Upper Missouri Basin Advisory Council Recommendations Development Report

Water Resource Issues and Recommendations for Solving Them
for Incorporation in the Upper Missouri Basin Watershed Management Plan
(Phase 2 Technical Review and Phase 3 Recommendation Development of the Council's Charge)

June 19, 2014

Prepared by

The Upper Missouri Basin Advisory Council
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and

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ACKNOWLEDGEMENTS

This report was prepared based on information shared by DNRC staff, many resource specialists from several agencies and groups, and interested participants who attended public meetings. The Council carefully considered this information to develop these recommendations and thanks the many who shared of their time and expertise.

TABLE OF CONTENTS

APPENDICES

TABLES

I. Introduction and Background

Purpose of This Report

This is a report of the work of the Upper Missouri Basin Advisory Council to:

1) identify and study critical water resource issues in the Upper Missouri Basin, and
2) develop recommendations on water issues of vital importance to the people of Montana for the Montana Department of Natural Resources and Conservation (DNRC) to include in its State Water Plan recommendations to the 2015 Montana Legislature.

The Council encouraged public comment on this document through June 9, 2014, which is also reflected in this report. Full basin plans and recommendations reports were developed for each of Montana's four major basins: Upper Missouri, Lower Missouri, Yellowstone and Clark Fork. Final recommendations of this report, as well as from the other basin recommendations reports, will be reviewed, combined and developed for inclusion in the full State Water Plan (Montana Water Supply Initiative). DNRC will present the State Water Plan to the 2015 Montana Legislature.

Early Deliberations of the Upper Missouri Basin Advisory Council

The diverse 20-member citizen Council met regularly between August and October 2013, first for a kick-off meeting and then for five public scoping meetings conducted throughout the basin. During those meetings, the Council and attending public heard presentations by resource professionals on a variety of pertinent topics and, from these presentations and discussions, the BAC began to prioritize a set of issues to address in these recommendations. A Phase 1 Report[1] from this initial round of meetings articulates 15 issues of interest for further consideration in the Upper Missouri Basin.

II. Process for Developing Recommendations

During the combined Phase 2 (technical review) and Phase 3 (recommendation development) of the Council's work, conducted between January and May, 2014, the Council met five times, often for 2-day meetings, to examine and discuss 12 critical water resource issues (condensed and combined from the original 15 identified during Phase 1), then develop issue statements, recommendations and strategies for future water management in the Upper Missouri Basin. Throughout the process, a facilitator reviewed with the Council the summaries of ideas developed during Phase 1 to assure follow-through and integration of public comments. Between each meeting, the facilitator, with review by the presenters, technical resource advisors and DNRC staff, crafted issue statements and refined recommendations based on the Council's deliberations and feedback. These drafts were regularly circulated to Councilmembers electronically prior to subsequent meetings. At each meeting, Council members commented in

[1] Upper Missouri Basin Advisory Council. Issues Scoping Report. *Montana State Water Plan Update - Upper Missouri River Basin. Prepared by the Council and* Kathleen *Williams. December 17, 2013.*

detail on drafts, with the overall goal of refining statements and recommendations for final public review and presentation to DNRC.

The work of the Council during Phase 2 and Phase 3 was conducted respectfully and collaboratively as a full team with no breakout sessions. Sometimes a sub-team would further develop a particular recommendation between meetings to bring back to the group. Where there was disagreement, issues or statements were reworked or removed from the draft, such that the Council endorsed its draft recommendations at its May 15, 2014 meeting. Table 1, below, shows topics and issues covered during the combined Phase 2 and Phase 3 meetings. Agendas for these five meetings are presented in Appendix A.

Four public meetings on May 21, 2014 (Dillon), May 22, 2014 (Manhattan), May 28, 2014 (Shelby) and May 29, 2014 (Great Falls) offered opportunities for Council members to provide a summary presentation of the draft recommendations, and for the public to register comments. A total of 41 people attended the public meetings. Also, an electronic survey made available between May 19 and June 9, 2014, collected comments from 15 individuals. On June 12, 2014 Council members met by conference call to review the public comments, and make any changes to the draft recommendations it felt important. Comments from the town meetings and electronic survey, as well as the Council's modifications made as a result of those comments, are summarized after each issue below. In general, respondents were pleased with, and grateful for, this effort.

Table 1. Upper Missouri Basin Advisory Council Work Sessions and Topics		
Jan 10, 2014 Helena, MT FWP MT Wild Center		
Tim Davis	DNRC WRD Administrator	**Process and Recommendations Development**
Gayla Wortman	Chair Cascade CD	**Agricultural Water Use and Efficiency Review**
Eloise Kendy & Mark Aagenes	Instream Flow Specialists, The Nature Conservancy and Trout Unlimited	**Instream Flow Protection Review**
Kitt Dale	Mining Specialist, Montana Mining Association	**Water Information System Review**
Bob Hardin & Paul Siddoway	Greenfield Irrigation & Big Hole WS	**Water Storage Review**
Lezlie Kinne	Water Commissioner	**Drought Management Review**
Ann McCauley	DEQ	**Integrated WQ & WQ Mgmt Review**
Vicki Baker	Chair Teton CD	**Groundwater Review**
Lenny Duberstein	Federal Bureau of Reclamation	**Federally-Owned and Managed Projects in the Basin**
Matt Norberg	MT DNRC State Projects Bureau	**State-Owned and Managed Projects in the Basin**
Bob Hardin, Vern Stokes, Vicki	Greenfield Irrigation District, Pondera Canal,	**Locally-Managed Projects in the Basin**

Baker, Allen Martinell, Lezlie Kinne	Bynum Irrigation District, Lima and Willow Creek	
Feb 27 & 28, 2014 Helena, MT FWP MT Wild Center		
John Lafave & Ginette Abdo	MT Bureau of Mines and Geology	**Conjunctive Mgmt**: Groundwater Investigation Program and Case Scenarios
Tammy Crone & Jim Wilbur	Gallatin WQ District & Lewis and Clark WQ District	**Conjunctive Mgmt**: Roles and Responsibilities of Water Quality Districts
Mark Aagenes & Mike McLane	MT Trout Unlimited, MT Fish Wildlife Parks	**Conjunctive Mgmt**: History and Evolution of Conjunctive Management Policies in MT
Wayne Berkas	US Geologic Survey	**Water Info:** Stream Gauging in Montana
Troy Blandford	MT Natural Resource Information System	**Water Info**: MT Water Information System
Brian Domonkos	US Natural Resource Conservation Service	**Water Info**: Snotel and Snowpack Monitoring
John Lafave	MT Bureau of Mines and Geology	**Water Info**: Groundwater Information Center
Gayla Wortman	Chair, Cascade Conservation District	**Local Coop Efforts**: Overview of CDs and Watershed Groups in the Basin
Tim Bryggman	DNRC Economist	**Water's Role in the Economy**: Growth Projections for the Basin
Panel: Anne Yates, Holly Franz & Stan Bradshaw	DNRC Head of legal, Attorney for PPL MT, Attorney for Trout Unlimited	**Water's Role in the Economy:** Policy/Legal/Historic Perspective on the Change Process.
Matt Murphy	DNRC Adjudication Bureau	**Adjudication**: Overview of the Adjudication Process in the State
Judge Russ McElyea	MT Water Court	**Adjudication**: Overview of the Adjudication process in the State
March 27-28, 2014 Healing Waters Lodge, Twin Bridges, MT		
Larry Dolan	DNRC Hydrologist	**Available Water/Climate Change**: Supplies in the Basin Review of Storage Projects in the Upper Mo Basin
Todd Gartner	Senior Associate, World Resources Institute	**Natural Infrastructure for Water**
Lynda Saul	MT DEQ Wetlands program coordinator	**Natural Storage**: Floodplains, Wetlands, Forests and Integrating Natural Infrastructure
Bruce Sims	USFS Region 1 hydrologist	**Natural Storage**: Floodplains, Wetlands, Forests and Integrating Natural Infrastructure
Todd Gartner	Senior Associate, World Resources Institute	**Natural Storage**: Floodplains, Wetlands, Forests and Integrating Natural Infrastructure
April 24-25, 2014, Stage Stop Inn, Choteau, MT		
Melissa Hornbein	Reserved Water Rights	**Large Scale Factors**: Overview of Federal and Tribal

	Compact Commission	Water Compacts in the Upper Missouri Basin
Scott Irvin	DNRC Regional Manager, Lewistown	**Large Scale Factors**: Water Reservations in the Upper Missouri
Mike McLane	Montana FWP	**Instream Flows**: Review of instream Flows Reservations, Leases and Murphy rights
Bryan Gartland	DNRC Regional Manager, Helena	**Instream Flows**: Ecological Considerations for instream Flows
Ann McCauley	DEQ WQ Protection	**Integrating Water Quality and Quantity**: Overview of TMDL and Water Quality Concerns
Joe Little & Randy Pearce	NRCS	**Water Use Efficiency and Conservation:** NRCS irrigation Efficiencies and Program Overview
Larry Dolan	DNRC Hydrologist	**Water Use Efficiency and Conservation:** Consumptive Use and Conservation
Kerri Strasheim & Bryan Gartland	DNRC regional managers, Bozeman & Helena	**Water Marketing and Transfers:** Overview

III. The Recommendations

Summary of Key Issues and Solutions: What Makes the Upper Missouri Basin Unique?

The Upper Missouri Basin is a treasure with its own distinguishing water story that makes it a unique place to live, work and visit. It is the headwaters to the continent, spanning the Rocky Mountain front and two major national parks. It is rich in agricultural tradition and beautiful productive irrigated valleys. Unsurpassed fishing and recreational opportunities attract locals as well as people from around the world. The basin is also a place of rapidly expanding urban and business development and economic growth. But the challenge that rises above all others is the fact that most of the Upper Missouri Basin is closed, and little water is available for new appropriation. This factor alone is woven into many of the following recommendations.

