St.Mary & Milk Rivers Dispute

MODEL IJC
International Joint Commission

"We [the United States] had started to use the waters of the St. Mary River and were met by protest...afraid that we would injure the settlers below, in Canada. They had started to use the water of the Milk River in Canada and were met with protests from us [the United States] because they would injure settlers lower down on the Milk River, in Montana. It was apparent that we had to make some agreement or else both countries would grab all they could get."- 1904 [1]

Committee Overview

In the 1890s, several farmers in northern Montana, United States decided to dig small canals along the St. Mary River to divert water to the Milk River for irrigation purposes. Other small diversion projects soon followed and, before long, upward of a dozen dams and other diversions where constructed along both the St. Mary and Milk Rivers in Montana and what is now southern Alberta, Canada. In addition, larger dams and other water diversion projects were being proposed and constructed in the area.

While these water diversion systems could function without problem during periods of high river flows, the inconsistent nature of the water supply in the region, together with the collective impact of the diversions, began to threaten the health of the watershed and cause heated disputes and protests between various water users on both sides of the border. However, without a significant and reliable supply of water for agricultural, municipal and industrial needs, the prairie region would not have developed and flourished to the extent it did over the next 100 years. A cooperative agreement between the United States and Canada to share control and access to the flows of the St. Mary - Milk Rivers was necessary to avoid long-term conflict between various users and simultaneously ensure the sustainability of the watershed and in-stream flows.

This committee takes a historical look back in time before the Boundary Waters Treaty (BWT), an international agreement to help resolve transboundary water conflicts of this very kind, was established in 1909. Participants will gain perspective into why the BWT and its governing body, the International Joint Commission (IJC), were created, as they role play the historical disputes along the St. Mary – Milk Rivers in the early 1900s and determine for themselves what decisions could have been made or improved upon to share water and avoid future conflicts in the region.

Key Terms

Apportionment: describes the purposeful sharing, distribution or allocation of water to various users.

Beneficial use: refers to a particular use of water that contributes an economic benefit, prioritized in terms of higher and lower uses. This may include agricultural, industrial and municipal water use.

In-stream flow: identifies a specific flow [cubic feet per second, or cfs, at a location for a period of time and season] that is needed to protect and preserve fish, wildlife, recreation and other needs in or along the stream.

Prior appropriation: refers to a "first in time - first in right" water use policy where those with the oldest water licenses have first priority to the water. These water rights are not connected to land ownership. Instead, the first to use water for a beneficial use has the right to continue to use it for that purpose; others must use the remaining water, despite growing and changing demand. Unique to Alberta, this system has not always resulted in equal sharing.

Watershed: describes a land area draining into a common water body; also called a catchment area, drainage basin, river basin, or basin.

Introduction

In the mid to late 1800s and early 1900s, settlers looked to the North American prairies to cultivate land for farming activities. Prior to that time, the land was home to Aboriginal Peoples and Tribes, as well as immigrant miners, but neither tilled the soil to great extent for grains and vegetables. The dry conditions of what is now northern Montana[2] and southern Alberta[3] had previously dissuaded agricultural development. Despite the benefit of rich soils in the area, farmers and ranchers cautiously feared areas prone to drought conditions because they required access to regular supplies of water to nurture their crops and water their livestock. To settle long-term in the region, they needed to find effective ways to tap the water from two of the main rivers in the region - the St. Mary River and the Milk River - without causing damage to the environment nor to downstream users, particularly Aboriginal peoples, other communities, and farmers further down the river, that also needed access to the water.

The St. Mary River originates in the Rocky Mountains in northwest Montana and flows north across the United States - Canada boundary into Alberta, emptying into the Oldman River. The flow of the St. Mary River is regular in the summer months because of its origin in the mountains of Glacier National Park. In the winter months, the river is recharged by groundwater sources. See map 1. [Please note: the St. Mary River in Montana/Alberta should not be confused with St. Mary's River in Ontario/Michigan, which is also transboundary, nor with other variations of similar river names across North America].

