights. Concerns regarding the health of the fisheries are on-going and extend far beyond the desires of weekend fly-fishers. Water quality degradation simply cannot be ignored by any level of government. The number and management of public access sites connect recreationalists to agencies. Some recreationalists worry about the effects of bank stabilization on the river ecology. They worry that communities are compromising the riparian zone via channelizations, but they are not, as a group, certain about the effects of rip-rap on the ecology of the Yellowstone River. Recreationalists recognize that their interests are often closely

connected to the interests of various agencies, and they work to form partnerships and to maintain positive relationships with such entities. Their passion for improving the health of riparian habitats and their concerns about pollution demonstrate that many of them are conscious of the role of riparian plant growth in the health of the river system. Such enthusiasm for the ecological health of the river suggests there are opportunities for educational outreach and volunteerism that could positively affect the health of the river.

In many communities recreationalists are agriculturalists. They are only artificially designated as a distinct group. In other communities, recreationalists have different social networks, financial resources and expertise that could benefit agricultural communities. In either case, recreationalists appreciate the scenery and wildlife habitats that agricultural lands support, and the maintenance of the agricultural activities along the river is a priority for most recreationalists. Recreationalists appreciate the access granted by agriculturalists, and they consistently expressed sympathy and understanding for the financial and cultural difficulties agriculturalists regularly face. They understand that private landowners experience trespassing and other abuses by recreationalists, but they are quick to mention the block management program as an example of positive collaboration by recreationalists, land owners and state agencies. This program is viewed favorably because it is seen as being fair to all involved. Landowners retain control over who is on their property and responsible recreationalists gain access. Nonetheless, recreationalists and agriculturalists tend, at times, to take adversarial positions. Most often the schism results when recreationalists pressure agencies to deal with the pollution problems caused by farming and ranching practices. Agriculturalists should expect recreationalists to continue to press for the adoption of practices that can decrease the agricultural pollutants found in the river and the riparian zones.

Recreationalists also tend to be aware of local pollution events involving industrial sites, chemical spills, sewage overflows, outdated septic systems and flows from lawn chemicals. They are often uncertain as to whether or not these newsworthy events had been resolved, and they are unsure of the lasting impacts to the river and their communities. Such uncertainties regarding pollution on the Yellowstone constitutes an opportunity for developing informational sources that can be trusted and for potentially engaging groups in monitoring programs.

Most importantly, the recreationalists who participated in the study are members of particular communities. Their personal interests are often fragmented, and they understand that good answers are not always simple. Some work at the local power plant and some are farmers, but without fail they are committed to working *with* others:

You can't impose your ideas. You need to involve everybody and all sides. The difficulty is...all sides feel threatened....A good process has to be inclusive and usually that is tedious and difficult to do....The hard part is paring away the rhetoric and getting down to what it is you actually value, and what threatens that. Not your fears, but the reality. It's really hard to...trust people enough so you can actually talk about the real issue. (*Park County Recreationalist*)

Residential Interest Group: A River-Length Overview

Interviews were conducted with 76 individuals representing the residential interest group. To recruit these participants the names of property owners holding 20 acres or less of land within 500 feet of the bank were obtained through a GIS search of public land ownership records. Twenty acres was used as a screening threshold to separate people who lived along the river corridor but whose incomes were from something other than agricultural practices (residentialists) from those who were predominantly farmers or ranchers (agriculturalists). The names were sorted by county and randomized. Recruitment proceeded from the county lists. A few other people living very near the river were also recruited. These additional participants may not have had property that technically bordered the river and/or they may have owned more than 20 acres. In all cases, the recruits did not consider agricultural as their main source of income.

Participants in Yellowstone River Cultural Inventory—2006						
	GEO SEG I: Missouri River to Powder River	GEO SEG II: Powder River to Big Horn River	GEO SEG III: Big Horn River to Laurel	GEO SEG IV: Laurel to Springdale	GEO SEG V: Springdale to Gardiner	TOTAL IN GROUP
AGRICULTURAL	22	22	16	12	14	86
CIVIC	14	14	18	14	8	68
RECREATIONAL	15	16	16	13	16	76
RESIDENTIAL	15	11	16	15	19	76
GEOGRAPHIC SEGMENT TOTAL	66	63	66	54	57	
NATIVE AMERICAN						7
PROJECT TOTAL						313

Residential Interest Group: Analysis Table

River-Length Common Concerns Among Residentialists

1. Living Near the River Adds Quality to Life
2. Wildlife Is Appreciated
3. Concerns Regarding the Water of the River
4. Keep the Yellowstone River as Free as Possible

River-Length Diversities Among Residentialists

1. Erosion and Flooding Concerns
2. Flood Plain Restrictions and the Role of Governmental Agencies
3. Rip-rap as an Appropriate Method for Protecting Property

River-Length Specific Concerns Among Residentialists

1. Private Privileges and Public Rights
2. NIMLYs—Not In My Lifetime/Years
3. The Impacts of Development

River-Length Implications of Residentialists Analysis

1. Potential to Promote Health of the River
2. Potential to Reduce Public Access
3. Free-Flowing vs. Controlled
4. Dissimilar Understandings Suggest Need for Educational Programs and Materials

Residential Interest Group: A River-Length Analysis

Introduction

A review of the interview data for this river-length summary suggests that residentialists of the Yellowstone River share in four common sensibilities. First, they are unanimous in explaining that the Yellowstone River adds to their quality of life. Second, they are avid wildlife watchers and observers of the seasonal migrations. Third, they are generally concerned about water issues, wondering variously about quality, quantity and future human and industrial needs. Fourth, residentialists are generally enamored of the idea of the Yellowstone as a free-flowing river.

There are three topics about which residentialists are not in consensus. The first is that residentialists explain varying understandings of erosion and flooding processes. The second set of differing perspectives is found when examining comments regarding flood plain restrictions and the role of governmental agencies. Third, while many residentialists hold strong opinions concerning rip-rap, either in favor of it or against, only some residentialists are apt to discuss the complexities involved in deciding the circumstances under which rip-rapping should be approved. With regard to these three areas of disagreement, the differences are most pronounced when one compares the residentialists of eastern segments to the residentialists of the western segments.

Three concerns are of particular interest when considering the residentialists' perspectives. First, residentialists are especially protective of their property rights. They value their privacy. While they generally acknowledge the public's right to be on the river, they express varying degrees of understanding for recreationalists who violate the "high water" designations. They mostly oppose recreationalists using their properties as if they are public access sites. Second, when asked if they worry that they might be flooded or that the river might erode the bank away, there is a sizable group of residentialists who agree that over time such possibilities are real but who also explain away these threats by saying, "Not In My Lifetime/Years." These residentialists were identified as NIMLYs. They are residentialists who view the river as mostly benign and who see no real threat to their properties. The third particular concern of residentialists is that they believe unchecked development near the river will eventually either ruin the privacies they have come to enjoy or force the sale of their homes as they will not be able to afford the subsequent increases in property taxes.

Four implications emerge from an analysis of the conversations with residentialists. The first is that residentialists are potentially strong allies when looking for individuals to support practices that will promote the health of the river and the riparian areas. However, at this point some are not well enough informed to help. A second implication is that further residential development will decrease the informal paths that the public

uses to access the river. Pressures will build for more public access sites. A third implication involves seemingly incompatible wishes. They appear to want a free-flowing river and the ability to protect private property. Given that the first wish is to some extent compromised every time the second wish is granted, it seems guidance is needed in the local communities regarding how to avoid further complicating matters with increasing riverfront developments. Finally, given that residentialists articulated so many different opinions and perspectives, it is apparent that every influx of new people and every new generation of adults will need to be educated and assisted in understanding the river, the management strategies, and the constraints of local governments.

Common Concerns Among Residentialists

The following concerns are common among residentialists, regardless of where one meets the individual.

Living Near the River Adds Quality to Life: Of all the participants interviewed for this project, residentialists were perhaps the most passionate in their explanations of why living near the river is important. Their lives are enriched by the Yellowstone River:

[If] somebody asks me where I live, I tell them, ‘Right on the Yellowstone River.’ I probably don’t even mention much about the house itself because that is almost secondary to me. Living on the river is very important to me. [As a child], I could throw a rock from my house to the river. I always thought that was kind of neat. I mean, the river that Lewis and Clark used was, basically, a stone-throw away....I just love being on the river. I love getting up very early in the morning, just before light, and getting on this river and not encountering another person. And seeing all sorts of wildlife, deer, turkeys. This winter there were a lot of bald eagles.
(*Dawson County Residentialist*)

My husband and his brother had their picture taken two years ago, by [the local newspaper], and when it was printed it was capped, ‘Fishing Buddies.’ This is one of my brother-in-law’s favorite pictures. I had it...framed, and gave it to him for Christmas....It is hanging in his living room and I know he just cherishes that picture. (*Dawson County Residentialist*)

I have a fantastic view; the scenery is wonderful. In fact, people that come here...say, ‘What a beautiful view you have!’...It is just beautiful. (*Prairie County Residentialist*)

[It’s] less populated, thank God....I like it here. Open, Big Sky country—that’s us. I don’t know how the western part of the state can claim that. [There are] too many mountains and trees. (*Rosebud County Residentialist*)

We’re pretty fortunate to live in Montana. I like it. Not many people. And that suits me fine. (*Treasure County Residentialist*)

I've always gravitated towards it because it's always relaxed me....My church is the river....The fog comes up off the water....The sun pops up and your line is singing out there and you look down and see the little crystals on it, then I look down and see a herd of elk crossing a couple hundred yards from me. It gives you....It's what drug addicts are, the reason they're drug addicts....It gives you that feeling...with no side effects,...other than you're hooked....I'm not leaving here....This is a place to keep forever. (*Yellowstone County Residentialist*)

We're right along side the river....We just love the area out here. We didn't want to be in Billings....We do a lot of fishing and hunting and floating and, you know, that kind of thing, and rafting....Just the trees, and that there's nobody between us and [the river] so it's quiet. Solitude. (*Yellowstone County Residentialist*)

Everyday I walk down my hall, and I have a new picture window. And you know, it's just awesome. The colors in the fall are beautiful, [and] most of the time the sun's shining on the mountains. We can see Granite Peak, we can see all kinds of activity in the river with geese, and we just love it, it's just awesome....My heart just feels so good. This is our place. (*Stillwater County Residentialist*)

Paradise. It's just great, great living. Private and beautiful. We are so lucky and privileged to live here; it's just wonderful. We have about two and a half miles of riverfront, so we don't have any neighbors close, and it is just great....The river is the reason we are here. It's the whole thing. There is constant action going on at the river, whether it's birds, or fishing, or deer, or whatever. There is always wildlife around which is our great love. We cultivate our land for wildlife. (*Sweet Grass County Residentialist*)

I feel real fortunate to live here. I mean, they call it Paradise Valley and it is. (*Park County Residentialist*)

The river is actually magical. I made the mistake of actually taking relatives on the river and now they want to come back every year. (*Park County Residentialist*)

Wildlife Is Appreciated: Of specific importance to the residentialists are their immediate and daily encounters with wildlife. Whether they observe from their windows, take daily walks or spend the weekend relaxing outside, they are able to offer exhaustive inventories:

Oh, the wildlife. We can see wildlife all the time....I like nature....There's never a day that I don't get up and look at the river and be thankful that I'm right where I am....It's our 'Little Eden.' That's what we call it. (*Richland County Residentialist*)

People here enjoy going up the river and putting their boat in, and floating down. It takes two or three hours to float. It is just beautiful. You see crops, you see deer, you see beaver, you see rabbits. (*Dawson County Residentialist*)

The pelicans keep coming back and increasing....The bald eagles seem to be doing well. And we had a couple of osprey nests on the bridge over the river....I hope the people don't get overpopulated and push the animals away....[Maybe we should be] making areas along the river where nobody can go for a short ways because it's closed as a pelican relief or something. There must be a way we can give the rare animals...or endangered ones a private place to hide, [or] at least nest. (*Rosebud County Residentialist*)

I do like to fish, and we have a river boat. I enjoy that. There is a lot of wildlife. I like to hunt. I enjoy that. As far as recreation goes, there are a lot of things to do. (*Treasure County Residentialist*)

[We see]...eagles, ospreys, [and] we wanted to make sure they have places to stay so they can come and entertain us, which they do, constantly. It's just amazing....It's fun to watch them battle the eagles when there's a catch in one of their claws....I didn't realize that an eagle could actually fly inverted with the fish—you know, roll over on its back in flight to address the threat. It was wild. Oh yeah, I'd have a \$100,000 tape if I'd have just had the camera. (*Yellowstone County Residentialist*)

[I] absolutely adore the choice of the location....It changes daily....It's alive....I would say that I'm one of the luckier guys in the world to have this view,...this untamed river that I always brag about....There's two of my [Canadian geese] parents out here going down with 12 of their babies....We see all the ducks,...the muskrats and the snakes....We'll have an eagle fly by and an osprey dive in the river....I'm a happy guy here. I've never worked a day out here, but I've sweat and toiled a bunch, but every bit of it has been so enjoyable. (*Yellowstone County Residentialist*)

There is a lot of wildlife out here....We see deer, turkeys, pheasants,...bears, cougars,...mountain lions, elk. There was a moose here....A big bull came across the river....The river is like a corridor for animals to travel, and they will move great distances along it....They actually use it like a highway, so you see a lot of different animals come through....Geese, ducks, sandhill cranes, two pair of bald eagles, and a couple pair of osprey....We have feeders up, [and we've seen]...probably 30 species that we identified in a book. We are not bird watchers, per se, but we just write down what we see, and we kind of expect them when they come. (*Stillwater County Residentialist*)

The beauty of our surroundings. You have all the wildlife, the birds. It's just fun to see all of that down at the river. The different birds,...the pelicans,...eagles nesting....It's kind of a sanctuary....It's a habitat....The blue heron's nest, and the

rookery. And it's unbelievable...the number of blue herons....There's a lot of bald eagles on the Yellowstone. I think that's a wonderful quality. (*Sweet Grass County Residentialist*)

