

South Saskatchewan River Basin Water Management Plan

Phase One Water Allocation Transfers

June 2002



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Additional background information is available in a separate document entitled *Appendices to the South Saskatchewan River Basin Water Management Plan, Phase One Water Allocation Transfers*.

The *Appendices* consist of:

- A. Terms of reference for the *Phase One Plan*
- B. Details of the public consultation process
- C. Relationship of the *South Saskatchewan River Basin Water Management Plan* to other planning activities
- D. Water management policy for the South Saskatchewan River Basin (1990)
- E. South Saskatchewan River Basin water allocation regulation (1991)
- F. Additional factors concerning transfers that may be considered for monitoring and evaluation

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Introduction



The *South Saskatchewan River Basin (SSRB) Water Management Plan* is designed to resolve several issues concerning water management in the basin, such as the availability of water for future allocations and river flows for the aquatic environment.

Phase one of the *SSRB Water Management Plan* establishes a system for water allocation transfers in the South Saskatchewan River Basin. Alberta Environment has outlined several recommendations with regard to establishing a system for water allocation transfers, each are addressed in phase one of the *SSRB Water Management Plan*.

The following is a summary of my department's recommendations as set out in the attached phase one of the *SSRB Water Management Plan*:

- Authorize a designated "Director" to consider applications for water allocation transfers and to use water conservation holdbacks
- Provide the Director guidance on matters to be considered when reviewing an application for a water allocation transfer
- Provide the Director information on water conservation holdbacks, and an interim closure of the Oldman River's southern tributaries to new allocations
- Commit Alberta Environment to a number of actions, including an additional phase of water management planning for the establishment of water conservation objectives

Water transfers, within the basin, will allow already allocated water to move to new demands and will allow for continued economic development, while improving the aquatic environment through water conservation holdbacks.

A handwritten signature in cursive script that reads "Lorne Taylor".

Lorne Taylor

EXECUTIVE SUMMARY

The *South Saskatchewan River Basin (SSRB) Water Management Plan* is designed to resolve several issues concerning water management in the basin, such as the availability of water for future allocations and river flows for the aquatic environment.

The *SSRB Water Management Plan* is being prepared in phases. The first phase of the plan establishes a system for water allocation transfers, and recommends that no further applications for allocations in the St. Mary, Belly and Waterton Rivers be accepted. The second phase will focus on establishing water conservation objectives, which will determine the river flows for the aquatic environment. The focus of additional phases has not yet been confirmed.

Phase one of the *SSRB Water Management Plan* was developed by Alberta Environment in consultation with other government departments and four basin advisory committees in late 2001 and January 2002. Open houses on the draft plan were held for the general public. Appendix B outlines the results of the public consultation process.

Phase one of the *SSRB Water Management Plan*:

- Authorizes a designated “Director” to consider applications for water allocation transfers and to use water conservation holdbacks
- Provides the Director guidance on matters to be considered when reviewing an application for a water allocation transfer
- Provides the Director information on water conservation holdbacks, and an interim closure of the Oldman River’s southern tributaries to new allocations
- Commits Alberta Environment to a number of actions, including an additional phase of water management planning for the establishment of water conservation objectives

Water allocation transfers in the SSRB

Water allocation transfers allow all or part of an existing water allocation to be transferred from an existing licence holder to another person or corporation for use in a new location permanently or for a fixed period of time. Along with the volume of the water allocation, the priority of the existing allocation is also transferred. This enables a new or existing water user to acquire an allocation with a level of risk acceptable to the user’s requirements.

Water allocation transfers, within the basin, will allow already allocated water to move to new demands and will allow for continued economic development, while improving the aquatic environment through water conservation holdbacks.

The Director must consider the following factors when reviewing applications for transfers of water allocations under licences in the SSRB:

- Existing, potential and cumulative effects on:
 - the aquatic environment and any applicable instream objective and/or water conservation objective
 - hydraulics, hydrology, and hydrogeology
 - household users, traditional agriculture users and other higher and lower priority licensees
 - operations of reservoirs or other water infrastructure

- The suitability of land to be irrigated, if the proposed use is irrigation
- The historic volume, rate and timing of the diversion under the original licence
- The volume, rate and timing of the diversion under the proposed new licence
- Location of the existing diversion and the proposed new diversion
- Water quality
- Linkages between surface and ground water
- Current conditions on the licence from which water is to be transferred
- The *Master Agreement on Apportionment*

Water conservation holdbacks

During the public consultation process for the *Phase One Plan*, the public expressed concern that there may be insufficient flows in the rivers of the SSRB to protect the aquatic environment. To address that concern, this plan allows the Director to withhold up to 10 per cent of an allocation of water that is being transferred for protection of the aquatic environment or to implement a water conservation objective.

Interim closure of the Oldman River's southern tributaries to new allocations

There is evidence there is insufficient water in the Oldman River's southern tributaries (St. Mary, Belly and Waterton Rivers) to support additional allocations. Phase one of the *SSRB Water Management Plan* recommends the Director consider closing the Oldman River's southern tributaries to new allocations. It also recommends this be an interim measure until a policy concerning full allocation of basins is adopted with the approval of phase two of the *SSRB Water Management Plan*.

