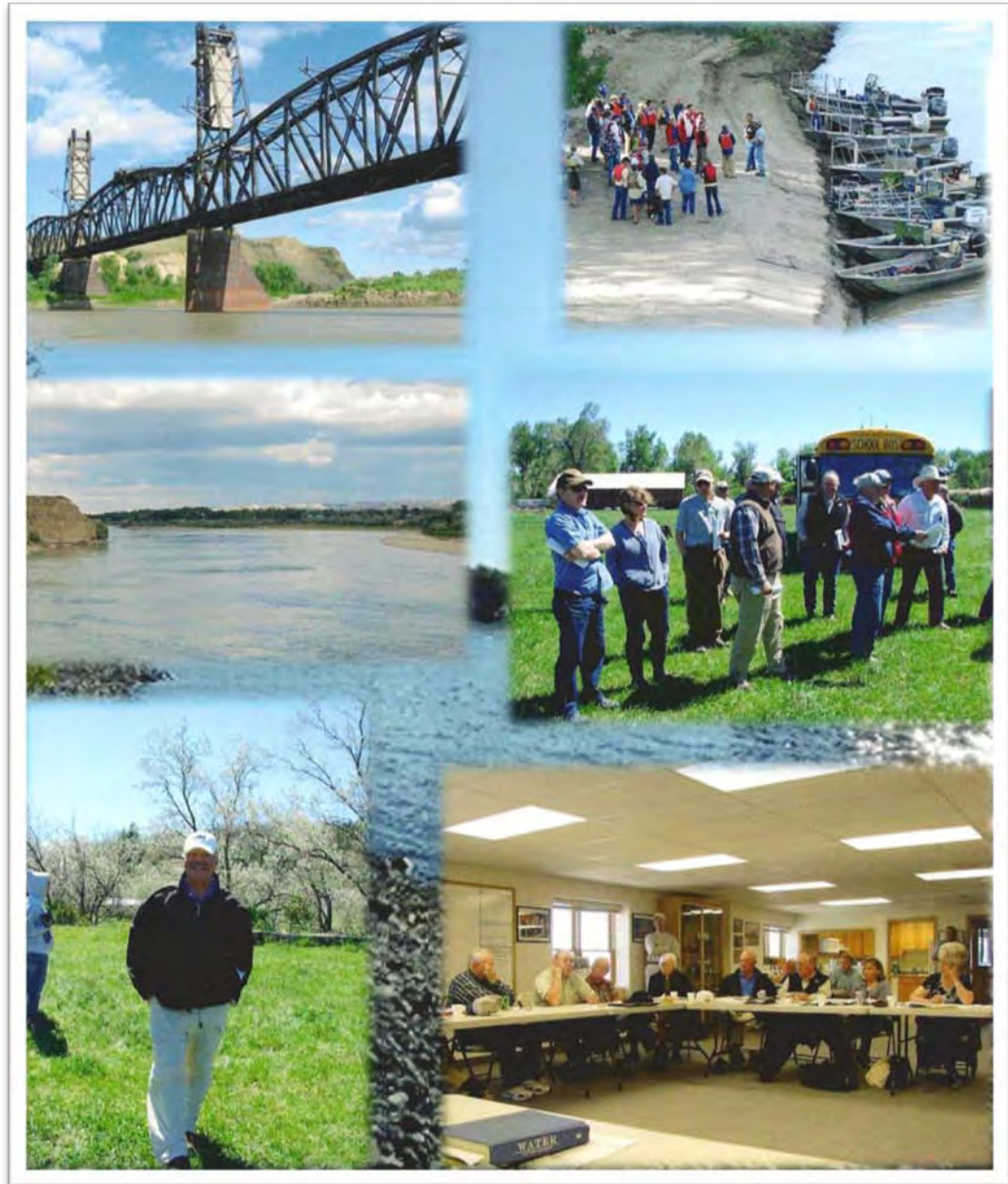


Yellowstone River *Conservation District* Council



2010 Annual Report

(July 1, 2009, to June 30, 2010)

Yellowstone River Conservation District Council

Custer County Conservation District

Yellowstone River, Montana, North Dakota

YR CDC-2011-01



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Photographs not otherwise marked are courtesy of the Yellowstone River Conservation District Council.

Cover photos: Top Left – Right (clockwise). Fairview Lift Bridge, Fairview, ND (courtesy of Laurie Zeller), Fairview Lift Bridge & Cartwright Tunnel (Laurie Zeller), Blaylock Russian Olive Demonstration Site – Columbus, MT (Nicole McClain), YRCDC meeting, June 18, 2010 – Columbus, MT (Nicole McClain), Jerry Hanson, YRCDC RAC member (Nicole McClain), Yellowstone River, Custer County, Montana (Carol Watts),

ABOUT THE YRCDC



Founded in 1999 as a result of back-to-back 100-year floods on the Yellowstone River, the Yellowstone River Conservation District Council

(YRCDC or Council) provides local leadership, assistance, and guidance for the wise use and conservation of the river system's natural resources to sustain and improve the social, environmental, and economic values.

Organization of the YRCDC

Through a resolution dated July 6, 1999, conservation districts and the Montana Association of Conservation Districts created the Council to collectively address natural resources on the Yellowstone River. The Council is composed of 13 voting members including representatives of the following conservation districts: Carbon, Custer County, Dawson County, McKenzie County (North Dakota), Park, Prairie County, Richland County, Rosebud, Stillwater, Sweet Grass, Treasure County, Yellowstone, and a representative of the Montana Association of Conservation Districts.



L-R: Phil Fox, Dave Schwarz, Walter Rolf, Will Alexander, Bob Hector, John Moorhouse, Warren Kellogg (TAC Chair), Tony Barone, Don Youngbauer, Jerry O'Hair, Kenny Nemitz, Paul Gilbert and Orvin Finsaas (not pictured: Steve Story)

Highlights from FY 2010

This year was extremely productive for the Council and its committees, as we held 24 meetings, including five face-to-face meetings, one teleconference, numerous meetings of the symposium planning committee and the work plan development committee. Additionally, the Technical and Resource Advisory Committees met a total of ten times during the year.

The extensive work that occurred during and in-between meetings allowed the YRCDC to add many things to its list of accomplishments. Early in the year we conducted a Russian Olive/Saltcedar Awareness bus tour from Big Timber to Columbus. The purpose of this tour was to promote voluntary Best Management Practices that provide sound

scientific information about the effects of Russian olive and saltcedar invasions in riparian areas.

A major highlight of the year was when the YRCDC teamed up with Montana Fish Wildlife & Parks and our newest partner, North Dakota Game & Fish. Twelve boats gathered to shuttle participants between Montana and North Dakota via the Yellowstone River. The tour started at the Sidney Bridge, and stopped at the Sidney bluff pools to view important juvenile pallid sturgeon habitat, and then continued downstream to the Fairview Lift Bridge, and ultimately the Missouri-Yellowstone River



Tour participants line up to board boats provided by Montana Fish, Wildlife & Parks and North Dakota Department of Game & Fish, August 2009. Photo courtesy of L. Zeller.

Confluence Interpretive Center. While on the tour participants learned about pallid sturgeon and other fish of the region, the conservation stocking program, interstate management and the Yellowstone River Corridor Comprehensive Study, also known as the Cumulative Effects Study.

During FY2010, the YRCDC published a fish



Yellowstone River TAC members (L-R) George Jordan, Greg Johnson, Karin Boyd, Nicole McClain, and Jim Robinson at the T&Y fish passage project

passage position statement. The intent is to support and encourage solutions that provide fish passage and prevent entrainment into water intake or diversion points while maintaining water supplies for irrigation.

