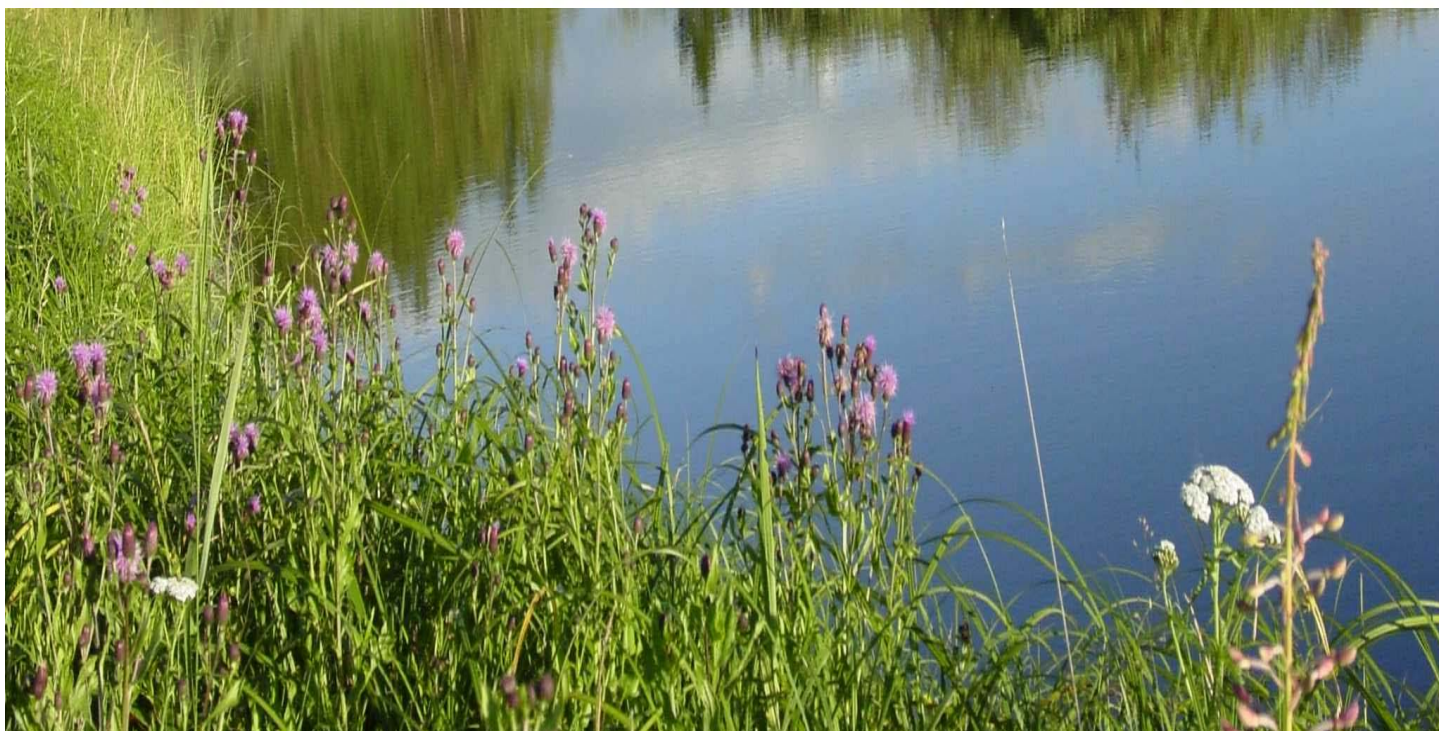




North Saskatchewan Watershed Alliance



Annual General Meeting 2008

June 27, 2008

Goldbar Centre of Excellence

Annual General Meeting

June 27, 2008
Gold Bar Centre of Excellence
10977 – 50 Street, Edmonton, AB



AGENDA

- 8:00 – 8:45 Registration, Refreshments and Display Set-Up
8:45 – 9:00 Opening Remarks – Dr. Les Gammie, NSWA President

MORNING SESSION A : Water Sciences Technical Update

Chair: Gord Thompson

- 9:00 - 9:30 **Current and Future Water Use in the North Saskatchewan River Watershed**
– John Thompson AMEC
- 9:30 - 10:00 **Future Water Supply and Climate Change Assessment for the North Saskatchewan River Watershed** - Anil Beersing, Golder Associates
- 10:00 - 10:30 **Long-term water quality trends in the North Saskatchewan River**
– Thorsten Hebben, Alberta Environment