Additional commitments

- An annual report will be prepared by Alberta Environment concerning water allocation transfers.
- Alberta Environment will prepare a list of water allocation licences (in priority order) in the SSRB to assist parties interested in arranging water allocation transfers. This list will be made available to the public.
- This is the first phase of the multi-phase *SSRB Water Management Plan*. The next phase will focus on providing recommendations to the Director for the establishment of water conservation objectives, also a provision of the *Water Act*.

SOUTH SASKATCHEWAN RIVER BASIN WATER MANAGEMENT PLAN
Phase one—water allocation transfers

A. BACKGROUND

1. Introduction

The overarching purpose of the multi-phase *South Saskatchewan River Basin (SSRB) Water Management Plan* is to resolve water management issues such as the availability of water for future allocations and river flows needed for protection of the aquatic environment. This document represents the goal of phase one: to establish a system for water allocation transfers. The *SSRB Water Management Plan* will be a dynamic, living document that will evolve as additional phases are completed. The total number of phases to be eventually included in the plan is not yet known.

A water management plan can have a number of functions. It can:

- Authorize the Director (see definition on page 14) to use certain provisions of the *Water Act*
- Provide the Director guidance on factors that must be considered in making certain decisions
- Provide information to assist the Director is making certain decisions for which the Director has sole authority
- It can commit Alberta Environment (and other agencies) to certain actions

Phase one of the *SSRB Water Management Plan* is an *Approved Water Management Plan* as approved by the Lieutenant Governor in Council. It was prepared in accordance with *The Framework for Water Management Planning* (Alberta Environment, 2002a) and the *Water Act*.

For assistance in understanding terms used in this document, refer to the Definitions section on page 14.

2. Purpose of phase one of the *SSRB Water Management Plan*

Phase one of the *SSRB Water Management Plan* (hereafter referred to as the *Phase One Plan*) is primarily a plan for the implementation of the water allocation transfers provisions of the *Water Act*. The public was consulted in the development of the *Phase One Plan*.

Water allocation transfers are being authorized in order to improve the efficiency and effectiveness of water use, while

- Ensuring that existing water users and the aquatic environment are not adversely affected, and
- Returning water to the river for the benefit of the aquatic environment.

The *Phase One Plan*:

- Authorizes the Director to consider applications for water allocation transfers and to use water conservation holdbacks

- Provides direction to the Director on factors to be considered when reviewing an application for a water allocation transfer
- Provides information to the Director on water conservation holdbacks and the interim closure of the Oldman River's southern tributaries to new allocations
- Commits Alberta Environment to a number of actions, including an additional phase of water management planning for the establishment of water conservation objectives

3. The status of water availability in the SSRB

The issues addressed in this plan have arisen as the result of questions about the availability of water in the SSRB. Alberta Environment has investigated water availability in the SSRB by means of computer simulations (Alberta Environment, 2001). This investigation produced evidence that the demand for the water resource is rapidly reaching, or in some areas has exceeded, the water supply.

Water availability in general – the case for water allocation transfers

Red Deer Basin

- The existing instream objectives (the flows to remain in the river; see definition on page 14) have no scientific justification relative to protection of the aquatic environment.
- If the existing instream objectives (300 cfs, May to September, and 150 cfs, October to April) are used in modeling, existing licenses and commitments can be met, as can future expansion (e.g. SSRB Water Allocation Regulation-limited private irrigation, including the Special Areas Water Supply Project – see Appendix E).
- Until water conservation objectives (see definition on page 16) for the Red Deer River are established, the amount of water available for future consumption cannot be defined.

Bow River Basin

- Any new licences would have substantial numbers of years when the allocation would not be available. Any future developments that require significant volume will likely require storage.
- Water management modeling suggests that instream objectives will not be met all of the time.

Oldman Basin / South Saskatchewan Sub-basin

- For the entire basin (Oldman mainstem / South Saskatchewan sub-basin, southern tributaries and Willow Creek), irrigation demands at SSRB Water Allocation Regulation limits are a high proportion of the natural flow.
- The additional diversions needed to meet demands are provided from water stored in provincially-owned water management infrastructure after meeting instream objectives and apportionment.
- If new licences were issued they would be unlikely to have access to the allocation in drier years.

In general, water users with new or recent allocations (i.e. low priority or “junior” licences) in the basins of the Bow, Oldman and South Saskatchewan Rivers, have a high risk of not receiving their licenced allocation in drier years, as more senior licensees can divert the available water first. Strategies to provide more flexibility in the use of water in the SSRB are required and water allocation transfers are a tool for this purpose.

