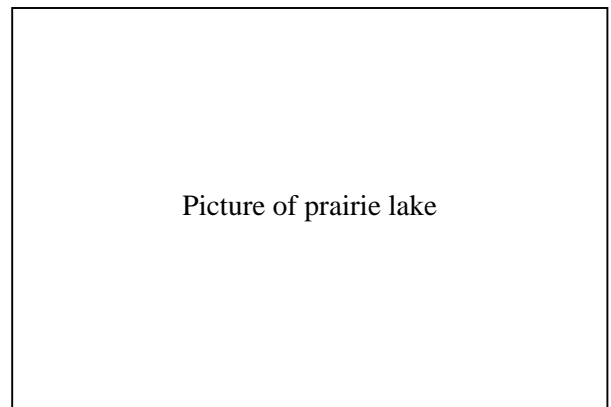
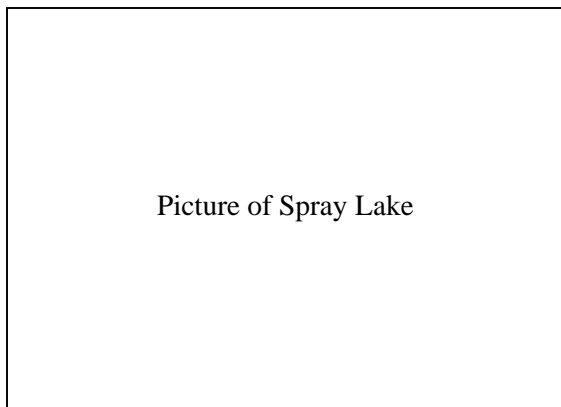


Terms of Reference

South Saskatchewan River Basin Water Management Plan

First Phase



Alberta Environment
October 9, 2001

INTRODUCTION



These are the terms of reference for the first phase of a multi-phase water management planning process for the South Saskatchewan River Basin (SSRB). The first phase will become an Approved Water Management Plan ("the Plan") once the Provincial Cabinet approves it. This phase is scheduled for completion and approval by April 2002. The approved plan will be amended to incorporate future phases. Subsequent phases of the water management plan will have separate terms of reference.

The first phase has three main objectives:

- ✓ To develop a system to permit the transfer of water allocations¹
- ✓ To compare river flows with instream needs² in order to identify:
 - (1) needs for future planning, and;
 - (2) stressed river reaches (see definition on last page) in which the aquatic environment would benefit immediately from increased flows (from possible water conservation holdbacks – see more complete definition of a water allocation transfer on the last page)
- ✓ To identify future phases for the Water Management Plan, and issues that should be addressed

a) Water Allocation Transfers

With limited water supplies and increasing demands in the SSRB, it is imperative that there be sufficient water to protect the aquatic environment and a means to make water available for a variety of purposes, thereby maximizing the benefits of the limited water resource.

¹ A water allocation transfer occurs when the holder of an existing license to withdraw water agrees to sell all or part of it to another person or organization. Water allocation transfers can occur only if authorized in an approved water management plan or by the Lieutenant Governor-In-Council. For more information, refer to the detailed definitions (last page).

One way this can be accomplished is by the use of water allocation transfers, a tool provided by the Water Act. Water allocation transfers allow all or part of an existing allocation to be transferred to a new location, person, or type of use. This can enable a new development to acquire an existing allocation or portion of an allocation (along with its seniority) subject to any consideration agreed to by the parties. This will influence people to use water more efficiently so that excess water can be made available for other uses. Conditions can be applied to transfers, for a number of reasons

b) Instream Needs

An additional purpose of the first phase is to compare scientifically determined instream needs of the aquatic environment of the SSRB with river flows under the current

² An instream need is a scientifically determined amount of water, flow rate, or water level that is required to sustain the aquatic environment in a healthy condition. An instream need can also be determined for river recreation or other purposes, such as aesthetics. An instream need is not necessarily the same as the natural flow.

operating regimes. In reaches where river flows are usually less than instream needs, these reaches will be noted for attention during the second phase. These reaches may be identified as stressed and may be eligible to receive water from water conservation holdbacks at the earliest opportunity.

c) Future Phases

The second phase will focus on the establishment of water conservation objectives³. It is to be completed by December 2002. This will include an assessment of the water volumes required for human uses (including existing commitments) and the river flows to protect the aquatic environment. The goal will be to reach compromises between these competing interests and make wise choices. One anticipated result of the second phase is that once all water conservation objectives are established the availability of water in the SSRB for consumptive use will be better understood.

³From 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.
For more information, refer to the detailed definitions.

