

# Engaging Rural Municipalities: **FORUM FINAL REPORT**



## **North Saskatchewan Watershed Alliance**

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The North Saskatchewan Watershed Alliance (NSWA) is a non-profit society whose purpose is to protect and improve water quality and ecosystem functioning in the North Saskatchewan River watershed in Alberta. The organization is guided by a Board of Directors composed of member organizations from within the watershed. It is the designated Watershed Planning and Advisory Council (WPAC) for the North Saskatchewan River under the Government of Alberta's *Water for Life Strategy*.

Prepared under contract by Teleologic Strategic Communications Inc.

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## EXECUTIVE SUMMARY

In July 2008, the North Saskatchewan Watershed Alliance (NSWA) accepted the *Shared Governance Implementation Strategy (2008)* developed by Teleologic Strategic Communications Inc. Working from that strategy, NSWA spent the fall and winter of 2008 – 2009 preparing and delivering watershed information to rural municipalities. This initiative culminated in a Rural Municipal Forum in February 2009. The Forum represented the formal launch of sector-based stakeholder engagement within the watershed, consistent with recent policy recommendations of the Alberta Water Council (AWC) and Alberta Environment.

In anticipation of the February 10, 2009 Rural Municipal Forum, NSWA made formal presentations to 12 of the 15 rural municipalities that have a significant land base in the North Saskatchewan River (NSR) watershed. All 19 counties and one municipal district within or overlapping the boundaries of the NSR watershed also received information packages to help prepare them to participate in the forum. Representatives from 16 of the 20 rural municipalities within watershed attended the Forum, plus representatives from a number of urban municipalities, counties outside the watershed, observers (from environmental, community and industrial organizations) and the Government of Alberta.

In order to focus the discussion and encourage effective participation, municipalities were divided into three geographical regions within the NSR watershed. Although issues varied in significance from one region to another, panelists found they had in common many issues concerning the implementation of a shared governance approach to support watershed management planning. Panelists shared concerns about:

- How the *Water for Life* planning processes will integrate with other emerging planning processes, in particular, the *Land Use Framework* and proposed *Alberta Land Stewardship Act*;
- their future roles with respect to planning authority and accountability;
- how their participation will be accommodated in partnerships with other stakeholders;
- how watershed management plans will be implemented.

In general, participants expressed gratitude for the opportunity to share their concerns with each other and with NSWA, as well as the opportunity to begin an exploration of solutions to watershed management issues. They supported the idea of further meetings as a “rural municipal caucus” and agreed to participate in expanded discussions that would include other stakeholder sectors. There was general agreement that this would have to happen in order to advance the Integrated Watershed Management Planning (IWMP) process for the NSR.

Forty-three Forum participants completed an exit feedback form. On a scale of one to five (five indicating that a specific criterion was “excellent”) respondents rated all criteria four or better. Of those 43 respondents, 15 left written comments.

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Because most participants indicated, through casual conversation or feedback response, that the facilitated panel discussion approach was an effective way for them to voice their concerns, trade strategies and explore new solutions to watershed management, this engagement method will be used in future with other watershed stakeholders. These stakeholder groups will be identified, using the AWC sector model.

Technical studies scheduled for completion in 2009 will provide additional scientific data for discussion with all stakeholders. NSWA will move beyond rural municipalities to engage industry, non-governmental organizations and all local governments within the watershed to explore the results and implications of these studies for watershed management planning.

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## 1.0 INTRODUCTION

The North Saskatchewan Watershed Alliance (NSWA) was formed in 1997 by EPCOR and Trout Unlimited Canada with funding support from: Agriculture and Agri-Food Canada; TransAlta; and the City of Edmonton Drainage Services Branch. The goal was to provide a forum for sharing information and experience about issues affecting the North Saskatchewan River (NSR) watershed in Alberta, and to initiate activities designed to make a positive impact within the watershed.

In 1999, NSWA became a registered not-for-profit society in Alberta, and has expanded to more than 140 members that represent a wide range of stakeholders living, working or with an interest in the NSR watershed. NSWA membership includes: municipalities; aboriginal communities; industry and industry associations; agriculture, recreation, culture, environment, conservation, and tourism organizations; representatives of the federal, provincial and municipal governments; education and research groups; and private citizens.

When the Government of Alberta adopted *Water for Life: Alberta's Strategy for Sustainability* in 2003, it envisioned the creation of Watershed Planning and Advisory Councils (WPACs) with an official, two-part mandate: to develop state-of-the-watershed reports and watershed management plans. Watershed management plans must support the achievement of the three *Water for Life* goals.

1. Safe, secure drinking water supply.
2. Healthy aquatic ecosystems.
3. Reliable quality water supplies for a sustainable economy.

Under *Water for Life*, WPACs are tasked with the development of watershed management plans for each provincial watershed region. Alberta Environment awarded WPAC status to NSWA in 2005. Within the context of a watershed management plan, individual stakeholders, whose land and water uses can affect the achievement of one or any combination of the three goals, are expected to collaborate with other stakeholders to ensure the sustainability of watershed resources.

In July 2008, NSWA accepted a plan of action prepared by Teleologic Strategic Communications Inc. (Teleologic) entitled *Shared Governance Implementation Strategy*. This plan was designed to help NSWA develop a realistic stakeholder engagement strategy. The *Shared Governance Implementation Strategy* laid the groundwork for a stakeholder engagement effort with as many as 400 independent stakeholders, all of whom need the opportunity to participate in the development and implementation of the proposed Integrated Watershed Management Plan (IWMP).

AWC released *Strengthening Partnerships: A Shared Governance Framework for Water For Life Collaborative Partnerships* in September 2008. This framework recommends a four-sector model (1. provincial government, 2. industry, 3. non-governmental organizations (NGOs), and 4.

other governments) as an appropriate model for all *Water for Life* partnerships, including WPACs. With this information, NSWA began to explore how it could best initiate its stakeholder engagement efforts in 2008-09.

In fiscal 2008-09 NSWA entered into a contract with Alberta Environment to explore the concept of a collaborative approach to watershed planning. The contract with Alberta Environment had three deliverables:

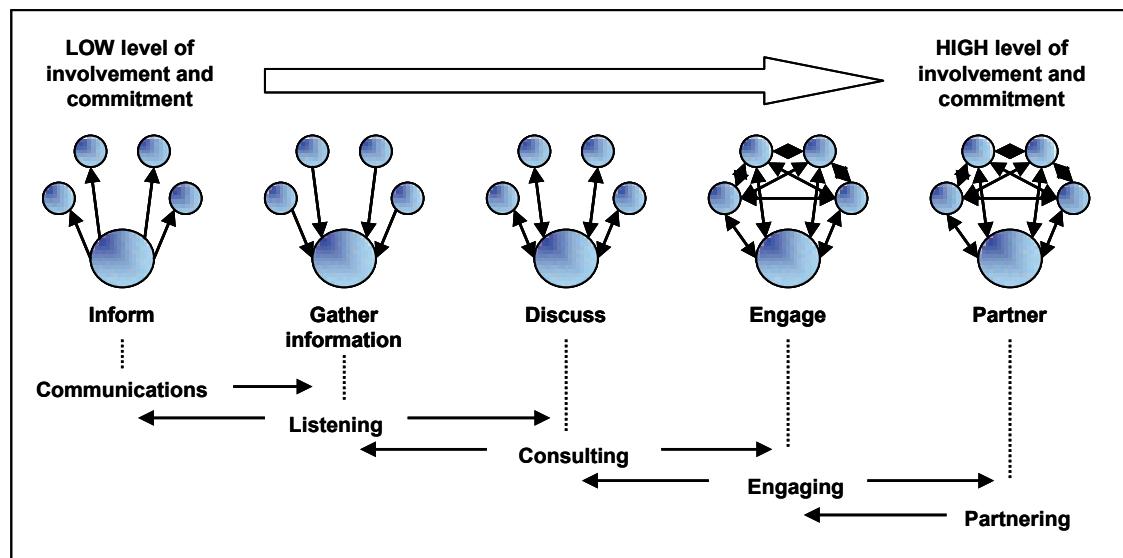
1. NSWA would facilitate a collaborative process with stakeholders to develop support for the IWMP.
2. NSWA would explore ways to discuss watershed planning and management issues with stakeholders.
3. NSWA would prepare a report documenting the methodology, results and conclusions of this process.

NSWA awarded a contract to Teleologic in December 2008 for developing a pilot project to implement the *Shared Governance Implementation Strategy*. Based on its existing governance structure and previous outreach efforts, NSWA decided to pilot a stakeholder engagement strategy with rural municipalities – some of whom were already strong supporters of NSWA, and all of whom have significant land management responsibilities within the NSR watershed. Insights gained through the rural municipal engagement pilot project would assist NSWA in designing a template for developing collaborative relationships with other sector groups.

## 2.0 METHODOLOGY

For the purposes of a Stakeholder Engagement Pilot Project, NSWA adopted the *Public Participation Spectrum (PPS)* as shown in Figure 1 (Teleologic 2008).

Figure 1. Public Participation Spectrum (adapted by Teleologic from the International Association for Public Participation – iap2)



By distributing water management information (**Inform**), and collecting stakeholder input (**Gather Information**), NSWA hoped to lead the way to a meaningful discussion (**Discuss**) that would afford the opportunity to involve stakeholders in a collaborative exercise (**Engage**) that would build a foundation upon which sustainable relationships could form (**Partner**).

Because developing watershed management partnerships is the ultimate goal, and because this type of relationship requires a high level of commitment on the part of both NSWA and watershed stakeholders, NSWA needed to become more directly involved with rural municipalities. It was hoped that this effort would lead to a deeper understanding (for all parties) of the implications of *Water for Life* partnerships, including the roles and responsibilities of WPACs, and watershed management planning concepts.

NSWA visited rural (and smaller urban) municipalities during 2008 and early 2009, presenting watershed management information to local governments and administrative staff. This constituted the “**Inform**” stage of PPS.

The following key messages, developed in NSWA’s *Shared Governance Implementation Strategy* were delivered to municipalities.

1. NSWA was mandated by the Government of Alberta to develop an IWMP for the North Saskatchewan River watershed.

2. The Terms of Reference for the IWMP were approved by Alberta Environment in 2005.
3. Further implementation of the *Water for Life* strategy – including the development of shared governance and watershed management planning frameworks – will require some modification of the IWMP Terms of Reference and associated work plan.
4. Most important of these modifications is the comprehensive involvement of stakeholders in a new shared governance relationship that requires building consensus throughout the watershed on management outcomes.
5. NSWA will develop stronger relationships with current stakeholder members and recruit new stakeholders for a discussion on best ways to implement shared governance and consensus decision-making, for watershed planning.
6. Watershed management planning will be a key component of resource management decisions under the new *Land Use Framework*.
7. NSWA recognizes that *Water for Life* is a new planning process and acknowledges that the process for municipal participation was unclear.

These messages were imbedded in two municipal briefing notes, three information bulletins and overview descriptions of several sub-watersheds. These documents are provided in Appendix 1 (the full suite of sub-watershed overview descriptions is available at <http://www.nswa.ab.ca/>).

During the **Inform** process, NSWA encouraged rural municipalities to express their views on watershed management and to outline specific regional issues. This constituted the first phase of the “**Gather Information**” stage of PPS, and assisted NSWA in structuring a rural municipal forum as a transition to the “**Discuss**” stage of PPS.

The rural municipalities indicated they were most concerned about their capacity to take on the added responsibilities that they anticipate will arise out of new provincial planning initiatives. The announcement of the *Land Use Framework* deepened uncertainty among rural municipalities about how to reconcile land use planning within their jurisdictions with watershed planning and regional land use planning. It also became evident that although there were many similarities in watershed management issues among all rural municipalities, there were also significant differences, due to geographic location and local characteristics.

The “**Discuss**” stage of PPS was facilitated by hosting a Rural Municipal Forum in the spring of 2009.

The Rural Municipal Forum began with an overview of the AWC and NSWA shared governance processes, a provincial policy context of Water for Life, and some insight into the Land Use Framework. These overviews were presented as a way to address questions and concerns heard while visiting rural municipalities.

Three discussion panels, corresponding to three distinct geographic watershed regions (the *headwaters* region, the *central* region, and the region *downstream* of Edmonton) provided a context for the forum conversation.

In order to broaden the scope of watershed discussion and demonstrate the complexity of collaborative relationships, NSWA joined forces with “Partners FOR the Saskatchewan River Basin” to co-sponsor a conference: *We Are All Upstream II* on February 11-12, 2009. At this conference the *State of the Saskatchewan River Basin* report was released.

It was anticipated that during the conference that followed, the subsequent overview of the entire, interprovincial watershed would emphasize the importance for collaborative watershed planning. The conference was an opportunity to showcase the rationale and necessity for stakeholders to become more fully involved (enter into the “**Engage**” stage) with NSWA and to explore ways to develop watershed management partnerships (enter into the “**Partner**” stage) with NSWA and with each other.

### 3.0 THE RURAL MUNICIPAL FORUM – THE DISCUSSION

During presentations to rural municipalities, it became evident that an understanding of *Water for Life* and the function of the NSWA as a WPAC varied broadly. In answer to this inequity, when preparing for the Rural Municipal Forum, detailed presentations were developed to provide critical background information to ensure a common level of base understanding among participants.

The presentations:

- “*Water for Life: NSWA Municipal Forum*,” Mr. Andy Lamb, Director, Central region, Alberta Environment;
- “*Integrated Watershed Management Planning for the North Saskatchewan River Basin*,” Mr. David Trew, Executive Director, NSWA; and
- “*Collaborative planning under Water for Life*,” Mr. Michael Evans, Teleologic.

The Forum agenda and these presentations are attached in Appendix 2. In addition, Mr. Jim Ellis, Deputy Minister of Alberta Environment, delivered a key-note address entitled “*Integration of Planning Activities under Water for Life and the Land Use Framework*.”

Facilitated panel discussions enabled municipalities to explore watershed management and shared governance issues to their mutual benefit and to the benefit of NSWA. Panel facilitation was shared by Mr. Michael Evans and Mr. Tom Cottrell (NSWA). Representatives from 16 counties were divided into three geographically-determined panels: the *headwaters* region, the *central* region, and the region *downstream* of Edmonton.

Teleologic synthesized detailed notes recorded by NSWA staff and NSWA reviewed the synthesis for accuracy. Issues and concerns unique to the headwaters region are described separately. Issues and concerns from the central and downstream regions were similar enough to be presented together. Issues common to all three regions are summarized beneath “Issues shared across the watershed.” Inferences based on panel participant comments are included at the end of this section under the sub-heading “Conclusions from the Forum.”

To wrap up the Forum, NSWA led a plenary discussion exploring next steps, and how to move forward with the development of the North Saskatchewan River Integrated Watershed Management Plan.

#### 3.1 Headwaters Region

Watershed issues common to rural municipalities in the Headwaters Region include: source water protection; improved water use in agriculture; and conservation practices. The following concerns were noted from the panel discussion:

- Municipalities in the mountains and foothills region are concerned about unregulated recreational activities by campers in the Green Area of the eastern slopes. Several counties expressed concern about the over-use of quads and other off-road vehicles.
- Rural municipalities have no jurisdiction in the Green Area, which represents a significant proportion of their land bases. They do not control industrial activities in the Green Area, such as tree harvesting plans or herbicide use, both of which can have significant impacts in the watershed.
- Some representatives suggested they had concerns and difficulties with the oil and gas industry. Oil and gas operators make agreements directly with landowners. Municipalities feel they have little ability to influence this land use in their communities.
- One representative wanted it recorded that industry (oil and gas, and mining) strongly supported the need for improved recreational management.
- It was suggested that forestry companies spray herbicides in quantities that exceed that applied by agriculture, but non-point source pollution is often blamed on farmers.