Water availability in the Oldman River’s southern tributaries – The case for not accepting additional applications for allocations (interim measure)

The degree of allocation relative to supply has been investigated in greater detail for the southern tributaries of the Oldman River (the St. Mary, Belly and Waterton Rivers). Following are important points concerning water availability in these basins:

- Minimum flows for the southern tributaries were established with the approval of the South Saskatchewan Basin Water Allocation Regulation (Appendix E).
- Typically, the southern tributaries are operated at these minimum flows during much of the year. Even during the highest river discharge periods (June and July), the water withdrawals in most years result in the regulated flow being at, or close to, the minimum flows. During the high withdrawal demand periods, especially during the summer, the river flows are at the minimum almost all the time. This suggests that due to the water demands of the existing allocations, all the water that can be legally diverted is, and that there is little, if any, surplus water.
- St. Mary River - The total of licenced allocations (along with statutory household uses, registrations for farm use, and minimum river flow) is approximately 127 per cent of the estimated annual median basin runoff. This must be compared to the normal allocation level (used by Alberta Environment in the past) which is 70 per cent of the median annual flow. The existing storage in the basin helps to mitigate the imbalance.
- Belly River (including the Waterton River) – The total licenced allocations (along with statutory household uses, registrations for farm use, and minimum river flow) is approximately 88 per cent of the estimated annual median basin runoff. Water from this basin can be stored in the Waterton Reservoir and other reservoirs along the Waterton-St. Mary Headworks System and the internal reservoirs of the St. Mary River Irrigation District.

4. Water allocation transfers – general description

Water allocation transfers allow all or part of an existing water allocation to be transferred from an existing licence holder to another person or corporation for use in a new location permanently or for a fixed period of time. Prior to the authorization of transfers, water allocation licences were permanently attached to a particular parcel of land.

Along with the volume of the water allocation, the priority of the existing allocation is also transferred. This enables a new or existing water user to acquire an allocation with a level of risk acceptable to the water user.

Water allocation transfers are used in many jurisdictions, particularly in Australia and several western states in the USA.

Water allocation transfers can only be employed if authorized in an *Approved Water Management Plan* (section 81(7)(a)(i) of the *Water Act*), or by the Lieutenant Governor in Council.

In order for a transfer to proceed, an application for the transfer must be submitted to the Director. The Director decides if the transfer will or will not be allowed. If the transfer is allowed to proceed, then a new licence is issued for the transferred allocation. As with any new licence, the Director has the discretion to attach conditions. The conditions that are applied may vary depending on the needs of the sub-basin, river, or specific reach.

Only allocations of licences in good standing can be transferred (see definition on page 15).

Water allocation transfers apply only to licences issued by Alberta Environment pursuant to the *Water Act* or preceding legislation (e.g. *Water Resources Act*). Transfers do not apply to irrigation agreements between irrigation districts and farmers within the districts. The irrigation districts hold the licences to withdraw water from a river, not the individual farmers.

Transfers along the same river are more likely to be approved than transfers between sub-basins (that is, any level of sub-basin in the SSRB). The transfer of an allocation between sub-basins is expected to be problematic because the allocation could be senior to existing allocations in the sub-basin in which the new licence would be issued, and thus possibly have an adverse effect on them.

Under Alberta's *Water Act* one type of water use is not favoured over another in the issuance of licences. The same will apply to water allocation transfers.

The ability to transfer a water allocation provides an incentive for more efficient use of water, as water that is rendered surplus by improved efficiency could be transferred to other users.

5. Summary of the issues considered

The following questions pertaining to implementation of water allocation transfers were the focus of the preparation of *Phase One Plan*:

- What matters or factors must be considered by the Director when making a decision on an application to transfer an allocation under licence?
- Should there be water conservation holdbacks (see definition on page 16) from transferred allocations to protect the aquatic environment or to implement a water conservation objective?
- What information should Alberta Environment be tracking concerning water allocation transfers?
- Should Alberta Environment continue to issue licences for new water allocations in highly allocated basins, where new licences will not have an assured water supply?

Many other issues that became evident after this planning initiative started were identified and considered. Public input was invaluable in ensuring that issue identification was comprehensive and forward thinking.

Input that was outside the scope of this *Phase One Plan* was either recorded for consideration in future phases, or recorded and forwarded to the relevant officials for consideration and possible action in other planning, policy, or operations initiatives.

6. Planning area

The area affected by this plan is that part of the SSRB that lies within the province of Alberta. The SSRB includes the sub-basins of the Bow, Red Deer, Oldman and South Saskatchewan River basins (Fig. 1, page 6). The basins of Pakowki and Many Island Lake are not considered to be part of the South Saskatchewan River sub-basin in this plan, as they are separate, internal drainages that do not contribute flows to the SSRB.

This *Phase One Plan* applies to all projects that use water diverted within the SSRB.

7. Public consultation

For each of the four sub-basins within the SSRB, a Basin Advisory Committee (BAC) was formed with representatives of sectors with an interest in water management. The sectors represented on the BACs varied from sub-basin to sub-basin due to different water uses and needs. The interests typically represented on BACs included: municipal (both urban and rural), environmental/ecosystem protection, industry, non-irrigation agriculture, irrigation, First Nations, and recreation.

The BACs played an important role in the preparation of this *Phase One Plan*. Each BAC met a number of times, and all the BACs participated in two joint meetings in Calgary. For more information about the meetings see Appendix B. The BACs provided advice to Alberta Environment on water management in their respective sub-basins and on the topic of water allocation transfers, in particular.

A series of seven public open houses were held during January 2002. The primary topic for discussion was the transfer of water allocations within the SSRB.

The members of the BACs and people who attended the open houses had wide-ranging and productive discussions concerning transfers. Through those discussions and written comments, participants provided thoughtful ideas and advice on how issues related to transfers should be handled.