10:30 am – 10:45 am ~ Refreshments/Networking Break

MORNING SESSION B : Rural Municipalities: Progress in Watershed Planning and Protection

Chair: Tom Cottrell

- 10:45 - 11:15 **The Integrated Watershed Management Plan for the North Saskatchewan Basin: Update and Progress Report**
- Sharon Reedyk - IWMP Steering Committee Chair
- 11:15 - 12:15 **Rural Municipal Panel Presentations and Q/A: Needs, priorities and perspectives on watershed planning**
- Speakers from the Counties of Clearwater, Strathcona, Sturgeon, Vermilion River, Two Hills

12:15 pm – 1:30 pm ~ Networking – Lunch – Displays

- 1:30– 2:30 **Update on the GOA's Environmental Strategic Initiatives**
– Jim Ellis, Deputy Minister, Alberta Environment - Introduced by Billie Milholland

2:30 pm – 2:45 pm ~ Refreshments/Networking Break

Annual General Meeting of the NSWA society

- 2:45 – 4:30 **NSWA 2007-2008 Annual Report** – David Trew, Executive Director
NSWA 2007-2008 Financial Report – Celeste Nicholson, Treasurer

Election of the Board of Directors

7 seats available for election in 200	Board members standing for re-election	
2 Municipal- Rural	1 Fed Gov't	Municipal Rural – Pat Alexander, (County of Clearwater)
1 Prov Gov't	1 Agricultural	Municipal Rural – Jim Bague, (Rocky Mt House)
1 First Nations	1 NGO	Prov Gov't– Jamie Wuite (AARD)
		Agriculture – Bill Fox (Alberta Beef Producers)

4:30 – 4:45 Closing Remarks from Dr. Les Gammie

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MORNING SESSION A – Water Sciences Technical Update

Chair: Gord Thompson

Gord joined the NSWA after a 35 year career in wastewater engineering and management with the City of Edmonton and the Alberta Capital Region wastewater Commission. He brings a strong interest in the impacts of growth and development on the environment.



Current and Future Water Use in the North Saskatchewan River Watershed

- John Thompson, AMEC

Abstract: As part of developing an *Integrated Watershed Management Plan* for the North Saskatchewan River basin in Alberta, an accurate understanding of current and projected water use patterns in the basin was required. Using Government of Alberta water use statistics and other data sources, current water use patterns were assessed and water use forecasts up to 2025 were prepared for each of twelve sub-basins in the watershed. The study examines use of surface water and groundwater for each of six water use sectors. It differentiates between licenced allocations, licenced use and actual use and determines the percentage of expected water diversions that are currently being used. While current annual surface water *allocations* total about 2 billion cubic metres, current actual *use* is about 0.19 billion cubic metres per year, or 2.6% of the average annual discharge. Groundwater *allocations* total 0.025 billion cubic metres and it is estimated that actual *use* is about 60% of total allocations

Biography: John Thompson has more than 30 years of experience related to economics and water management, and has been conducting water use studies for more than 20 years. In the early 1990s, John spent 7 years as Head of the Economics and Water Use Section at Alberta Environment and was responsible for preparing water use forecasts in support of basin planning activities and participated in drafting the Water Act. He spent another 7 years with the Natural Resources Conservation Board and returned to consulting five years ago. Since then he has conducted detailed water use studies for the Battle and North Saskatchewan River basins as well as more general studies for all basins in Alberta. He has completed full-cost accounting studies of provincially-owned and irrigation district owned water management infrastructure, has investigated opportunities to use economic instruments to manage water quality and quantity, and has completed a review of North American legislation related to water rights and inter-basin transfers. John is also a member of the International Advisory Council for the Alberta Water Research Institute.



Future Water Supply and Climate Change Assessment for the North Saskatchewan River Watershed

- Anil Beersing, Golder Associates

Abstract: Two studies examining the current water yield in the North Saskatchewan River Basin (NSRB) and the yield under potential future climate scenarios have recently been carried out for the North Saskatchewan Watershed Alliance (NSWA). The mean annual natural discharge of the North Saskatchewan River (NSR) at the Alberta/Saskatchewan boundary is about 7,510 million m³ (Mm³), which is equivalent to an annual yield of 179 mm during present average hydrologic conditions. The headwater hydrologic region, with an area of 4,110 km² compared to the NSRB's gross drainage area of 56,860 km², contributes almost half (3,600 Mm³) of the annual cumulative yield of the NSRB at the boundary. The portion of the NSRB downstream of Edmonton contributes less than 300 Mm³ of flow volume to the average annual cumulative volume of the NSRB at the boundary. Air temperature data at the selected climate stations in the NSRB, namely, Nordegg,

Rocky Mountain House, Edmonton and Vermilion, suggest that there is a generally increasing trend in air temperature. The general direction seems to be towards increasing precipitation in the NSRB, however, the trends do not appear to be statistically significant. The annual mean flow data at selected hydrometric stations in the headwater basins of the Athabasca River and western portion of the NSRB generally show a decreasing trend in recent years.