### 3.2 Central and Downstream Regions

Because so many agricultural communities in the central and downstream regions of the watershed share significant issues, the concerns from the two panels have been combined to reduce redundancy:

- Declining population is a serious issue that affects municipal capacity to participate in a meaningful way in watershed management planning. With a reduced tax base, increased tax rates and limited new industrial development, rural municipalities are challenged to participate.
- Those close to Edmonton are concerned that their issues will be overshadowed or overlooked by urban development practices in the Capital region.
- Water scarcity is a problem in both central and downstream regions. Some communities have no access to the main stem of the NSR and therefore rely on alternative water sources, such as smaller tributaries, groundwater, lakes, dugouts, etc.
- Central and downstream communities are apprehensive about the long-term availability of potable water. Panelists expressed concern that some wells are no longer fit for human consumption. This results in the need for water delivery via costly engineered solutions, ranging from trucking to pipeline projects.
- Some downstream communities reported they pay the highest cost for drinking water in the province. This cost discourages industrial development that could offset the costs of service delivery now paid solely through residential property taxes.
- Many farming communities east of Edmonton are concerned about water scarcity. For years, the local water management strategy was to drain wetlands and smaller lakes to

increase the availability of arable land. Now, panelists reported, people are pleased to have beavers build dams on their land because they retain water.

- On the other hand, flooding is a significant issue for some communities because the water holding capacity of the land has been compromised. Heavy rainfall events flood large areas but none of the water is retained. Water storage is a significant issue in many communities.
- Communities in these regions also emphasized the need for better management of wastewater so that it can be recycled and used again in other capacities.

### 3.3 Issues shared across the watershed

The following issues were common to all panels, and represent significant concerns throughout the watershed (many of these issues are related to the shared governance concept):

- Surface water scarcity, and the overall quality and quantity of groundwater resources, were concerns repeated by participants from all three regions.
- Another common concern centered on a lack of understanding of *Water for Life* and how rural municipalities fit into a shared governance planning model. Municipalities voiced concern about how to integrate municipal planning responsibilities with watershed management planning and the *Land Use Framework*. Rural municipalities expressed hope that a clearer description of roles, authority and accountability, as well as an improved understanding of how watershed management plans will be implemented, will emerge from WPAC partnerships.
- There are several politically charged issues related to watershed management, most of which relate to regulating development, the delivery of municipal services, and each municipality's ability to pay for the delivery of those services. Panelists observed that, as county reeves and councillors, they are elected locally. Constituents (particularly if uninformed about watershed issues) may hold elected officials accountable for a perceived bias against landowners' rights, new industrial and residential development, etc.
- Most municipalities are under increased pressure to manage growth and rural residential development. A few municipalities are faced with the dilemma of reduced populations.
- Most municipal service infrastructure is funded through off-site levies. Some Forum participants expressed concern this may not be the appropriate funding tool for such development because it may give developers undue influence.
- One municipality only approves new subdivisions that are in proximity to existing pavement and utility corridors. This controls costs and reduces impacts on the

watershed. However, they find this difficult to sell because weekend residents prefer a ‘wilderness experience.’

- Many panelists agreed that new residential development – dominated by urban residents establishing weekend ‘getaway’ homes – is changing the character of their communities. How the pressures of ‘getaway’ residential development intersect with watershed management planning is unknown.
- Some panelists reported their municipalities approved new development without necessarily considering water issues in terms of supply to new residents, management of wastewater or watershed impacts. Other representatives said issues of service delivery – such as transportation, water supply and wastewater management – are left with the developer.
- All panelists had concerns about wastewater management. Many rural subdivisions use septic systems that must be pumped out and the wastewater hauled away. Some panelists noted sewage lagoons may be pumped out onto the landscape without sufficient concern for the effects of run-off, which may enter neighbouring rural jurisdictions.
- Panelists expressed concern about their ability to evaluate new industrial development proposals where watershed management is part of the planning process. Panelists pointed out that large-scale industrial development – which they want to encourage in order to increase tax revenues – requires substantial water resources. However, municipalities lack the capacity to assess the viability or impacts of such projects on their water supply and existing services. The big challenge for municipalities is how to strike a balance between conservation and development – how to encourage *sustainable* development – when the necessary technical expertise is not available at the municipal level. For this reason, participants expressed a keen interest in cumulative effects management and how that will be implemented through the *Land Use Framework*.
- Rural municipalities are concerned about the need to work with individual landowners, especially farmers, to ensure that they implement best practices with respect to watershed management. They also worry that landowner rights may be compromised. Support available through agricultural field offices was acknowledged but there was a general feeling that it is not sufficient. It was noted that landowners are being left out of the larger discussion about the implementation of *Water for Life*.
- Roughly 600,000 Albertans, or 20 percent of the provincial population, still obtain their potable water from groundwater wells (*Alberta Environment 2007*). According to municipal participants, many of these wells are drying up or have become contaminated. Some central and downstream communities, for which scarcity is a

particular problem, are exploring costly infrastructure projects to pipe water from distant treatment facilities.

- A number of counties are determined to protect good agricultural land. Despite frequent proposals from developers for 40-lot acreage-based subdivisions (a common approach), municipalities try to protect prime agricultural land through their own land use by-laws. Panelists also noted that the residents of these new subdivisions, most of which are weekend homes for city residents, tend to have very high service expectations that are beyond the means of rural municipalities.
- Rural municipalities are bound by Alberta Municipal Affairs regulations that permit septic fields and other sewage systems, even when they are not satisfied that the standards meet sustainability criteria.
- There was vigorous discussion around the notion of increased use of conservation easements in, for example, wetland conservation. Many panelists agreed that if a landowner engages in conservation action for the public good, that landowner should be compensated. This concept was supported by audience members who drew attention to emerging work concerning the evaluation of environmental goods and services provided by wetlands and other natural areas.
- Panelists indicated broad support for the concept of cumulative effects management, noting there is little inter-jurisdictional cooperation to manage non-point source pollution, recreational and industrial impacts, sewage disposal and extreme natural events. However, they also said that cumulative effects management remains ‘mysterious’ and that they would like much more information. In addition, some panelists are concerned about inadequate enforcement of existing statutes, and therefore wonder whether new standards will be more effective than the current regulatory regime.
- Many panelists wondered about the best way to engage stakeholders from the specific sectors recommended by AWC – industry, NGOs, First Nations and Métis Settlements. Rural municipalities, with limited resources, are concerned about their ability to meet these expectations. They are aware that the industrial sector and larger municipalities have superior human, informational and financial resources.
- Panelists and participants from the floor agreed that more effort needs to be committed to education and engagement at the level of elected municipal representatives and administrative officials. At the same time, panelists said that simply providing a framework within which municipalities and other sectors can collaborate – such as envisioned in *Strengthening Partnerships* – is not sufficient. Watershed management planning introduces new responsibilities to rural municipalities for which they have

limited capacity. Panelists suggested the Province has to do more than just develop the framework; it must provide the funding required for building capacity.

- Rural municipalities would like to have a better understanding of the pressures on the watershed from a technical perspective. They expressed strong support for the research work currently being undertaken by NSWA. Rural municipalities want access to science-based, decision-support tools to help them with land use planning and other areas within municipal jurisdiction that will help them to support improved watershed management.

### 3.4 Conclusions

Developing effective partnerships is the ultimate goal to successful watershed management. The lessons learned from this pilot project will be reviewed and adapted to strengthen relationships with rural municipalities and stakeholders in other sectors.

In the early stages of this pilot project, several issues emerged through feedback received from a series of presentations made to rural municipalities. One was that rural municipalities within the NSR watershed did not have a clear understanding of NSWA's WPAC role under *Water for Life*. Another was a variety of gaps in understanding the value of watershed management planning in general.

During the Rural Municipal Forum, panelists expressed broad-based agreement for the value of watershed management planning. They illustrated their support in various ways. One way has been demonstrated by formalized participation in existing watershed-related ventures such as the Beaver Hills Initiative, the Northeast Alberta Water Management Coalition and the Vermilion River Watershed Management Project.

Panelists strongly voiced support for the work of the NSWA, in principle, as it had been described in a presentation by Executive Director David Trew. Many panelists admitted a lack of clear understanding of NSWA's role and their own responsibilities in the development of the NSR IWMP. It was emphasized that this could constitute the next round of presentations and discussions.

Panelists and colleagues from the floor agreed to continue discussing collaborative watershed management planning with NSWA provided that:

- municipalities receive more and continual updates on watershed-related studies and other information;
- sound partnerships emerge among the other sectors;
- jurisdictional uncertainty is addressed.

Panelists appreciated NSWA's challenge with finding sufficient resources for stakeholder engagement and in trying to provide stakeholders with the information and decision-support tools they require for meaningful participation. The timeframe within which watershed

management planning decisions must be made came under extensive discussion. Panelists expressed doubt about 2010 – 11 as realistic completion date for the first iteration of the IWMP.

Municipal elections occur every three years. In many communities, there have been significant changes of elected officials since the initial approval of the IWMP Terms of Reference in 2005. Panelists pointed out that it is critical to work with both elected representatives and administrative officials. The latter provide continuity for elected representatives and provide analysis in support of key decisions. Subsequent implementation and adaptation of the IWMP will require the substantive involvement of stakeholders for at least the next decade and likely longer.

Panelists discussed their struggles to reconcile conflicting political pressures that affect their participation in the collaborative decision-making process of watershed management planning. These pressures relate to: population growth (or, in some cases, reduction); residential and industrial development; costs related to service delivery and service delivery standards; and the adequacy of municipal tax revenues. Communities losing residents to ‘out-migration’ are looking to provide acreage developments, new services, or development-related employment opportunities to reverse that trend, all of which could have undetermined impact on the local watershed.

Panelists and participants from the floor agreed that more effort needs to be committed to public education and engagement, to increase the knowledge level of elected representatives and administrative officials. Panelists look to the NSWA and the Provincial Government to share the responsibility of delivering that education.

Panelists also reiterated that providing a framework, within which municipalities and other sectors can collaborate, as envisioned in *Strengthening Partnerships*, is not sufficient. They suggested that watershed management planning introduces new responsibilities to rural municipalities for which they have limited capacity. Panelists said the Province needs to do more than develop the framework; it must provide the funding required for building capacity.

Some panelists expressed concern about the advisory role of WPACs under *Water for Life* and how advice from WPACs would be provided to the *Land Use Framework* process. Participants suggested that the Province work with NSWA to define how the implementation of the *Land Use Framework* will affect the NSWA WPAC role under *Water for Life*.

Most rural municipal representatives felt strongly about their responsibilities to protect watershed resources and ensure the sustainability of their communities. Panelists and their colleagues from the floor supported the collaborative intent of *Water for Life* in general and hope for opportunities to exercise their legislated authority within their respective jurisdictions in partnership with other stakeholders.

From a technical perspective, rural municipalities would like to have a better understanding of specific pressures on the watershed. They expressed strong support for the research work

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undertaken by NSWA. Rural municipalities want science-based, decision-support tools. They want NSWA to continue to make watershed-related technical information available.

Panelists stressed that the outcomes of an IWMP had to improve upon measures that are already specified in existing regulations. It was felt that if enforcement was limited to broad-based, provincial regulatory standards, there was no rationale to support a resource-intensive collaborative planning process or to support an IWMP if its outcomes cannot be made mandatory within a specific watershed.

The complexity of building the social infrastructure within which to implement a shared governance model became evident during the Forum. Interacting with only one stakeholder group simplified the effort; however, since shared governance is built on a foundation of trust, two challenges emerged immediately: limited time and geographical distance. In order to move NSWA's existing relationships with rural municipalities into an arena of open discussion with other stakeholders, it will be necessary to expand the information dissemination as well as initiate more face-to-face meetings in more stakeholder communities.

Finally, although rural municipalities indicated their strong support, in principle, for *Water for Life*, they have concerns with respect to anticipated costs associated with meeting obligations to develop and implement the IWMP and, to a lesser extent, their as-yet to be determined financial obligation to NSWA.

## 4.0 NEXT STEPS

Some participants suggested that NSWA host a watershed management planning workshop with administrative planning and development staff, agricultural field men and other interested parties to explore, in greater depth, issues discussed at the Forum. Other participants wanted further discussion of roles and responsibilities, authority and accountability for implementing watershed management plans. They recommended that NSWA invite the Alberta Urban Municipalities Association and the Alberta Association of Municipal Districts to participate in watershed management discussions between the NSWA and the Counties. This idea warrants further exploration and may also provide important new information about the best way to involve individual landowners. The late autumn of 2009 would be a good time to re-engage rural municipalities.

NSWA plans to use what was learned in their efforts leading up to and during the Forum to design a version of this process for developing relationships with stakeholders in other sectors. Teleologic recommends the other sectors be engaged in the following order: industry; ENGOs; and small and large urban municipalities.

### 4.1 Industry

Industries identified by AWC already comply with regulatory requirements that relate to watershed protection in some way. These industries are often involved in public engagement activities during their application or licensing processes. However, the idea of collaborative decision-making with WPAC partners, as opposed to being accountable to directors and shareholders, introduces new expectations for industry, which the AWC's shared governance project team learned was a "foreign"<sup>1</sup> concept. The implications of collaborative decision-making and shared responsibility to implement watershed management plans must be explored further with industry.

NSWA's report entitled *Current and Future Water Use in the North Saskatchewan River Basin* identifies a number of industry sectors that are operating within the basin. Teleologic recommends contacting all the industry associations who, in many cases, have designated representatives to support their involvement in *Water for Life*.

These include, but are not limited to:

- Alberta Forest Products Association (AFPA);
- Forest Management Agreement (FMA) holders
- Canadian Association of Petroleum Producers (CAPP);

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<sup>1</sup> Teleologic consultant, Michael Evans, supported the Project Team whose stakeholder engagement efforts resulted in both *Strengthening Partnerships* and the *Watershed Management Planning Framework*. Although industry's hesitancy was not explicitly recognized in either document, it was noted by the Project Team.

- Alberta Chamber of Resources (mining);
- Livestock commodity groups, such as Alberta Beef Producers, Alberta Pork Producers, etc.;
- Power generators EPCOR and TransAlta; and
- Regional industry associations such as the Northeast Capital Industrial Association.

As with the Rural Municipal Forum, Teleologic recommends that key representatives be recruited in advance to participate in a series of panel discussions that address specific questions targeted to the implementation by industry of *Water for Life*. The recent release of Bill 36, the *Alberta Land Stewardship Act*, provides an opportunity to open that conversation. An industry forum would be best scheduled for autumn 2009.

#### **4.2 Environmental non-government organizations (ENGOs)**

ENGOs are accustomed to operating as independent advocates within the public realm, but have not, with notable exceptions, been invited to participate by other stakeholders when they make decisions that might affect the watershed within their respective jurisdictions. Consequently, many ENGOs have indicated their suspicion about the efficacy of the *Water for Life* process. Increasing the significance of their involvement in the IWMP process would help to alleviate some of those concerns.

The Alberta Water Council provides guidance on whom to engage from this sector. In addition to ‘general’ environmental organizations, AWC recommends involving: fisheries habitat organizations (such as Trout Unlimited); lake-environment organizations and/or user groups; wetland conservations groups (Ducks Unlimited); and watershed stewardship groups, which can be identified through the Alberta Stewardship Network.

A panel-based forum is recommended for the autumn of 2009.

