

Montana – Alberta St. Mary and Milk Rivers Water Management Initiative

**Joint Initiative Team Meeting #6, Many Glacier Lodge
June 8-10, 2009, East Glacier National Park, Montana**

Montana	Alberta
John Tubbs – Department of Natural Resources and Conservation (co-Chair)	Robert Harrison – Alberta Environment (co-Chair)
Dustin de Yong - Office of the Lt Governor	Brent Paterson – Alberta Agriculture RD
Randy Reed – Milk River irrigator	Ken Miller – Milk River
Don Wilson – Blackfeet Tribe	Tom Gilchrist – Milk River
Dave Peterson – City of Havre	Gerry Perry – Oldman River
Harold "Jiggs" Main – Ft. Belknap Tribe	Duncan Lloyd – Oldman River
Paul Azevedo DNRC (secretariat)	Tim Toth – AB Environment (secretariat)
Mike Dailey – DNRC	Sal Figliuzzi – Alberta Environment

Guests – Bev Yee (Asst. Deputy Minister, Environmental Stewardship, AB Environment), John Bohlinger (Lt. Governor, MT), Hal Harper (Governor's Office), Kelly Titensor (US Bureau of Reclamation), Larry Mires (SMWG), John Sanders (MT DNRC), Laurent Conard (AB Environment), Allen Wright (Unitech Solutions, AB)

Purpose of Phase 2 Joint Initiative Team

To explore and evaluate options for improving both Montana's and Alberta's access to the shared water of the St. Mary and Milk Rivers, and to make joint recommendation(s) on preferred options to both governments for their consideration and approval.

Meeting Objective(s)

1. Tour St. Mary Diversion and Conveyance Facilities on the Blackfeet Reservation, Glacier County, MT.
2. Continue process for developing and evaluating options to improve both Montana's and Alberta's access to the shared water of the St. Mary and Milk rivers.

June 8 – 10:00 a.m. – 5:00 p.m.

1. Welcome and member introductions

- Park Superintendent Chas Cartwright welcomed JIT members to Glacier National Park. He spoke on the importance of the two counties continuing to work together to solve the complex natural resource issue we share. The public expect us to resolve these issues and to do a better job at managing our shared resources.
- Review meeting objectives and agenda.
- **Agree** to drop the Appendix (Description of Options – Initial Evaluation) from JIT #5 meeting notes and provide that information separately, and **Approve** JIT #5 meeting Notes with the changes requested.

2. Follow up Action Items from May 4-5, 2009 meeting

- 1) Secretariat to create two 15-20 min. presentations on other irrigated applications.
 - This item will be rescheduled for a future meeting.
- 2) AB Secretariat is to get copy of the book about the history of St. Mary Irrigation development to John Tubbs and Dave Peterson.

- Complete
- 3) Secretariat will jointly create a presentation for use by the JIT.
 - In progress. Draft presentation has been complete.
 - 4) The JIT wants to review the first 2-3 sections of the Technical Background Report at the June meeting.
 - Review schedule for the morning of June 10th.
 - 5) The Technical Team will calculate the "Theoretical Share" for both MT and AB for both rivers, and the annual total, and total for every apportionment period (twice per month), for the period 1959 to 2003 inclusive.
 - Complete. Technical Team will make presentation during today's meeting.
 - 6) The Technical Team is to run the "Existing (2009) Base Case" base case and provide results to the JIT at the June meeting.
 - Complete. Technical Team will make presentation during today's meeting.
 - 7) Secretariat will find information on dams and reservoirs in Canada and the U.S. that are jointly operated by the U.S. and Canadian federal governments.
 - In progress.

3. Communications

Discussion of JIT member's communication to constituents:

- Gerry Perry will be discussing the Initiative with the managers from the Taber, Magrath, St. Mary and Raymond irrigation districts.
- Duncan Lloyd has been getting inquiries from his constituents. Word is getting out.
- Dustin de Yong advised of several developments from the Governor's office:
 - Lt. Governor Bohlinger, Bev Yee, Brent Paterson, and John Tubbs will be attending the Centennial Celebration of the Boundary Waters Treaty in Niagara Falls, ON, on June 11 & 12.
 - The Governor's office is pleased with progress and tone of Initiative meetings.
 - John Tubbs has been appointed as the next Deputy Assistant Secretary for Water and Science in the U.S. Department of Interior. Governor's office is developing alternatives to replace John as the Co-chair and MT Team Leader.
 - Paul Azevedo has been promoted to Bureau Chief of the DNRC Water Management Bureau.
- The consultant compiling the background technical report has completed the first two chapters and part of the third. The material is available to be reviewed by the JIT.
- Robert Harrison indicated there are no news items from Government of Alberta.

