Peace Watershed Directory of Water Organizations and Information Sources

Prepared for:

Mighty Peace Watershed Alliance

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1 Introduction

1.1 Purpose of the Report

In August of 2011, Aquality Environmental Consulting Ltd. (Aquality) was contracted by the Mighty Peace Watershed Alliance (MPWA) to complete a Directory of Water Organizations and Information Sources Project for the Peace River Watershed (the Directory). The purpose of the report is to inform the MPWA of what potential partnerships and sources of information it can draw on, and what it needs to gather, so that they can begin to prepare a State of the Watershed (SoW) report.

The main goals are to:

- Determine what potential partnerships and sources of information are available to the MPWA to complete a SoW report;
- Determine what information is required to complete a SoW report;
- Raise public awareness of the Watershed Planning & Advisory Council (WPAC) roles and the *Water for Life Strategy*; and
- Develop a public document that may be of value to the Alberta Government and other organizations undertaking water management initiatives within the Peace River Watershed.

1.2 Scope of the Report

The scope of the report is limited to the Peace River Watershed within the Province of Alberta. The report will include the following information:

- An annotated directory identifying all of the organizations from governments, industry, non-government groups, rural and aboriginal communities, and academic research institutions with a water mandate in the Peace basin;
- A copy of the informative letter which was sent to the organizations within the directory to determine the potential for partnership;
- A list of information requirements to complete a comprehensive SoW report;
- A description of applicable SoW indicator categories which may be used for the Peace Watershed;
- Description of the available information to complete a comprehensive SoW report, and information gaps; and
- Recommendations for filling the information gaps.

1.3 Peace River Watershed

The Peace River originates in the Rocky Mountains of British Columbia and northeast across northern Alberta, joining with the Athabasca River to form the Slave River (see **Figure 1**). The Slave River is a tributary of the Mackenzie River.

Figure 1: Peace River Watershed

Under natural flow conditions, the Peace River originated at the confluence of the Finlay and Parsnip Rivers in northeastern British Columbia. However, since the construction of the W.A.C. Bennett Dam in 1968 and the Peace Canyon Dam in 1980 by BC Hydro, the Peace River headwaters are now Williston Lake, located approximately 170 kilometers (km) upstream from the BC/Alberta border. With the construction of the WAC Bennett Dam, the Peace River flows have been modified with spring and summer flows detained and more water released during the winter.

Within Alberta, the Peace River Watershed includes several important tributaries representing six sub-basins: the Upper Peace, Smoky River (including the Little Smoky and Wapiti Rivers), the Central Peace, the Wabasca River, the Lower Peace and the Slave River, as shown in **Figure 2.** Technically, the Slave River is part of the Great Slave river basin, however it has been included by AEW in the Peace River

Watershed Planning Advisory Council (WPAC). At Peace Point (within Wood Buffalo National Park), the Peace River has a drainage area of 293,000 km^2 and a mean annual flow of 68,200,000 m^3.

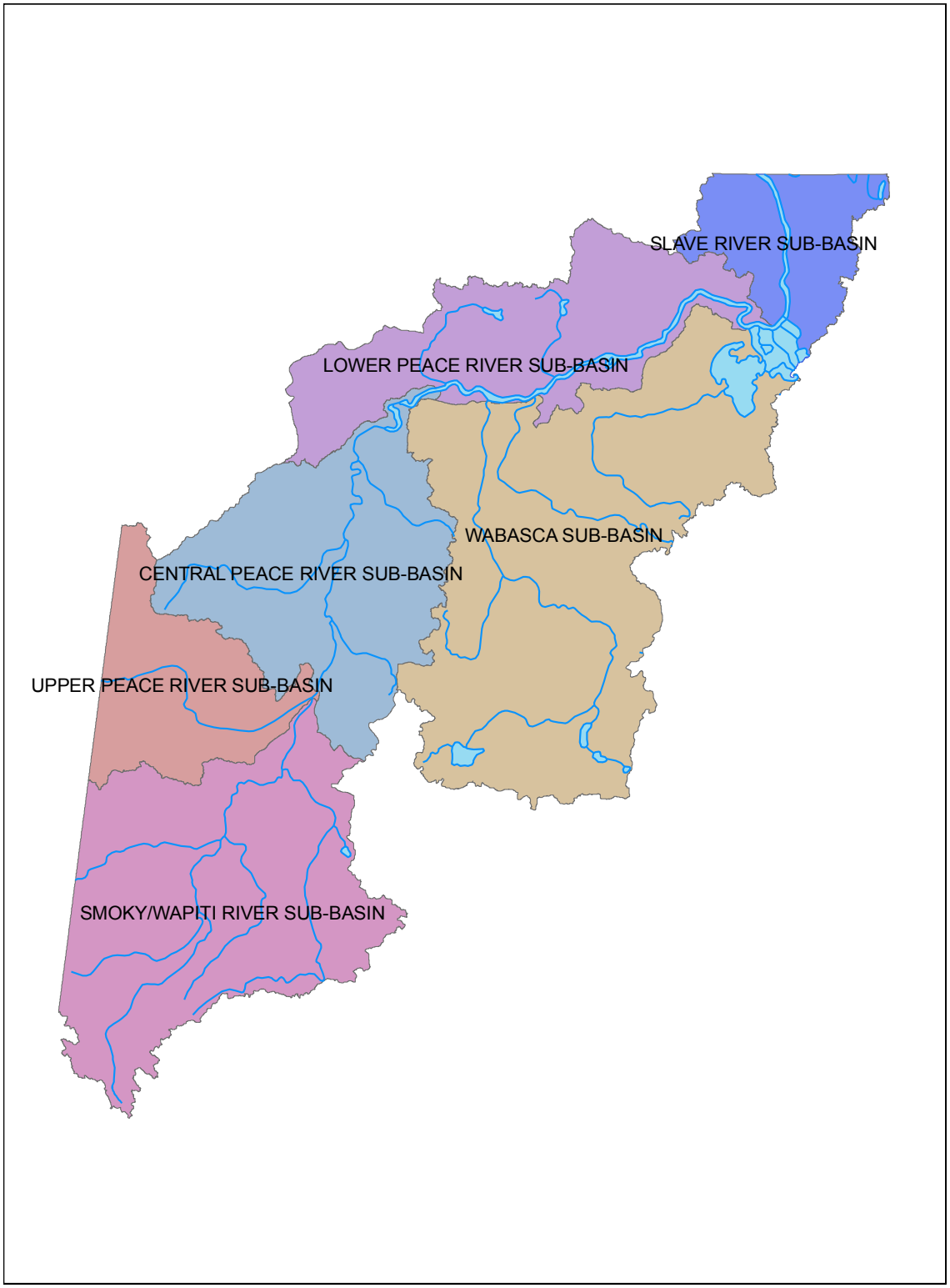

Figure 2: Peace River Sub-Watersheds

2 Organizations and Contacts

In order to gather the pertinent information which may be relevant to a State of the Watershed Report for the Peace River Watershed, a number of organizations were contacted via email and phone. The list of organizations included, but was not limited to: Alberta Government Departments (ARD, Energy, Environment, SRD – Fish and Wildlife and Public Lands, Health and Wellness, Innovates – AWRI); Federal Government Departments (Agriculture, DFO, Environment, Water Survey Canada, Transport – Navigable Waters, Indian and Northern Affairs, Health); major non-government conservation organizations (Ducks Unlimited Canada, Alberta Conservation Association, Nature Conservancy Canada, Land Trusts, Local Naturalists); urban, rural, and aboriginal (First Nation and Metis Nation) municipalities; Academia (Grande Prairie Regional College, Universities of Alberta, Athabasca, Calgary, and Lethbridge); and Industry (CAPP – oil and gas, Forestry FMA holders – Weyerhaeuser, DMI, MDFP, Tolko, Ainsworth).

A comprehensive list of the organizations contacted is presented in the Directory in **Appendix A**.

3 Summary of Preceding Deliverables

The 'Directory of Water Organizations and Information Sources' project began in August of 2011. To date, a few documents have been submitted to the MPWA as predecessors to this report.

3.1 Project Workplan

A project Workplan with a task breakdown and timeline was submitted to the MPWA on August 30, 2011. This served as project management tool for both Aquality and the MPWA. The Workplan is presented in **Appendix B**.

3.2 List of WPAC Information Needs

A List of WPAC Information needs, gleaned from other SoW examples and the Government of Alberta's *Handbook for State of the Watershed Reporting* was submitted to the MPWA on September 30, 2011. This document provided a guideline for the types of data and reports that is required to write a State of the Watershed report for a WPAC. The 'List of WPAC Information Needs' is presented in **Appendix B**.

