

Intra-Basin Water Movement Issue Gathering

“What We Heard”

Preface

Section 1:
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Preface

In January 2007, the Alberta Water Council accepted a request from Environment Minister Rob Renner regarding intra-basin movement of water. The Minister asked Council to determine if the current approach on moving water from one sub-basin for use in another sub-basin is still valid and what, if any, changes should be made to the policy and under what conditions.

The Intra-Basin Water Movement Project Team spent several months reviewing current approaches to moving water from one sub-basin for use in another sub-basin (within the same major river basin), and exploring issues that had been raised in discussions with some stakeholders.

To ensure they had a good understanding of perspectives and implications of all policy options, the Project Team produced a background document, which included some of the issues under consideration, for stakeholders to review. It included a few questions for anyone who wanted to provide some additional thoughts or input into the process.

This was NOT a consultation, but rather an opportunity for informed stakeholders to contribute some additional information.

The Project Team sent the background document out to the Alberta Water Council's sectors and posted a statement on the website saying that input was being gathering. The Council also reviewed concerns submitted to the Government of Alberta.

The "What We Heard" survey response captures and consolidates participants' points of view into a summary document. No attempt was made to evaluate the factual accuracy of any viewpoint expressed or to reconcile opposing points-of-view.

This document contains three sections: the discussion paper; the "What We Heard" survey questions, and the Summary of Responses report.

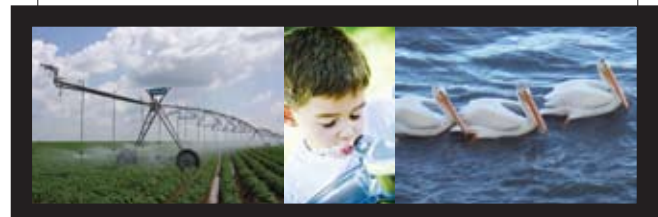
*This report was used by the Project Team to inform its debate over key issues and supported the development of the **Intra-Basin Water Movement - Major Principles and Recommendations** report.*



Intra-Basin Water Movement
Issue Gathering

“What We Heard”

Section 1:
Discussion Paper



Alberta Water Council

Intra-Basin Water Movement Discussion Paper

INTRODUCTION

The Intra-Basin Water Movement Project is an initiative by the Alberta Water Council to fulfill Environment Minister Rob Renner's request to the Council in January 2007 "*...to determine if the current approach on moving water from one sub-basin for use in another sub-basin, within the same major river basin, is still valid and what, if any, changes should be made to this policy and under what conditions.*"

The Minister's request was prompted by a number of public concerns about the current practice that allows the diversion and movement of water from one sub-basin for use in another sub-basin within a single major basin, provided the water is safely available from the source and the new withdrawal does not affect existing licensed water users.

This Alberta Water Council project is focused on reviewing the current practice and its implications in the short-, medium- and long-term. It is not about the movement of water from one major Alberta river basin to another, known as inter-basin water allocations. It also does not involve a discussion on the full or partial change of ownership of water licences from one water user to another, known as a "transfer" of water licences.

This document is designed to provide background information on Alberta's current approach and context, including some of the issues that have been identified by the Intra-Basin Water Movement Project Team to date.

The background document is a foundation and required reading for the accompanying questionnaire that invites Albertans to provide input on any additional factors or implications the team should consider in its analysis of this question.

BACKGROUND

In principle, the term “watershed” or “basin” describes the geographic area that drains water to a common point or shared destination.

Environment Canada recognizes three major basins for water that originates in or flows through Alberta and drains to one of three destinations through larger “continental basins” or “river systems.”

In 1996, the Alberta *Water Act* identified seven major basins or drainage systems, which cover the province’s rivers, streams and lakes (**Figure 1**). The major basins are designated for the purpose of administration of approvals and licences and meeting transboundary commitments.

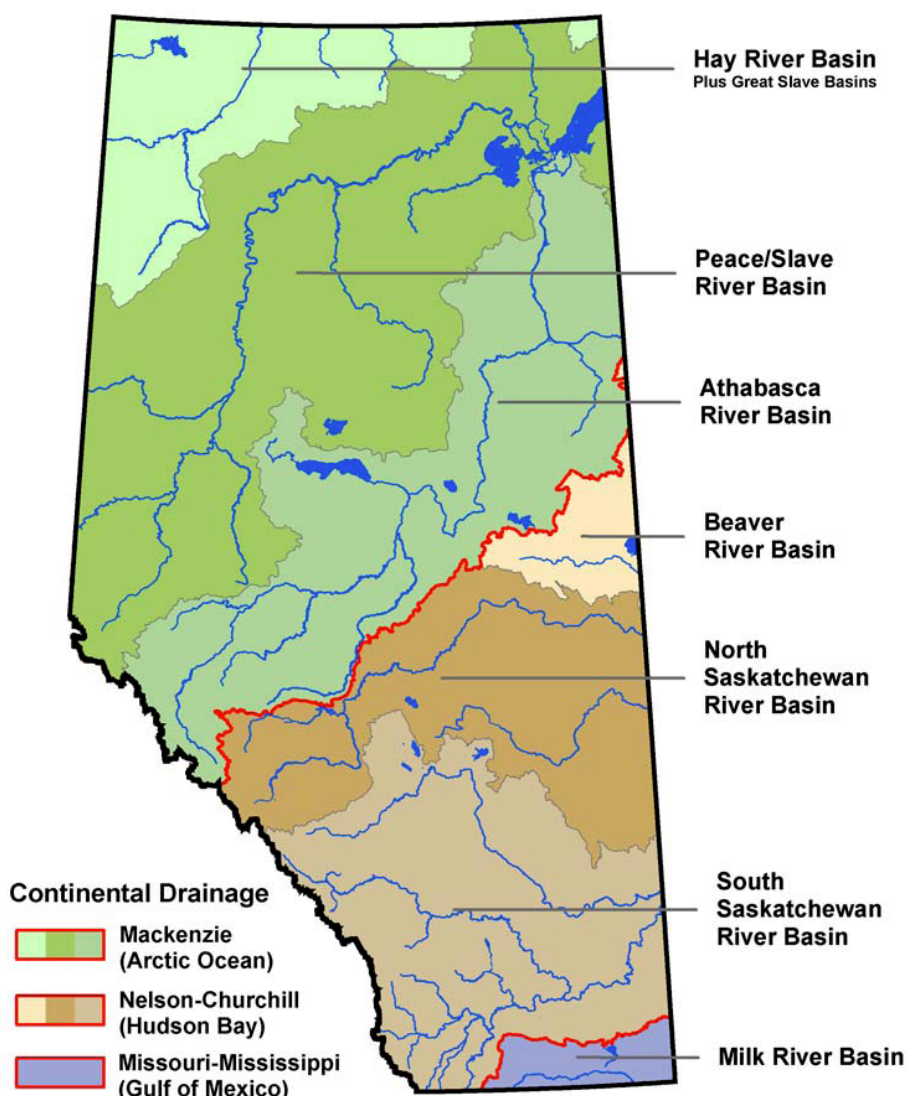


Figure 1
Continental Basins
and Major River
Basins Under
Alberta’s Water
Act

The 2003 *Water for Life: Alberta's Strategy for Sustainability* introduces a definition of a watershed as the area of land that catches precipitation and drains into a larger body of water such as a marsh, stream, river or lake.