The Upper Missouri Basin Advisory Council took all of these factors to heart as it developed this guiding document on future water management in the Upper Missouri Basin. It decided to present its water plan recommendations in the context of 12 issue areas listed below, but was quick to recognize that all 12 issues are highly interrelated. For example, we cannot study surface water without acknowledging its relationship to groundwater; nor water developments without also understanding their impacts to water quality or instream flows, and so on. Because the issues are all connected, you will see some cross-referencing in these recommendations to other issues. Still, there are important water-related themes in the Upper Missouri Basin that the Council identified with special interest. These include: 1) the need to better define the use of exempt wells in dense developments; 2) recognition of the importance of the statewide adjudication and dependence by many on its completion; and 3) a need to protect natural streamflows in light of the desire to also identify opportunities for built and natural storage in a closed basin.

In its closing deliberations, the Upper Missouri Basin Council thoughtfully stressed three core conditions essential to representing the people, livelihoods, and resources of the Upper Missouri River Basin. The first is that all 62 of the Council's recommendations recognize and support the Prior Appropriation Doctrine and its protection of multiple uses and existing water rights. None of these recommendations should infringe on the Prior Appropriation Doctrine and valid existing water rights. The second is that, like the issues themselves, all recommendations presented are highly interrelated and difficult to consider in isolation. For example, many recommendations deal with improving water-use and management efficiencies that, if carried out, could have both positive and negative impacts. In many cases, systems are already in place, but the recommendations call for additional tools to improve systems management. Finally, it is the ardent hope of the Council that this report does not reside on a shelf, but that it is revisited often as a living document to be updated regularly, especially in a way that keeps local efforts highly engaged. In this regard, the Council hopes to continue to participate and contribute on a regular basis.

Recommendations by Issue

Each of the issues identified by the Council is presented in this format:

1. **Issue Title**
2. **Overall Goal**
3. **Issue Statement**
4. **Objectives**, which are statements of desired future conditions
5. **Recommendations**, numbered in order of presentation across issues to easily identify for discussion
6. **Implementation Tasks**, where the Council wished to enter this level of detail

The issues are presented in the following order, the first four of which the Council considers as priority topics, although all issues are highly interrelated and critical:

A. **Conjunctive Surface Water/Groundwater Management**
B. **Adjudication**
C. **Storage**
D. **Instream Flow**
E. **Local Cooperative Efforts**
F. **Water Use Efficiency and Conservation**
G. **Integrated Water Quality and Quantity**
H. **Water's Role in the Economy**
I. **Water Information Systems**
J. **Available Water Supply and Climate Change**
K. **Water Transfers and Marketing**
L. **Large Scale Factors**

Public comments, and the BAC's response to those comments, are summarized briefly at the end of each issue section. For a copy of all written survey comments and public meeting notes, please contact Ann Schwend, Senior Water Planner at DNRC.

A. CONJUNCTIVE SURFACE WATER/GROUNDWATER MANAGEMENT

Goal: Improve Management of Surface Water and Groundwater as a Conjunctive Resource

The Issue

Surface water and groundwater are usually connected, and withdrawal from or reduced recharge to one can significantly affect availability of the other. Common examples in the Upper Missouri Basin include the potential for well pumping to reduce surface water flow, and where shifts from flood to sprinkler irrigation can decrease aquifer recharge. Aquifer characteristics in the basin vary from limestone, shales and alluvial fill, and these differences can affect water availability. With variability among and even within aquifer systems, the hydrologic connections between surface water and groundwater are difficult to measure and monitor. To help understand trends, several state, federal and local agencies routinely collect data on groundwater quality and quantity. Although the agencies work together, at times they make management or permitting decisions internally without integration of all data, or without optimal data. For example, irrigation return flows and seepage from the more than 3,300 miles of canals in the basin offer potential opportunities to augment groundwater recharge, and this should be factored into decision-making.

Exempt wells were discussed in detail and are a topic of great importance. In particular there is broad agreement that exempt wells should not impact senior water rights. The Council believes that resolution of the exempt well issue is imperative. Since much of the basin is legislatively closed to most new water right appropriations, many new developments have relied on exempt wells to meet the needs of individual lot owners. By statute, these wells are granted a water right by filing a simple "Notice of Completion" after development, and are exempt from permit review criteria required for larger wells or surface water appropriations. Withdrawals from the roughly 53,000 individual groundwater wells throughout the basin, 11,700 of which were drilled between 1990 and 2000, can cumulatively impact surface water availability and quality especially where they are densely located. Impacts vary on the basis of local groundwater availability and extent, and should be addressed accordingly.

Objectives

1. Groundwater and surface water resources are conjunctively managed by DNRC and the Montana Department of Environmental Quality (DEQ)

   RECOMMENDATION 1*:* Support cooperative efforts to integrate, share, and analyze the data needed to conjunctively manage surface water and groundwater resources.

   Implementation Task: Enhance a multi-agency water data collection and analysis system managed by NRIS. Assure that this system: 1) houses enough data to accurately describe cumulative impacts of all groundwater withdrawals on recharge and local water supplies; 2) can be used to investigate mitigation strategies, such as enhanced aquifer recharge; 3) is a ready tool to access when surface water and groundwater interactions play into management decisions, especially in areas where streams are already

dewatered or where there is the potential for flow reductions; and 4) is adequately funded.

2. Exempt wells are allowed and managed within the original intent of the legislation.

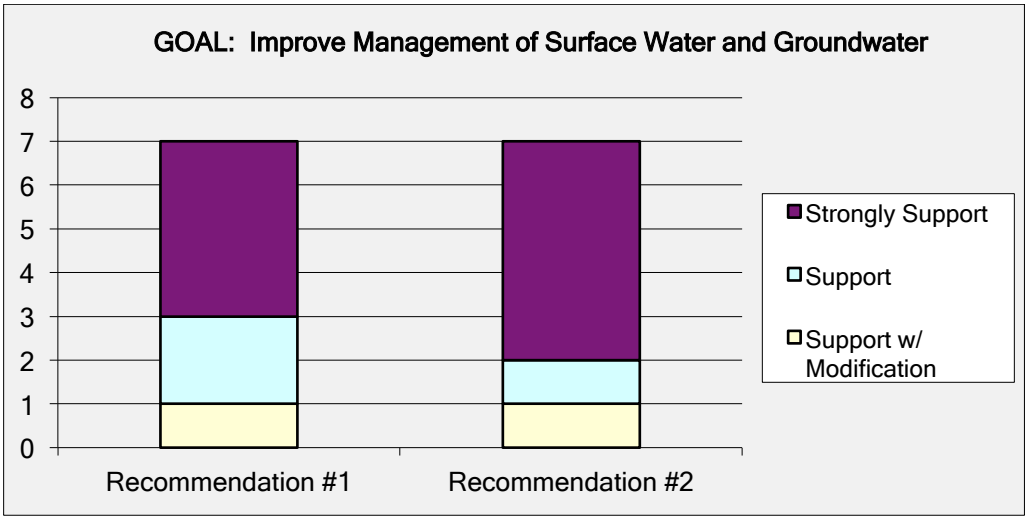
RECOMMENDATION 2: Implement interpretation of the exempt well statute, which identifies exempt wells as small-scale, widely dispersed groundwater wells with little potential to impact other water rights.

Implementation Task: Adopt an administrative rule (DNRC) and/or legislation (Montana Legislature) that recognizes the cumulative impacts of densely developed wells on local groundwater supplies and senior water rights. This rule or legislation should take into account the following principles:

a. *Most wells use less than 2 acre-feet of water, but an exempt well may tap up to 10 acre-feet, which can impact other users.*
b. *The intent of original legislation was to allow for smaller, widely dispersed uses.*
c. *High density of exempt wells is a critical issue and needs immediate attention.*
d. *The density of exempt wells indicates a direct relationship to water quality.*
e. *Use of exempt wells for stock water is supported.*
f. *Continued monitoring/study of exempt wells in high-density areas is essential.*

Public Comment

All respondents supported Recommendations 1 and 2. Comments reflected on aquifer subsidence, the impacts of hydraulic fracturing, priority dates for exempt wells, and the impact of dewatering on water quality. The BAC concluded that addressing the recommendations as stated will also address these concerns.



B. ADJUDICATION

Goal: Complete an Accurate and Enforceable Water Rights Adjudication

The Issue

The Statewide Adjudication Process is critical to all water users in the Upper Missouri River Basin, and the Council recognizes that it is already occurring at an accelerated pace. When completed, it will produce enforceable Final Decrees of all historic water rights. Water users in the basin are anxious to complete decrees and resolve issues of enforcement, which are important not only to water users and managers in the basin, but also for protecting Montana's interests against illegal uses of water and downstream claims. Currently, no Final Decrees have been issued in the basin, and sub-basins with Temporary Preliminary Decrees may need further examination to bring them to modern adjudication standards. In sub-basins where water users choose to petition for water distribution and enforcement of water rights according to a decree, a decree must be in place and objections and issue remarks resolved. Final Decree, which is the end goal, is important to water rights holders because it is a declaration that the historical water right can no longer be debated and modified within the current adjudication process. Water right holders acknowledge that adjudication will sometimes only generally characterize water use, but they also recognize that it is a very important tool for moving forward. To that end, additional resources are necessary to achieve enforceable decrees in a timely manner.

Objectives

1. Decrees are accurate and enforceable in the Upper Missouri Basin.

   RECOMMENDATION 3: Continue funding of both the Water Court and DNRC to complete the current adjudication process at the desired level of staffing and to meet benchmarks for accountability.

2. Management roles of the Water Court, District Court and DNRC are well defined.

   RECOMMENDATION 4*:* Create a plan for transitioning to post-adjudication roles. Maintain the current role of the District Court; keep the Water Court focused on adjudication and DNRC focused on new permits, change applications and assisting in the adjudication process.

   RECOMMENDATION 5: Adequately resource and authorize the Water Rights Enforcement Section of DNRC to reduce illegal use of water.

