

NORTH SASKATCHEWAN WATERSHED ALLIANCE SOCIETY

Annual Report 2008 – 2009

The North Saskatchewan Watershed Alliance (NSWA) was formed in 1997 by:

- EPCOR
- Trout Unlimited Canada
- The Prairie Farm Rehabilitation Administration (PFRA) of Agriculture and Agri-Food Canada
- TransAlta
- The City of Edmonton Drainage Services Planning Branch.

The NSWA provides a forum for sharing information on and experience about issues affecting the North Saskatchewan River watershed in Alberta. It also supports and initiates activities that positively impact the watershed. The NSWA is incorporated as a non-profit society in Alberta.

The NSWA, a multi-stakeholder partnership, is comprised of over 100 individual and organization members with interests in the North Saskatchewan River watershed. NSWA members include: municipalities; federal and provincial governments; aboriginal communities; industries; utilities; agriculture producer groups; environment and conservation groups; recreation, culture, and tourism groups; education and research institutions; and individual citizens.

In May 2005, under the Government of Alberta's *Water for Life: Alberta's Strategy for Sustainability*, the NSWA was appointed as the *Watershed Planning and Advisory Council* (WPAC) for the North Saskatchewan River (NSR) basin.

The NSWA's primary strategic goal for 2008-11 is the preparation of an *Integrated Watershed Management Plan* (IWMP) for the North Saskatchewan River basin. The development of the IWMP is a major undertaking and is aimed at protecting the long-term supply and quality of water resources for future generations. Alberta Environment approved the Terms of Reference for this work in 2005. The basin-wide planning process is targeted for completion in 2010.

Other NSWA strategic initiatives include:

- The Vermilion River Watershed Management Pilot
- The Canadian Heritage River designation for the NSR project
- Involvement in the Industrial Heartland Water Management Framework

ORGANIZATIONAL GOALS

VISION

A watershed where ecological integrity is the foundation for environmental, cultural, social and economic decision-making. Actions taken and policies implemented will result in the wise use and management of the North Saskatchewan River Watershed in Alberta.

PRIMARY GOALS:

- To promote and encourage collaborative watershed planning and decision-making
- To raise awareness, share information and promote watershed protection initiatives to our members and the wider community
- To foster the wise use and integrated management of land and water resources throughout the North Saskatchewan River basin
- To improve basin water quality by identifying human impacts and advocating for the enhancement of ecological function throughout the watershed
- Ensure the sustainability of the NSWA as the key watershed planning and advisory organization for the North Saskatchewan River Watershed

HIGHLIGHTS FOR THE YEAR ENDING MARCH 31, 2009

- April, 2008**
- NSWA Board retreat held in Rocky Mountain House. The County of Clearwater explained their inter-municipal planning initiatives. The Rocky Riparian Association demonstrated the value of digital story-telling for helping communities express their concerns about and interest in finding solutions for regional issues.
 - Earth Day at Hawrelak Park, Edmonton was cut short due to a snow storm!
 - NSWA began an organizational governance review, including a review of By-laws and Board Terms of Reference.
 - A Board sub-committee began a review of the 2008 – 2009 Work Plan.
- May, 2008**
- Presentation made to Leduc County
 - NSWA, in partnership with PFRA, began work on the North Saskatchewan River Basin Mini Atlas Project.
 - NSWA sent copies of the North Saskatchewan River Heritage River Study with the David Thompson Canoe Brigade to distribute during their 200th anniversary paddle on the North Saskatchewan River from Rocky Mountain House to Thunder Bay.
 - NSWA participated in the final round of Conservation and Stewardship Working Group meetings to respond to the Draft Land-use Framework.
 - Board of Directors and IWMP Steering Committee held a joint meeting to review updates on various technical studies.
 - East-Central Alberta Cumulative Effects Project (ECACEP) kicked off in Camrose, Alberta with active participation by NSWA
 - NSWA awarded Alberta Ecotrust Major Project Grant for developing a riparian assessment framework for watershed-scale assessments
- June, 2008**
- Financial audit for fiscal 2007-08 completed by Gadowsky Lim and Associates
 - NSWA participated in the annual River Day event in Rundle Park, Edmonton.
 - AGM held and new officers elected to the Board of Directors.
 - First Rural Municipal Forum held at AGM
 - Mr. Tom Cottrell hired as IWMP coordinator.
 - Presentation made to the Northeast Alberta Water Management Coalition
- July, 2008**
- NSWA Executive officers appointed by the Board of Directors.
 - Dr. Les Gammie (EPCOR) continued as President of NSWA

- NSWA Report - *Climate Change Effects on Water Yield from the North Saskatchewan River Basin* (Golder & Assoc.)
- NSWA Report - *Shared Governance Implementation Plan* (Teleologic Inc)
- NSWA commented officially on the GoA *Governance Framework* and on the Alberta Water Council's recommendations for a Watershed management Planning Framework for Alberta.
- NSWA met with AENV's Executive Committee to seek clarity on WPAC involvement in land planning, with reference to the evolving Land Use Framework (LUF).
- NSWA Display at Devonian Botanic Garden Inaugural Green Festival
- New website design initiated.
- North Saskatchewan River Watershed Mini Atlas project received funding from Alberta Beef and Petro Canada.