Water for Life contemplates Watershed Planning and Advisory Councils for 10 of the large watersheds: Milk, Oldman, Bow, Red Deer, Battle, North Saskatchewan, Cold Lake-Beaver River, and Lesser Slave Lake, Athabasca and Peace. Under *Water For Life*, Watershed Planning and Advisory Councils are designated for the purpose of “leading in watershed planning, develop best management practices, foster stewardship activities within the watershed, report on the state of the watershed, and educate users of the water resource.”

Water for Life also recognizes a large number of smaller watersheds or “sub-watersheds” for which Watershed Stewardship Groups have taken the initiative to protect their local creek, stream, stretch of river, or the lake.

What is a sub-basin?

Sub-basins or “sub-watersheds” are the geographic area that drains to a tributary within the major basins and describes the geographic area that drains water to a tributary of a larger basin. Like major basins, the sub-basin catchment area can vary in size from several square kilometers for a small tributary, to several hundred thousand square kilometers for a major tributary such as the Peace River, which flows into the Mackenzie River.

Basins can contain several or hundreds of sub-basins depending on the scale chosen to define them.

There is currently no standard approach or criteria used to set the size or define basin versus a sub-basin, except for the fact that a sub-basin must feed a tributary of a basin. Decisions as to what is called a basin or sub-basin are often based on administrative needs for a specific jurisdiction.

Interprovincial watercourses

The 1969 Master Agreement on Apportionment divides the waters of eastward flowing interprovincial watercourses equitably between Alberta and Saskatchewan. The general principle being that Alberta passes one-half of the natural flow of each watercourse on to Saskatchewan.

To administer this agreement, the Prairie Provinces Water Board defined the watershed or basin unit as the drainage area of each stream course that crosses the Alberta-Saskatchewan boundary.

The independent streams, and respective basins, covered include:

Cold Lake	Beaver River	North Saskatchewan
Battle River	Eyehill Creek	South Saskatchewan River
McKay Creek	Lodge Creek	Middle Creek
Battle Creek		

Basin size varies from about 300 square kilometers for Middle Creek to about 120,000 square kilometers for the South Saskatchewan below the confluence with the Red Deer River.

The Red Deer River and the South Saskatchewan River are treated as a single basin for apportionment purposes even though they cross the border independently.

ALBERTA'S WATER ALLOCATION PROCESS

In Alberta, the property in and the right to the diversion and use of all water is vested in the Province and regulated by the *Water Act*.

The purpose of the Act, as stated within the Act, is as follows:

To support and promote the conservation and management of water, including the wise allocation and use of water, while recognizing:

- (a) the need to manage and conserve water resources to sustain our environment and to ensure a healthy environment and high quality of life in the present and the future;*
- (b) the need for Alberta's economic growth and prosperity;*
- (c) the need for an integrated approach and comprehensive, flexible administration and management systems based on sound planning, regulatory actions and market forces;*
- (d) the shared responsibility of all residents of Alberta for the conservation and wise use of water and their role in providing advice with respect to water management planning and decision making.*

Licensing required

Any person wishing to divert and use water must apply for and receive a licence under the *Water Act*. Similarly, any person wishing to transfer an allocation of water under a licence must also apply for and receive approval under the *Water Act*.

The *Water Act* prohibits issuing a licence that moves water between Alberta's major basins unless it is specifically authorized by a special Act of the Alberta Legislature.

However, there is no similar limitation on the movement of water between sub-basins of a major river basin. Therefore, water from anywhere **within** a major basin may be allocated for use at any other location in the same major basin. This includes allocating water from one sub-basin to another provided the following conditions are met:

- Water is deemed to be available;
- There is no impact on other water users; and
- Certain environmental and safety conditions are met.

Most licences issued prior to 1999 are classified as “permanent” licences and allow the licence holder to continue using the water, in perpetuity, for the purposes intended. Licences issued since the Water Act came into force in 1999 are considered “term” licences and are renewable at the end of a specified term (normally 10 or 25 years).

Application process

Alberta has a well-defined review and decision-making process for evaluating applications for water licences.

Before issuing a new licence or a transfer of a licence, the relevant Director must consider factors from any applicable, approved Water Management Plan where one exists for the water body from which the water is to be removed. The Director is a representative from Alberta Environment designated under the *Water Act*, and current Directors include Alberta Environment’s District Approvals Managers, as well as the Regional Approval Managers.

The following factors may also be considered in the application review:

- Any existing, potential cumulative effects:
 - a) on the aquatic environment and any applicable water conservation objectives;
 - b) hydraulic, hydrological and hydrogeological effects;
 - c) effects on household users, traditional agricultural users and other licensees;
- Effects on public safety;
- With respect to irrigation, the suitability of the land to which the allocation of water is to be applied;
- In the case of a transfer, the allocation of water that the licensee has historically diverted under the licence; and
- Any other matters that may be considered relevant.

Public notification

Applications for diversions of water for use are subject to a public review as deemed appropriate for the issues identified.

Any concerns submitted through a public review process are reviewed for their relevance to the application, and adjustments to the application may be made to address any identified issues as appropriate.

The application may be also referred for comment to other agencies, such as Alberta Sustainable Resource Development, to determine if the agency has concerns with the application.

An application to transfer a water licence is also subject to a public review as deemed appropriate for the issues identified.

Licence conditions

Conditions may be placed on any approved licence. For example:

- The flows to remain in the river;
- A requirement for a licensee to submit water-monitoring data;
- Quantities of water diverted;
- Investigations of users affected by the licensee's diversion;
- Monitoring the source water body;
- Flow rates or time constraints when water may be diverted; or
- Any other conditions deemed necessary to ensure basin water conservation objectives are met.

Appeal process

Licensing decisions can be appealed to the Environmental Appeals Board.

The applicant and any directly affected person who submitted a statement of concern during the notice period can submit an appeal.

EXAMPLES OF CURRENT INTRA-BASIN WATER DIVERSIONS

The water supply in most of Alberta's Major Basins is mainly generated in the mountains and foothills. In particular, southeastern areas in the province have low and less reliable supplies. Additionally, water supplies vary with the seasons, and are much lower in late fall and through the winter.