The Council also published a watercraft passage position statement during the year. The purpose is to encourage the development of mutually agreeable solutions that provide for the safe passage of small



watercraft through or around irrigation diversion structures on the Yellowstone River. This effort was carried a step further with the hazard signing project funded in part by the YRCDC, DNRC and Montana Fish Wildlife and Parks.

In FY2009, the YRCDC published a report entitled Yellowstone River Channel Migration Zone mapping and conducted workshops throughout the basin. This year the Council followed up with two more workshops and a Best Management Practice.



Karin Boyd, 2009 CMZ Workshop

The voluntary BMP encourages the use of the Channel Migration Zone (CMZ) maps to help landowners and local governments make informed decisions regarding future development and infrastructure maintenance within the Yellowstone River corridor.

The Council developed a work plan over the last fiscal year with the help of Warren Kellogg as

facilitator, and a small committee including Don Youngbauer, Bob Hector, Walter Rolf, John Moorhouse, Paul Gilbert, Orvin Finsaas, Kelly Norwood, Nicole McClain, Burt Williams, Jim Robinson, Susan Gilbertz, and Mike Penfold of the Yellowstone River Conservation Forum.



Participants of the Work Plan Development Committee hard at work! Spring 2010

The work plan is intended to provide a matrix to the Council, their advisory committees and staff that outlines objectives, action items, responsible parties, timeframes, and priorities to effectively guide them towards the achievement of their long-term goals. Additional planning may be necessary to fully articulate some of the specific actions. However, this work plan is intended to be a dynamic document, subject to revision as situations and priorities change.

During FY2010, the YRCDC also worked to review the draft WRDA-3110 implementation guidance, and provide feedback on SB-303 that is intended to update the state's water plan. The Council also participated in the Missouri River Recovery Implementation Committee (MRRIC) and began work on Discover the Yellowstone, a KIDS in Discovery booklet with Project Wet, and undertook major planning efforts for the Yellowstone River Symposium scheduled in August of 2010.

Yellowstone River Symposium 2010

If you have an interest in the longest free-flowing river in the lower 48 states, you can't afford to miss this important event!

- Learn about major funding opportunities for mitigation and restoration projects on the Yellowstone River and tributaries!
- Hear from international experts and river authorities about the condition of the river!
- Touch the river on our field trip to Laramie on the Yellowstone!
- Meet others who share similar interests!
- See how others have put restoration dollars to work on the Yellowstone!
- HAVE FUN LEARNING ABOUT OUR TREASURED RESOURCE!

Call 406-247-4412 now to register!
Or visit us on the web at www.yellowstonerivercouncil.org

REGISTER NOW

Date: August 19 & 20, 2010
Cost: \$125.00

Location:
Billings Hotel & Convention Center
1223 Muldowney Lane, Billings, MT
Call 406-247-1111 for more information

Working Relationships
Yield A Shared Vision

STATUS OF THE STUDIES

The Yellowstone River Corridor Comprehensive Study, MT was mandated by Congress in the Water Resources Development Act (WRDA) of 1999. The Corps of Engineers was directed to conduct a comprehensive study of the Yellowstone River from Gardiner, Montana, to the confluence of the Missouri River to determine the hydrologic, biological, and socioeconomic cumulative impacts on the river.

In 2004, the YRCDC and the Army Corps of Engineers entered into a cost-sharing agreement including a project management plan (PMP). The purpose of the PMP includes scheduling of work, internal and external coordination, to maintain teamwork, hold partners accountable, manage finances, maintain professional work quality, balance competing demands, meet milestones, and facilitate communication throughout the process for all interests.

While executing the agreements, the YRCDC remains committed to being flexible and to utilizing efficient approaches consistent with law and policy, and to obtain results. In FY2010, the YRCDC made significant progress on the many elements of the PMP as described in the following summaries.



Tiffany Vanosdall, USACE Project Manager and Warren Kellogg, TAC Chairman

Project Management

Principal Managers:	Greg Johnson & Tiffany Vanosdall (USACE), Nicole McClain (YRCDC)
Other Participants:	Warren Kellogg (YRCDC TAC)
Goal:	The goal of project management is scheduling work, internal and external coordination, maintain teamwork, hold partners accountable, manage finances, maintain professional work quality, balance competing demands, meet milestones, and facilitate communication throughout the process for all interests.
Completion Date:	Ongoing

Public Participation

Principal Investigators:	Karin Boyd Tony Thatcher DTM Consulting/Applied Geomorphology
Other Participants:	YRCDC TAC, Conservation Districts
PMP Work Element:	PUBLIC PARTICIPATION
Goal:	Hold Channel Migration Zone (CMZ) workshops
Completion Date:	December 2009
Product:	Part of a series of county-based Channel Migration Zone (CMZ) mapping workshops that began in February and March of 2009 within the Yellowstone River corridor.
Comments:	A follow-up workshop was held in Billings and another in Hysham in December of 2009, modeling the workshops that were developed for all 12 counties that contain segments of the mainstem Yellowstone River. This effort stemmed from previous (2008) work that included the development of county-scale CMZ maps from Springdale to the Missouri River (Sweet Grass through McKenzie Counties). Subsequent to this initial effort, the maps were updated in early 2009 based on the incorporation of high resolution topographic (LIDAR) data, and Park County mapping was completed. The original 2008 work was sponsored by the Yellowstone River Conservation District Council (YRCDC) using 2005 Reclamation and Development Grant

	<p>funds. This outreach effort was similarly funded by 2005 Reclamation and Development Grant funds with YRCDC support. The work was contracted through the Custer County Conservation District to DTM Consulting, Inc. through a GIS Services contract. Karin Boyd of Applied Geomorphology Inc. was subcontracted by DTM to develop and host the workshops.</p> <p>This workshop was developed to educate and inform decision makers at the county level about the Channel Migration Zone maps for the Yellowstone River basin, and the potential applications for these maps.</p>
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Tribal Consultation

Note: No work has been done on this Scope of Work.

Riparian Vegetation Characterization

Principal Investigators:	Warren Kellogg
Other Participants:	YRCDC, NGPJV, CDs, Yellowstone River corridor landowners.
Goal:	The primary purpose of the riparian characterization is to gain an understanding of the plant community composition, structure, and extent along the Yellowstone River riparian corridor, and to evaluate the interrelationships that the riparian plant community has with invasive plant species infestations, channel geomorphology, river hydrology, and land use.
Completion Date:	2011
Product:	GIS-based riparian mapping and associated populated geodatabase on the riparian corridor every 3 miles. The final product will be a report and maps.
Comments:	Fieldwork began in 2007 that involved 7 counties along the Yellowstone River. The study will require at least one more field season to collect pertinent data on all study reaches. It is anticipated that the field work will resume in 2010.

Riparian/Floodplain Analysis. Avian Communities

Principal Investigators:	Danielle Jones Andrew Hansen Montana State University Bozeman, Montana
Other Participants:	Nature Conservancy, US Army Corps of Engineers, Yellowstone River corridor landowners, YRCDC
Goal:	Provide a general description of breeding bird communities and to explore the factors influencing the distribution and abundance of bird species along the length of the river.
Completion Date:	Completed May 2009
Product:	Final Report: Factors Influencing Riparian Breeding Bird Communities along the Middle and Lower Yellowstone River
Comments:	In 2006 and 2007, the YRCDC, in partnership with USCOE sponsored an investigation conducted by faculty and staff at MSU, Bozeman to carry out a survey of birds in selected habitat types along the river. A final report was released in February 2009 which describes the factors influencing community characteristics and the distribution and abundance of breeding birds along a 450 mile section of the Yellowstone River in central and eastern Montana. Birds and vegetation were surveyed within riparian habitats along braided sections of the river in order to describe patterns of bird species richness, bird occurrence, and bird abundance, and to examine the factors influencing bird distribution. Surveys were conducted at over 300 locations in cooperation with 60 private landowners, as well as state and federal government entities.

