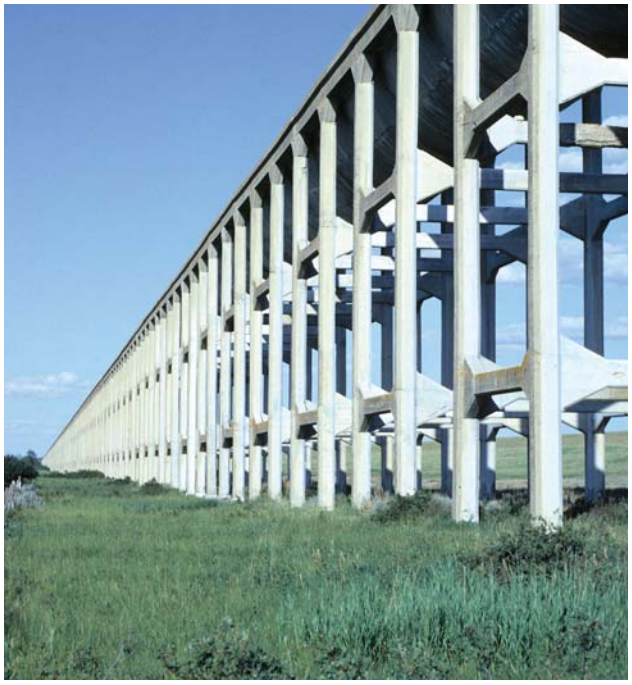

CHAPTER THREE

INSTITUTIONAL ARRANGEMENTS

Dinosaur Provincial Park, Alberta.

CHAPTER THREE
INSTITUTIONAL ARRANGEMENTS

The Constitution Act *of 1930 and its scheduled agreements between Canada and each of the western provinces transferred administration and control over or responsibility for land and resources, including water, to the provinces. Each province prepared its own related legislation, reiterating the provisions of the agreement. The stated motivation of the transfer at the time was to ensure the western provinces became equal partners in confederation and had the same arrangements with the federal government, related to lands and resources, as did the provinces east of Manitoba. These agreements, called the Natural Resources Transfer Agreements, state that they are subject to existing rights at the time of transfer. This includes treaty and Aboriginal rights in western provinces.*

Little was said in the agreements about water. Each province's agreement noted that water power developments within the provinces no longer had to be 'to the general advantage of Canada.' Responsibility for fisheries management was explicitly given to the provinces.

As water use expanded and resource management became more of an issue, more detailed arrangements have emerged so that the following responsibilities now seem to be accepted among respective governments.

Provincial governments perform the primary roles of water management on provincial lands including:

- Control and regulation of water control infrastructure
- Flood forecasting
- Regulation of drinking water and management of water quality
- Protection of source water
- Licensing of water uses
- Regulation of fisheries.

The federal government has responsibility for:

- Trans-boundary water issues
- Protection of fish habitat and prevention of pollution harmful to fish
- Regulation of toxic substances
- Regulation of navigation and shipping
- Shared international waters
- Federal property
- First Nations and lands and waters reserved for them, including provision of safe drinking water and waste water services on reserves.

INTERNATIONAL PERSPECTIVES

In the early part of the last century, a number of water disputes, including one related to irrigation water rights to the St. Mary and Milk rivers in Alberta and Montana, led to the signing of the *Boundary Waters Treaty* and creation of the International Joint Commission (IJC) in 1909 to implement the Treaty. The Treaty provides upstream jurisdictions exclusive control over their waters but provides the same legal remedies for injured parties irrespective of country. It should be noted that the Treaty defines 'boundary waters' as the waters of lakes and rivers that actually make up the international boundary – some 3900 km of waterways.

The Treaty deals with the sharing of the waters of the transboundary St. Mary and Milk rivers and their tributaries. The St. Mary River is a headwaters tributary of the Saskatchewan River system. The IJC issued an Order in 1921, adjudicating the respective claims of Canada and the United States pertaining to sharing the waters of the St. Mary and Milk rivers. This Order continues in place today.[1]

Tributaries of the St. Mary River such as Lee and Rolph creeks are also subject to the IJC Order. Other transboundary streams in the same general area, the Waterton and Belly rivers, are also headwater tributaries of the Saskatchewan River system. These rivers are not specifically identified in the Treaty and are not subject to the 1921 Order. Water use from these rivers in the United States is minor, although the waters are very important to Canadian irrigators.

INTER-GOVERNMENTAL PERSPECTIVES

In the early days of European settlement of the Saskatchewan River basin, water was allocated according to priorities and procedures contained in the *North-west Irrigation Act* of 1894, a federal act administered by the Department of the Interior. Discussions pertaining to sharing of inter-provincial waters took place as early as the 1920s and, with transfer of natural resources administration, including water, to the governments of the Prairie Provinces in 1930, a Western Water Board was created, but never functioned. A new proposal in 1937 also failed, but in 1945 negotiations among the federal government and the governments of the three Prairie Provinces led to establishment of a Prairie Provinces Water Advisory Board and, subsequently, the Prairie Provinces Water Board in 1948. The new board was charged with making recommendations pertaining to the best use of inter-provincial waters and with recommending the allocation of water among provinces for streams flowing from one province to the other. In 1969, governments signed the *Master Agreement on Apportionment* and reconstituted the Prairie Provinces Water Board to administer the agreement. The Board is chaired by Environment Canada and is made up of members from Agriculture and Agri-Food Canada and water administrators from the governments of the three Prairie Provinces.

The *Master Agreement on Apportionment* sets out the rights and duties of the three Prairie Provinces concerning apportionment of eastward-flowing, inter-provincial streams. Often described as a Saskatchewan River basin agreement, the Master Agreement applies to all streams that flow eastward across either of the Alberta-Saskatchewan or Saskatchewan-Manitoba boundaries, or both. The Master Agreement also applies to trans-boundary lakes and to groundwater.[2]

The essence of the Master Agreement is that the Province of Alberta is entitled to make a net depletion of one-half of the natural flow of the waters arising in that province, allowing the remainder to flow into Saskatchewan. Further, Saskatchewan is entitled to make a net depletion of one-half of the water flowing in from Alberta and of waters arising in Saskatchewan and must allow the remainder to flow into Manitoba. These entitlements are subject to certain exceptions.

The Master Agreement has five schedules. Among other things, these schedules pertain to division of waters between Alberta and Saskatchewan and Saskatchewan and Manitoba, respectively, and to water-quality objectives for specified trans-boundary river reaches. The water-quality objectives are applied to the North Saskatchewan, Red Deer, and South Saskatchewan rivers at the Alberta-Saskatchewan boundary, and the Saskatchewan River at the Saskatchewan-Manitoba boundary.