In general, water management infrastructure mainly has been developed to provide flow through the winter on highly seasonal rivers, and to provide for areas with low or uncertain supplies.

At present, there are a number of examples in Alberta involving the diversion of water between sub-basins. Many small volumes of water movement occur, particularly near the boundaries between sub-basins. The largest volumes of water moved between sub-basins are generally for municipal and agricultural users.

Municipal

The City of Edmonton (EPCOR) diverts water from the North Saskatchewan River and distributes treated water to:

- The Towns of Stony Plain and Spruce Grove as well as the City of St. Albert, which are located in a sub-basin of the North Saskatchewan River known as the Sturgeon River;
- The Town of Vegreville, which is located in a sub-basin of the North Saskatchewan River known as the Vermillion River; and
- The Town of Kinsella, which is located in a sub-basin of the North Saskatchewan River known as the Battle River.

The Town of Brooks, in the Red Deer River Basin, receives water from the Bow River through the works of the Eastern Irrigation District.

Agricultural

Water from the Bow River has been allocated to the Eastern Irrigation District and the Western Irrigation District, which straddle the Bow and Red Deer sub-basins. There are nearly equal amounts of irrigated area in each sub-basin. Unused diversions (return flows) from these districts are returned to the Red Deer River.

The Waterton Dam in southern Alberta captures much of the flow originating in the Waterton River sub-basin and diverts it via the Waterton-Belly Canal into the Belly River. At the Belly River, a weir captures the water diverted from the Waterton along with a significant portion of the flow originating within the Belly River sub-basin and conveys it via the Belly-St. Mary Canal to the St. Mary Dam on the St. Mary River. The St. Mary River Dam stores diverted waters from the Waterton and Belly River sub-basins along with flows generated in the St. Mary River sub-basin for subsequent diversion eastward for irrigation in numerous minor sub-basins of the Oldman River and landlocked water short areas.

As well, at present, where a landowner has property straddling a boundary between sub-basins, landowners may move water from one part of their farm to another – which is technically a movement of water from one sub-basin to another.

Examples from other jurisdictions

The practice of diverting water from sub-basins within a basin is also currently in place in other jurisdictions in North America. For example:

- Water from Lake Diefenbaker (Saskatchewan River Sub-Basin of the Nelson River Basin), is diverted to areas near Regina, (Qu'Appelle River sub-basin of the Nelson River), to supply water for irrigation and municipal use.
- The Great Lakes-St. Lawrence Sustainable Water Resources Agreement, signed in December 2005 by Ontario, Quebec, Illinois, Indiana, Michigan, Minnesota, New York, Ohio and Pennsylvania, permits the transfer of water between any sub-basins within the Great Lakes and St Lawrence River. The legal transfer of Great Lakes water has been termed an “intra-basin” diversion as long as it stays within the Great Lakes basin.

ISSUES

The Intra-Basin Water Movement Project Team is currently reviewing public concerns, through direct meetings and submissions to Alberta Environment, regarding the intra-basin movement of water and analyzing the implications of existing policy on these concerns.

It is important to note that some of these issues raised pertain to all water diversions, not only intra-basin water diversions.

Some of the issues raised to date, and currently under consideration by the Intra-Basin Water Movement Project Team, include:

- When *Water For Life* established a goal that “Alberta’s water resources must be managed within the capacity of individual watersheds,” it was an indication that water management planning possibly would occur through the Watershed Planning and Advisory Committees, which differ from the Major Basins in the *Water Act*;
- Potential effects resulting from lower flows in the source basin;
- Potential effects of declining water quality (due to lower flows in the source basin);
- Potential effects resulting from the transfer of biota between sub-basins;
- The water diversion could be used for future economic growth within the source sub-basin;
- The proposed water diversion should not be used for the application purpose;
- Water diversions affect the security of supply in the source sub-basin;
- Taxpayers within the source sub-basin should not subsidize water/wastewater treatment in another sub-basin;

- Proponents should be exploring the use of other local (in the same sub-basin) sources, particularly if they have sufficient capacity or licences are available for transfer; and
- Water diverted within the sub-basin should stay within the sub-basin.

As the Project Team continues to explore the complicated issues associated with intra-basin water movement, the following questions must also be considered to ensure any changes in approach do not result in unintended consequences.

- There is currently no common criteria to determine what constitutes a sub-basin. How should sub-basins be defined for the purposes of this review and recommendation report (i.e. distance or scale)?
- There is a lack of alignment between administrative boundaries, watersheds and other boundaries (economic, social, political). What effect should these various boundaries have on defining a sub-basin for the purposes of this review and recommendation report (i.e. distance or scale)?
- Should, or will, the approval of one water diversion set precedence for other developments outside the source basin to request diversions from the sub-basin?
- How should existing intra-basin water diversions be considered in new applications for intra-basin water diversions?
- What effect does the closure of a sub-basin next to an open basin have in relation to this issue? For example, under the South Saskatchewan River Water Management Plan, Alberta Environment no longer accepts applications for new water allocations in all of the South Saskatchewan River Basin, except for the Red Deer River sub-basin. At present, the South Saskatchewan River Basin continues to be managed as a single entity.
- What potential effect do intra-basin water diversions have on the water licence transfer process developing in the closed basins?
- What effect does managing water within sub-basins have on the flexibility and options to meet interprovincial obligations?
- Should the type of water to be diverted (treated, storm, raw, reclaimed), or the required approach for water diversion licences, be taken into consideration? Or should all water be considered in the same way in relation to this issue?
- How does groundwater fit into the intra-basin water diversion picture, and what environmental or social and economic concerns may arise from intra-basin water diversion of groundwater?

GLOSSARY

Alberta Water Act – Provincial legislation which states that the property in and the right to the diversion and use of all water is vested in the Province and regulated by this Act.

Basin or Watershed – The geographic area that drains water to a common point or shared destination. Depending on its size, a basin can contain a few or hundreds of sub-basins.

Sub-watershed or Sub-basin – The geographic area that feeds a tributary within a larger basin or watershed.

Confluence – The place where two streams or rivers flow together to form one larger stream or river.

Diversion – Changing the natural flow of water to another location by using dams, canals, or pipelines.

Intra-basin Water Movement – In Alberta, this means the movement of water either within the same sub-basin or from one sub-basin to another.

Inter-basin Water Movement – In Alberta, this means the movement of water from one major river basin to another (river basins as defined in the Water Act). Under the Water Act, any such transfer is prohibited and can only be authorized by a special Act of the Legislature.