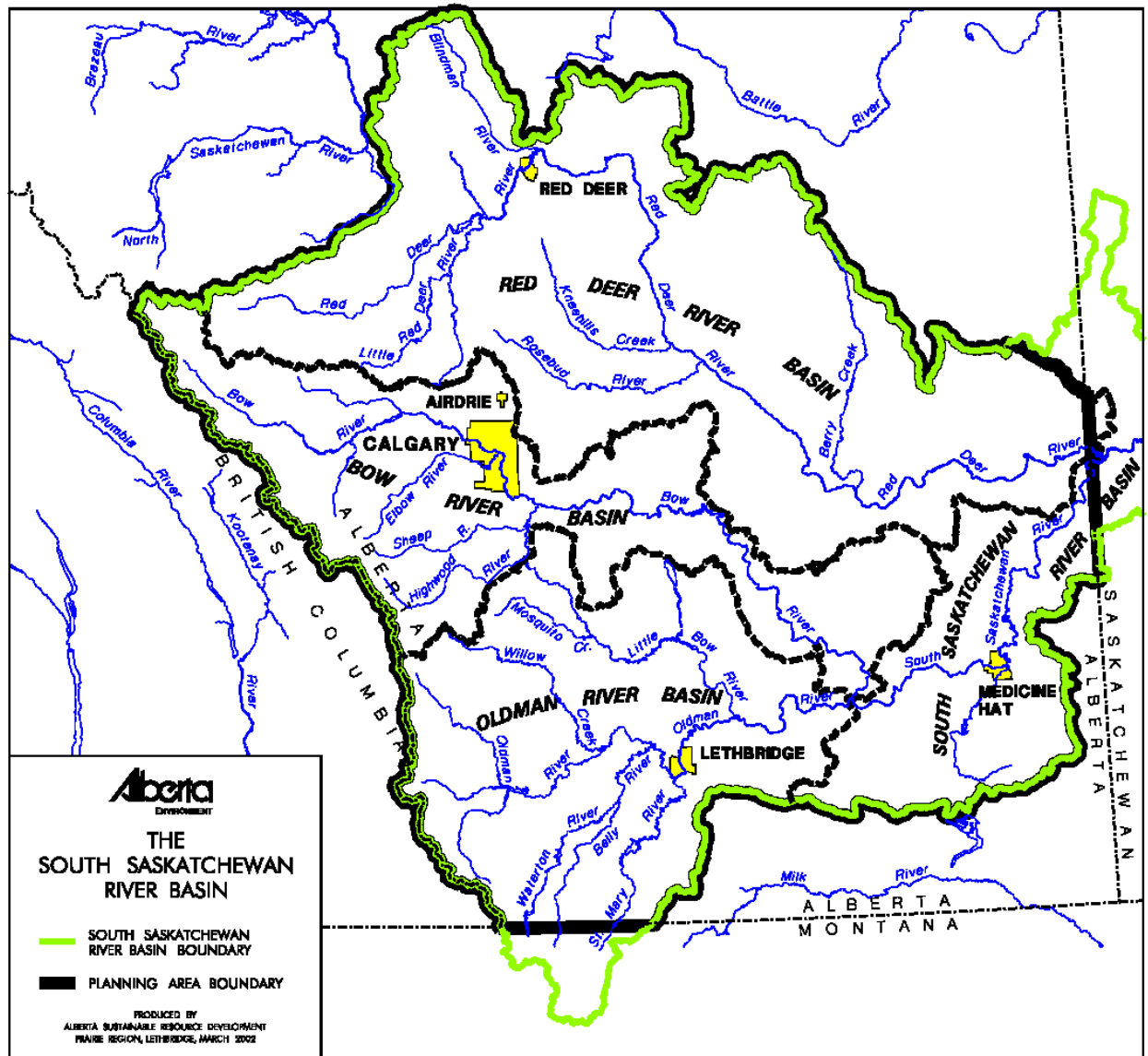


Figure 1 The South Saskatchewan River Basin

The parts of the basin that lie in Montana and Saskatchewan are not in the planning area. The water management plan applies to all projects that use water diverted within the SSRB.

The input received from the BACs and the general public was carefully considered by the *working group* and the *steering committee* (see definitions on page 16). The input was used to revise the draft plan. All input was compiled in two documents (Alberta Environment, 2002b and 2002c).

The BACs and the general public were not directly consulted on the subject of the water allocation situation in the St. Mary, Belly and Waterton Rivers, as a decision was made by Alberta Environment to include this matter in the plan after the public process had concluded for phase one.

However, the BACs were consulted on the question of whether or not Alberta Environment should issue licences for new allocations in highly allocated basins, even though the new licences would be unlikely to have access to water in drier years. A list of the points for which there was broad public support across the SSRB is provided in Appendix B.