3.3 Draft List of Organizations

A Draft List of Organizations was submitted to the MPWA on October 30, 2011. The document consisted of a compilation of all potential organizations with a water mandate in the Peace River Watershed and their contact information. The current directory in **Appendix A** is an expansion of the 'Draft List of Organizations'.

4 State of the Watershed Information Requirements

4.1 Information Requirements for State of the Watershed Reporting

The 'Information Requirements for State of the Watershed Reporting' section is based on the specifications of the *Handbook for State of the Watershed* (Government of Alberta, 2008), as well as recently completed State of the Watershed Reports for other major river systems within the province of Alberta.

- **The Peace River Watershed in Alberta**
  - Watershed Overview

    General description of watershed (location, size, boundaries), including identification of relevant sub-watersheds within the larger watershed. This information sets the geographical context of the watershed within the larger region, and also delineates the smaller sub-watersheds that exist within. This may also provide opportunity for smaller scale investigations into localized issues and opportunities.

  - Climate

    Local climatologic data (precipitation, temperature, wind). This information may be used to characterize seasonal weather and runoff patterns in the watershed, to understand the local water budget for the region, and also for modeling purposes.

  - Land Cover and Use

    Geographical breakdown of land cover (public/private/agricultural/ residential/forested/ natural) within the watershed and sub-watersheds as interpreted from available satellite, air and/or orthophotos. Different land cover types have different potential impacts on water quality, quantity, and other resources.

  - Wildlife Resources

    Description of types of wildlife and their habitat requirements (particularly species at risk). This information may identify critical wildlife habitats to protect, and may also identify pollutant sources associated with wildlife (eg: seasonal flocks of waterfowl may be an important source of bacteria and nutrients affecting water quality). Review should assess fragmentation, connectivity, and configuration of wildlife habitat (terrestrial and aquatic).

  - Species at Risk

    Description of occurrences of Species at Risk in the region.

- Geography, Soils, and Topography
  Description of bedrock and surficial geology, soils, topography, elevation and landforms. This information may identify areas of groundwater recharge/discharge, areas at risk of groundwater contamination, soil erosion, etc.

- Surface Water Resources
  General overview of surface resources, drainage patterns and infrastructure (eg: dams and diversions), volume to area ratio, lake residence times. This section may also consider the water balance that exists between the lake and its watershed. Those contributing/non-contributing areas within the basin and the extent of contribution should be identified, outlining areas to consider for potential source water protection.

- Groundwater Resources/Aquifers
  Overview of known groundwater resources in terms of volume, depth to water table, direction of flow, yield, recharge rates, and potability. Assessment of the importance and usage of groundwater within the watershed, either as a domestic/industrial water source, or its contribution to lake volumes or river flows. Discussion may also include inventory of known and licensed groundwater withdrawals.

- Natural Regions in the Peace River Watershed

- Air Quality
  Overview of known information on status of air quality, trends, sources of contaminants (eg: major urban centres, industrial plants), etc. Summary should include discussion on any air quality public advisories, and known or potential impact upon other media (water, land).

- **Public Perceptions and Concerns**
  Highlight current and/or previously identified public concerns so that they may be used to provide direction/focus to the report, and perhaps also identify issues to be addressed through the findings of the report. Information may come from previous municipal or other surveys, interviews, public meetings, letters to the editor, statements of concern, etc.

- **Land Use and Social/Cultural Resources**
  - History of Human Settlement
    Information on history of development (urbanization/industrialization/ agriculture), description of communities, demographics, resources, and cultural values.

- Aboriginal Communities
  Description of aboriginal communities inhabiting the area.

- Major Communities in the Watershed

- Land Use
  Evaluation of land use type as it influences the physical conditions of the watershed.

- Water Supply and Wastewater Systems
  Identification of all sources of drinking water within the watershed, description of water treatment processes and any delivery infrastructure, as well as processes for local treatment of wastewater (lagoon, septic fields, land-spreading of septage, etc). Discussion of any future plans for expansion of supply systems, and/or other actions to meet future demands.

- Riparian Health Assessments
  Review of any available shoreline assessment and riparian health data collected within the watershed. Issues of stream/lake water quality/ quantity may be related to riparian health and management.

- Wetland Inventory
  Review of wetland inventory findings where such an inventory has been conducted.

- **Surface Water Quality**
  - Water Quality Parameters
    i. Water quality monitoring initiatives; assessment of chemical, physical and biological data for lakes within the watershed; Identification of potential point/nonpoint sources, internal/external sources.
    ii. Paleolimnological studies which may provide insight into historic, pre-settlement water quality conditions of the lakes within the Peace region, and their watersheds, and provide some context as to natural water quality conditions.
    iii. Record of water quality monitoring initiatives and assessment of chemical, physical and biological data for tributaries within watershed.

  - Point Source Discharges
    Identification of the location of any known pollutant point sources.

- Aquatic Ecosystem Health (Biological Indicators)
  Assessment of current and historic fish habitat inventory data. Records of catastrophic and seasonal events, such as recorded winter fish kills, algal blooms, or changes to diversity of aquatic species (extirpations/ introductions) may be incorporated. This information may be used as an indicator of water quality and may also highlight particular environmental threats or reoccurring events that should be considered.

- Public Health
  Discussion of any recorded public beach closures, fish consumption advisories, boil water advisories, etc, and description of factors or events contributing to and following public health advisories.

- **Surface Water Quantity and Management**
  - Hydrology and Lake Levels
    Record of lake level fluctuations, river/stream/tributary base flow, inventory and management of lake/river/drainage/ storm-water infrastructure, history of flood/drought events.

  - Apportionment and Other Flow Agreements
    Review of conditions of any recognized apportionment and other agreements influencing water flow and management.

  - Water Allocations, Withdrawals and Consumption
    Assessment of current and past licensed/permitted water withdrawals from rivers, lakes and tributaries for municipal/domestic/livestock/irrigation/ industrial/wildlife usage.

  - Instream Flow Needs and Water Conservation Objectives
    Studies of calculated flow needs for any rivers/streams within the watershed. Current flow conditions compared to desired conditions and existing plans or efforts to achieve water conservation objectives.

4.2 Watershed Indicators

There are a number of measureable ecosystem components that reflect the health of a watershed. The complex nature of interactions comprised within watershed ecosystems makes it difficult to measure watershed health directly. Therefore, a set of defined, easily measureable parameters (biological, physical, chemical, and socio-economic) serve as surrogates of underlying ecological functions. These surrogate parameters are considered watershed health indicators. Watershed indicators can be a

measure of a single parameter, otherwise known as a metric, or an index that incorporates a number of metrics or measured parameters.

Provided in **Table 1** are some watershed health indicators that have been outlined in the *Handbook for State of the Watershed* (Government of Alberta, 2008), and used in recently completed State of the Watershed Reports for other major river systems within the province of Alberta.

These indicators are examples of what has been used, and what is suggested to be used. The indicators that will be used for the Peace River Watershed, the 'assessment role' of the indicators, and the metrics are to be determined by WPACs during the completion of the SoW. Indicators can be specialized to the watershed that is being assessed.

Table 1 – Possible Watershed Health Indicators for Peace River Watershed

Indicator Category	Indicator	Assessment Role of Indicator	Metric
Landscape	Wetland Inventory	Reflects land use conversion from a natural to a "developed" state and identifies potential alterations to local hydrological patterns and water quality.	• Current wetland area (%) • Wetland area lost due to human activity (%)
	Riparian Health	Reflects type and extent of human disturbance and degree of natural ecosystem function contributing to stream health.	• Width of vegetated zone • Species composition, age structure, and percentage of tree canopy cover within the riparian area • Extent of impervious area • Bank condition
	Land Cover	Identifies habitat types within the watershed.	Impervious area, bare area, and vegetated area by vegetation type.
	Land Use	Illustrates extent and location of natural and human disturbed areas.	Percentage of industrial, commercial, residential, agricultural, protected, etc. within watershed.
	Terrestrial Habitat Connectivity	Illustrates level of human disturbance, wildlife mobility, and viability/sustainability.	Size, shape, and spatial arrangement of habitat patches and corridors.
	Industrial Features	Illustrates extent and location of human disturbed areas and identifies different types of pressures on local ecosystem.	Density of livestock operations (CFOs), industrial processing plants, oil and gas wells, groundwater wells, landfills.
	Human Population	Provides general measure of the level of human pressure on the environment.	• Population density • Dwelling unit density
	Livestock Density	Provides measure of water quality degradation risk via contaminated runoff and	Livestock units per unit area.