The Milk River and the North Milk River originate in the eastern slopes of Montana's Rocky Mountains and flow in a northeast direction across the boundary into Alberta, then eastward roughly paralleling the international boundary for 120 river kilometres (70 miles), before heading southeast and re-crossing the border back down into Montana to empty into the Missouri River. The Milk River is the only watershed in Alberta with parts that flow south to the Gulf of Mexico via the Missouri and the Mississippi.[4] The flow of the river depends on spring snowmelt, precipitation and runoff, and inflows from tributaries, rather than the mountains, and is therefore less regular than the St. Mary River.[5] The Milk River was later augmented by a man-made canal transferring water from the St. Mary River, so the two rivers are now interconnected, but this was not the case in the early 1900s. See Map 1 for current layout of the drainage basin.

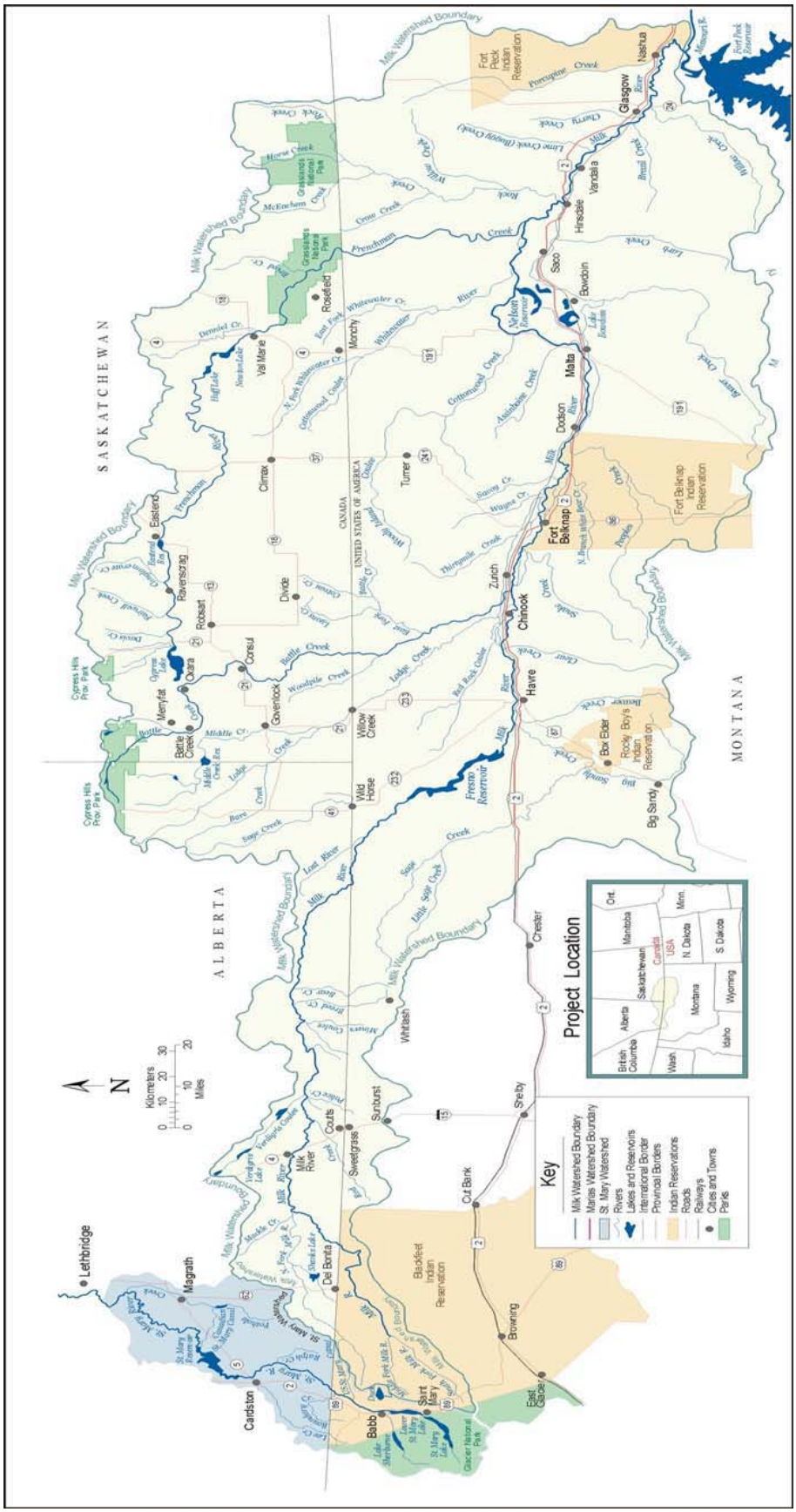
The climate of the region is semi-arid. The area receives little precipitation, most of which falls in the winter. However, extremes have impacted users the most. Precipitation can come in large volumes and cause flooding, while at other times it can be nonexistent, particularly in the seasons when it is most needed for agricultural production.