South Saskatchewan River Basin Water Management Plan is a long-term vision for managing the water supply for southern Alberta. The first of its kind in Alberta, the water management plan recommends new ways of managing water resources to help balance the needs of the environment and economy. The SSRB Water Management Plan, approved by Cabinet in 2006, contains the plans for the Red Deer River, the Oldman River and the Bow River watersheds.

Surface Water – Water that sits or flows above the earth such as rivers, streams, lakes, oceans.

Transfer or "Water Allocation Transfer" – These transfers allow all or part of existing water allocations to be transferred to new water users who can divert from either the same location or from another location on the same watercourse provided there is no impact on existing water users. In 2002, water allocation transfers were authorized in the South Saskatchewan River Basin.

Tributary – A stream or river that flows into a larger stream or river.

Water Allocation – A specific amount of water devoted to a given purpose.

Water for Life: Alberta's Strategy for Sustainability is the Alberta government's comprehensive plan for addressing water management concerns for the future. The strategy addresses water quality and water quantity issues within the context of the short, medium-, and long-term challenges we face and the need for sustainability of our water resources.

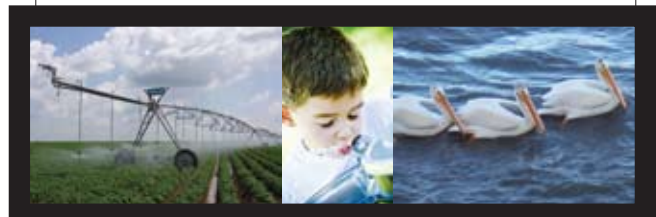
1969 Master Agreement on Apportionment – This agreement divides the water of eastward flowing inter-provincial watercourses equally between Alberta and Saskatchewan.



Intra-Basin Water Movement
Issue Gathering

“What We Heard”

Section 2:
Survey Questions



Alberta Water Council
Intra-Basin Water Movement Discussion Paper

SURVEY QUESTIONS

The Project Team is asking the following questions to identify any additional issues to consider in their review of the current approach:

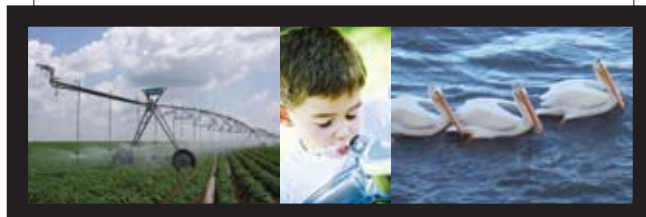
1. In addition to the issues identified in the discussion paper, what other issues or concerns, if any, do you have with respect to intra-basin diversions? Please explain.
2. In your experience with the current intra-basin water movement approach, what is working well?
3. What one issue, if anything, causes you the most concern with any intra-basin water diversions? Why?
4. Any other issues? Why?
5. As the Project Team makes its recommendations about intra-basin water diversions, what are the key factors that should be considered?
6. Use this space for additional messages to the Project Team.



Intra-Basin Water Movement
Issue Gathering

“What We Heard”

Section 3:
Summary of Responses
to 2007 Questionnaire



This report was prepared by MPA Public Affairs and Government Affairs (a private consulting company contracted to analyse and report on the input received through a questionnaire delivered to stakeholders).

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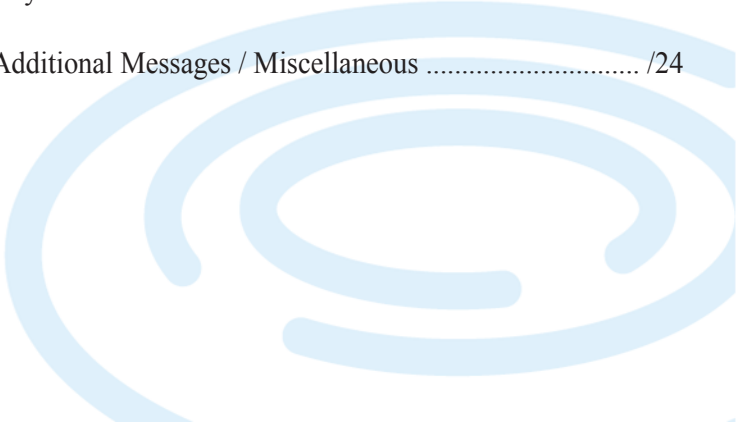
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Summary

Context

In January 2007, the Honorable Rob Renner, Minister of Alberta Environment, asked the Alberta Water Council "... to determine if the current approach on moving water from one sub-basin for use in another sub-basin, within the same major river basin, is still valid and what, if any, changes should be made to this policy and under what conditions."

The Intra-Basin Water Movement Project ("Project"), created by the Alberta Water Council to fulfill the request of Minister Renner, has been active throughout 2007. The information reported in this document results from one initiative undertaken by the Project.

Approach

In late September 2007, the Project contacted sector members of the Alberta Water Council with a request to distribute an online workbook and questionnaire to members of their respective sectors.

As of mid-October, 15 replies were received. Respondents were not asked to identify themselves. However, because the invitation to reply went out from members of the Alberta Water Council, it is likely that they were all involved with water management in Alberta. Their perspective and extent of knowledge may have varied.

Findings

Mandate of Project and Vocabulary Issues

The Background paper prepared by the Project specifies that the Project is about,

- "moving water" from one sub-basin for use in another sub-basin of the same major basin, that is "intra-basin water movement."

The paper also specifies that the Project is not about,

- "moving water" from a major basin for use in another major basin, that is, "inter-basin water movement," or
- "transfer" of water license, involving full or partial change of ownership of license

The findings indicate that the Project team may need to refer to inter-basin water movement and license transfer, in order to clearly communicate their intents.



*"Alberta's water resources
must be managed
within the capacity
of individual watersheds..."*
- participant

First, regarding inter-basin water movement, some respondents did express the view that the principles underlying policy around intra-basin water movement were no different from principles underlying policy around inter-basin water movement. Even if respondents did not say so explicitly, the concerns they raised would apply equally to inter- basin as to intra-basin water movement.

Second, regarding "license transfer," questionnaire responses indicate possible confusion in the minds of some over the Project team's mandate and over the meaning of the term "transfer." Some respondents referred only to "water movement" in the sense in which the Project team intended. However, other respondents referred often to "transfer" in ways that sometimes clearly refer to "transfer of licenses," sometimes clearly refer to "water movement," and sometimes carry an ambiguous meaning. The two implications for future communications on this issue are that:

- some people likely use the word "transfer" as a synonym for "water movement." This is a matter of clarity of language
- some people appear to believe that "intra-basin water movement" always implies transfer of licenses. This is a matter of factual accuracy

As well, the questionnaire replies show no reference to the implications of partial closure of licenses out of the South Saskatchewan River Basin. This may indicate only that respondents had other priority concerns, or it may indicate that the implications of basin closure for intra-basin water movement are not understood.