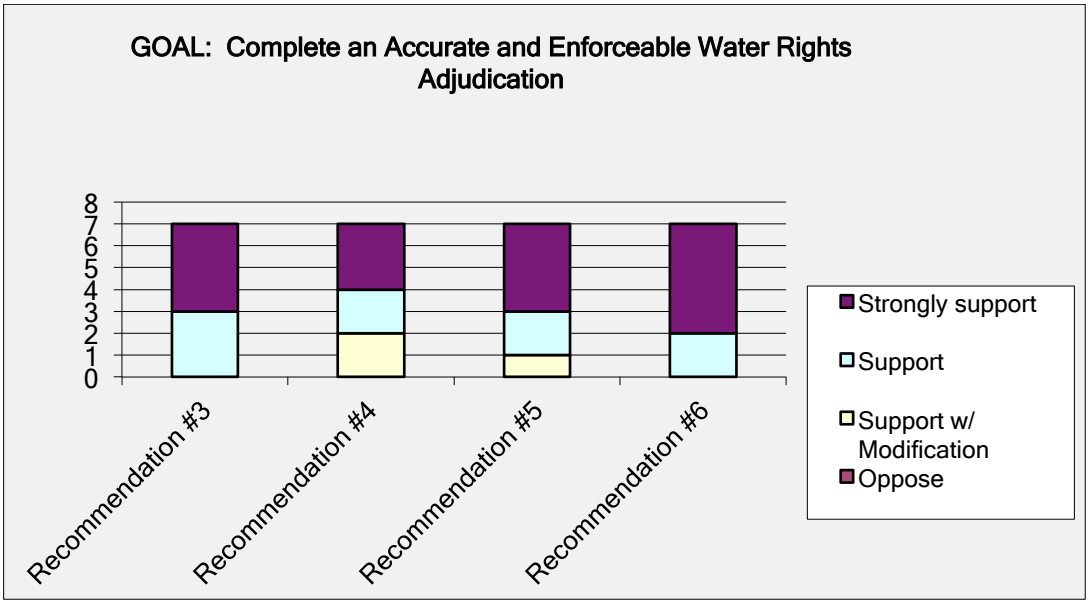
3. The public recognizes the value and outcomes of the d process, and is engaged through informative public education.

   RECOMMENDATION 6: Continue public education and outreach efforts that inform on progress and outcomes of the adjudication.

4. The Confederated Salish and Kootenai Tribe water compact is successfully endorsed and passed during the 2015 Legislative session (**See issue L).**

Public Comment

All respondents supported all recommendations for this issue. Their written comments focused on enforcement of water rights, the roles of the Water Court and the District Court, and public education on the significance of the adjudication. The BAC concluded that addressing the recommendations as stated will also address these concerns. It did add recognition of illegal water use to the issue statement.



C. STORAGE

Goal: Increase Water Availability through Storage and Retention

The Issue

With much of the Upper Missouri River Basin closed to new appropriations, many stakeholder groups hope to find options for additional water storage using a variety of methods. This is especially of interest in the Big Hole River watershed. Stakeholders point to a desire to capture high flows earlier and retain them in the basin longer for additional flexibility in the late season and to accommodate expanded demand. Assessment of multi-use on-stream and off-stream storage is of interest, along with exploring storage tools such as natural storage (in beaver ponds, wetlands and floodplains), retrofitting existing reservoirs, snow banking, and the potential for augmenting groundwater recharge through irrigation canals to recharge basins during high runoff. An increase in natural storage capacity is desirable because of its cost effectiveness. Constructed (built) water storage facilities in the basin are working well and capture water during high flows for use during periods of shortage, but some of these facilities might be retrofitted for efficiency and expanded use.

Objectives

1. There is public understanding of the costs and benefits of built and natural storage to increase the flow of water in the basin when it is most needed.

   RECOMMENDATION 7*:* Develop a comprehensive basin-wide study of natural and built storage potential, including consideration of costs, benefits, watershed characteristics and geologic factors; share findings.

   RECOMMENDATION 8: Identify and develop pilot projects to demonstrate and quantify the capacity of natural storage options in smaller watersheds.

   RECOMMENDATION 9: Increase natural storage capacity (wetland, riparian areas, floodplains) on public and private lands in the basin.

2. There is recognition of the public costs and benefits of both built and natural storage options in decision-making and state funding allocations.

   RECOMMENDATION 10: Review guidelines and criteria for state funding programs (Renewable Resource Grant and Loan Program [RRGL] and Reclamation and Development Grants [RDG]) and agency resource management decisions to include both built and natural storage opportunities.

   RECOMMENDATION 11: Create a position for a State Water Storage Coordinator to work with stakeholders to investigate ideal locations for off-stream storage, natural storage, retrofitting existing facilities for increased storage, and integrating built and natural storage planning.

3. Existing storage facilities (built) are retrofitted, where feasible, to increase storage capacity and uses.

   RECOMMENDATION 12: Identify potential for existing facilities to provide additional municipal supply, streamflow supplementation, hydropower generation and other benefits. Allocate hydropower revenues from these facilities to the reservoir management account for future water storage rehabilitation or construction projects (e.g.; Ruby Dam). For federal storage projects, there is Congressional approval to this effect.

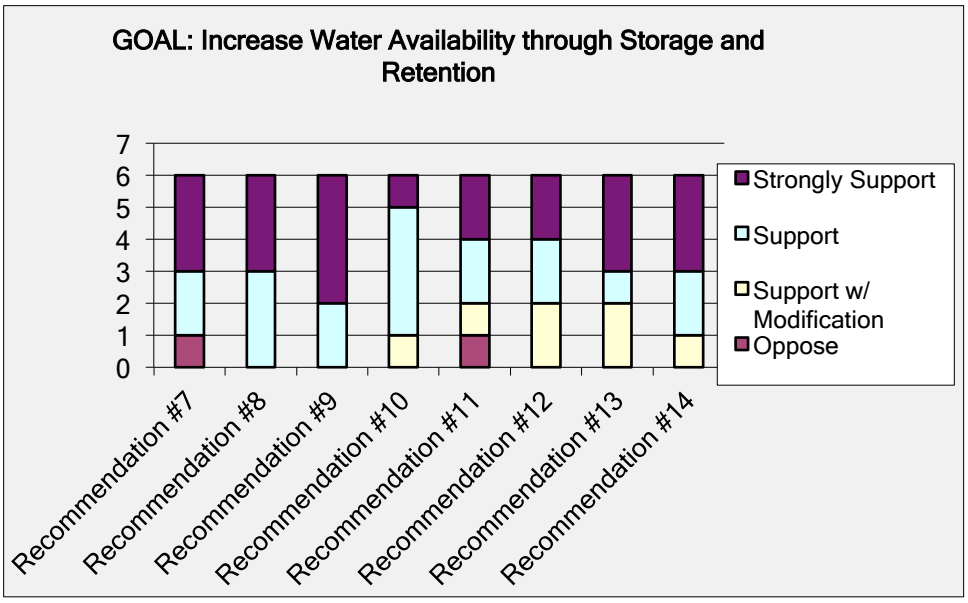
   RECOMMENDATION 13*:* View hydropower retrofits as both an investment in renewable energy and as a source of rehabilitation and construction funding for existing and future projects. Encourage the federal government to relax the Federal Energy Regulatory Commission requirements on smaller, in place storage facilities retrofitted for hydropower generation to make them more economical.

   RECOMMENDATION 14: Consider multiple benefits, including ecological health, in all new basin water storage and management decisions (e.g., reservoir re-operation). (Example: reservoir re-operation to increase storage for offstream use AND increase releases during critical low-flow periods.)

   RECOMMENDATION: **(See Issue D)**

Public Comment

All respondents supported all recommendations for this issue, except for those who question the implications of some recommendations to expand built storage, and one who was opposed to Recommendation 11 unless is was clear that the new coordinator will focus on helping improve municipal and agricultural efficiencies. The BAC recognizes that addition built storage is an option that would take immense planning to accomplish, and only in places where the benefits outweigh the costs. The exploration of natural storage and increased efficiencies is also well-addressed recommendations; therefore, no changes were made in this section.


GOAL: Increase Water Availability through Storage and Retention
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Strongly Support
Support
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Oppose
Recommendation #7
Recommendation #8
Recommendation #9
Recommendation #10
Recommendation #11
Recommendation #12
Recommendation #13
Recommendation #14

D. INSTREAM FLOW

Goal: Maintain and Enhance Instream Flow

The Issue

Instream flow pertains to streamflow in rivers and streams used non-consumptively for fish and wildlife, channel maintenance, habitat conservation, recreation, and hydropower. Maintenance of instream flows is a significant issue in the Upper Missouri, especially on tributaries where fish spawn and rear, and on mainstems where native cottonwood forests fail to reproduce. Despite the legal tools available for protecting and restoring streamflows, there are still situations in the Upper Missouri where streamflows are insufficient at critical times. There is a broad recognition that streams and rivers in the Upper Missouri Basin are already heavily utilized for many purposes, yet future water management should strive, when possible, for streamflow conditions that maintain or restore the desired ecological functions and processes, typically but not always, similar to those exhibited in their natural state.

Objective

1. More tools are available to protect or enhance instream flows within the prior appropriation framework.

   RECOMMENDATION 15: Expand statutory authority for the instream flow fishery change use process to include permanent and temporary exchanges and beneficial uses for other species and ecological benefits.

   RECOMMENDATION 16: Create sub-watershed plans that identify where, when, and to what degree flows are insufficient to support healthy ecosystems, and include plans for restoring and protecting streamflows to more efficiently meet the needs of all water users.

   RECOMMENDATION 17: Consider earmarked user fees to recreational users to generate revenue to support instream flows leases, water conservation, stream restoration and watershed health by FWP in critical stream reaches, and then seek Legislative approval of new Montana Fish, Wildlife and Parks (FWP) license fees and a process for setting them.

   RECOMMENDATION 18: Assure that public funding for water development and infrastructure (e.g., RRGL) prioritizes projects that enhance instream flows where needed.