Aug, 2008

- Pat Alexander, County of Clearwater, became Vice-President.
- Presentation made to Thorhild County.
- MOU letter of agreement signed with DU for the Vermilion River Watershed Management Project
- NSWA's new office space proposed by the City of Edmonton for the Eastgate Building on 49th St. south of Twin Atria
- NSWA participated in the LUF working groups and presentation of recommendations to SRD Minister Morton.
- NSWA participated in Kalyna Country local food event in Vegreville.
- NSWA participated in a River Watch river raft trip along the north bank of the North Saskatchewan River within Edmonton.
- NSWA participated in Vermilion River watershed tour, sponsored by the Vermilion River Operations Committee and the Holden Drainage District.
- NSWA participated in the 21st Annual Agricultural Tour, Clearwater County

Sept, 2008

- Presentation made to the Bow River Basin Council Forum on Watershed Planning.
- Presentation made to the Natural Resources Conservation Board Staff Conference, Red Deer District.
- Presentation made to Parkland County.
- NSWA developed sub-watershed briefing notes

Oct, 2008

- Presentations made to: Northwest Regional Conference of Alberta Agricultural Services Board in Breton, Strathcona County, City of Fort Saskatchewan, and Sturgeon County.
- Presentation made at the inaugural AGM for the Sturgeon River Watershed Initiative in St. Albert.
- NSWA hosts workshop: "Riparian Assessment & Monitoring at Watershed Scales".
- NSWA participated in the Watershed Planning and Advisory Councils' annual summit in Lethbridge

Nov, 2008

- NSWA coordinated a Riparian Workshop
- Presentations made to Beaver County, NALMS and to a joint meeting of the Town of Rocky Mountain House and Clearwater County.
- Presentation made to the executive committee of the Northeast Capital Industrial Association in Fort Saskatchewan and the Strathcona Industrial Association.

- NSWA & DU hosted a tour of the Holden Drainage District and Vermilion River watershed for researchers from the University Of Guelph, Ontario.
 - NSWA finalized contracts with AENV to begin five new projects.
- Dec, 2008**
- Presentation made to the 4th Annual Water and Land Management in Alberta conference in Calgary.
 - NSWA continued to participate on the Industrial Heartland working group.
 - NSWA new website launched
 - NSWA Christmas Party
- Jan, 2009**
- Ms. Jayme Nelson hired as Basin Planning Technician
 - Presentation made to Farm Tech 2009.
 - Presentation made to Brazeau County in Drayton Valley.
 - Presentation made to a joint meeting of the Town of Two Hills and the County of Two Hills.
 - Presentation made to a meeting of Zone 5 of the Alberta Association of Municipal Districts and Counties.
 - Application package to AENV for 2009 -10 operations funding submitted.
 - Vermilion River Watershed Management Project (VRWMP) held first Steering Committee meeting.
- Feb, 2009**
- Presentation made to Beaver County Agricultural Services Board in Ryley.
 - Presentation made to CWRA workshop on Oilsands Upgrading and the NSR.
 - NSWA Rural Municipal Forum held
 - NSWA/Partners FOR The Saskatchewan River Basin conference
 - First two NSWA Bulletins released.
- March, 2009**
- Presentation made at the AGM of the Mycological Society of Alberta.
 - NSWA participated in a community meeting of the Dodds-Round Hill Agricultural Protective Association regarding common water concerns.
 - NSWA participated in planning the Watershed Protection mobile workshop for the ICLEI Conference.
 - Third NSWA Bulletin released.
 - Presentation made to the Board of the North Saskatchewan River Valley Alliance.
 - NSWA received draft reports from: **Golder** - Water Quality Indicators and Objectives Study; **Tetra Tech** - Water Quality Modeling Study; **WorleyParsons** - Overview of Groundwater Issues and Challenges Study; **Dr. Mike Sullivan** - ALCES Cumulative Effects Assessment for the North Saskatchewan River Basin Study; and **Teleologic** - Shared Governance, Consultation and Engagement Study.