The Master Agreement defines natural flow as the quantity of water that would occur in any watercourse had the flow not been affected by human interference or intervention, excluding any water that is part of the natural flow, but is not available for use because of the provisions of any

international treaty. From the early days of the Master Agreement, the difficulties of calculating a true natural flow were evident. The Board agreed in 1976 that 'effects on runoff of changing land-use patterns are not considered in the computation of natural flow (changes in land use include land clearing for agriculture, drainage, forestry, industrial and urban development and other land uses). Changes in natural flow due to groundwater inflow or recharge are not considered in the computations.'

Calculating natural flows for apportionment involves identification and measurement or computation of depletions due to storage, diversion, evaporation and consumptive use, and routing these depletions to the point of apportionment, where they are applied to the recorded flows at that point to produce natural flows.

Some additional apportionment concepts must be considered. The first relates to the apportionment period. The PPWB apportions streamflow on an annual basis. That is, the agreement is met if the annual natural flow is not depleted by more than 50 percent. The Master Agreement, however, also speaks of 'equitable apportionment.' This implies consideration of the volume and timing of the water released to the downstream party. In the case of the South Saskatchewan River, two specific constraints relate to equitable apportionment.

- Alberta is entitled to a 2 589 300 dam^3 minimum net annual depletion as long as the depletion does not reduce the flow at the boundary to less than 42.5 m^3/s.
- Alberta must maintain a minimum daily discharge at the boundary of 42.5 m^3/s or one-half the natural flow, whichever is less.

The result is that flows are apportioned annually based on the calendar year. Meeting the conditions of equitable apportionment, however, requires periodic audits. For the South Saskatchewan River, there are quarterly audit periods, and, when flows are low, monthly or shorter audit periods are employed. As streamflow conditions become more exigent, the monitoring grows more intensive.

THE FEDERAL ROLE IN WATER MANAGEMENT

The federal government transferred responsibility for resources, including water, via the Natural Resource Transfer Agreements by the *Constitution Act* of 1930. This means the current federal role in water management is focussed through specific federal heads of power that relate to water and other resources and their protection. These include:

- Federal lands and Indian reserves
- Navigation and shipping
- Seacoast and inland fisheries
- Agriculture
- Inter-provincial and international trade and commerce
- Regulation of facilities which are inter- or extra-provincial (such as pipelines)
- General laws for the Peace, Order and Good Government of Canada (emergency, doctrine of national concern

The federal agencies most directly involved in water matters in the Saskatchewan River basin are Agriculture and Agri-Food Canada, Environment Canada, and Fisheries and Oceans Canada. Agriculture is a shared responsibility under the *Constitution Act*. Because of the intrinsic link between agriculture and water, especially in the semi-arid prairie provinces, Agriculture and Agri-Food Canada has significant involvement in sustainable land management, rural water supplies, and improving and protecting water quality. Environment Canada responsibilities include research, monitoring of quality and quantity, facilitation of governance through the IJC and PPWB, and regulatory and enforcement activities. Fisheries and Oceans Canada has responsibilities for research, fish habitat, and regulatory and enforcement activities. These responsibilities are more specifically reflected in the following legislation:

The Fisheries Act – requires specific approvals if activities are going to damage fish habitat or result in substances deleterious to fish getting into the water.

The Navigable Waters Act – requires specific approvals for activities that affect the navigability of a body of water.

The Boundary Waters Treaty Act – identifies processes for resolving water disputes across the international boundary.

The Indian Act – Indian and Northern Affairs Canada provides funding for water services and infrastructure such as construction, upgrading, operation and maintenance of water treatment facilities on First Nations reserves. The department also provides financial support for the training and certification of treatment plant operators.

The Constitution Act – was used to transfer responsibility for resource management to the provinces, and also requires a formal consultation process with First Nations, Inuit and Métis peoples if there is a possibility of a treaty or Aboriginal right (e.g. access to resources) being infringed by a government decision.

The Health Act – Health Canada provides environmental health services to First Nations communities through its Environmental Health Program. The department monitors and provides advice on drinking water quality to First Nations communities.

The Canadian Environmental Protection Act – Environment Canada develops standards, guidelines and protocols for wastewater treatment on federal and First Nations lands and identifies and prescribes handling of toxic materials.

The Species at Risk Act – includes provisions for habitat protection as well as recovery planning for aquatic or terrestrial species of special concern, threatened or endangered.

The Canadian Environmental Assessment Act – requires federal departments to conduct environmental assessments for prescribed projects and activities before providing regulatory approval or financial support for the undertaking.

The Prairie Farm Rehabilitation Act – commits Agriculture and Agri-Food Canada to 'secure the rehabilitation of the drought and soil drifting areas in the Provinces of Manitoba, Saskatchewan and Alberta, and to develop and promote within those areas, systems of farm practice, tree culture, water supply, land utilization and land settlement that will afford greater economic security....'

The Federal Water Policy – promulgated in 1987, identifies the federal government as having two main goals related to water: to protect and enhance the quality of the water resource and to promote wise and efficient management and use of water. The policy contains five strategies and specific policy statements in 25 subject areas.

In addition, in 1991 Environment Canada published *The Federal Policy on Wetland Conservation*. For nearly three decades, Canada has been a signatory of the international Ramsar Convention. This convention calls for establishment of wetlands policies in each signatory nation to improve institutional and organizational arrangements, to address legislative needs, to increase knowledge and awareness of wetland values, to identify program priorities, and to develop action plans for specific sites. The federal policy is aimed at maintaining wetland values, having no net loss of wetlands on federal lands and waters, and securement of wetlands of significance to Canadians, among other objectives. The policy applies to federal lands and to any project that receives federal money for its execution.

THE ROLE OF FIRST NATIONS AND OTHER AGENCIES IN FIRST NATIONS' WATER MANAGEMENT

The importance of water to First Nations may be characterized by different First Nations in different ways, but could include such perspectives as:

- water is life
- water is sacred
- water is a spirit for healing and cleansing
- water is important to the emotional, physical, spiritual and mental well-being of people.

Some traditional teachings emphasize the relationship between the way people treat water and how the land looks after people. Therefore it is believed that all human beings must accept responsibility for taking care of water.

First Nations advance strongly their rights to water through Section 35 of the *Constitution Act*. Government has a clear duty to consult First Nations when a treaty or aboriginal right may be affected. First Nations therefore assert their need to be involved in decisions that affect water resources, especially development decisions. Where a legal duty to consult is triggered by a possible negative impact on treaty or aboriginal right, First Nations' involvement in water use, protection, or planning would be as rights holders, as opposed to stakeholders.

Currently, the following agencies are typically involved in water management on First Nations reserves.