8. Summary of information assembled

To complete the *Phase One Plan*, a wide variety of information was used:

- Background information on transfers: reports, articles, fact sheets, presentations, and other information on the issues related to transfers
- *Water Act* and related regulations
- *Water Allocation Transfers Workbook*: the workbook identified the key areas to be addressed for phase one (e.g. the matters or factors that must be considered, water conservation holdbacks) and tracking of transfers
- *Water Management Modeling Information Package*: information on the status of water supply and demand in the SSRB. This includes licenced withdrawals (e.g. for municipal use or irrigation), the existing instream objectives (e.g. water quality, fish habitat), and the apportionment agreements
- Advice of the BACs: meeting minutes and submissions of the BACs and information provided by individual BAC members
- General public input: comments received from people who attended public meetings or submitted written comments
- Response to questions: additional information provided in response to inquiries from the BACs
- Results of consultations undertaken while preparing the *Water Act*
- The status of water allocations versus the water supply and the flow regimes of the St. Mary, Belly and Waterton Rivers, along with other background information about these rivers

9. Relationship with *Water for Life: Alberta's Strategy for Sustainability*

Alberta Environment is leading the development of a comprehensive strategy that will identify short-, medium-, and long-term plans to effectively manage the quantity and quality of the province's water systems and supply. *Water for Life: Alberta's Strategy for Sustainability* will address Alberta's current water challenges and enable the province to proactively deal with water-related issues we may face in the future.

The goal is to have an action-oriented water strategy- one that identifies specific activities and initiatives – in place by late fall 2002. Further information about *Water for Life* is available at <http://www.waterforlife.gov.ab.ca/>.

The *SSRB Water Management Plan* is a regional initiative dealing with specific issues in the SSRB. As such, it will proceed in parallel with, but independent of, the work on *Water for Life*. In the long-term (i.e. once recommendations of the Strategy are implemented) there may be implications to the *SSRB Water Management Plan* that may require parts of the plan to be re-visited and amended, with public consultation. However, the importance of the water management issues in the SSRB is justification to continue without delay on a water management plan.

10. Relationship with regional strategies and other planning activities

Regional strategies are a new initiative of the Government of Alberta. They will provide direction for different regions of the province for natural resources and environmental management that falls under provincial authority. They are intended to lead Alberta toward a future that will sustain a healthy environment and a strong economy, and maintain community well being. In other words, they will serve to promote sustainable development. A pilot regional strategy is currently underway in the Northern East Slopes region of the province.

A Regional strategy is to be initiated for southern Alberta. The project area will cover the SSRB, the Milk River basin, the Pakowki Lake and Many Island Lake basins, the Cypress Hills, and the part of the grasslands natural region on the northeast fringe of the SSRB that is not included in the foregoing areas.

Approved regional strategies may identify issues that need to be addressed in future phases of water management planning, or identify issues that need to be addressed in existing water management plans. If necessary, the *SSRB Water Management Plan* can be amended in the future to accommodate direction given in approved regional strategies.

There are numerous other planning activities (by the provincial government and other bodies) in the SSRB that may have some relationship to the *SSRB Water Management Plan*. For a list of these, please refer to Appendix C.

The *Phase One Plan* will govern all water allocation transfer activity in the SSRB. Future water management plans developed in the SSRB must be consistent with this plan.

Two key documents are particularly relevant to the *SSRB Water Management Plan*:

- *Water Management Policy for the South Saskatchewan River Basin* (Appendix D)
 - Adopted in 1990. Provides general policies for the SSRB.
- *South Saskatchewan Basin Water Allocation Regulation* (Appendix E)
 - Enacted in 1991 by the Lieutenant Governor in Council, the regulation limits the amount of water (in terms of irrigated acres), which may be allocated to a particular project if an application is made. It does not allocate or commit water to any project.

B. AUTHORIZATIONS

The *Water Act* requires that certain of its provisions be authorized in an *Approved Water Management Plan*, or by order of the Lieutenant Governor in Council, before they can be utilized. This section provides the required authorization for the Director to consider applications for water allocation transfers and to utilize water conservation holdbacks.

1. Authorization of water allocation transfers

The Director (as designated under the *Water Act*) is hereby authorized to consider applications to transfer water allocations under licences in the SSRB in Alberta, subject to sections 81, 82 and 83 of the *Water Act*.

2. Reviews of applications for water allocation transfers

The factors which must be considered by the Director with authority for sections 81, 82 and 83 of the *Water Act*, when reviewing applications for transfers of allocations of water under licences in the SSRB, are listed in Table 1 (page 10). Consideration of these matters will help to ensure that, if approved, transfers will improve the ability to manage water without unacceptable impacts on people or the aquatic environment. The factors listed are functions of the effects that may result from changes in the rate, volume and timing of water diversions resulting from transfers.

Criteria for approval of transfer of water allocation are also included in Table 1 (page 10). These provide the standards that are to be met in the consideration of the factors for which criteria are stated.

The *Water Act* (81(6)) requires that there be public review of proposed transfers. Also, the applicant for a transfer must provide notice and statements of concern can be submitted by directly affected parties.