FINANCIAL OVERVIEW

An audited financial statement for the fiscal year April 1, 2008 to March 31, 2009 was prepared for NSWA by Gadowsky Lim and Associates of Edmonton.

The NSWA began the fiscal year on April 1, 2008 with \$645,964.00 in total assets, and completed the fiscal year on March 31, 2009 with \$691,717.00 in total assets. Full details are available in the audited financial statement, which is available at the AGM and then on the NSWA website.

We thank Trout Unlimited Canada and the City of Edmonton for continuing to provide in-kind support to NSWA operations in 2008-2009. These contributions provided payroll and benefits administration, office space and computer support for our operations.

We also thank Alberta Environment, Ducks Unlimited Canada, EPCOR, the City of Edmonton, Petro-Canada/EcoTrust, Alberta Beef Producers, and PFRA for providing direct cash contributions to support both NSWA operations and projects during the fiscal year.

Members of our Board of Directors, IWMP Steering Committee and the VRWMP Steering Committee also provided in-kind support in terms of their time, expertise and travel costs. NSWA gratefully acknowledges the contributions of these individuals and their respective organizations.

NSWA also appreciates the continued commitment from our volunteers who always go beyond the call of duty to support our work.

PROGRAM OVERVIEW

Integrated Watershed Management Plan (IWMP)

Under the leadership of IWMP Steering Committee chair, Sharon Reedyk, work on the Integrated Watershed Management Plan (IWMP) for the North Saskatchewan River basin moved ahead. Early in 2008, NSWA submitted a work plan to Alberta Environment for funding under *Water for Life, Alberta's Strategy for Sustainability*. This submission followed previous deliberations of the IWMP Steering Committee to lay out major projects that should be undertaken. The funding was intended for both NSWA office operations and projects on water science, land use, shared governance and consultation with stakeholders. Approval by Alberta Environment of project funding late in the year pressed NSWA to proceed quickly with several significant initiatives.

In November, the NSWA initiated work through consultants on three projects on water science and one to assess cumulative effects. These topics are foundational to understanding the integrity and conditions of the river and watershed and how it works in relation to the principle of ecological integrity. These projects were: Water Quality Indicators and Objectives, Water Quality Modeling, an Overview of Groundwater and using the ALCES model to understand and evaluate cumulative effects of growth and development over time throughout the basin.

A fifth project seen by the Steering Committee as critically important involved broad shared governance, consultation and engagement with stakeholders. To this end, NSWA contracted a consultant to develop a Rural Municipal Engagement Strategy. Its goal was to foster better understanding of watershed planning, the mandate of the NSWA and local watershed issues and concerns of importance. Over several months, NSWA made verbal presentations and sent targeted information to many counties, rural municipalities and other organizations in the watershed. This effort helped to renew the solid relationships built during development of the Municipal Guide in 2005.

NSWA staff worked hard during the year to become involved in and investigate other policy, planning and assessment initiatives being undertaken by other authorities. Our goal was to become better informed about those initiatives and determine how they would affect the IWMP or vice versa. These initiatives include: *Industrial Heartland Cumulative Effects Assessment*, *East Central Alberta Cumulative Effects Management Project*, *Alberta Land Use Framework*, *Vermilion River Watershed Management Project*, and *Capital Region Growth Plan*.

Water Quality Indicators and Objectives

This project is an extension of the work done by Golder Associates last year to identify water quality stressors in the NSR basin and potential indicators to quantify their effects. With 2008 project funding from Alberta Environment, Golder was retained to develop reach-specific water quality indicators and objectives protective of specific water uses. A technical advisory committee was formed to work with Golder. Members were: Stephanie Neufeld, Epcor; Anne-Marie Anderson and Curtis Brock, Alberta Environment; Lyndon Gyurek, City of Edmonton; and Sarah Depoe, Alberta Agriculture and Rural Development. This project was substantially complete by March 31, 2009 with the exception of a final report. The objectives are considered a recommendation to stakeholders, who will review and accept or modify them during the IWMP plan development process.

Water Quality Modeling

The purpose of this project is to configure, calibrate and verify a one-dimensional water quality model for the NSR from Lake Abraham to the Saskatchewan border. The model framework includes flow, temperature, dissolved oxygen, organic carbon, nutrients, and algal growth. This project was undertaken in partnership with Alberta Environment, who funded the portion from Devon to the border. NSWA, with a project contract from Alberta Environment, was responsible for the Lake Abraham to Devon section. The model will be used to predict the consequences of future changes in flow, land use, and effluent discharges. This will assist stakeholder to evaluate water quality management options.