4. Water management model development

Sal updated JIT members on status of the water management model. His handout titled, "Model Development and Calibration" provides a schematic diagram of all the model components and preliminary results of calibration runs.

- St. Mary River Headwaters and Headwork's system
 - Very good simulation. Technical Team comfortable with model results.
- Milk River in Canada
 - Very good simulation. Technical Team comfortable with model results.
 - Empty blocks in schematic will be filled in to simulate future increased acreage of irrigated agriculture on the Milk River in Alberta.
- Fresno Reservoir
 - Fair simulation
 - Model calibration is complicated by steady loss of storage capacity in Fresno Reservoir (average 500 ac-ft/year). Current storage capacity is based on 10-year old estimate.

- Discussion about consequences of continued loss of storage capacity and inability of model to simulate the loss. Assuming loss of capacity continues, we need to consider what the reservoir capacity will be in 20-30 years.
- Milk River in Montana
 - Further calibration required. Many parameters (e.g., irrigation diversions, transfer of water between reservoirs) have not been measured or have had variable operating philosophies over time.
 - Additional effort required to better define model input parameters and operating rules, to improve confidence in calibration results.
 - Discussion on estimates of irrigation efficiencies and crop water demand.
- Nelson Reservoir
 - Poor simulation
 - Simulation complicated by 1) timing of the transfer of water between Fresno Res. and Nelson Reservoir, and 2) irrigation diversions downstream of Fresno.
 - Technical Team feels simulation results for Nelson will improve once other parameters are better defined.

Discussion about model calibration and simulating parts of the St. Mary – Milk River system: As a planning model, the WRMM is used to answer the question, “How will the system perform under a given set of conditions if the water supply is comparable to the period of record?” The model assumes that storage infrastructure is fixed (*i.e.*, that reservoirs and canals don’t change over time). However, the continual loss of storage capacity in Fresno represents a changing set of conditions, in this case, continually changing storage¹.

ACTION – Sal and Larry will ensure that Imperial units are used in all presentations.

ACTION – Modellers will provide a user-friendly “key” to help with model interpretation.

ACTION – Modelling team to clarify terminology used in presentations, e.g., “crop water demand/requirement” vs. “irrigation water demand and irrigation deficit”.

Sal provided JIT members with preliminary modelling results from two Action Items from May JIT meeting #05. Sal noted that since the model is not fully calibrated, the results are preliminary.

Action Item: The Technical Team will calculate the “Theoretical Share” for both MT and AB for both rivers, and the annual total, and total for every apportionment period (twice per month), for the period 1959 to 2003 inclusive. The results do not take into account the impact of storage in Sherburne Reservoir or the Letter of Intent.

Action Item: The Technical Team is to run the “Existing (2009) Base Case” base case and provide results to the JIT at the June meeting.

5. Understand options

Robert led the Joint team through the process to describe the remaining 13 of the 17 potential water management options initially listed during Joint Team meeting #4. “Recommendations for further evaluation” of the options and additional “Items for discussion” were also described.

¹ The model can, and is used to assess the impact of changes in infrastructure, however, the model cannot, and generally is not used to model infrastructure changes over time.

Robert also suggested adding a list of Environmental issues to the list of Evaluation Criteria. The evaluation criteria will be used to evaluate, rank and compare potential options, and help how determine well each option achieves the Joint team's interests.

See separate document "Options development – continued".

June 9 – 9:00 a.m. – 6:00 p.m. – Tour of Upper St. Mary's system

Opening remarks were made by MT Lt. Governor John Bohlinger and AENV's ADM Bev Yee – both are pleased with the continued communication and cooperation between Canada and the U.S. in determining how each country can get better access to its share of the St. Mary and Milk rivers.

The team toured the Upper St. Mary diversion and conveyance facilities, including stops at Sherburne dam and reservoir, Lower St. Mary Lake, the St. Mary River siphons and Spider Lake area.

The Blackfeet Tribe hosted a dinner for JIT members at the end of the tour.

Review of St. Mary Diversion Facilities Tour – John Tubbs

Comments from the Joint Team focussed on the value of being on the landscape to get a better sense of what the upper St. Mary system looks like, and the local issues. Comments included:

- Appreciation for the Blackfeet Tribe's hospitality.
- Got a better understanding of how the upper St. Mary system works and the impressive distance that water moves from the St. Mary to the Milk R. system.
- The repairs to the St. Mary's diversion siphon to extend its life, and to the vehicle bridge.
- The water exchange that has been going on for last 100 years (and not always accounted for on paper) that continues.
- The catchment area of Spider L., the area near Goose L., and the potential development area for increasing storage capacity.
- The value of hearing about the range of uses for water in the St. Mary system, and the possibility of wind and solar power development opportunities in the area.