	Sixty-four species of birds were recorded in seven different habitat types. Results from this study demonstrate that the riparian corridor provides breeding habitats and resources for many different types of native bird species. The knowledge acquired in this study will provide a more comprehensive understanding of the potential influences of habitat condition on riparian birds, and allow for an assessment of the consequences of management for all wildlife that are dependent upon the unique habitats and resources provided by the Yellowstone River.
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Riparian Vegetation and Invasive Species

Principal Contact:	Warren Kellogg
Other Participants:	YRCDC, NGPJV, CDs, Yellowstone River corridor landowners.
Goal:	The primary purpose of the riparian characterization is to gain an understanding of the plant community composition, structure, and extent along the Yellowstone River riparian corridor, and to evaluate the interrelationships that the riparian plant community has with invasive plant species infestations, channel geomorphology, river hydrology, and land use.
Completion Date:	2012
Product:	GIS-based riparian characterization that will include land use and management, species diversity, invasive species effects, proximity to other land uses, response to geomorphic channel types, etc. Field sites are systematically located along the riparian corridor every 3 miles. The information generated by this scope of work will feed into the cumulative effects database for analysis.
Comments:	Fieldwork was initiated in 2007 that involved 7 counties along the Yellowstone River. The study will require at least one more field season to collect pertinent data on all study reaches. It is anticipated that the field work will resume in 2011.

Water Quality

Principal Contacts:	George Jordan, Warren Kellogg
Goal/Questions:	<ol style="list-style-type: none"> 1) Are nutrient levels impacting aquatic life. 2) Are nuisance algae impacting contact recreation? 3) Are metals exceeding human health or aquatic life standards? 4) Is bacterial growth impacting the drinking water use? 5) Are fish communities being impacted by lack of suitable habitat, temperature change, recreation activities, etc?
Completion Date:	To be determined
Comments:	The water quality scope of work is in a state of flux. There have been on-going discussions with MT DEQ to potentially use fish indicator species and their dissolved oxygen (DO) tolerance levels to input into their Yellowstone River nutrient model. By early 2012, we should provide us a better idea on how their modeling will help answer the questions outlined above.

River Aquatic Sites Study

Principal Investigators:	Linda Vance (MT National Heritage Program)
Other Participants:	Sloane Gray, Catherine McIntyre, Karen Newlon (MTNHP)
Goal:	The purpose of this project is to map wetlands and develop associated data for 54 USGS 1:24,000 quads in the Lower Yellowstone River Corridor as part of a larger multi-partner effort to complete wetland mapping in the Yellowstone

	<p>River Watershed. The 2008 MLIA Wetland Data Theme Plan listed securing funding partnerships for mapping in Southeast MT (which is essentially the Lower Yellowstone River Watershed) as a focus for this year's Plan activities.</p> <p>Wetland data is a priority MSDI framework layer. Unfortunately, Montana lags almost all other states; the National Wetland Inventory (NWI) was never completed here and large swathes of Montana have no wetland data available – even though wetlands are critical habitats of concern to economic development planners and resource managers. The Lower Yellowstone River Watershed is an area that almost completely lacks NWI data (<2% has NWI mapping).</p> <p>This project related to several goals of the 2008 Land Information Plan, but specifically addresses the following goal and objective:</p> <ul style="list-style-type: none"> • Goal 1 – A statewide set of MSDI framework layers that are consistently collected, accurately maintained, and made commonly available. <ul style="list-style-type: none"> ○ Objective 1.1 - Funding and administrative support for local, tribal, state and federal data collection efforts that will help develop and maintain multi-jurisdictional MSDI framework layers. <p>The Governor and Directors of Montana DNRC, DFWP and DEQ endorsed the state's new wetland plan titled Priceless Resources: A Strategic Framework for Wetland and Riparian Area Conservation and Restoration in Montana 2008-2012. This Strategic Framework supports the MTNHP Wetland and Riparian Mapping Center as the standardized provider of wetland mapping in Montana, which provides consistency, accuracy and information availability to all citizens. All wetland data is approved and permanently maintained by the NWI with distribution available through the NWI or the MT Natural Resource Information Service.</p> <p>The MTNHP followed the multi-partner approach advocated in the 2008 MLIA Wetland Data Theme Plan, finding financial commitments from the primary federal land management agencies in the area to finance their share of mapping in the watershed. The Yellowstone River Conservation District Council supplied additional funds to complete mapping along the Yellowstone River Corridor, which is mostly privately owned and likely contains over 80% of all the wetlands in the watershed.</p>
Completion Date:	Completed
Product:	All mapping completed and approved by the National Wetlands Inventory
Comments:	Final maps available from NWI and NRIS .

Socioeconomic, Cultural and Recreational Resources

<i>Task:</i>	<i>Economic Scope of Work</i>
Principal Investigators:	Burt Williams Warren Kellogg
Other Participants:	YRCDC TAC
Goal:	To identify the current and future demand for river resources and management actions by all groups. This demand information, when paired with information on the ability of the river to supply resources, will lead to identification of problem areas where the river is unable to sustain the demand of these user groups. This supply-demand framework will lead to identification of the cumulative effects of natural events, market forces, and management actions (e.g. bank stabilization) on the ability of the river to

	sustain these socioeconomic activities.
Completion Date:	Ongoing
Comments:	As of the end of June, 2010, the economics pilot study on housing development along the Yellowstone River, was nearing completion. The contract was awarded late in calendar year 2009, requiring Headwaters Economics to reschedule its previous commitments for a proposed finish date in September 2010. The requirements of the study are the same as described in the FY 2009 annual report—using Headwaters’ proprietary software and GIS applications, the study will profile historical rates of development in the counties adjacent to the Yellowstone River and present a geographical scenario of how housing build-out could happen in the counties adjacent to the river. The pilot study will be used to evaluate how the full spectrum of economics can be studied for cumulative effects along the Yellowstone River, and to plan those components of the scope of work.

Basic Data Acquisition and Topographic Mapping

Task:	<i>Historical Aerial Photo Acquisition and Distribution</i>
Principal Investigators:	Jim Robinson (Montana DNRC)
Other Participants:	YRCDC TAC, US Army Corps of Engineers
Goal:	Acquire historic aerial photographs of the Yellowstone River corridor to support cumulative effects assessment, 310 and 404 permit review, and land use planning.
Completion Date:	2007
Product:	Countywide, historic orthophoto mosaics of the Yellowstone River Corridor from 1930s, early 1950s, 1976-77, and 2001.
Comments:	Since its inception in 1999, the YRCDC has collected and made available through the Montana State Library’s Natural Resource Information System (NRIS) a variety of geographic datasets specific to the Yellowstone River corridor, including historic aerial photography, high accuracy digital elevation models, and digitized plan metric feature datasets, such as a physical features inventory and geomorphic classification of the entire river (http://nris.mt.gov/yellowstone). Currently, complete aerial photographic coverage exists of the river corridor from Yellowstone National Park Boundary to the Missouri River confluence near three points in time: 1950/1976/2001; and sporadic coverage dating back to the 1930s. The photography will be used by the technical components of the cumulative effects assessment to characterize and evaluate past response to influences such as climate, hydro modification, and flood and erosion control structures.