Overview of Groundwater Conditions, Issues and Challenges

Undertaken on contract by WorleyParsons, this project provides a broad overview of the groundwater conditions, issues and challenges within the NSR basin. It gives a snapshot of the current knowledge of groundwater resources and integrates recent information on water use and human activity to show where knowledge is weak and groundwater resources may be vulnerable. The report stresses that:

- groundwater and surface water must be viewed as a single system,
- groundwater has great potential as a source of water supply, but the quality and quantity must be protected and managed properly,
- groundwater recharge areas must be recognized and protected in land use decisions,
- key aquifers are vulnerable to surface contamination unless proper measures are taken to protect the resource and the wells.

The draft report was completed by the end of the year although staff review and completion of a final edition stretched into 2009/10.

ALCES Cumulative Effects Assessment for the North Saskatchewan River Basin

The NSWA recognizes that a broad range of natural patterns and human influences affect aquatic ecosystem health, water quality, and water quantity in the North Saskatchewan River Basin. Working with Dr. Michael Sullivan of the ALCES Group, we undertook a basin-wide cumulative effects assessment of human activities on key indicators of watershed condition. The preliminary assessment examined past trends, current conditions, and potential future conditions of these indicators under four scenarios, which reflect a variety of growth rates, adoption of best practices, and climate change effects. Overall, the assessment found that indicators of biodiversity (fish community and native landscape) and water quality have already been heavily impacted and may continue to decline under most future scenarios, while water quantity may be of less concern. However, there are opportunities to mitigate impacts and build resilience into the watershed.

Shared Governance, Consultation and Engagement

The NSWA recognizes the value of collaboration and partnerships in watershed planning and wanted to test how the Shared Governance Framework proposed by the Alberta Water Council would work in the municipal sector. Consequently, throughout the fall and winter, we met with counties and small communities in rural areas. NSWA made presentations to municipal councils and provided information about our planning initiative and all the work underway. We also listened to concerns and learned about other planning initiatives.

We prepared and published two briefing notes and the first three of a series of information bulletins planned for public distribution (**Volume 1, Issue 1 – The Integrated Watershed Management Plan**, which includes summaries of NSWA's most recent studies; **Volume 1, Issue 2 – The Municipal Guide**, which includes the purpose for the guide and an overview of what's in it; **Volume 1, Issue 3 – Rural Municipal Forum**, which includes a summary of "*what we heard*" at the rural municipal forum held in Nisku, Feb 10, 2009).

The culmination of this effort was the Municipal Forum held February 10th in Nisku. The NSWA hosted 90 people representing 16 of the 20 counties within the watershed, other counties, as well as some towns and cities, Alberta Government and several other organizations from Alberta and Saskatchewan. The Forum provided an opportunity for people from the Basin to come together to discuss watershed planning, shared governance and working together. The principal event during the forum consisted of three municipal panels with representatives from the counties in the headwaters, central and downstream areas. Presentations by each panel member concerning the watershed and planning issues in their areas were followed by a moderated discussion of basin-wide concerns and issues.

The Forum was held in conjunction with the *We Are All Upstream II* Conference on February 11th and 12th that was hosted jointly by the Partners FOR the Saskatchewan River Basin and the NSWA. The conference provided an opportunity for the NSWA to present initial results of technical research and analysis of projects, as well as for the release of a draft report on "The State of the Saskatchewan River Basin" by Robert Halliday.

Industrial Heartland Water Management Framework (IHWMF)

The IH WMF was announced by Alberta Environment in 2007 and an Implementation Steering Committee established in early 2008. NSWA is represented by our president, Dr. Les Gammie. Sub-committees have been set up to address Basic Science, Engineering, Governance and Finance, and Communications. Gord Thompson (NSWA staff) participates on the engineering sub-committee as well as on the basic science sub-committee. One major milestone this year was gathering comprehensive effluent flow and quality data for all municipal and industrial discharges in the Capital Region. The other was preparation of a Request for Proposal for an engineering consultant to evaluate five specific municipal and industrial wastewater treatment and reuse options. The proposals received were being evaluated at fiscal year end with award and start up of the project expected early in the new fiscal year.

Vermilion River Watershed Management Pilot

Watershed management planning occurs at different scales. Within the North Saskatchewan Watershed, water management issues differ markedly among sub-basins, and many broad-scale issues affect tributaries more than they may affect the main stem of the river. This means that basin-wide plans and sub-basin plans need to complement each other. Each plan needs to develop collaborative partnerships for planning and implementation appropriate to the region involved.