Indicator Category	Indicator	Assessment Role of Indicator	Metric
		effluent.	
	Linear Development	Provides general measure on extent of human disturbance and fragmentation.	Extent of transportation routes, utility corridors, and seismic lines.
	Stream Connectivity	Illustrates level of disturbance to natural flow conditions that could impair natural ecosystem function.	Number and impact of culverts or other natural and artificial hydraulic breaks (eg: dams, weirs, culverts).
	Soil Erosion	Identifies potential, extent of, and contribution to sedimentation impacting water quality and flow.	Rate of soil erosion (measured or model predicted)
	Fertilizer/Pesticide Application Rates	Provides measure of water quality degradation risk via contaminated runoff.	• Fertilizer application rates as per Canada Agricultural Census data • Rate and location of pesticide application on land within watershed • Record of pesticide sales
Water Quality	River Water Quality Index	Provides a general overall assessment of water quality by summarizing chemical, physical, and biological data. It reflects the impact of activities that significantly change water quantity or cause changes in inputs to rivers from either point or non-point sources.	Composite index value is calculated as an overall average of the combined index values for each of the four specific variable groups: • River Metals Index • River Bacterial Index • River Nutrient Index • River Pesticide Index
	CCME Water Quality Index	Provides a general assessment of water quality based on chemical and physical parameters.	Subset of the following physical, chemical, and biological parameters: chloride, fecal coliforms, copper, iron, lead, manganese, zinc, NO3 and NO2, total kjeldahl nitrogen, total dissolved phosphorus, dissolved oxygen, pH, sodium, sulphate, total dissolved solids.
	Lake Trophic Status	Provides a general assessment of a lake's productivity or fertility.	Based on the following collective or individual measures: • Total phosphorus • Chlorophyll a • Secchi-disk visibility
	Nutrients	Provides a general measure of nutrient concentrations in Alberta rivers and streams and	• Phosphorus • Nitrogen

Indicator Category	Indicator	Assessment Role of Indicator	Metric
		may be used to assess nonpoint source nutrient contamination.	
	Pathogen	Provides an indication of bacterial contamination that may pose a potential risk to human, animal, and ecosystem health.	• Fecal coliforms • E.coli • Entercoccii • Giardia • Cryptosporidium
	Dissolved Oxygen	Provides insight into potential factors influencing the distribution and abundance of aquatic species, as well as other critical chemical processes, including the release and adsorption of pollutants in sediments. Also reflects degree of mixing of water body.	• Concentration of dissolved oxygen • Percent saturation
	Water Temperature	Provides insight into the distribution and abundance of aquatic species.	Water temperature
	pH	Provides information on the chemical balance and biological state of the ecosystem.	Relative acidity of water
	Sediment Contamination	Provides information on sediment supply and contaminant dynamics, as many nutrients and contaminants adhere strongly to sediment.	• Total suspended solids • Turbidity
	Individual Pesticides	Provides an indication of pesticide contamination that may pose a potential risk to human, animal, and ecosystem health.	• Presence/absence of select pesticide
	Individual Heavy Metals	Identifies potentially toxic conditions for humans and aquatic life.	• Lead • Arsenic • Cyanide • Mercury
	Wastewater Loadings (municipal or industrial	Provides an indication of direct human inputs to natural system.	• Nutrients • Pathogens • Total suspended solid
	Lake Level Index	Shows the status of individual lakes from year to year. This information can assist in	Lake level elevation relative to a standard level.

Indicator Category	Indicator	Assessment Role of Indicator	Metric
		interpreting related observations of changes in water quality, fisheries, or recreational opportunities as lake levels change over time.	
Water Quantity	Deviation of recorded flows from naturalized flows	Illustrates the extent the natural flow regime has been altered and provides insight on status of meeting any apportionment agreements.	Deviation of actual recorded flow from what would have occurred naturally (ie: in the absence of any man-made effects).
	Deviation of recorded flows from Water Conservation Objective (WCO)	Illustrates where, when, and to what extent water management targets are being achieved.	Deviation of actual recorded flow from water management targets set by Alberta Environment for the protection of that water body.
	Deviation of recorded flows from Instream Flow Need (IFN)	Illustrates where, when, and to what extent natural aquatic ecosystem components may be stressed.	Deviation of actual recorded flow from what has been scientifically determined to be required to sustain a healthy aquatic environment.
	Floodplain Presence and Flooding Pattern	By considering where and how frequently it floods, illustrates changing conditions to floodplain ecosystems.	Area of historically connected floodplain vs. area of currently connected floodplain.
	Hydrograph Alteration	Reflects changes to natural seasonal flow patterns and potential impact on flow-dependent ecosystem functions.	Changes in duration, timing, and magnitude of: • Peak flow • Base flow • Seasonal patterns in hydrograph • Frequency of overbank flow
	Surface water allocations and withdrawals by sector (eg: irrigation, industrial, municipal)	Illustrates relative level of water use and withdrawal from the natural system.	Volume, rate and timing of withdrawals allocated through Water Act registrations, permits, and licenses.
	Index of Biotic Integrity	Reflects the quality and amount of aquatic habitat.	Subset of the following fish species richness, composition, abundance, and condition metrics: • Total number of fish species • Numbers of specific native, intolerant, and sensitive fish species • Percentage of fish that are omnivores, insectivores, and carnivores

Indicator Category	Indicator	Assessment Role of Indicator	Metric
Biological Community			• Percent of individuals that are hybrids • Percent of individuals that are diseased or deformed
	Macrophyte Community	May reflect level of eutrophication, or other condition within water body.	Species composition and abundance.
	Benthic Macroinvertebrates Assemblage	Reflects cumulative effects of chemical, physical, and biological health of watersheds. May also reflect presence, level, and type of potential pollutant.	Species composition and abundance.
	Individual Indicator Species	May reflect level of human disturbance (eg: development/ encroachment, manipulation of water levels, recreational activities, etc).	Presence/absence of leopard frogs, piping plover, american white pelican, bull trout, cottonwoods, other species sensitive to human disturbance.
	Blue-green Algae Outbreaks	Reflects level of water body eutrophication, and provides frequency and level of potential risk to human, animal, and ecosystem health.	Record of Cyanobacterial bloom.
	Invasive/Introduced Species	Confirms stress incurred by native species competing with invasive or introduced species.	Presence of purple loosestrife, common tansy, Eurasian water milfoil, Didymosphenia geminata, quagga mussels, New Zealand mud snails, spiny waterflea, other.

* The information in this table has been obtained from the Government of Alberta's State of the Watershed Handbook (2008).

5 Available Information for the Peace River Watershed

The selected watershed health indicators are listed below, with data sources and organizations in point form. For more information about the data/reports or organizations, see the Directory in **Appendix A**.

5.1 Landscape

5.1.1 Wetland Inventory

- Alberta Agriculture and Rural Development
  - Generalized Landcover GIS data
- Alberta Biodiversity Monitoring Institute

- Wetland Habitat Data
- Alberta Infrastructure and Transportation
  - Wetland Assessments
- Alberta Sustainable Resource Development
  - Wet Areas Mapping
- Canadian Environmental Assessment Agency
  - Various Environmental Assessments performed throughout the watershed
- Natural Resources Canada
  - CanVec Geospatial Data – Waterbodies
- Northern Alberta Development Council in Association with W-E-R Engineering Ltd
  - Water in Northern Alberta: Technical Report (1987)

5.1.2 Riparian Health

- Alberta Sustainable Resource Development
  - Wildlife Habitat Suitability Information
- Cows and Fish
  - Riparian Health Assessments
- Department of Fisheries and Oceans
  - Classification of each stream in the watershed
- North Peace Applied Research
  - Riparian Health Assessments

5.1.3 Landcover

- Agriculture and Agri-Food Canada
  - Land cover satellite imagery (2000)
- Alberta Agriculture and Rural Development
  - Agricultural Land Resource Atlas of Alberta
  - Generalized Land Cover
  - Watershed Drainage Basin Boundaries
- Alberta Biodiversity Monitoring Institute
  - Terrestrial Species Data, Terrestrial Habitat Data, Wetland Species Data, Wetland Habitat Data, River Species Data, River Habitat Data, Lake Species Data, Lake Habitat Data, Human Footprint Habitat Data
- Alberta Sustainable Resource Development
  - Aerial Photography
  - Forest and Vegetation Inventories
  - Wildlife Habitat Suitability Information
- Alberta Tourism, Parks and Recreation
  - Natural Regions and Sub regions

- Canadian Environmental Assessment Agency
  - Dunvegan Hydroelectric Project (04-07-2996)
  - Installation of Culvert at Big Fill (06-01-21766)
- Mackenzie River Basin Board (MRBB)
  - Maps of biological/ecological/physical parameters for the watershed
  - Peace Sub Basin Report (2003)
- Natural Resources Canada
  - Topography
  - Waterbodies