- Indian and Northern Affairs Canada (INAC) assists First Nations by funding the capital costs of plants and piped systems, and 80 percent of their operating and maintenance costs; by enforcing certain standards through funding agreements; and is expected to resume an earlier role of providing engineering advice and, approval.
- Public Works and Government Services assists with procurement and provides engineering advice and approvals.
- Health Canada ensures the delivery of drinking water monitoring programs, either directly or in an oversight role.
- Environment Canada is involved in source water protection through its powers to regulate wastewater discharge into federal waters or into water generally, where water quality has become a matter of national concern.
- Chief and Council generally govern management and running of systems, and have the power to enact resolutions to protect water.
- Technical service advisory groups may be responsible for training operators and preparing them for certification exams, as well as providing one-on-one help and advice on site.
- Regional councils (such as tribal councils), or separate environmental health organizations may be involved in water monitoring programs and in public health matters generally.
- Some responsibilities vary region to region. This could include the authority to issue boil-water advisories, for example.

Currently, there are serious problems concerning drinking water on First Nations reserves. For example, in 2008, there are at least 85 First Nations water systems at risk, and close to 100 boil water advisories in First Nations communities. There are no federal laws or regulations that govern the provision of drinking water in First Nations communities.[3]

Programming and relative roles and responsibilities are evolving. In 2003, INAC developed the First Nations Water Management Strategy. This followed review of water and wastewater issues on reserves and identification of 191 high risk communities, from the water and wastewater perspective. The federal government announced, in 2006, a Plan of Action for Drinking Water in First Nations Communities. In that plan of action, INAC committed to:

- Issuing a clear protocol on water standards
- Ensuring mandatory training and oversight of water systems by certified operators
- Addressing the drinking water concerns of all high risk systems beginning with the 21 highest risk communities
- Creating an expert panel to provide options for a regulatory regime for drinking water on reserve
- Committing to future reporting on progress on implementing the Plan of Action

INAC is currently consulting on water-related regulations.

MÉTIS PERSPECTIVES ON WATER MANAGEMENT

The Métis National Council defines a Métis as 'a person who self-identifies as Métis, is of historic Métis national ancestry, is distinct from other

Aboriginal Peoples and is accepted by the Métis Nation.' As recognized by Section 35 of the *Constitution Act (1982)*, the Métis are one of three distinct Aboriginal Peoples of Canada. There is a Métis governing body in each of the three Prairie Provinces – the Manitoba Métis Federation, Métis Nation – Saskatchewan, and Métis Nation of Alberta. Each of these governing bodies has an elected president who, in turn, sits on the Board of Directors of the Métis National Council.[4]

The Métis subscribe to a strong stewardship ethic. They are inclined to look on development favourably so long as development can take place in a sustainable manner and will respect the three pillars of sustainable development – economics, conservation and socio-cultural.

Métis governments take the view that Section 35 of the *Constitution Act* affirms their right to access to water resources. Therefore, they also consider they should be at the table for water resources planning, such as Integrated Watershed Management Planning (IWMP) processes. Broadly speaking, formal involvement in IWMP processes in the Prairies may be at an even lesser level than that of First Nations at present. In Manitoba, at least, individuals of Métis background may be invited to the table. However, they are not at the table representing Métis governance in any formal way.

The primary concerns of Métis people with respect to water revolve around water quality and the fishery resource, as the two relate to human health, economic sustainability and a traditional way of life. There are several Métis communities within the Saskatchewan River basin in all three provinces, and most residents of these communities are tied very closely to the land and water base.

The Métis are engaged in water resource management in different ways than First Nations. An example is the Manitoba Métis Federation pilot project, the fish hatchery at St. Laurent, now in its third year of operation. The hope is the hatchery will be able to place fingerlings into the three larges lakes in Manitoba, including Lake Winnipeg itself.

Most Métis participants in watershed planning processes in the basin are probably engaged as citizens, not as representatives of Métis governments. There are different possibilities in Alberta, where there are formal Métis settlements, some located within the North Saskatchewan basin.

WATERSHED PLANNING AND MANAGEMENT IN THE PROVINCES

The three provinces of the Saskatchewan River basin have watershed planning and management processes in place that emphasize local engagement and participation in decision-making, and local participation in implementation of any plans. From an assessment and planning perspective, Alberta's process is the most mature, followed by Saskatchewan's and then Manitoba's, which has been most recently rolled out. On the implementation front, Manitoba has decades of experience with their Conservation Districts (CDs) model, although the context for the various water management projects in the Manitoba Conservation Districts has been relatively narrow. The following discussion illustrates the framework under which integrated watershed resource management takes place in the Prairie Provinces.

Alberta

Watershed management and planning in Alberta is largely focussed through Alberta Environment. This department has responsibility for approvals for integrated watershed management planning, municipal water systems, related operator certification, compliance and inspection of operations that could pose a threat to water, water level and flow forecasting, monitoring and reporting on surface and ground water, and policy development and implementation on all aspects of watershed management.

Water for Life Strategy

All water management activities are conducted under Alberta's Water for Life Strategy. Alberta established the Water for Life Strategy for sustainability in November 2003, based on three key goals:

- Safe, secure drinking water supply
- Healthy aquatic ecosystems
- Reliable, quality water supplies for a sustainable economy

The Strategy lays out short, medium and long-term actions to achieve these. As a fully accepted policy throughout the provincial government, the goals and actions are reflected in appropriate business plans throughout provincial agencies.

The Alberta Water Council conducts an annual review of the implementation of Water for Life. The Water for Life Strategy is currently going through a renewal process, following its first three-year implementation period.

The Alberta Water Council is a broad umbrella council with oversight responsibilities for water policy application. The Council has representation from six of the departments with major water responsibilities. The Water Council is supported by the Cross-Ministry Steering Committee that has a broader representation, as it integrates Water for Life initiatives in the Alberta government.

Legislation

The Water Act – aimed at conservation and management of water. The Act mandates establishment of a framework for water management planning, which must include a strategy for protection of the aquatic environment and allow for formation of water management planning areas. The Act regulates water rights and the setting of the priority of uses. The South Saskatchewan Basin Allocation Regulation under this Act regulates water allocation within the South Saskatchewan basin.

The Environmental Protection and Enhancement Act – intended to support and promote the protection, enhancement and wise use of the environment. It regulates release of substances into water, including collection and treatment of stormwater and wastewater and the treatment of potable water.

The Drainage Districts Act – intended to govern operations of formal drainage districts.

The Irrigation Districts Act – provides for formation, dissolution and governance of Alberta's 13 irrigation districts so that management and delivery of water occur in an efficient manner and provide for the needs of users.

Government of Alberta Codes – guide establishment and operation of various water and wastewater treatment systems.

The Municipal Government Act – allows for municipalities to plan for development and use of land, through land use zoning.

The Public Lands Act – assigns ownership of the bed and shores of all naturally occurring water bodies to the province. Use or disturbance of the bed or shore requires authorization under this legislation.

The Alberta Fisheries Act – guides overall management and protection of the fisheries resource.

The North Red Deer Water Authorization Act – allows a diversion of treated water from the Red Deer River for use by some Battle River watershed communities and ultimate release as wastewater into the Battle River.