Whether Intra-Basin Water Movement Should be Allowed Under Any Circumstances

Even in this small sample of 15 respondents, there is evident disagreement over whether any water movement from sub-basin to sub-basin within the same major basin should be permitted.

Three positions were identified:

- No intra-basin water movement - ever. Some respondents expressed a strong belief in the principle of “self-sufficient sub-basins” which would argue against intra-basin water movement under any circumstances
- No intra-basin water movement - now. Others were concerned about the lack of data to predict the effects of intra-basin water movement, and argued that such movement should be minimized if not prohibited until better data are available. This position overlaps with the position of those who noted that many of the Water for Life initiatives are not yet in place, both data collection and watershed planning, and intra-basin water movement should be minimized if not prohibited until they are in place
- Green light to intra-basin water movement. Still others advocated for effective water movement as a positive tool for management of the water resource in Alberta. It has worked well already, they say, especially in southern Alberta, and can continue to work well

On the whole, these positions cannot be reconciled. The implication is that virtually any recommendations which the Project may reach will be subject to conflict.

Concerns or Issues Related to Outcomes of Water Movement

Concerns or issues identified which may occur as a result of intra-basin water movement were as follows:

- The overriding need to retain a sustainable water supply, both in quality and quantity. A few respondents are especially concerned about sustainable supply given their beliefs about climate change and its potential for creating water shortages
- The potential for conflict, which may result from general views on the validity of intra-basin water movement (referenced above) or from disputes in specific situations
- The potential for negative economic impact, primarily on the source basin



- The potential for environmental damage through cross-contamination of sub-basins, which in turn impacts the long-term ecological sustainability of Alberta's waterways
- The fact that little is known about the long-term environmental or cumulative impacts of water movement, which could lead to severe consequences if decisions are poor. This issue is especially pertinent if groundwater is involved
- The need to retain enough water to honour existing interprovincial and other commitments, as well as the needs of Albertans

Concerns or Issues Related to Process of Water Movement

Concerns or issues identified which are important to the process of licensing intra-basin water movement were as follows:

"Transfer if managed correctly should lead to more viable economies, social structures and even environmental issues through effective water transfers."
- participant

- Applications need to be carefully reviewed, case by case, for environmental, social and economic effects. As well, the costs of water movement need to be understood and accounted for in a fair manner when licenses are issued
- Definitions of "basin" and "sub-basin" need review. The current use of these terms may not conform to the intent of the Alberta Water Act, nor align with Water for Life principles
- Demand management and conservation should be applied before water movement is permitted. Water movement should be seen as a last resort
- All federal regulations need to be adhered to in when water is moved

Miscellaneous

Concerns or issues mentioned infrequently follow:

- The belief that the First in Time First in Right (FITFIR) principle works against effective water management
- The belief that the lessons from the Rosenberg Report have not been learned or implemented

- Concerns over the management of the Red Deer River basin, including the belief that it should be managed as a major basin and not a sub-basin
- Questions concerning the form of consultation being followed with First Nations
- A request that any draft legislation be subject to consultation while still in draft form



Part I Concerns Related to Outcomes of Intra-Basin Water Movement

<i>Themes - Identified by MPA</i>	<i>Comments (verbatim from questionnaires; some comments split between or among issues. Classified according to major issue or theme)</i>	<i>Selected issues - Identified by MPA</i>
Forerunner of social unrest, contention, conflict		Potential for serious conflict
	<i>Some muni's are having trouble with regional pipelines, because intrabasin transfer is a possibility small communities would rather keep their empire than go with a regional pipeline system</i>	Possibility of license transfer is driving some municipalities to shun regional pipeline systems
	<i>The social unrest that battles over water will cause if people feel that another area is stealing their water</i>	People have a sense of ownership of water in their immediate vicinity; will react negatively as though it were a theft, if the water is removed
	<i>I see intra-basin transfers as a greed motivated water allocation rush, where prominent entities with lots of cash and power are rushing to grab extra water allocations so that their interests in long term growth are over-protected</i>	Belief that financial motives will outweigh the common good in situation where license transfer is needed; indeed, that some entities may be applying for licenses with excess capacity in order to be able to sell them later

Part I Concerns Related to Outcomes of Intra-Basin Water Movement

Themes - Identified by MPA

Comments (verbatim)

Selected Issues - Identified by MPA

	<i>I also know that the railroad Czars still hold some of these and are most likely waiting for the government to allow the sale of water such as the EID is proposing to do in their application to be able to do what they like with excess water. The handwriting is on the wall concerning future global water shortages. So here in Canada and we need to make it crystal clear in legislation that water is never going to become a 'sold to the highest bidder' commodity in Alberta.</i>	Strong objection to anyone being able to sell water license capacity, based on predictions of future water shortages
	<i>My biggest concern is the opposition to them. The idealistic and unrealistic demand by those opposed to them that each micro-basin should generate all of the water used in that basin. Opposition to inter-basin transfers may be justified in many cases; opposition to intra-basin transfers is very hard to justify.</i>	Belief that the point of view that sub-basins should be self-supporting for their water needs is an unrealistic and invalid approach to managing Alberta's water supply
Benefits will accrue to intra-basin water movement, if managed appropriately		Belief that water movement, well managed, will benefit Alberta
	<i>Transfer if managed correctly should lead to more viable economies, social structures and even environmental issues through effective water transfers.</i>	
Negative economic impact, especially in the source		Potential for negative economic impact on at least one region, likely the source region

Part I Concerns Related to Outcomes of Intra-Basin Water Movement

<i>Themes - Identified by MPA</i>	<i>Comments (verbatim)</i>	<i>Selected Issues - Identified by MPA</i>
	<i>Economic impact on one region to another, it will impact one negatively.</i>	
	<i>The same things that are considered with the issuance of a new water licence. It shouldn't have a large negative impact on the source basin.</i>	Perspective that the issues for a license involving intra-basin water movement are no different from the issues for a license not involving water movement.
Intra-basin water movement brings strong possibility of compromise to the water supply and / or environment damage		Potential for environmental damage
	<i>.... the eco-environment differs substantially from one "sub-basin" to another. Irreversible damage to the aquatic animal and plant species may be caused. In the very least we will be transferring noxious weeds that may be locally contained throughout whole new regions. In the event of outbreaks of say milfoil, how would those types of outbreaks be contained with transfers going on.</i>	Eco-environment differs from one sub-basin to another; damage may result from contaminating one with the water from another. Example, introducing noxious weeds or disease-causing organisms
	<i>Possible effect on the ecology of the receiving river (ie; possible rapid spread of disease and unwanted organisms)</i>	
	<i>Water quality of transferred water will become a large issue with water pipelines being built throughout the province. Water added so some basins will be wastewater either from municipalities or agriculture.</i>	If wastewater is moved, the water quality of moved water becomes an issue