Four General Circulation Models (GCMs), also known as Global Climate Models, were selected for assessing the effects of climate change on the water yield in the NSRB based on a comparison of GCM predictions with observed climate data in the NSRB. The 1961 to 1990 period was selected as the climatological baseline period. The future conditions have been represented by the 30-year period between 2021 and 2050, which would be representative of the mid-2030s. The study area was limited to the portion of the NSRB west of Edmonton because climate data east of Edmonton was not available for this study. For the purposes of this study, the effects of climate change on water yield in the NSRB were assessed against natural flows recorded at the Environment Canada WSC Hydrometric Station 05DF001 at Edmonton. The forecasted change in mean annual yield in the forecast period of 2021-2050 compared to the baseline period of 1961-1990 ranges from -5% to +18%. The deviations of the simulated monthly yields from the baseline values are much larger than would be implied by the deviations in the mean annual yield. The average change in mean monthly yield ranges from -13% to +23%. The maximum increase in monthly yield tends to occur during the spring months. This result reflects the predicted increase in precipitation and increase in temperature. It appears that the maximum decrease occurs during the summer months and into the fall.

The simulations of the forecasted climate scenarios result in a relatively wide range of possible effects on water yield from the NSRB. The results of the climate study should therefore be interpreted in terms of trends rather than absolute changes because the possible effects on water yield have some degree of uncertainty associated with them.

Biography: Dr. Anil Beersing obtained his Ph.D. in water resources engineering from the University of Calgary in 1988. He is currently a Senior Hydrologist with Golder Associates Ltd. Dr. Beersing's experience includes the use of a number of hydrologic models and techniques to investigate the hydrologic impacts of urbanization, mine developments, agricultural developments, forestry operations, water withdrawals, climate change and instream water uses. He has been the hydrology component lead and/or hydrology advisor/senior reviewer on a number of hydrologic studies and environmental impact assessments for a number of projects in Alberta, northern Canada, U.S.A, and Africa. His tasks included development of hydrologic monitoring programs, assessment of project activities on baseline hydrology using hydrologic models, and development of mitigation plans. Prior to joining Golder, Dr. Beersing was managed the Hydrology Branch of Newfoundland's Department of Environment for ten years. He supported water-related regulatory operations by developing environmental guidelines and water management policies, participating in a number of regulatory environmental assessment review committees, and implementing hydrologic baseline and impact studies. Dr. Beersing has served as an expert witness on hydrology matters at recent regulatory hearings on mine developments in northern Alberta.



The Ups and Downs, Ins and Outs of Water Quality: A Brief Overview of Long-Term Trends in the North Saskatchewan River

- Thorsten Hebben, Alberta Environment

Abstract: Over the past fifty years, large rivers throughout the province of Alberta have been undergoing regular monthly sampling for a wide range of water quality parameters. Referred to as the Long-Term River Network (LTRN), this monitoring initiative has contributed to an extensive database of water quality information for the Province. Due to the broad temporal coverage and continuity of these data, they lend themselves particularly well to statistical trend assessment – a highly useful approach to examining changes in the health of a water body over time.



Often indicative of human activities in the basin, trends in water quality parameters can be analysed for a variety of purposes, including the evaluation of human impacts on water quality, the development and assessment of watershed management initiatives, and the prediction of future water quality conditions. In 2005, Alberta Environment released a report on long-term trends in water quality of the North Saskatchewan River. Incorporating data from as far back as 1977, this report revealed a number of interesting tendencies in a range of parameters. Upgrades to municipal wastewater treatment in Edmonton, for example, are reflected in downward trends in both nutrient concentrations and bacterial densities in the river. These and other trends will be presented and discussed, as will the intricacies and pitfalls of the trend assessment process.