Except for low precipitation, the region and its soil are well suited for agriculture. Water users have therefore sought to control, divert and contain the flow of water as a limiting factor to successful agricultural production. Over the years, the disconnect between water supply and demand in the prairies has necessitated the construction, operation and maintenance of small and large-scale engineering feats like dikes, ditches, dams, canals, and other diversions to direct water into reservoirs and otherwise control water flows for irrigation and other needs. These diversions were just starting to develop in size and quantity at the turn of the century as the demand for water increased.

Water regulation regimes, infrastructure projects, and transboundary management decisions with respect to water apportionment and prior appropriation, have been the source of considerable debate in the St. Mary – Milk River watershed. Engineers and policy-makers involved in controlling and managing the water have had to decide how best to distribute the benefits and costs of irrigation and water diversions between jurisdictions and water users, and do so in a fair and equitable manner.

Map 1: Current St. Mary and Milk Rivers Drainage Basin
Source: IJC (2006). www.ijc.org/rel/pdf/SMMRAM.pdf

A more detailed map of the same drainage basin can be found at:
http://dnrc.mt.gov/wrd/water_mgmt/planning_activities/montana-alberta/mt-alberta_basemap.pdf



Water management in the region has been particularly challenging because the two rivers cross or criss-cross an international border. Rivalries between Canada and the United States have sometimes prevented sound and cooperative management. At the turn of the century, advice and dispute resolution was needed to help protect the natural environment while simultaneously encouraging and supporting new settlements, expanded agricultural production, and other forms of development through improved irrigation opportunities.

Background

Agriculture: Early Irrigation Needs

Land and water were used for generations by Aboriginal Peoples and Tribes in the prairies of North America. The development of railroads, combined with government initiatives encouraging agricultural settlement, changed the nature of land and water use in the west. In the United States, the Homestead Act (1862) and the Desert Land Act (1877) offered farmers cheap land, provided they worked and irrigated it for several years. In Canada, the federal government passed the Northwest Irrigation Act (1894), which gave control of irrigation systems and surface water diversions over to the government for central control and construction, rather than leave water rights in the hands of land owners. Thereafter, rights to water could only be obtained through government licenses.[6] In addition, agricultural lands and water supplies in both countries were heavily surveyed to see which areas would benefit most from irrigation and where it would be most efficient and feasible to divert water for this purpose.

Irrigation in the region essentially owed its existence to several key government officials, early entrepreneurs and engineers, and the technical knowledge of settlers at that time.[7] When a wave of agricultural settlers arrived in the St. Mary – Milk River region in the late 1800s and early 1900s as a result, agricultural production started to replace mining and smelting activities as the region's primary industry.[8]

At first, in the late 1800s, few could afford to bring water to agricultural land far from the rivers. Several small privately owned and operated irrigation systems, involving no more than a few acres of land, were constructed by settlers to divert water from streams. These included building small earth dams and ditches to guide water from the tributaries to parcels and sections of land. Unfortunately individual irrigation systems were not very efficient. As time went on, and more individual systems were added, existing water supplies started to became strained, forcing residents to seek out improved irrigation sources and methods.[9] Settlers sought to store wasted runoff water for later use. This would help make more water available and assist in times and areas where precipitation was low.[10]

Source: Library and Archives Canada. Retrieved from IJC (2009). http://bwt.ijc.org/index.php?page=model-cooperation&hl=eng

Dams & Canals: Meeting Larger Water Demands

In addition to these small individual irrigation systems, a group of farmers around Fort Belknap in Montana came together to build a diversion dam made out of earth and rocks that would provide additional water for their farms. Collective irrigation efforts were more successful. Other small dams soon followed, and before long, a dozen where spread out along both the Milk and St. Mary Rivers. By the early 1900s, 35,000 acres in the area were being irrigated to grow grains, vegetables and pastureland for livestock.[11] Systems of irrigation evolved and expanded from simple dams, ditches and flood irrigation, to longer, more extensive canals and pipes as more water could be controlled and stored in dams.