Information Management and GIS Development

Principal Investigators:	Tony Thatcher, DTM Consulting, Inc.; Jim Robinson, DNRC; Gerry Daumiller, Montana State Library, NRIS;
Other Participants:	Montana State Library, Natural Resources Information System (NRIS)
Goal:	Provide a means to communicate information and results of the CEA project to the public, the Council, and investigators working on the project.
Completion Date:	Ongoing
Product:	Current products: <ol style="list-style-type: none"> 1. Cumulative Effects Assessment Database – Prototype database complete, Phase II of database due by December 31, 2010; 2. Yellowstone River Internet Map Services <ol style="list-style-type: none"> a. For ArcGIS users: http://gisportal.msl.mt.gov/arcgis/rest/services/Test/Yellowstone_Hydrology/MapServer

	<ol style="list-style-type: none"> 3. For use with Internet browser: http://gisportal.msl.mt.gov/Yellowstone_River 4. Yellowstone River Website – www.yellowstonerivercouncil.org 5. Data Archive and Distribution Services through Natural Resources Information System at Montana State Library. See Yellowstone River Resource web page at http://nris.mt.gov/yellowstone to download GIS data and reports.
Comments:	Two primary information management needs have been identified for the project: distribution and data sharing needs of specialists working on the project (internal usage); and clearinghouse and query services necessary to transmit products and results to resource managers and the public (external usage). Work this year has focused on continued development of the Cumulative Effects Assessment Database for TAC usage, the Yellowstone River website for news and information about the YRCDC, its projects and partners, and the Yellowstone River Internet Map Services for access to maps and data developed by the project..

Task:	<i>Cumulative Effects Assessment Database and Reach Narratives</i>
Principal Investigators:	Tony Thatcher (DTM Consulting) Warren Kellogg, Karin Boyd, Jim Robinson
Other Participants:	YRCDC TAC
Goal:	Continue development of a Microsoft Access database designed to store and display summarized results from individual scopes of work developed by CEA. Populate the database with key study data and create two prototype reach narratives.
Completion Date:	Ongoing
Product:	Cumulative Effects Databases
Comments:	<p>The technical foundation for the Yellowstone River Cumulative Effects assessment combines existing scientific information with original work products developed in support of the study. As these scopes of work are completed for specific disciplines, it is necessary to begin integrating the data, moving towards an interdisciplinary evaluation of human impacts on the behavior of the Yellowstone River Corridor. This project was formulated as a pilot approach to such an integration of data sources. First, a series of datasets were compiled into a database with a user interface that promotes easy access to a range of currently available information. Second, for two pilot reaches, sample outputs from the database were reviewed in combination with the supporting GIS project to identify what types of ground conditions are reflected in the quantitative data summary.</p> <p>The database output framework created by this pilot provides an efficient way to identify spatial and temporal trends in scientific parameters or other reach descriptors. This database output is useful as an indicator of potential cumulative effects; however the actual conditions in the reach that resulted in any trend cannot be determined from the database query alone. To that end, the GIS project is utilized to help visually ascertain potential cause and effect relationships that are manifested in the quantitative output. Ultimately, the result is intended to provide both easy access to data and provide a framework for cumulative effects analysis.</p> <p>The reaches selected for this pilot include Reach B1 at Billings (Yellowstone County) and Reach D9 just below Intake Diversion Dam (Dawson County). For a summary of reach delineations on the Yellowstone River, see AGI and DTM (2004).</p>

Channel and Flood Plain: Hydrology

Principal Investigators:	Doug Clemetson & Roger Kay (USACE)
Other Participants:	USGS
Goal:	The goal of this study is to develop the hydrologic data necessary to evaluate the water related problems in the Yellowstone River basin. The primary objective of the hydrology analysis is to establish the discharge frequency and flow duration relationships for the Yellowstone River from Park County to the confluence with the Missouri River near Williston, ND.
Completion Date:	To be determined
Product:	<ul style="list-style-type: none">Revised Bighorn Hydrology Report – 15 July 2010
Comments:	USGS has contracted to complete the remaining hydrologic studies.

Channel and Flood Plain: Hydraulics

Principal Investigators:	Laurel Hamilton (USACE)
Other Participants:	Kevin Adams (USACE)
Goal:	The goals of the hydraulic analyses are to provide hydraulic information required to define the current and historic extent of the Yellowstone River floodplain for the purpose of identifying opportunities to reduce flood damages, determine impacts from human development, and restore environmental features and functions. Secondary goal is to provide detailed hydraulic data including river stages, velocities, flow depths, and flooded areas that may be useful in the geomorphic and biologic analysis for the study.
Completion Date:	To be determined
Product:	<ul style="list-style-type: none">Final Draft Dawson County Floodplain Map – 5 May 2010Sweet Grass County Floodplain Modeling – OngoingUnregulated Flow Modeling - Ongoing

Channel and Flood Plain Mapping: Geomorphology

Principal Investigators:	Karin Boyd, Applied Geomorphology, Inc.; Tony Thatcher, DTM, Inc.; Jim Robinson, DNRC; YRCDC TAC
Other Participants:	US Army Corps of Engineers
Goal:	The overall goal of the geomorphology work plan is to assess the fluvial geomorphology of selected reaches of the Yellowstone River to determine how channel behavior is related to both natural processes and human impacts.
Completion Date:	Ongoing; in previous fiscal years completed river-wide GIS coverages and resultant result reconnaissance-level work products such as planform change analyses (6/30/2006 and 5/18/2007), 100-year inundation (5/18/2007) and channel migration zone (CMZ) maps (1/22/08), and Geomorphic Reconnaissance Report (3/5/2004). Completed education and outreach sessions on CMZ for all Yellowstone River Conservation Districts in fall of 2008; Final Reports for the Human Impacts Timeline (October 13, 2008) and Historic Occurrence Timeline (11/17/2008). See http://nris.mt.gov/yellowstone .
Recent Product(s):	Completed cumulative effects assessment (CEA) narrative of two pilot reaches, and developed supporting CEA database (12/19/09). Finalized a statement of intent (BMP) for CMZ usage (June 18, 2010).
Comments:	Largely funded through the YRCDC 2003 and 2005 Reclamation and Development Grants, this PMP Work Element is aimed at cumulative effects assessment and best management practice development. Future efforts will include further development of the CEA database, and completion of eight additional reach narratives that describe reach conditions by summarizing

	existing information available from geomorphology, hydrology, hydraulic, riparian, and fisheries scopes of work..
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Cumulative Effects Analysis

Principal Managers:	Burt Williams (TNC)
Other Participants:	YRCDC TAC
Goal:	To develop an interdisciplinary scientific characterization of relationships between human activities and associated river system response, and to use that information to develop recommendations for management practices and actions that will provide sustainability to socioeconomic interests while maximizing the long-term biological/physical integrity of the river system.
Completion Date:	Ongoing
Comments:	<p>In FY 2009 the Council and TAC explored the basics of cumulative effects analysis and constructed a table that enumerated what the TAC believes to be the major drivers of the natural Yellowstone River system, including such factors as hydrology, geological context and other variables. During FY 2010, the TAC decided to test how two reaches of the river could be described and related back to cumulative effects. A report was generated by DTM Consulting and Applied Geomorphology, Inc. to create reach narratives and a data base populated to relate the river reach to the studies presently completed on the river. This pilot effort was restricted to two river reaches. With the report in hand the TAC examined the two river reach narratives, and found that this pilot effort was worthwhile in that it began to combine data from various study sources and related it to activity on a single river reach.</p> <p>Because the two river reaches only represented a small slice of the different environments on the river as well as the level and kind of human activity in the river corridor, late in the fiscal year the Council approved an additional nine reaches to be examined in the same way as the pilot reach. That report will be completed early in FY 2011 and used to begin setting an overall approach to satisfying the WRDA 1999 requirement that the study examine how cumulative effects have influenced biology, geomorphology and socioeconomic factors along the river.</p> <p>The database in the pilot study currently supports a checklist of the following study sections:</p> <ul style="list-style-type: none"> • Geomorphology • Cultural Inventory • Hydrology • Hydraulics • Economics • Physical Features • Water Quality • Avian • Fisheries • Riparian • Wetlands

Task:	<i>Best Management Practices & Position Papers</i>
Principal Investigators:	YRCDC, YRCDC TAC and RAC
Other Participants:	Weed Districts
Goal:	As resource information becomes available, BMPs and Position Papers pertinent to the Yellowstone River corridor will be developed.
Completion Date:	On-going

Product:	To date, the YRCDC has developed a Russian Olive Management BMP, Saltcedar Management BMP, Intake Diversion/Fish Passage position paper, City of Glendive I-94 By-Pass Chute/Hydraulic Analysis position paper, Dornix Park position statement, Fish Passage position statement, Watercraft Passage position statement, and a Channel Migration Zone mapping BMP.
Comments:	BMPs and Position Papers are available at the YRCDC office in Billings.