Part I Concerns Related to Outcomes of Intra-Basin Water Movement

Themes - Identified by MPA

Comments (verbatim)

Selected Issues - Identified by MPA

Concern over overly detailed regulation		Overly-prescriptive regulation could create red tape which prevents common-sense negotiation
	<i>The potential for excessive detailed regulation, which could prevent common sense cooperation. Simplicity is the objective.</i>	
Lack of data stands in the way of effective assessment of the environmental implications of intra-basin water movement applications		The effects of water movement cannot be predicted, as data are lacking. The consequences of environmental damage and other negative consequences can be severe. A slowdown or a moratorium on inter-basin water movement may be advisable.
	<i>I recommend extreme caution when contemplating weaving groundwater use (about which we know zip as yet) into the current convoluted, extremely (and unnecessarily) complicated allocation and transfer system that exists.</i>	Data on groundwater are especially scarce. The transfer and allocation system is already very complicated, don't want to make it more so.
	<i>Quit screwing with natural systems until you know a whole lot more about how they work than you do now.</i>	
	<i>Information on the success of intra-basin water movement is not public, nor has it been properly analyzed from an environmental/economic/social perspective.</i>	

Part I Concerns Related to Outcomes of Intra-Basin Water Movement

Themes - Identified by MPA	Comments (verbatim)	Selected Issues - Identified by MPA
	<i>The practice of diverting waters within sub-basins has been ongoing for many years. Has there ever been any sort of environmental assessment done to determine if there are, or have been, any negative environmental effects? How will potential changes brought about by climate change affect the irrigability of the land, the types of crops that are grown, and the ability of the source basin to continue to supply water for irrigation purposes?</i>	Alberta has a history of water movement within sub-basins, yet no study has been done of the environmental and / or cumulative effects. Need to consider potential effects of climate change on the land, its irrigability and types of crops grown, and the continued supply in the source basin
	<i>There have been no cumulative impact studies done so we don't have any way to anticipate outcomes.</i>	
	<i>There are no province-wide groundwater studies so we can anticipate the connection to surface water and if they need to be dealt with cumulatively.</i>	
Need to consider interprovincial and other existent commitments		Need to consider existing agreements
	<i>In addition, during this review of diversions policy, the Project Team should keep in mind the potential effects to other jurisdictions and the commitments made in agreements with respect to the Prairie Provinces Water Board and the Mackenzie River Basin Board.</i>	Specific examples of existing agreements include those made under the Prairie Provinces Water Board and the MacKenzie River Basin Board.

Part II Issues Concerning Future Intra-Basin Water Policy

<i>Themes - Identified by MPA</i>	<i>Comments (verbatim from questionnaires; some comments split between or among issues. Classified according to major issue or theme)</i>	<i>Selected issues - Identified by MPA</i>
Need for careful review of each application for water movement, case by case		Each case needs review
	<i>Intra Basin water diversions should be reviewed on a case by case basis. Each situation should be reviewed and documented to ensure that the water movement is having a positive affect on the communities from a economic, social and environmental standpoint and that the area providing the water is not negatively affected. Water transfers should be allowed as appropriate.</i>	Need for extreme due diligence on a per-case basis, to address local economic, social and environmental impacts, and ensure that the source area is not negatively affected
	<i>I think that the government should consider the net benefit of each licence to all Albertains before issuing a licence.</i>	When reviewing the license, take a broad perspective. All Albertans should benefit.
	<i>Regardless of future direction, existing intra-basin transfers must be allowed to continue. A total ban on new transfers would be a mistake. Each one needs to be considered on its own merits. The success and importance of existing diversions should adequately demonstrate the need to retain intra-basin diversion as one of the tools available for water management. In each new case, it should be clearly demonstrated that such a diversion is the best tool to provide the water supply.</i>	An application for diversion should always make the case that it is the best tool for effective water management

Part II Issues Concerning Future Intra-Basin Water Policy

<i>Themes - Identified by MPA</i>	<i>Comments (verbatim)</i>	<i>Selected Issues - Identified by MPA</i>
	<i>Depletion of water in one sub-basin curtails future economic growth in that sub-basin for ever. AENV will be criticized if it arbitrarily grants a transfer. If a willing buyer and seller reach agreement no one can take issue if a due process has occurred.</i>	Assuming there is a transfer of license, agreement between a buyer and seller should follow due process to prevent arbitrary decisions.
	<i>• Process for intra-basin movement must have greater transparency and must be much better managed and coordinated within AENV</i>	Need to create transparent and well-managed processes within Alberta Environment
	<i>The potential for excessive detailed regulation, which could prevent common sense cooperation. Simplicity is the objective.</i>	Overly-prescriptive regulation could create red tape which prevents common-sense negotiation
Definitions of "basin" and "sub-basin" are subverting intentions of basin preservation		
	<i>The Water Act , protects sub-basins from diversions. Prior to 1993 this provision worked. In my opinion, we have messed with words like basin/sub-basin and intra-basin verses interbasin. I believe that these are NEW words applied to the Water Act and subvert the original spirit of the Act, and therefore subvert the protection and conservation of the water flows within each "sub-basin" Therefore, I do not believe intra-basin water movement (diversion) is working well in any sense.</i>	Intra-basin water movement, as currently under study, may not align with the intent of the Alberta Water Act.

Part II Issues Concerning Future Intra-Basin Water Policy

Themes - Identified by MPA

Comments (verbatim)

Selected Issues - Identified by MPA

	<i>Political consideration can be gained by turning back on the noise makers an infinitely small definition of sub basins, they could lose then their own access to water.</i>	
Lack of implementation of Water for Life principles makes intra-basin water movement risky, or even should prohibit it		Similar to the "lack of data" comments, belief that the current water resource is fragile and unprotected to the extent that intra-basin water movement poses very high risks
	<i>It is my understanding that the Red deer river has not completed it's State of the Watershed yet. Therefore, because we can not manage what we have not measured, how can thie above be contemplated IF the Alberta Water Council and this Province are serious about their staed WFL Strategy.I see no lee-way to account for Climate Change. At the recent Shirley McClelland water works presentation in Red Deer, the audience was told very clearly that Climate Change was NOT a considered factor in that request for diversion from the Red Deer.</i>	Some watersheds, Red Deer River in particular, have not completed their State of the Watershed documents, so water movement cannot be effectively planned. Planning for Climate Change not yet a reality.
	<i>State of the Watershed must be completed on paper and tested in reality. That will take time. Intra-basin transfers should NOT happen. Each "sub-basin" should develop within the capacity of said sub-basin.</i>	Water for Life principles say that sub-basins should develop within the water capacity of that sub-basin. Intra-basin water movement, that is, between two sub-basins, should not occur.