5.1.4 Landuse

- Agriculture and Agri-Food Canada
  - Land Cover Satellite Imagery
- Alberta Agriculture and Rural Development
  - Agricultural Land Resource Atlas of Alberta
  - Fitzgerald Farmstead Water Quality Study
- Alberta Environment and Water
  - Map of Active/Abandoned Wells in Alberta
  - Peace WPAC Socio-Economic Review
- Alberta Tourism, Parks, and Recreation
  - Natural Regions and Sub regions
- Alberta Sustainable Resource Development
  - Aerial Photography
- Industry Canada
  - Canadian Industry Statistics
  - A Geographic Profile of Canadian Livestock, 1991-2001
- Willmore Wilderness Foundation
  - Traditional and aboriginal knowledge

5.1.5 Terrestrial Habitat Connectivity

- Agriculture and Agri-Food Canada
  - Land Cover Satellite Imagery
- Alberta Sustainable Resource Development
  - Aerial Photography
- Canadian Environmental Assessment Agency
  - Dunvegan Hydroelectric Project (04-07-2996)
- Natural Resources Canada
  - Aerial Photography

5.1.6 Industrial Features

- Agriculture and Agri-Food Canada
  - Land Cover Satellite Imagery
- Alberta Centre for Boreal Studies
  - The Oil and gas Industry in Alberta: Drilling and Production
- Alberta Environment and Water
  - Map of Active/Abandoned Wells in Alberta
  - Current State of Surface Water Quality and Aquatic Ecosystem Health in Alberta-Northwest Territories Transboundary Waters (March 2009)
  - Peace River Watershed Water Act Licenses and Allocation Data
  - Selenium Concentrations in the Tissues of Fish from the Upper McLeod and Smoky River Systems (2006)
  - Transboundary Waters Bilateral Agreement Information Sharing Master Report (Nov 2009
- Canadian Environmental Assessment Agency
  - Hidden Lake North and Moody Creek Compressor Stations (11-01-60999)
  - Tallcree First Nation - Indian Reserve No. 173 - Proposed Gravel Pit Development (10-01-54124)
  - Authorization to Conduct a seismic Exploration Program for Oil and/or Natural Gas (10-01-53241)
  - OS-6548 Authorization to Construct and Operate a Surface Lease for an access road and/or for a natural gas Well (10-01-52327)
  - Authorization to Construct and Operate a Surface Lease for an access road (09-01-52169)
  - NOVA Gas Transmission Ltd. - Gordondale Lateral Loop No. 2 Pipeline Project (10-01-59639)
  - Sturgeon Lake Cree Nation - Indian Reserve No. 154 - 2010 Timber Harvesting and Salvage (10-01-59711)
  - Dunvegan Hydroelectric Project (04-07-2996)
- Energy Resources Conservation Board
  - List of Wells in Alberta
- Industry Canada
  - Canadian Industry Statistics
  - A Geographic Profile of Canadian Livestock, 1991-2001
- Mackenzie River Basin Board
  - State of the Aquatic Ecosystem Report (2003)
  - Peace Sub Basin Report (2003)
- Natural Resources Canada

- Aerial Photography

5.1.7 Human Population

- Natural Resources Canada
  - The Atlas of Canada
    - Population density
- Statistics Canada
  - Population density
  - Population, urban and rural, by province
  - Population in private households

5.1.8 Livestock Density

- Statistics Canada
  - A Geographic Profile of Canadian Livestock, 1991-2001
    - Proportion of Farmland over Total Land
    - Livestock Distribution
    - Livestock Density
  - A Geographical Profile of Livestock Manure Production in Canada (2006)

5.1.9 Linear Development

- Agriculture and Agri-Food Canada
  - Land Cover Satellite Imagery
- Alberta Sustainable Resource Development
  - Aerial Photography
- Canadian Environmental Assessment Agency
  - Dunvegan Hydroelectric Project (04-07-2996)
- Natural Resources Canada
  - Aerial Photography

5.1.10 Stream Connectivity

- Alberta Sustainable Resource Development
  - Aerial Photography
- Canadian Environmental Assessment Agency
  - Dunvegan Hydroelectric Project (04-07-2996)
- Department of Fisheries Oceans
  - Stream crossings/culverts numbers and locations
- Natural Resources Canada
  - Waterbody Crossings
  - Aerial Photography

5.1.11 Soil Erosion

- Alberta Agriculture and Rural Development
    - Agricultural Land Resource Atlas of Alberta
        - Soil Erosion Risk for the Agricultural Area of Alberta

5.1.12 Fertilizer/Pesticide Application

- Alberta Agriculture and Rural Development
    - Agricultural Land Resource Atlas of Alberta
- Alberta Environment and Water
    - Map of Pesticide Sales in Alberta
    - River Pesticide Index

5.2 Water Quality

To avoid repeating the same reports and data sources for each indicator, the water quality indicators are presented in groups below. In the cases where a data source includes data for only one or a couple of indicators, the indicators are presented separately.

5.2.1 River Water Quality Index

- Alberta Environment and Water
    - Alberta River Water Quality Index Results
    - Surface Water Quality Guidelines for Use in Alberta (1999)

5.2.2 CCME Water Quality Index

- CCME
    - CCME Water Quality Guidelines for the Protection of Aquatic Life
    - Water Quality Index Results

5.2.3 Lake Trophic Status

- Alberta Environment and Water
    - Lake Water Trophic Status
    - Alberta State of the Environment Report: Aquatic Ecosystems (1996)
    - Assessment of Aquatic Ecosystem Health in Alberta (2007)
    - Current State of Surface Water Quality and Aquatic Ecosystem Health in Alberta-Northwest Territories Transboundary Waters (March 2009)
    - Information Synthesis and Initial Assessment of the Status and Health of Aquatic Ecosystems in Alberta: Surface Water Quality, Sediment Quality and Non-Fish Biota (2007)

5.2.4 Nutrient

- Alberta Agriculture and Rural Development

- Fitzgerald Farmstead Water Quality Survey
- Fitzgerald Farmstead Water Quality Study

- Alberta Environment and Water
  - Alberta River Water Quality Index Results (Nutrients)
  - Water Quality of the Peace River in Alberta (1990)
  - Water quality in the Wapti-Smoky river system under low-flow conditions 1987-1991 (1992)
- Canadian Environmental Assessment Agency
  - Various Environmental Assessment reports completed for works within the Peace River Watershed
- Clear Hills Watershed Group
  - 2007 - 2011 water quality data on 5 streams/creeks, dugouts and the Whitelaw Springs
- Mackenzie River Basin Board
  - Peace Sub Basin Report (2003)
- Parks Canada Agency
  - Wood Buffalo National Park Water Quality: Status and Trends from 1989-2006 in three major rivers; Athabasca, Peace, and Slave

5.2.5 Pathogens

- Alberta Environment and Water
  - Alberta River Water Quality Index Results (Bacteria)
- Municipal beach and water supply testing
- Smoky River Applied Research & Demonstration Association
  - Water quality data for a sample of dug-outs being used by rural households

5.2.6 Water Temperature

- Alberta Environment and Water
  - Publicly available surface water quality data and reports
  - Publicly available groundwater quality data and reports

5.2.7 pH

- Alberta Environment and Water
  - Publicly available surface water quality data and reports
  - Publicly available groundwater quality data and reports

5.2.8 Sediment Contamination

- Alberta Environment and Water
  - Publicly available surface water quality data and reports
  - Publicly available groundwater quality data and reports
- Department of Fisheries and Oceans

- Total Suspended Solids/Turbidity data and reports

5.2.9 Individual Pesticides

- Alberta Environment and Water
  - Alberta River Water Quality Index Results (Pesticides)
  - Investigations of poly-chlorinated biphenyls in bottom sediments of the Bear-Wapiti-Smoky-Peace and Upper Athabasca River systems, 1989-2000 (2004)

5.2.10 Individual Heavy Metals

- Alberta Environment and Water
  - Alberta River Water Quality Index Results (Metals)
  - Selenium Concentrations in the Tissues of Fish from the Upper McLeod and Smoky River Systems (2006)
- Smoky River Applied Research & Demonstration Association
  - Water quality data for a sample of dug-outs being used by rural households

5.2.11 Wastewater Loadings (municipal or industrial)

- Alberta Environment and Water
  - Alberta State of the Environment Report: Aquatic Ecosystems (1996)
  - Assessment of Aquatic Ecosystem Health in Alberta (2007)
  - *Environmental Protection and Enhancement Act* and *Water Act* Approvals
  - Publicly available surface water quality data and reports
  - Publicly available groundwater quality data and reports
- Industrial Facility Effluent Testing
- Municipal Effluent Testing