Table 1. Factors that must be considered in reviewing an application for a transfer of an allocation of water under a licence in the SSRB

Factor	Criteria for approval
Existing, potential and cumulative effects on the aquatic environment and any applicable instream objective and/or water conservation objective	<ul style="list-style-type: none"> No significant adverse effect on the aquatic environment resulting from the transfer No significant adverse effect on existing instream objectives or water conservation objectives resulting from the transfer
Existing, potential and cumulative hydraulic, hydrological and hydrogeological effects	
Existing, potential and cumulative effects on household users, traditional agriculture users and other higher and lower priority licensees	<ul style="list-style-type: none"> From the <i>Water Act</i>, Section 82(3)(b): <i>the transfer of the allocation, in the opinion of the Director, does not impair the exercise of rights of any household user, traditional agriculture user or other licensee other than household user, traditional agriculture user or other licensee who has agreed in writing that the transfer of the allocation may take place</i>
With respect to irrigation, the suitability of the land to which the allocation of water is to be transferred for irrigated agriculture	<ul style="list-style-type: none"> The land must be suitable for irrigated agriculture: Class 4 or better in accordance with the standards of Alberta Agriculture, Food and Rural Development
The historic volume, rate and timing of the diversion under the original licence	
The volume, rate and timing of the diversion under the proposed new licence	
Location of the existing diversion and the proposed new diversion	
Water quality (including public health and safety and assimilative capacity)	<ul style="list-style-type: none"> No significant adverse effect on public health and safety or assimilative capacity
The linkages between surface and ground water and the effects or changes in the overall system of water use	<ul style="list-style-type: none"> No significant adverse effect on groundwater quantity or quality
Existing, potential and cumulative effects on the operations of reservoirs or other water infrastructure	<ul style="list-style-type: none"> No significant adverse effects on operations unless operations can be satisfactorily adjusted to mitigate the effects
Current conditions on the licence from which water is to be transferred	<ul style="list-style-type: none"> In the case of a transfer of part of an allocation, there will be no adjustments to the current conditions on the part of the allocation that is not being transferred, unless necessary to give effect to the transfer
Master Agreement on Apportionment (Alberta's commitments to Saskatchewan)	<ul style="list-style-type: none"> The terms of the <i>Apportionment Agreement</i> will be respected
<p>The <i>Water Act</i> (82)(5)(c)(iv) also provides that the Director may consider any other matters applicable to the transfer of the allocation that the Director considers relevant.</p>	

3. Authorization of water conservation holdbacks

Section 83(1) of the *Water Act* reads as follows:

If the Director is of the opinion that withholding water is in the public interest to protect the aquatic environment or to implement a water conservation objective, and the ability to withhold water has been authorized in an applicable approved water management plan or order of the Lieutenant Governor in Council, the Director may withhold up to 10 per cent of an allocation of water under a licence that is being transferred.

The Director is hereby authorized to withhold up to 10 per cent of an allocation of water under a licence that is being transferred, if the Director is of the opinion that withholding water is in the public interest to protect the aquatic environment or to implement a water conservation objective.

C. INFORMATION FOR THE DIRECTOR

The *Water Act* grants sole authority to the Director to make decisions on certain matters. Among them are water conservation holdbacks (section 83) and the ability to decide if applications for licenses for water allocations should not be accepted for a period of time in a geographical area (section 53).

1. Water conservation holdbacks

It is recommended that the Director withhold the maximum permitted by the *Water Act*, which is 10 per cent, due to the broad concerns expressed by the public that there may be insufficient flows remaining in the rivers of the SSRB to protect the aquatic environment, and particularly:

- If additional flows are needed to protect the aquatic environment or to meet an applicable instream objective or water conservation objective, downstream of the point of the new diversion, or in any downstream reach, including past the confluence with another river, to the Saskatchewan border, or
 - In basins in which applications for new allocations for some or all uses are no longer being accepted (full or partial moratoria),
- unless a smaller holdback is sufficient to protect the aquatic environment or to implement a water conservation objective.

If it is determined by the Director that, once a water conservation objective has been established, more water was withheld than required to meet the objective, then it is recommended that Director return the excess to the licence holders, in proportion to the original withholdings.

It is intended that withheld water will remain in the river with the priority of its original licence, by means of water conservation objective licences. The Government of Alberta will apply to the Director for such licences.

2. Interim closure of the Oldman River's southern tributaries to new allocations

- The degree of water allocation in the southern tributaries of the Oldman River (the St. Mary, Belly and Waterton Rivers) is one of the most pressing issues in the SSRB. There is evidence that these rivers cannot support any additional allocations.
- The existing water management policy for the SSRB (Appendix D) states: *On regulated streams, projects will be managed such that the instream flows drop to minimum levels only for short periods of time under drought conditions.*
- As stated later in this plan, the existing water management policy will be reviewed during the preparation of phase two of the *SSRB Water Management Plan*. However, it remains in effect until it is suspended or superseded.
- Section 53(1) of the *Water Act* states:
If the Director is of the opinion that no further allocation of water should be made in a water management area or other geographical area considered appropriate by the Director or from a water body, the Director may decide that applications for licences are not to be accepted by the Director for a specified period of time
- As stated later in this plan, during phase two of the *SSRB Water Management Plan*, a policy for the closure of basins to new allocations of water is to be developed.

It is recommended that the Director review the above information, any other information concerning the southern tributaries, conduct any required research and consider exercising the authority granted under section 53(1) of the *Water Act*. That is, to not accept additional applications for allocations as an interim measure until phase two of the *SSRB Water Management Plan* is complete and approved.

Once phase two is approved, the southern tributaries could be evaluated in light of the policy on closing basins to new allocations and a final decision made.