Part II Issues Concerning Future Intra-Basin Water Policy

Themes - Identified by MPA

Comments (verbatim)

Selected Issues - Identified by MPA

	<p><i>Judging only from what the Water Council wrote in the introduction and background material, the present system is in such a mess that the only real solution is a 21st century plan that considers Climate Change/Global Warming FRONT AND CENTRE, not as an after thought. You 'can't monitor what you don't measure' as the Rosenberg Report says. How can you monitor anything when allocations trans-send so many basins/sub-basins and so forth. As was noted, the Water for Life Strategy calls for a watershed approach to management and yet there are varying definitions of what a watershed is.</i></p>	<p>Alberta's water management is not coordinated, and a watershed management system has not been achieved. Intra-basin water movement cannot be monitored appropriately.</p>
	<ul style="list-style-type: none"> • <i>Concern that the Water Act and Water For Life are not well aligned in some areas: Intra-basin movements & Watersheds vs. Major Basins.</i> 	<p>Need to align intra-basin water movement with the Alberta Water Act</p>
	<p><i>WFL seems very strong that each sub-basin should exist within the capacity of that sub-basin. That is the approach that I consider should be held to.</i></p>	

Part II Issues Concerning Future Intra-Basin Water Policy

Themes - Identified by MPA

Comments (verbatim)

Selected Issues - Identified by MPA

Other approaches including but not limited to conservation should be attempted before intra-basin water movement allowed		Water movement should be a last-resort option
	<p><i>Also at that presentation (writer's note: reference to Shirley McClelland WaterWorks presentation in Red Deer) and others NO commitments to water conservation, management techniques, are ever made. NO attempts to change the way we squander water ever surface. The only management change seems to be taking flows from areas of least resistance (gov't priority) and shifting that water to those entities(areas) with louder perceived economic clout AT THIS TIME. This is neither wise, practical or sustainable practice and bodes to the extreme of reckless behavior when viewed in the eyes of future generations and sustainable life.</i></p>	<p>Conservation and better management techniques should come before intra-basin water movement</p> <p>Current system allocates to those who shout the loudest</p>
	<p><i>End use of water should be a factor in decision making; not fundamentally opposed to "sharing" or intra-basin movement depending on need, end use, and assurances that all other options have been considered first, including:</i></p> <ul style="list-style-type: none"> ◦ <i>Comparison of domestic potable vs. commercial</i> ◦ <i>Necessity of life (human consumption) vs. "want" for commercial development (tax revenue)</i> 	<p>Consider use of non-potable water supply</p>

Part II Issues Concerning Future Intra-Basin Water Policy

Themes - Identified by MPA	Comments (verbatim)	Selected Issues - Identified by MPA
	<i>Alberta's water resources must be managed within the capacity of individual watersheds as stated in Water for Life using the watersheds as identified in the Water For Life Strategy. We believe all options within a watershed should be explored (such as conservation measures) and exhausted before intra-basin movement is considered. It is far to easy to be wasteful when there is no accountability. We should learn from the experiences of our southern neighbours, the USA, and be much more concerned about the resource and use it conservatively.</i>	Explore conservation measures first, as in the US, before intra-basin water movement considered
	<i>Planning is the vogue now with all its problems and long time frame for decision. Consideration should be given to moving the use to the water.</i>	Consider moving the use to the water instead of the water to the use
	<i>The federal government advocates exercising caution in considering the need for major inter-basin, or intra-basin, transfers and endorses other less disruptive alternatives such as demand management and water conservation to satisfy societal needs without sacrificing water related values to irreversible actions.</i>	Explore reversible actions first (such as demand management and conservation) and irreversible actions second (such as water movement)
Need for reservoirs for upstream water movement		
	<i>I can see intr-basin transfers working from upstream to a downstream location but not the other way around due to water shortages - unless licenses automatically demand reservoirs at applicant expense.</i>	Water can only be moved downstream unless reservoirs are mandated

Part II Issues Concerning Future Intra-Basin Water Policy

Themes - Identified by MPA

Comments (verbatim)

Selected Issues - Identified by MPA

Need to take federal regulation into account		Need to ensure policy enforces compliance with federal regulation, which covers many pieces of legislation
	<p><i>There are a range of impacts associated with intra-basin diversions including social and economic costs and environmental effects. The federal government recognizes that provincial governments have the primary role for water management decisions within their jurisdictions subject to the requirements of federal legislation including, but not an exhaustive listing, the Fisheries Act, Navigable Waters Protection Act, Canadian Environmental Assessment Act, Canadian Environmental Protection Act, Species at Risk Act, International River Improvements Act, International Boundary Waters Treaty Act.</i></p>	

Part III What is Working Well?

<i>Themes - Identified by MPA</i>	<i>Comments (verbatim from questionnaires; some comments split between or among issues. Classified according to major issue or theme)</i>	<i>Selected issues - Identified by MPA</i>
Regional Pipelines		There are precedents in Alberta where intra-basin water movement has been extremely successful
	<i>Regional pipelines</i>	
Mutual allocation in both directions, depending on weather and climate		
	<i>Allocating within the subbasin's, but cooperatively moving water back and forth to manage the vagaries of weather and climate is relieving much of the pain that might otherwise be experienced. This is allowing the general public to prepare for full allocation by reducing our dependence and consumption.</i>	
Success in southern Alberta		
	<i>The diversion and storage system on the Waterton, Belly and St. Mary Rivers works very well for the St. Mary Project.</i>	The St. Mary Project is a success story.
	<i>Southern Alberta is developed. I imagine that without intra-basin water movement, southern Alberta would have developed much differently. The types of crops grown would not be the same, the population that is supported in southern Alberta would probably be a fraction of the current population.</i>	Southern Alberta was developed on intra-basin water movement and would be different today without it.

Part III What is Working Well?