5.3 Water Quantity

5.3.1 Lake Level Index

- Alberta Environment and Water
  - Lake and Reservoir Levels
  - Lake and Reservoir Level Index

5.3.2 Deviation of Recorded Flows from Naturalized Flows

- Alberta Environment and Water
  - River Flows and Levels
  - Lake and Reservoir Levels
  - Precipitation and Snowpack Data
  - Alberta's Hydroelectric Energy Resources (2010)

  - Transboundary Waters Bilateral Agreement Information Sharing Master Report (Nov 2009)
  - Impact of Climate Change on the Winter Regime of the Peace River in Alberta (2005)
  - Slave River Hydro Feasibility Study (1981)
  - Peace River Watershed Water Act Licenses and Allocation Data
- Agriculture and Agri-Food Canada
  - Peace Regional Groundwater Assessment (via Hydrogeological Consultants)
- Alberta Infrastructure and Transportation
  - Fish and Fish Habitat Assessments, Fish Passage Assessments,
- Canadian Environmental Assessment Agency
  - Hidden Lake North and Moody Creek Compressor Stations (11-01-60999)
  - Tallcree First Nation - Indian Reserve No. 173 - Proposed Gravel Pit Development (10-01-54124)
  - OS-6548 Authorization to Construct and Operate a Surface Lease for an access road and/or for a natural gas Well (10-01-52327)
  - Authorization to Construct and Operate a Right of Way for a Natural Gas Pipeline (08-01-36293)
  - Bridge Replacement over the Smoky River near Grande Cache (11-01-63947)
  - Cutbank-Musreau Area Expansion (11-01-62493)
  - NOVA Gas Transmission Ltd. - Gordondale Lateral Loop No. 2 Pipeline Project (10-01-59639)
  - Sturgeon Lake Cree Nation - Indian Reserve No. 154 - 2010 Timber Harvesting and Salvage (10-01-59711)
- Environment Canada
  - Water Survey Canada Hydrometric Data
- Grimshaw Gravels Aquifer Management Advisory Association
  - Technical Report for the Grimshaw Gravels Aquifer was published in 1998
- Mackenzie River Basin Board
  - Mackenzie River Basin Board's State of the Aquatic Ecosystem Report (2003)
  - MRBB Peace Sub Basin Report (2003)
- Parks Canada
  - Water Quality data from Peace Point station on Peace River
  - Wood Buffalo National Park Water Quality: Status and Trends from 1989-2006 in three major rivers; Athabasca, Peace, and Slave
- University of British Columbia
  - Research upper Peace River Watershed - physical response of the river to the closure of Bennett Dam over 40 years

5.3.3 Deviation of Recorded Flows from Water Conservation Objectives (WCO)

- Alberta Environment and Water
  - River Flows and Levels

5.3.4 Deviation of Recorded Flows from Instream Flow Needs

- Alberta Environment and Water
  - River Flows and Levels
  - A Desktop Method for Establishing Environmental Flows in Alberta Rivers and Streams
- Alberta Sustainable Resource Development
  - Minimum Instream Flow Values for Fish and Proposed Water Balance Modelling Evaluation Cirteria for the Peace River in Alberta (1991)
  - Peace River Instream Flow Needs (1991) - Prepared by the Alberta/British Columbia Instream Flow Needs Sub-committee
- Mainstream Aquatics
  - Fisheries studies for BC Hydro (including instream flow needs)

5.3.5 Floodplain Presence and Flooding Pattern

- Agriculture and Agri-Food Canada
  - Non-Contributing Drainage Area
  - Subwatersheds
- Alberta Environment and Water
  - River Flows and Levels
  - Precipitation and Snowpack Data
- Environment Canada
  - Water Survey Canada Hydrometric Data

5.3.6 Hydrograph Alteration

- Alberta Environment and Water
  - River Flows and Levels
  - Precipitation and Snowpack Data
- Environment Canada
  - Water Survey Canada Hydrometric Data

5.3.7 Surface Water Allocations and Withdrawals by Sector

- Alberta Environment and Water
  - Groundwater Licenses
  - Surface Water Licenses
  - Alberta Water Well Information Database
- Grimshaw Gravels Aquifer Management Advisory Association
  - Technical Report for the Grimshaw Gravels Aquifer was published in 1998

5.3.8 Groundwater Extraction

- Agriculture and Agri-Food Canada
  - Peace Regional Groundwater Assessment (via Hydrogeological Consultants)
- Alberta Agriculture and Rural Development
  - Agricultural Land Resource Atlas of Alberta
- Alberta Environment and Water
  - Groundwater Licenses
  - Mackenzie River Basin Board's State of the Aquatic Ecosystem Report (2003)
  - MRBB Peace Sub Basin Report (2003)
  - Water in Northern Alberta: Technical Report (1987)
  - All publicly available groundwater studies and data
- Alberta Geological Survey
  - Geology and Groundwater Resources of the Peace River District, Northwestern Alberta
  - Hydrogeological map of the Peace River area, Alberta, NTS 84C
  - Hydrogeological map of the Winagami area, Alberta, NTS 83N
  - Hydrogeological map of the Clear Hills - Chinchaga River area, Alberta, NTS 84D and NTS 84E
  - Hydrogeological map of the Grande Prairie area, Alberta, NTS 83M
- Canadian Environmental Assessment Agency
  - Dunvegan Hydroelectric Project (04-07-2996)
  - Tallcree First Nation - Indian Reserve No. 173 - Proposed Gravel Pit Development (10-01-54124)
- Grimshaw Gravels Aquifer Management Advisory Association
  - Technical Report for the Grimshaw Gravels Aquifer was published in 1998
- Mackenzie River Basin Board (MRBB)
  - Maps of biological/ecological/physical parameters for the watershed

5.4 Biological Community

5.4.1 Index of Biotic Integrity

- Alberta Biodiversity Monitoring Institute
  - Wetland Species Data, Wetland Habitat Data, River Species Data, River Habitat Data, Lake Species Data, Lake Habitat Data
- Alberta Environment and Water
  - Alberta State of the Environment Report: Aquatic Ecosystems (1996)
  - Assessment of Aquatic Ecosystem Health in Alberta (2007)
  - Aquatic Studies in the McLeod and Upper Smoky River Systems (2005)

  - Current State of Surface Water Quality and Aquatic Ecosystem Health in Alberta-Northwest Territories Transboundary Waters (March 2009)
  - Fish Diet Analysis McLeod and Smoky River Drainages (2004)
  - Selenium Concentrations in the Tissues of Fish from the Upper McLeod and Smoky River Systems (2006)
- Alberta Sustainable Resource Development
  - Monitoring Data for Amphibians, Birds, Fish, Invertebrates, Mammals, Reptiles, Trees and Plants
- Alberta Tourism, Parks, and Recreation
  - Biodiversity data for provincial parks
  - ACIMS Website for biological data
- Canadian Environmental Assessment Agency
  - Authorization to Conduct a Seismic Exploration Program for Oil and/or Natural Gas (10-01-53241)
  - Authorization to Construct and Operate a Right of Way for a Natural Gas Pipeline (08-01-36293)
  - Beaverlodge River culvert, NE 22-73-13-W6M (11-01-63568)
  - Bridge Replacement over the Smoky River near Grande Cache (11-01-63947)
  - Dunvegan Hydroelectric Project (04-07-2996)
  - Hay Camp Road Repair (04-01-3454)
  - Hidden Lake North and Moody Creek Compressor Stations (11-01-60999)
  - Tallcree First Nation - Indian Reserve No. 173 - Proposed Gravel Pit Development (10-01-54124)
- Charlie Lake Conservation Society
  - Fish Habitat Assessment
- Mackenzie River Basin Board
  - Mackenzie River Basin Board's State of the Aquatic Ecosystem Report (2003)
  - Peace Sub Basin Report (2003)
- Mainstream Aquatics
  - Fisheries studies for BC Hydro (including instream flow needs)
  - Walleye Spawning Watch

5.4.2 Macrophyte Community

- Alberta Biodiversity Monitoring Institute
  - Wetland Species Data, Wetland Habitat Data, River Species Data, River Habitat Data, Lake Species Data, Lake Habitat Data
- Mackenzie River Basin Board
  - Mackenzie River Basin Board's State of the Aquatic Ecosystem Report (2003)

- MRBB Peace Sub Basin Report (2003)