In the 2005 State of the North Saskatchewan Watershed Report, the Vermilion River sub-basin was identified as one of the most altered sub-watersheds. Impacts to aquatic ecosystem health, water quality, and hydrology were noted. These impacts appeared to result from wetland drainage and modification, livestock management, tillage and municipal and industrial development. NSWA, working with the North East Alberta Water Management Coalition (NEAWMC) and the Alberta North American Waterfowl Management Plan Partnership (AB NAWMP), is exploring ways to develop a watershed management plan for the Vermilion River basin.

The Vermilion River Watershed Management Project (VRWMP) will contribute sub-basin planning recommendations to the NSWA and other partners, and will serve as a prototype for sub-basin projects in the North Saskatchewan River basin. Funding for project coordination has been provided to NSWA by AB NAWMP for 2008-2011.

Two important milestones have been reached. First, a regionally based Steering Committee for the VRWMP has been established with participation from four rural municipalities (Beaver County, Minburn County, Two Hills County, and County of Vermilion River); two urban municipalities (Town of Vegreville and Town of Vermilion); the Vermilion River Operations Advisory Committee; Holden Drainage District; Alberta Environment Water Management Operations; Alberta NAWMP; and NSWA. The Steering Committee has reviewed and prioritized watershed management issues and is currently developing a detailed work plan.

Second, NSWA worked with Golder Associates to complete the *Vermilion River Water Supply & Demand Study*, with funding support from Agriculture and Agri-Food Canada (Canada-Alberta Water Supply Expansion Project) and NEAWMC. The *Study* analyzed basin hydrology and water use and demand, and developed a hydrological model that accounts for land use, wetland drainage, and management of flood-control structures. The results of this study form the foundation for watershed management planning in the Vermilion Basin.

Web Site Renewal

In December 2008, NSWA unveiled a new website at <http://nswa.ab.ca>. We worked with a local developer to implement an open-source content management system called Drupal, which allows us to create and update website content easily. Our new site enables more interactive communications with stakeholders as we develop the Integrated Watershed Management Plan and release various information products such as our mini-atlas.

North Saskatchewan River Basin Mini-Atlas Project

NSWA continues to work toward understanding the full range of watershed management issues in the North Saskatchewan River Basin. In order to communicate these issues and to increase stakeholders' understanding of watershed geography, we have created a series of maps, depicting themes including hydrology, terrain, land cover, land use, jurisdictions, and population. The first of these maps were presented at the 2008 AGM, and a final selection of maps will be printed as a mini-atlas in summer of 2009. This project is made possible by the financial support of Alberta Beef Producers and Petro-Canada, and by the diligent production efforts of Candace Vanin and Shannon Hall at PFRA and Graham Watt-Gremm at NSWA. In addition, we will be creating mini-atlases for Sturgeon River Watershed Alliance and the Vermilion River Watershed Management Project to support sub-basin planning.

NSWA BOARD OF DIRECTORS 2008/2009

Board members are elected at the Annual General Meeting and commit to two years of service from the date of the AGM.

Position	Name	Organization
President	Dr. Les Gammie	EPCOR Water Services
Vice-Pres	Pat Alexander	Clearwater County
Treasurer	Celeste Nicholson	Northeast Alberta Water Management Coalition
Secretary	Andrew Schoepf	Alberta Environment
Director	Albert Kwan	City of Edmonton
Director	Bill Fox	Alberta Beef Producers
Director	Tracy Scott	Ducks Unlimited Canada
Director	Jamie Wuite	Alberta Agriculture and Rural Development
Director	Candace Vanin	Agriculture and Agri-Food Canada – PFRA
Director	Jim Bague	Town of Rocky Mountain House
Director	Marie Johnson	Petro-Canada
Director	Vacant	NGO
Director	Vacant	Métis
Director	Vacant	First Nations

NSWA STAFF

David Trew, P.Biol.	Executive Director
Tom Cottrell,	IWMP Coordinator
Billie Milholland, B.A.	Communications Manager
Gordon Thompson, P.Eng.	Technical Program Coordinator
Graham Watt-Gremm, M.Sc.	Basin Planner
Jayne Nelson,	Basin Planning Technician

NSWA MEMBERSHIP

NSWA continues to engage with as many stakeholder groups as possible. It is important that all sectors, user groups and interested citizens from across the watershed be encouraged to become actively involved in the watershed management planning process.

The NSWA introduced an annual membership renewal protocol early this year, using an updated online membership form, which directly updates the membership data base. This takes the place of the outdated membership data base system. It will help keep membership contact information current. Membership renewal is proceeding smoothly.