

## ACKNOWLEDGEMENTS

Documents used in the preparation of this report are identified in endnotes in each chapter. Five publications were used extensively:

Ecological Stratification Working Group 1996. *A National Ecological Framework for Canada*. Canadian Soil Information System (CanSIS), Agriculture and Agri-Food Canada, Ottawa, ON.

Alberta Environment 2007. *Current and Future Water Use in Alberta*. Prepared by AMEC Earth & Environmental. Alberta Environment. Edmonton, AB.

Alberta Environment 2007. *Information Synthesis and Initial Assessment of the Status and Health of Aquatic Ecosystems in Alberta*. Technical Report 278/279-01. Alberta Environment, Edmonton, AB.

Saskatchewan Watershed Authority 2007. *Preliminary Background Report: North Saskatchewan River Watershed*. Saskatchewan Watershed Authority, Moose Jaw, SK.

Saskatchewan Watershed Authority 2007. *Background Report, South Saskatchewan River Watershed*. Saskatchewan Watershed Authority. Regina, SK.

The report also benefited from discussions with a large number of persons who graciously gave their time in providing information and clarifying many details. Any errors in this report are, of course, the sole responsibility of the authors. The contributions of the following persons are gratefully acknowledged:

Max Abraham, Norine Ambrose, Beverly Anderson, Don Anderson, Kristina Anderson, Dave Bartesko, Dan Benoit, Mark Bennett, Barb Bosh, Norman Brandson, Amanda Burke, Brett Calverly, Les Carriere, Kevin Cash, Patricia Chambers, Jim Chen, Malcolm Conly, Darrell Corkal, Sarah Coughlin, Ken Crutchfield, John-Mark Davies, Michael Demuth, Patrick DeRocher, Don Dill, Dave Dobson, David Donald, Wayne Dybvig, Craig Emmerton, Sal Figliuzzi, Katherine Finn, Allan Gaudry, Jim Gerhart, Bryce Haimila, Denise Hammel, Bob Harrison, Robert Harrison, Ron Harrison, Tom Harrison, Thorston Hebben, Lorna Hendrickson, Wayne Hildebrand, Scott Hill,

Dale Hjertaas, Melissa Hotain, Kathryn Hull, Emily Humphrey, Shelley Humphries, Amanda Karst, Mark Kornder, Marilena Kowalchuk, Gabe Lafond, Rod Leniuk, Chelsey Lumb, Greg MacCulloch, Lis Mack, Chandra Mahabir, Harold Martens, Fred Martin, Brian Matheson, Sam Matheson, Rob Matthews, Rhonda McDougal, Billie Milholland, Jennifer Nelson, Marshall Netherwood, Dave Neufeld, Robert Newbury, Bart Oemega, Barry Oswald, Stephanie Palechek, Rhonda Pankratz, Ian Pengelly, Merrell-Ann Phare, Rick Pickering, John Pomeroy, Robin Reader, Rick Rickwood, Harry Rohde, Petra Rowell, David Samm, Elwood Scott, Tracy Scott, Shawn Sexsmith, Patricia Stevenson, Harvey Thorleifson, Gordon Thompson, Jonathan Thompson, Jane Thornton, Brenda Toth, David Trew, Garth van der Kamp, Bert Van Duin, Douwe Vanderwel, Graham Watt-Gremm, John Whitaker, Gord Will, Jim Yarotski, Brian Yee.

Photographs used in the report were provided by:

Robert Berdan Photography – page 1, 7, 9, 32, 53, 55, 61, 63, 99 and 148.

Ducks Unlimited Canada – page 8, 31, 49, 65, 88, 125, 147 and 149.

Philip K. Gregory – page i (b, c) and 115.

Robert Halliday – page i (a, b).

Istockphoto.com – page 2, 4, 91, 93, 113 and 127.

Bob Lee – page ii.

Dr. Diane F. Malley – page 137, 139 and 146.

Mike Murray – page 101.

PFRA – page 67, 77 and 79.

This report was prepared by R. Halliday & Associates Ltd. and SLM McLeod Consulting. Inkpot Editing Services provided the editorial work and Philip K. Gregory the graphic design.

## ABBREVIATIONS, ACRONYMS AND SYMBOLS

**BMP** – Best Management Practice

**CCME** – Canadian Council of Ministers of the Environment

**CD** – Conservation District (Manitoba)

**ENGO** – Environmental Non-government Organization

**dam<sup>3</sup>** – One thousand cubic metres

**DDT** – Dichloro-Diphenyl-Trichloroethane

**DUC** – Ducks Unlimited Canada

**FMA** – Forest Management Agreement (Alberta and Saskatchewan)

**FML** – Forest Management Licence (Manitoba)

**FMP** – Forest Management Plan

**FMU** – Forest Management Unit (Alberta and Manitoba)

**HBC** – Hudson's Bay Company

**IJC** – International Joint Commission

**INAC** – Indian and Northern Affairs Canada

**IWMP** – Integrated Water Management Process

**km<sup>2</sup>** – square kilometre

**LNID** – Lethbridge Northern Irrigation District

**m<sup>3</sup>/s** – cubic metres a second

**NGO** – Non-government Organization

**NWC** – Northwest Company

**PAH** – Polycyclic Aromatic Hydrocarbon

**PCB** – Polychlorinated Biphenyl

**PDSI** – Palmer Drought Severity Index

**PFRA** – Prairie Farm Rehabilitation Administration

**PPWB** – Prairie Provinces Water Board

**SSEWS** – Saskatoon Southeast Water Supply System

**WAC** – Water Advisory Committee (Saskatchewan)

**WPAC** – Watershed Planning Advisory Council (Alberta)

**WQI** – Water Quality Index

## GLOSSARY

**Avulsion** – A break-through of the banks of a stream thus forming a new channel or a cut-off.

**Baseflow** – The portion of streamflow entering the river channel from groundwater sources.

**Benthic Invertebrates** – Animals lacking a backbone, such as insects, worms or snails, that live on or within the bottom materials of streams, lakes or wetlands.