Irrigation Ditch Construction
Retrieved from: St. Mary River Irrigation District
www.smrid.ab.ca/smrid/early.htm

Flood Irrigation
Retrieved from: St. Mary River Irrigation District
www.smrid.ab.ca/smrid/early1.htm

The best new source of additional water for the Milk River was the St. Mary River, but the challenge was finding a way to move the water from one river to the other. Larger project proposals were submitted by the Galt companies, the United States Reclamation Service, Canadian Pacific Railway, and others. Of particular note, the United States Reclamation Service submitted a proposal to construct a large canal that would divert water from the St. Mary River to the Milk River in 1900.[12] Passage of the Reclamation Act of 1902 authorized construction and maintenance of the Milk River Project that would store, divert and develop the waters for reclamation of specified lands. The objective was to provide a stable source of water for irrigation of the lower Milk River valley, one of the last areas of the prairies to be settled. This would encourage more settlers to move into that area of the United States.

This particular canal proposal upset the Canadian government downstream, who protested the United States' decision to divert water from the St. Mary River. These heated protests were ignored until 1904, when Canada threatened to build their own project that would have diverted all the water on the Canadian side. It announced that it had granted permission for its own proposals to divert the waters of the Milk River back to the St. Mary on Canadian land, leaving little for users in the United States further downstream. This would have put the United States at a significant disadvantage, so the United States eventually withdrew their original plan. But disputes and further diversion plans continued.[13]

The parties involved realized they needed to resolve these ongoing disputes by negotiating some sort of formal agreement along with a set of instructions on how to share the transboundary waters. Without such an agreement, the economic, environmental, and social impacts of large diversion and irrigation projects would have seriously affected downstream water users and the environment. Meanwhile, those able to grab the water first would experience tremendous benefits at a cost to others.

Benefits & Drawbacks of Irrigation Diversions

At the turn of the century, the authorization of additional irrigation projects (also known as reclamation projects, "reclaiming" land that was previously difficult to live on) had the potential to bring water security and stability for agricultural production and increased land productivity and profitability in the prairies.[14] Irrigation could open up a range of agricultural possibilities including larger scale growth of alfalfa, hay, wheat, barley, oats, beets, corn, as well as small fruit trees and shrubs.[15] However, agricultural benefits were not the only advantages of diversions. The creation of man-made lakes and reservoirs had the potential to become recreational destinations for local communities and visitors alike. Diversions could also supply municipal and industrial water for budding communities and offer additional habitat for birds, mammals, fish and other wildlife, thus supporting environmental conservation efforts. A steady supply of good quality water could therefore lead to improved economic and social conditions in the region.[16]

Beyond infuriating downstream users left with little water to meet their needs, diverting rivers and streams for irrigation purposes could unfortunately cause in-stream flow problems for fish as well as wetland habitats relying on the natural flows of rivers to control flooding, regulate flows, and act as a pollution sink. Physical man-made diversions and controls take the natural (and much needed) uncertainty out of "nature", a positive for human needs but not necessarily for the watershed.

Transboundary Water Management & Cooperation

Although both Canada and the United States recognized how important a negotiated agreement would be to help maximize the benefits and minimize the drawbacks of larger diversion and irrigation schemes being developed in the St. Mary and Milk River watersheds, it took several years after the heated protests and debates to negotiate and develop the Boundary Waters Treaty signed in 1909 between the United States and Great Britain (the Dominion of Canada). This was an historic example of international water management and coordination. Specifically, Article VI of the Treaty provided a framework for measuring, regulating, and appointing the flows of the St. Mary River, the Milk River, and its tributaries so they could be shared equally.[17] The Boundary Waters Treaty also established the IJC to implement the Treaty, monitor progress and help settle disputes. Later the IJC created the Order of 1921 as a formal set of instructions on how water would be apportioned and measured in the St. Mary – Milk Rivers, providing for prior appropriation and allocation of water flows. It also created "Accredited Officers" (also known as Reclamation and Irrigation Officers) who were directly responsible for measuring and apportioning the water used by the United States and Canada according to the rules of the Order.

Committee

Members of this committee will role play the historical scene in the early 1900s by acting as farmers, government officials, engineers, entrepreneurs, Aboriginal Peoples and Tribal members, and other community members involved and interested in the dispute and protests around sharing the St. Mary and Milk Rivers prior to any major decisions or large scale diversions. The exercise will allow participants to explore the challenges of resolving water access and availability conflicts between northern Montana and southern Alberta at the turn of the century, particularly as viewpoints differ depending on where they are situated along the rivers (upstream, midstream or downstream).