We're in the elk migration route. They've been migrating from Yellowstone down here for 10,000 years....They migrate off that flat up there on the top and come down here to the lower lands and...and they feed in that big grass field across the river....[and] they...come across the river to the islands....I just enjoy watching them. (*Park County Residentialist*)

We...even [had] a black bear last week, right in the yard....My son was sitting across from me and he said, 'There is a black bear,' and I thought he was being funny. I said, 'Yeah, sure.' He said, 'There is a black bear!' And sure enough there it was. The dog saw it and when it barked it took off. We haven't seen it since. We keep anticipating it will come back. (*Park County Residentialist*)

It's hard to believe but,...about two months ago,...way up on the top of the hill, there...[was] a mountain goat [and] I went out on the porch one day and a pronghorn was walking down the road and looked at us and a moose. (*Park County Residentialist*)

Concerns Regarding the Water of the River: When asked about any concerns they have regarding the river, residentialists often bring up water quality and water quantity issues. The specifics of their concerns vary but, taken as a group, the comments suggest that residentialists are paying attention to the water itself as the key resource. Comments concerning water quality issues include:

The irrigation...in this area has been here since the '30s....Stop and think of all the water that's being diverted out of that river from up around Columbus...clear to the mouth of the river down, here. How many gallons are being pumped up on the ground?...Look at all the contamination and pollution from all the pesticides. (*Richland County Residentialist*)

I [am concerned about] pollution [in the river], because it is our water source. You know we need to protect our rivers. If there is an industry that comes in, you can't let...[the river] be polluted. (*Dawson County Residentialist*)

I don't know much about this methane, but I sure would hate to see it come in and ruin things....If they let it run down the river and we can't use it for our crops, or can't use it for our livestock, or it will kill our wildlife—that would be horrible. What good would the river be? (*Prairie County Residentialist*)

The water and sewer was one big issue that we got over there....If your septic tank goes bad, [the city] won't let you put in another septic tank. But they won't furnish [us] with city sewer....I just believe that...if you're living in the city, they should provide water and sewer. (*Custer County Residentialist*)

I'm concerned about people dumping stuff into the river...I've heard there's still places dumping toxic chemicals. I don't know if it's true or not. That certainly shouldn't be tolerated. (*Rosebud County Residentialist*)

I know there's an awful lot of pollution around...My concern is with the refinery, but I have to be careful about that because they were there before I moved in and I know they were there before I moved in...I would like to see the refinery...closed, but that's wishful thinking. Quite honestly, I don't know what they do to [the river], but I'm sure there's something that goes on, even if they say there isn't. (*Yellowstone County Residentialist*)

The Yellowstone River really stinks after Laurel. I mean, not that I want to lose the refinery or anything...I don't know if it's necessarily the refinery or if it's just that it's more populated from Laurel to Billings, that stretch. I don't know really what the problem is. But there's no good fish after Laurel...Keeping it clean is my biggest thing. (*Yellowstone County Residentialist*)

You get people [in the subdivision] that think they are farmers and ranchers, and they are going to flood irrigate. Many things happen when you flood...[I was worried they would] flood my septic system, and I would have to go in and put an above ground septic system. I went to the lawyer and did some research and found out...that if you don't use [a ditch easement] for so many years [they can't use it]...Water hasn't been through here for 30 years. They are done...Who in the hell wants their septic flooded? That is the stupid thing about leaving water rights with the subdivision. Wells are a different situation. Water rights for flood irrigation should not be left with a subdivision. I think they should go back and get rid of them...People come in, and put in a septic system, and Joe Blow wants to start flood irrigating, and he is above [us]. It won't affect him, but he will get everyone downstream, and he doesn't give a damn. That is human nature. (*Stillwater County Residentialist*)

I think they have to be real careful with septic, and things like that polluting the river. I think they are already doing that. I don't think we could build here today, and have a septic system. I don't think we could ever get away with it, or ever get approval. (*Sweet Grass County Residentialist*)

The sewage overflow...[at] the plant...in Gardner...If we have an outage, they didn't have a switch that would cut it over to emergency generator to keep it going...until...the guy...working part-time get[s] there to start the generator...The concern that I have is Yellowstone Park should have their own facility and not be using Park County's facility. (*Park County Residentialist*)

In the last two years, in the spring run off...the river turns...orange and...it's coating over the rocks and everything...So there's run-off that's coming from somewhere. (*Park County Residentialist*)

Comments regarding the quantity of water available include:

Another one is the lack of water....By August, you can wade across the river, here....There seems to be less water, a lot less. (*Richland County Residentialist*)

We should figure out a way to replicate whatever the river flow was at that time, [Lewis and Clark's time]. So, it should go up in the spring and down in the summer. Whatever it takes to maintain that flow—let the cards fall where they may....Whoever gets the water, gets the water. You don't artificially give more water to one person because you hold back water [behind a] dam....Obviously, it has implications for energy generation, and recreation, and floating barges downstream,...but I think that is the only fair way to do it. (*Dawson County Residentialist*)

I would put a moratorium on any more irrigated lands, period. No exceptions,...because there's too little water, and too much land. Irrigated farmers...take as much water as is legally available, and sometimes more than is legally available. And, as time goes, the cities and towns that take water from the Yellowstone are going to be demanding more and more. That, also, has to be stopped....We, for example, take water from the Yellowstone and from a well. Well water, especially on the scale that is used in a municipality, is extremely expensive. This is one of the things that people are going to have to get used to: paying for water in the cities. And, when I say pay for it, I mean a reasonable amount. (*Prairie County Residentialist*)

Recreation...doesn't use up water....I mean, you're using the water for play but you're not using it up....The growth in the community certainly could use more water, and I worry about agriculture, because I know...people are tending to take a lot more water than they have water rights to. It's a concern....Number one, enforce the water rights that the farmers and ranchers are using....[I know] that's their livelihood, so I'd hate to see that taken away, [yet] we have to have water to drink. (*Custer County Residentialist*)

I wouldn't mind some water being diverted off into a big reservoir, so we can store water. That'd be nice...and I always thought we should try to hang onto as much water as they'll allow us to, instead of just letting it flow into the ocean, because we need it here. We live in a semi-arid desert. And sometimes the river gets so low, we're losing out on species of fish that need water to live in...[and] when the water table goes down there's certain types of trees that can't make it, too. (*Rosebud County Residentialist*)

The big thing for me is the low water, the low water levels, but I'm not sure at this point what you can do. There's not a lot upstream that you guys can do to force it down stream. You know we rely too much on the snowfall. (*Yellowstone County Residentialist*)

If you believe in global warning, I think [lack of water] will be a problem everywhere....There is apparently some evidence that there is getting to be too many people. (*Yellowstone County Residentialist*)

Being an agricultural state, the river is very important all the way down....They've used it to irrigate croplands for years and years. I know...[because] I did a lot of crop insurance....We're such a great food source, for ourselves and other countries. I really think agriculture should have as much [water] as any. (*Stillwater County Residentialist*)

I just take it for granted....It is just there. It is a part of everyday life. We don't play on it a lot. Occasionally, but not very often. I am not a fisherman. We float it once in a great while. Go down and picnic once in awhile. I can't say it is important to me....It is not something I have to deal with on a day-to-day basis. I view it more as recreation than anything. (*Sweet Grass County Residentialist*)

We're going to have a leasing meeting over on Mill Creek with the watershed group next week, and a lot of people are feeling that they're coming up short because [one guy is] leasing his water rights [to provide for the fish in the creek]. It is going to affect me, but we have a law that says, if it's beneficial use, you can do that....Fish and wildlife...[are] beneficial according to our legislature now....And, let's face it, I'll be the first to say, that sometimes the fish in that creek are worth more than the hay I'm raising....[Most people] got their irrigation systems put in by the government—not totally free, but with lots of grant money—that was ten years ago....[Now, with this guy leasing his water, another] says, 'It's not fair.' Well, it may not be fair, but you did get a new pivot...for half-cost....So, I don't know. It's tough. I mean, that's going to be a real contentious meeting....We have water rights, but we dry up Emigrant Creek every year. So I can see both sides. But sometimes I [ask about the] outfitters and how much money they make on the Yellowstone River—it's tremendous. (*Park County Residentialist*)

Keep the Yellowstone River as Free as Possible: Along the course of the river, residentialists generally value the idea that the river is free-flowing:

The river is going to take its course. I don't think man is smart enough or huge enough to change it. They have poured millions of dollars into rip-rap on the Missouri, and it has failed. I hope they never do it in the Yellowstone....Let Mother Nature do its thing, and it will be fine. It always has been. Don't try to change it. (*Richland County Residentialist*)

I don't see any problems with the river if they don't do anything with it. Don't mess around with it. Leave it as a free-flowing river....It's got a couple of diversion dams on it, and they are probably needed for the irrigation, but...I wouldn't want them to build them any higher.... I never want to see the river blocked off. Never. (*Dawson County Residentialist*)

We appreciate the fact that [the Yellowstone River] is a free-flowing, long stretch of...water, which is so rare....We'd hate to see anybody improve it for irrigation or something by throwing [a dam] across [it]. (*Prairie County Residentialist*)

The Yellowstone is always there. It can get low, and I mean really low, and it can get really high. I've seen it in flood stages, flooding over on the north side, way over. But, it's always there; it's always flowing. In the winter time, it freezes over,...but you know it's there. It's a constant. I like that. I need that in my life. (*Rosebud County Residentialist*)

If it wasn't for the financial reasons, I would rather not have the dike and let [the river] do its thing....Had it never...had a dike, when the river got high, it would come and spread over the whole area....Maybe it would spread more gradually....You would have a bigger area, but not as much force...and there wouldn't be as much damage as with the dike....It would come up and flood,...and would cause a bit of damage on the bank....You would have junk, but that wouldn't be hard to clean up....If it had been let go, I am sure the channel would be wider than it is now. There would be some islands and...I don't think you would have as much debris....The high water would carry it away....It wouldn't pile up as bad. I might be wrong, but I think that is what would happen....[However], it is financially impossible [not to have the dike]. (*Treasure County Residentialist*)

For all the trouble it is, I still like the idea of the Yellowstone just running free. That's more about the aesthetics and the recreation thing....There's a lot of stuff,...the wildlife, the floodplains, the swamps, all those things you have because it runs free. All the changes it has from year to year. It's really important....I can see the dam....There will be a lot of advantages to control the flow of water. But I think we are back to economics....Irrigation—there needs to be more ditches. No flooding if you have a dam to control it. Plenty water for the growth [for] all these cities. (*Yellowstone County Residentialist*)

As long as it stays natural, that's the best. No dams, no changes. Just leave it...like it is today. I mean, I wouldn't like to see anybody going out there and building something in the islands, or anything else....I like to watch the river come up in the spring and go back to normal. And just, you know, wait for [William] Clark to come down. (*Stillwater County Residentialist*)

The public, and myself included, we need to have some available information....We [weren't] really good stewards when we moved here. We've done some rock work along our bank, and there wasn't anyone there [to advise us]...unless we could have paid for professionals....But at the time we couldn't afford it....If there's some kind of grants that may be available so you can hire a professional—if those professionals really have the answer—that's a question...I have. (*Park County Residentialist*)

Diversities Among Residentialists

Among residentialists there are a number of topics that generate diverse opinions. These diversities can occur among immediate neighbors, but they can also appear as differences along the length of the river.

Erosion and Flooding Concerns: It appears that the floods and devastations that occurred in 1996 and 1997 left lasting memories on some communities but not others. Put simply, those who suffered major impacts seem to have lingering concerns regarding the need to protect properties from the river. Near the confluence with the Missouri River residentialists are most likely to view the river as a kind of behemoth that will defy human efforts to control it. Upstream residentialists value its free-flowing character but also value efforts to protect properties:

The Yellowstone River hasn't changed much since it formed. It isn't like the Missouri that can cut 400 to 500 yards out of a bank in a year. You don't see that here. (*Richland County Residentialist*)

On my place there is a big meander, and it is starting to cut right across there. It wants to form a sandbar here. Maybe in 100 years or 200 years it will go right across here. (*Dawson County Residentialist*)

The changing of the channel, at least in the areas that I have looked at, has been so infinitesimal. There's no way in the world, unless we get a tremendous deluge like the 40-day rain, that the river could change enough to do any actual damage.... You'll find a farm in an aerial photograph, or you'll find a piece of land that came to one farm when it was taken off the other side.... The biggest one is near the town of Savage. The river changed channels there, probably 150 years ago. It moved about half a mile. (*Prairie County Residentialist*)

I think erosion is a natural thing, and that we should live with Mother Nature. I mean, the river's supposed to meander, so we'll have to live with it. (*Rosebud County Residentialist*)

I know that it's eating up the bank on this side.... The bank has really caved in.... They've tried different things, but everything they seem to suggest the Army Corps of Engineers says, 'Nope, you can't do that.' They've tried rip-rap in different areas in different ways, and the Army Corps said, 'Nope,... it's not ecologically safe, or it's not economically feasible, or it wouldn't work'.... I would like to see [something] because I don't want my river to go away, and I don't want my town to go away. (*Rosebud County Residentialist*)

It's a vigil every year to keep up with the river, to see if it's going to take out some more of the property. It's a living creature, that Yellowstone. (*Yellowstone County Residentialist*)

The power of that river....The water comes up over that bank, and it just rolled. It was like a big roller coming at you, and it was the water coming over the banks, and the force of it, when it moved that huge ice up on the land, and it came around there, and it went all the way up to the neighbor's house before it broke. And it broke fairly fast. (*Yellowstone County Residentialist*)

The river took that island out in about a week and a half. It had 50 to 60 feet cottonwoods. It was just covered in trees. It just took it right out, you know. That is what the river does. We just expect it is going to happen. (*Stillwater County Residentialist*)