#### **4.3 Small and large urban municipalities**

Small and large urban municipalities do not have the same challenges with regard to regulating land use as rural municipalities have, where the rural jurisdiction stretches over large regions of sparsely populated land. However, the concentration of population in urban areas leads to significant impacts that must be managed within an IWMP. Urban municipalities are likely to have greater resource capacity than rural municipalities to participate in watershed management planning discussions with NSWA, but it will be necessary to negotiate an appropriate engagement processes.

NSWA’s *Municipal Guide* identifies all the small and large urban municipalities within the watershed. NSWA has met with only a few of these communities, compared to their involvement with the rural municipal sector. Because these municipalities often have greater resources (with the exception of summer villages), it is likely that someone within the administrative structure has been designated to deal with watershed management planning issues. It is no less important to have elected representatives at the table. Ultimately, it is the

decision-makers (mayors, reeves and councilors) that will support and implement the NSR IWMP. A panel-based forum is, as for the industry and NGO sectors, recommended for the autumn of 2009.

#### **4.4 Aboriginal groups**

Teleologic does not recommend that Aboriginal communities, as ‘other governments,’ be engaged immediately, although their involvement is no less important than that of other stakeholders. There are, however, a number of related issues remaining to be resolved between the Province and various First Nations and Métis groups. It may be best to let these issues proceed to resolution before initiating more direct engagement.

Recent Supreme Court decisions have affirmed “the Crown’s duty to consult” but what that means is still open to interpretation (*Taku River Tlingit First Nations v. British Columbia*). The Government of Alberta is working through Aboriginal Relations to resolve some of the outstanding concerns of First Nations with respect to consultation or engagement processes.

All the First Nations within the North Saskatchewan River watershed are signatories of Treaty 6, and the Province has signed an environmental stewardship agreement with Chiefs from the Yellowhead Tribal Council and Tribal Chiefs Ventures, both tribal councils within Treaty 6. The agreement includes the Alexander First Nation, Alexis Nakota Sioux First Nation, Enoch Cree Nation, Frog Lake First Nation, Kehewin Cree Nation, O’Chiese First Nation, Suncild First Nation, and Whitefish Lake First Nation #128 (Goodfish).

Of those First Nations identified within the NSR watershed, only the Paul and Saddle Lake First Nations are not signatories to the agreement. This agreement may provide an opportunity for future collaboration.

Also, Indian and Northern Affairs Canada requires all First Nations develop source water protection plans. This is another venue through which First Nations participation may be secured. The First Nations (AB) Technical Services Advisory Group, represented on NSWAs’s IWMP Steering Committee, is leading this effort for Alberta First Nations.

There are two Métis Settlements within the NSR watershed. Relationship building with Métis Settlements is less complex than it is for First Nations, but the capacity challenges are similar.

For a more detailed discussion of issues related to Aboriginal participation in the development and implementation of an IWMP and a targeted approach to their engagement, see NSWAs’s *Shared Governance Implementation Strategy*.

#### **4.5 Autumn 2009 stakeholder engagement**

Teleologic suggests that NSWAs schedule three, successive, one day workshops, for each of the stakeholder groups specified above, in the autumn of 2009. Technical work conducted by NSWAs during the summer of 2009 will support the engagement efforts in the autumn. It is advised that each sector be invited to attend a ‘launch forum’ independent of the other sectors;

then when all sectors have been engaged independently, all the sectors can be brought together for a collective discussion.

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- Alberta Water Council. 2008. Strengthening Partnerships: A Shared Governance Framework for Water for Life Collaborative Partnerships. Edmonton, AB.
- North Saskatchewan Watershed Alliance. 2007. Current and Future Water Use in the North Saskatchewan River Basin. Edmonton: Prepared by AMEC Earth and Environmental, Edmonton, AB.
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- North Saskatchewan Watershed Alliance. 2008. Shared Governance Implementation Strategy. Prepared by Teleologic Strategic Communications Inc. Edmonton, AB.
- Partners for the Saskatchewan River Basin. 2009. From the Mountains to the Sea -The State of the Saskatchewan River Basin. Prepared by R. Halliday and Associates, Saskatoon, Sask.

## APPENDIX A: NSWA Presentations, Events, Tours 2008-09

In the eight months before and two months following the Rural Municipal Forum, the NSWA made presentations to 27 different organizations and participated with public information and displays in several conferences and public events (see next page). NSWA also participates in a small number of other organizations through which it informs the public and stakeholders of its mandate and ongoing work as the WPAC for the North Saskatchewan River basin.

- |               |  |
|---------------|--|
| July 20       | NSWA hosted a booth and display at the Inaugural Green Festival, Devonian Botanic Garden.  |
| August 7      | Participation in Kalyna Country, local food event, Vegreville.   |
| August 13     | Participation in and presentations during a Tour of Holden Drainage District and Vermilion River watershed conducted by the Alberta Environment, Vermilion River Operations Committee. |
| August 21     | Participation in and presentations during 21st Annual Agricultural Tour, Clearwater County.  |
| August 26     | Presentation to Council, Thorhild County in Thorhild.  |
| September 2   | Presentation to Council, Parkland County in Tomahawk.  |
| September 10  | Presentation to the 10th Annual Forum on Watershed Planning, Bow River Basin Council, Calgary.   |
| September 19  | Presentation to the Alberta Lake Management Society Annual Conference.   |
| September 24  | Presentation to the Natural Resources Conservation Board, Red Deer District Office.  |
| October 15    | NSWA hosted a booth and display at the Northwest Regional Conference of the Alberta Agricultural Service Boards Association in Breton.   |
| October 16    | Presentation to Source Water Protection Conference of the Western Canada Water, Edmonton.  |
| October 20-22 | NSWA participated in the Watershed Planning and Advisory Councils' Summit in Lethbridge.   |
| October 21    | Presentation to Council, Strathcona County.  |

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- October 21      Presentation to Council, City of Fort Saskatchewan.
  - October 28      Presentation to Council, Sturgeon County, Morinville.
  - October 30      Presentation to the Inaugural General Meeting, Sturgeon River Watershed Initiative, St. Albert.
  - November 3-4     NSWA and Ducks Unlimited Canada jointly hosted and conducted a Tour of Holden Drainage District and Vermilion River watershed for a group of professors and researchers from University of Guelph.
  - November 25     Presentation to a Joint Meeting of Councils of Town of Rocky Mountain House and Clearwater County.
  - November 27     Presentation to Board of Directors, Northeast Capital Industrial Association, Fort Saskatchewan.
  - January 13      Presentation to Council, Brazeau County, Drayton Valley.
  - January 15      Presentation to a Joint Meeting of Councils of Town of Two Hills and County of Two Hills No. 21.
  - January 19      Presentation to a Meeting of District 5 of the Alberta Association of Municipal Districts and Counties, Sherwood Park.
  - January 29      Two Presentations to Farm Tech 2009 Agricultural Conference, Edmonton.
  - February 4      Presentation to Agricultural Services Board, Beaver County, Ryley.
  - March 4        Presentation to Board of Directors, N. Sask. River Valley Alliance, Edmonton.
  - March 21        Presentation to Annual General Meeting, Mycological Society of Alberta, Edmonton.
  - March 30        Participation in a community meeting hosted by Dodds – Round Hill Agricultural Protective Association regarding common water concerns, Bardo Community Hall, Beaver County.

There were, in addition, a large number of informal meetings and briefings held throughout 2008-09 that helped prepare rural municipalities to participate in the shared governance approach to watershed management with NSWA.

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NSWA has appointed a member to the Board of Directors of the Beaver Hills Initiative, and is managing the Vermilion River Watershed Management Project in collaboration with the North-East Alberta Water Management Coalition (nine counties).

## APPENDIX B: Evaluation

A total of 88 people registered for the Forum. Representatives from 16 of the 20 counties with land wholly or partly within the North Saskatchewan watershed participated in the Forum. More than 100 people attended all or part of the Forum, exceeding the actual number of registrants. Some attendees accompanied registered participants. Others, who arrived one day early for the “*We Are All Upstream II Conference*” that was scheduled for February 11 and 12, participated in the afternoon session of the Rural Municipal Forum without registering.

Forty-three Forum participants completed the feedback form exit survey. Their responses indicate NSWA’s initial engagement efforts were effective (see Appendix 3). Of these, only two people indicated that the Forum did not meet their expectations and both felt there was not enough time for in-depth discussion. In general, rural municipalities found the Forum to be highly valuable. Participants welcomed involvement with NSWA, were interested in seeing the completion of the IWMP, and would like to become more involved in the water management planning process.

Telelogic’s initial proposal specified eight deliverables (subject to change upon mutual agreement):

Deliverable	Status
1. Methodological approach to engage municipalities.	Complete
2. Education and engagement materials.	Complete
3. Municipal knowledge, attitudes, beliefs and behaviours assessment.	Initiated
4. Engagement key messages and issues catalogue.	Complete
5. Recommendations for the implementation of consensus decision-making.	Complete through different process
6. Recommendations for ongoing municipal financial support to NSWA.	Initiated
7. Sufficient learning about municipal involvement to provide the basis for the February 10 pre-conference municipal workshop.	Complete
8. Pre-conference workshop agenda, support materials, etc.	Complete

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Items 1, 2, 4, 7 and 8 above were all delivered through efforts to organize and deliver the Rural Municipal Forum. Data collection for item 3 was part of the pre-forum meetings with rural municipal councils and administrative officials, and through the Forum itself. Item 5 was addressed in a separate process. Item 6 was initiated by NSWA in mid-2009.

## APPENDIX C: MUNICIPAL INFORMATION RESOURCES

- NSWA Municipal Briefing Note: Strengthening Partnerships
- NSWA Municipal Briefing Note: Alberta *Land-Use Framework* Final Report
- NSWA Information Bulletin: The Integrated Watershed Management Plan
- NSWA Information Bulletin: The Municipal Guide
- NSWA Information Bulletin: NSWA Rural Municipal Forum
- North Saskatchewan Watershed Sub-basin Overview
- Cline sub-watershed (example)
- Ram sub-watershed (example)



# NSWA Municipal Briefing Note

## Strengthening Partnerships in the North Saskatchewan River Watershed

The Alberta Water Council (AWC) released their report, *Strengthening Partnerships: A Shared Governance Framework for Water for Life Collaborative Partnerships* in 2008. This document provides guidance for the establishment and operations of *Water for Life* partnerships, especially for **Watershed Planning and Advisory Councils (WPACs)** and **Watershed Stewardship Groups (WSGs)**. This document also provides guidance for various sector stakeholders in determining their roles and responsibilities as the Province implements further the *Water for Life* strategy.

### BACKGROUND

When the Government of Alberta adopted *Water for Life: Alberta's Strategy for Sustainability*, it conferred shared responsibility for watershed management planning to WPACs. Currently, there are nine WPACs in the Province of Alberta, each in a major, provincial river watershed.

WPACs are directed to collaborate with identified stakeholders, including: federal, provincial and local governments; First Nations; Métis; industry; and non-governmental organizations (NGOs).

This collaborative planning approach will result in:

- ◆ Recommendations to the Government of Alberta on water policy
- ◆ Watershed assessment and planning
- ◆ Education, outreach, monitoring, stewardship and other programs
- ◆ Identification of strategies to achieve the three goals of the *Water for Life*:
  - ◆ Safe, secure drinking water supplies
  - ◆ Healthy aquatic ecosystems
  - ◆ Reliable, quality water supplies for a sustainable economy

The NSWA is the designated WPAC tasked with developing an Integrated Watershed Management Plan (IWMP) for the North Saskatchewan River watershed. In order to ensure their preferences are considered, sector stakeholders with an interest in watershed and water resource management are invited to work with NSWA.

The North Saskatchewan Watershed Alliance invites your municipality to:

- ◆ Confirm membership in NSWA
- ◆ Consider designating both elected and administrative positions to receive information
- ◆ Participate in deliberations toward developing the IWMP

Regional plans, under the *Land-use Framework*, will need to find ways to integrate land-use and watershed management planning. With this in mind NSWA is working to strengthen planning partnerships within the North Saskatchewan River watershed.





# North Saskatchewan Watershed Alliance



A special **Rural Municipal Forum** to discuss the collaborative aspects of watershed planning is scheduled for **February 10, 2009 in Nisku, Alberta** at the Royal Executive Inn. This forum will enable NSWA and rural municipal stakeholders in the watershed to test and explore the best means for involving rural municipalities in the development and implementation of the Integrated Watershed Management Plan.

NSWA invites your attendance at the February 10th Municipal Forum.

To Register for the Municipal Forum please contact:

Tom Cottrell,  
NSWA IWMP Coordinator  
780.496.6962 tom.cottrell@edmonton.ca  
OR  
Billie Milholland,  
NSWA Communication Manager  
780.496.5577 billie.milholland@edmonton.ca

Following this workshop is a two-day Conference:  
**We Are All Upstream II: Making Connections**  
**(Feb 11 & 12)**

Hosted by **NSWA** and the Saskatoon-based  
**Partners FOR the Saskatchewan River Basin**  
**(PFSRB)** To register for the conference, visit:

[www.saskriverbasin.com](http://www.saskriverbasin.com)

## RELEVANT DOCUMENTATION

*Strengthening Partnerships: A Shared Governance Framework for Water for Life Collaborative Partnerships*

<http://www.awchome.ca/Portals/0/pdfs/Shared%20Gov%20Partnership%20Report%20FINAL.pdf>

*Water for Life: Alberta's Strategy for Sustainability*  
<http://www.waterforlife.gov.ab.ca/docs/strategyNov03.pdf>

*Water for Life: A Renewal*  
<http://environment.gov.ab.ca/info/library/8035.pdf>



# NSWA Municipal Briefing Note

## Alberta Land-use Framework Final Report

The Government of Alberta released its final Land-use Framework on December 3, 2008. The Framework has several implications for municipalities with respect to land use (residential, commercial and industrial development), watershed management and cumulative environmental effects management.

### BACKGROUND

The Land-use Framework is a comprehensive strategy designed to improve the management of public and private lands (and natural resources) to achieve Alberta's long-term economic, environmental and social goals. The Framework provides a blueprint for land use management and decision-making that addresses Alberta's growth pressures. The Framework will be developed within four categories: land, water, air and biodiversity.

The Province of Alberta suggests that sustainability of growth in designated regions will be predicated on water use and watershed health, which means that the Framework and its implementation are of particular interest to NSWA and its partners in the North Saskatchewan River watershed.

### CURRENT STATUS

The Government of Alberta released this final report following a round of public consultation in the summer and fall of 2008.

### Significant changes in the final document include:

- ◆ Addition of a new strategy (*The Efficient Use of Land*) to reduce the human footprint on the land.
- ◆ Addition of a new region (*Red Deer Region*) to address southern Alberta's larger population, number and size of municipalities, and diversity of landscapes.
- ◆ Planning regions now named for major river watersheds to reflect the integration of land-use and watershed planning.

The Framework's implementation plan and terms-of-reference for regional plans are anticipated in early 2009. Developing a plan for the Capital Region in the North Saskatchewan River watershed (particularly the potential impact and cumulative effects of the Industrial Heartland) is one of four immediate provincial priorities.

The *Land-use Framework*, like *Water for Life*, advocates shared decision-making with regional stakeholders.

The *Land-use Framework* also states:

***"Municipalities will be required to ensure their plans and decisions are consistent with regional plans. The Government of Alberta will respect the existing land-use planning and decision-making authority of municipalities."***





# North Saskatchewan Watershed Alliance

## Municipalities will soon face the challenge of:

- Outlining how municipal development plans will align with and address provincial directions
- Amending municipal planning documents to adopt regional planning directions.
- Aligning municipal development planning with the outcomes of integrated land and watershed planning

## NSWA invites municipalities to:

Participate in the collaborative development of a North Saskatchewan River Integrated Watershed Management Plan (IWMP), which will provide planning advice to the Government of Alberta.