- Alberta Environment and Water
  - Alberta State of the Environment Report: Aquatic Ecosystems (1996)
  - Assessment of Aquatic Ecosystem Health in Alberta (2007)
  - Aquatic Studies in the McLeod and Upper Smoky River Systems (2005)
  - Current State of Surface Water Quality and Aquatic Ecosystem Health in Alberta-Northwest Territories Transboundary Waters (March 2009)
  - Information Synthesis and Initial Assessment of the Status and Health of Aquatic Ecosystems in Alberta: Surface Water Quality, Sediment Quality and Non-Fish Biota (2007)
- Alberta Sustainable Resource Development
  - Monitoring Data for plants

5.4.3 Benthic Macroinvertebrates Assemblage

- Alberta Biodiversity Monitoring Institute
  - Wetland Species Data, Wetland Habitat Data, River Species Data, River Habitat Data, Lake Species Data, Lake Habitat Data
- Alberta Environment and Water
  - Alberta State of the Environment Report: Aquatic Ecosystems (1996)
  - Assessment of Aquatic Ecosystem Health in Alberta (2007)
  - Aquatic Studies in the McLeod and Upper Smoky River Systems (2005)
  - Current State of Surface Water Quality and Aquatic Ecosystem Health in Alberta-Northwest Territories Transboundary Waters (March 2009)
  - Information Synthesis and Initial Assessment of the Status and Health of Aquatic Ecosystems in Alberta: Surface Water Quality, Sediment Quality and Non-Fish Biota (2007)
  - Water quality in the Wapiti-Smoky river system under low-flow conditions 1987-1991 (1992)
  - Fish Diet Analysis McLeod and Smoky River Drainages (2004)
- Alberta Infrastructure and Transportation
  - Fish and Fish Habitat Assessments, Fish Passage Assessments, Wetland Assessments
- Alberta Sustainable Resource Development
  - FWMIS Fisheries and Wildlife Data
  - Historical fisheries studies, synopses, and synthesis throughout the Peace River watershed; recent information regarding proposed Dunvegan Dam
  - Monitoring Data for Amphibians, Birds, Fish, Invertebrates, Mammals, Reptiles, Trees and Plants
  - Status of Alberta Fish
  - Wildlife diseases information

- Alberta Tourism, Parks, and Recreation
  - Biodiversity data for provincial parks
- Mackenzie River Basin Board
  - Mackenzie River Basin Board's State of the Aquatic Ecosystem Report (2003)
  - MRBB Peace Sub Basin Report (2003)
- Mainstream Aquatics
  - Fisheries studies for BC Hydro (including instream flow needs)

5.4.4 Individual Indicator Species

- Alberta Agriculture and Rural Development
  - Agricultural Land Resource Atlas of Alberta
- Alberta Biodiversity Monitoring Institute
  - Terrestrial Species Data, Terrestrial Habitat Data, Wetland Species Data, Wetland Habitat Data, River Species Data, River Habitat Data, Lake Species Data, Lake Habitat Data, Human Footprint Habitat Data
- Alberta Sustainable Resource Development
  - FWMIS Fisheries and Wildlife Data
  - General Status of Alberta Wild Species
- Alberta Tourism, Parks and Recreation
  - ACIMS Website for biological data
- Canadian Environmental Assessment Agency
  - Dunvegan Hydroelectric Project (04-07-2996)
  - Hidden Lake North and Moody Creek Compressor Stations (11-01-60999)
  - Tallcree First Nation - Indian Reserve No. 173 - Proposed Gravel Pit Development (10-01-54124)
  - Authorization to Conduct a Seismic Exploration Program for Oil and/or Natural Gas (10-01-53241)
  - OS-6548 Authorization to Construct and Operate a Surface Lease for an access road and/or for a natural gas Well (10-01-52327)
  - Authorization to Construct and Operate a Right of Way for a Natural Gas Pipeline (08-01-36293)
  - Authorization to Construct and Operate a Surface Lease for an access road and/or for an Oil, Natural Gas Well (10-01-53226)
  - Authorization to Construct and Operate a Surface Lease for an access road (09-01-52169)
  - Bridge Replacement over the Smoky River near Grande Cache (11-01-63947)
  - Cutbank-Musreau Area Expansion (11-01-62493)

- NOVA Gas Transmission Ltd. - Gordondale Lateral Loop No. 2 Pipeline Project (10-01-59639)
- Sturgeon Lake Cree Nation - Indian Reserve No. 154 - 2010 Timber Harvesting and Salvage (10-01-59711)

5.4.5 Blue-green Algae Outbreak

- Alberta Environment and Water
  - Limnological Reports for Lake Water Quality Monitoring
- Alberta Lake Management Society
  - Lakewatch Program Reports
- Local Newspaper Articles
- Local Watershed Society Monitoring

5.4.6 Invasive/Introduced Species

- Alberta Biodiversity Monitoring Institute
  - Terrestrial Species Data, Terrestrial Habitat Data, Wetland Species Data, Wetland Habitat Data, River Species Data, River Habitat Data, Lake Species Data, Lake Habitat Data, Human Footprint Habitat Data
- Alberta Infrastructure and Transportation
  - Fish and Fish Habitat Assessments; Fish Passage Assessments; Wetland Assessments
- Alberta Sustainable Resource Development
  - Monitoring Data for Amphibians, Birds, Fish, Invertebrates, Mammals, Reptiles, Trees and Plants
  - FWMIS Fisheries and Wildlife Data
- Alberta Tourism, Parks, and Recreation
  - Biodiversity data for provincial parks
  - ACIMS Website for biological data

6 Filling Information Gaps

Based on the responses from individual organizations, the information that we know is publicly available, and the information requirements for writing a State of the Watershed report, we can infer where the data gaps are. Listed below is the type of desired information/data, with possible partner organizations listed in sub-points.

The data gaps for the Peace River watershed, and potential partners to obtain the missing information are as follows:

- Wetland Inventory

  - AEW has partnered with Ducks Unlimited Canada (DU) to perform a provincial wetland inventory for Alberta. At the time of the completion of this report, DU had completed a small portion of the Peace watershed, and was expecting to finish the remaining study areas within the watershed by the end of 2013.
- Linear Development
  - Landscape scale studies may be available through University of Alberta Departments (Biological Sciences; Alberta School of Forest Science & Management; Renewable Resources)
  - Sustainable Resource Development Public Lands
  - Consultation with utility companies, industry
- Deviation of Recorded Flows from Instream Flow Needs
  - BC Hydro has done some work in Instream flow needs on the Peace mainstem within British Columbia
  - AEW representatives have confirmed that there is little publicly available information regarding instream flow needs on the Peace River within Alberta. The MPWA should discuss calculation of Instream Flow needs for the Peace River with AEW

The majority of the organizations listed in the Directory in **Appendix A** are potential partners for both financial and technical support. A number of the organizations responded very positively to the formation of the MPWA, and the potential of a partnership with their own organization, including: Alberta Conservation Association; Alberta Environment and Water; Agriculture and Agri-Food Canada; Alberta Agriculture and Rural Development; Alberta Health and Wellness; Alberta Lake Management Society; Alberta Tourism, Parks, and Recreation; Alberta Water & Wastewater Operators Association; Canfor; Clear Hills Watershed Initiative; the Community Mapping Network; the County of Birch Hills; Ducks Unlimited; Greater Kakwa; Town of High Level; Parks Canada (for Wood Buffalo National Park); the Municipal District of Greenview; Municipal District of Peace; the County of Northern Lights; Smoky Applied Research & Demonstration Association; South Peace Environmental Association; Weyerhaeuser; Willmore Wilderness Foundation; Woodmere Nursery.

7 Conclusions

Aquality formed the Directory based on internal knowledge about requirements for past SoW reports; the Alberta Stewardship Network's Stewardship Directory; and AEW's Peace WPAC Communities and Stakeholders Directory. A total of **246** organizations were contacted to introduce the MPWA, and to determine what types of information they had available. For organizations that were non-responsive to emails, Aquality re-emailed or telephoned the contacts. In many cases, an alternative contact was suggested. To date, there are a few non-responsive municipalities, First Nations contacts, and Industries.

8 Recommendations

To achieve the goal of assembling all of the data available for a State of the Watershed Report, the MPWA's next steps should be to:

- Hold discussions with organizations regarding the extent of and availability of their internal datasets;
- Apply to specific organizations for funding; and
- Formation of official data sharing agreements with desired organizations.

9 Bibliography

Alberta Environment and Water. Alberta River Basins. Accessed from www.environment.alberta.ca/apps/basins/default.aspx on October 20, 2011.

Alberta Environment and Water. 2011. Peace WPAC Communities and Stakeholders Directory.

Alberta Stewardship Network. 2005. Watershed Stewardship Alberta: A Directory of Stewardship Groups, Support Agencies, and Resources.