John suggested getting a more complete picture of the entire system by touring part of the Milk R., Alberta, prior to producing modeling results.

June 10 – 8:30 a.m. – 12:00 p.m. – Swiftcurrent Restaurant

In attendance:

Paul Azevedo, Brent Paterson, Ken Miller, Dustin de Yong, Jiggs Main, Duncan Lloyd, Bev Yee, Gerald Perry, Mike Dailey, Sal Figliuzzi, Randy Reed, Dave Peterson, Tom Gilchrist, Don Wilson, John Bohlinger, Hal Harper, Robert Harrison, Tim Toth, John Tubbs

Guests: Hal Harper (Governor's office), James Hackathorne (graduate student)

Robert suggested a slightly revised agenda for the day, to accommodate the guests, incorporate work done to date, and finish by noon (JIT members request).

A) Guest introduction

John Bohlinger introduced Hal Harper, the Governor's chief of staff.

Robert introduced James Hackathorne, who recently completed an historical thesis (the 1902 – 1912 period) focussed on the 1908 U.S. Supreme Court ruling known as the Winter's Doctrine which established federal reserved water rights in the U.S. The U.S. Bureau of Reclamation's interpretation of the Winter's Doctrine has had an impact on water allocation for the Blackfoot Tribes and tribes of the Ft. Belknap Reservation. James gave some highlights of his recent thesis work.

B) Review of Draft Technical Background Report sections 1-2 – Robert

The JIT was to review the report for style, readability, *etc.* This is the first of what will likely be three reports: #1 Background / base information; #2 Modeling results (this may be internal to the JIT); #3 Options analysis, evaluation and recommendations to governments.

Comments included requests to deal with:

(1) Content

- Provide an executive summary of the Technical Background report
- Provide an introduction to identify why the initiative got underway, the creation of the team, *etc.*, and then a description of the report content
 - A common narrative at the front of each report that describes how each report fits into a larger overall product
 - Narrative on the common understanding of the words and terms used in report.
- Provide a summary of the 1909 Treaty, 1921 Order and the Administrative Measures
- More complete description of the St. Mary basin and how it ties into Milk R. basin through an inter-basin transfer, and the complexity of the combined system. This may be a potential future chapter.
- Provide a glossary of acronyms, measures (conversions) and why Imperial units are used. The JIT will revisit the decision on units for the Recommendations report – it may need to include metric units.
- Add appropriate photos and maps where possible

(2) Style

- Enlarge the font slightly
- Connect the highlighted blue boxes in the text to the location where that information is presented in the text
- Ensure the report tone is sensitive to the political and media process

The Joint Team will review the draft report by the end of July.

ACTION: Alberta Environment will set up a SharePoint site for all Joint Team members to be able to access the report, and other large documents if needed.

C) Option Categories

Joint Team discussed need to organize water management options into categories:

Improved Access to Share

- 1) Structural

- a) St. Mary Diversion and Conveyance Facilities
- b) Storage in Lower St. Mary Lake
- c) Storage in Sherburne Reservoir – including over winter storage
- d) Storage on Milk River, AB
- e) Storage in Fresno Reservoir for Canadian share
- 2) Accounting / Administrative
 - a) Deficit trading
 - b) Balance period adjustment

Better Utilization of Share Received

- 1) Storage in Spider Lake
- 2) Off stream storage in Goose Lake
- 3) Increase storage in Fresno Reservoir
- 4) Storage on Ft Belknap Reservation
- 5) Use Milk River Reservoir (AB) to store U.S. share.
- 6) Use Ridge Reservoir to store Canadian Share
- 7) Use storage in St. Mary Reservoir (AB) for U.S. share
- 8) Water marketing – Blackfeet Tribe

Reduce Demand/Inter-basin Diversion

- 1) Diversion from Tiber Reservoir
- 2) Duck Creek diversion

International Board/Network

- 1) St. Mary – Milk River International Communications Network
- 2) International Joint Board of Control

ACTION: Joint Team is to consider the model runs identified, and call the Secretariat to identify if something has been missed.

D) Evaluation criteria

JIT postponed discussion of the evaluation criteria that would be used to evaluate, compare and rank an option to determine how well that option allowed the jurisdiction to achieve its interest.

E) Environmental list (first pass)

Need a first order approach to identify that there are other constraints (including legislative requirements, and public process) that must be addressed before any recommendations could be implemented.

U.S.