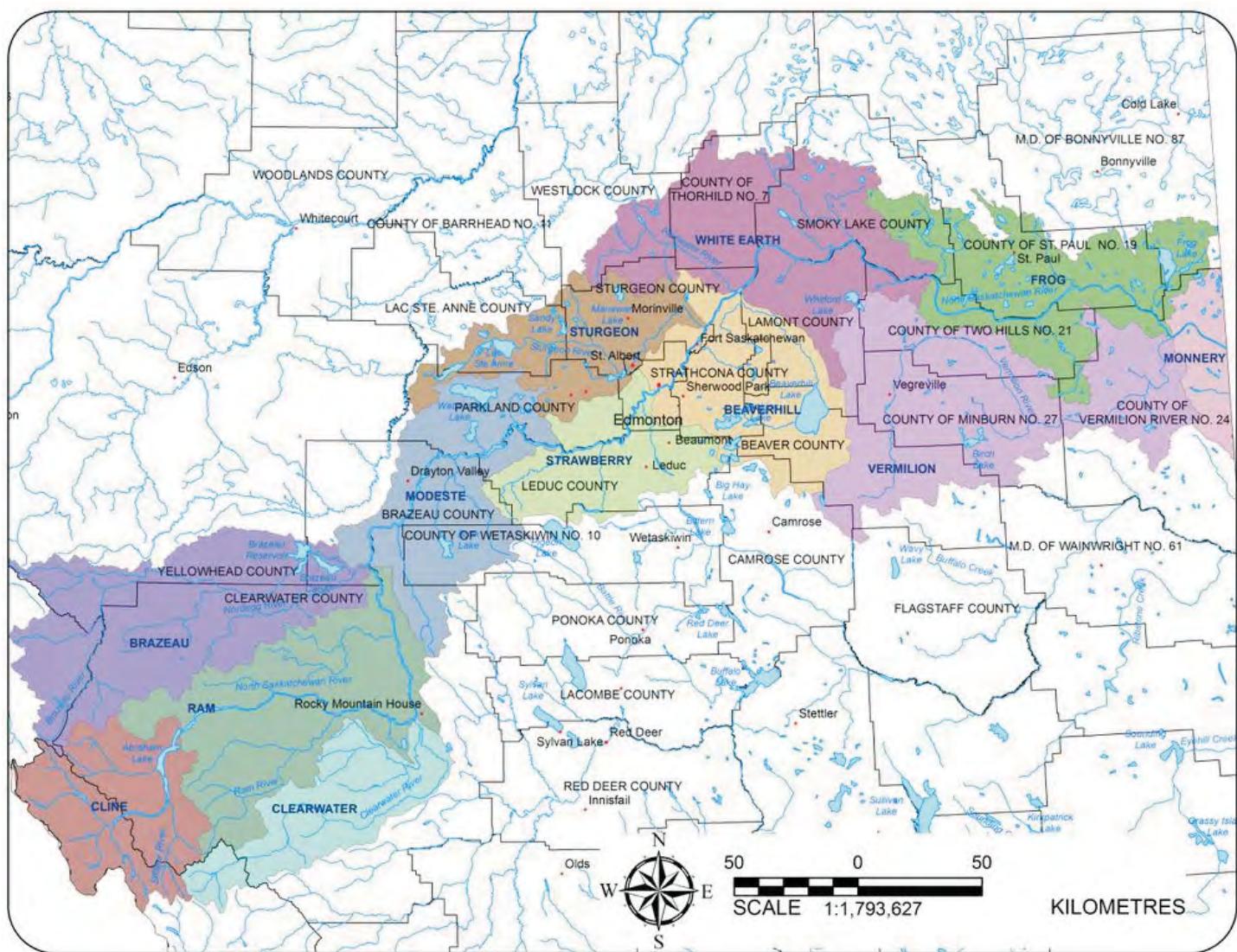
## RELEVANT DOCUMENTATION

Alberta Land-Use Framework homepage <http://www.landuse.alberta.ca/>

Land-Use Framework Final Report [http://www.landuse.alberta.ca/documents/Final\\_Land\\_use\\_Framework.pdf](http://www.landuse.alberta.ca/documents/Final_Land_use_Framework.pdf)

Land-Use Framework regions map [http://www.landuse.alberta.ca/documents/Land-use\\_Framework\\_Regions\\_Map.pdf](http://www.landuse.alberta.ca/documents/Land-use_Framework_Regions_Map.pdf)

Land-Use Framework public Q&A [http://www.landuse.alberta.ca/documents/Land\\_use\\_Framework\\_QAs.doc](http://www.landuse.alberta.ca/documents/Land_use_Framework_QAs.doc)



For more MAPS visit our website: [www.nswa.ab.ca/maps](http://www.nswa.ab.ca/maps)



## NSWA Information Bulletin

# The Integrated Watershed Management Plan (IWMP)

The North Saskatchewan River watershed is a large and complex area with many diverse land uses, hydrological systems and ecological regions. The watershed is a source of water for domestic and municipal users, agriculture, forestry, petroleum and other industries, fishing, recreation and tourism.

In order to maintain and restore a healthy watershed that balances environmental, social and economic needs of watershed stakeholders, the NSWA has embarked upon an Integrated Watershed Management planning process.

### IWMP OBJECTIVES

- \* To develop strategies (including the establishment of Water Conservation Objectives) that will support sustainable use, management and economical value of land and water resources of the watershed;
- \* To identify land uses that could affect the future sustainability of the watershed and propose strategies to address these land use issues;
- \* To prepare the IWMP in collaboration with watershed stakeholders and the public so that the IWMP meets local and regional needs.

The IWMP process has progressed into Phase Two, with completion planned for 2010.

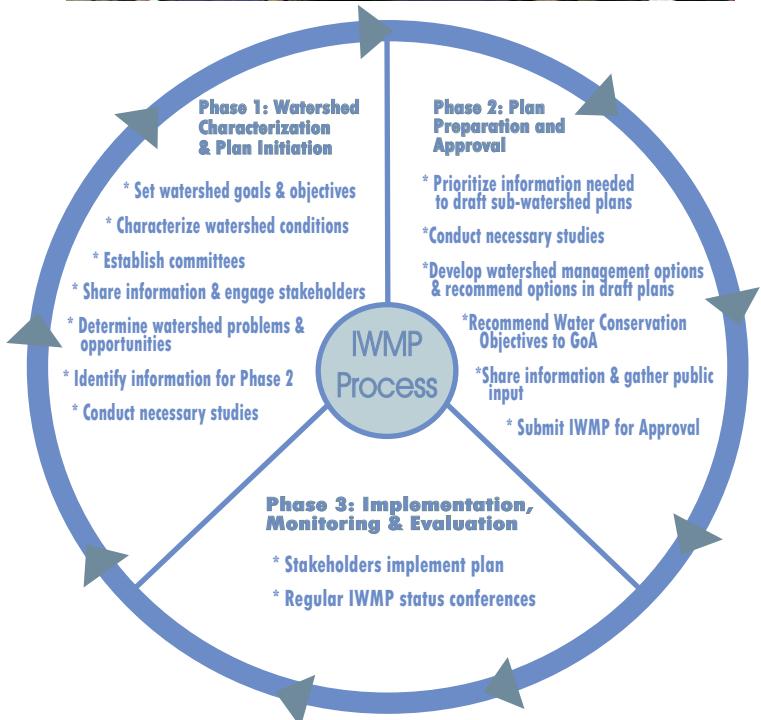


### STAKEHOLDER ENGAGEMENT

NSWA understands that continual stakeholder engagement is essential to a successful planning process. Those affected by proposed management strategies must have the opportunity:

- \* to understand the current state of the watershed
- \* to provide input
- \* to become effective stewards of watershed health
- \* to participate in integrated watershed planning

NSWA will engage key sectors during the IWMP process.





## NSR Instream Needs Scoping Study (2007)

This study outlines the scope of work needed for determining *Instream Flow Needs* for the North Saskatchewan River. *Instream Flow Needs* describe the rate of flow and water quality requirements needed in order to protect aquatic ecosystems and other river functions. Information from this report is essential to the discussion that will lead to proposing Water Conservation Objectives for river flow and water quality.

### ***Information included in this report:***

- A geographic segmentation analysis of the North Saskatchewan River main stem. This analysis was based on flow regimes, channel geomorphology and confluences with major tributaries.
- A comprehensive literature review of over 200 government and scientific publications relating to the hydrology, geomorphology, biodiversity, water quality and other attributes of the North Saskatchewan River watershed.
- A summary of available water quality data in Alberta Environment's Water Quality Data System for 15 key variables in the main river and four contributing watersheds (Brazeau, Clearwater, Sturgeon and Vermilion rivers).
- A collection of a wide variety of GIS data sources used for watershed assessment, including land use/land cover, soil and drainage and topography.
- A detailed review of approaches for modeling Instream Flow Needs

This report is on our website: [www.nswa.ab.ca](http://www.nswa.ab.ca)

## The State of the North Saskatchewan Watershed Report: a Foundation for Collaborative Watershed Management (2005)

This report captures a "snapshot in time"; it describes a baseline from which the Integrated Watershed Management Plan will be developed. It comments on land uses, water quality and environmental integrity in the North Saskatchewan River watershed in Alberta.

The full report is on our website: [www.nswa.ab.ca](http://www.nswa.ab.ca)

## Current and Future Water Use in the North Saskatchewan River Basin (2007)

This report is a comprehensive analysis of water allocations and water use in the North Saskatchewan River watershed in Alberta. An accurate understanding of current and projected water use patterns in the North Saskatchewan River watershed is fundamentally important to Integrated Watershed Management Planning.

### ***This Study explains:***

- Allocation - the licensed maximum volume, as well as the rate and timing, of a water diversion.
- Actual Water Use - the amount of water consumed and not returned to the source.
- The sometimes vast difference between allocation and water use (many licensees' actual water use volumes are much less than their allocations)

### ***What We Learned:***

#### Current Annual Surface Water Allocations -

- about 2 billion cubic metres (approximately 27% of the NSR's average annual discharge)
- Current Actual Use - about 0.19 billion cubic metres per year (approximately 2.6% of the NSR's average annual discharge)

#### Groundwater Allocations - about 25 million cubic

- metres (a little more than 1% of the surface water allocations). Limited data are available on actual groundwater use. The report estimates that current actual use is about 60% of total allocation.

This report is on our website: [www.nswa.ab.ca](http://www.nswa.ab.ca)

## Water Supply Assessment for the North Saskatchewan River Basin (2008)

This study quantifies the *natural*/water supply to the North Saskatchewan River and its spatial, seasonal and annual variability.

### *What We Learned:*

- Nearly 90% of the flow comes from the upper third of the basin (Brazeau, Cline, Ram and Clearwater rivers).
- Before the dams, under natural conditions, 16% of annual flow occurred during the winter (Oct to March).
- The mean annual natural discharge of the river at the Alberta/Saskatchewan border is about 7.5 billion m<sup>3</sup>.
- 10% of the time the annual flow would exceed 10.4 billion m<sup>3</sup> and 10% of the time the annual flow would be less than 5.1 billion m<sup>3</sup>.

This report is on our website: [www.nswa.ab.ca](http://www.nswa.ab.ca)

## Assessment of Climate Change Effects on Water Yield from the North Saskatchewan River Basin (2008)

Building on the Water Supply Assessment, this study provides an initial assessment of climate change effects on water supply to the NSR. The study predicts temperature and rainfall patterns for the period 2021 to 2050.

### *What We Learned:*

All models and scenario combinations predicted an increase in temperature. Ten out of 12 predicted an increase in precipitation. Water yield predictions varied from an increase of 15% to a decrease of 23%.

This report is on our website: [www.nswa.ab.ca](http://www.nswa.ab.ca)



## Basin Water Quality Model (to be completed March 2009)

This project will provide a calibrated, one-dimensional model of water quality for the North Saskatchewan River main stem, from Abraham Lake to the Saskatchewan provincial boundary. It will help to understand the relative inputs of various natural and man-made contaminant sources in order to predict the future impacts of development in the basin and to evaluate the benefits of water quality management options.

## Basin Overview of Ground Water (GW) Resources (to be completed March 2009)

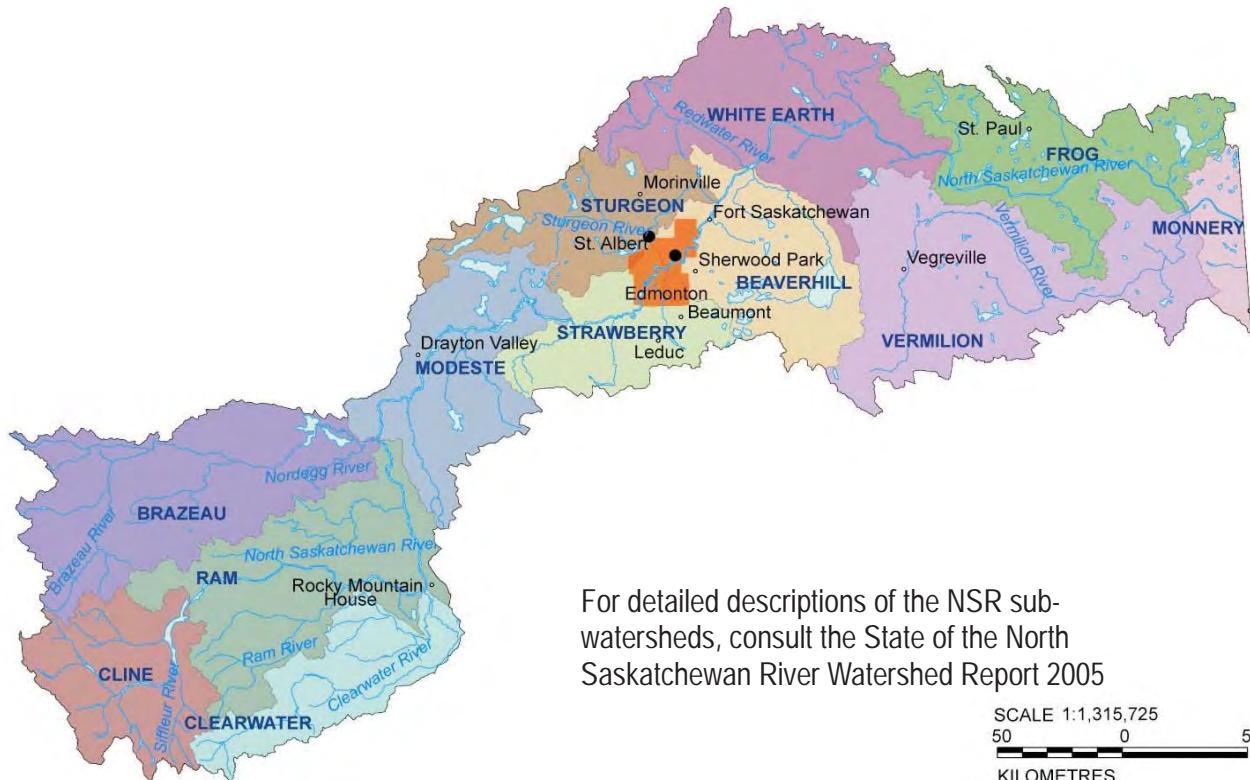
This report will provide an overview of ground water issues, conditions, and knowledge, including:

- Existing geological and hydrological information
- Identifying major aquifers and vulnerabilities
- Potential major sources of GW contamination

## Water Quality Issues, Indicators and Objectives (to be completed March 2009)

This project will:

- Develop site-specific water quality objectives for key reaches of the NSR mainstem and for key tributaries.
- Develop site-specific objectives to protect multiple river system uses.
- Identify significant human pressures.
- Identify probable impacts on water quality.