If you own property along the river, you expect erosion, you expect change....I wouldn't want property along the river, and if I did, I would have to look at it really carefully. It is horribly expensive to try and protect it. To me, it is a detriment to own land along the river. (*Sweet Grass County Residentialist*)

In 1996 we lost quite a little bit [of land]....We lost quite a bit this year....We recently...got it re-surveyed and found out that there isn't, and never has been since we've owned it, as much land as we've been paying taxes on. We've been trying to obtain two titles on this property....Once we get that done we will take it to the county treasurer and see what we can do about that. (*Park County Residentialist*)

The flood of '96 changed my property....The island broke in half and...when it broke the force of that came over and hit that island and doubled back. My neighbor had very poor rip-rap and [the water] found the weak link and just kept coming to my house....I lost 100 feet [of property]...and part of the house. (*Park County Residentialist*)

Our bank changed....The rocks used to go way out in the river. The main force used to be on the other side. We lost at least two feet in one area of bank. That changed the whole flow of the river. Now it comes around the bend and comes at us and then swings out the other way....It changed dramatically with the flood. You don't notice a flow change as much. (*Park County Residentialist*)

Flood Plain Restrictions and the Role of Governmental Agencies: Discrepancies of opinion appear when residentialists talk about development in flood plains and the role of governmental agencies. Clearly, the residentialists from areas with little riverfront development are much more willing to take a laissez-faire attitude toward imposing limits on the activities occurring in flood plains:

They can build where...they want to. But, if they get flooded, that's their problem....If you want to be stupid enough to go down there on a sandbar, don't come crying to me....When they buy these little parcels,...it should be right on their deeds that this property is floodable....If they would have studied it, they wouldn't have built there to start with....Take the liability off me....You'd have

to be a damned fool to build a house on a place like that to start with. (*Richland County Residentialist*)

People know that river [will flood],...that is why we didn't look for a house over there....I grew up seeing that whole area under water. So, I know what that river can do. I wasn't about to buy a house over there. Now, those stores have been built over there, but we wouldn't buy a house over there. (*Dawson County Residentialist*)

I always thought that any damn fool who wants to build on the river bank, sticking his neck out, if he falls in—tough shit-ski. He should know better. It's like those guys in California that build up on a mudslide; they ought to know better. (*Prairie County Residentialist*)

I'm concerned about people moving onto flood zones and expecting other people to pay for it [when they] get flooded. Whether it's the insurance companies, which means all of our insurance premiums go up, or whatever....I've seen more houses move near the river....Some of them are not above the flood plain, and that's their fault. If something happens, I don't think anybody should have to pay for it but them....They want to be close to the river. (*Rosebud County Residentialist*)

There's always gradual change, but in a high water year, it could happen in one year, in one season....The boat ramp was carved out a little bit more this year. So there's more water over there this year in that channel, whereas it was one the other side last year. So, it can happen,...like I said, in a season. And it's always happening gradually. (*Yellowstone County Residentialist*)

People...call it a flood plain for a reason, and if people want to build in the flood plain, then that would tell me that you're going to get flooded. (*Yellowstone County Residentialist*)

If somebody's going to build in the flood plain, they should sign something, 'I'm building in the flood plain. I'm willing to take the risk. I know what the implications are and I don't expect the government or my fellow Montanans or anybody else to bail me out if things go wrong.' (*Yellowstone County Residentialist*)

The last time they did a survey for the flood plain was probably over 20 years ago, and it is something that needs to be done and upgraded....If you look at the flood plain maps they have got, they show us in the flood plain, and that is wrong. We are not in the flood plain. We are too high for a flood plain, but that is the federal government. What are you going to do about it? As far as people building low, I don't think they should be allowed to build in the flood plain. All it does is cause problems for everybody concerned. And for people not in the flood plain, we are being penalized....If there are not enough regulations, or if they have not

been reviewed, when the river changes over the years [the maps are not accurate]....Anybody along this side of the river is required, if you refinance, to have flood insurance, and you can't fight it. If you pay cash, you don't have to have it, but if you finance, [it is required]....I mean, there need to be regulations, and people need the proper insurance, but it needs to be looked at closer and more often. (*Stillwater County Residentialist*)

Personally, I like knowing that the Yellowstone has no dams, and I am all for keeping it that way....Part of me says the river was there, first, and if you are going to live in a place like that, you should know before you do it....Probably, if I was buying a house lot, I wouldn't buy there. I wouldn't build a house there or in the flood plain, if there was a potential for more damage. The river will eventually go a different way. (*Sweet Grass County Residentialist*)

We need to be looking pretty seriously at why we're still allowing homes to be built on the river. And...I'm kind of speaking out of two ends here because I do live on the river, but I do think that since the floods we need to look more seriously at what we are allowing....Each place wants to protect their property....Are we all going to be able to do that and still allow the river to be healthy? (*Park County Residentialist*)

Comments regarding the role of governmental permitting agencies run parallel to the comments regarding needs for restrictions:

The biggest problem here is the diversion dam. They are having a big controversy over the Pallid sturgeon. It is an endangered species...and they are talking about a fish bridge for the sturgeon to be able to go up river....There are some conservationists that would like the dam to go away, but they rely on the dam for irrigation....Intake doesn't allow the fish to move upstream and spawn where they need to....And Pallid sturgeon and sauger get sucked into the canal....They are trying to get big fish screens in front of the canal so the fish can't get into the canal....Another plan is to have a lift station that would fill the canal....If those two plans don't work, they plan on digging this huge canal. For them to do that, they would have to run a canal that was 60 feet deep....Logistically, it is such a mess....It seems the fish ladder is more cost-effective....You'd have to have some pretty impressive infrastructure, ice gates and tree gates to keep the junk out of the canal,...and you would have to have a tremendous amount of dirt and...an easement and...bridges....I just can't see it being very feasible. I look at the map and it seems the river doesn't drop that much. (*Dawson County Residentialist*)

The latest big flap was when Fish, Wildlife and Parks wanted to close a recreation area near town—that really upset a bunch of people. Also, the policies [for] out-of-state hunters and their permits have been quite detrimental to Fish, Wildlife and Parks. The consensus around here is that Fish, Wildlife and Parks is looking for more finances,...to build their own little empires....For a while the ratio of out-of-state permits to in-state permits was too high. The proportion of hunting

license fees for in-state versus out-of-state were out of proportion, also. (*Prairie County Residentialist*)

Basically, [flood insurance] means that you're giving your money away to the federal government....It depends on the value of your property, but generally speaking, [it costs] about \$300 a year. You're paying for insurance that really probably you or your children will never regain a penny from because...it doesn't really cover anything but the foundation of a house....It's a big waste of money...because you have to have your homeowner's insurance on top of it, and...the federal government always waits until the end. (*Custer County Residentialist*)

All he wanted to do was rip-rap to save his bridge....At one time, he had 20 guys standing down there on his bridge, discussing what he should do. Bridge finally washes out and down in the river it goes. The next day, to save the road, they are hauling big boulders, dumping them in...and, of course, in the spring he had to haul his bridge out. That's required....But, there you go. When you're dealing with water, you're dealing with a lot of different people. (*Yellowstone County Residentialist*)

The only problem we had was the reluctance on the Army Corps of Engineers and the DEQ to get [the weirs] done. It took us two years....We probably lost 30 acres and an eagle's nest. To me, that is very disappointing. The lack of vision on the part of people that think the river has to be natural and nothing else works....The length of time and meetings it takes and attitude of, particularly, the DEQ was very difficult. Some of the people in the Corps were very reasonable; some were not that reasonable. The DNRC in town was very good as far as helping us. But their hands are pretty-well tied. They wait for all of the bigger agencies to deal with it. I think they make it so difficult that people just don't want to do it right, frankly. (*Yellowstone County Residentialist*)

All through Montana history, you could do what you wanted. But now you have to have a permit for everything. So that's changed. (*Stillwater County Residentialist*)

Life isn't fair. You've got to do the best you can with the situation. It doesn't matter what we do, or where we're at, we can't choose our neighbors. I think you have to try to make the best of the situation,...[the] best for all. You're never going to please everybody, no matter how you do it. (*Stillwater County Residentialist*)

They just don't want [zoning]. I was raised on a ranch and I lived in town for awhile and the townspeople gave up the right to zoning. They just exchanged one right for another. I wouldn't live in town without zoning....When there isn't any zoning, they can't tell you what to do, but when you have zoning you have the

right to stop a big farm next to you, for example. You give up one right and acquire another one. (*Park County Residentialist*)

Private property rights are always an issue along the river. They often are trampled on by regulation and then those regulations cost the private property owners along the river money....There is always a balance and to find that balance and for everyone to be responsible along the river....I think that's done through education not through regulation. (*Park County Residentialist*)

Rip-rap as an Appropriate Method for Protecting Property: Residentialists are generally aware that properties can be protected by using rip-rap, but many recognize that rip-rap can have negative consequences. In the upstream communities, where flood damages were great and where one county convened a task force, the calls for bank stabilization are most tempered by the awareness that protection of one's private property is not the only consideration:

That's another problem: you rip-rap on one side, and you're shoving that water back over on another guy. He's going to be a squawking....It wouldn't do...[anything] to the rivers at all, but it would take away from the natural beauty of it. I mean, you drive down the river and it is all rocks, which aren't supposed to be there, you know. (*Richland County Residentialist*)

Rip-rap works pretty-well...I think the river is going to do what it is going to do....I could rip-rap this, and I have always heard that if you do that, it will take it someplace else. (*Dawson County Residentialist*)

There isn't too much to do about [erosion]....They piled debris from the old high school right here on the riverbank and that is what protected our riverbank. It stays pretty permanent, and when the water comes down, it keeps it out. (*Dawson County Residentialist*)

I think they get concerned [about erosion] and do stuff for it. I know some people put in rip-rap....If it is going to control the soil, then good. I might be speaking out of turn, but that is the way I look at it. (*Prairie County Residentialist*)

We should have laws that limit erosion control along the banks...and it's going to have to be enforced so that everybody's treated right....It would have to be [regulated by the federal government] to...[encompass] the whole river. (*Rosebud County Residentialist*)

The '97 flood took out the rip-rap and 500 yards of dike. I lost about seven or eight acres of irrigated ground. Ice jams are another one. It can go from a nice mild river and within about 30 minutes it will be running over the banks....When it flooded in '97 it deposited gravel over 18 acres of irrigated ground four feet thick of just gravel....We had to get the trees and debris off....[It took] two weeks....We used a tractor, a loader, a Cat, and a dozer. There were a lot of real

sandy piles....We had...to spread it out or push it into a hole. It was so fluffy it was hard to get around with it...I suppose that took a week or ten days. Then we went in with a disk and disked it and chisel plowed and took our own level and leveled the land. We spent a couple of weeks at that. We spent most of the summer getting it so we could plant it the next spring....You don't realize all of the things that happen when you lose that much of a crop....I suppose [it took] ten years to [pay off the expenses]....Of course we lost seven to eight acres of ground that is totally gone. At today's prices, that is worth between \$15,000 and \$20,000. You still own it, and owe on it, and still pay taxes, but it is in the middle of the river. (*Treasure County Residentialist*)

I've been thinking about getting some huge landscape rocks and putting them down there along the bank, just on top of the bank. I understand that concrete blocks and concrete rip-rap are out now because of the lime and all of that other stuff. So you got to come up with some kind of alternative. (*Yellowstone County Residentialist*)

Rip-rap in key locations in the river is really important for landowners. If they're not able to rip-rap, they're going to lose land. (*Yellowstone County Residentialist*)

I don't think [rip-rap] would be effective—not on a curve like that, because I think eventually it just...gets behind the rip-rap, [and] you end up doing it again. So I don't believe rip-rap is the answer. (*Yellowstone County Residentialist*)

We put weirs in....[They were] incredibly successful....If it is done right, it works very, very well. We spend a lot of money and time and energy enhancing wildlife on a property like this that we are not compensated for. We do it because we like to....I spent hundreds of thousands of dollars doing the project we did on the river, doing the weirs the way we did it, engineered right. (*Yellowstone County Residentialist*)

You can attempt to control it, but when you have a flood, like in '96 and '97....We hauled rocks that were huge, and [now] they are sitting out in the middle of the river, and the ground that they protected is gone. You can control it somewhat. (*Sweet Grass County Residentialist*)

When we're talking about the Yellowstone, we're not talking your normal Montana river. I mean,...there's a lot of power in this bad boy....It will do what it wants. So...to keep it from eating stuff up, you've got to get pretty tough with it. (*Sweet Grass County Residentialist*)

That guy spent tens of thousands of dollars rip-rapping it to protect it. Since the flood, he has done more rip-rapping. (*Sweet Grass County Residentialist*)

Rip-rapping is the cheapest form of erosion control....Some people will use steel plates, and pound in bridge pilings, and make a wall if they are trying to protect a house. Concrete walls are very expensive. (*Sweet Grass County Residentialist*)

I think you have to have rocks. If you do it right with vegetation, I think you could do a pretty fair job. I could show you on our place...one place where it has worked very well with vegetative growth, but [it doesn't work] in every place....I think vegetation with rock would be a great way to go, so long as it's done in a way that you're not going to cause damage downstream from you. (*Park County Residentialist*)

Don't be too hard on the people that live on the river. I don't have the money to make big changes....I had a bunch of cottonwoods growing and the beavers came and ate every one of them. There went my stabilizing....[The beavers] are really destructive. I am trying to keep this place,...[even though] the moose come and they eat everything they see and...I am not going anywhere. I am going to stay here. (*Park County Residentialist*)

[Rip-rap] can divert water. It can shift the problems up or down....The reason that I probably might not do the rip-rap is I'd lose ten years of vegetation that's out there since the last flood and the vegetation is as good or better than hard rip-rap...[and] once I talked to some people who explained that to me, I don't really want to tear it up to put some rock in...but [the information] didn't come from any of the [government agencies.] (*Park County Residentialist*)

Specific Concerns Among Residentialists

The concerns identified here are, more or less, specific to this interest group. In most cases, the issues or topics are linked directly to living near the river.