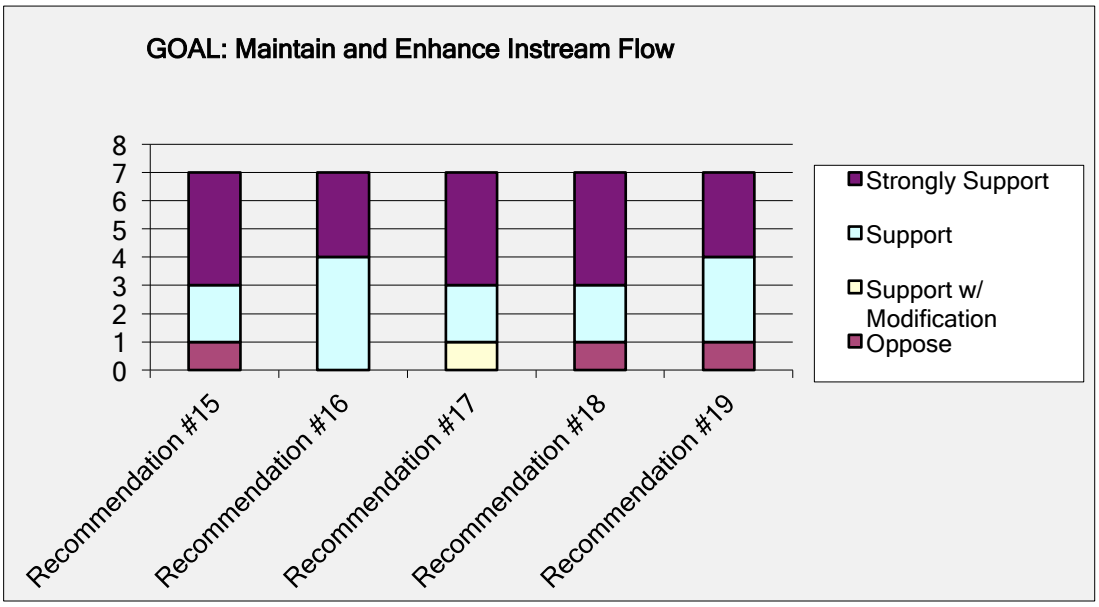
2. Instream flows preserve ecological functions and natural processes.

   RECOMMENDATION 19: Determine the frequency, magnitude, timing, and duration of high (flushing) flows needed to maintain healthy rivers and streams across the basin. Use this information to prioritize water transactions and ensure that new storage (including groundwater) schemes protect these values. Likewise, determine the location, timing, and quantity of instream flow needed to respond to drought conditions.

RECOMMENDATION: **(see Issue C)**

Public Comment

Respondents supported these recommendations except for one who opposed Recommendations 15, 18, and 19 with no reasons presented. The BAC made no changes to this section except for the addition of the word "flushing" in Recommendation 19.



E. LOCAL COOPERATIVE EFFORTS

Goal: Expand General Support for Conservation Districts, Local Watershed Groups and Water Quality Districts

The Issue

Community-based, local watershed groups, water quality and conservation districts, and other informal cooperative efforts are vital connections between water resource agencies and knowledgeable stakeholders. These groups bring diverse water users together to identify, design and implement water management solutions that address local and statewide goals. The Upper Missouri basin has many community-based watershed groups, Conservation Districts and local Water Quality Districts poised to solve local issues, monitor resources and educate the public. There has been significant reliance on these groups to coordinate grants to implement water quantity and quality projects. Budgets have been reduced and general funding for these groups has been extremely difficult to sustain. State and federal funding is often directly tied to projects rather than to operational expenses to retain staff, coordinate projects and maintain community involvement. Local groups rely on a variety of funding sources (grants, donations, project dollars and local mil levies), but overall financial support is limited and often not sustainable. Long-term solutions can best be developed collaboratively through strong partnerships between the local watershed communities that offer on-the-ground feedback and assessment, and the responsible statewide agencies that can offer technical and financial assistance to do so.

Objective

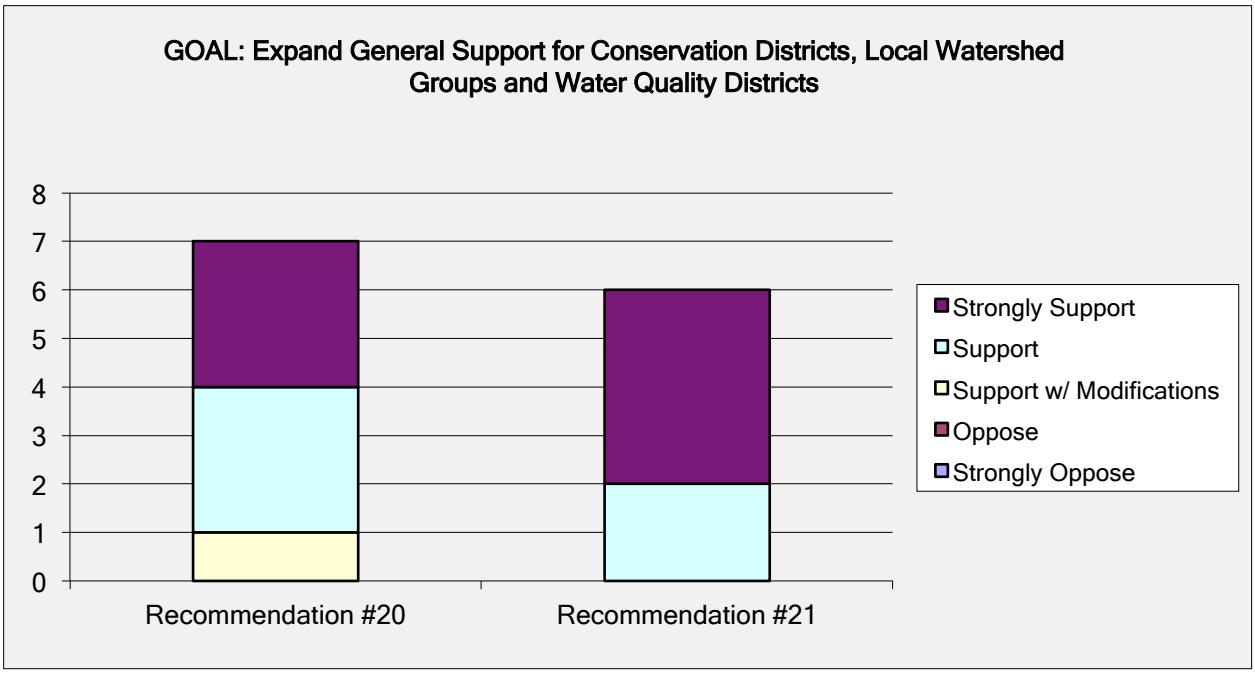
1. There is recognition of on-the-ground water-issue expertise and awareness that local water and land management groups offer; agencies support and make use of this local expertise.

   RECOMMENDATION 20*:* Create a dedicated and sustainable source of funds for both the operational and technical (e.g.; data collection) support of local watershed groups and districts to respond to issues with local expertise.

   RECOMMENDATION 21: Develop an information exchange for sharing data and ideas among local management groups. Also, assure regular communication between local groups and agencies to help identify watershed improvement priorities.

Public Comment

All respondents supported all recommendations in this section. The BAC made two changes to this section to clarify meaning, adding the word “diverse” in the issue statement, and clarifying language in Recommendation 21.


GOAL: Expand General Support for Conservation Districts, Local Watershed Groups and Water Quality Districts
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Recommendation #20
Recommendation #21
Strongly Support
Support
Support w/ Modifications
Oppose
Strongly Oppose

F. WATER USE EFFICIENCY AND CONSERVATION

Goal: Improve Water Use Efficiency and Conservation

The Issue

With limited supplies, water use efficiency is playing a bigger role in the Upper Missouri Basin, especially in ranching and municipal operations. Many irrigators are converting their fields from flood to sprinkler irrigation systems to decrease labor costs and to improve crop yields. People recognize that these changes in irrigation practices can affect the hydrologic regime and return flow rates. From a flow management perspective, it might make sense to continue flood irrigation practices in some areas, such as headwaters, and convert to sprinkler irrigation in others. Where a particular irrigation system type is most beneficial to the producer will vary depending on local geology and soil type, economics, infiltration return rates, source (groundwater versus surface water), competing uses and time of year. In the end, economic considerations probably will compel most producers to continue to change flood irrigation systems to sprinkler systems. Although improving water efficiency and conservation is important and probably necessary for many ranches to stay economically viable, it also leads to questions about the cumulative impacts of these irrigation system changes on the timing of return flows, depletions, and the legal uses of any associated "saved" water. In municipalities with limited water rights for expanding populations, efficiency measures and storage potentials are the subject of intensive analyses.

Objectives

1. Water use efficiency improvements are in place. There is recognition that certain irrigation methods can have return flow benefits, and that irrigation methods have trade-offs among all water users.

   RECOMMENDATION 22: Support irrigation improvements at the local level (flood to sprinkler, conveyance system upgrades) where it makes economic and hydrologic sense; Identify opportunities to offset or mitigate impacts of sprinkler conversion systems on return flow, and create and fund mechanisms for capturing water (aquifer recharge, constructed wetlands) to offset the impacts of sprinkler conversions.

   RECOMMENDATION 23: Develop a local groundwater assessment for each sub-basin that characterizes geology, infiltration rates and groundwater availability; to compliment these studies, create a basin-wide Council or group that can recommend when efficiency projects are best to implement with public funding (e.g., locations where pivots or canal lining make sense and others where groundwater storage from flood irrigation is desirable).

   RECOMMENDATION 24: Assess banking, leasing and mitigation opportunities to offset water saved through efficiencies for recharge and other uses, without expanding the consumptive or historic use portion of a water right.

2. Municipal water systems promote and employ water conservation measures wherever feasible.

   RECOMMENDATION 25: Implement incentivized conservation programs in high-density municipal areas.