Biography: Thorsten Hebben is a limnologist and water quality specialist with the Environmental Assurance Division of Alberta Environment in Edmonton. A graduate of the Master of Science program in Ecology and Environmental Biology at the University of Alberta, Thorsten has been with the Government of Alberta for five years. His current responsibilities include coordination of the provincial Long-Term River Network, statistical trend assessments of water quality data collected as part of that network, and coordination of the emerging contaminants monitoring program for provincial surface waters.

Morning Coffee and refreshments are complements of AMEC Earth & Environmental



MORNING SESSION B - Rural Municipalities: Progress in Watershed Planning and Protection

Chair: Tom Cottrell

Mr. Tom Cottrell has assumed duties as Integrated Watershed Management Plan Coordinator. Tom has had a lengthy career with the Alberta government, mostly recently with Intergovernmental and Aboriginal Affairs. Tom's background is in resource planning and policy, and he holds an M.Sc in planning from the University of Waterloo. His extensive knowledge of federal, provincial and municipal policies will be extremely valuable in the preparation of the IWMP and in terms of overall policy guidance for NSWA. His primary function will be to support the IWMP Steering Committee and all its processes, and to ensure that new knowledge related to science, policy, economics and sector engagement is effectively integrated into the final plan.

The Integrated Watershed Management Plan for the North Saskatchewan Basin: Update and Progress Report

- Sharon Reedyk - IWMP Steering Committee Chair

The main goal or function of the North Saskatchewan Integrated Watershed Management Plan (IWMP) is to provide a framework for protecting, maintaining and restoring a healthy, natural watershed system where economic and social needs are in balance with the ecological needs of the watershed. This includes the protection of the aquatic environment and its associated necessary flow needs.

The management plan will address surface water, groundwater and existing and proposed land use, social, cultural and economic issues. Land use issues affecting water will be identified and sub-basin recommendations made. The plan will be prepared in consultation with NSWA members and stakeholders and will ensure that stakeholders are provided the opportunity to form and participate in the planning process through Regional Advisory Committees. The plan will incorporate existing regional strategies and related plans.

Rural Municipal Panel Presentations and Q/A: Needs, priorities and perspectives on watershed planning

- Speakers from the Counties of Clearwater, Strathcona, Vermilion River, Two Hills

To explore the rural watershed issues that counties are facing and discuss how they would like to be involved in the NSWA process to develop the Integrated Watershed Management Plan (IWMP) for the North Saskatchewan watershed.

COUNTY OF VERMILION RIVER

The County of Vermilion River won a 2008 Emerald Award award for Climate Change for their innovative gas pipelines. The heavy oil casing vent gas that used to be wasted when vented into the atmosphere is now gathered, processed, and mixed with other natural gas. New oil wells were drilled by cooperating industry partners, and then connected to the county pipeline network to capture this vented gas. They are gathering enough 'vent' gas to fuel 7,500 homes year round. This results in 490,000 CO₂E tonnes/year reduced greenhouse gas emissions. Since the County has some of the biggest natural gas taps in Alberta, these projects also help the Gas Alberta pool pricing by eliminating transportation fees on gas volumes which would otherwise have been purchased by the County to service its customers.

COUNTY OF STRATHCONA

Strathcona is called a "county," yet its status is actually something that many people may not have heard of—it is classified by the Province of Alberta as a specialized municipality. Strathcona County's status reverted to that of a municipal district when the County Act was repealed in January of 1995. On January 1, 1996, Strathcona County's status legally changed from that of a municipal district to that of a specialized municipality - only the second in Alberta. As a specialized municipality, Strathcona County consists of the urban area of Sherwood Park and an extensive rural area which includes eight rural hamlets. These are Antler Lake, Ardrossan, Collingwood Cove, Half Moon Lake, Hastings Lake, Josephburg, North Cooking Lake and South Cooking Lake.

COUNTY OF CLEARWATER

Clearwater County, is a large rural municipality located in west central Alberta endowed with unparalleled natural beauty, industrial resources and opportunity. Agriculture, oil and gas, forestry and tourism are principle economic generators. Prime agricultural lands are located in the eastern sectors of the municipality, while the much larger western portions are mostly forested and mountainous. The Town of Rocky Mountain House and the Village of Caroline are the major service centers, containing well-developed health, school, cultural and recreation facilities. The Hamlets of Leslieville, Withrow, Condor, Alhambra and Nordegg and numerous country residential subdivisions provide opportunities for a variety of lifestyles and host a range of cultural, commercial and municipal emergency services.