Private Privileges and Public Rights: Residentialists are likely to explain that they feel very fortunate to live near the river. They cherish their locales. They desire to protect their sense of privacy, their rights concerning who is on their property, and many are distressed that recreationalists violate the "high water" designation. They do not argue against the public's right to be on the river, but only a few speak with passion when discussing the need to maintain public access to the river:

We lived in a small house in town, then we decided we would like a place in the country....I am two-tenths of a mile from the river. I am two miles from town and my closest neighbor is a quarter-mile [away]....It is somewhat isolated, but you are still close to town. (*Richland County Residentialist*)

I like wildlife and scenery....I can sit on this deck, right here, and I can't see a neighbor. So, if I blindfolded someone and put them on the back deck, they might as well be out in the middle of wherever. You can't see anybody. (*Dawson County Residentialist*)

I don't see conflict between the different groups. Like I said, a lot of the landowners are very cooperative about access. The river can be used sometimes for hunting access to the state lands. They'll get in at a boat dock and go up to...state land. [There are] not too many concerns there, as long as the hunters stay where they're supposed to stay....I think the...recreationists have to be aware of agriculture and be respectful...and I think for the most part that is recognized. Maybe the good access helps too. The roads are all graveled and nice. You can access in any kind of weather. That probably helps. (*Rosebud County Residentialist*)

There aren't enough people here yet [for conflict to exist.] I would imagine if we start getting a lot of people, we will get that. (*Treasure County Residentialist*)

Access—that is complicated....I would like to see just two accesses but...it would be better for the public to have one more....There have been times, especially during deer season, [when] they keep hounding me...to put a boat in. So far, I haven't let anybody use it except my own family. There can be hard feelings over it. It is private property so they should understand that....I am not real comfortable with [them going] right by my house....You are going to have people throwing stuff out and littering. You think they won't, but they will. (*Treasure County Residentialist*)

Nine out of ten of those people that...come from a public access are going to trespass....There's four-wheelers all the time that we are constantly reminding them are not to be up on motorized vehicles, even within the high water marks. 'Oh, gee, we didn't see the signs.' 'Oh, really, gee, we are sorry' [they say] after they have been down there tearing up the riverbank. (*Yellowstone County Residentialist*)

There's always the high water mark which I really like. As long as you can get on legally, you are legal. I don't believe in the circle the wagon thing neither, buying big blocks and just shut it down. (*Yellowstone County Residentialist*)

Quite honestly, if they're just pulling off for a few minutes to take a break, I don't really care. (*Yellowstone County Residentialist*)

We need more access so people can get on to fish. People just don't trust people anymore, and we can't blame them....Unless you know somebody, you can't get on...[so] they fish the bridge down here...[on] both sides, and they fish this corner up here, and they'll walk down the railroad tracks and fish that side, and there's a rancher over here that lets people that he knows on there to fish....[But] it's too close; you've got to get farther away to fish. To catch these here, you've got to go a long ways. (*Yellowstone County Residentialist*)

We realize that if someone is on the river they can get off and get out as long, as they stay within the high water mark....They can come along, and stop and fish

along the bank, as long as it is at, or below, the high water mark. That is the law....[But,] as I understand it, there are some rich people that are trying to take it away. (*Sweet Grass County Residentialist*)

I can see both sides: the people wanting on the river, and the private landowners next to [the river] that don't want people going through their land to get on the river. I like to use the river, but I also understand that people don't want you driving through their bull pasture, and leaving the gates open, and driving all over their pasture, and killing the grass and stuff. The best I can see is public access in spots along the river, so you can get down there, and then you can use it. You can use it next to a private land, as long as you get on it legally, which I agree with. Some people think that you shouldn't be able to use that river next to their land, but I don't agree with that. I think it's a public river. But, as far as any change, I don't know what could be done to make it better. I know there are problems. (*Sweet Grass County Residentialist*)

This subdivision is unique in that there is a bridle path that follows the river for use by the owners in the subdivision. Anytime you have an easement like that, it is somewhat troublesome because there is no incorporated town out here. But if the towns grew enough, they could make a permanent easement, and everyone could use it. That is what bothers me....That bridle path was meant as a bridle path, and they shouldn't use it as access to the river. It may sound selfish, but I am paying taxes on it, and they don't. My liability covers only me, and if they got hurt, they could sue me. They wouldn't win, but they could still take me to court. That bothers me....A guy bought a bunch of the land, and is going to put in 100 houses [behind me, away from the river]. That is a huge impact. If those people think they are going to use the bridle path, I will have a problem with that. It was designed for this portion [of the subdivision], not the whole. So, the enforcement problem may be a real problem. (*Stillwater County Residentialist*)

We're not all rich people that can buy ranches and have our own private...hunting and fishing....I think we have the highest per capita participants in hunting and fishing that live in Montana compared to other states and part of the reason is...the opportunities...we have. It's still good for the average person....They can have as good of access to hunting and fishing as the rich people do and that's real important to keep it that way. (*Park County Residentialist*)

I'd like to see public access maintained. I'm a real believer in the stream access law....Let's use the resources. I'd like to see sensible use of it. I don't want to see wildlife adversely affected by or during a drought year. I want to see enough water maintained to keep the fisheries stable and in good condition, if that's possible. (*Park County Residentialist*)

NIMLYs—Not I My Lifetime/Years: Even though many residentialists have a great deal of respect for the power of the river, a number of residentialists view the river as benign and see no real threat to their properties. When asked if they worry that they

might be flooded or that the river might erode the bank away, some residentialists agree that over time such possibilities were real, but they would also explain that they did not see such threats as immediate. Such residentialists are referred to, here, as NIMLYs, “Not In My Lifetime” and “Not During the Years of My Life” are common ways of explaining why they do not worry. They seem fairly certain no harm will come to them. In fairness, some are probably correct, and the river’s processes will not harm their properties in the next few decades. However, some people explain themselves rather clearly as Former NIMLYs. They experienced problems they never anticipated. Here, then, are comments reflecting NIMLY attitudes and former-NIMLY attitudes:

I am almost positive that we are not in the flood area. Although, one spring it did almost come over the bank....It was that far from...running over the bank. It will probably happen again one of these years. (*Dawson County Residentialist*)

We haven’t had any [flooding]. This house was built later than most of the houses in the neighborhood, up on the ground, so a flood would still do damage here, maybe the basement....It would have to be a bad flood to damage this house....[It] doesn’t really concern us now. There would be plenty of warning for it now....[You] insure your house and leave when they tell you it’s going to flood....It’s not something I am going to worry about living down here. It’s the chance you take. (*Custer County Residentialist*)

This house used to sit down there where the pile of dirt is. I had to move it.... High water came and washed the bank away....That was the 200-year high. There used to be an island down there about 100 yards and the 200-year high took it out. [The dike] was all rip-rapped and I thought I would never have to touch that again in my lifetime. In May [the river] took it all out. Some of it has been rocked since the early 1970s. (*Treasure County Residentialist*)

The next year we had a 500-year high and it went right by me because the island wasn’t blocking me....[That second year it washed away 100 feet of bank and] the river was running right by the whole south foundation....It cost probably upwards of \$40,000 [to move the house]. (*Yellowstone County Residentialist*)

As far as flooding and such? No, we don’t [worry]. The town’s going to flood before we would. We’re higher than that, so we don’t have a problem with that. I think if we’re going to flood, I’d better call Noah in because, you know, it’s going to get pretty high. (*Stillwater County Residentialist*)

I don’t know if during our time down here we will [see change]....But there again, it depends on the number of floods. That is going to have the biggest impact on it every time. If that happens there is something different every time....But I don’t think we will see a major change. I don’t expect a new channel to be going across the hills or something. If it does that, we will be out of here! We will be building a big boat with a lot of animals on it. And one thing down here where the river runs, there is that big hillside there, so if it is going to change,

it isn't going to impact this way....It was a big flood we had in 1996, 1997, and we weren't living here prior to that, but we floated it a lot, and it didn't make huge changes. That was a good-sized flood. (*Sweet Grass County Residentialist*)

1996 and 1997 were historical record flood years and...conversations have really been stark because of those two major floods....I think people got scared about protecting their properties and some properties were lost. And so with the protection of property and living on the river, there's controversy. And I think before the [floods, the] controversy probably wasn't as strong....I think we can be good stewards to the water and the river ways but also [we can] protect our homes....Somehow we have to come up with a balance instead of just saying, 'Oh, you can't do this, and you can't do that.' Somehow we have to work together to come up with what is the best thing for the river and [the people]. (*Park County Residentialist*)

The Impacts of Development: When asked about the future, residentialists often discuss how further residential development will impact their communities. In communities where little development is occurring there are few concerns, but in communities where development has been relatively intensive, residentialists are aware of problems, even when they recognize the irony of their concerns:

Instead of a lot of the river frontage being locally-owned or farmer-owned, there is a big chunk that is being bought by out-of-staters....We are not that concerned with the river's impact on people as much as we are concerned with the people's impact on the river. If they don't take care of it, it will continue to get worse. We have had a lot of people come by here, from all over the place. I had a guy from Minnesota stop one day and want to hunt turkeys in the yard. (*Richland County Residentialist*)

Where we are, right here, sure, there might be some more development....More development might be nice. We need to stimulate our economy. (*Dawson County Residentialist*)

Out-of-state people are driving up prices and changing the politics...the Ted Turners tend to have a political agenda. And, in some instances,...[they are] successful. (*Dawson County Residentialist*)

I see it growing because of the energy in the area. There are companies coming in that deal with energy. If it grows, it's going to be because of energy. It's basically right now an agriculture town and hasn't grown a lot at all....There's always the possibility of the Tongue River railroad. They talk about power plants....Energy is becoming more and more important....At some point, it's going to come in and we're going to see the town grow. (*Custer County Residentialist*)

The whole area is getting less populated. Our school is truly downsizing....There are no jobs that pay well in this area, unless you're lucky [with] the

railroads....There's agriculture jobs...but they don't pay well: \$40 or \$50 a day....When you start adding it up at the end of the week, it truly isn't [much]....Montana does not take care of its people....They cry that they don't get any tourists, but they don't do anything to welcome them to the state. They have lousy rest areas and...they shut down in the winter time....They don't do anything to promote tourism [and] then they cry that everybody else gets the tourists. I'm sorry, I'm spouting off. Montana is a beautiful state. I love Montana and there are nature's wonders all over the place, but they don't do anything to promote them, and they don't do anything to take care of them. (*Rosebud County Residentialist*)

I would like to see it stay in agriculture. I would hate to see a bunch of houses here. (*Treasure County Residentialist*)

We're losing more farm ground every year for people to build on....It's going to grow. If they get a sewer system in here, it'll grow. It's grown a lot now, all these houses down here are new. There's a block over here, there's three new houses on it. (*Yellowstone County Residentialist*)

When you have more people, you need more water. How do you share that with the agriculture? That's going to be one of the big questions....What happens to agriculture? I know in Billings a lot of that Ag land is being bought up and is being subdivided. Is the amount [of water] they use less or more in those subdivisions versus what farming would use? What is the trade off there?...I think that would be as big a concern as any. (*Stillwater County Residentialist*)

HUSBAND: Another thing that is grinding people bad [is the] rich people buying up this land along the river, and shutting it off to hunting and fishing. That is a big issue. WIFE: As a subdivision, we don't allow access to the river. HUSBAND: If somebody asks, we would let them down there. WIFE: Not just someone off the street. HUSBAND: No, [but we would] if we know them. It isn't a public access; it is private land. We wouldn't deny access. WIFE: We do to outsiders. If someone comes from Billings, and wants to fish, we would tell them no. HUSBAND: That is our policy to keep it kind of private. The Fish and Game need to have all the accesses they can get. They need to maintain them, and clean them. There are a lot of rich people buying land and shutting it off. Public access is important. (*Sweet Grass County Residentialist*)

The development is just unreal....At night,...I used to drive around and see a dozen lights in the old days, and now there are just hundreds of them, thousands of them, literally. So a lot of the ranches have been chopped up. But it's dollars....They can make more selling it for a house site than they could making hay. (*Park County Residentialist*)

[My kids] will be lucky to afford to live here, I'm afraid. We're lucky we bought our property when we did because we couldn't afford it today....We just got a new law passed by Congress on conservation easements that's a lot more user-

friendly. Before, the only people that could use those conservation easements were multi-millionaires, basically. And this new one, in fact I was reading about it this morning, you can defer this for, like, 16 years, where before you had to take your tax deductions in six years. So there are some positives there, although you mention conservation easements to some people and they think they are wicked. I think it will help me for estate planning to be able to pass our place on to the kids easier. (*Park County Residentialist*)

Implications of Residentialists' Perspectives

The perspectives and concerns voiced by residentialists suggest that very particular issues must be accounted for both in the near future and in on-going resource management strategies. For instance, residentialists clearly pay close attention to the resources of the river. They feel deeply connected to many forms of wildlife and to the quality of the water. Having chosen to live near the river, they are studious observers of what is happening to the river and the environment, and many of them keep detailed journals of their observation. Importantly, even though many of them are enamored of their locales, only a few speak in detail of riparian functions. For example, many residentialists view the cottonwood trees as beautiful and as important bird habitats, and they often recognize that the cottonwood stands are quite old. Yet, only a few seem to ponder why there are no young cottonwood trees, and fewer still explain that flood regimes are important to the regeneration of cottonwoods. Another example is to consider that some residentialists are actively working to eradicate noxious weeds on their properties while others never mention the issue.

The implication of these examples is that residentialists can be some of the strongest allies when looking for property owners who will voluntarily adopt practices that promote the overall health of the river and the riparian areas. Unfortunately, it will take a concerted, focused and sustained effort. Residentialists do not appear to have a sense of oneness with fellow residential river-dwellers. They are, perhaps, the least likely to band together as a group. Yet, their deeply-held personal attachments to the places they live make them obvious candidates for becoming good stewards of the river's resources and good protectors of the public's interests.