Watershed planning has been going on in Alberta for many years, although it has certainly evolved substantially in the recent past.[5] From early beginnings, when such planning did not include land use, to a relatively new integrated approach, some parts of Alberta have considerable experience in watershed planning. It is not too much of a stretch to characterize the current approach as

somewhat of an experiment in shared governance for water management. The following organizations or entities are involved in water management in the emerging approach to watershed planning and management in the province:

- **The Alberta Water Council** – which is keeper of the regional water management process and is creating a revised framework for watershed management planning. A related workbook was developed in the fall of 2007. It provides advice to Watershed Planning and Advisory Councils (WPACs) and is a catalyst for watershed planning. The Water Council includes six provincial and one federal representative. Other members are from municipal governments, First Nations, ENGOs, and industry.
- **The Watershed Planning and Advisory Councils (WPACs)** – which prepare state of the basin assessments and watershed management plans. They are made up of members who have power and authority to make decisions in watersheds and who have decided, of their own volition, to work together within a watershed.
- **The Alberta Stewardship Network and Watershed Stewardship Groups** – administers smaller grants to Watershed Stewardship Groups. Watershed Stewardship Groups are composed of various interests who wish to undertake water-related projects or activities.

Watershed management planning is guided by Alberta's principles for integrated resource management. These are:

- **Comprehensive and Integrated** – considering the full range of environmental, social, health and economic interests.
- **Proactive and Predictable** – anticipating future resource management issues and providing a predictable context for users of Alberta's resources.
- **Responsive and Flexible** – application of adaptive management.
- **Consultative** – those affected by decisions will be consulted prior to taking action.
- **Fairness** – decision-making processes will be fair and the public is to be given access to relevant information.
- **Knowledge-based** – decisions are to be based on understanding potential consequences of choices.
- **Timely and Results Oriented** – decision processes are to strive for efficient use of financial and time resources, and decisions should support provincial goals and objectives.
- **Accountable** – decision-makers are accountable for their actions.
- **Clear and Understandable** – products and processes will be straightforward. Roles and responsibilities will be well-defined.

The watershed planning process is very respectful of the time and effort invested by the various participants in the process. WPACs are the forum in which planning choices are debated. The resulting plans are not subject to a Water Council approval process. The power resides in the legislature, but the governance model ensures the debate that occurs in the WPACs is not second-guessed.

The Alberta WPACs have formed a WPAC forum, the agenda for which is evolving. It is being used for sharing lessons learned and allowing new WPACs to benefit from the experiences of the more mature WPACs. Increasingly, the WPAC Forum agenda is being set by the WPACs. The forum is supported financially by the province.

Sub-basins within the Saskatchewan River basin already actively engaged in integrated watershed management in Alberta include:

- The North Saskatchewan River
- The Battle River
- The Bow River
- The Red Deer River
- The Oldman River
- The South Saskatchewan River

The only geographic gaps in WPAC process in the Saskatchewan basin in Alberta relates to the

Sounding/Eyehill Creek sub-basin, a watershed that is part the North Saskatchewan River sub-basin. The planning process is at different stages in different sub-basins, and some are just getting off the ground.

The process portrayed in Figure 3.1 can be further elaborated by the following points:

- The WPAC is composed of members with authority locally to make decisions related to water management.
- The draft terms of reference are not merely the rules that will govern the WPACs and the activities of its various committees. They must also address the principles or philosophies that will guide the work and the consultation processes which will be used. They must also provide detail on the work proposed.
- The WPAC, assisted by representatives of a number of provincial agencies with responsibilities for resource management, collects data and information and then prepares a state of the basin report.
- Beginning with the state of the basin report and its own analyses, the WPAC then develops the Integrated Watershed Management Plan.
- It is then up to the WPAC to implement the plan and to monitor activities and the extent to which those activities are effective. Depending on observed results, the plan must then be updated or amended as appropriate.
- The provincial government provides partnership funding for initiatives that the WPACs put forward. The provincial government also provides some funding to the Alberta Stewardship Network for its granting responsibilities.

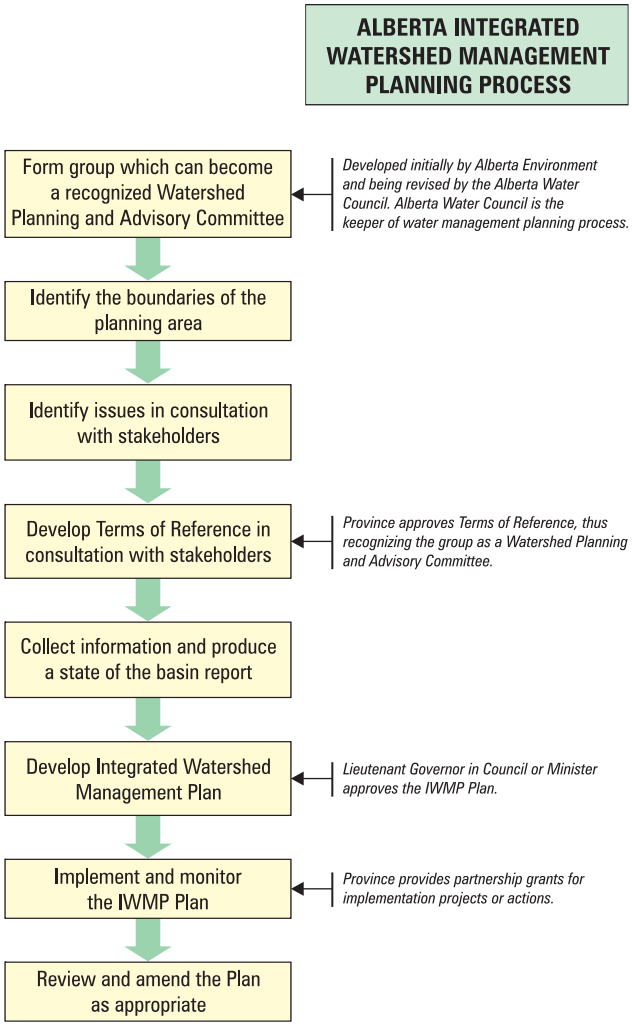

Figure 3.1.

Saskatchewan

Watershed planning and management activities are undertaken by a number of agencies in Saskatchewan. The primary agencies include:

The Saskatchewan Watershed Authority (SWA) – responsible for management of both groundwater and surface water in the province, including approving and licensing water-use projects, as well as reviewing project proposals that may impact source waters. The Authority also manages the watershed planning process for the province and plays a significant role in water quantity monitoring.

The Saskatchewan Watershed Authority is advised by the Saskatchewan Watershed Authority Advisory Committee. This body is appointed for three-year terms and represents a broad spectrum of the public. Its mandate is to identify and evaluate a wide range of water issues, challenges and opportunities, and to provide the SWA Board and Executive with perspectives and advice.

SaskWater – is the Crown water utility service provider, whose business includes potable and non-potable water supply, wastewater treatment and management, and provision of certified operation and maintenance services to customer-owned facilities.