For detailed descriptions of the NSR sub-watersheds, consult the State of the North Saskatchewan River Watershed Report 2005

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## North Saskatchewan River Watershed in Alberta

The North Saskatchewan River (NSR) watershed in Alberta is made up of 12 sub-watersheds. The river elevation is 1,390 m above sea level at Saskatchewan Crossing, near the Banff National Park boundary, and 500 m above sea level by the time it reaches the Saskatchewan border. It joins with the South Saskatchewan River just east of Prince Albert, flows into Lake Winnipeg and from there empties into the Hudson Bay by way of the Nelson River.

The NSR is subject to the 1969 Master Agreement on Apportionment between the governments of Canada, Alberta, Saskatchewan and Manitoba, which states that Alberta must pass 50% of the natural flow of east-flowing rivers into Saskatchewan.

Water quality in the NSR is affected by input from natural and human, non-point and point sources. Nutrients, bacteria and chemicals accumulate as water flows downstream. Dissolved oxygen decreases downstream of major urban areas. Flow in the NSR is affected by two headwaters dams: the Brazeau on the Brazeau River, and the Big Horn on the main stem of the river west of Rocky Mountain House. The effect of these impoundments is to redistribute flow to a higher than natural flow in the winter time and lower than natural flow in the summer.

Land use in the NSR Watershed includes: agriculture; resource exploration and extraction; forestry; tourism and recreation; and municipal use. The upper region of the watershed is sparsely populated; the greatest population base is found in and around Edmonton.

For more information about the North Saskatchewan River watershed visit our website: [www.nswa.ab.ca](http://www.nswa.ab.ca)

# NSWA Information Bulletin

## The Municipal Guide: Planning for a Healthy and Sustainable North Saskatchewan River Watershed

NSWA's Municipal Guide was published in 2006 and updated in 2008. It is a comprehensive resource, full of information, advice, ideas and tools. It was developed to help municipalities make decisions about land management and development at the community level. A steering committee led by NSWA and supported by municipalities in the North Saskatchewan River Watershed (NSRW) designed the guide to provide an educational and planning tool for municipalities. Individuals and groups within municipalities, such as developers, industry partners, residents and other stakeholders may also find the guide useful.

Local land use activity directly affects the quality and quantity of water in the NSRW; therefore, municipal governments are in a unique position to promote environmental stewardship as a means of protecting their local water resources.

This guide is a planning tool for municipalities and other land managers interested in *watershed stewardship*. Although the guide focuses on issues significant to municipalities within the NSRW, it also contains information that is applicable to municipalities in other parts of Alberta.

The Municipal Guide project originated under the direction of an NSWA coordinator and a steering committee made up of representatives from municipalities within the NSRW, provincial and federal government bodies, and non-government organizations. In the spring of 2005, the project team collected information from municipalities about how their needs could be addressed by a Municipal Guide. Forty-eight representatives from twenty rural and urban municipalities participated in three workshops to kick-start the project.

At the workshops participants discussed an overview of the project and reviewed a draft Table of Contents. They commented on what they liked about the project, what concerns they had with the project and what implications the guide might have in their municipality. They made suggestions for the final content of the guide.

Feedback from these three workshops shaped the form and function of the Municipal Guide. The final draft was reviewed by representatives from municipal, provincial and federal governments and non-governmental organizations prior to publication by NSWA.





## WHAT'S IN THE MUNICIPAL GUIDE?

**Chapter 1 Introduction:** An overview of the purpose, uses and limitations of this guide.

**Chapter 2 Watershed Overview:** An overview of watershed issues; components and values of a healthy watershed; how decisions are made; and how activities occurring in individual municipalities affect the overall watershed. There is also an overview of the current state of the North Saskatchewan River watershed and general threats to watershed health.

**Chapter 3 Overview of Legislation and Government Bodies Relevant to Watershed Health:** A summary of federal and provincial statutes (acts), policies and government bodies that deal with various aspects of watershed health.

**Chapter 4 Municipal Planning and Development:** A review of the relationship between municipal land use and development decisions and watershed health. It examines a number of opportunities for incorporating watershed considerations into statutory and non-statutory planning.

**Chapter 5 Water, Wastewater and Stormwater Operations:** An examination of municipal roles relating to watershed health, which include: source water protection; the management and treatment of stormwater; the treatment and distribution of potable water; and the collection and treatment of wastewater.

The complete Municipal Guide is available on our website: [www.nswa.ab.ca](http://www.nswa.ab.ca)

In the "Content" column click "Learn"  
then click "NSWA Publications"

Hard copies can be purchased from NSWA.  
[water@nswa.ab.ca](mailto:water@nswa.ab.ca)

**Chapter 6 Municipal Infrastructure, Property and Operations:** An overview of municipal responsibilities relating to: the design of municipal infrastructure; the management of municipal property; and the execution of municipal operations relating to watershed health. Topics include: green spaces; transportation and road maintenance; waste disposal; agriculture services; woodlots; and the oil and gas industry.

**Chapter 7 Municipal Bylaws:** An overview of the use of municipal bylaws as tools for protecting watershed health. Bylaws discussed in this chapter include those which protect natural areas and trees to prevent pollution and to conserve water.

**Chapter 8 Cooperation and Collaboration in the Watershed:** A summary of the value of and the strategies for municipal cooperation and collaboration with other stakeholders in the watershed. These stakeholders include departments within a municipality, neighbouring municipalities, residents, community groups, industry groups, non-governmental groups and federal and provincial government bodies.

**Chapter 9 Funding Watershed Stewardship:**  
A summary of funding opportunities for municipalities interested in securing funds for watershed stewardship projects.

## PURPOSE OF THE GUIDE

This guide emphasizes issues significant to municipalities within the NSRW; however, the information is also applicable to other municipalities in Alberta.

In fact, impacts on watershed health resulting from population growth and development pressures are similar in communities around the globe; therefore, much of the information in this guide is relevant beyond Alberta's borders.

Issues concerning both *urban* and *rural* municipalities have been combined in this guide to facilitate understanding and encourage cooperation between the two jurisdictions. While concerns and needs of rural and urban municipalities are often different, watershed management is more effective when there is cooperation across municipal borders.

The information in this guide is useful to municipalities whether they are just beginning to explore their role in watershed stewardship or if they are already active stewards.



This guide can be used as a reference for answering questions, for finding contact information or for gathering ideas about actions municipalities can take to protect their watershed.

Each municipality has its own history, economy, social and environmental conditions, values and visions of how to protect the environment. It is not surprising that approaches to watershed planning will vary from one municipality to another. This guide offers information on various options for local watershed stewardship and from this information municipalities can develop approaches that are unique to each situation.



# Municipalities in the NSRW

**Beaver County**

Tofield

Viking

Holden

Ryley

**Brazeau County**

Drayton Valley

Breton

**Clearwater County**

Rocky Mountain House

**County of Minburn**

Vegreville

Innisfree

Mannville

Minburn

**County of St. Paul**

Elk Point

St. Paul

**County of Thorhild**

Thorhild

**County of Two Hills**

Two Hills

Derwent

Myrnam

Willingdon

**County of Vermilion River**

Vermilion

Dewberry

Kitscoty

Marwayne

Paradise Valley

**Lac Ste Anne County**

Alberta Beach

Onoway

**Lamont County**

Bruderheim

Lamont

Mundare

Andrew

Chipman

**Yellowhead County****Camrose County****Leduc County**

Beaumont

Calmar

Devon

New Serepta

Thorsby

Warburg

**M.D. of Bonnyville****County of Wetaskiwin****Parkland County**

Stony Plain

Spring Lake

Wabamun

**Smoky Lake County**

Smoky Lake

Vilna

Waskatenau

**Strathcona County**

Sherwood Park

**Sturgeon County**

Bon Accord

Gibbons

Legal

Morinville

Redwater

**Westlock County**

Clyde

**Cities**

Edmonton

Fort Saskatchewan

Leduc

Lloydminster

Spruce Grove

St. Albert



## NSWA Information Bulletin

# NSWA RURAL MUNICIPAL FORUM

February 10, 2009

Ninety people attended the NSWA rural municipal watershed planning forum in Nisku, Alberta. Representatives from 14 of the 19 counties and one Municipal District in the North Saskatchewan River (NSR) watershed participated in three discussion panels.

The conversation focused on the challenges and successes experienced by rural municipalities when dealing with watershed issues. The general response to the forum was positive and there appears to be a willingness on the part of rural municipalities to continue the conversation with NSWA about their role in the integrated watershed management planning process (IWMP). Some counties expressed a need for more information about watershed function and about watershed management in general.

Counties with planning departments indicated their willingness to receive information and direction from their planners who would attend future NSWA IWMP discussions. Other counties without planning departments felt that participation by elected officials and/or agricultural service staff would be acceptable.

**Municipal Forum participants suggested a wide range of topics to be included in future information bulletins:**

- Watershed function
- Groundwater/potable water
- Water distribution & storage options
- Discussion around the many planning processes
- Sub-watersheds
- Fish in rivers and tributaries
- Indicator species (What are they? Where are they? What do they tell us?)
- Wetlands, including suggestions for ways to encourage wetland conservation and ways to understand the concept of wetland water storage
- Wastewater
- The notion of *sustainability* (What does it mean? How can a practice be assessed for sustainability?)
- More information to help understand the implications of NSWA technical reports and studies

*56% of the municipal attendees at the forum filled out a feed back survey.*





## DISCUSSION FORMAT

The discussion panel format worked well, but several counties who were involved with earlier Municipal Guide focus groups and the original IWMP community café meetings suggested NSWA return to those formats for future discussions.

To make the discussions about NSWA technical studies and reports more meaningful, it was suggested that charts and graphs be presented in the context of geography - e.g. using maps, simplified diagrams and other visuals.

There seemed to be a general agreement that future forums encourage practical discussion rather than focusing on abstract processes. There also was a strong desire to avoid the use of jargon and acronyms, both in policy and technical discussions.

Many participants expressed appreciation for the opportunity to talk about watershed issues county to county. County representatives interact with each other in other venues; however watershed topics are not often part of those discussions.



## Suggestions for future workshops and presentations:

- Nuts & bolts of the *Water Act* and the draft Wetland Policy
- Jurisdictional overlap and responsibility in watershed management
- Information on groundwater
- Wetland function: dynamics and identification of 'recharge' areas
- Options for water storage & water distribution
- Opportunity for dialogue among NSWA, counties and the Land-use Secretariat
- Opportunity for dialogue between counties and urban recreation users
- Issues around potable water
- Issues around re-cycling waste water

## RURAL MUNICIPALITIES with a land-base within THE NSR WATERSHED:

CLEARWATER  
BRAZEAU  
YELLOWHEAD  
PARKLAND  
STURGEON  
LAC STE. ANNE  
THORHILD  
LEDUC  
WETASKIWIN  
STRATHCONA

WESTLOCK  
LAMONT  
TWO HILLS  
MINBURN  
BEAVER  
CAMROSE  
SMOKY LAKE  
ST. PAUL  
VERMILION RIVER  
BONNYVILLE

## Municipal Forum - WHAT WE HEARD

### Obstacles/Opportunities

- More information needed about NSWA and the watershed in general
- Confusion around interjurisdictional responsibilities for watershed planning
- Skepticism about the accuracy and efficacy of the 'science'
- Technical information is complex
- Too many acronyms / too much ever-changing jargon
- Not all rural municipalities were represented at the forum
- Disparity in knowledge of watershed issues among counties
- Not enough is known about the state of the sub-basins
- Not enough opportunities to pose watershed questions
- Mixed reaction about county role in watershed planning process
- Diversity of issues



### Resources/Strengths

- Rural municipalities are generally interested in participating in the IWMP
- Many rural municipalities have planning and agricultural service staff available to participate in further workshops.
- Rural municipalities are interested in results of NSWA studies
- NSWA Information Bulletins were well received.
- New website is more accessible
- People are generally more informed about the environment
- NSWA staff have broad skill sets and strong interest in strengthening partnerships

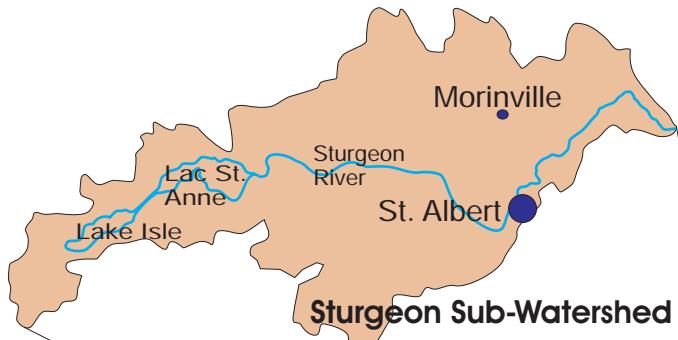
### Strategies Suggested for More Effective Engagement

- Future workshops (3 or 6 month intervals)
- Find more ways to translate technical information
- Make more use of maps to explain watershed issues at sub-basin level
- NSWA to bring information to regional conferences and events
- Keep counties up to date with results of NSWA studies as information becomes available
- Invite county planning and agriculture services personnel to participate in the next stage of developing the IWMP. They would be the liaison with their counties, until such time that NSWA has a draft plan for counties to review.



# North Saskatchewan Watershed Alliance

[www.nswa.ab.ca](http://www.nswa.ab.ca)



The **Sturgeon** subwatershed encompasses 331,764 ha including 15,813 ha of natural and artificial water bodies. It includes the municipal boundaries of Barrhead, Lac Ste. Anne, Parkland and Sturgeon Counties; the communities of Spruce Grove, Stony Plain, Onoway, Morinville, Bon Accord, Gibbons, Calahoo, Villeneuve, Spring Lake; the First Nations' reserves of Alexis 133 and Alexander 134; and parts of the City of Edmonton and St. Albert.

No published assessment of riparian health was located for lakes, wetlands, rivers or creeks in the Sturgeon subwatershed. This data gap could be addressed by future research within the Sturgeon subwatershed.

11% of the subwatershed is treed. 71% of the land area has been disturbed by various forms of development. Water bodies cover a little over 5% of the subwatershed.

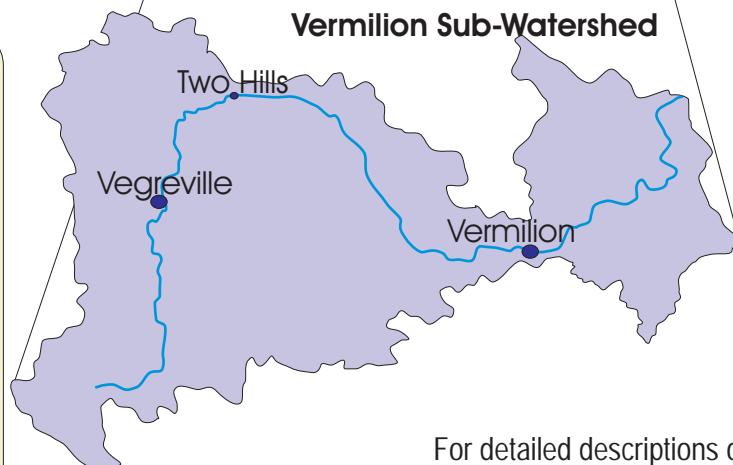
The North Saskatchewan River in Alberta receives water from 12 sub-watersheds



The **Vermilion** subwatershed encompasses 782,642 ha including 35,995 ha of water bodies. It includes the municipal boundaries of Beaver, Lamont, Minburn, Two Hills, St. Paul and Vermilion River Counties and the towns of Beauvallon, Clandonald, Dewberry, Hairy Hill, Holden, Innisfree, Islay, Kitscoty, Mannville, Marwayne, Minburn, Mundare, Musidora, Ranfurly, Two Hills, Vermilion, Vegreville and Willingdon.