COUNTY OF TWO HILLS

The County of Two Hills No. 21, which is located east of Edmonton, was established in 1963. With a total area of 671,690 acres, it is bordered to the north by the North Saskatchewan River, to the south by the County of Minburn, to the east by the County of Vermilion River and to the west by the County of Lamont. There is one town, Two Hills, and three villages, Willingdon, Myrnam and Derwent, located within County boundaries. Two Hills is the "Gateway to the North" an area recognized for its magnificent hilly countryside and unmistakably abundant forests. The town of Two Hills is described as the perfect getaway destination and a wonderful place to invest and live. The Town motto is "Small Town With A Big Future", reflecting Two Hills urban and agricultural image and its aspiration for potential growth.

Lunch is complements of
Teleologic Strategic
Communications



Kim Nelson stepped down, due to other commitments. By all accounts Kim was a great asset to NSWA and I hope I can also contribute to the goals and objectives for the board.

■ Provincial Government Representative
– **Jamie Wuite (AARD)**

James (Jamie) Wuite is the Head of the Water Supply Management Section of the Rural Water Branch at Alberta Agriculture and Rural Development (ARD). He joined the Department after 5 years of environmental consulting in both the Calgary and Fort McMurray areas. Jamie holds a B.Sc. in aquatic ecology from the University of Calgary, M.Sc. in Water and Land Resources from the University of Alberta, and the designation of Professional Biologist. In addition to his work with the North Saskatchewan Watershed Alliance, Jamie is also on the Board of Directors of the Red Deer River Watershed Alliance and ARD's alternate Director on the Alberta Water Council. In his current role with ARD, Jamie manages a variety of on-farm water supply and water quality projects.

■ Agricultural Representative
– **Bill Fox (Alberta Beef Producers)**

With a certificate of Practical Agriculture from Vermilion School of Agriculture, now Lakeland College, Bill Fox operates a mixed farm in the Elk Point/Bonnyville area. He is an Alberta Beef Delegate for Zone 8, a member of Alberta Conservation Tillage Association, has participated in a working group for AG Summit 2000, is on the Board of Lakeland College Alumni, and is presently Alberta Beef's Public Affairs Committee Representative member on the North Saskatchewan Watershed Alliance Board. In his spare time, he farms and does custom work for other farmers and for Provincial Grazing Reserves. He has also done construction work in the oil field.

■ Municipal Rural Representative
– **Jim Bague, (Rocky Mt House)**

Jim is Mayor of the foothills community of Rocky Mountain House, and as first user of the North Saskatchewan River, recognizes the importance of municipalities maintaining a healthy watershed for subsequent users of the river system. Born and raised in Prince Albert Saskatchewan, and Biology major at the University of Saskatchewan in Saskatoon, Jim flew as a commercial "Bush" pilot throughout northern Saskatchewan and the territories for several years, before relocating to Alberta in the late 1970's. After working as a gas plant operator and Emergency Medical Technician in the Drumheller area for seven years, Jim moved to Rocky Mountain House in 1985 and has operated his own photo and electronics businesses ever since. Jim has been actively involved in municipal politics for fourteen years, serving as Councilor for three terms and as Mayor since 2004. Jim currently serves as a director on the Central Alberta Economic Partnership, as well as on the Rocky Mountain House / Kamikawa Friendship Society, a twin town municipality on the island of Hokkaido, Japan. Married to Shirley, Diagnostic Imaging supervisor at the Rocky Mountain House Health Centre, they are parents to Justin (25) and Jackie (23), both living in Calgary. Still flying for their own enjoyment, Jim and Shirley enjoy escaping their summer schedules by operating a houseboat business in the interior of BC.

■ Urban Municipal Representative
- **Albert Kwan (Edmonton)**

Albert is currently the General Supervisor of Strategic Planning in Drainage Planning section with Drainage Services in the City of Edmonton. He has been with Drainage Services since 1999 and has progressively responsible work experience in the areas of strategic planning, engineering design, construction and environmental management. Prior to joining the City of Edmonton, Albert worked for Stantec Consulting Ltd. and was well respected in the local consulting community. Albert has a Master of Science Degree in Water Resources and a Bachelor of Science Degree with distinction in Civil Engineering from University of Alberta. He is a Professional Engineer with APEGGA and a certified Project Management Professional (PMP) since 2003. He is married and has two teen-aged children.

CLOSING REMARKS FROM DR. LES GAMMIE

Please thank our sponsors

North Saskatchewan Watershed Alliance