Saskatchewan Ministry of Environment – has responsibility for regulating release of pollutants into water, and thus for regulating water quality as well as drinking water. The ministry carries out water-quality monitoring in the province. It also has responsibility for administration and application of the *Environmental Assessment Act* in Saskatchewan.

Saskatchewan Ministry of Municipal Affairs – has responsibility for developing and participating in the federal-provincial infrastructure agreements.

The Long-term Safe Drinking Water Strategy

In 2002, Saskatchewan released the Long-term Safe Drinking Water Strategy. This strategy identified a vision of 'a sustainable, reliable, safe and clean supply of drinking water that is valued by the citizens of Saskatchewan.' It also identified principles related to human health, preventing risks, openness and clear communication, realistic pricing, and accurate and timely information. It also recognized the need for all levels of government and citizens to work together. The same year, Saskatchewan prepared *Protection of our Water: A Watershed and Aquifer Planning Model for Saskatchewan*.[6] This document has provided the framework for watershed management planning in the province. While most directly linked to the Long-term Safe Drinking Water Strategy, this planning model also follows the principles identified in the Water Management Framework. This framework includes a vision for 'safe and reliable water supplies within healthy and diverse aquatic ecosystems.' The framework also identifies six principles – principles that remain important and are reflected in the Safe Drinking Water Strategy:

Stewardship – protecting the quality and quantity of water resources for the benefit of present and future generations.

Partnership – a commitment to work cooperatively with citizens, businesses, other governments of all natures to develop and implement water management decisions.

Integrated Management – recognition that effective water management requires full awareness within government of the inter-relationship of various government programs and interaction among the responsible agencies.

Value of Water – recognition that water has social/cultural, economic and environmental importance and should be valued as such.

Sustainable Development – project and programs that are bound by the principles of sustainable water use will be supported.

Best Practice – effective use of existing and emerging technologies and best management practices will help achieve the vision.

The Water Management Framework is currently in the early stages of being renewed and updated.

Legislation

The following legislation is key to watershed planning and management in Saskatchewan. However, this list could be augmented with several other pieces of legislation where the link to water is less direct.

The Saskatchewan Watershed Authority Act – establishes the Watershed Authority and outlines its mandate to manage, control and protect water resources, watersheds and related lands by regulating water development and water use. This Act also includes the ability to regulate groundwater exploration, use and abandonment of wells, other water rights, construction and operation of drainage works, and proper use and development of shorelines in designated Reservoir Development Areas.

The Water Power Act – provides for regulation of water power developments.

The Conservation and Development Act – enables rural landowners to establish a conservation and development area to facilitate development of works to conserve and develop agricultural land and water resources.

The Watershed Associations Act – enables two or more agencies to establish a watershed association to facilitate planning and development of works to conserve and develop land and water resources on a watershed basis.

The Environmental Management and Protection Act – prohibits or regulates discharges of pollutants, enables collection and analysis of water quality data, regulates provision of safe water for human consumption, permits construction of water works or wastewater works and regulates their operation, and regulates shoreline alterations.

The Fisheries Act – regulates commercial and sport fishing in Saskatchewan.

The Environmental Assessment Act – regulates application of an environmental assessment process to developments within the province.

The Water Appeal Board Act – continues the Water Appeal Board. The Water Appeal Board hears appeals raised under the Saskatchewan Watershed Authority Act with respect to drainage works.

The Public Health Act – regulates private water supplies and sewage works.

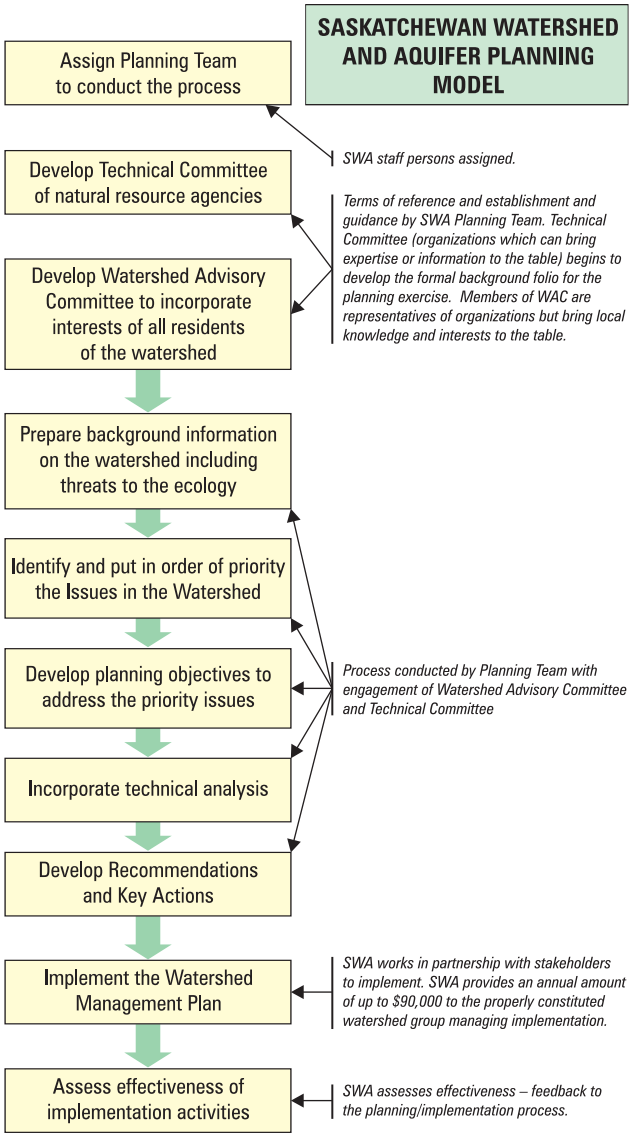

Figure 3.2.

Figure 3.2 displays the watershed planning model. Of course, there may be some departures in practice. The following points add some detail:

- The planning team is composed of two watershed planners from the Saskatchewan Watershed Authority. The Planning Team has overall responsibility for guiding and facilitating the planning process from its initiation to its conclusion.
- The Technical Committee is made up of representatives of resource agencies from the provincial and federal governments, as well as organizations such as Ducks Unlimited that have considerable data and analysis to offer the planning process.
- The Planning Team and the Technical Committee focus on developing critical background material for the planning exercise.

- After some of the background has been assembled, the Watershed Advisory Committee (WAC) is formed of representatives of locally present and engaged organizations, including municipal governments, First Nations and NGOs.
- The WAC meets several times to learn about and add knowledge to the background information, to identify issues in the watershed, to set objectives to address the issues, and to make recommendations and set action plans that collectively form the water source or aquifer protection plan.
- WACs rely heavily on the efforts of volunteers, although some representatives may be on salary while engaging in IWMP activities. Because of distances of travel in some Saskatchewan watersheds, it often makes sense for the planning work to go on in sub-basins where the travel distances and time are shorter. To bring this information up to a full watershed level, sub-basin WACs must come together through a representative process that sees them amalgamate their issues, their objectives, and their recommended actions.
- Once the plan is in place, various members of the WACs involved will form a formal legal entity that will take on the roles of implementer and watershed manager. SWA will then assist this group in two ways – an unfettered annual implementation grant of up to $90,000 and support, on a partnership basis, for specific projects within the watershed.