For example, farmers were attempting to settle in the region and eager to tap into water supplies for irrigation, yet if neighboring communities took all the water upstream, there would be little left for their production. Government officials would have been involved both in voicing their regional and national

concerns through protests as well as helping to resolve and settle the disputes. Engineers and entrepreneurs would have been actively proposing diversion schemes and other engineering and infrastructure solutions to manually control the flow of water. Ideally, Aboriginal Peoples, Nations and Tribes would have been respected and fully engaged in the negotiations. All parties and communities along the rivers would have needed to work together to negotiate some sort of water sharing agreement and perhaps establish a body to oversee its implementation over the long-term to order to continue resolving ongoing conflicts and concerns.

Perspectives & Roles

The following provides a summary of some of the main perspectives as well as possible committee roles. In representing these positions, committee members are expected to research their positions (and be familiar with other positions) and express their particular viewpoints during the sessions, while noting the need to balance interests and contribute to consensus around possible solutions.

A. Federal/Regional Governments

Federal and regional government representatives in the early 1900s would have needed to consider various conflicting water interests such as agriculture, manufacturing, energy, and communities, as well as the need to protect the environment, cover the cost of infrastructure construction and operations, encourage new settlement and regional development, and maintain good international relations. They would have voiced their own interests through protests and alternative proposals yet been equally interested in contributing to cooperative solutions that ensured various water needs would be met now and in the future. Some of the specific government roles may include representatives from the US Reclamation Service, US Geological Service, US Secretary of the Interior, and the Canadian Federal Department of the Interior, as well as the State of Montana and the Northwest Territories (Alberta became a province in 1905).

B. Aboriginal and Tribal Governments

The first residents of the St. Mary and Milk River watersheds were Aboriginal nations and tribes. In the region, the Niitsitapi consist of four distinct nations: Siksika Nation (Blackfoot), Ahkainah Nation (Bloods), the Ahpikuni Nation (Peigan), and Southern Ahpikuni (Montana Blackfeet). The first three nations are in Alberta, and the fourth in Montana. The A'aninin (Gros Ventre), Assiniboine, Chippewa, and Cree also lived in the Milk River watershed.

In the case of *The United States vs. Winters* (1907-1908), a lawsuit was brought by the United States to restrain dam owners from constructing dams or reservoirs on the eastern part of the Milk River in Montana, near Chinook. These dams were shown to have prevented water from flowing downstream to the Fort Belknap Indian Reservation and deprived them of their rightful use.[18] Over the years, North American Aboriginal Communities, Nations and Tribes have challenged the validity of the Boundary Waters Treaty and other transboundary water management decisions.[19] They have historically been neglected during transboundary water negotiations and administrative decisions along the border.

C. Agricultural Needs & Farmers

Irrigation was the main reason for having to share water in the prairie region along the border between Canada and the United States. The flows of the rivers were highest in the spring, whereas the demand for

agricultural water was highest in the late summer and early fall. Farmers had common interests in controlling water control and securing beneficial use.[20] For farmers on both sides of the border, the potential for large-scale irrigation represented a source of local development, employment and livelihood, as well as a steady supply of food production and trade. The controversy over building dams and canals for irrigation and other uses in the early 1900s threatened the stability of water in the region, yet the development of the prairies was owed to the irrigation infrastructure built to control water and provide access to it on demand.[21] Farmers would have had different points of view depending on where they lived along the two rivers.

D. Entrepreneurs, Engineers & Irrigation Experts

As prominent political and business figures in Alberta, Sir Alexander Galt and his son Elliot Galt felt that if the prairie region was to attract settlers, irrigation systems would be the driving force. In the late 1890s, the Galt family encouraged a small group of Latter Day Saint (Mormon) farmers to migrate from Utah to Alberta. Members of the Mormon Church were knowledgeable on how to build efficient irrigation schemes and this knowledge was welcomed by entrepreneurs and politicians in the area.[22]

Engineers and surveyors, both public and private, also had an important role in the development of diversion projects and irrigation systems within the St. Mary – Milk River watershed, in providing both evidence and technical expertise needed to support large-scale infrastructure projects. For example, William Pearce of the Canadian Department of the Interior, Gerard H. Matthes (or Matthews) of the U.S. Geological Survey, and E.S. Nettleson, Chief Engineer of for the U.S. Department of Agriculture, among others, helped conduct surveys in the two watersheds.