D. OTHER ITEMS

1. Performance monitoring: evaluation of water allocation transfers

Water allocation transfers are a new tool for water management in Alberta. In order to evaluate the success of the tool, some aspects of transfer activity will be monitored to create baseline knowledge which will be reported annually.

Aspects of transfers that will be tracked include:

- number, location and volume of temporary and permanent transfers
- volume and location of holdbacks
- term of temporary transfers
- number of temporary and permanent transfers without holdbacks
- number of upstream and downstream transfers
- changes in purpose and timing of diversions
- effects on apportionment and the contribution of sub-basins to meeting apportionment
- number of appeals, grounds, and outcomes
- reasons for not approving transfers
- prices for transferred allocations, if and when this information is in the public domain

There are also a number of more complex topics that could be studied. These are listed in Appendix F. Further studies will determine if and how these topics should be tracked and reported.

2. List of licences for water allocations

Alberta Environment will prepare a list of water allocation licences (in priority order) in the SSRB to assist parties interested in arranging water allocation transfers. This list will be made available to the public.

3. Future reviews, amendments, and future phases of the plan

Reviews and amendments of the plan and its term of effect

As scientific knowledge advances and water management methods improve, the *SSRB Water Management Plan* will be reviewed at intervals for it to remain current, relevant and useful.

The *SSRB Water Management Plan* is scheduled for reviews and possible amendments at 10-year intervals, with the first interval to start on the date the plan is amended to incorporate phase two. If necessary, a review of the plan can occur at any time.

Future Phases

It is expected that phase two will have the following objectives:

- 1) To review and update the existing water management policy for the SSRB
- 2) To develop a strategy for the protection of the aquatic environment in the SSRB. The strategy is anticipated to have three components:
 - i) Development of water conservation objectives (river flow objectives) on a river reach basis for the low flow ranges required by the aquatic environment.
 - ii) Recognizing the interconnectedness of environmental issues, develop a strategy, which may include water conservation objectives and other options such as operational releases, to optimize the benefits of infrequent high flow events for the aquatic environment.
 - iii) Identify and prioritize the area and reaches of rivers or streams in the SSRB that would benefit from a riparian health assessment, and restoration of riparian conditions.
- 3) To determine the volume of water in the SSRB available for new water allocations
- 4) To determine the matters or factors that must be considered in deciding whether to issue an approval, preliminary certificate (see definition) or licence
- 5) To make required amendments to the phase one part of the *Approved Water Management Plan*.

Once complete, the subsequent phases and reviews of the *SSRB Water Management Plan* will be incorporated into the plan by amendment by the Lieutenant Governor in Council.

Local or small basin water issues may be resolved under the umbrella of the overall *SSRB Water Management Plan*. In some cases, preparation of water management plans under the *Water Act* for smaller basins may be appropriate. Public initiatives to resolve water issues will be encouraged.

E. DEFINITIONS

Some of the following terms were previously defined in the terms of reference for the *Phase One Plan*. The definitions for some of these terms may have been subsequently improved and changed.

Allocation – (As defined in the *Water Act*) The volume, rate and timing of a diversion of water.

Apportionable flow – The St. Mary River originates in the Rocky Mountains in northern Montana and flows east and north into Alberta and into the Oldman River. The sharing of the St. Mary River's waters is governed by the 1909 Boundary Waters Treaty between Canada and the United States. Under this agreement, during the April 1 to October 31 irrigation period, the U.S. is entitled to consume or divert up to 25 per cent of the natural flow of the St. Mary River for flow rates up to 666 cubic feet per second and 50 per cent of the flow above 666 cubic feet per second. During the non-irrigation period, the U.S. is entitled to consume or divert up to 50 per cent of the natural flow. The apportionable flow used to determine Alberta's and Saskatchewan's entitlements under the 1969 Master Agreement on Apportionment is the natural flow of the South Saskatchewan River less U.S. entitlements in the St. Mary River.

Aquatic environment – (As defined in the *Water Act*) The components of the earth related to, living in or located in or on water or the beds or shores of a water body, including but not limited to all organic and inorganic matter, and living organisms and their habitat, including fish habitat, and their interacting natural systems

Basin Advisory Committee – Each of the four sub-basins of the SSRB (Oldman, Bow, Red Deer and South Saskatchewan) has a Basin Advisory Committee (BAC). During phase one, the objective of the BACs was to provide advice to Alberta Environment on implementing transfers of allocations of water under a licence.

Membership of a BAC was designed to represent all sectors interested in water management in the sub-basin. Leaders in each sector were invited to select its own representatives(s) on the BAC.

Director – For purposes of administration of the *Water Act*, certain staff in Alberta Environment, such as Approvals Managers, are designated as "Director," as the term is used in the *Act*. Under the *Water Act* the Director has sole authority to make decisions concerning a number of specified subjects.

Instream need (IN) - This is the scientifically determined amount of water, flow rate or water level that is required in a river or other body of water to sustain a healthy aquatic environment or to meet human needs such as recreation, navigation, waste assimilation, or aesthetics. An instream need is not necessarily the same as the natural flow. Instream needs are sometimes also referred to as “instream flow needs”, or IFN.