**Chain Lakes** – A series of relatively long and narrow lakes found in a valley containing a stream. The lakes may have been shaped by erosion from the stream itself or, in some cases, by outwash flows following the last ice age.

**Drainage Area, Gross and Effective** – The entire drainage basin having a common outlet for its surface runoff. The effective drainage area is that portion of a drainage basin that contributes runoff to the main stream in a median flow year.

**Ecological Land Classification** – A process of delineating and classifying ecologically distinctive areas of the surface, including geology, landform, soil, vegetation, climate, wildlife, water, and human factors. These areas, known as ecozones, can be further subdivided into ecoregions and ecodistricts.

**Ecosystem** – A community of dependent plants, animals and microorganisms together with the physical environment that they inhabit and with which they interact.

**Ecosystem Service** – The benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as flood and disease control; cultural services such as spiritual, recreational, and cultural benefits; and supporting services such as nutrient cycling that maintain the conditions for life on earth.

**Ecotone** – The transition region or boundary between two ecozones.

**Ecozone** – See ecological land classification.

**Effluent** – Any outflow from a natural body of water or engineered structure. More commonly used for the liquid waste or sewage discharged into a stream or other body of water. These latter effluents may be treated before discharge to reduce harm to the environment.

**Eutrophic** – Refers to water bodies that are rich in nutrients and very productive in terms of aquatic plant and animal life.

**Eutrophication** – The process by which waters become richer in dissolved nutrients through erosion and runoff that stimulate growth of aquatic plants. Eutrophication may be a natural process in the maturation of a water body or artificially induced by fertilization. Eutrophication can cause seasonal deficiencies in dissolved oxygen.

**Glacier Wastage** – Refers to the loss of glacier volume due to melting of ice. That is, the annual volume of glacier ice melt that exceeds the annual volume of snow accumulation into the glacier system, causing an annual net loss of glacier volume.

**Hummocky** – A landscape characterized by hills, knolls or mounds.

**Hydrology** – The science that deals with the waters of the earth, their occurrence, circulation and distribution, their chemical and physical properties, and their reaction with their environment, including their relation to living beings.

**Kettle** – A depression left in glacial drift formed by the melting of an isolated block of glacial ice.

**Lacustrine** – Of or pertaining to lakes.

**Leachate** – Water that has percolated through a solid mass such as a landfill and removed some of the constituents.

**Macrophyte** – A rooted vascular plant. Aquatic macrophytes are commonly associated with wetlands and riparian zones.

**Mainstem** – The principal part of a river, excluding its tributaries.

**Major Ions** – These are the positively charged ions or cations, (such as calcium, magnesium, sodium and potassium) and negatively charged ions or anions, (such as chloride, bicarbonate, sulfate and bromide) that help define the quality of a stream or lake. Concentrations of major ion determine characteristics such as hardness. Major ion chemistry is routinely monitored for many streams or lakes.

**Mesotrophic** – Refers to water bodies that contain moderate quantities of nutrients and are moderately productive in terms of aquatic plant and animal life.

**Oligotrophic** – Refers to water bodies that are nutrient poor and contain little aquatic plant or animal life.

**Physicals (water quality)** – The physical characteristics of a water body such as concentrations of dissolved oxygen, temperature, acidity (pH), conductivity, and fluorescence. Physicals are routinely monitored in many water bodies.

**Phytoplankton** – The diverse community of microscopic suspended single-celled algae that forms part of the aquatic food web. Phytoplankton may form a significant part of aquatic biomass. Phytoplankton production responds to nutrient loadings. Chlorophyll a concentrations are a measure of phytoplankton.

**Reach** – A section of a stream channel between two defining cross-sections. Reaches are often selected on the basis of exhibiting relatively uniform characteristics.

**Riparian** – Of, or relating to, the banks of a stream. The riparian zone is the transition zone between the land surface and flowing water.

**Seismic Survey** – A means of geophysical survey that uses the reflections from a controlled source of energy, such as explosives or vibrators, to determine the characteristics of sub-surface features. Such surveys are widely used in mining and petroleum exploration.

**Sublimate** – Change in phase directly from solid to gaseous state, as in loss of winter snowpack.

**Surficial geology** – The study of unconsolidated geologic material covering bedrock. These surface materials tend to be geologically young, having been deposited during or after glacial periods. Surficial deposits include glacial till, sand and gravel, and clays and silts.

**Trophic Status** – A measure of biological productivity of streams, lakes and wetlands.

**Water Allocation** – Under western water law, a specified annual quantity of water set aside for the beneficial use of an identified user. Allocations are subject to provincial licensing requirements.

**Water Use – Consumptive** – Water put to beneficial use that is consumed or lost in that use and does not return to the aquatic system. Water used in irrigated agriculture, for example.

**Water Use – Non-Consumptive** – Water put to beneficial use that returns to the aquatic system. Cooling water for a thermal power plant, for example.



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