The following sub-basins within the Saskatchewan River basin are already engaged in watershed management planning in Saskatchewan:

- The following three sub-basins have completed their work and have been combined into single South Saskatchewan basin for which the plan has been completed.
    - The South Saskatchewan River West sub-basin
    - The South Saskatchewan River Lake Diefenbaker sub-basin
    - The South Saskatchewan River North sub-basin
- The following four sub-basins have completed their work and been combined into a single North Saskatchewan basin for which the plan has been completed.
    - The North Saskatchewan River Battle River sub-basin
    - The North Saskatchewan River West sub-basin
    - The North Saskatchewan River Central sub-basin
    - The North Saskatchewan River East sub-basin

The planning process has begun for Swift Current Creek and the Carrot River. Source water protection plans will be the eventual outputs of those planning processes now in their early stages.

Manitoba

Watershed planning and management within the province of Manitoba is largely focussed within the Department of Water Stewardship. This department has responsibility for all forms of water licensing for both surface and ground water no matter the nature of the use proposed, for flood forecasting and protection for much of the province, for water quality, drinking water, and for fisheries management. The Manitoba Water Services Board assists Manitobans living outside Winnipeg in developing safe and sustainable water and sewerage facilities.

In April 2003, Manitoba published *The Manitoba Water Strategy*.[7] This strategy identifies the need for action in the following areas: water quality, conservation, use and allocation, water supply, flooding and drainage. The implementation framework for the strategy has three elements:

- Development of an integrated water planning and management system
- Review and consolidation of water legislation
- Development of mechanisms for financing water management and planning.

The *Water Protection Act* establishes the Manitoba Water Council to monitor development and

implementation of watershed plans, advise the Minister of Water Stewardship on water issues, coordinate various and diverse water-related advisory boards, and assist in sustainability reporting for water.

Legislation

Manitoba's new *Water Protection Act* is the cornerstone of Manitoba water-related legislation, and is fundamental to implementation of the Manitoba Water Strategy as it focusses on:

- Comprehensive watershed planning
- Source water protection
- Endorsement of the scientific approach including development of objectives, standards and guidelines
- Protection of riparian areas and wetlands
- Use of financial incentives to protect and enhance water, aquatic ecosystems or drinking water sources
- Establishment and responsibilities of the Water Council
- Establishment of the Water Stewardship Fund to support research, implementation of watershed management plans, and water conservation programs.

Other relevant Manitoba legislation includes:

The Conservation Districts Act – provides for establishment of conservation districts to support conservation, control and prudent use of resources, while respecting the rights of landowners.

The Conservation Agreements Act – permits land owners and conservation agencies to enter into agreements for protection and enhancement of natural ecosystems, wildlife or fisheries habitat and plant or animal species.

The Drinking Water Safety Act – establishes, by regulation, drinking water quality standards and regulates the provision of drinking water in the province.

The Fisheries Act – governs commercial fishing in the province.

The Ground Water and Water Well Act – allows for regulation of use of ground water and protection of ground water. It also governs activities and qualifications of well-drillers.

The Manitoba Habitat Heritage Act – establishes the Manitoba Habitat Heritage Corporation, with the objectives to conserve, restore and enhance wildlife and fish habitat and wildlife and fish populations.

The Planning Act – requires that planning take place in rural Manitoba and recognizes that plans should consider any integrated watershed plans.

The Public Health Act – enables the government to protect water sources, restrict activities in designated sanitary areas, regulate supplies of drinking water, regulate development and operation of sewage treatment facilities.

The Water Power Act – allows the province to regulate use of water for purposes of generation of electricity.

The Water Resources Administration Act – continues the administrative structure to manage several pieces of water-related legislation that permits designation of flood areas, of reservoir areas and of diking systems.

The Water Resources Conservation Act – broadly prohibits the taking, storage conveying or selling of water from a basin or a sub-basin and notes that water is not a manufactured or produced product.

The Water Rights Act – requires licensing of the extraction of water for agricultural, industrial or domestic purposes.

The Manitoba Water Services Board Act – continues the Manitoba Water Services Board which has the following objectives: obtaining, development, transmission, distribution and control of water supplies for the people of the province and the collection, treatment and disposal of sewage. The focus is on areas outside the city of Winnipeg.

The Water Supply Commissions Act – allows for establishment of water commission areas and water commissions that would have the purpose of supplying all residents of the area with water to meet their needs.

Manitoba has defined Integrated Watershed Management Planning (IWMP) as planning to ensure that water and related resources are managed to provide for the environmental, social, and economic well-being of the entire watershed. The Manitoba IWMP process involves, generically, the steps laid out in Figure 3.3. The following notes augment information on that diagram.

- The Water Planning Authority (WPA) is established to guide the planning process.
- Compilation of a state of the watershed report and source water assessment is done with technical assistance from various provincial and federal agencies. The source water assessment is to be a part of the state of the watershed report.
- In conducting public consultation during preparation of the draft plan, the WPA has responsibility to engage representatives of all watershed residents in the process.
- The draft plan for source water protection and watershed management should address the issues and propose mitigation and protection measures where necessary or desirable. It should reflect a balance of local and provincial priorities.