One-Time Funding: Demonstration Projects

Principal Investigators:	Laurie Zeller (Montana DNRC)
Other Participants:	Bureau of Reclamation, Montana Fish, Wildlife & Parks, Gallatin National Forest, YRCDC, Landowners
PMP Work Element:	PUBLIC INVOLVEMENT

a) Pryor Creek Fish Passage

Principal Investigators:	Jim Robinson, DNRC
Other Participants:	YRCDC, TAC, USBR, Montana Area Office
Goal:	Complete an appraisal-level design for constructing an inverted siphon on the Huntley Canal under Pryor Creek. Monitor flows in the lower portion of Pryor Creek during the irrigation season to ascertain aquatic habitat potential.
Completion Date:	Preliminary design work by USBR complete, hydrologic monitoring of lower reaches continuing through 2011 irrigation season.
Product:	Lower Pryor Creek Fish Passage Assessment Study Report (May 2007) and Pryor Creek Siphon and Fish Passage Report (July 2007). Lower Pryor Creek Hydrologic Assessment - ongoing
Comments:	The engineering reports assessed the feasibility of structural alternatives for providing fish passage over the Huntley Canal. Ongoing work in 2009 includes a hydrologic investigation to further determine the feasibility of the project in terms of water availability and seasonal flow variation. Such a project would provide fish passage by re-connecting lower Pryor Creek with the Yellowstone River mainstem.

b) Cottonwood Regeneration Project

Principal Investigators:	Carol Endicott (FW&P) Park County CD
Other Participants:	Gallatin National Forest, Upper Yellowstone Watershed Basin, community volunteers
Goal:	Demonstrate the different methods of reestablishing cottonwood stands and documenting the benefits associated with Cottonwood stand reestablishment in riparian areas experiencing high mortality along the upper stretches of the Yellowstone River.
Completion Date:	Completed
Product:	Written report, news articles, demonstrations
Comments:	With the help of several volunteers, 1,000 cottonwood seedlings were planted along the Yellowstone River in six different locations in a period of three days. Results from previous cottonwood planting indicated severe browse pressure from wildlife (ungulates and beavers) that resulted in considerable mortality. To prevent this from happening again, two different forms of wildlife repellent were applied. The landowner was made responsible for reapplying this repellent approximately every three months. However, the repellants may condition wildlife browsers to shy away from seedlings even

	<p>after the active ingredients have dissipated.</p> <p>In June of 2009, approximately 1,000 cottonwood seedlings arrived, a product of the whips collected the previous year. With the help of the landowners, the cottonwood seedlings were planted along the Yellowstone River and its tributaries in six different locations. Similar to 2008, the cottonwoods arrived in a time of high water flows which resulted in an increased mortality rate.</p> <p>In 2009 the District chose to plant the trees further from the banks of the Yellowstone or on tributaries in need of stabilization to increase the efficiency. The same repellants as described above were applied to all the seedlings in 2009.</p>
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c) Locke Creek Fish Passage

Principal Investigators:	Carol Endicott, Montana Fish, Wildlife & Parks - Landowner Incentive Program/Yellowstone cutthroat trout restoration biologist
Other Participants:	Montana Fish, Wildlife & Parks, Park County CD, Locke Creek landowners, Montana Rail Link, Burlington Northern and Santa Fe Railway
Goal:	Implement minor modifications to a concrete culvert on Locke Creek located under the railroad to facilitate passage of Yellowstone cutthroat trout while impeding passage of non-native rainbow trout.
Completion Date:	2010
Product:	Written report (electronic and printed copies) including photo-documentation of task progression.
Comments:	FWP has secured a design to allow selective passage of Yellowstone cutthroat trout through the culvert at the Locke Creek culvert. In addition, we have been working towards an agreement with Montana Rail Link to make the modifications to the existing structure. Two constraints relate to the probability of this project to proceed. First involves reaching agreement with Montana Rail Link. Secondly, monitoring has found no Yellowstone cutthroat trout attempting to ascend Locke Creek in recent years. FWP is in the process of reevaluating this project in light of these constraints.

Financial Report

YRCDC Funding

The YRCDC is a grassroots, locally-led effort to develop voluntary management recommendations to constituents of a huge watershed. Progress toward this work is only possible with the cooperation and collaboration of the many interests throughout the watershed and the ready sharing of resources and information.

In fiscal year 2010, the YRCDC received \$183,494 in total revenue; of that amount was \$100,000 in operational funding from the Montana Legislature. This funding accounts for 55% of total revenue and was passed through the Department of Natural Resources and Conservation. Figure 1 and 2 illustrate revenue and expense by category for the YRCDC in fiscal year 2010.