The results of the second (and subsequent) phase(s) will be incorporated into the Approved Water Management Plan. The additional phases of the Plan are yet to be determined. These could include water storage options, non-storage options (e.g. water conservation), and water quality issues. Public input will be sought on the subjects for future phases and specific issues to be addressed in those phases.

The Plan will be for the overall SSRB, but will also contain sections pertaining to the main sub-basins: the Red Deer, Bow, Oldman, and South Saskatchewan Rivers. There will be one plan to facilitate coordination and policy consistency between the four sub-basins, which are managed as a single unit, for purposes of meeting the Master Agreement on Apportionment (see definition). This is vital for the first and second phases, but may become less so once the planning focus shifts to resolution of more local water quality and allocation concerns. At that point it may be more appropriate to carry out local or sub-basin water management plans that would be under the umbrella of the overall SSRB plan, but not necessarily included in the document. Any issue with implications for other sub-basins must be addressed in the Plan.

The Plan will be a cooperative and integrated initiative of Alberta Environment, Alberta Sustainable Resource Development, and Alberta Agriculture, Food and Rural Development. There will be a public consultation process.

BACKGROUND

Alberta’s Water Act contains provisions for the preparation of water management plans, to help ensure water is used wisely and that all interested parties have a clear understanding of the long-term goals for water management. The Act includes several requirements and options concerning the topics to be included in a water management plan.

Picture of Red Deer River in vicinity of Dry Island Buffalo Jump Provincial Park

PLANNING AREA

The planning area is the rivers and streams in the South Saskatchewan River basin, which includes the sub-basins of the Red Deer, Bow, Oldman, and South Saskatchewan Rivers. The basins of Pakowki and Many Island Lakes are not considered to be part of the South Saskatchewan River sub-basin in this plan.



ISSUES TO BE ADDRESSED (IN THE FIRST PHASE)

The first phase of the SSRB water management plan will focus on three sets of issues:

- ➔ a) Water Allocation Transfers:
 - Are there issues related to water allocation transfers in the South Saskatchewan River Basin that should be addressed before transfers are implemented?
 - Are there issues that should be monitored as transfers are implemented?
- ➔ b) Instream Needs:
 - Are there river reaches under sufficient stress to warrant immediate implementation of 10% (or less) water conservation holdbacks on water allocation transfers, before water conservation objectives are established (Second Phase)?
- ➔ c) Future Phases
 - The future phases of the Plan and specific issues to be addressed need to be determined.

Input will be accepted from the public on all matters concerning water management. Input on subjects that are outside the scope of the first phase will be noted for reference during future phases. Input on subjects that are outside the scope of the water management plan will be forwarded to the relevant officials for consideration and possible future action in other planning, policy, or operations initiatives.

INFORMATION REQUIREMENTS

A number of reports and other materials are required for the First Phase SSRB water management planning process to proceed:

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|---|---|
| ✓ | Background papers containing information on the use of transfers in other jurisdictions. |
| ✓ | A description of the existing matters and factors that are presently considered in approving assignments of water, licenses, and other approvals under the Water Act |
| ✓ | A proposed process for the implementation of water allocation transfers in the South Saskatchewan River Basin. |
| ✓ | Information on water availability in the SSRB, under existing conditions and commitments. |
| ✓ | Scientific information on instream needs of the aquatic environment in the SSRB in terms of fish, riparian vegetation, water quality and channel structure. Instream needs will be presented as a single aggregated instream flow, combining the four components. |
| ✓ | A preliminary assessment of the status of river flows and instream needs for the protection of the aquatic environment in the SSRB. |
| ✓ | The existing study, <u>South Saskatchewan River Basin Non-irrigation Water Use Forecasts</u> , will provide an understanding of possible future water use patterns, also illustrating the limitations of the water resource in the SSRB. |

OUT-OF-SCOPE TOPICS

During the long-term evolution and development of the SSRB water management plan, all issues concerning the water resource will be addressed. Some issues may be local in scale, while others may be basin-wide.

The Meridian Dam Preliminary Feasibility Study is not part of the first phase. The purpose of the preliminary feasibility study is to determine if a proposed storage project should move into a more detailed feasibility investigation. Future results will determine if such a project will become part of subsequent water management plans.

The first phase of the Plan will not address the subject of the number of households permitted on a parcel of land. All other matters prescribed or authorized by the Water Act will be addressed in the first phase.

CONSTRAINTS

The Water Act as it currently stands is a "given." However, suggestions about how the Act might be improved are always invited. The same applies to The Framework for Water Management Planning.