In a different way, however, conversations with residentialists imply that a somewhat taken-for-granted aspect of the public's use of the river will eventually, if not soon, disappear. Namely, as residentialists occupy more of the riverbank, and as they become more concerned with protecting their personal privacies, there will be fewer informal paths to the river. It is also implied that violators of the "high water" designations will not only encounter disgruntled property owners, but that they will encounter property owners willing to engage legal remedies and recourses for trespass. Groups with recreational interests will want to promote respectful observance of property rights. It seems entirely possible that a time will come when formal public access sites will be the only means of getting to the river if one is simply a member of the general public.

While alarms need not sound at this time, the conversations with residentialists suggest that pressures will grow for new public access sites but property owners will be unwilling to accommodate the demand. The state may be able to remedy the pressures in some cases, but another implication is that organized recreational groups, especially those willing to self-monitor their members, will attempt to privatize access in some areas.

A rather troubling third set of concerns is introduced when considering the difficulties involved in maintaining a free-flowing river while simultaneously protecting personal properties. It is apparent that individuals with structural investments near the river will eventually request permission to protect those investments. Where setbacks are not in place, homes can indeed be built in the flood plain. Current federal regulations make it an expensive proposition, but it is not beyond the financial means of many newcomers to Montana. As well, homes that sit well above flood plain concerns can be jeopardized when the river channels take new courses or return to old ones. A few “bridges to nowhere” attest to such channel movements, as do many stories associated with the floods of 1996 and 1997. It makes sense to avoid building near the river, yet the attraction to do so is strong and it is not difficult to understand why residentialists want to protect their homes once they are built. NIMLYs may be happily oblivious, but they are not necessarily safe.

By implication, then, it is important for fullest breadth of the river to be identified and mapped. Not only do local communities need periodically updated flood plain maps, but they must be assisted in minimizing development projects that will eventually be threatened by the river’s natural changes of course. Arbitrary setbacks, such as 300 feet or 500 feet, are unlikely to garner public support. However, the establishment of informed limits, one’s based on historically verified changes, have a chance of generating support. Even though current owners will continue to ask for permits, or to take matters into their own hands, it will be easier to maintain the free-flowing nature of the Yellowstone River if further developments are kept well out of the path of the river.

As demonstrated in the above, residentialists have rather wildly dissimilar understandings of the physical processes of the river, the riparian functions and reasons permitting complications. It certainly should not be expected that the general public understands the river very well because even the experts admit that there is a lot about the river that is not predictable. An attitude of conservative flexibility should be fostered so that the public and the riverfront property owners can understand that local governments do the best that they can, given the available information. Also, because new information is always coming into view, managers and local governments will necessarily change the rules at times. Every influx of new people, every new generation of adults, and every group of individuals that acquires the means to own a “slice of heaven” will need to be educated and assisted in understanding the river, the management strategies, and the constraints of local governments.

Native American: River-Length Overview

Interviews were conducted with seven individuals representing Native American interests, including members of the Crow and the Northern Cheyenne tribes. Participants were recruited from referrals provided by various project supporters and by Dr. Jeff Sanders, Associate Professor of Native American Studies, Montana State University-Billings.

Participants in Yellowstone River Cultural Inventory—2006						
	GEO SEG I: Missouri River to Powder River	GEO SEG II: Powder River to Big Horn River	GEO SEG III: Big Horn River to Laurel	GEO SEG IV: Laurel to Springdale	GEO SEG V: Springdale to Gardiner	TOTAL IN GROUP
AGRICULTURAL	22	22	16	12	14	86
CIVIC	14	14	18	14	8	68
RECREATIONAL	15	16	16	13	16	76
RESIDENTIAL	15	11	16	15	19	76
GEOGRAPHIC SEGMENT TOTAL	66	63	66	54	57	
NATIVE AMERICAN						7
PROJECT TOTAL						313

Native American: Analysis Table

River-Length Concerns Among Native Americans

1. The Elk River
2. Water Integrates Life—It is Not Simply a Part of Life
3. Water is Sacred
4. Drought is Troubling

River-Length Diversities Among Native Americans

1. Concerns Highlighted By Northern Cheyenne: Water Quality, Fish and Plants
4. Concerns Highlighted By Crow: Development and Paving Over Farmland is Wasteful

River-Length Specific Concerns Among Native Americans

1. Tributaries Suffer Pollution
2. Separation from the River and Nature
3. Politics and Economics Impact Natural Resource Decisions

River-Length Implications of Native American Analysis

1. Holistic Planning and Management is Best
2. Providing Support to Tribal Communities Contributes to Health of River
3. Native American Histories are Informative
4. Partnerships Can Contribute to Health of River

Native American: Summary

Introduction

A review of the Native American interview data for this river-length summary suggests that people share four common sensibilities when discussing the Yellowstone River. First, the Yellowstone River is known to the both the Crow and Northern Cheyenne as the Elk River. The namesake refers to the abundance of wildlife along the river valley, and the Elk River occupies an important role in the tribal histories of the Crow and Northern Cheyenne. Second, the tributaries of the Yellowstone River, the plants, the wildlife, the human cultural practices, and all other living beings are interrelated. Life-forms are connected through water. Third, water is considered a spiritually-significant and deeply important element within the Crow and Northern Cheyenne cultures. Fourth, the recent years of drought are troubling.

Despite these commonalities, Native Americans express dissimilar opinions and beliefs. These diversities are primarily based on their unique situations and specific geographic locations. The Northern Cheyenne are concerned about the water pollution caused by the current Tongue River coalbed methane wastewater operations and the future development of additional extraction sites. They are also concerned about the restoration of native fish populations in the Tongue River and its tributaries in relation to diversion dams as barriers to spawning sites. Finally, members of the Northern Cheyenne Tribe discuss how noxious weeds and their various forms of dissemination threaten the native plants that have cultural and medicinal significance. Crow participants spoke of the rapid development and its effects on the destruction of fertile farm ground in the river valley. They felt more thoughtful steps towards planning to preserve fertile farmland should be undertaken.

There are three sets of concerns specific to Native Americans. They are concerned about pollution in the Yellowstone tributaries, especially as those problems are a function of faulty wastewater treatment facilities on the reservations. They are also concerned about the cultural separations occurring as each generation seems to be not only physically removed from the river, but spiritually removed as well. In some cases, these detachments from the Yellowstone River have caused tribes to relocate cultural practices onto the river's tributaries. The third set of concerns are articulated as vulnerabilities due to economic hardships and political problems that allow for unfortunate natural resource decisions.

Finally, there are four evident implications derived from these discussions. The first is that the Yellowstone River should be managed according to holistic principles that include the entity of the basin and its constituencies. Second, tribal communities should be given as much support as possible when dealing with problems that ultimately effect

downstream quality and quantity. Third, oral accounts of the river should be more fully gathered and incorporated into the official records of the river. And fourth, there are many mutually-beneficial opportunities for partnerships between the interests of the Native Americans, other interest groups, and managers.

The quotes included in this summary are for illustrative purposes. They are also found in the detailed analysis that follows.

Common Concerns Among Native Americans

The following concerns are common among Native Americans interviewed, regardless of where one meets the individual and regardless of which tribe the person is a member. In the past, the river and its environs provided abundant game for the tribes and thus it has great historical significance in the histories of each tribe. Moreover, river waters were, and continue to be, viewed as a life-force that links lives together and that must be respected as sacred.

The Elk River: The river known to Crow and Cheyenne as the Elk River is known to others as the Yellowstone River. The Elk River occupies an important role in the tribal histories of the Crow and Northern Cheyenne:

It was named the Elk River because there was quite an abundance of elk along the river, drinking, using it as a life-giving source. They had to drink water. From what I understand there used to be hordes of elk along the river. We used the hide. We used the teeth and we ate the meat... Wedding robes were made from elk hide. Wedding robes are beaded strip blankets and porcupine quill work was put on there or later after trade came to this area beaded medallions looked beautiful and they were given to brides of Crow men. The hides were valuable because of the size. Of course, we used the teeth too. Two teeth from each elk were put on the elk tooth dress. If you had a dress with a lot of teeth on it that meant you were from a wealthy family. That your husband, your son, or your brother was a good hunter. That elk teeth were symbolic of wealth and the ability to hunt. (*Crow*)

The Cheyenne hunted buffalo all through that area. They had a lot of contact with the Yellowstone River. They allied with the Sioux and evolved into the confluence of the Yellowstone and Missouri. There was a lot of game. (*Northern Cheyenne*)

Water Integrates Life—It is Not Simply a Part of Life: The main river and the tributaries link all life forms together:

The river is *in* the willows that form the lodge that comes from the riverside. [A medicine man] said that the wood too comes from the riverside that we use for the fire. (*Crow*)

It is a belief system. It is not something you can look at scientifically. It is so important that it is part of our religious belief. You can't separate it [water] into farming, etcetera; it goes way beyond. You can't separate the importance of water in our belief system. It is who we are and you can't separate that. The western world is very segmented...[but from] the holistic view...you can't have a coherent system broken into parts. (*Northern Cheyenne*)

I enjoy looking at the river, because water is life. That's what we've been taught. And it's precious, the water is. And anything that is growing along the river because of the water, the life that the water gives, you know, I always think about those things,...because I'm an American Indian and because I appreciate those kind of things. I've been taught by my mother to think about those things and, of course, you know in these modern times when everybody, red white blue, anybody, has become aware of so many of these kinds of things that are important to us as human beings, you know, no matter what race we are, what culture we come from, water should be important. (*Crow*)

It is a living entity for the Cheyenne people. Where does it come from? Springs are also sacred to the Cheyenne. There are stories that say you can't be around springs at night. There is an animal that protects it and if you see it you will go haywire or move on...take a journey because of this animal. Why does this animal have this power? You have to go back further and say why does it protect the springs? It also lives along the creeks. (*Northern Cheyenne*)

Water is Sacred: Water holds a special place within the Crow and Northern Cheyenne cultures as a sacred life-force:

The river is a giver of life but it can take your life away also. There is this sacredness that we attach to water and the animals. "Fish" in Cheyenne also means "turtle." Turtle is a sacred symbol to the Cheyenne. It is symbolic of a male also. These things are so interconnected, that when we talk about water, we have to look at everything that deals with water because water is everything. It is in the form of fish, it is in the form of humans, it is in the form of animals. When we talk about ceremonies it is all in reference to life. (*Northern Cheyenne*)

When the elders told me that story about how God looked down and wanted to formalize the Crow tribe with formal relationships, I always think about the Yellowstone River, that's what he saw. (*Crow*)

A medicine man took us in there, he was an elder. Before he took us in there he explained the importance of the water. And back then, when I was young, maybe the water wasn't so polluted because we did jump in. He took a dipper of the water, and he prayed over it. He said, 'This water is life to us human beings, and to the natural resources that grow around here, and to the animals who depend on this water.' He said, 'Don't ever be cruel to this water. No matter what form, whether it comes out of your faucet or if it is free running like this.' (*Crow*)

Culturally speaking, water is everything. (*Northern Cheyenne*)

Yes, it's sacred. Lots of things are sacred to American Indian people; water is especially so, because we use it in so many things, you know. Not only do we drink it to nourish our bodies, we pray before we drink it, because we know what it does for the body. We also use it in our sweat bath, we use it in the Sun Dance, we use it in the Tobacco Society, which is a religious organization in the Crow Tribe. We use it in almost everything that is connected to our beliefs in nature and in God. It connects us with God. And so it's a very sacred commodity. We just cannot live without it and we know it. So, it's not taken lightly, water, it's not taken lightly. (*Crow*)

Drought is Troubling: With recent droughts, the future of the quantity of water in is of special concern:

I don't know what has happened there. Lame Deer Creek is basically dry. I remember in the winter time having to chop holes in the ice to get water. (*Northern Cheyenne*)

The drought is the biggest problem, even in Billings in the Blue Creek area. (*Crow*)

Diversities of Opinions Among Native Americans

Members of both tribes express concerns about the effects of historic and contemporary development on the health of the river. There are a number of topics that generate detailed discussions; however, some topics seem to be more particular to the Northern Cheyenne while other topics are seemingly more immediate to the concerns of the Crow.

Concerns Highlighted by the Northern Cheyenne: Issues regarding coalbed methane development and plant species are discussed extensively among members of the Northern Cheyenne tribe.