E. Environmental Protection & Communities

Despite fundamental differences between the positions of the United States and Canada, it would have been in the best interest of both jurisdictions to maintain adequate in-stream flows for environmental purposes and long-term sustainability of the watershed. Community members, outside of farmers, would have been active in the discussion and debate as well, as diversion schemes could provide new sources of water for steadily increasing municipal, industrial and recreational uses. Organizations may have also weighed in on the advantages and disadvantages of small and large scale irrigation projects.

Questions to Consider [23]

1. What would have constituted a fair compromise for the turn of the century dispute over water in the St. Mary – Milk Rivers? How important is the idea of equity in the context of sharing water? Should large scale diversion and water flow regulation projects been proposed and approved?
2. In the early 1900s, what major barriers stood in the way of effective bi-national water management and cooperation? How might these barriers been overcome? How could decisions be best implemented and enforced?
3. What barriers prevented early irrigation systems and techniques from being effective? Who should manage and cover the costs of large-scale, collective systems?
4. How might Aboriginal/Tribal water rights have been better acknowledged and respected throughout the process of negotiating ways to share water in the early 1900s?
5. For comparative purposes, how are the waters in the St. Mary – Milk Rivers currently divided between the United States and Canada according to the 1909 Boundary Waters Treaty (BWT) and the IJC Order of 1921? What was the intent of the Treaty and Order and how might these

agreements be interpreted differently by various users? How could the BWT and subsequent agreements been improved? Which users would be impacted most by different solutions?

6. What is fair at one moment in time may not be fair in the future. When negotiating agreements and water use rules, short and long-term needs must be considered. Should decisions and agreements evolve with changing needs and circumstances? How could the principles of adaptive management be incorporated into transboundary water management agreements?
7. Of the range of options to share and apportion water among users, which would you recommend and why? Flow regulation and engineering? Infrastructure (more dams and canals)? Water banking (storing it for later use)? Water marketing? Joint water management and planning? Conservation techniques? Etc?

Position Paper

Once positions and roles are assigned and confirmed, participants will be asked to prepare a short position paper prior to the conference, describing the situation and how their assigned perspective would weigh in on the issues and offer alternative solutions.

Resources

Historical Context

- * Halliday, R.A. & Faveri, G. (2007). The St. Mary and Milk Rivers: The 1921 Order Revisited. *Canadian Water Resources Journal*. www.articlearchives.com/environment-natural-resources/ecology-environmental/975847-1.html
- * Azevedo, P. *The Need to Rehabilitate the St. Mary Facilities.* Department of Natural Resources and Conservation. http://dnrc.mt.gov/st_mary/pdfs/stmarybackground.pdf
- Halliday, R.A. http://findarticles.com/p/articles/mi_7111/is_2_32/ai_n28436490/?tag=content;col1
- *Milk River Project:* www.usbr.gov/dataweb/html/milkrive.html
- Aboriginal tribe lawsuit (1907-1908). http://supreme.vlex.com/vid/winters-v-united-states-20056894
- Historical photos - http://dnrc.mt.gov/st_mary/pdfs/historicalphotos.pdf;
- *St. Mary River Irrigation District:* www.smrid.ab.ca/smrid/history.htm
- *Irrigation in Alberta:* www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/irr7197/$FILE/irrigationinalta-part1.pdf
- Alberta Past and Present: http://www.electricscotland.com/history/canada/alberta/vol1chap20.htm
- Heinmiller (2008). *Managing Water Scarcity in the Prairie Region: The Role of the IJC in a Changing Climate.* www.cpsa-acsp.ca/papers-2008/Heinmiller.pdf
- Brief History of the Bureau of Reclamation. www.usbr.gov/history/BRIEFHist.pdf
- Shurts, J. (2003). *Indian Reserved Water Rights: The Winters Doctrine in Its Social and Legal Context.* (online book – can google).
- Domaar, J. (2005). The Spite-Ditch – Ever Heard of it? *Wild Lands Advocate.* http://issues.albertawilderness.ca/MRR/archive/AR0512MRR1.pdf

IJC Related Agreements, Boards & Documents (FYI)