POLICY ENVIRONMENT

The following documents guide water management planning in the SSRB:

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| ✓ | The <i>Water Act</i> |
| ✓ | The <i>Environmental Protection and Enhancement Act</i> |
| ✓ | <i>Federal Fisheries Act</i> |
| ✓ | <i>The Framework for Water Management Planning</i> (refer especially to the Water Management Principles) |
| ✓ | <i>Water Management Policy for the South Saskatchewan River Basin (1990)</i> . (This policy may be revised as a result of water management planning, or even superceded by it.) |
| ✓ | <i>South Saskatchewan River Basin Water Allocation Regulation (1991)</i> |
| ✓ | <i>Master Agreement on Apportionment</i> <i>continued...</i> |

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| ✓ | <i>1909 Canada-U.S. Boundary Waters Treaty and the International Boundary Waters Treaty Act concerning the St. Mary and Milk Rivers.</i> |
| ✓ | <i>Irrigation Districts Act</i> |
| ✓ | <i>Alberta's Commitment to Sustainable Resource and Environmental Management</i> |
| ✓ | <i>A Policy for Resource Management of the Eastern Slopes, Revised 1984</i> |
| ✓ | <i>Fish & Wildlife Policy for Alberta – October 14, 1982</i> |
| ✓ | <i>A Fish Conservation Strategy for Alberta – 2000-2005</i> |
| ✓ | <i>The Public Lands Act</i> |

There are no other planning initiatives in the SSRB that will affect this planning process.

PLANNING PROCESS



The fundamental process to be followed is that AENV staff will prepare background materials, planning options, and a draft plan, with advice from the public.

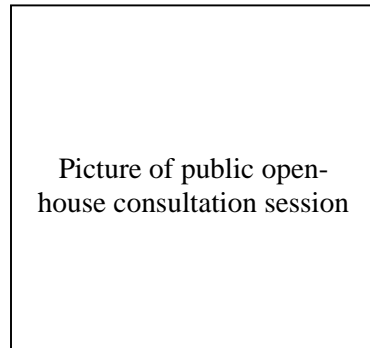
GOVERNMENT STAFF PARTICIPANTS & RESPONSIBILITIES

| | |
|-----------------------------|--|
| Steering Committee | The members of this committee will be: AENV Regional Directors within the SSRB; AENV Director of Environmental Operations; AENV Director of Innovations Division; ASRD Fish and Wildlife Management representative; AAFRD Head of the Irrigation Branch. This committee will have the following duties: <ul style="list-style-type: none"> ▪ be actively involved in the process to provide direction and to ensure the work in all four sub-basins is proceeding in a consistent, unified and coordinated fashion ▪ review and comment on drafts of the water management plan. |
| Regional Managers | The regional managers responsible for water allocations will be expected to work closely with the Steering Committee and the regional staff in all aspects of the development of the first phase water management plan. |
| Project Coordinator | A project coordinator will provide integration and coordination services. The project coordinator will be the Prairie Region Water Resource Planner. The coordinator will report to the Steering Committee. |
| Basin Coordinators | Basin coordinators will be identified in each region for purposes of this plan, and will provide leadership and coordination in each sub-basin. The regional community relations officers will assist the basin coordinators in all matters concerning public consultation. These staff will meet regularly for coordination purposes, along with key technical staff. This "Working Group" will also include representatives of the Irrigation Branch of AAFRD and AENV headquarters. The Working Group will be chaired by the Project Coordinator. Other staff (such as the instream needs scientists) may be requested to assist the group from time to time. |
| Instream Needs Group | Members of the Technical Instream Needs Group may be called upon to explain and interpret the results of the SSRB instream needs report. |
| Modeling Team | Water resources management modelers may be called upon to explain and interpret the results of the Water Resources Management Model. There may also be requests for additional modeling. |

The work on this project will be the top priority for all the AENV staff who are listed above or called upon to provide assistance.

PUBLIC CONSULTATION (DURING THE FIRST PHASE)

a) The existing Basin Advisory Committees (BAC's) are the focal point for public consultation in this first phase. The role of the BAC's will be to provide advice to Alberta Environment on water management in their respective sub-basins. The BAC's are multi-sector stakeholder groups. Each BAC has a representative for all sectors interested in water management in the SSRB.



b) The BAC's will meet in one plenary session for an address from (a) senior Alberta Environment official(s) about the water management planning process. They will also receive presentations on water allocation transfers. All four BAC's will be provided with common background information and workbooks focussed on the key issues concerning water allocation transfers.

c) There will be a single round of open houses in each basin for the general public-at-large during the first phase. Open house locations will include Lethbridge, Medicine Hat, Calgary, Brooks, Red Deer, and Drumheller.

REVIEWS AND APPROVALS (FOR THE FIRST PHASE)

- ✓ The Steering Committee will review working drafts of the Plan as it develops and approve the final draft to be submitted for approval.
- ✓ The Steering Committee will be responsible for advancing the final draft for approval to the AENV executive.
- ✓ To be an Approved Water Management Plan the plan must be approved by the Lieutenant Governor in Council (the goal is for this to occur by April 2002).