As of 1999, riparian health along the Vermilion River was assessed as: 54% percent of the sites as 'unhealthy', 30% as 'healthy, but with problems' and 16% as 'healthy'.

Water bodies cover 5% of the subwatershed. About 0.2% of the subwatershed is covered in trees. No published assessment of aquatic macrophytes was found for the waterbodies in the Vermilion Subwatershed: this data gap could be addressed by future research within the Vermilion subwatershed.



For detailed descriptions of all the NSR sub-watersheds, consult the **State of the North Saskatchewan River Watershed Report 2005**  
[www.nswa.ab.ca](http://www.nswa.ab.ca)



# North Saskatchewan Watershed Alliance

## North Saskatchewan River Watershed Sub-basin Overview

**The North Saskatchewan Watershed Alliance (NSWA)** a multi-stakeholder group committed to protecting and improving water quality and ecosystem function in the North Saskatchewan River watershed within Alberta.

The designated **Watershed Planning and Advisory Council (WPAC)** for the North Saskatchewan River system under *Water for Life*, Alberta's Provincial Water Strategy.



### Ask us about:

- **Municipal Resource Guide**—to guide sustainable development. Created through a steering committee with strong municipal representation. Your municipal office has a copy of this publication.
- **State of Watershed Report** - summary of the current status of the watershed. On our website and available on CD from our office.
- **Community Watershed Toolkit** - "how-to" manual for groups working to improve watershed health. On our website and available from our office.
- **North Saskatchewan Eco-Recreation River Guide** - brief cultural and natural tour of the river, with maps.
- **Canadian Heritage River Background Study** - more comprehensive river tour featuring cultural and natural heritage values along the river. On our website and available from our office.



### Current Priority

The **Integrated Watershed Management Plan (IWMP)** that will provide a framework for protecting, maintaining and restoring a healthy, natural watershed where economic and social needs are balanced with the ecological needs of the watershed.

[www.nswa.ab.ca](http://www.nswa.ab.ca)

### Contact Us

**North Saskatchewan Watershed Alliance**  
6th Floor Century Place  
9803—102A Avenue  
Edmonton, Alberta T5J 3A3  
Tel: (780) 496-5577 or Fax: (780) 496-5648  
Email: [water@nswa.ab.ca](mailto:water@nswa.ab.ca)



## Cline SUBWATERSHED

Healthiest sub-watershed, but significant data gaps exist for assessing ecosystem health. It is a spectacular headwater area within the North Saskatchewan Watershed with 60% of its area in National Parks or wilderness areas. Because of the protected nature and the terrain of the Sub-watershed, there is little linear development (mostly roads) and little or no cut lines or seismic activity. With its rugged landscape, low level of disturbance and pristine wilderness, there is a significant amount of recreational activity in the Sub-watershed. Livestock densities in the Cline Sub-watershed are minimal.

Most aquatic ecosystems are unimpaired and likely in a natural, optimal functioning state. Water quality on the main stem of the North Saskatchewan River monitored by Environment Canada at Whirlpool Point was found to be only "fair" for the 1983-2002 period, while similar sites in the headwaters of the Bow and Athabasca rivers both received a "good" rating. These differences can be explained by the nature of the parameters that were used to calculate the WQI. Site-specific WQI parameters for Whirlpool Point may be required to accurately reflect the true state of the water quality at this site.

Water quantity is measured at ten stations in the sub-watershed: one site has real-time online data. These stations provide information for the operation of the Bighorn hydroelectric dam. No detailed population assessments were found for fish species in the sub-watershed, nor was a systematic examination of riparian health, aquatic plants or benthic invertebrates found for the Sub-watershed. These data gaps could be addressed in future research of the Cline Sub-watershed.

There is little information related to several of the indicators required to assess ecosystem health for this sub-watershed. However, of the 5 indicators assessed, three were good, one was fair, and one was poor, yielding an overall subjective rating of good. Given the high percentage of this basin that lies in national parks and wilderness areas and the rugged terrain, there is little development and significant negative impacts are not anticipated. However, the potential impacts of forest harvesting on the sub-watershed should be examined.

### **Human Habitation:** Clearwater County, Saskatchewan Crossing

*This information is from State of the North Saskatchewan Watershed Report 2005—available on our website.*

### **Contact Us**

**North Saskatchewan Watershed Alliance**  
6th Floor Century Place  
9803—102A Avenue  
Edmonton, Alberta T5J 3A3  
Tel: (780) 496-5577 or Fax: (780) 496-5648  
Email: [water@nsaw.ca](mailto:water@nsaw.ca)

## RAM SUBWATERSHED

2% of developed area is municipal or reserve area, a small area affected by well sites and other facilities. No long-term river water quality information exists. Town of Rocky Mountain House discharges treated wastewater to the North Saskatchewan River. Water quantity is measured at twelve stations, two of which have real-time online data. No detailed assessments of fish populations have been done. Studies suggest that the North Saskatchewan River and Baptiste River systems provide critical habitat for spawning, rearing and over-wintering of fish.

Future Studies could focus on the impacts of linear development and the potential conflicts between industrial activities – forest harvesting and oil and gas development – and recreational uses. The importance of this area to recreation and tourism, and the importance to fish habitat make provide the incentive for filling data gaps.

**Human settlement:** Ochiese I. R. 203, Sunchild I. R. 202, Big Horn I. R. 144A, Clearwater County, Rocky Mountain House, Nordegg

*This information is from State of the North Saskatchewan Watershed Report 2005—available on our website.*



## APPENDIX D: FORUM AGENDA, QUESTIONS AND PRESENTATIONS

- NSWA Rural Municipal Forum Agenda
- Municipal Panel Discussion and Plenary Questions
- Presentations
- “*Water for Life*: NSWA Municipal Forum”, Andy Lamb, Alberta Environment
- Integrated Watershed Management Planning for the North Saskatchewan River Basin:, David Trew, NSWA
- “Collaborative Planning under *Water for Life*”, Michael Evans, Telelogic Strategic Communications Inc.





## NSWA RURAL MUNICIPAL FORUM DRAFT AGENDA

Tuesday, February 10, 2009  
Royal Executive Inn, Nisku, Alberta

### GOALS

- To describe watershed planning directions and goals under Water for Life
- To outline NSWA's basin-wide progress to date
- To identify watershed and planning issues most relevant to counties
- To identify the content of the IWMP most relevant to counties' needs
- To evaluate potential for collaborative development of the IWMP

TIME	TOPIC	SPEAKER
9:00 am	Map out the process of the day	Mike Evans
9:15 am	Watershed Planning under Water For Life	Andy Lamb
9:45 am	Watershed Management Planning in the North Saskatchewan River basin	Dave Trew
	10:15 Coffee Break	
10:30 am	Collaborative planning under Water for Life	Mike Evans
11:00 am	Municipal Panel #1 - Counties outline watershed planning issues/activities	County Reps
	Noon Lunch	
1:00 pm	Key Note Address: "Integration of planning activities under Water for Life and the Landuse Framework" Mr. Jim Ellis, Deputy Minister, Alberta Environment	
1:45 pm	Municipal Panel #2 Counties outline watershed planning issues/activities	County Reps
	2:45 pm Coffee Break	
3:00 pm	Municipal Panel #3 Counties outline watershed planning issues/activities	County Reps
4:00 pm	Proposed Integrated Watershed Management Plan for the NSR	Tom Cottrell Andrew Schoepf Sharon Reedyk Pat Alexander Pat Gordeyko
4:45 pm	Reflections on the day's discussion	
	5:00 pm END	

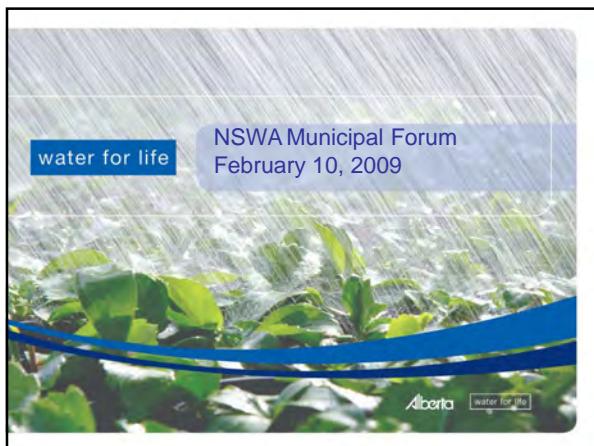
Municipal Panel #1: Clearwater, Yellowhead, Brazeau, Wetaskiwin, Parkland, Leduc

Municipal Panel #2: Lac St. Anne, Sturgeon, Westlock, Strathcona, Thorhild, Beaver, Lamont

Municipal Panel #3: Smoky Lake, Minburn, Camrose, Two Hills, St. Paul, M.D. of Bonnyville, Vermilion River

7:00 pm to 9:00 pm Registration for conference: WE ARE ALL UPSTREAM II: Making Connections

"What We Heard" from the Municipal Forum will be presented during the Conference



### Water for Life: Alberta's Strategy for Sustainability

- Original *Water for Life* Strategy approved in 2003, after extensive public consultation
- *Water for Life* is Alberta's strategic plan to sustainably manage Alberta's water resources
- Alberta Water Council established in 2004 to monitor and steward implementation of the Strategy

Alberta water for life

### Strategy Goals and Directions

#### • Goals

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

#### • Directions

- Knowledge and Research
- Partnerships
- Conservation

Alberta water for life

### Water for Life Achievements (2003-08)

#### Safe, secure drinking water supplies:

- Completed an assessment of all drinking water facilities in Alberta, and provided online access to all drinking water facility test sample results
- Implemented a regional drinking water systems program

#### Healthy aquatic ecosystems

- Completed an initial assessment of the status of Alberta's aquatic ecosystems

#### Reliable, quality water supplies for a sustainable economy

- Established water conservation objectives for the S. Sask. River Basin

Alberta water for life

### Water for Life Achievements (2003-08) - continued

#### Knowledge and Research

- Established the Alberta Water Research Institute

#### Partnerships

- Established the Alberta Water Council, nine watershed planning and advisory councils, and a growing number of community stewardship groups.

#### Conservation

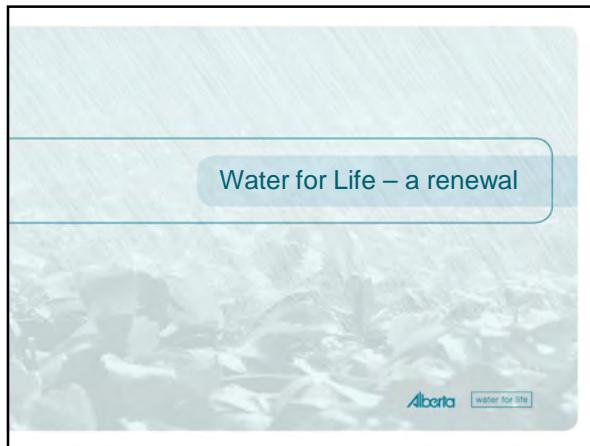
- Established a system to monitor and report actual water use by all sectors
- Agreement by seven sectors to develop water conservation, efficiency and productivity plans

Alberta water for life

### Changing context since 2003

- South Saskatchewan River Basin plan signed off, closing three sub-basins to new surface water allocations
- Increased population and industrial growth in Alberta
- Industrial growth pressures on "water sources" to deliver assured supplies, including pressures on the Athabasca River and the North Saskatchewan River
- Increased concerns about groundwater contamination from oil and gas development

Alberta water for life



## Alberta Water Council Renewal Recommendations

**Safeguard our water sources**

1. Address aquatic ecosystem degradation
2. Integrate water and land management
3. Create, enhance and use innovative tools and best practices

**Accelerate Action**

4. Clarify roles, responsibilities and accountabilities
5. Enhance data collection, analysis, and reporting
6. Expand public awareness programs and build shared commitment

Alberta water for life

## Alberta's Water Management Principles:

**13 principles govern GOA's approach to water management.**  
Examples include:

- Alberta's water resources must be managed within the capacity of individual watersheds.
- Citizens, communities, industry and government must share responsibility for water management and work together to improve conditions within their local watersheds.
- Best available practices and market-based tools will be used in order to maintain flexible and adaptive water management.

Alberta water for life

## Alberta's Water Management Principles:

**NEW:** 'Water for Life will be integrated into other policies and plans, such as Land-use Framework Planning, ensuring better resource management integration'

- WPACs will play a key role in defining place-based outcomes through adaptive regional planning and cumulative effects management.

Alberta water for life

## Water for Life strategy – key areas of focus

- Regional drinking water and wastewater solutions
- Develop and implement a enhanced surface water transfer system
- Develop and implement a viable governance system that supports sustainable management of water
- Enhance provincial water monitoring, evaluation and public reporting
- Finalize and implement a new Wetland Policy for Alberta
- Sector based Water Conservation, Efficiency and Productivity plans and market incentives
- Partnership-based watershed assessment and integrated regional planning

Alberta water for life

## A Roadmap For Action

- Action Plan to be released in early 2009
- The action plan will outline a number of short, medium and long-term key actions to achieve the goals and outcomes outlined in the strategy including:
  - Actions carried over from original 2003 strategy
  - 15 key actions outlined within the *Water for Life* strategy
  - Others to integrate with Land-use Framework and address emerging issues
- Report annually on progress on commitments outlined in the Action Plan

Alberta water for life

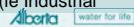
### Water for Life in Central Region

- Four WPAC's – NSWA, Battle River Watershed Alliance, Red Deer River Watershed Alliance, and Athabasca River (currently in development)
- Numerous Stewardship groups – eg: Pigeon lake Watershed Association, Wabamun Watershed Council
- State of the Watershed reports complete or underway in each Basin. Integrated Watershed Management Plans under development.
- Regional drinking and wastewater projects proceeding:
  - Red Deer water line, Shirley McLennan Water Commission
  - Central Alberta Wastewater project

 water for life

### Watershed Planning under WFL

- Past AENV water management planning focused on water allocation and setting instream water conservation objectives (WCO) i.e. SSRB Water Management Plan
- WFL Renewal re-emphasized need to integrate water/land management within a watershed approach.
- Future plans will include both water allocation and protection of water quality – NSWA IWMP is breaking ground!
- Alignment with Land Use Framework – increased focus on cumulative effects (air, land and water), and progressive management response (ie Industrial Heartland).

 water for life





## Integrated Watershed Management Planning for the North Saskatchewan River Basin

Presented by  
David Trew - Executive Director NSWA  
to  
Rural Municipal Watershed Planning Forum  
February 10, 2009



## North Saskatchewan Watershed Alliance (NSWA)

- A multi-stakeholder, non-profit society
- Formed in 1999 by: EPCOR, Trout Unlimited, PFRA, TransAlta, City of Edmonton
- 220+ members (2008)
- Web site [www.nswa.ab.ca](http://www.nswa.ab.ca)
- Appointed WPAC in 2005



## Water for Life (2003)

**OUTCOMES:**

- Safe drinking water
- Healthy aquatic ecosystems
- Reliable water supplies

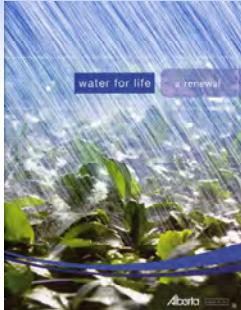
**KEY DIRECTIONS:**

- Knowledge and research
- Water conservation
- Partnerships for watershed management and stewardship



## Water for Life Renewal (2008)

- Nov. 16, 2008
- Minister Renner confirms original WFL outcomes and key directions
- New specific outcomes and key actions identified
- WPAC role in watershed assessment and planning re-confirmed



## Watershed Planning Advisory Councils

- Nine WPACs have been appointed in Alberta
- Mandate:
  - State of the Watershed Reports
  - Integrated Watershed Management Plans
  - Develop a collaborative, sector-based approach to watershed planning



## NSWA – Board of Directors (14)

- 2 Industrial
- 2 Provincial Departments
- 1 Federal Department
- 2 Rural Municipalities
- 1 Urban Municipality
- 2 NGOs
- 2 Agricultural
- 1 First Nations, 1 Metis



## 2008-09 Executive Members

- President: Dr. Les Gammie (EPCOR)
- Vice-Pres: Pat Alexander (Clearwater County)
- Treasurer: Celeste Nicholson (NEAWMC)
- Secretary: Andrew Schoepf (AENV)



## NSWA - Capacity

### Staff

- Billie Milholland, B.A.
- Gordon Thompson, P. Eng
- Graham Watt-Gremm, M.Sc.
- Tom Cottrell, M.A.
- Jayme Nelson, B.Sc.
- David Trew, P. Biol.