Figure 1: Total Revenue By Category

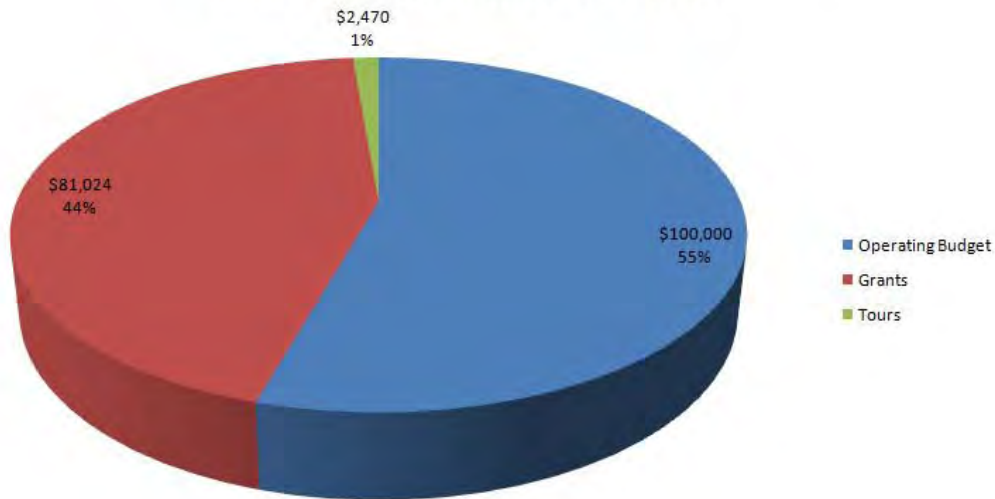
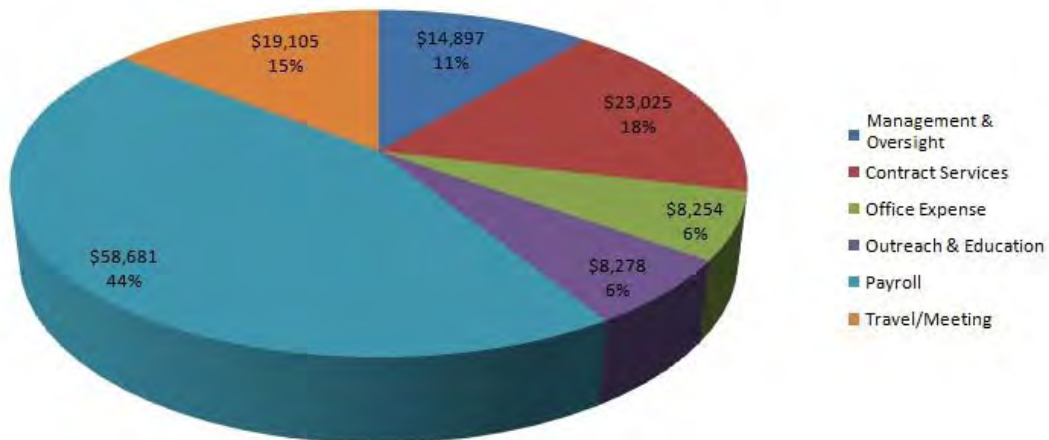
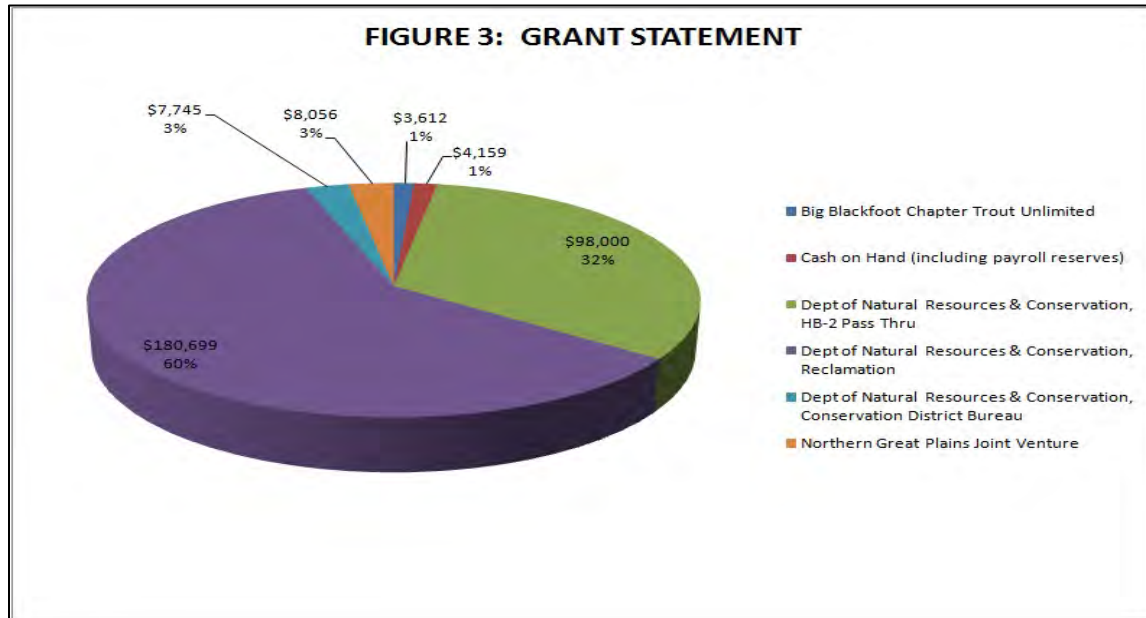


Figure 2: Total Expense by Category



At the end of fiscal year 2010, the YRCDC was administering \$302,270 in funding from several different grant sources. The Yellowstone River Riparian Restoration Project, a DNRC Reclamation and Development Grants Program project, was

funded during the 61st legislative session and accounted for nearly 60% of total grant funding secured. Shown below is Figure 3, which is an accounting of each outstanding grant and funds remaining at the end of the fiscal year.



USACE Funding

In federal fiscal year 2010, the US Army Corps of Engineers (USACE) received an appropriation for the Cumulative Effects study in the amount of \$179,000. In addition, \$72,000 was carried forward from FY2009, for a total of \$251,000 in funding for FY2010.

One-third of the total funding was put toward Project Management and Oversight. Figures 4 and 5 illustrate funding and expenditures by the US Army Corps of Engineers for the Yellowstone River Corridor Comprehensive Study during federal fiscal year 2010 (ended September 30, 2010).

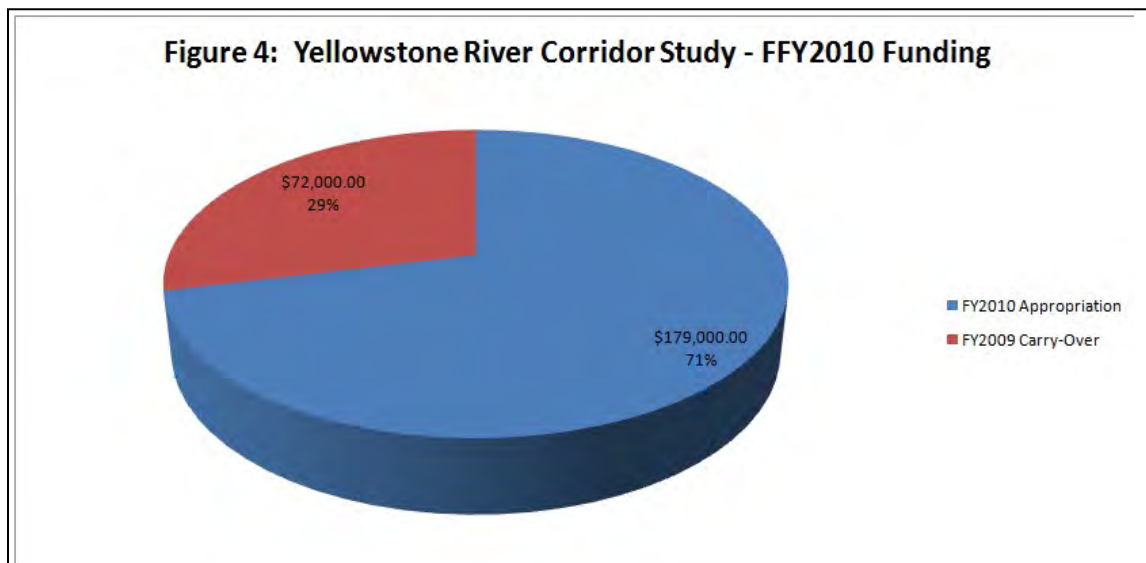
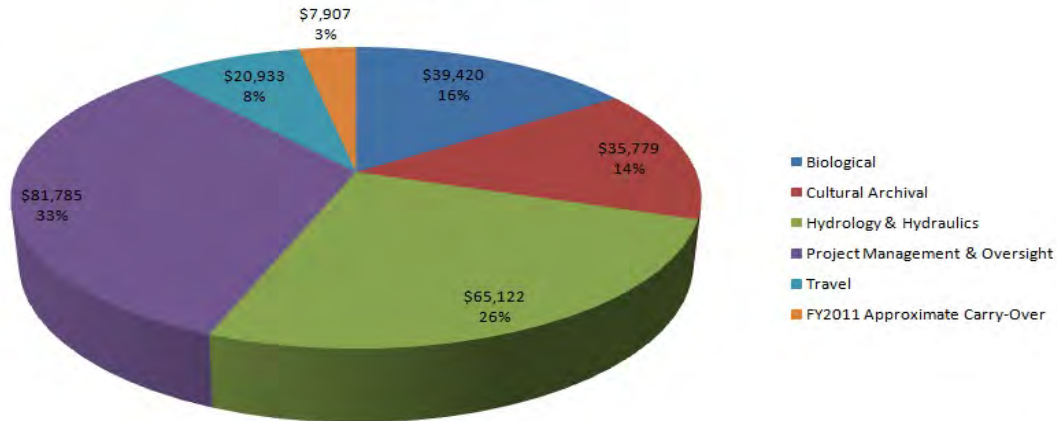