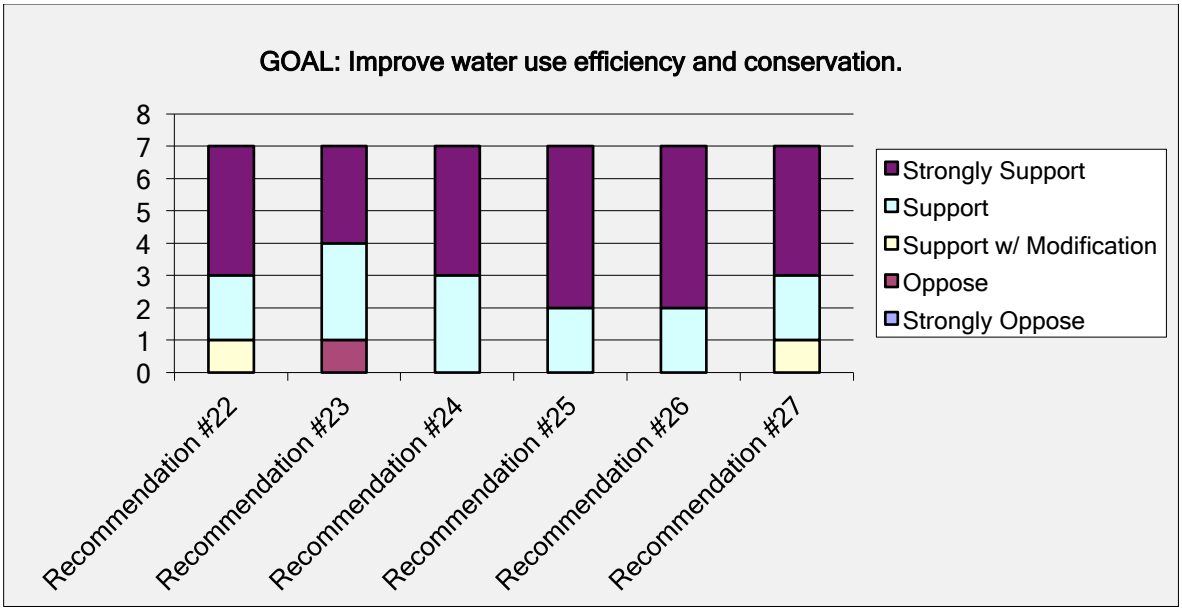
   RECOMMENDATION 26: Assess the legal aspects of wastewater reuse

3. There is public awareness of the effects of water use efficiencies and mitigation measures on local basin hydrology.

   RECOMMENDATION 27: Create a public awareness program, delivered by Conservation Districts, Water Quality Districts, municipalities and watershed groups that describes the benefits and consequences of sprinkler and flood irrigation systems, municipal water conservation measures, and other water efficiency-related topics[2].

Public Comment

All respondents supported all recommendations in this section, except for one who felt that Recommendation #23 would be a staff and time sink. The BAC responds that this kind of effort is critical for setting priorities for improving efficiencies. No changes were made to this section.



[2] Note Colorado SB 14-023 Water Efficiency Savings Bill as one example

G. INTEGRATED WATER QUALITY AND QUANTITY

Goal: Advance Integrated Water Quantity and Quality Management

The Issue

The direct relationship between water quality and quantity in a basin with little available water underscores the importance of their integrated management. Any improvement in water quality requires deliberate attention to nonpoint source pollution, including naturally occurring, which is the cause of the majority of water quality problems in the Upper Missouri Basin. Low streamflows can be a major trigger of water quality concerns as problems intensify when pollutants like nutrients, metals, pathogens, and salinity concentrations are present at low flows. Warm water temperature is also a major water quality and fisheries concern associated with low flows. The biggest challenge to controlling non-point source pollution is the fact that much of its mitigation lies in voluntary, informed action by individuals who contribute to collective results.

Objective

1. Systems are in place to integrally manage water quality and water quantify

RECOMMENDATION 28: To assist in local, voluntary efforts and improved understanding of instream flow needs, define "low flow alteration" in the DEQ's and FWP's assessment methodologies.

RECOMMENDATION 29: Expand on current efforts to develop a multi-stakeholder campaign that increases public awareness of non-point source mitigation activities and opportunities.

RECOMMENDATION 30: Support a program that allows entities needing to meet discharge requirements to purchase a credit from upstream users who deliver clean water downstream.

RECOMMENDATION 31: Recognize impacts of dense septic system development on water quality, and create incentives and programs for improved performance. (Also see Recommendation 1)

RECOMMENDATION 32: Recognize the role of healthy municipal watersheds in the reduction of potable water supply treatment costs.

RECOMMENDATION 33: Create a Strategic Nutrient Reduction Plan for the Upper Missouri basin that assists local governments, Conservation Districts, watershed groups, and local Water Quality Districts to take a deeper role in nutrient-related issues in their watersheds, including septic management in high-density areas.

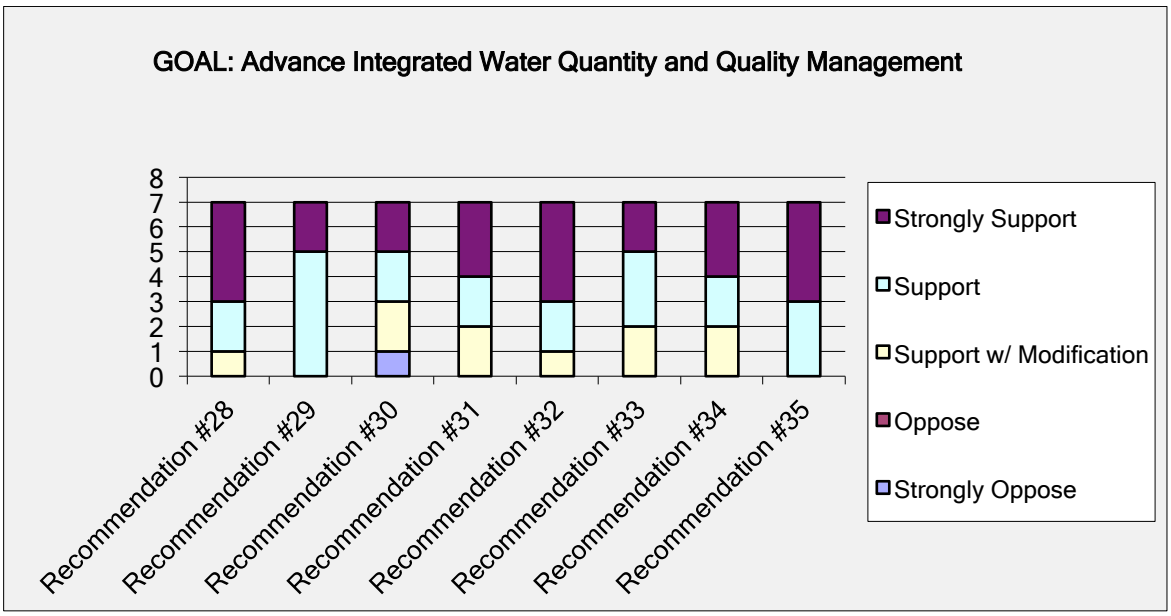
RECOMMENDATION 34: For each sub-basin in the Upper Missouri, create a baseline

groundwater study that also recognizes the water quality/quantity interface.

RECOMMENDATION 35: Develop a legal analysis of water re-use from a water rights perspective; identify how municipalities might approach water re-use or discharge choices, given recent changes in water quality standards.

Public Comment

All respondents supported all recommendations of this section except for one who strongly opposed Recommendation 30, which recommended a nutrient trading program. The BAC agreed with parts of this comment and modified the recommendation to embrace the concept, but temper the recommendation. The BAC also tightened the language in Recommendations 28, 31, and 33.



H. WATER'S ROLE IN THE ECONOMY

Goal: Recognize the Role of Water in Montana's Growing Economy

The Issue

Even though most of the Upper Missouri Basin is sparsely populated, its urban and industrial centers generate a robust economy and compliment Montana's rich agricultural and outdoor recreation traditions. The Upper Missouri Basin has 31% of Montana's population, nearly 23 % of Montana's land area, almost half of Montana's irrigated agricultural lands (more than 1,000,000 acres), and accounts for 46% of all fishing in the state. Current estimates put the population in the basin at about 313,000, and somewhere between 365,000 and 415,400 by 2035, creating new pressures on housing, water infrastructure and fire control. Water availability, water conveyance, water conservation, and the value of water during rapid development have received immediate attention in response. Many miles of water conveyance infrastructure so important to agriculture have a shared value in providing habitat and a healthy watershed. Besides the value associated with water diverted for agricultural and other uses, maintaining streamflows to protect habitat, offer recreational opportunities, support robust tourism, and generate energy is as important. Given that population growth is inevitable in the basin, careful attention is needed to assure sustainable economic development while protecting senior users and instream resources. Accelerated change in land and water use, and the need to better manage those changes, are drivers of this issue.

Objectives

1. The Prior Appropriation Doctrine and current water uses and conveyances are protected and recognized as supporting the economy.

   ***RECOMMENDATION**:* **(see Issue B)**

2. There are incentives and protections to efficiently use and conserve water, and to allow for transfer to other uses while protecting senior users.

   ***RECOMMENDATION**:* **(see Issue F)**

3. Municipal water supplies and infrastructure are managed to accommodate economic development and population growth.

   ***RECOMMENDATION 36**:* Survey municipal water supply infrastructure and secure funding to repair and update inefficient systems to support additional growth.