- In-kind support - members
- City of Edmonton provides offices and IT support
- Consultants and GOA staff

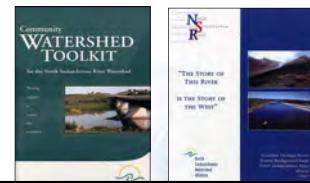
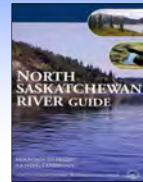
## Operational and Project Support

- Water For Life: Alberta's Strategy for Sustainability
- Government of Canada (PFRA - CAWSEP)
- City of Edmonton
- Rural Municipalities
- Industry (EPCOR, Petro-Canada)
- Alberta Beef Producers
- Ducks Unlimited Canada
- Alberta Ecotrust
- Other partners



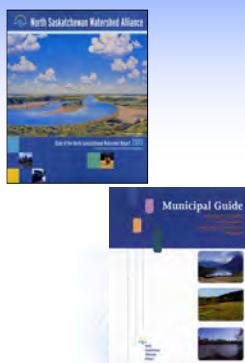
## NSWA Initiatives (2002-06)

- North Saskatchewan River Guide (2002)
- Community Watershed Stewardship Toolkit (2002)
- Canadian Heritage Rivers Program (2005)



## NSWA Initiatives (2002-06)

- State of the Watershed Report (2005)
- Municipal Resource Guide (2006)



## NSWA Strategic Plan 2008-2011

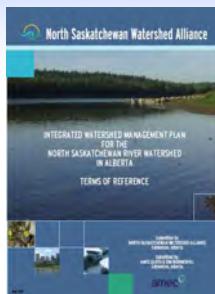
- Three primary goals:
  - Completion of the *Integrated Watershed Management Plan* (2010)
  - Design and implementation of the *Vermilion River Watershed Management Project*
  - Ongoing provision of education, communication and information exchange opportunities for watershed stakeholders



## The NSR Integrated Watershed Management Plan (IWMP)

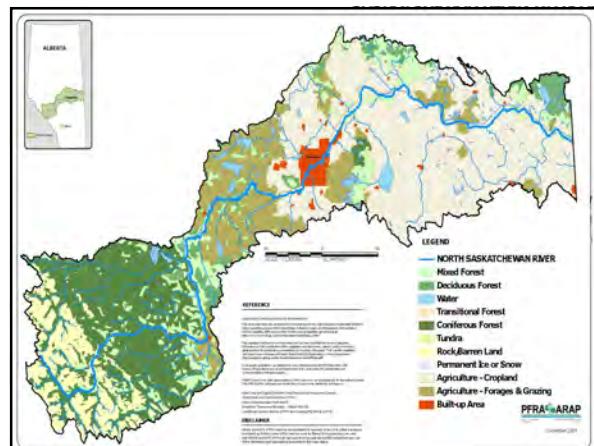
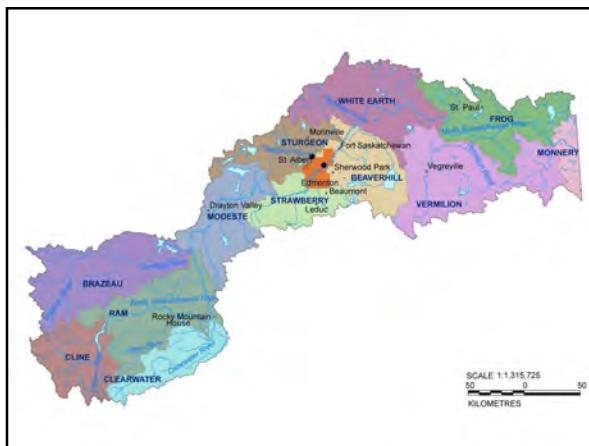
### Objectives:

- Develop strategies to protect drinking water, aquatic ecosystems and water supplies for future generations
- IWMP meets economic, social, health and environmental needs
- Plan collaboratively with all watershed sectors (IWMP-SC)
- Rural municipal sector role



## NSWA IWMP Overview

- Identify NSR issues and concerns (basin-wide)
- Develop environmental indicators and objectives
- Develop modelling/forecasting capability
- Engage all stakeholders in watershed planning to meet objectives
- Timeframe – 2010



## Basin Features

- Basin area 57,000 km<sup>2</sup>
- 12 sub-basins
- 19 counties, 1 M.D.
- 1.1 million+ people
- 100+ small cities, towns villages
- Edmonton and large industrial zone
- 14 First Nations/Metis settlements
- 2 large hydroelectric reservoirs
- 37 recreational lakes
- extensive agriculture, forestry, oil and gas

## IWMP Work Plan – Main Activities

- Watershed Assessment and Modeling (Research and Knowledge)
- Public Participation and Multi-Sector Involvement
- Economics of Watershed Management
- Plan Development (recommendations, strategies, policies)

### Completed Technical Projects

- State of the Watershed Report (Aquality 2005)
- In-stream Flow Needs (Golder Associates 2007)
- Water Use and Demand (AMEC 2007)
- Water Supply Assessment (Golder Associates 2008)
- Climate Change Effects on Water Supply (Golder Associates 2008)
- All reports at [www.nswa.ab.ca](http://www.nswa.ab.ca)

### Current projects – March 31, 2009

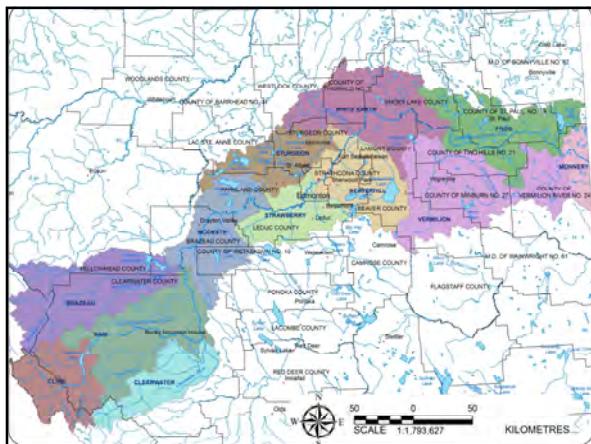
- Development of Water Quality Targets (Golder Associates)
- Development of a Water Quality Model for the NSR Basin (Tetra-Tech)
- Summary of Groundwater Issues in the NSR Basin (WorleyParsons)
- Development of a Landscape Model (ALCES) for the NSR Basin (Sullivan- ALCES Group)
- Vermilion River Water Supply/Demand Study (Golder Associates)

### IWMP - Proposed work for 2009-10

- Review and Finalize Water Quality Targets
- Create Future Basin Development Scenarios
- Model Future Scenarios
- Determine Instream Flow Needs (IFN)
- Economic Analysis of Watershed Plan Concepts
- Develop preliminary IWMP report - for discussion

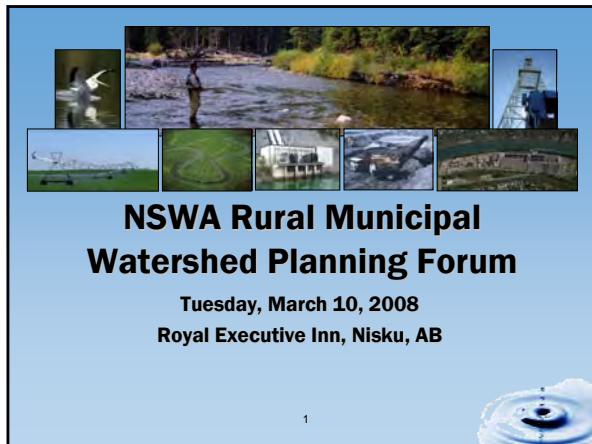
### Challenges

- The WFL- WPAC model is a new approach to water resources and watershed planning in Alberta - still evolving
- Align IWMP with new planning initiatives (Industrial Heartland, Land Use Framework)
- Need active participation of all stakeholders (to ensure completion and success of plan)
- Plan must be relevant to different sectors and scales of planning needs
- **KEEP GOING, IWMP IS NEEDED!**



For more information and to  
join NSWA:

[www.nswa.ab.ca](http://www.nswa.ab.ca)



The poster features a collage of five small images at the top: a bird in flight, a person fishing, a landscape, a water treatment plant, and a bridge. Below the images, the text reads:

**NSWA Rural Municipal  
Watershed Planning Forum**

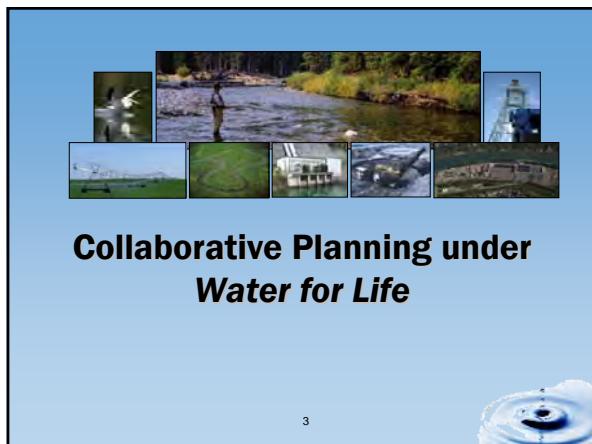
**Tuesday, March 10, 2008**  
**Royal Executive Inn, Nisku, AB**

A small number '1' is at the bottom left, and a water droplet graphic is at the bottom right.

## Housekeeping

- A very long and challenging day.
- Washroom locations.
- Three presentations to start the day. Three panels of rural municipalities to follow.
- Facilitators will direct participation based on the questions sent to panel participants in advance.
- We'll be hearing at noon from Deputy Minister Jim Ellis about the integration of watershed management planning with the Land-Use Framework.
- Everyone must participate to get good results. Please respect the diversity of opinions represented by participants.

2

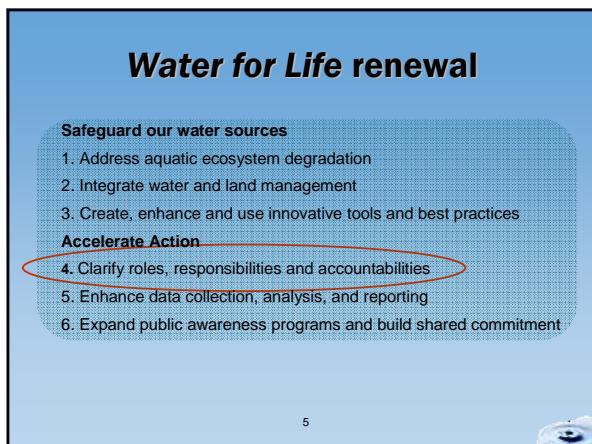
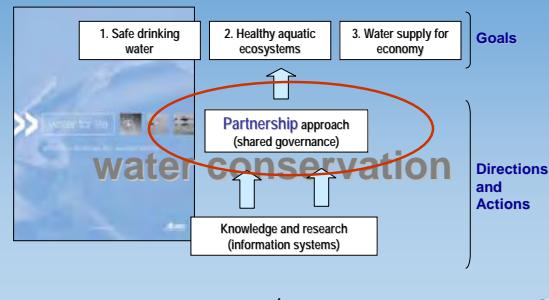


The poster features a collage of five small images at the top: a bird in flight, a person fishing, a landscape, a water treatment plant, and a bridge. Below the images, the text reads:

**Collaborative Planning under  
Water for Life**

A small number '3' is at the bottom left, and a water droplet graphic is at the bottom right.

## Conceptual model



The poster features a large blue textured area at the bottom. The text reads:

**Water for Life renewal**

**Safeguard our water sources**

1. Address aquatic ecosystem degradation
2. Integrate water and land management
3. Create, enhance and use innovative tools and best practices

**Accelerate Action**

4. Clarify roles, responsibilities and accountabilities
5. Enhance data collection, analysis, and reporting
6. Expand public awareness programs and build shared commitment

A small number '5' is at the bottom left, and a water droplet graphic is at the bottom right.

## Resource-based economy

- Alberta's top four industries are oil and gas (petrochemical), agriculture and agri-food, forestry, and tourism.

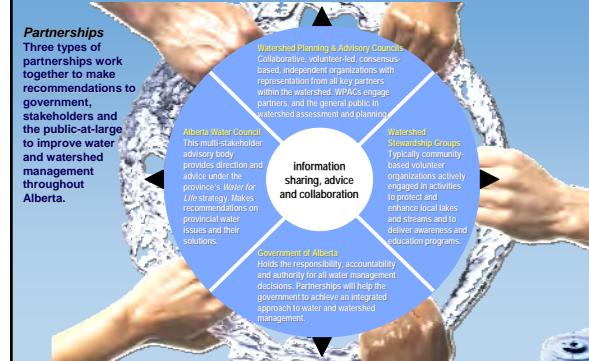


## Related water issues

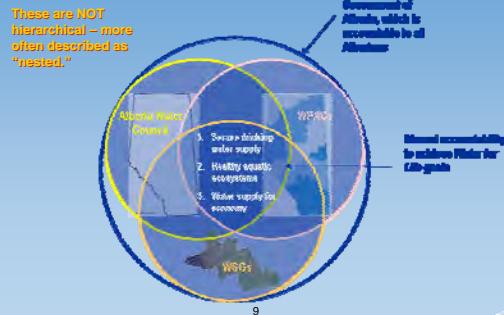
- Competing water uses and consequent water scarcity.
- Increased glacial melting and other climatic impacts.
- Blue-ribbon fisheries conservation and riparian protection.
- Unconstrained recreational use causing environmental degradation, i.e., soil erosion, etc.
- Non-point source pollution – fertilizer run-off, nutrient loading, etc.
- Aquatic environment degradation.
- Wetlands conservation – inventory underway with new policy.
- Groundwater recharge and protection.
- Competing upland activities with water impacts – forestry, oil & gas, mining, etc.
- Overall water quality.
- Population growth.
- Water/wastewater treatment.