- * *Boundary Waters Treaty of 1909* – specifically Article VI: www.ijc.org/rel/agree/water.html
- * *IJC Order of 1921:* www.ijc.org/php/publications/pdf/ID52.pdf
- * Government of Alberta (2004). History of Treaty & Order http://environment.gov.ab.ca/info/library/7022.pdf
- *Accredited Officers for the St. Mary – Milk Rivers* (formed in 1921): www.ijc.org/conseil_board/st_mary_milk_rivers/en/smmr_mandate_mandat.htm
- * *International St. Mary and Milk Rivers Administrative Measures Task Force:* www.ijc.org/conseil_board/st_mary_milk_rivers2/en/smmr2_home_accueil.htm
- * *IJC Task Force Report* (2006): www.ijc.org/rel/pdf/SMMRAM.pdf
- Pentland (2006). *Comments on the IJC Task Force Report*.

www.ijc.org/rel/pdf/smmr2/Munk_Centre_International_Studies.pdf

- IJC (2004). *Irrigation Development in Alberta.* www.ijc.org/rel/pdf/83_stmary-milk_letter.pdf

Current Context (FYI only)

- Montana Dept. of Natural Resources & Conservation – Lt Governor's St. Mary Rehabilitation Working Group: http://dnrc.mt.gov/st_mary/default.asp
- *Government of Alberta:* www.assembly.ab.ca/lao/library/egovdocs/alen/2004/146398.pdf
- *Milk River Watershed Council Canada:* www.milkriverwatershedcouncil.ca/
- Public comment on IJC Task Force Report (2006): www.ijc.org/rel/boards/smmr2/2006report/overview.htm
- *State of the Watershed Report* (Milk River): www.milkriverwatershedcouncil.ca/projects.html
- *St. Mary and Milk River Water Management Initiative* (formed in Dec 2008): http://dnrc.mt.gov/wrd/water_mgmt/planning_activities/montana-alberta/default.asp

Endnotes

[1] Quote by U.S. Secretary of State, Elihu Root, speaking to U.S. Senate, ~ 1904. Albert E. Utton (1991). "Canadian International Waters," chapter in *Waters and Water Rights*, Vol. 5, edited by Robert E. Beck. Charlottesville: The Michie Company. Quoted noted in Wm. Joe Simonds (1999). *The Milk River*. Bureau of Reclamation History Program. www.usbr.gov/dataweb/html/milkrive.html#Conclusion

[2] Montana became a state in 1889.

[3] Alberta became a province in 1905; used to be referred to as the Northwest Territories.

[4] Milk River Watershed Council Canada www.milkriverwatershedcouncil.ca/the_watershed.html

[5] IJC www.ijc.org/conseil_board/st_mary_milk_rivers/en/smmr_mandate_mandat.htm

[6] www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/irr7197/$FILE/irrigationinalta-part1.pdf

[7] www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/irr7197/$FILE/irrigationinalta-part1.pdf

[8] Simonds (1999). US Department of the Interior – Reclamation – St. Mary Project www.usbr.gov/dataweb/html/milkrive.html#Historic

[9] Simonds (1999).

[10] http://www.usbr.gov/history/BRIEFHist.pdf

[11] www.waterhistory.org/histories/reclamation/milkriver/

[12] IJC (2004).

[13] Azevedo, P. http://dnrc.mt.gov/st_mary/pdfs/stmarybackground.pdf

[14] IJC (2004). www.ijc.org/rel/pdf/83_stmary-milk_letter.pdf

[15] www.telusplanet.net/public/mtoll/irsoab.htm

[16] www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/irr7197/$FILE/irrigationinalta-part1.pdf

[17] IJC (2006) www.ijc.org/rel/pdf/SMMRAM.pdf

[18] http://supreme.vlex.com/vid/winters-v-united-states-20056894

[19] www.ijc.org/rel/boards/smmr2/2006report/overview.htm

[20] Timothy Heinmiller (2008) www.cpsa-acsp.ca/papers-2008/Heinmiller.pdf

[21] Pentland (2006). www.ijc.org/rel/pdf/smmr2/Munk_Centre_International_Studies.pdf

[22] www.telusplanet.net/public/mtoll/irsoab.htm
and www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/irr7197/$FILE/irrigationinalta-part1.pdf

[23] Retrieved in part from www.cbc.ca/newsinreview/dec04/PDFs/water.pdf