Water is a by-product of the extractive processes used to gather methane from underground coal seams. The quality and quantity of the extracted water varies greatly depending on the particular well, but typically it is discharged into the local environment. Thus, as the coalbed methane fields in northern Wyoming are further and further developed, the Northern Cheyenne have become more and more concerned. Not only do many of the methane fields in northern Wyoming ultimately drain such waters into tributaries such as the Tongue River, but there are efforts to develop similar fields throughout southeastern Montana. Concerns over the impacts on water quality are commonly voiced:

You hear about the coalbed methane water. It has already affected the health. It is probably high in saline and that is number one polluter right now of both the Rosebud and the Yellowstone. (*Northern Cheyenne*)

We were in court with Fidelity. And the judge finally made a ruling that Fidelity could go ahead and drill and sink some more CBM wells and there was a certain percentage that I can't remember that they could dump untreated into the Tongue River. That is on top of what Wyoming is dumping into the river. There is pollution from the Montana CBM wells. (*Northern Cheyenne*)

The Northern Cheyenne also express a great deal of concern regarding the restoration of native fish populations. They view irrigation projects, in particular diversion dams, as detrimental to restoration efforts:

You can look at the native fish that used to be coming up from the Yellowstone, the sturgeons and there are other species. [We need to] try and increase the water flow....I think that is a benefit to the tribe as well as others. (*Northern Cheyenne*)

Instead of using everything, leave some for the fish. (*Northern Cheyenne*)

There was a study done before they had these diversion dams. There was no fish passage. Now we are working on installing fish passages on these diversion dams so we can get back our native fish. That is what we are working on. They found...a sturgeon way up close to the border that migrated way up there. They want to see more spawning the area. More native that comes from Yellowstone that comes up to spawn. That is what we are working on. (*Northern Cheyenne*)

For members of the Northern Cheyenne Tribe, noxious weeds and their various forms of dissemination threaten the native plants. As invasive plants, these weeds often overtake the plants with cultural and medicinal significance:

The Rosebud and the Tongue are all kind of deep in the noxious weeds...the salt cedar. (*Northern Cheyenne*)

Also vehicles...because we don't have ordinances that say you have to stay on this road otherwise your vehicle can be a carrier of noxious weeds. A friend always comes out to the place and picks different herbs and medicines. He said you have a virtual pharmacy here. There is about 35 different herbs that they use. We try not to drive over it. He comes out and we give him permission to pick those. (*Northern Cheyenne*)

We have noticed a real change in the cottonwoods. They have almost been non-existent, more so than other species of trees in other areas. That means we don't have a good riparian area and that might be another cause of erosion. Not only erosion but the introduction of other species of plants like noxious weeds [is a problem]. The weeds, are opportunists and that is an area where they can survive. (*Northern Cheyenne*)

Introduction of new plants is pretty substantial because when you import hay from other counties you run the risk of introducing new species....You are seeding noxious weeds when you feed hay every winter. (*Northern Cheyenne*)

Concerns Highlighted by the Crow: Crow participants spoke of the rapid residential development and the loss of fertile farm ground in the river valley. They felt better steps towards planning could be made:

If I had anything to say about it at all, there would be no subdivisions in the Yellowstone Valley. I would really try to get people to move out of the valley and then rip up the blacktop and concrete that we have down in the valley. Because one of these days we are going to go to the fridge and we are going to say, “Wow, there is nothing in it because we have blacktopped every acre of the finest, fertile land in the world. Yellowstone Valley is a great producer. (*Crow*)

Why can't we go up on the ridges up out of the valley and save the valley for farming? It is really kind of ridiculous what is going on. I moved up to Billings almost eight years ago, and west Billings has moved a mile up river; probably three or four miles up river and all the way across the Yellowstone Valley and took up two, maybe three thousand acres of the finest, fertile land in this nation. It is fertile because of the Yellowstone River and we could irrigate it. (*Crow*)

The Yellowstone has always flooded. When the Indian people were here, if it looked like the water was getting high they just moved out. They never fought nature, they lived with nature. Now today, we fight nature; by rip-rapping the rivers as we do, by trying to hold the course, trying to keep it from washing away land. We are constantly in a battle with nature and I think nature is pretty unbeatable when it makes up its mind. (*Crow*)

Nature can't clean [the valley] and sweep it anymore. And nature would if we would just leave it alone. And the thing of it is, we keep rip-rapping it and the banks are getting deeper and further down because of the rip-rapping. It is not good. (*Crow*)

The rip-rapping and the fertilizing and everything that is going on in the land right now are affecting the river because nature cannot cleanse it. Nature cannot cleanse the valley. (*Crow*)

Specific Concerns Among Native Americans

The concerns identified here are, more or less, specific to this interest group. In most cases the issues are linked directly to the immediate and/or vested interests of these individuals as Native Americans.

Tributaries Suffer Pollution: Tribal participants expressed concerns regarding pollution events in their home areas:

It's become so polluted on the reservation now; there are a lot of concerned individuals. They can't even use it in sweat baths anymore. They used to come out of the sweat bath and jump in the river... They would go in the sweat even in the winter time and jump in the water. Now a-days there is a little hesitancy. They will bring the water from maybe their faucet. They'll bring it in great big buckets and they'll use that. They rarely jump into the river anymore because of it's pollution on the Big Horn River or the Little Horn River. So, that's the kind of concerns that American Indian people have. (*Crow*)

The real contamination is our sewers down there. Holding ponds and those things are overflowing into Lame Deer Creek. You can see where it has killed all the vegetation. It is starting to smell. I don't know how far down it goes. I know they walk along there. There is a spring down there and it has been impacted by the overflow. Nobody seems to do anything about it. That is a tributary into the Rosebud. And it contributes to the Yellowstone. (*Northern Cheyenne*)

Separation from the River and Nature: Due to Native Americans having been placed on reservation lands, tribal practices that were once associated with the Yellowstone River are threatened. Some practices have long since been relocated to tributaries, but others are apparently at risk due to the modernizations in tribal members immediate lives:

Not very many of my people listen any more to nature and it's kind of sad. I blame it on economics. Life is really, really hard anymore for Indian people... We're competing with the modern world too. (*Crow*)

The traditional use is still with us today. They don't practice it as much as they used to because we are losing our elders. (*Northern Cheyenne*)

Geographically speaking the limited access to the Yellowstone is an issue. The Yellowstone River is an important cultural location. As time goes on, memories start to fade and physically the usage of the Yellowstone is almost nonexistent today just because we don't have access to that river anymore. There are certain times that we can have access to it like any other citizen. That is recreation. (*Northern Cheyenne*)

I think we still own some of the islands on the Yellowstone River, I think. We're supposed to own the mid channel of the Yellowstone, the southern end which is still supposed to belong to the Crow Tribe. (*Crow*)

Some of the things that we do here...we still do them on the Tongue or the Bighorn or the Rosebud. Those things were part of the cultural practice along the Yellowstone. (*Northern Cheyenne*)

Politics and Economics Impact Natural Resource Decisions: Native American participants express concerns that the political and economic pressures faced by tribal members are sometimes at odds with long-term objectives:

Growing up, there weren't that many cars here. You could go into the hills and run into deer. They propagate real quick. Then cars were introduced and then pickups and then four wheel drives and spotlights. People hunted and started killing the deer population. They never implemented a season or some kind of control. When I became superintendent they passed a spotlight ordinance. In three years time the population came back. (*Northern Cheyenne*)

The EIS [Environmental Impact Statement] for Otter Creek [coal plant] development is kind of a repeat of another court case that the Bureau of Reclamation wouldn't include the impact on the Northern Cheyenne in the study. They went clear to the Supreme Court and it was handed down that the Bureau of Rec. needed to do that. I guess they are not good learners because they did it again. (*Northern Cheyenne*)

The Crow Tribal leaders sold our water rights away. Some of the Crow, we call them the Allottees' Landowners Association, which is the organization I am part of. One of our members wrote a letter to the Department of Interior, in Washington, D.C. and stated that the tribal administration as a whole, as an organization, has no jurisdiction over our land. Tribal allottees are individual land and water owners and they have no right to negotiate on their behalf. So the judge over there in Washington D.C., Lamberth, I believe, he acknowledged that. So the US Justice Dept. stopped that ten million dollars the administration was trying to get for the individual water rights, between here and all the way to the Yellowstone. (*Crow*)

There are people always handing money under the table for tribal council to not let our people develop anything at all. (*Crow*)

Implications of Native Americans' Perspectives

Taken as a group, the perspectives and concerns voiced by Native Americans suggest that very particular issues must be addressed in both near-future and on-going resource management strategies. There are four primary implications for the Native American interest groups, agencies, communities, the Tribal Council, and other interest groups.

More than any other interest group, the Native American communities speak of the river in holistic terms. They speak in terms of not separating the parts from the whole, and they consistently expand conversations to include both the physical tributaries and the broader social communities that share the resources of the basin. The first implication, then, is that management decisions concerning the Yellowstone River are incomplete unless they take into account the entire river basin, including its system of tributaries, its 70,000 square miles of drainages, and its diverse constituencies. Inclusive management schemes

are certain to be difficult to coordinate, especially if the new scheme either implicitly or explicitly brings more people and more perspectives into consideration.

This expanded view suggested leads to a second implication. Namely, it may be necessary to provide assistance to tributary communities as a means of insuring the long term health of the river. For instance, there is an apparent need for improved water quality measures and water treatment facilities on the reservations. Participants explain very specific problems that could ultimately degrade water quality in the main stem of the Yellowstone River. They note accidents, cite irresponsible behaviors by tribal members, and discuss a lack of monitoring as their primary concerns. Other problems are derived from improper, outdated, or failing infrastructures. Also, the Native American participants noted that many people simply do not understand the impacts of their individual activities, nor do they understand that some of the historical practices may be unsafe given the current water quality conditions. Agencies, downstream communities, and other organizations should partner with tribal members to work towards solving these problems and towards helping tribal members better understand the dangers associated with improper wastewater treatment.

A third implication is exposed by considering that many of the cultural and historical resources of the Native American communities are threatened by the inevitable aging and loss of elders. When one considers the brief attention paid by this project to the oral histories of Native Americans in terms of their associations with the river, it is clear that these histories should be more fully gathered and incorporated into official records concerning floods, droughts, ice jams, wildlife, and fisheries, to name a few. Stories about the river and its tributaries are passed down generation to generation among Native Americans and act as a collected history. If these Native stories are treated as simple folklore—or worse, as myths—then the informative power of these histories is lost to managers.

Finally, Native American communities struggle to avoid a variety of vulnerabilities. A recent example involved a “near-miss” regarding the Crow Tribe’s water rights. By the accounts given, tribal leaders had been misled, and if it had not been for the vigilance of a few people, the agriculturalists on the Crow Reservation would have lost their water rights. The potential effects could have caused devastating problems for the reservation and for downstream users. Thus, a final implication, here, is that even though the Native American communities are threatened by numerous vulnerabilities, these threats should be taken into account along with the threats to agricultural, recreational and municipal interests. It is towards everyone’s benefit to identify and support a strong and stable nexus of Native American allies who are dedicated to a healthy watershed. Partnerships that build from mutual interests can serve the entirety of Yellowstone River communities.

Native American: Detailed Analysis

I. Cultural Meaning of the Elk River

A. The “Elk River” at the Center of Living

There is no Yellowstone River. There is the Elk River. (*Crow*)

I heard old folks call it the Moose River or Elk River. The Elk River. Eeyohe River. (*Northern Cheyenne*)

They used to call it the Elk River. Back then, it gave life to them. There were good camping areas with a lot of Cottonwood trees....Even today we still have stories of what took place in those areas; buffalo hunts, battles, ceremonies around the Yellowstone. The stories are important to carry on about the Yellowstone. I think that is one of the most important things for the people here. They talk about how they would cross it and how they would watch the flows and how it fluctuated. There were some individuals who kind of liked science. They studied water, however it moved and the flood plains. (*Crow*)

You take the contribution of the tributaries that sustain these rivers. Everybody here knows that the river is life. It is a living entity for the Cheyenne people. (*Northern Cheyenne*)

The river, the land area was at one time Crow Country and we love this place because it provided us with a lot of food and water of course. We gave it its first name which is Elk River....Even some people still call it that today. I notice that there's Elk River this and Elk River that. (*Crow*)

When you look at river tributaries, they all have a meaning when you view how they are connected. Rivers and springs are to be respected. You can't be around them when night falls. Otherwise there are certain spiritual entities that come into play. (*Northern Cheyenne*)

It was named the Elk River because there was quite an abundance of elk along the river, drinking, using it as a life-giving source. They had to drink water. From what I understand there used to be herds of elk along the river. We used the hide. We used the teeth and we ate the meat... Wedding robes were made from elk hide. Wedding robes are beaded strip blankets and porcupine quill work was put on there or later after trade came to this area beaded medallions looked beautiful and they were given to brides of Crow men. The hides were valuable because of the size. Of course, we used the teeth too. Two teeth from each elk were put on the elk tooth dress. If you had a dress with a lot of teeth on it that meant you were from a wealthy family. That your husband, your son, or

your brother was a good hunter. That elk teeth were symbolic of wealth and the ability to hunt. (*Crow*)

The Crow used the Yellowstone River from the very headwaters to where a trickle of water comes out of the rock that takes you five minutes to fill a cup. They used every inch of it. (*Crow*)

The water was always there, as us Crows, just like the other tribes, we camp along the rivers, and the Yellowstone is a river that runs through our reservation. (*Crow*)

The Indian people always fed the river before they crossed it... They would give it a piece of fat or a piece of meat. And ask for safety before they crossed it. We still do that. Even today occasionally those who believe in the traditions will go up there and throw a little bit of fat or something and ask for blessings because of its power. (*Crow*)

God looked down and saw the driftwood going down the river. And the river is life. River is symbolic of life and as driftwood goes down this life, float down, they eventually will end up on some bank and another one will come and another one will come. And if you ever seen the driftwood, they eventually tangle together and stay together. That's what he meant for the Crow tribe to be; to drift along with life but to form somewhere, to cling together and to help one another. To relate to one another. That's the clan system. I envision it to be the Yellowstone River, I don't know why. (*Crow*)

B. Descriptions of the River

It used to be that grizzly bears were [native to] this area. Same way with elk, they originally were a plains animal that got pushed out of their normal, natural habitat. They made the adjustment and are thriving. (*Northern Cheyenne*)

The Yellowstone River was like a big sweep that came down this valley and it was constantly changing directions. Why do you think we have this great soil that we got here? (*Crow*)

The Cheyenne hunted buffalo all through that area. They had a lot of contact with the Yellowstone River. They allied with the Sioux and evolved into the confluence of the Yellowstone and Missouri. There was a lot of game. (*Northern Cheyenne*)

There's a lot of elk in this valley, the richest valley in the state of Montana. Right now, they're growing sugar beets and whatever...They make a lot of money on that, farmers do. (*Crow*)

Do you want to keep this conversation focused on the Yellowstone or with the tributaries? They contribute too. This is all part of it. You know we are closer to the Tongue and the Bighorn and they are tributaries to the Yellowstone. (*Northern Cheyenne*)