7

## Water for Life partnerships



## W4L partnerships



9

## Partnership functions

Alberta Water Council	Policy recommendations
WPACs	Planning recommendations
WSGs	On-the-ground service delivery; some are planning in sub-watersheds

10

## Alberta Water Council

Industry	Chemical and petrochemical, forestry, irrigation, livestock, mining, oil and gas, and power generation.
Non-governmental	Environmental, fishery habitat conservation, lake environment conservation, Watershed Planning and Advisory Councils and wetland conservation.
Government of Alberta	Alberta Agriculture and Food, Alberta Economic Development Authority, Alberta Energy, Alberta Environment, Alberta Health and Wellness, Alberta Science and Research Authority and Alberta Sustainable Resource Development.
Other government	Federal, First Nations, large urban, Métis Settlements, rural and small urban.

11

## Watershed Planning and Advisory Councils

- Mandated by government to produce two watershed-based deliverables:
  - state-of-the-watershed reports; and
  - watershed management plans,
  - which include both the "what" and the "how."



12

## North Saskatchewan Watershed Alliance

- Different issues dominate in the central regions of Alberta.
- No irrigation districts but agriculture is still a significant industry.
- Forestry and mining are significant industries in the foothills and more northern regions; downstream impacts are notable.
- Impacts of coalbed methane on groundwater and related surface development.
- NSWA has a larger percentage of the provincial population than any other WPAC – and is dominated by the Capital region.

13



## Development impact on NSR

- Despite its physical size, the NSR is not a large river for northern Alberta. It has one-third the flow of the Athabasca River and one-seventh (15%) the flow of the Peace River.
- It also has relatively heavy municipal demands and growing industrial demands.



14

## Alberta's Industrial Heartland



15

## Strengthening Partnerships

- Released in September 2008.
- Contains 13 recommendations for the implementation of "shared governance" among the four broad sectors.
- NSWA is, in effect, testing these recommendations with its stakeholder partners to determine the best way forward.



16

## Government/AWC assumptions

- Sector model best way forward.
- Consensus decision-making strongly advocated.
- All sectors must participate.
- Adaptive management and outcome-based planning methodologies enable the sharing of responsibility among partner stakeholders.

17

## Authority and accountability

- Authority and accountability in any governance structure are ordinarily two sides of the same coin.
- WPACs are accountable to deliver state-of-the-watershed reports and watershed management plans.
- They do not, however, have any legislative authority to implement those plans.
- Authority is vested in and distributed among their partner stakeholders.



18

## Making change happen

"Action has meaning only in relationship and without understanding relationship, action on any level will only breed conflict. The understanding of relationship is infinitely more important than the search for any plan of action."

– J. Krishnamurti

"Culture trumps strategy."

– Chuck Klosterman

19

## Collaborative planning

- NSWA administrative body is trying to find solutions to the issues with which you're familiar.
- NSWA governance body is trying to build the process through which those solutions can best be found.

$$\begin{array}{rcl} \text{Relationship} & = & \text{Culture} \\ \text{Action} & = & \text{Strategy} \end{array} = \begin{array}{l} \text{Shared Governance} \\ \text{Watershed} \\ \text{Management Planning} \end{array}$$

20

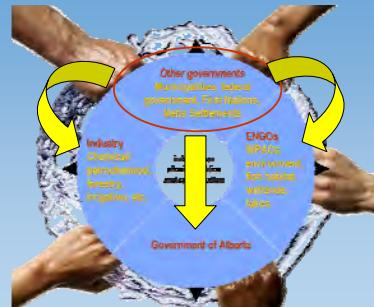
## Resistance to change

- Province performed this function until the mid-90s.
- Municipalities among those who feel that Alberta 'downloaded' responsibilities for service delivery to them.
- Some resentment remains which reduces willingness to adopt the proposed shared governance model.
- Municipalities remain important contributors to the goals of *Water for Life*.
- Rural municipalities, in particular, encompass large land bases.



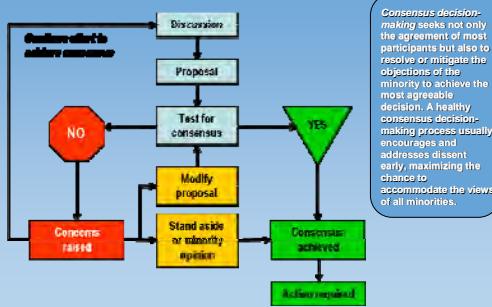
21

## How are sectors best engaged?



22

## Consensus decision-making



23

## Moving from water to watersheds

- The Province has encouraged *water management plans* for several years under the *Water Act*.
- Two kinds exist: "authorized" and "approved." Suggest that WPACs "endorse" plans.
- The shift to watersheds moves beyond parameters relating strictly to water and incorporates land use that affects those parameters.

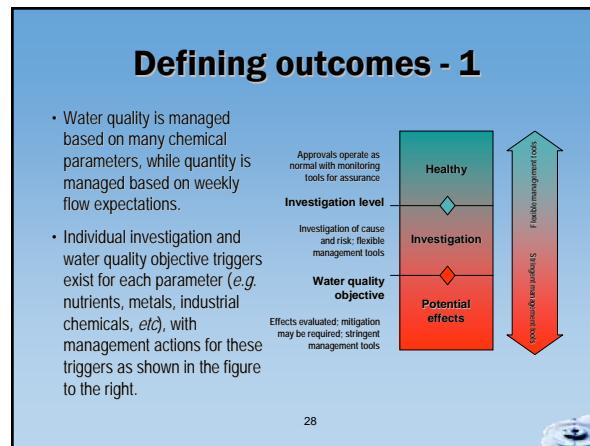
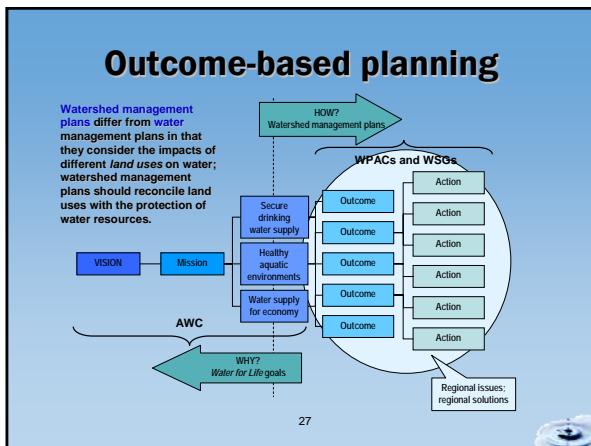
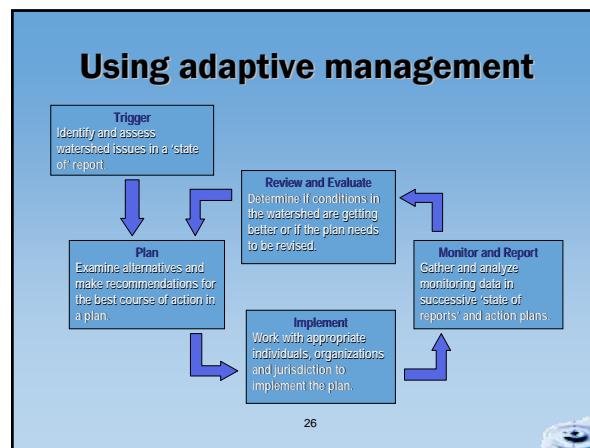
**A watershed** is an area of land that catches precipitation and drains it to a common point such as a marsh, lake, stream or river and recharges groundwater. A watershed can be made up of several sub-watersheds that contribute to the overall drainage of the watershed.

24

## Watershed management plan

A comprehensive document that provides assessment and management information for a geographically defined watershed, including the analysis, actions, participants, and resources related to development and implementation of the plan.

25



## Defining outcomes

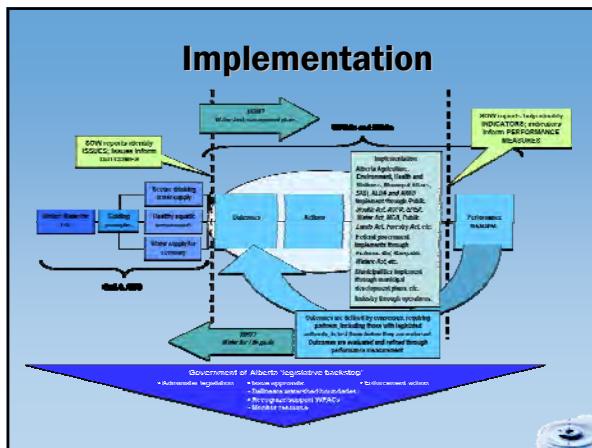
- Might more easily be thought of as "quality-of-life" contributions to be made by the watershed.
- One outcome might be, for example, to restore an indigenous arctic grayling fishery, which would be supported by a number of actions, all of which would have appropriate performance indicators related to water quality and quantity, etc.

29

## NSWA in action

- There is an important distinction to be made between governance and administration.
- "YOU" comprise the governing bodies and are the decision-makers (within your sector). That authority is shared with other sectors.
- The Edmonton-based office staff are the administration who, in effect, do your bidding.
- They provide technical data and expert analysis that are decision-support tools for YOU.
- Implementation, and therefore accountability, is shared among partner stakeholders.

30



Thank you

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## APPENDIX E: FORUM PARTICIPANT FEEDBACK

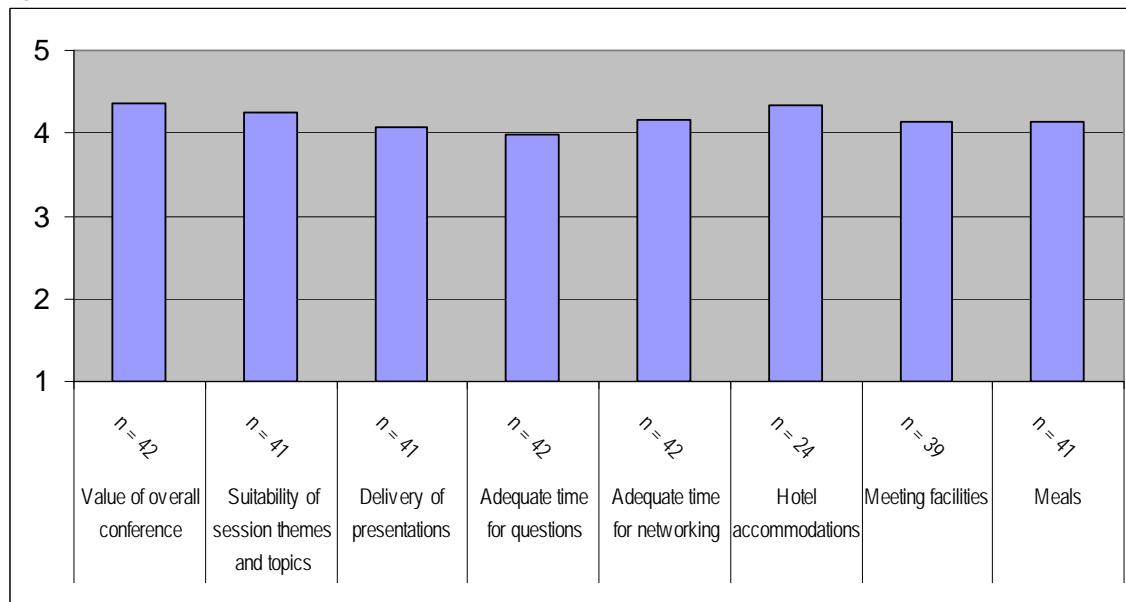


## Numerical responses to given questions

Forty-three Forum participants completed feedback form exit surveys that asked them to indicate, on a scale of one to five, their satisfaction with eight different criteria. Five indicated “excellent” and one indicated “poor.”

As illustrated in Figure 3, aggregate responses to all questions received a value of four or greater, indicating high levels of satisfaction.

Figure 3: Numerical satisfaction scores



## Municipal participants - written comments

Fifteen of the 43 feedback form respondents also provided detailed comments that have been reproduced in their entirety below.

1. “Thought that municipal participants were supposed to discuss... not so much Alberta Environment and Epcor. It would be good for counties to talk together with NSWA about that plan. More talk and not so much talk at.”
2. “Great way to see what others do in communities all over Alberta. Found it very useful. Sparked interest in water issues. Really felt our area should focus on Athabasca Watershed.”
3. “Exceptional, good presentations, good scope of watershed issues where identified and discussions were good. Great to see the number of attendees eager to learn from others and share experiences”.

**SUGGESTION FOR OTHER WORKSHOPS:** “Nuts & bolts of Water Act & Wetland Policy; constructed wetlands for storm water management. Who has jurisdiction on watersheds? A very confusing question!”

4. “It was pretty good. If you really want to get us involved we need more information not just your opinions.”
5. “Not sure if panel helped NSWA determine key actions for IWMP - mostly discussed access to water and treatment of waste water. Not much discussion on actual water management opportunities such as riparian protection, wetland conservation and creek restoration programs. Disappointed in several councillors today who mentioned that watersheds are not a priority - it should be clarified that the province is saying that they are and that municipalities NEED to be involved in action plans - NSWA is a resource to help sectors work towards goals of Water for Life”.

**SUGGESTION FOR OTHER WORKSHOPS:** “River Tours canoeing, kayak, picnic discussions (paid participation of course) OK to charge for equipment, etc. but perhaps free bagged lunch. Sustainable farm tour. Review authority given to municipalities through MGA, *etc.* - webinar, workshop, retreat.”

6. “Very Informative. Good policy to have municipalities talk about and work on similar challenges.”

7. “For newcomers to municipal council - pre-orientation is a must”.

**SUGGESTION FOR OTHER WORKSHOPS:** “Provide info. Sessions to general public through municipal activity. E.g. Awareness is paramount.”

8. “Good presentations - both speakers and panels”.

**SUGGESTION FOR OTHER WORKSHOPS:** “Good suggestion to present at Feb 2010 Ag. Service Board Provincial Conference in Edmonton.”

9. “Information update on basin water issues and process on management plans is very timely and sorely needed”.

**SUGGESTION FOR OTHER WORKSHOPS:** “We need workshops strategically held during the plan development. Suggest every 6 months.”

10. “A nice combination of general attitude adjustment and good contacts and some specific ideas for action.”

11. “Too much NSWA talk and not enough municipality talk. 1. Give us more lead time. 2. Give us better instructions. 3. If you already have it figured out don't waste our time. 4. It was good to talk to other counties this way. 5. I liked the information on the stick and in the package, but we need more of it! 6. There were some counties missing. 7. We need more information on ground water. 8. We need more information on wetlands and if they really store water. 9. What about more dams? 10. Maybe have a forum with just counties and not public.”

12. “It would be useful to have a workshop involving municipalities, the NSWA, and the Land Use Framework group on how we together effectively work with this new common process. Current structure has the most experience & knowledge on the subject. They should develop the plan. Send it out to the planning departments of the municipalities for their input then hold workshop meetings (probably 5) across region involving all sectors presence for further input before developing a final draft plan.”

13. “How do we determine the state of the watershed in Brazeau County? How can we improve without knowing where we are? Where is the science?”  
**SUGGESTION FOR OTHER WORKSHOPS:** “Conduct a brainstorming session with members to workout a rough draft of a policy. Break into small groups with facilitators.”
14. “We seem to have different priorities than most others. However, we cross paths with other municipalities frequently and discuss things with them regularly.”
15. “You have to let us talk and not interrupt with your opinions, you already know your opinions”.

**SUGGESTION FOR OTHER WORKSHOPS:** “I think you should talk with the planners where there are some for a start.”