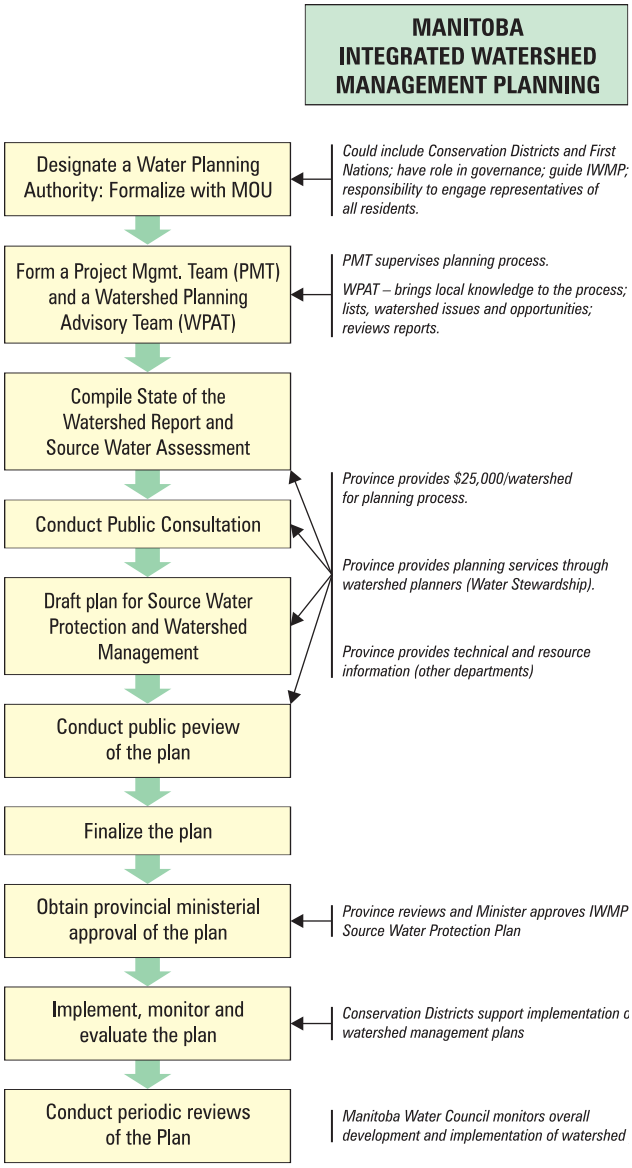

Figure 3.3.

The IWMP goals for the province are to have 75 percent of the plans started in the first five years and to have 90 percent completed in 10 years. The province provides $25,000 for each watershed to assist in the planning process.

It is the intent that Manitoba's Conservation Districts (CDs), a part of the water administration setting for many years in Manitoba, and a vehicle for implementing watershed protection measures, will be front and centre in production of state of the basin reports and formation and implementation of integrated watershed management plans. This and other changes related to what conservation districts do, and how they finance it, are all part of a consultation currently in progress.

There is no formal integrated watershed management planning activity in the Saskatchewan River basin currently underway in Manitoba; however, the Kelsey Conservation District has been established. This Conservation District includes a major portion of the Saskatchewan River basin in Manitoba.

SUPPORT FOR INTEGRATED WATERSHED MANAGEMENT PLANNING

Wetland Policies on the Prairies

Wetlands information is critical to preparation of any state of the basin report, and the wetlands policy context is an important underpinning for watershed planning and watershed plan implementation.

Alberta and Saskatchewan are both concluding wetlands policy development processes, while Manitoba is initiating theirs. In Saskatchewan and Alberta, current wetlands policy development is aimed at updating and replacing previous policies. On the other hand, in Manitoba, the policy development process represents a first comprehensive effort towards wetlands policy. Given that Manitoba's process is just beginning, it is unlikely a new wetland policy would be in place there in less than two years.

The new Alberta wetlands policy applies to all areas of the province. Previously, there were two policies - one for the south, or the white zone of the province, and one for the north, or forested green zone. The new policy applies to the whole province and to all classes of wetlands. In September of 2008, the Alberta Water Council recommended the new policy to the Alberta government, along with recommendations for a policy implementation plan. The policy itself identifies a number of guiding principles that reflect the high value of wetlands. It elaborates an overall goal to 'maintain wetland area in Alberta such that ecological, social and economic benefits that wetlands provide are maintained' and 'Albertans have healthy watersheds that provide safe and secure drinking water supplies for a sustainable economy.' The policy lays out a wetland mitigation decision framework. The recommendations for a policy implementation plan includes action plans for each of five strategic directions. The Alberta government is reviewing the recommendations and is currently crafting a new wetlands policy that could reasonably be expected to be ready for release in the spring of 2009.

The new Saskatchewan wetlands policy replaces a policy released in 1993. The new policy is intended to elaborate on the 1993 version and be more specific in terms of linking the policy to on-the-ground actions. The new policy is awaiting release, probably later in 2009.

The Integration of Land Use Planning and IWMP

The effectiveness of integrated watershed management planning will be heavily influenced by the degree to which it can be integrated with land-use planning in the watershed. This integration occurs to varying degrees within the Saskatchewan River basin.

In Alberta, work has been underway for some time on a new land-use framework. Development of that framework has been both an extensive and intensive effort, with a large breadth of engagement and significant effort required of those most engaged in its committee and sub-committee work. The draft land-use framework was recently released

The land-use framework contemplates and lays out a detailed schedule for development of six regional plans. The six regions are largely congruent with major watersheds but also have to fit with municipal boundaries. The regional planning effort must encompass use and management of land, air, water and biodiversity. Integrated watershed management plans will have to be in compliance with these six new landscape-level plans. If the IWMP process is already well-advanced, the appropriate WPACs will be asked to contribute to development of the regional plan. For these existing watershed management plans to be compliant, some adjustments may be required, once the provincial Cabinet has approved the regional plan. On the other hand, if the IWMP process is in its early stages when the development of the regional plan begins, the relevant WPACs may choose to await the outcome of the regional land-use planning process before doing the detailed IWMP process. This will be

one way of ensuring congruity. The schedule for preparation of the six regional land-use plans has them all completed by 2012.

In Saskatchewan, there is no formal land-use planning undertaken in the southern part of the province, where IWMP processes are currently underway, with the exception of some special area plans, such as that for the Great Sand Hills. Land-use zoning is done by rural and urban municipalities. All municipalities within a watershed are invited into the integrated watershed management planning process. It is hoped that municipal representatives will take back to their respective administrations the implications of the integrated watershed management plans for their own municipality, and work towards congruence.

In Manitoba, the two Acts most focussed on this question reference each other. *The Planning Act* indicates that in preparing a development plan or amending a development plan by-law, consideration must be given to any watershed plan approved under *The Water Protection Act*. Similarly, *The Water Protection Act* requires that the preparation of any watershed management plan consider any development plans (as defined by *The Planning Act*). In practice what this means is that local planning staff of the provincial Community Planning Services Branch participate in development of recommendations of the integrated watershed management plan, at the invitation of the Water Planning Authority. This is a new process and it is straining resources for the planning people, but the will to make it work appears to be strong.

Riparian Management

Riparian health is an important consideration in state of the basin reporting and in development and implementation of a watershed management plan. There are a number of tools and supports available to watershed managers in all three provinces.

In Alberta, the Cows and Fish Program is strong and vibrant, and is based on creating partnerships with producers and communities, in which local communities identify riparian land-use issues and develop ways to deal with them. The Cows and Fish Program focusses heavily on process, which consists of five main parts:

- Awareness, in which presentations, workshops and field days are used to help people understand the functions and value of healthy riparian zones, as well as how riparian areas can be sustained or improved.
- Team building, in which local interests are encouraged to come together to learn about and address riparian health issues. This approach recognizes and reinforces that many must come together to tackle riparian issues.
- Tool building, in which experience and research is used to develop locally appropriate solutions to resolving riparian issues.
- Community-based action, in which community engagement ensures local people own both the process and the outcomes of riparian assessment and management. This leaves a legacy of effectiveness and longevity.
- Monitoring, in which local communities can know regularly the state of riparian health and the effectiveness of their actions to improve riparian health. In addition they can contribute to ongoing improvements in the Cows and Fish program delivery.