Instream objective (IO) - This term describes a desired level of flow or water quality that has been established in consideration of both instream and withdrawal (e.g. municipal, irrigation, industry) needs. Instream Objectives have usually been set in response to fish habitat instream needs (the Fish Rule Curve) and/or water quality.

Some licences and operating policies include Instream Objective conditions whereby water cannot be withdrawn if the actual river flow is at or below the IO. In some reaches in the SSRB (e.g. southern tributaries of the Oldman River, Bow River below the Bassano Dam), “minimum flows” are in place. These are managed as instream objectives. Instream Objectives can be formalized as a “water conservation objectives” and incorporated into new licences.

Licence in good standing – This term is used in Alberta’s *Water Act*, but is not defined. One of the issues that must be determined by the Director is whether or not the allocation of water to be transferred is held “under a licence in good standing” (*Water Act*, s. 81(7)(c)).

The licence has to be in good standing at the time the Director considers the application (that is, it already exists in good standing or the licence holder brings the licence into good standing prior to the time when the Director considers the application to transfer.)

Examples of a licence not in “good standing”:

- breach of the *Water Act*
- subject to an investigation under the *Water Act*
- subject to an enforcement tool or prosecution
- breach of terms and conditions of the licence
- non-compliance with the terms and conditions (e.g. did not build the diversion site within the specified period)

Master Agreement on Apportionment - Schedule A of the 1969 Master Agreement on Apportionment for the South Saskatchewan River between Alberta and Saskatchewan allows Alberta to “divert, store or consume” from the river system each year, a volume of water equal to one-half of the apportionable flow (see definition on page 14) of the South Saskatchewan River at the Alberta-Saskatchewan boundary. The remaining volume of flow must be allowed to pass downstream into Saskatchewan. The exception to this general rule is that Alberta is entitled to divert, store or consume a minimum of 2.1 million acre feet in any year. The effect of this exception is that during years when the volume of natural flow is less than 4.2 million acre feet (a rare occurrence), Alberta may pass less than one-half of the apportionable flow to Saskatchewan. If at any time during a year Alberta wants to divert, store or consume more than half the apportionable flow, a flow rate of 1,500 cubic feet per second (cfs) must be maintained at the Saskatchewan border, unless the natural flow is less than 3,000 cfs, in which case half the natural flow must be passed.

(There is no policy in Alberta as to the amount of water each sub-basin of the SSRB must contribute to the Saskatchewan apportionment.)

Natural flow – Natural flow is the flow in rivers that would have occurred in the absence of any man-made effects on or regulation of flow. For purposes of water management, natural flow is a calculated value based on the recorded flows of contributing rivers, a number of factors concerning the river reaches (e.g. evaporation, channel losses, etc.), and water diversions. This is also known as “re-constructed flows” and “naturalized flows”.

River – Any flowing water body in a naturally formed valley or channel, including streams, creeks, rivers, etc.

Southern tributaries – This term refers to the St. Mary, Belly and Waterton Rivers, which are also referred to collectively as the southern tributaries of the Oldman River.

Water allocation transfer – A water allocation transfer occurs after the holder of an existing licence in good standing for the withdrawal of water agrees to provide all or part of the allocation to another person or organization following which an application is made to the Director and the transfer is approved by the Director. With a transfer, the allocation is separated from the original land and a new licence with the seniority of the transferred allocation is issued and attached to the new location. The Director can place conditions on the new licence created as a result of the transfer. Water allocation transfers can occur only if authorized under an *Approved Water Management Plan* or by the Lieutenant Governor in Council. See Sections 81,82 and 83 of the *Water Act*.

Water conservation holdback - From the *Water Act* (section 83(1)): *If the Director is of the opinion that withholding water is in the public interest to protect the aquatic environment or to implement a water conservation objective, and the ability to withhold water has been authorized in an applicable approved water management plan or order of the Lieutenant Governor in Council, the Director may withhold up to 10 per cent of an allocation of water under a licence that is being transferred.*

The withholding occurs at the time the new licence created for the transferred allocation is issued (section 82(2) of the *Water Act*). That is, at the location of the original diversion, the allocation ceases to be diverted, and at the location of the new diversion, the allocation that can be diverted is 90 per cent (or more) of the original allocation.

Water conservation objective (WCO) - From the *Water Act*: “*water conservation objective*” means the amount and quality of water established by the Director under Part 2, based on information available to the Director, to be necessary for the

- (i) protection of a natural water body or its aquatic environment, or any part of them,
- (ii) protection of tourism, recreational, transportation or waste assimilation uses of water, or
- (iii) management of fish or wildlife,

and may include water necessary for the rate of flow of water or water level requirements.

A licence can be issued by the Director to the Government of Alberta for the purpose of implementing a water conservation objective.

(SSRB) Water Management Plan steering committee - This committee of senior Alberta government managers provides direction and ensures water management planning in the SSRB is proceeding in a consistent and coordinated fashion. The committee reviews and comments on drafts of the *SSRB Water Management Plan* and will guide it to final approval by Lieutenant Governor in Council.

(SSRB) Water Management Plan working group - The working group consists of Alberta government staff who support and coordinate the process, manage technical analyses including computer simulations, conduct public consultation and create drafts of the *SSRB Water Management Plan*, along with other planning products.

F. REFERENCES

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