Themes - Identified by MPA	Comments (verbatim)	Selected Issues - Identified by MPA
Success in the Red Deer River basin		
	<i>The Red Deer river basin has received annual water at the end of the Bow irrigation districts' use for years with nary a word said.</i>	
Entire system working well		
	<i>I see no problems with the approach, or with any of the transfers that I am aware of. They are a key to good water management in a province where there is not always enough water where it is needed.</i>	

Part IV Key Factors to Consider in Recommendations

<i>Themes - Identified by MPA</i>	<i>Comments (verbatim from questionnaires; some comments split between or among issues. Classified according to major issue or theme)</i>	<i>Selected issues - Identified by MPA</i>
	<i>(May overlap with previous Part I and II. These were the issues highlighted by respondents)</i>	
Costs of water movement need to be understood and may influence license agreements		Need to allocate all costs (not only treatment costs)
	<i>Real and perceived costs</i>	
	<i>Intra-basin diversion projects typically involve high infrastructure costs and involve large volumes of water, yet these are subject to the same license re-approval requirements (10 or 25 years) as all other projects (eg simple withdrawals for domestic or stockwatering). What assurances are there for proponents to proceed without fear a costly project may not be re-licensed?</i>	Appropriate compensation for costs may have to be realized through longer-term license renewal agreements than for non-water-movement licenses
Sustainability of water supply		Retaining adequate source is a key consideration
	<i>Sustainability</i>	
	<i>Health of the rivers</i>	

Part IV Key Factors to Consider in Recommendations

Themes - Identified by MPA	Comments (verbatim)	Selected Issues - Identified by MPA
	<i>Basins scale related to water transfer accumulations should be the overriding factor. A subbasin with an annual flow of X, providing a median monthly flow of X divided by 12 should not even contemplate a transfer accumulation of one half of that median monthly flow. In any month, the actual flow could be less than half of the median. Daily flow by reach, relative to total daily diversion by reach will determine the available water.</i>	
	<i>CLIMATE CHANGE/GLOBAL WARMING PREDICTIONS FOR SERIOUS WATER SHORTAGES IN ALBERTA should be the primary consideration. Think: Climate change implications on availability and quality of water in Alberta.</i>	
	<i>Storage in all river basins at the upstream end so we can make better use of the total volume of water in our river systems</i>	Upstream storage is one solution
Need for careful review of each application for water movement, case by case		Careful consideration of all applications is a key consideration
	<i>The review and management of the transfers</i>	
	<i>Fairness to people and industries in the basins</i>	
Economic impact on source region		Concern for economic viability of the source region
	<i>The affected region that the water is drawn from, socio-economic shortfall</i>	

Part IV Key Factors to Consider in Recommendations

<i>Themes - Identified by MPA</i>	<i>Comments (verbatim)</i>	<i>Selected Issues - Identified by MPA</i>
Long-term ecological sustainability		Concern for long-term ecological sustainability
	<i>The long-term ecological sustainability of the practice and what adaptations will need to be made for Albertans to continue living in regions dependent upon intra-basin diversions. Ecological health.</i>	
Allowance for uncertainty and / or excess demand		Allowance for uncertainty of weather and climate
	<i>Hold-backs of 10% should be taken on every license and transfer and agreement</i>	
Develop a market-driven approach		
	<i>A market driven approach needs to be paramount</i>	

Part V Additional Messages / Miscellaneous

<i>Themes - Identified by MPA</i>	<i>Comments (verbatim from questionnaires; some comments split between or among issues. Classified according to major issue or theme)</i>	<i>Selected issues - Identified by MPA</i>
Need for prudent use of water and conserving lifestyle		
	<i>We should all live within our means, economically and for the health of the river</i>	Sustainable use of the water resource should be an objective
		Inter-Basin and Intra-Basin issues are the same; same policy questions arise
	<i>There has not only been intra-basin transfers, but inter-basin transfers also. The U.S.A. diverts water out of the St. Mary River and puts it in the Milk River. This is a major diversion of water. If we are concerned about intra-basin transfer, then we should really be concerned about inter-basin transfers.</i>	We already have inter-basin water movement, example, water is diverted from the St. Mary River to the Milk River. We should be as concerned about these as about intra-basin water movement.

Part V Additional Messages / Miscellaneous

Themes - Identified by MPA

Comments (verbatim)

Selected Issues - Identified by MPA

	<p><i>I also have to object (for about the 10th time in as many years) to the continued inclusion of the Victorian era FIT FIR in a 21st century situation of 'science based' water planning. The Victorian 'perpetual' licencing under the FIT FIR. It must be phased out over a reasonable time frame, because the original purpose of the allotment no longer exists. Applying FIT FIR to the Intra-Basin transfer system or including it in groundwater licenses will make the system impossible to monitor or manage. As I read the Act there is not much impediment to transferring allocations or partial allocations of perpetual licenses from basin to basin although they were once tied to the land. If the government had taken my advice years ago and left these 'forever' licenses tied to the land but requiring that if the land is sold to a new (non-family) buyer the license would revert to the Crown, the problem would not keep coming back to haunt and prevent progress on water conservation. Both "intra" and "inter" basin transfers are, in my opinion, unwise for many reasons, but most importantly because</i></p>	<p>The First in Time First in Right (FIT FIR) principle prevents effective, science-based water planning. It does not encourage conservation in water use, and should be phased out.</p>
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Part V Additional Messages / Miscellaneous

Themes - Identified by MPA

Comments (verbatim)

Selected Issues - Identified by MPA

	<i>of the affect they can have on water supply and contamination aside from the confusion in ability to monitor water use. inonly adds a complicating factor. Further, it does not encourage efficient use of water which is clearly stated in the Water Act. As rivers dry up the issue of these perpetual allocations multiplies and complicates equitable sharing of water. It is just plane pig headed and stupid to carry on with FIT FIR for numerous reasons, but especially in light of global warming predicitions for Alberta.</i>	
Pay attention to Rosenberg Report		Rosenberg recommendations still valid; need implementation
	<i>Think: Implement Rosenberg report recommendation.....</i>	
Concerns specific to the Red Deer River basin		
	<i>The Red Deer River should be treated as a "major basin" and not be seen as a sub-basin o Feel that RDR is legislated to be subservient to Bow and Oldman water uses, primarily irrigation ("donor basin") o Concern that ~70% of water from the Bow and Oldman is allocated for economic development but only ~42% of RDR water will be available under SSRB WMP.</i>	The Red Deer Basin has specific problems due in part to its definition as a sub-basin, not a full basin.

Part V Additional Messages / Miscellaneous

<i>Themes - Identified by MPA</i>	<i>Comments (verbatim)</i>	<i>Selected Issues - Identified by MPA</i>
How is First Nations consultation being done?		
	<i>Government has a legal duty to consult with First Nations on any issue that may potentially have an adverse impact on aboriginal or treaty rights. How is this honour of the crown being addressed in the current consultation process, and how will it be addressed in case-specific intra-basin diversion proposals.</i>	Ensure First Nations consultation done properly
Interprovincial issues		
	<i>I note that one example cited involves diversion from the North Saskatchewan to the Battle River. While these are both within the same major river basin as defined in the Water Act, they are administered as individual basins for purposes of interprovincial apportionment. Has this discussion paper been vetted through the Prairie Provinces Water Board?</i>	Accuracy question involving definition of "basin" in diversion from the North Saskatchewan to the Battle River
Consultation needed on draft legislation		
	<i>What ever legislation is required must be presented to the public with a process for input.</i>	Ensure draft legislation to follow is subject to consultation