Figure 5: Yellowstone River Corridor Study - FFY2010 Expenditures

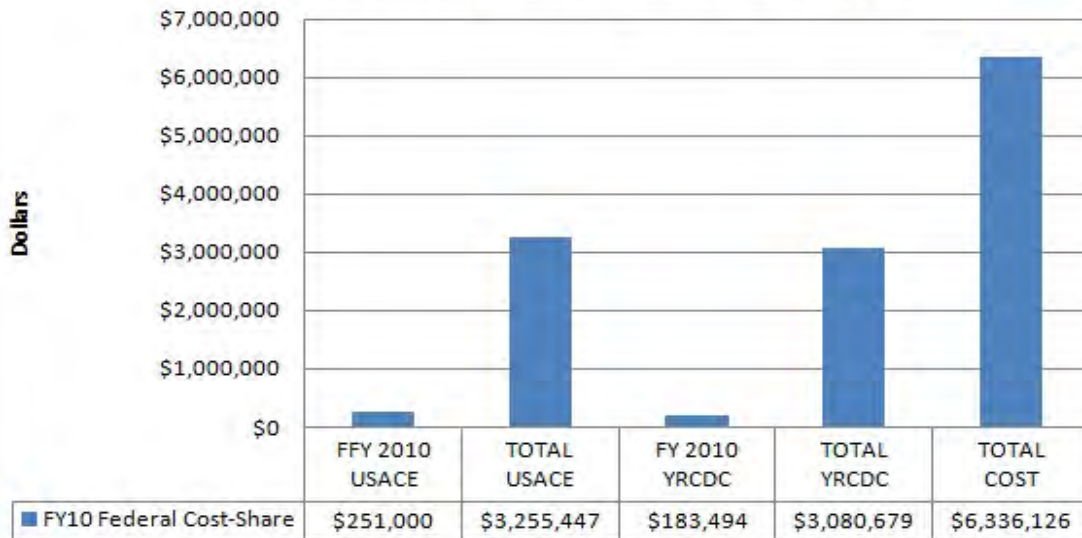


Federal Cost Share Agreement

Partnerships are diverse and include various agencies, organizations, industry and landowners, including ranchers and farmers, who have graciously given of their time and talents.

Without these important partnerships, progress would be impeded. Partner contributions for FY2010 are summarized in the following table.

Figure 6: Federal Cost-Share Agreement



KEY PERSONNEL

Yellowstone River Conservation District Council

- Don Youngbauer, Chairman, Rosebud CD/MACD
- Bob Hector, Vice Chair, Yellowstone CD
- Dave Schwarz, Prairie County CD
- Jerry O’Hair, Park CD
- John Moorhouse, RAC Chair
- Kenny Nemitz, Dawson County CD
- Orvin Finsaas, McKenzie County, ND CD
- Paul Gilbert, Sweet Grass County CD
- Phil Fox, Treasure County CD
- Steve Story, Stillwater County CD Tony Barone, Richland County CD/MACD
- Walter Rolf, Custer County CD
- Will Alexander, Carbon County CD



Kenny Nemitz, Phil Fox, Walter Rolf, and Orvin Finsaas at a meeting in Columbus. June 2010

Technical Advisory Committee (TAC)

- Warren Kellogg, Chairman
- Burt Williams, The Nature Conservancy
- Clayton Jordan, Bureau of Reclamation
- Dave Schwarz, Prairie County CD
- George Jordan, U. S. Fish & Wildlife Service
- Jim Robinson, MT DNRC Water Resources
- John Kilpatrick, USGS
- Karin Boyd, Applied Geomorphology, Inc.
- Ken Fraser, MT FWP
- Susan Gilbertz, Professor of Geography, MSU-B



Carol Watts, Karin Boyd, and Walter Rolf at a CMZ map presentation in Miles City. November 2009

Resource Advisory Committee (RAC)

- John Moorhouse, Landowner, Chairman
- Art Gehnert, Landowner
- Boris Krizek, City of Billings Water Treatment
- Carol Endicott, Biologist - MT Fish Wildlife & Parks
- Craig Wagner, Walleyes Unlimited/landowner
- Diana Taylor, Mayor – City of Big Timber
- Jerry Hanson, Landowner
- Mack Cole, Landowner
- Richard Cayko, McKenzie County Commissioner
- Robert Lubbers, Yellowstone River Forum



L-R: RAC members Art Gehnert, John Moorhouse, and Craig Wagner

Yellowstone River Conservation District Council – Staff (l-r)

- Nicole McClain is the Coordinator and the only full-time staff person. She has been with the Council since 2006 and works mainly from her home office in Livingston.
- Carol Watts has been with the Council since 2002 and is the Administrator for Custer County Conservation District.



- She works part-time for the Council out of the Miles City NRCS office.
- Kelly Norwood has been the Council's Project Assistant since 2003. She works part-time out of the Billings office located on Rimtop Drive.



YRCDC meeting & tour of Russian olive demonstration site, Columbus, MT, June 2010

US Army Corps of Engineers Team

- Greg Johnson, Lead Planner
- Tiffany Vanosdall, Project Manager
- Eric Laux, Lead Biologist

Congressional Delegation Advisors

- Congressman Rehberg's office, Mary Heller, Regional Field Director
- Senator Baucus's office, Brianne Rogers, Field Representative
- Senator Tester's office, Rachel Court, Billings Field Representative

Other Agency Personnel/Advisors

- Laurie Zeller, Montana Department of Natural Resources and Conservation
- Scott Bockness, Yellowstone County Weed Control District



John Moorhouse and Bob Hector working together on a hazard signing project funded in part by Montana Fish, Wildlife & Parks

Partner Commitments

Partnerships are essential to the success of the YRCDC. In accordance with the RAC and TAC, we seek to continue the development of voluntary best management practices and implementation strategies for the Yellowstone River. The YRCDC remains committed to the Conservation Districts it serves, and its federal, state, and local government and non-governmental partners. Because the Council recognizes the importance of partners, we actively seek and encourage new partnerships.

Operating Expenses

The YRCDC annual operating expenses are funded by the legislature and passed through the Department of Natural Resources & Conservation. Due to rising costs, and increased activity the YRCDC moved to a quarterly meeting schedule in December 2009. Additionally, to control costs, strong efforts are made to coordinate committee and other meetings around Council meetings, and we continue to conduct teleconferences as needed.

Financial Forecast

During FY2010, the YRCDC tightened its already tight belts. We developed a comprehensive work plan and a projected budget that will efficiently and effectively guide future development of Best Management Practices and the continuation of the Cumulative Effects Study in fiscal year 2011 and beyond.

However, Montana is one of very few states in the nation with a budget surplus. And although our biennial budget request to DNRC for 2012-2013 was the same as the previous four years it is uncertain how we will fare. We will continue to work closely with DNRC, MACD, and others during the next legislative session.

In addition to our critical state funding for operations, which keeps the Council at the quote-unquote table, the study is dependent upon extremely limited federal dollars. In other words, completion of the Cumulative Effects study is highly dependent upon the federal allocation by Congress. While we continue to work hand-in-hand with our congressional delegation including Senators Max Baucus and Jon Tester, and Congressman Denny Rehberg, federal funding overall has been irregular and inadequate.

This year the YRCDC submitted a federal appropriations request for FY2011 in the amount of \$750,000 to complete the studies. At the time this report was published, the request was in the President's budget for \$200,000.

Continuing Efforts

In spite of some dismal financial forecasts for FY2011, we anticipate making considerable progress on the Yellowstone River Corridor Comprehensive Study and the development of voluntary Best Management Practices (BMP). Much of this progress will, in fact, be due to the commitment and generosity of our partners.