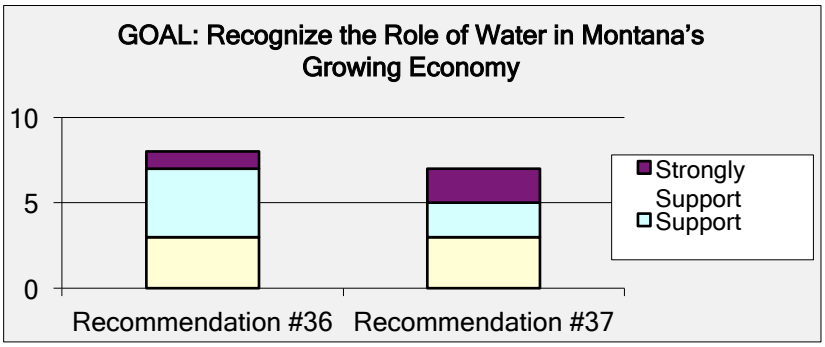
4. Water is available for economic development through well-managed systems that offer opportunities to: a) Market, transfer and lease water including stored water **(see Issue K)***;* and b) utilize water reservations **(see Issue L)**

5. There is a broad recognition that clean water and healthy watersheds support a healthy economy and expanded tourism.

   RECOMMENDATION 37: Provide comprehensive tools to support water conservation, while maintaining and enhancing resources for current and future use, job creation and sustainable economic development. This includes providing water for uses such as irrigation and industrial applications, as well as recreation and tourism. In a region that has a diverse economy, the ability to provide and maintain clean, usable water is critical to all.

Public Comment

All respondents supported all recommendations in this section. One respondent recommended adding the maintenance of water conveyance systems as a key need, and the BAC agreed. This is reflected in the issue statement and the first objective statement.



I. WATER INFORMATION SYSTEMS

Goal: Increase Scope of and Access to Centralized Water Data

The Issue

Rapid response to water problems—flood, drought, dewatering, nutrient overload, pollutant spikes—is impossible without reliable and accessible data. Currently, response to water problems relies on an incomplete data system. Water data collection in the Upper Missouri Basin is the responsibility of several federal, state and local agencies that monitor streamflow, snowpack, well levels, temperature trends, habitat composition and water quality. This is all good, but there are two prominent issues. First, water data collection is varied and highly dispersed among several groups, making access to data complex, time consuming and decentralized. In addition, and probably a bigger issue, is the difficulty of accurately describing local water availability where there are not enough real-time data or monitoring sites.

Objectives

1. Surface water, groundwater and snow data collected by all state, federal, local and private entities are accessible from one portal managed by the State Library Natural Resource Information System (NRIS) Water Data System.

   RECOMMENDATION 38: Assure consistent funding for long-term, full-time NRIS Water Data System staffing needed to centralize, populate, create and maintain a user-friendly navigation tool for the water data access system.

   RECOMMENDATION 39*:* Assure that the Water Data System benefits from data generated and contributed by many state and federal agencies and local groups; collaborate with the Western States Water Council to build a data access system that is compatible with the Water Data Exchange for western states.

   RECOMMENDATION 40: Create a geo-referenced database of the adjudicated places of use and points of diversion that is available through the statewide Water Data System; the geo-referenced database can be used to estimate water uses and to obtain information on water rights during change, transfer or decree administration processes.

   RECOMMENDATION 41: Update an online training tool to help local watershed groups, districts, and the public access information cataloged by NRIS.

2. New stream gages, monitoring wells and snow monitoring sites are installed and managed, and hydrologic monitoring techniques are employed, to characterize hydrologic conditions in areas of special interest and collaboration in the Upper Missouri Basin.

   RECOMMENDATION 42*:* Create agency and local partnerships to prioritize study sites, finance data collection, and make information readily available for problem solving.

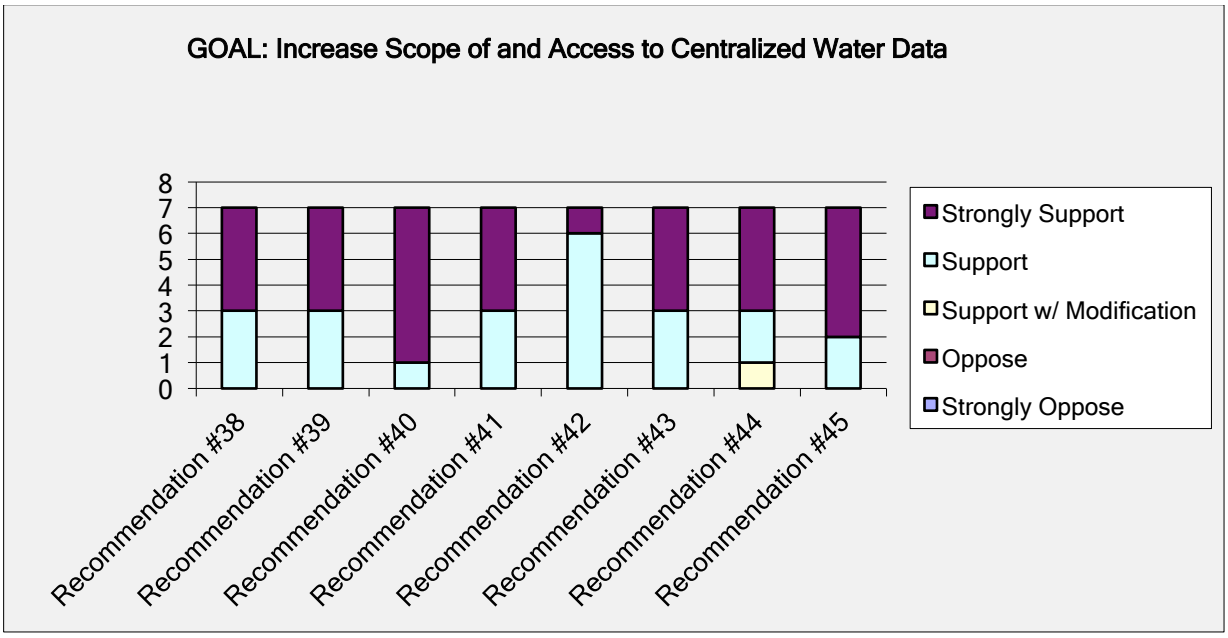
RECOMMENDATION 43: Train and fund local volunteer water-monitoring teams, and improve access to data collected.

RECOMMENDATION 44: Maintain the state's contribution to the vital U. S. Geological Survey (USGS) gauging program and establish a state real-time streamflow monitoring network, to complement the vital USGS system, to include additional sites and locations on smaller streams.

RECOMMENDATION 45: Use more cost-effective hydrologic modeling techniques to estimate streamflow data for ungauged sites.

Public Comment

All respondents supported all recommendations in this section. One comment asked for recognition of the groundwater collection that is already undertaken by the GWIC database. To address this, the BAC clarified in Objective 1 that groundwater, surface water and snow data collected by many agencies should be referenced in the portal.



J. AVAILABLE WATER SUPPLY AND CLIMATE CHANGE

Goal: Protect Available Water Supply and Develop Strategies in Response to Climate Changes

The Issue

Climate change and shifting weather patterns affect the amount and distribution of precipitation, and whether that precipitation occurs as rain or snow. As a result, streamflow is likely to change in the Upper Missouri basin in amount, timing and distribution. Climate changes also affect the rate of evaporation and plant water use by both natural vegetation and irrigated crops. Shifts in seasonal flow and water availability are resulting in earlier spring runoff and lower late season flow. In response, water users are learning to adapt to changes in streamflow, growing season and irrigation demand. Although fire on the land often benefits native fish, and therefore the economy, prolonged drought and increased incidence and intensity of forest fires are other changes affecting water users. Ultimately, management agencies and stakeholders will need to adapt to these shifts in their land- and water-use practices and in their decisions to protect water supplies.

Objectives

1. Adaptive management strategies are in place that respond to shifts in growing seasons and streamflow.

   RECOMMENDATION 46: Investigate adaptive management strategies for existing reservoirs and water distribution infrastructures.

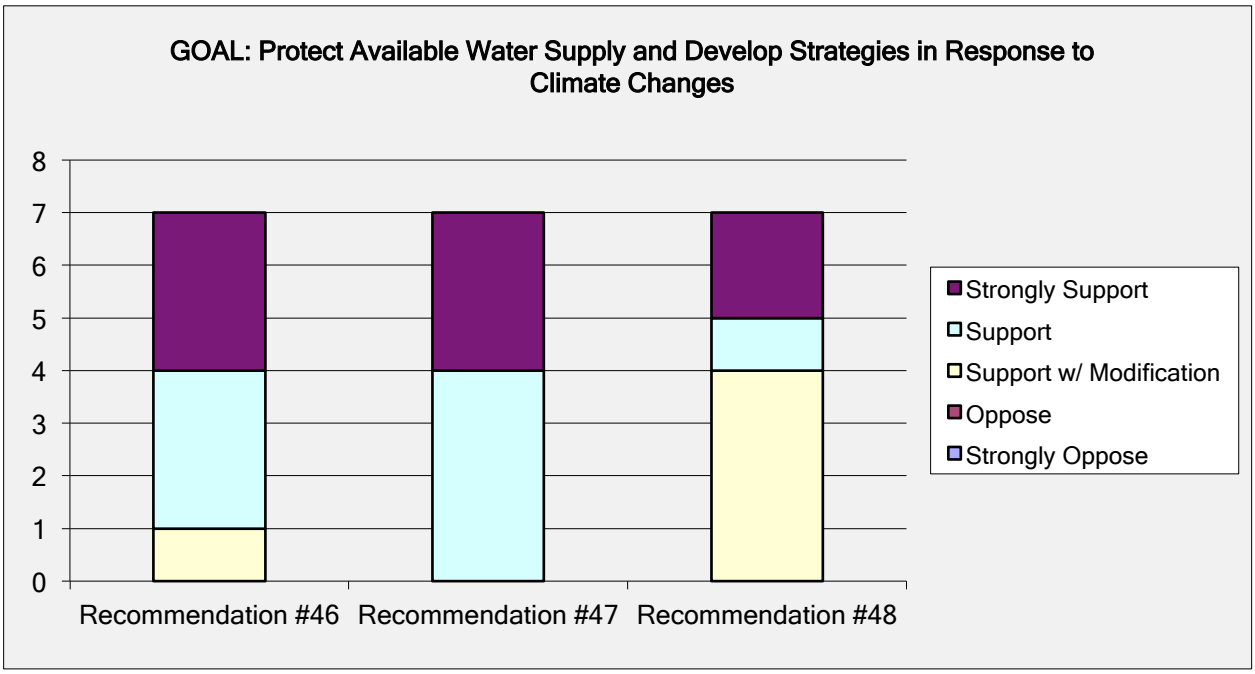
   RECOMMENDATION 47: Review period of use specified on water rights and how we manage those during drought.