Aquality Environmental Consulting Ltd. 2009. Red Deer River State of Watershed Report. Online at http://www.rdrwa.ca/sow.php

Government of Alberta. 2008. Handbook for State of the Watershed Reporting: A Guide for Developing State of the Watershed Reports in Alberta. Online at: http://environment.gov.ab.ca/info/library/8044.pdf

North Saskatchewan Watershed Alliance. 2005. North Saskatchewan River State of Watershed Report. Online at http://www.nswa.ab.ca/content/state-of-the-watershed

Appendix A - Directory of Water Organizations and Information Sources

Aquality Environmental Consulting Ltd.

Mighty Peace Watershed Alliance
Peace Watershed Directory of Water Organizations and Information Sources

A - Wetland Inventory
B - Riparian Health
C - Land Cover
D - Land Use
E - Terrestrial Habitat Connectivity
G - Industrial Features
H - Human Population
I - Livestock Density
J - Linear Development
K - Stream Connectivity
L - Soil Erosion
M - Fertilizer/Pesticide Application Rates
N - River Water Quality Index (AENV)
O - CCME Water Quality Index
P - Lake Trophic Status
Q - Nutrients
R - Pathogens
S - Dissolved Oxygen
T - Water Temperature
U - pH
V - Sediment Contamination
W - Individual Pesticides
X - Individual Heavy Metals
Y - Wastewater Loadings
Z - Lake Level Index
AA - Deviation of Flow from Naturalized Flow
AB - Deviation of Recorded Flow from Water Conservation Objectives (WCO)
AC - Deviation of Recorded Flow from Instream Flow Need (IFN)
AD - Floodplain Presence and Flooding Pattern
AE - Hydrograph Alteration
AF - Surface Water Allocation and Withdrawals by Sector
AG - Groundwater Extraction
AH - Index of Biotic Integrity
AI - Macrophyte Community
AJ - Benthic Macroinvertebrates Assemblage

Category	Organization: Name/Department	Organization: Subgroup	Contact: Role	Contact: Mailing Address	Contact: Civic Address	Web	Email	Phone	Fax	Location	Available Information/Accomplishments
Stewardship Organizations											
WPAC	Mighty Peace Watershed Alliance (MPWA)		Executive Director	Rhonda Clarke-Gauthier ,			rhondan@telusplanet.net	780-925-2130		Peace River Watershed	
WPAC	Athabasca Watershed Council			Box 5066 Hinton, Alberta T7V 1X3			admin@awc-wpac.ca	780-865-8223			
WSG	Mackenzie River Basin Board (MRBB)		Executive Director	Don Pittman P.O. Box 2310 Yellowknife, Northwest		http://www.mrbb.ca/	Don.Pittman@EC.GC.CA	867-669-4701	867-873-8185	Mackenzie River Watershed	State of the Aquatic Ecosystem Report; Maps of biological/ecological/physical parameters for the watershed
			Administrative Assistant	Leslie Rankin Regina, Saskatchewan				306-780-6042			
WSG	Heart River Watershed Group			Audrey Gall P.O. Bag 1300 Peace River, Alberta T8S 1Y9			agall@telusplanet.net	780-624-0013	780-624-0023	Heart River Watershed	Heart River Watershed Management Plan (2008)
WSG	West Country Watershed Group		Watershed Coordinator	P.O. Box 6000 Clairmont, Alberta T0H 0W0			asbadmin@countygp.ab.ca	780-532-9722		County of Grande Prairie, West County Watershed Group	
WSG	Clear Hills Watershed Initiative		Clear Hills Watershed Initiative	Don Thomas ,			dwthom14@gmail.com	780-685-2212			
				Sherri Larsen , Alberta		www.clearhillswatershed.com	clearhillswatershed@yahoo.ca	780-494-2228		Clear Hills County	2007 - 2011 water quality data on 5 streams/creeks, dugouts and the Whitelaw Springs (Grimshaw Aquifer).
WSG	Peace Athabasca Delta Environmental Monitoring Plan			c/o Jeff Shatford Wood Buffalo National Park			jeff.shatford@pc.gc.ca	867-872-7939	867-872-3910		
RNGO	Bear Lake Conservatrion Group			Sharon Nelson			snelson@countygp.ab.ca	780-567-2143			
RNGO	Canadian Model Forest Network		Communications Coordinator	Melanie Williams PO Bag 2150 10 Campus Drive Kemptville, Ontario K0G 1J0			mwilliams@cmfn-rcfm.ca	613-258-8400	613-258-8363		
RNGO	South Peace Environmental Association		Chair	Bob Cameron P.O. Box 321 Debolt, Alberta T0H 1B0			southpeace@hotmail.com	780-957-2292		Southern Peace Watershed	
RNGO	Central Peace Conservation Society (CPCS)		Research Coordinator for the Rural Extension Staff	Garry Ropchan P. O. Box 673 Spirit River, Alberta T0H 3G0			cpcs@telusplanet.net	780-864-3595	780-864-2077	Counties of Birch Hills & Saddle Hills, M.D. of Spirit River	No info
RNGO	Central Peace Conservation Society (CPCS)		Extension Specialist for the Rural Extension Staff	Melissa Fuchs P. O. Box 673 Spirit River, Alberta T0H 3G0			cpcs@telusplanet.net	780-864-3595	780-864-7006	Counties of Birch Hills & Saddle Hills, M.D. of Spirit River	No info
RNGO	Greater Kakwa			Neil Dobson			ndobson@telusplanet.net	780-532-9172			They put together a binder consisting of natural heritage, human history, and recreational info for the watershed. Willing to allow MPWA to produce a copy.
RNGO	Grimshaw Gravels Aquifer Management Advisory Association		CAO for MD of Peace	Lyle McKen P.O. Box 34 Berwyn, Alberta T0H 0E0			l.mcken@wispernet.ca	780-338-3845 780-338-3846	780-338-2222	MD of Peace #135, MD of Fairview #136, Counties of Northern Lights & Clear Hills	Technical Report for the Grimshaw Gravels Aquifer was published in 1998 M.D. of Peace completes annual potable water testing for the Hamlet of Brownvale.
			Chair of Group	Rick Keillor Box 480 Berwyn, Alberta T0H 0E0			Trudi& Rick Keillor <rkeillor@abnorth.com>	780-597-2136			

Indicators	Land Use													Water Quality												Water Quantity								Biological Community					
Organization	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
Mighty Peace Watershed Alliance (MPWA)																																							
Athabasca Watershed Council																																							
Mackenzie River Basin Board (MRBB) – State of the Aquatic Ecosystem Report		✓									✓					✓	✓	✓	✓	✓	✓	✓		✓	✓									✓					
Mackenzie River Basin Board (MRBB) – Maps of biological/ecological/physical parameters			✓				✓									✓	✓	✓	✓	✓	✓	✓		✓	✓		✓							✓		✓		✓	
Mackenzie River Basin Board (MRBB) – Leslie Rankin																																							
Heart River Watershed Group																																							
West Country Watershed Group																																							
Clear Hills Watershed Initiative – Don Thomas																																							
Clear Hills Watershed Initiative – Sherri Larsen																	✓	✓	✓	✓	✓	✓																✓	
Peace Athabasca Delta Environmental Monitoring Plan																																							
Bear Lake Conservatrion Group																																							
Canadian Model Forest Network																																							
South Peace Environmental Association																																							
Central Peace Conservation Society (CPCS) – Garry Ropchan																																							
Central Peace Conservation Society (CPCS) – Melissa Fuchs																																							
Greater Kakwa			✓	✓			✓	✓																															
Grimshaw Gravels Aquifer Management Advisory Association – Technical Report																																	✓						
Grimshaw Gravels Aquifer Management Advisory Association – M.D. of Peace potable water testing																	✓	✓	✓	✓	✓																		
Grimshaw Gravels Aquifer Management Advisory Association – Rick Keillor																																							

Aquality Environmental Consulting Ltd.