Work for the upcoming year includes the Cumulative Effects Analysis, Environmental Studies, and Socioeconomic portions of the Project Management Plan (PMP). This work includes the riparian, wetlands and water quality scopes of work. As well as an economics pilot study and cultural inventory archiving effort that will bring the socioeconomic scope of work closer to completion during the next year.

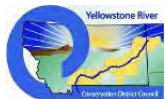
Information Management is critical to the efforts of the YRCDC as evidenced by the new website. With the ongoing development of the Yellowstone River internet map application we will be able to more easily provide information to a variety of different audiences.

Efforts on the Hydrology, Hydraulics and Geomorphology portions of the study continue at a slower pace. However, since contracting the hydrology work with USGS, it is expected that a preliminary report may be available by May of 2011.

Nearly 50% of the funding in the President's budget for FY2011 will be put toward Corps project management, travel and contracting. The remaining funds will be put toward oversight of the ongoing hydrology work and hydraulics in Treasure and Rosebud counties.

We've also been busy planning the Yellowstone River Symposium, entitled "The Yellowstone River in the 21st Century: Planning for a Sustainable Future." The symposium was designed to bring stakeholders on the river together to convey the state of the resource, what we've learned from the Cumulative Effects Study, unveil tools developed as byproducts of the study, and to identify potential funding sources for partners in the basin. We are expecting more than 100 participants.

PARTNERSHIPS



The YRCDC acknowledges the importance of partnerships, which have been developed since its inception. The study area covered is immense with many diverse groups having interests in topics specific to certain portions of the river. This undertaking is truly a ground roots effort with representation from every county along the river and virtually every special interest group.

Early on, it was agreed that we could disagree. From that point, relationships have grown and the YRCDC is very concerned with representing all points of view on the river. These relationships not only include diverse groups, but many agencies (some of which are regulatory) and academics who have committed to the locally led effort.

Carbon Conservation District
606 West Front Ave, PO Box 510
Joliet, MT 59041
Phone: (406) 962-3641

Custer County Conservation District
3120 Valley Drive East
Miles City, MT 59301
Phone: (406) 232-7905 ext. 3

Dawson County Conservation District
102 Fir Street FP
Glendive, MT 59330
Phone: (406) 377-5566

Park Conservation District
5242 Highway 89 South
Livingston, MT 59047
Phone: (406) 222-2899

Prairie County Conservation District
410 East Spring, PO Box 622
Terry, MT 59349
Phone: (406) 635-5381

Richland County Conservation District
HCR 89, Box 5165A
Sidney, MT 59270
Phone: (406) 433-2103

When undertaking a study of this magnitude, it is necessary to understand the social relationships that determine how the efforts will be accepted. By having the conservation districts involved in each county, the effort takes on a local flavor with landowners being approached by other landowners and people in their community they have known for an extended period.

The feedback is honest and straightforward making the acceptance of the end product – voluntary management practices, a much more realistic goal. Without the cooperation of the landowners, very little could be accomplished, as 80 percent of the lands along the Yellowstone River are privately owned. Our partners include the following:

Rosebud Conservation District
270 South Prospect St, PO Box 1200
Forsyth, MT 59327
Phone: (406) 346-7479

Stillwater Conservation District
334 North 9th St, PO Box 48
Columbus, MT 59019
Phone: (406) 322-5359

Sweet Grass Conservation District
Hwy 10 East – PO Box 749
Big Timber, MT 59011
Phone: (406) 932-5160

Treasure County Conservation District
PO Box 288
Hysham, MT 59038
Phone: (406) 342-5510 ext. 3

Yellowstone Conservation District
1371 Rimtop Drive
Billings, MT 59105
Phone: (406) 247-4420

McKenzie County Conservation Dist.
109 5th Street SW, Box 583
Watford City, ND 58854-0583
Phone: (701) 842-3628



The United States Army Corps of Engineers (USACE) was thrust into the position of having to conduct a cumulative effects study as ordered by federal district court. Since the conservation districts also are responsible for administering the 310 permits in Montana (in addition to the ACOE's 404 permits), they felt the need to be involved. As a result, the YRCDC and the USACE signed a cost share agreement in 2004.

Tiffany Vanosdall is the USACE Project Manager for the corridor study. Eric Laux, ACOE Lead Biologist, serves in an advisory capacity to the TAC.



Montana Department of Natural Resources & Conservation (DNRC), Conservation and Resource Development Division

(CARDD) was instrumental in the formation of the YRCDC.

Ray Beck and Laurie Zeller played a vital role by providing support for the technical, financial, and staff support that was required to bring the Council together. They continue to provide outstanding staff support and manage the pass-through funds for the YRCDC's operation expenses. CARDD also provides the majority of grant funding for executing the YRCDC's study plan.

Warren Kellogg, recent NRCS retiree and YRCDC TAC Chairman, continues to provide crucial support as a Watershed Specialist provided by funding through CARDD.

DNRC Water Resource Division (WRD) has also been very active providing a geo-hydrologist very early after the YRCDC was formed. Jim Robinson continues in that capacity and is a valued member of the TAC.



For more than sixty years, the Montana Association of Conservation Districts (MACD) has been contributing to the

success of CDs all across Montana. Created in 1942, MACD is a private nonprofit association, governed by a statewide Board of Directors.

Area 4 Director, Don Youngbauer of Forsyth, Montana, and Area 2 Director Tony Barone of Sidney, Montana represent MACD on the YRCDC. Jeff Tiberi, Executive Director, works with the National Association of Conservation Districts (NACD) to influence the activities of federal agencies and Congress.



Montana Fish, Wildlife & Parks and YRCDC share a

commitment to help sustain the Yellowstone River's diverse fish, wildlife and parks resources and the quality recreational opportunities that are essential to a high quality of life in Montana. Ken Fraser, Fisheries Biologist, is a member of our TAC and is actively engaged in the fisheries scope of work.



The support of the Nature Conservancy has been instrumental to the success of the YRCDC. Burt Williams

played a vital role in developing the YRCDC's resource advisory council (RAC) and is currently a member of the TAC. The Nature Conservancy has also actively lobbied on behalf of the YRCDC for essential federal funding.



The Northern Great Plains Joint Venture is a new addition to the YRCDC's long list of partners. Maintaining and protecting existing wetlands and grasslands, as well as creation and enhancement of

wetlands is a major focus for the NGPJV. Ken Sambor is the Coordinator, and attends TAC and Council meetings regularly.



The United States Geological Survey (USGS) sits in an advisory capacity on the TAC. John

Kilpatrick, USGS Hydrologist, is currently involved in conducting bridge surveys for the ACOE. This information is then used for hydraulic modeling by the ACOE.



The US Fish, Wildlife Service is another federal agency, which has been involved with the YRCDC since the very beginning. George Jordan, Yellowstone

River Coordinator, is USFWS's current representative on the TAC and has been actively involved in matters concerning fish passage and other fish related issues.



The Yellowstone River Conservation Forum is a network of 23 member conservation and

recreation groups with ties to the Yellowstone River. Robert Lubbers represents the Forum on the RAC and is actively involved in the YRCDC's work. Mike Penfold and the Yellowstone River Forum assisted the YRCDC early on, have been a partner ever since and their input is greatly appreciated.

Yellowstone River *Conservation District* Council



To help ensure the wise use and conservation of the Yellowstone River system's natural resources

YELLOWSTONE RIVER CONSERVATION DISTRICT COUNCIL

1371 Rimtop Drive
Billings, MT 59105
Telephone (406) 247-4412
Fax (888) 743-0190
yellowstonerivercouncil.org



Yellowstone River near Miles City, Montana (*photo courtesy of Carol Watts*)