2. Forests and rangelands are managed to protect cost-effective natural storage potential and watershed health (optimal forest density, wetlands integrity, reduced soil erosion, etc.); these measure have a direct impact on water quality.

   RECOMMENDATION 48: Implement forest thinning and prescribed burns in areas where high forest stand density has resulted in high risk of wildfire. Work to develop and implement prioritized restoration, soils protection and/or runoff management plans in degraded forestlands and sub-watersheds in the urban/forest interface. In addition to prescribed burn, use mechanical forest thinning to create conditions for allowing the reintroduction of fire.

Public Comment

All respondents supported all recommendations in this section. The BAC made no changes.



K. WATER TRANSFERS AND MARKETING

Goal: Analyze the Scope of Water as a Transferable Property by Exploring Additional Opportunities for Water Marketing, Mitigations and Banking

The Issue

Most western water allocation regimes evolved during periods of relative abundance and are not well suited to the management of water scarcity. Montana can lead the world in its innovative approaches to address scarcity. Right now, there are both unique opportunities for and concerns about water transfers and the need to plan for more water transactions. Water marketing, mitigation and water banking each offer distinct functions and opportunities, and understanding their nuances is the first step for water users in the Upper Missouri Basin. The potential for water marketing (the sale of water or the water right by the owner) is high in the Upper Missouri, especially in a closed basin where the value of water increases with new water demands. Mitigation requires reallocation of surface water or groundwater through a change in appropriation right. It is designed to offset adverse affects resulting from net depletion of surface water that is not legally available. A new "marketing for mitigation" process opens the door in Montana for water banking. It allows for facilitated marketing and a way to determine the amount of water available for mitigation within a water right. The process is in its infancy and only two applications have been made in Montana to date. There are questions about the scope of water banking–the facilitated sale of developed water for another use–and its role in the brokering of conserved water. These issues and opportunities for water marketing, mitigation and banking deserve intensive research and application in the next decade.

Objective

1. Water marketing tools are effectively used as an option to assure fair and effective basin-wide water use.

RECOMMENDATION 49: Create well-managed systems that offer opportunities to market, transfer and lease water including stored water; explore changes to existing water laws.

RECOMMENDATION 50: Build public awareness and understanding of water marketing opportunities.

RECOMMENDATION 51: Create an easily navigable webpage managed by DNRC listing known available water in the market and opportunities for marketing for mitigation

RECOMMENDATION 52: Explore use of water banks to mitigate for exempt wells.

RECOMMENDATION 53: Encourage DNRC (lessee) to work with the Bureau of Reclamation (lessor) to assign blocks of stored contract water to the state from Canyon Ferry and Tiber Reservoirs, which can be marketed incrementally through a user-friendly system; advertise this opportunity to water users.

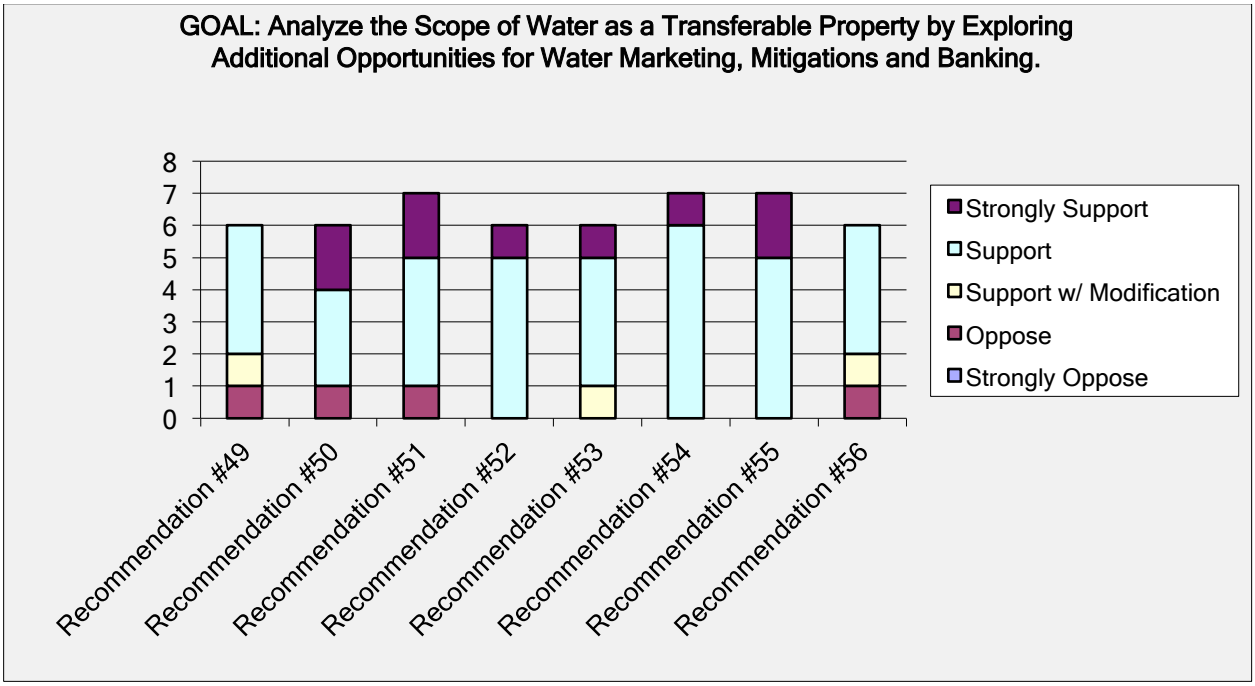
RECOMMENDATION 54: Continue to develop tools or tables to quickly estimate return flows (or conversely, consumptive water use) under different crop, soil, climate, and irrigation conditions. This will reduce the time needed to assess each water transaction.

RECOMMENDATION 55: Encourage water leasing with arrangements that incentivize and reward water savings and protect the full extent of the lessor's water right.

RECOMMENDATION 56: Create or support a Water Bank to facilitate temporary and permanent water transfers for both diversionary and instream uses.

Public Comment

All respondents supported all recommendations in this section except for one respondent who opposed Recommendations 49, 50 51 and 56 with an assessment that marketing would over-value water such that other used would be forgotten/dropped. The BAC responded that systems are already in place to test water marketing and that those systems protect existing uses. No changes were made to this section except in Recommendation 50 to build an understanding of water marketing options.



L. LARGE SCALE FACTORS

Goal: Assess Selected Large-Scale Factors

The Issue

Certain large-scale factors like quantification of the Confederated Salish and Kootenai Tribal (CSKT) reserved water rights through the proposed water rights compact with the state, perfection of state water reservations, implications of the Endangered Species Act, and downstream demands of the federal managed mainstem dams, could impact future water availability in the Upper Missouri Basin. The CSKT Compact is the one remaining compact to be negotiated by the Reserved Water Rights Compact Commission before it sunsets in 2015. With claims to 1855 and "time immemorial" priority dates stemming from the Treaty of Hellgate, the Tribes possess strong claims to water throughout much of Montana. Under the proposed compact, the Tribes have agreed to relinquish all claims to water in the Upper Missouri River basin and elsewhere east of the continental divide. In addition, state water reservations for current and future municipal, agricultural, instream and water quality uses are located throughout the basin. Some are being used, and some are available to be put to use in the future. Uncertainty surrounds still others, such as many Conservation District reservations, regarding whether they will ever be able to be developed. These reservations secure water for both consumptive and non-consumptive purposes. Many water users and others are unaware of the legal status of the reservations but they are certainly a consideration for water management in the Upper Missouri basin.

Objective

1. Large federal, state and tribal water rights are quantified and interpreted such that their impacts to water users are clearly recorded and recognized.

   RECOMMENDATION 57: Endorse resolution and successful passage of the proposed CSKT compact during the 2015 Legislative session to assure prompt continuation of the basin adjudication and protection of Upper Missouri Basin water users from Tribal instream flow claims.

   RECOMMENDATION 58: Promote local proactive involvement in Endangered Species Act listed species protection and recovery programs, and build an understanding on how these programs affect water availability. Promote collaborative and proactive efforts, such as the Big Hole Candidate Conservation Agreement with Assurances (CCAA) habitat conservation plan, that improve streamflows while protecting participants' water rights.

   RECOMMENDATION 59: Determine how changes in downstream needs for navigation and flood control, as outlined in the U.S. Army Corps of Engineers' Master Manual for Fort Peck, affect water management in the Upper Missouri Basin.

   RECOMMENDATION 60: Provide information to owners of water reservations and to water managers/users regarding the legal status of reservations.

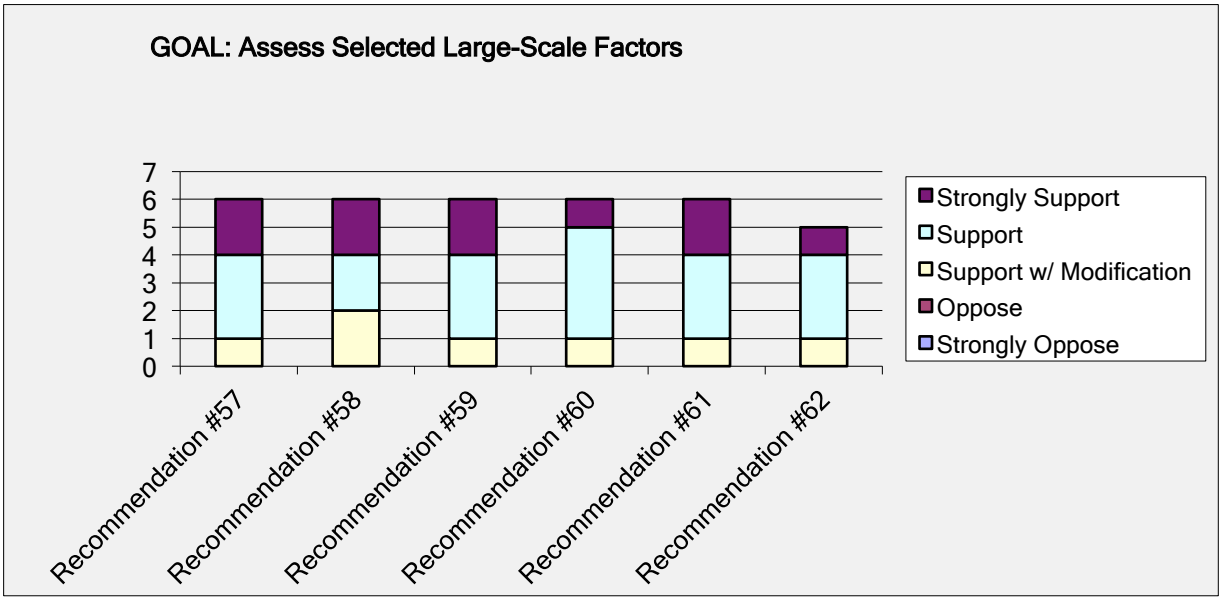
RECOMMENDATION 61: Continue support for the DNRC/U.S. Department of Agriculture Forest Service Compact designed to protect streamflows (Note: The Compact does not have an adverse effect on senior water rights, but does help to protect senior users from future exploitation).