Though it's life-giving and it can be beautiful to look at, it can be dangerous too, because it can ruin a lot of land, threaten a lot of homes. I thought about whether someone was cruel to this river, but of course it was from extra melting winter snows. So all of it can be good or bad. But those are the things I think about. (*Crow*)

You can use that water; you know that water is there... For us we know it is going to flow all the time so we know that there is a bigger river we can run too just in case. (*Crow*)

I enjoy looking at the river, because water is life. That's what we've been taught. And it's precious, the water is. And anything that is growing along the river because of the water, the life that the water gives, you know, I always think about those things,...because I'm an American Indian and because I appreciate those kind of things. I've been taught by my mother to think about those things and, of course, you know in these modern times when everybody, red white blue, anybody, has become aware of so many of these kinds of things that are important to us as human beings, you know, no matter what race we are, what culture we come from, water should be important. (*Crow*)

In one of the stories, in the wintertime they would go down there and bust up the banks to get water. They would swim in it too and get water for soups and to bathe themselves. These were some of the important stories that relate to the mouth of those tributaries in the Yellowstone that affected them. There were a lot of mosquitoes at that time so what they did was go by the banks and get themselves wet and put that mud all over themselves. That is how they kept the bugs off... With mud on, the bugs don't really get to you. There is good in that little mud over there too. (*Crow*)

When the elders told me that story about how God looked down and wanted to formalize the Crow tribe with formal relationships, I always think about the Yellowstone River, that's what he saw. (*Crow*)

They used those areas [tributary confluences] a lot more in the wintertime because those areas had a lot of trees held the winds back. (*Crow*)

The Yellowstone River was detrimental to the Crow Indians. In 1838, a riverboat came up the Missouri River; Fort Union, unloaded. Ten days out of St. Louis, one of the people on the ship got very ill. The captain immediately recognized it as small pox and they quarantined the man... Well this guy with the smallpox got up and started counting his blankets he had to trade... He traded his blankets to all of the tribes of Indians, and it killed approximately 77 percent of all of the Plains Indians in 1838. (*Crow*)

Crow country was the last area settled in the whole United States and it wasn't until the treaty in 1868 when the Crow ceded away the western part of the Crow nation, the nine million acres that is from Livingston down to Park City on the Yellowstone River. (*Crow*)

When Clark came down the Yellowstone, and he was getting down close to the Missouri River in the Sidney and Glendive area, his diaries talk about having to put his canoes ashore and wait for the buffalo herd to cross the Yellowstone River. This happened to him in the diaries three different times between Terry and Glendive. He said he would have to get out and wait maybe an hour for all these buffalo. So you know there was thousands that crossed right there in front of him... the Yellowstone Valley was larger than all of the tribes of Indians. Why do you think the Sioux wanted this country over here? They wanted the buffalo. I always call it the buffalo economy, because at one time we depended on the buffalo for our lodges, our clothes, food. There was absolutely nothing that was not used out of a buffalo. (*Crow*)

We used to swim there a lot but then they started closing off Two Moons Park. I think there are still some individuals that get firewood from around that area. (*Crow*)

C. River Valley Plant Life

In the plants and the vegetables that flourished near the Yellowstone River is what drew us. Plains Indian people always tried to live near rivers because of water. (*Crow*)

There are certain herbs and medicinal plants. Certain pockets of areas only found along these tributaries of the river (*Northern Cheyenne*)

In the past, we were river agriculturalists. We grew corn. We were with the Hidatsa at one period in time. The Hidatsa lived in North Dakota, and we were one tribe. We planted corn, we ate fish, and the game, deer, buffalo, elk, whatever that was there, but we grew corn, squash and all these vegetables. The Native Americans in this country have provided 60 percent of all the foods, squash and all these other vegetables that were there. And there's some other plants that people think are weeds, but they aren't. They are foods and medicine, we use them. (*Crow*)

D. Ceremonial Uses

I want to go back a little bit and talk about the cultural uses. If we go back to the connection of historical use, we need to focus on that a little more and say how the river is used by you and the tribal members. I think we have to start with our world view as to how the world operates as seen from the Northern Cheyenne there are ceremonial uses. (*Northern Cheyenne*)

There are many Crows that go into the Yellowstone Valley today to do prayers and fasting because they are traditional sites. (*Crow*)

The river is a giver of life but it can take your life away also. There is this sacredness that we attach to water and the animals. "Fish" in Cheyenne also means "turtle." Turtle is a sacred symbol to the Cheyenne. It is symbolic of a male also. These things are so interconnected that, when we talk about water, we have to look at everything that deals with water because water is everything. It is in the form of fish, it is in the form of

humans, it is in the form of animals. When we talk about ceremonies it is all in reference to life. (*Northern Cheyenne*)

Some of the things that we do here...we still do them on the Tongue or the Bighorn or the Rosebud. Those things were part of the cultural practice along the Yellowstone. (*Northern Cheyenne*)

Whether it is having sweats or fasting, you would fast standing up inside the river. (*Northern Cheyenne*)

We have to look at all these different cultural values. Why we have so much respect for water itself. Water ultimately flows out to the oceans. (*Northern Cheyenne*)

It is a living entity for the Cheyenne people. Where does it come from? Springs are also sacred to the Cheyenne. There are stories that say you can't be around springs at night. There is an animal that protects it and if you see it you will go haywire or move on...take a journey because of this animal. Why does this animal have this power? You have to go back further and say why does it protect the springs? It also lives along the creeks. (*Northern Cheyenne*)

Culturally speaking, water is everything. (*Northern Cheyenne*)

And yet, it's one of the most powerful elements that can destroy and kill people... So we pray with this water and we take it as maybe a sacrament like as Christians, we pray on it. Even our children, we pray that when they go swimming, they don't have any accidents in the water or we pray that sometimes we get flooded. (*Crow*)

Water is one of the most important elements that we have. As a tribal member, we use water in our ceremonies, our sweat lodges, you know. There's mainly four important elements that are very important in life. Water is one of them. Without them you can't survive. (*Crow*)

A medicine man took us in there, he was an elder. Before he took us in there he explained the importance of the water. And back then, when I was young, maybe the water wasn't so polluted because we did jump in. He took a dipper of the water, and he prayed over it. He said, 'This water is life to us human beings, and to the natural resources that grow around here, and to the animals who depend on this water.' He said, 'Don't ever be cruel to this water. No matter what form, whether it comes out of your faucet or if it is free running like this.' (*Crow*)

And the Crow term for water... means "going along." And when you say go get me some water, or bring me a dipper of water, it means to disturb the flow and bring some of it. (*Crow*)

Yes, it's sacred. Lots of things are sacred to American Indian people; water is especially so, because we use it in so many things, you know. Not only do we drink it to nourish our

bodies, we pray before we drink it, because we know what it does for the body. We also use it in our sweat bath, we use it in the Sun Dance, we use it in the Tobacco Society, which is a religious organization in the Crow Tribe. We use it in almost everything that is connected to our beliefs in nature and in God. It connects us with God. And so it's a very sacred commodity. We just cannot live without it and we know it. So, it's not taken lightly, water, it's not taken lightly. (*Crow*)

You can use stories of the old people like Plenty Coups. They came out of the sweat bath and jumped in the river no matter if it was ice cold. They would go in the sweat even in the winter time and jump in the water. (*Crow*)

If you go on a fast... you will know that importance of water. (*Crow*)

It's serious on the earth, the land. It was just amazing to me what kind of power and life that water holds. (*Crow*)

E. Interconnectivity

The river is *in* the willows that form the lodge that comes from the riverside. He [medicine man] said that the wood too comes from the riverside that we use for the fire. (*Crow*)

It is a belief system. It is not something you can look at scientifically. It is so important that it is part of our religious belief. You can't separate it [water] into farming, etcetera; it goes way beyond. You can't separate the importance of water in our belief system. It is who we are and you can't separate that. The western world is very segmented...[but from] the holistic view...you can't have a coherent system broken into parts. (*Northern Cheyenne*)

In a nutshell from a cultural point of view all these things are interrelated. (*Northern Cheyenne*)

II. Beliefs of the Elk-Yellowstone River Valley

A. Water Rights

Part of the Yellowstone River in terms of water 'acre feet' flows in there. We have the opportunity to be able to use that amount of water we use. From a business kind of view. (*Northern Cheyenne*)

All those rivers were in our lands and territory, and there's a treaty or there was an act that says all the waters still remain to the people that have the first right, first there, first right. (*Crow*)

We own water but how can you own water? Like how can you own the air? You can't. We understand the white man's system of ownership but it is tough to integrate those

things together. For us we still retain those cultural boundaries of how important water is. (*Northern Cheyenne*)

I guess it is the States that are fighting over the barges down on the Missouri and Mississippi. We are all one but down in the lower states a judge ordered more water for more people downstream. So North Dakota, South Dakota, and Montana has suffered a loss of how much water they can use up here and there is more water being used for the barges. That is one of the battles between the lower and upper states of the Yellowstone. I see a battle for control of the flow. (*Crow*)

The most important thing is for the State, the tribes, and individuals that use the water should get their fair share of the use of the water, and benefit the people who live on the water. I believe the distribution of the water is the most important, because what ever happens along the Yellowstone affects us too. (*Crow*)

The Crow Tribal leaders sold our water rights away. Some of the Crow, we call them the Allottees' Landowners Association, which is the organization I am part of. One of our members wrote a letter to the Department of Interior, in Washington, D.C. and stated that the tribal administration as a whole, as an organization, has no jurisdiction over our land. Tribal allottees are individual land and water owners and they have no right to negotiate on their behalf. So the judge over there in Washington D.C., Lamberth, I believe, he acknowledged that. So the US Justice Dept. stopped that ten million dollars the administration was trying to get for the individual water rights, between here and all the way to the Yellowstone. (*Crow*)

B. River, Land Ownership

I think we still own some of the islands on the Yellowstone River, I think. We're supposed to own the mid channel of the Yellowstone, the southern end which is still supposed to belong to the Crow Tribe. (*Crow*)

Geographically speaking the limited access to the Yellowstone is an issue. The Yellowstone River is an important cultural location. As time goes on, memories start to fade and physically the usage of the Yellowstone is almost nonexistent today just because we don't have access to that river anymore. There are certain times that we can have access to it like any other citizen. That is recreation. (*Northern Cheyenne*)

I used to be very bitter about the things that were taken from us, until I visited a tribe in California and we dug a village site right in front of Nick Nolte's house, the movie star, and he allowed us to do this ... The tribe was just pitiful... They took us to a hill overlooking Malibu and there were these naked people in bikinis doing volleyball and she was up there praying and I thought what a contrast this is. And I asked her and her father, he was all decked out in shells and stuff. I said, you know so much has been taken from us as Native American people, I said, are you bitter?... He said we are the old Americans, they are the new Americans. It was meant to be. We remember who we are. We value these things and we will continue to do so. The new Americans value what they

value and they do what they do, because God meant for them to be that way. I have no hostility toward them because they are God's creatures and they are meant to be here just as we are meant to be here. Holy smokes, we were digging one of your old villages in front of a movie star's home and you are not bitter? No, I'm not why should I be. They are God's creature too. That really changed me. So, when I come here and I talk about the Yellowstone and the people who are living by it now, the ranchers, the farmers and they took all that land away from the Crow people and reduced it in size and time and time again, they took the Yellowstone River from us. But they were meant to be there. They're hard working people... I hope that it benefits them and what they produce for life. The life continues there, see. And my visit to that Californian tribe has completely changed my life... They had no bitterness in them. I started thinking differently. And that's how I look at the Yellowstone now. (*Crow*)

III. Management Concerns

A. Protecting the Quality of Water

We were in court with Fidelity. And the judge finally made a ruling that Fidelity could go ahead and drill and sink some more CBM wells and there was a certain percentage that I can't remember that they could dump untreated into the Tongue River. That is on top of what Wyoming is dumping into the river. There is pollution from the Montana CBM wells. (*Northern Cheyenne*)

The cattle that are along the river, they have runoff that pollutes the water. And sometimes we have people that dump their house sewage into the rivers. We don't see it, but they dump that junk into the rivers, and I guess stricter laws and I guess enforce these laws and maybe give them some stiffer penalties, but they need to manage that water. (*Crow*)

You hear about the coalbed methane water. It has already affected the health. It is probably high in saline and that is number one polluter right now of both the Rosebud and the Yellowstone. (*Northern Cheyenne*)

From the coal fired power plants, we have that liquid metal mercury that is in the pollution that comes up out of the smokestacks when the rains come and the snows and the spring waters runoff, these liquid metals go to those points, and they end up in the rivers. And when they end up in the rivers, the fish have mercury in their bodies... When that mercury gets into the drinking water that is the point where we don't want to see our kids having birth defects. (*Crow*)

We are forgetting about the biggest contributor to the Rosebud on into the Yellowstone and that is Lame Deer Creek. The mouth is south of us here. I am old enough to recall that it was a very vibrant creek. There were fish in that creek. We used to swim in that creek. We used to get our drinking water out of the creek...nowadays... talk about human damage to the creek. (*Northern Cheyenne*)

It's become so polluted on the reservation now; there are a lot of concerned individuals. They can't even use it in sweat baths anymore. They used to come out of the sweat bath and jump in the river... They would go in the sweat even in the winter time and jump in the water. Now a-days there is a little hesitancy. They will bring the water from maybe their faucet. They'll bring it in great big buckets and they'll use that. They rarely jump into the river anymore because of it's pollution on the Big Horn River or the Little Horn River. So, that's the kind of concerns that American Indian people have. (*Crow*)

The real contamination is our sewers down there. Holding ponds and those things are overflowing into Lame Deer Creek. You can see where it has killed all the vegetation. It is starting to smell. I don't know how far down it goes. I know they walk along there. There is a spring down there and it has been impacted by the overflow. Nobody seems to do anything about it. That is a tributary into the Rosebud. And it contributes to the Yellowstone. (*Northern Cheyenne*)