- In stream Flow Needs (IFN) below Sherburne Reservoir. to Boulder Creek + water temperature issue
- IFN below the St. Mary diversion to the international border + water temperature issue
- IFN in the Milk River on the Blackfeet Reservation from confluence to international border.
- Bull trout in St. Mary drainage
- Endangered species in the Milk River basin including Pallid sturgeon (in lower Milk River) and Piping plover.

Canada

- IFN from international border to the St. Mary reservoir
- Milk River from western crossing to eastern crossing (Milk River Watershed Council Canada is having this done currently; it is in the planning stage)
- Three fish species (Western Silver Minnow, Stonecat, and East Slope Sculpin) are at risk

Also

- Sedimentation/erosion on Milk River.
- non-point source pollution (keeping livestock away from water)

F) Logistics (June-Sept) + Report review

The Joint Team discussed how to maintain contact over the summer. Two options were discussed. A conference call was suggested.

- Stage 1: Will produce a document (target end of July) that shows what quirks have been identified in developing the model (this does not deal with the model data).
- Stage 2: Professionally guided raft tour down the Milk R. to potentially view (1) Milk R. dam site, (2) operations on the land, then other issues. The Joint Team meeting could be held in Writing-on-Stone Provincial Park.

Action items from JIT #5 – to be sent by Secretariat to JIT, and want reply from everyone (correct, or send corrections)

G) Comments (team + guests)

None

H) Closing remarks – Bev, Lt. Gov.

Bev Yee thanked the Joint Team for the invitation, acknowledged being in Blackfeet Territory, and appreciated the hospitality extended by everyone. She stated she learned a lot at the meeting, and now had a much better appreciation for the depth and breadth of the issues. John Bohlinger lauded the work of the Joint Team in working for the common good, identifying their shared values and hope for the future. He acknowledged the great value of water and that the needs for water have not diminished over the 100 years of water sharing between the U.S. and Canada.

Action Item Summary

1. **ACTION** – Sal and Larry will ensure that Imperial units are used in all presentations.
2. **ACTION** – Modellers will provide a user-friendly “key” to help with model interpretation.
3. **ACTION:** - Modelling team to clarify terminology used in presentations, e.g. “crop water demand/requirement” vs. “irrigation water demand and irrigation deficit”.
4. **ACTION** – Don Wilson will provide MT Secretariat with results of technical analysis of potential storage sites in the St. Mary Basin on the Blackfeet Reservation including, but not limited to, Goose Lake, and Lower St. Mary’s Lake. MT Secretariat will provide this information to Technical Team and AB Secretariat.
5. **ACTION:** - Technical Team will try to find a way to compute the volume of flood flows that spill over Fresno Dam and go unused by MT.
6. **ACTION:** AENV will set up a Share Point site for all Joint Team members to be able to access the Draft Background Information Report and other large documents if needed.

7. **ACTION:** - MT Technical Team will describe the types and levels of efficiencies associated with various components of irrigation infrastructure used in the Milk River Project, MT.
8. **ACTION:** - JIT members will comment on Draft Background Information Report to the consultant either via the Share Point site, or through the Secretariat.
9. **ACTION:** - Technical Team will prepare a summary report of “observations” from model runs by the end of July. Co-chairs will gage “pulse” of response from JIT members and determine need for follow-up discussions.
10. **ACTION:** Team to consider the model runs identified, and call the Secretariat to identify if something has been missed.
11. **ACTION:** Don Wilson will provide the area/capacity data for Lower St. Mary Lake to Sal and the Technical Team
12. **ACTION:** MT Technical Team will provide information on additional storage potential on Lake Sherburne.
13. **ACTION:** Secretariat will distribute summary list of Action Items to JIT members.

Summary of Approvals, Agreements, etc.

1. JIT **agreed** to drop Appendix from JIT #5 meeting notes and provide that information separately, and approve the meeting Notes with the changes requested.
2. JIT **agreed** that the Secretariat should continue to incorporate at the end of the Notes a summary section that included agreements, approvals and adoptions.

Message in Joint Status Report:

- Members of the Montana and Alberta Joint Initiative Team (JIT) toured a portion of St. Mary Diversion and Conveyance Works on the Blackfeet Reservation in MT.
- Technical Team leads updated the JIT members on the status of the water management model.
- JIT members described seventeen potential water management options for the Technical Team to evaluate with the water management model over the next 3 months.

Next meeting:

The next four meetings were **agreed** to:

JIT #7 – July 23rd – partial day tour of Canadian Milk R. + a meeting

JIT #8 – Sept. 24th -25th, Lethbridge

JIT #9 – Oct. 28-29th, Great Falls

JIT #10 – Dec. 3rd -4th, Lethbridge

Adjourn

The meeting was adjourned at noon.

Attachment:
“Options development, continued”