Cows and Fish Program activities do not include assistance for funding land and water management initiatives. However, the staff will guide landowners towards funding sources. Approximately 4000 people are exposed to the extension and education activities of the program in Alberta, annually. Evaluations done after the fact indicate the program is making a difference in the way approximately 60 percent of participants are managing their riparian areas.

In Saskatchewan, a vibrant program of education, extension and technical assistance on riparian management thrives. It occurs through a collaboration of provincial and federal agencies, including the

Saskatchewan Watershed Authority, the Saskatchewan Ministry of Agriculture and PFRA. Saskatchewan researched their approach to the program at about the same time as Alberta did, and the two provinces adopted many of the same principles around the same time, the early 1990s. At the same time, Saskatchewan has borrowed a number of elements of the Alberta Cows and Fish Program, although the focus in Saskatchewan is also on individual producers, not only groups of producers. A strong principle of the Saskatchewan programming in this area is that incentives are far more effective than is an attempt at enforcement of requirements.

Riparian management in Saskatchewan currently occurs hand-in-hand with delivery of the Farm Stewardship Program. In addition to providing good background information and strong technical support to individual producers as they develop their environmental farm plans, Saskatchewan has emphasized, through the budgeting process, a sub-set of the standard list of BMPs of particular use in managing riparian areas, two of the chief ones being riparian management and winter-site management. By reserving a certain amount of the funding available for BMPs solely for the sub-set, the uptake of certain BMPs is, reportedly, higher in Saskatchewan than in the other Prairie Provinces.

As part of the Farm Stewardship Program, there are 10 agro-environmental group plans; that is, environmental farm plans for groups of producers, those groups being defined largely on a watershed basis. Here, again, water resource-related BMPs are emphasized.

Saskatchewan is also working very closely with the First Nations Agriculture Committee, a non-government organization successfully implementing BMPs on First Nations' agricultural lands.

Saskatchewan's expectation is that current momentum can be continued into the replacement for the Agriculture Policy Framework, Growing Forward.

In Manitoba, also, the riparian health program, known as Managing the Water's Edge (MWE), is adapted from the Cows and Fish Program. However, one major difference is that there is no real emphasis on community engagement, as the focus is more clearly on the individual producer in Manitoba.

Several government agencies came together under the umbrella of the Riparian Health Council to develop the MWE program. In addition to government agencies, conservation districts are also involved at a more local level. The program currently consists of workshops (which the organizing agencies collectively deliver) that help to inform producers and other land owners of the value of riparian areas, and of the application of the rapid riparian assessment technique. Guidance and advice on how to protect and improve riparian areas are also available. However, while some funding for related beneficial management practices (BMPs) has been available through the local conservation districts, for the most part it has been occurring most recently through the environmental farm planning process and related BMPs. However, the process is now in hiatus as Growing Forward, the anticipated replacement for the Agricultural Policy Framework, is negotiated.

The MWE process in Manitoba is not currently heavily subscribed, due, in part at least, to the present state of the livestock industry. However, an initiative with one of the western Manitoba school divisions is underway. This acquaints Grade 11 or 12 school students with riparian issues and with protection and improvement strategies. The initiative is in its second year. The first year yielded very positive results in terms of student interest, student learning, and progression of the students to higher learning opportunities.

SOME LESSONS LEARNED IN WATERSHED PLANNING AND MANAGEMENT IN THE SASKATCHEWAN BASIN

Common Lessons

The following lessons have emerged in more than one province:

- Local watershed planning bodies have found it immensely helpful to be able to base decisions or choices they have to make, as much as possible on good science, rather than on assumptions. Assumptions are often a bad foundation for planning.
- Local driving of the IWMP process is of critical importance.
- Locally based watershed planning and management activities require a strong commitment of resources that fit the responsibilities assigned or assumed. In many cases, the current assignment of resources is seen as not being sufficient.
- Having the right people and all the critical interests at the table is essential. In respect of the former, good leadership and championing of the IWMP philosophy is quite important. In terms of the latter, there will be inadequate buy-in to the plan and to implementation if the critical interests are not appropriately engaged throughout.
- There has been limited success in engaging First Nations in the IWMP process. Appropriate protocols are needed for engaging First Nations. The protocol should address, for example:
    - Reasons for and scope of engagement
    - Principles of process
    - A non-impact on rights statement
    - How partners will communicate
    - Decision-making scope
    - Government-to-government relationships

- It is further noted that in dealing with First Nations, one should not take a one-size-fits-all approach. Each community may well be different. Further, this requires relationship-building and one should allow considerable time for this to develop with each community.
- Strong and relevant technical advice is essential to the IWMP process.

Jurisdiction-specific Lessons

Alberta has found that:

- Establishment of ground rules for operation of the WPACs, prior to any conflict arising, has been quite important. These ground rules often stress openness, honesty, integrity, and absence of hidden agendas.
- Use of open forums to exchange information within and amongst WPACs has been useful, where applied, in dispelling suspicion and improving understanding within WPACs and supporting mutual learning between WPACs.
- A more complete governance model development by the province prior to the implementation of the WPAC process would have been desirable. The uncertainty of roles and responsibilities is thought to have hindered progress in some areas.
- Some WPACs have had the good fortune to have extremely committed volunteers - people who participate in both the planning exercise and in completing on-the-ground activities.
- One WPAC identified a huge benefit from having one Board member who kept an ear to the ground, always bringing insights about what citizens wanted to see from the exercise.
- It has been helpful to ensure that local stewardship groups get appropriate profile and respect for their contributions.
- Use of a community approach increases the effectiveness of extension and education activities of the Cows and Fish program markedly.

Saskatchewan has found the following:

- Watershed planning projects for each of the North and South Saskatchewan rivers were so expansive geographically that, in retrospect, the division of these watersheds into smaller units might have assisted some of the logistics of planning, both for the stakeholders and the Saskatchewan Watershed Authority.
- There is uneven participation in the planning process over the long-term among the different stakeholders. While this may be attributed sometimes to satisfaction that their interests are being well served, in other circumstances, it may be because some stakeholders must participate on their own time and at their own expense.
- Due to the possibility that some major risks from point and non-point sources of pollution in the watershed may be missed in the current process, future planning will use a watershed risk assessment tool to evaluate issues raised by the Watershed Advisory Committees.
- It has been important to take time to conduct the process well – to do it right even if it seems slow.

Manitoba has found:

- Conservation districts have been effective as local implementers of provincial priorities. They have also proved to be adaptable to changes in government and policy. The CDs have been effective in education and outreach on topics such as riparian programming and, earlier, on initiatives like zero-till. They have also been effective in mobilizing community through local events, such as a water festival, which is having the effect of encouraging development of a water ethic in which everyone takes responsibility for water.

ENDNOTES

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