We don't even know what kind of water quality we have here. 2002 was the last time the tribe had an EPA staffer study the water quality from the creek down here all the way down to the Yellowstone... So whatever you do here, it goes into the Yellowstone. (*Crow*)

We are slowly...we have natural resources we have Native American studies. We have policies. We are trying to make it work and segment it. (*Northern Cheyenne*)

The problem is stable drinking water down the road from the creek. We know there are springs underneath and people that used to get good water, but we just wanted to know about the creek. Because some people still use it, like the kids. They swim here and then they drink the water. So it is those kinds of issues that the tribe isn't doing anything about. The conversation district should gather information like that letting people know what we have here, you know? (*Crow*)

Right above the creek here is where people started putting in their game kill. I tell them it was a tradition from back then, but I tell them that back then this whole land was different. It was safe to do that but not anymore. (*Crow*)

B. Water Quantity: Drought and Shortage

The drought is the biggest problem, even in Billings in the Blue Creek area. (*Crow*) The Rosebud used to be called a river at one time. That has been drying up. There has been a drought area and stretches where there is nothing and that has impacted from Kirby to Busby and to the northwest part of our reservation which then goes off the reservation near Jim Town. That impacts what isn't delivered to the Yellowstone. Tongue River water users association has used our water, I don't know if we have a contract or whatever. When there is a shortage they lease from us. (*Northern Cheyenne*)

There is an idea floating out there, that they wanted to take all that water out of the Tongue River Reservoir and pipe it to Kirby. They had at one time talked about it but lately I think it has been sitting idle. (*Northern Cheyenne*)

I don't know what has happened there. Lame Deer Creek is basically dry. I remember in the winter time having to chop holes in the ice to get water. (*Northern Cheyenne*)

The drought has been impacting us the last ten years. It is no different than out there. Farmers and ranchers have had to tighten their belts. (*Northern Cheyenne*)

The thing more locally that comes to mind is erosion. One of your questions is what kind of changes have you seen in your lifetime. A lot of it has. Especially along the creek area. A lot of the trees and plants have disappeared. I don't know if that is from drought conditions. (*Northern Cheyenne*)

C. Free-Flowing River

I wouldn't want a dam controlling it because of its legendary ...it's long, and I have heard that it had not been dammed up. And I was glad of that. I don't know. To me it's a free river, it's a free-flowing river and I kind of like that idea. (*Crow*)

I look at it this way. This valley has probably taken care of itself for the last forty to fifty million years. Why do we have to start screwing around with it now? (*Crow*)

Mother nature's doings, and we can't control those things. (*Crow*)

But that is my feelings about the Yellowstone Valley and the Yellowstone River. From the headwaters to the mouth of it, leave it alone. (*Crow*)

I think it is the last free-flowing river. There are no really obstacles. (*Crow*)

D. Rip-Rap: "Fighting Nature"

The Yellowstone has always flooded. When the Indian people were here, if it looked like the water was getting high they just moved out. They never fought nature, they lived with nature. Now today, we fight nature; by rip-rapping the rivers as we do, by trying to hold the course, trying to keep it from washing away land. We are constantly in a battle with nature and I think nature is pretty unbeatable when it makes up its mind. (*Crow*)

Nature can't clean [the valley] and sweep it anymore. And nature would if we would just leave it alone. And the thing of it is, we keep rip-rapping it and the banks are getting deeper and further down because of the rip-rapping. It is not good. (*Crow*)

The rip-rapping and the fertilizing and everything that is going on in the land right now are affecting the river because nature cannot cleanse it. Nature cannot cleanse the valley. (*Crow*)

E. Riparian Areas and Wildlife Concerns

One of my relatives caused a lot of damage to the upper Lame Deer Creek. You talk about damage to the riparian. He stripped about one-half mile of the riparian area. He has alfalfa in there now. That is a real no-no. And the Rosebud the same way. I think that is another one. They stripped the riparian area so they could have more cropland. (*Northern Cheyenne*)

The riparian zone is and is not healthy. About a month ago we had chronic wasting disease training. That is a disease that is carried by deer. It is coming this way. This season we are encouraging hunters to bring in the heads so we can take some of the brain stem and send in a sample. (*Northern Cheyenne*)

The deer population was almost decimated. The settlers here, the cowboys had a lot of conflicts. As a result the deer population almost disappeared. The Cheyenne started butchering some of the beef to sustain. They were on the verge of starvation. There was a point when the antelope and deer were just about all gone. (*Northern Cheyenne*)

Growing up, there weren't that many cars here. You could go into the hills and run into deer. They propagate real quick. Then cars were introduced and then pickups and then four wheel drives and spotlights. People hunted and started killing the deer population. They never implemented a season or some kind of control. When I became superintendent they passed a spotlight ordinance. In three years time the population came back. (*Northern Cheyenne*)

We could have an elk population but when someone says elk you have two hundred people out trying to get the elk. (*Northern Cheyenne*)

I remember the catfish and the bass and the gold heads and yellow bellies. That was the extent of my diet when I lived in Birney. In terms of culturally speaking...a lot of the water animals were pretty significant to the Cheyenne people. (*Northern Cheyenne*)

You can look at the native fish that used to be coming up from the Yellowstone, the sturgeons and there are other species. [We need to] try and increase the water flow...I think that is a benefit to the tribe as well as others. (*Northern Cheyenne*)

There was a study done before they had these diversion dams. There was no fish passage. Now we are working on installing fish passages on these diversion dams so we can get back our native fish. That is what we are working on. They found...a sturgeon way up close to the border that migrated way up there. They want to see more spawning the area. More native that comes from Yellowstone that comes up to spawn. That is what we are working on. (*Northern Cheyenne*)

Because of the drought and some of the species that we depend on...deer are getting scarce, though lately they have been coming back. (*Northern Cheyenne*)

Vegetation growing along the river and some of these vegetation things control the river itself. God put those things by the river to help the river I think. The water gave life to those things so that it would happen. That was the riparian use of the river. The vegetation maybe willows, maybe reeds, all those kinds of things that grow naturally along river ways. They're all meant to help the river itself. (*Crow*)

That there is a lot of natural life there, and I hope that people don't destroy that. There are turtles, water beings that are put there by God. That's their home. (*Crow*)

We must be careful not to kill off all the animals and things that are natural to our earth. That goes for the Yellowstone too. We must protect it for all time because it was meant to be there and everything that grows along it was meant to be there and every thing that is in it was meant to be there. (*Crow*)

F. Weeds

Introduction of new plants is pretty substantial because when you import hay from other counties you run the risk of introducing new species....You are seeding noxious weeds when you feed hay every winter. (*Northern Cheyenne*)

The Rosebud and the Tongue are all kind of deep in the noxious weeds...the salt cedar. (*Northern Cheyenne*)

Cook Creek and Tie Creek in Birney are all in the watershed. I see in the erosion and noxious weeds taking over because of cattle overgrazing. There is some management but they have to have rotation. (*Northern Cheyenne*)

Also vehicles...because we don't have ordinances that say you have to stay on this road otherwise your vehicle can be a carrier of noxious weeds. A friend always comes out to the place and picks different herbs and medicines. He said you have a virtual pharmacy here. There is about 35 different herbs that they use. We try not to drive over it. He comes out and we give him permission to pick those. (*Northern Cheyenne*)

We have noticed a real change in the cottonwoods. They have almost been non-existent, More so than other species of trees in other areas. That means we don't have a good riparian area and that might be another cause of erosion. Not only erosion but the introduction of other species of plants like noxious weeds [is a problem]. The weeds, are opportunists and that is an area where they can survive. (*Northern Cheyenne*)

G. Managing Human Use

Human use should be managed carefully. I do know that the Yellowstone River has a lot of recreational use, and sometimes human beings can cause damage. I think...[we should be] careful about...access...because human beings are naturally destructive....They step on things or maybe kick a turtle out of the way. Those kinds of things are what my primary concern would be. (*Crow*)

Billings is growing with no direction. All the City Council can think of is, 'Let's add them on so we get more taxes.'They are not thinking of the land, they are not thinking of the future....I truly worry.... My children's grandchildren are going to be in a deep hurt. That is about one hundred years from now. (*Crow*)

Instead of using everything, leave some for the fish. (*Northern Cheyenne*)

To see those people recreating on the river gives me a feeling that human beings still appreciate it as much as I do. Not only is it beautiful to see, but those people were having a good time. Hopefully they're loving and nothing bad happens to them because if you are cruel to the river, it will be cruel back to you. (*Crow*)

I hope they are not peeing in the river or something. The water doesn't like that when refuse is being put into the water. You think of all the refineries and factories that might be dumping in there that the water doesn't like that. It's the life of it. (*Crow*)

From a Crow Tribe member, I guess there was a buffalo feeding ground that was the hub of the other tribes coming in and feeding off it and we would always have to tell them to get enough and then get out, to leave. But they wouldn't do it so that is where all the battles were. (*Crow*)

I would maybe manage the recreational use better because of human destruction. You hear about people going out there floating on the river, whenever I see them, and I did just recently when I went to Bozeman, I saw some people on the river and I prayed for them. I just said a real quick prayer for whoever was on the float, because the river can be cruel. It is life giving but it can take you like that. (*Crow*)

If I had anything to say about it at all, there would be no subdivisions in the Yellowstone Valley. I would really try to get people to move out of the valley and then rip up the blacktop and concrete that we have down in the valley. Because one of these days we are going to go to the fridge and we are going to say, "Wow, there is nothing in it because we have blacktopped every acre of the finest, fertile land in the world. Yellowstone Valley is a great producer. (*Crow*)

Why can't we go up on the ridges up out of the valley and save the valley for farming? It is really kind of ridiculous what is going on. I moved up to Billings almost eight years ago, and west Billings has moved a mile up river; probably three or four miles up river and all the way across the Yellowstone Valley and took up two, maybe three thousand acres of the finest, fertile land in this nation. It is fertile because of the Yellowstone River and we could irrigate it. (*Crow*)

H. Threats to Cultural Activity

The traditional use is still with us today. They don't practice it as much as they used to because we are losing our elders. (*Northern Cheyenne*)

You have to depend on the Anglo historian and archaeologists and anthropologists because our language is just now being written. We finally have an orthography that is approved by the council. They are trying to teach reading and writing to Cheyenne with some pretty fluent speakers of Cheyenne. The aboriginal use is also in that particular document. We were connected with that Native Action. (*Northern Cheyenne*)

Dr. Boggs...he used to be with UM but he is an anthropologist and he has a really interesting history. He was working with the tribe back in the late 70s or early 80s. The tribe had a research project and they did some really outstanding research and I think it all burned up when the building on this site burned. (*Northern Cheyenne*)

To go down to the river and have a ceremonial sweat we would have to have special permission. There are many obstacles of bureaucracy getting in the way to do what is done on any other tributary... Federal Indian policy has dictated why we don't use the Yellowstone as much as we could. (*Northern Cheyenne*)

There was a lot of game...[and] it is history to us. The first thing the dominant society asks us is, 'Where is your empirical evidence?' Well, they died off. (*Northern Cheyenne*)

Early on....you can document and they wanted to make farmers and ranchers out of Native Americans. At that same time you have these federal laws that say you can't do that anymore. (*Northern Cheyenne*)

The EIS [Environmental Impact Statement] for Otter Creek [coal plant] development is kind of a repeat of another court case that the Bureau of Reclamation wouldn't include the impact on the Northern Cheyenne in the study. They went clear to the Supreme Court and it was handed down that the Bureau of Rec. needed to do that. I guess they are not good learners because they did it again. (*Northern Cheyenne*)

Not very many of my people listen any more to nature and it's kind of sad. I blame it on economics. Life is really, really hard anymore for Indian people... We're competing with the modern world too. (*Crow*)

The US government can decide what they want to do. They can wipe us out at any time with the stroke of a pen as a tribe, Congress can... If there's something good, they want to take that land away, whatever we have. (*Crow*)

There are people always handing money under the table for tribal council to not let our people develop anything at all. (*Crow*)

Appendix
An Adapted Protocol—Agriculturalists

1. How many years have you been in operation here?
 - a. Do you live here full time?
 - b. IF NOT: How many months a year is your home occupied?
 - c. How do you describe your place to people who have never been here (there)?
2. What was it about this site that made you (your family) want to locate here originally?
 - a. Is the river important to you?
 - b. What do you like best about being near the river?
3. Are there any problems associated having property this close to the river?
 - a. What do you think is the most important problem?
4. Has there ever been erosion damage to your lot?
 - a. (If yes) How much of your place was affected?
 - b. Is there anything that should be or that can be done about erosion?
 - c. Why would that be your course of action?
5. Looking ahead 10 years, what do you expect your place to be like?
 - a. Will the physical facilities change?
 - b. Why is that?
 - c. As you think about the next generation, what are your primary concerns?
6. Some people talk about the river corridor....How is the river corridor different from the river itself? (follow-up to explore “riparian” zone –with or without using that word)
7. Besides what you have already described, what are the various uses of the river?
 - a. How do you think the rights of all users can best be balanced?
8. What keeps you here?
9. Of everything we've talked about, what is most important to you?

An Example Excerpt from a Verbatim Transcript

Question: Is there anything else we should talk about?

Response: There has been a time or two when I've wondered how come we couldn't hook an electric generator up to Yellowstone Falls in Yellowstone Park and generate some electricity. That just seems so simple to me. We wouldn't have to buy from PPL Montana, or whoever the hell they are. We'd just have our own...(laughs)

Question: Hey, I think that's in Wyoming. (laughs)

Response: Yeah, but they wouldn't know. They wouldn't be checking on us that close.

Question: Now see, I'm from Wyoming. Obviously, we have to watch out for you guys up here. (laughs)

Response: Oh, I see. Well, we'd try it anyway. Believe me, we'd try it. Besides, there's probably enough there for both of us, both Wyoming and Montana. There's a lot of waterfall there, you know....I don't know just how fast you could turn a generator, but I'll bet you you'd create a lot of electricity.