2. Effective aquatic invasive species prevention and education in place.

   RECOMMENDATION 62: Support agency coordination efforts to implement aquatic invasive species programs.

Public Comment

All respondents supported all recommendations in this section. The BAC made no changes to this section.



APPENDIX A. Agendas: Upper Missouri Basin Advisory Council Phase 2 and Phase 3 meetings.

Montana Water Supply Initiative
Upper Missouri Basin Advisory Council Meeting

January 10, 2014
10:00-3:00 pm
Fish Wildlife and Parks MT Wild Center
2668 Broadwater Ave Helena, MT (406) 444-9944

10:00 Welcome, Introductions, review agenda (Chairman Beck)
10:15 Process overview and updates, (Tim Davis, DNRC Water Resources Division Administrator)
10:30 Review of Existing State Water Plan Sections (BAC and RAC members)

- Agricultural Water Use Efficiency
- Instream Flow Protection
- Water Information System
- Water Storage
- Drought Management
- Integrated Water quality and quantity management
- Montana Groundwater Plan

12:00 Working Lunch on site
12:30 Technical Presentations: Overview of Managed Storage Projects in the Basin

- Federally owned/managed (Lenny Duberstein, Bureau of Reclamation)
- State Owned projects (Matt Norberg , DNRC)
- Locally managed projects
    - Greenfield, Pondera Canal, Buyan, Lima and Willow Creek projects

2:30 Upcoming meetings, topics, process, planning ahead
3:00 Public Comment

Upper Missouri Basin Advisory Council Work Meeting

February 27-28, 2014

FWP MT Wild Center
2668 Broadwater Ave, Helena, MT 59602
(406) 444-9944

Thursday 2/27/2014
9:00 Welcome, Introductions and Updates (Chairman Beck)

9:15 ***Conjunctive Management of Groundwater and Surface Water***
(Issue: Better Understand and Manage Surface and Groundwater Interaction)
- GWIP-Groundwater Investigation Program and case scenarios
  (John Lafave and Ginette Abdo)
- Roles and Responsibilities of Local Water Quality Districts (Tammy Crone & Jim Wilbur 15 min)

10:30 Break

10:45 Conjunctive Management continued
- Policy Panel (Mark & Mike 45 min)
  Discussion on history and evolution of conjunctive management policies in MT

11:30 Conjunctive Management Discussion and Draft Recommendations

12:30 Working lunch on site

1:00 ***Water Information System***
(Issue: Increase Amount, Centralization, Diversity, and Access to Water Data)
- USGS Stream Gauging, Wayne Berkas
- MT water information, NRIS, Troy Blandford
- Snotel, Brian Domonkos
- GWIC , John Lafave

2:15 Water Information Systems discussion and Draft Recommendations

3:15 Process review (Chairman Beck)

3:45 ***Local Cooperative Efforts***
(Issue: Promote Local Cooperative Efforts)
- Example of effective local efforts, Big Hole CCAA (Mike Roberts)
- Overview of CDs and Watersheds in the basin (Ann & Gayla)

4:15 Discussion of Local Cooperative Efforts and Draft Recommendations

5:00 Adjourn for the evening

Friday 2/28/2014

8:00 Recap of Thursday work, check-in

8:15 ***Economics of Water***
(Issue: Recognize Water's Role in the Future of State and the Economy)

- Growth projections for the basin (Tim Bryggman)
- Water use Sector Panel discussion (45 min)
  Qualitative value of water and the economy for the different use sectors (Sarah & Joe)
- Municipalities and economic development (Craig)

9:30 Break

9:45 Policy/Legal/Historic Perspective on the Change Process.
Panel discussion (Scott/Holly/Stan)

11:00 Economics Discussion and Draft Recommendations

12:00 Working lunch

12:30 ***Adjudication***
(Issue: Accelerate Water Rights Adjudication Process and Enforce)

- Overview of the Adjudication process and status in the basin (Matt Murphy, DNRC)
- MT Water Court (Judge Russ McElyea)

1:45 Adjudication Discussion and Draft Recommendations

2:45 Wrap Up, next meeting details

3:00 **Adjourn**

Upper Missouri Basin Advisory Council Work Meeting

March 27-28, 2014

Healing Waters Lodge, 270 Tuke Lane, Twin Bridges, MT, 406-684-5960

Thursday 3/27/2014

9:30 **Welcome and Introductions**

9:45-12:00 **Discuss and Revise Draft Recommendations on these Issues* (see handout):**

A. Conjunctive Surface Water/Groundwater Management (Issue #2)
B. Water's Role in the Economy (Issue #3)
C. Local Cooperative Efforts (Issue #5)
D. Water Information Systems (Issue #6)
E. Adjudication (Issue #12)

1:00-3:00 **Continued Recommendation Refinement, then**
Discuss Strategy for Remaining Topics, Process and Timeline:

F. Storage, *presented today and tomorrow* (Issues #1, #13)
G. Available Water Supply, *presented today and tomorrow* (Issue #9)
H. Instream Flow (Issue #4)
I. Water Use Efficiency and Conservation (Issues #7, #8, #15)
J. Water Transfers and Marketing (Issue #10)
K. Large Scale Factors (Issue #11)
L. Integrated Water Quality and Quantity (Issue #14)

3:00-5:00 **Available Water Supply**, Larry Dolan, DNRC hydrologist

5:00 **Break**

6:00 **Dinner**

7:00 **Natural Infrastructure for Water,** Todd Gartner, Senior Associate, World Resources Institute (WRI)

Friday 3/28/2014

8:00-12:00 **Storage: Floodplains, Wetlands, Forests and Integrating Natural Infrastructure**

- Lynda Saul, MT DEQ Wetlands Program Manager
- Bruce Sims, USDA Forest Service Regional
- Todd Gartner, WRI

Review of Storage Projects in Montana (summary from January meeting)

- Larry Dolan, DNRC hydrologist

Noon **Working lunch**

12:30-3:00 **Draft Recommendations for Storage Issue**

3:00 **Head Home**

* The issues have been reorganized; the issue numbers in parentheses ink to the original numbering as presented in the scoping report.

Upper Missouri Basin Advisory Council Work Meeting

April 24-25, 2014

Stage Stop Inn, 1005 Main Ave. North, Choteau, MT 57422, (406) 466-5900

Thursday 4/24/2014

9:30 **Welcome and Introductions**

9:45-12:00 **Review and discussion of draft recommendations to date**

- Conjunctive SW/GW Management
- Water's Role in the Economy
- Supporting Local Efforts
- Water Information Systems
- Adjudication
- Built Storage and Natural Storage
- Available Water Supply

12:30-3:00 ***Issue*: *Large Scale Factors***
(Endangered Species, Water Reservations, Compacts. Discussion and draft recommendations)

- Melissa Hornbein (RWRCC, tribal and federal compacts)
- Scott Irvin (DNRC, water reservations)

3:15-5:00 ***Issue: Instream Flow*** *(Discussion and draft recommendations)*

- Review of instream flow reservations, leases, Murphy rights
- Ecological needs

Friday 4/25/2014

8:00-10:00 ***Issue: Integrating Water Quality and Quantity*** *(Discussion and draft recommendations)*

- Ann McCauley, DEQ
- Kitt Dale, MT Mining Association

10:15-12:00 ***Issue: Water Use Efficiency and Conservation***

- Joe Little, NRCS
- Larry Dolan, DNRC

12:00 **Lunch, then continued discussion and recommendation development on Efficiency**

1:30-3:30 ***Issue: Water Marketing and transfers*** *(Discussion and draft recommendations)*

- Kerri and Bryan, DNRC

3:30 **Head Home**

AGENDA

Upper Missouri Basin Advisory Council
Thursday, May 15, 2014
10:00 am - 3:00 pm
Wingate Hotel, 2007 N. Oakes, Helena, MT (Cedar St. Exit from I-15)

10:00 am	WELCOME AND INTRODUCTIONS
10:15 am	PROCESS NOTES • Public Comment Meeting Schedule **Wednesday May 21**, Dillon, UM Western, 6:30-8:30 pm, ballroom **Thursday May 22**, Gallatin CD Office, Manhattan, 6:30-8:30 pm **Wednesday May 28**, Shelby, location and time TB **Thursday May 29**, Great Falls Cascade CD conference room (bank building basement) • Modifications Process from Public Commentary • Final Report
10:30 pm	DRAFT RECOMMENDATIONS *Review of comments; modify language of 5/6/14 draft*
12:30 pm	Lunch
1:00 pm	ORDER OF RECOMMENDATIONS
1:30 pm	KEY SUMMARY POINTS
2:30 pm	OTHER NOTES OF INTEREST, CONCERN, SUGGESTION & APPROVAL OF DRAFT RECOMMENDATIONS
3:00 pm	ADJOURN