WORK PLAN AND SCHEDULE (FOR THE FIRST PHASE)

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| Oct. 10, 2001 | All the BAC's meet in a plenary session (in Calgary) to be addressed by senior officials of AENV on the work to be undertaken and the role of the BAC's. |
| Late Oct. | BAC's receive information on the availability of water in the SSRB and background information on transfers and workbooks. |
| Early Nov. | BAC's receive information on instream needs in the SSRB. |
| Oct./Nov. | Staff and the BAC's review and discuss the background material, planning options, and complete the workbooks. The BAC's meet as required. |
| Nov./Dec. | Staff, in all four sub-basins, collect and consolidate BAC advice and commence cooperative preparation of a draft plan, coordinated by the project coordinator. This stage of advice from the BAC's will conclude no later than Friday, December 7. |
| Dec. | The draft plan is provided to the Steering Committee and the BAC's for comment. The draft plan is revised as required. |
| Early Jan. 2002 | The draft plan is taken to the general public-at-large for review in workshops in a number of locations in each region. |
| Late Jan. | The draft plan is finalized after review of public input and submitted for approval. |

DETAILED DEFINITIONS



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|---|---|
| Instream Need (IN) | <p>This is a scientifically determined amount of water, flow rate or water level that is required to sustain the aquatic environment in a healthy condition. Instream needs can also be determined for river recreation or other purposes, such as aesthetics. An instream need is not necessarily the same as the natural flow. At some times of the year (i.e. during high flows), for some components of the aquatic environment, the instream need can be less than the natural flow, while at other times of the year (i.e. during low flows) the instream need can be quite close to (if not the same as) the natural flow. In some circumstances, the instream need may be greater than the natural flow (e.g. when it is necessary to dilute waste). At the present time, the aquatic environment is considered to be represented by: fish habitat, riparian vegetation (primarily the poplar forests on the flood plain), water quality (for fish), and channel structure. This latter term refers to stream erosion processes that serve to establish and maintain natural habitats.</p> |
| Instream Objective (IO) | <p>This term is presently in use to describe a desired flow level that has been established through public consultation, and is a target for water management. Given current knowledge and tools, IO's have usually been set in response to fish habitat instream needs (the Fish Rule Curve). Many of the existing instream objectives are set at 80% of the Fish Rule Curve. IO's are included as a condition in more recent licenses (that is, water cannot be withdrawn if the actual river flow is at or below the IO). It is anticipated that the term "instream objective" will eventually be superceded by the term "water conservation objective."</p> |
| Water Conservation Objective (WCO) | <p>From the Water Act: a "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</p> <ul style="list-style-type: none"> (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, <p>and may include water necessary for the rate of flow of water or water level requirements. This is an amount of water flow that is agreed upon through planning processes, during which the demands for consumptive use are compared with the instream needs and society then makes a choice about how much water should be in the river for the aquatic environment. In some cases, the water conservation objective could be the same as an instream need and/or the natural flow. In other cases, a water conservation objective can be selected that compromises between instream needs and consumptive demands. A water conservation objective can also be a target, and water could be obtained through transfers and water conservation holdbacks to eventually achieve and stay on this target.</p> |
| Water Allocation Transfer | <p>A water allocation transfer occurs when the holder of an existing license to withdraw water agrees to sell all or part of it to another person or organization. When this occurs the license is separated from the original land and a new license (but with the seniority of the transferred license) is issued attached to the new land where the water will be used. The Alberta Government can impose conditions on such transactions, including water conservation holdbacks, which can withhold up to 10% of the transferred water volume. The withheld water may be used by the Alberta Government for protection of the aquatic environment or to implement a water conservation objective. Water allocation transfers can occur only if authorized in an approved water management plan or by the Lieutenant Governor-In-Council.</p> |
| Stressed River Reach | <p>A stressed river reach is one in which typical river flows are usually less than the instream need.</p> |
| Master Agreement on Apportionment | <p>Schedule A of the 1969 Master Agreement on Apportionment for the South Saskatchewan River between Alberta and Saskatchewan, specifies that:</p> <ul style="list-style-type: none"> - annually, one half of the natural flow of the SSRB shall be passed to Saskatchewan. However if natural flow falls below 4.2 million acre-feet, Alberta can still keep more than half of the natural flow to a maximum quantity of 2.1 million acre-feet, provided that the instantaneous flow does not fall below 1,500 ft³/sec (see clause below); - instantaneously, the combined flow of the South Saskatchewan and Red Deer rivers into Saskatchewan shall be not less than 1,500 cubic feet per second or half of the instantaneous natural flow, whichever is less. |