Mighty Peace Watershed Alliance
Peace Watershed Directory of Water Organizations and Information Sources

A - Wetland Inventory
B - Riparian Health
C - Land Cover
D - Land Use
E - Terrestrial Habitat Connectivity
G - Industrial Features
H - Human Population

I - Livestock Density
J - Linear Development
K - Stream Connectivity
L - Soil Erosion
M - Fertilizer/Pesticide Application Rates
N - River Water Quality Index (AENV)
O - CCME Water Quality Index

P - Lake Trophic Status
Q - Nutrients
R - Pathogens
S - Dissolved Oxygen
T - Water Temperature
U - pH
V - Sediment Contamination

W - Individual Pesticides
X - Individual Heavy Metals
Y - Wastewater Loadings
Z - Lake Level Index
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AB - Deviation of Recorded Flow from Water Conservation Objectives (WCO)
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AD - Floodplain Presence and Flooding Pattern
AE - Hydrograph Alteration
AF - Surface Water Allocation and Withdrawals by Sector
AG - Groundwater Extraction
AH - Index of Biotic Integrity
AI - Macrophyte Community
AJ - Benthic Macroinvertebrates Assemblage

Category	Organization		Contact			Web	Email	Phone	Fax	Location	Available Information/Accomplishments	Indicators																																						
	Name/Department	Subgroup	Role	Mailing Address	Civic Address							Land Use													Water Quality												Water Quantity								Biological Community					
												A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
RNGO	Friends of an Unpolluted Lifestyle			Denis Sauvageau			denis@peaceriverenvironmentalsociety.org	780-837-0015																																										
NNGO	Foothills Research Institute			Tom Archibald Box 6330 Hinton, Alberta, Canada T7V 1X6			tarchibald@foothillsri.ca	780-865-8330	780-865-8331																																									
RNGO	Mackenzie Applied Research Association (MARA)			Nasar Iqbal P.O. Box 646 Fort Vermillion, T0H 1N0			mara3@telus.net	780-927-3776	780-927-4747																																									
RNGO	North Peace Applied Research Association (NPARA)			Nora Paulovich , Alberta			npara1@telus.net	780-836-3354	780-836-3529	Municipal District of Northern Lights #22 and Mackenzie #23	Aquality's 2010 State of the County Report																✓	✓	✓	✓	✓	✓	✓	✓	✓										✓	✓		✓		
											Would like to start up a watershed organization and do water testing, riparian health assessments. Would be willing to share that information but does not have anything yet.																																							
RNGO	Peace Country Beef and Forage Association		Manager		Jaime Borduzak 5226 - 53rd Avenue High Prairie, Alberta T0G 1E0	www.areca.ab.ca	jborduzak@gprc.ab.ca	780-523-4033	780-523-6569	Peace Country																																										
RNGO	Pecae River Environmental Society			Denis Sauvageau			denis@peaceriverenvironmentalsociety.org	780-837-0015																																										
RNGO	Peace Airshed Zone Association			 P.O. Box 21135 Grande Prairie, Alberta T8V 6W7		www.paza.ca	contact@pasza.ca	780-833-4343		Peace Airshed																																										
RNGO	Sturgeon Lake Fisheries Management Committee			Dr Darryl R Smith Professional Corporation Gd Valleyview, Alberta T0H 3N0																																																
RNGO	Smoky River Applied		AESA Program	Shelleen Gerbig			shelleesarda@sebernet.com	780-837-2722	780-837-8223	MD of Smoky River	Listed the following available information:																																							
										MD of Smoky River	Water quality data for a sample of dug-outs being used by rural households (E.coli and Coliforms; five for potable water and metals) (2008)																																							
										Smoky River Watershed	DFO has also classified each stream in the watershed		✓											✓				✓	✓		✓	✓	✓		✓															
										Heart River Watershed	Heart River Watershed Group as well which has several years of data on water quality testing																✓	✓	✓	✓	✓	✓	✓	✓	✓															
										Clear Hills watershed	Clear Hills watershed group is also doing some water testing																✓	✓	✓	✓	✓	✓	✓	✓	✓															
RNGO	High Prairie Riparian Action Team		Chairperson	Mark Heckbert ,							They do not have any drinking water data, and they operate within the Athabasca Watershed, not the Peace.																																							
RNGO	Webberville Community Model Forest		General Manager	Lisa Rybchuk P.O. Box 5195 Peace River, Alberta T8S 1R8			lisa@wcmf.ca	780-617-4720																																										
RNGO	Willmore Wilderness Foundation		Administrator	Susan Feddema-Leonard P.O. Box 93 Grande Cache, Alberta T0E 0Y0		WillmoreWilderness.com	info@willmorewilderness.com	780-827-2696			Traditional and aboriginal knowledge				✓																																			

Aquality Environmental Consulting Ltd.

Mighty Peace Watershed Alliance
Peace Watershed Directory of Water Organizations and Information Sources

A - Wetland Inventory
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D - Land Use
E - Terrestrial Habitat Connectivity
G - Industrial Features
H - Human Population
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	Name/Department	Subgroup	Role	Mailing Address	Civic Address						
RNGO	Woodland Operators Learning Foundation					https://www.w-o-l-f.ca/					Contact Lisa Rybchuk (lisa@wcmf.ca) for info
Provincial NGOs											
PNGO	Alberta Biodiversity Monitoring Institute					http://www.abmi.ca/abmi/home/home.jsp				Alberta	Raw Data Includes: Terrestrial Species Data, Terrestrial Habitat Data, Wetland Species Data, Wetland Habitat Data, River Species Data, River Habitat Data, Lake Species Data, Lake Habitat Data, Human Footprint Habitat Data
PNGO	Agricultural Research and Extension Council of Alberta (ARECA)		Executive Director	Ty Faechner ,		www.areca.ab.ca	faechner@areca.ab.ca	780-416-6046	780-416-8915	Alberta	
PNGO	Alberta Trappers Association			Jim Mitchell			jim@albertatrappers.com				
PNGO	Agroforestry and Woodlot Extension Society			Lisa Rybchuk			lisa@wmcf.ca				
PNGO	Alberta Centre for Boreal Studies					http://www.borealcentre.ca/					The Oil and Gas Industry in Alberta: Drilling and Production
PNGO	Alberta Conservation Association (ACA)		Manager	Paul Hvenegaard P.O. Box 900-26 Peace River, Alberta T8S 1T4		www.ab-conservation.com	paul.hvenegaard@ab-conservation.com	780-624-6566	780-624-6455	Northwest Region, Peace River	All ACA reports available on-line. Reports include fish, wildlife, and land reports.
PNGO	Alberta Fish and Game Association (AFGA)		Executive Vice President		Martin Sharren 6924 – 104th Street Edmonton, Alberta T6H 2L7	www.afga.org	martin@afga.org	780-437-2342	780-438-6872		
PNGO	Alberta Invasive Plant Council			P.O. Box 2182 Sundre, Alberta T0M 1X0			coordinator@invasiveplants.ab.ca	403-638-3805	403-638-3170		
PNGO	Alberta Native Plant Council (ANPC)			Alberta Native Plant Council P.O. Box 52099, Garneau Postal Outlet Edmonton, Alberta T6G 2T5		www.anpc.ab.ca	info@anpc.ab.ca				
PNGO	Alberta Irrigation Projects Association				909 - 400 4th Avenue South Lethbridge, Alberta T1J 4E1	www.aipa.org	office@aipa.org	403-328-3063	403-327-1043		Offices all on south, southeast area of Alberta. Have said they probably do not have any relevant information

Name/Department	Indicators: Land Use													Water Quality												Water Quantity								Biological Community					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
Woodland Operators Learning Foundation																																							
Alberta Biodiversity Monitoring Institute	✓	✓	✓																															✓	✓	✓		✓	
Agricultural Research and Extension Council of Alberta (ARECA)																																							
Alberta Trappers Association																																							
Agroforestry and Woodlot Extension Society																																							
Alberta Centre for Boreal Studies																																							
Alberta Conservation Association (ACA)		✓	✓		✓																													✓			✓		✓
Alberta Fish and Game Association (AFGA)																																							
Alberta Invasive Plant Council																																							
Alberta Native Plant Council (ANPC)																																							
Alberta Irrigation Projects Association																																							

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	Name/Department	Subgroup	Role	Mailing Address	Civic Address						
PNGO	Alberta Lake Management Society (ALMS)			P.O. Box 4283 Edmonton, Alberta T6E 4T3		www.ALMS.ca	info@alms.ca	780-702-ALMS	501-423-6381		
		— Lakewatch Program						780-415-9785	501-423-6381		
		— Executive Director									
PNGO	Alberta Recreational Canoe Association					www.abcanoekayak.org	Info@abcanoekayak.org				
PNGO	Alberta Stewardship Network (ASN)				Land Stewardship Centre 17503-45 Avenue Edmonton, Alberta T6M 2N3	www.landstewardship.org	lsc@landstewardship.org	780-483-1885	780-486-9599		
PNGO			ASN Chair	Linda Jabs ,			cakadu@telusplanet.net	403-728-2398			
PNGO			ASN Program Coordinator	Michelle Riopel ,			michelle@landstewardship.org				
PNGO	Alberta Trailnet Society				11759 Groat Road Edmonton, Alberta T5M 3K6		www.albertatrailnet.com	780-422-7150; 1-877-987-2457	780-422-2663		
PNGO	Alberta Wilderness Association (AWA)			The Alberta Wilderness Association, P.O. Box 6398, Station D Calgary, Alberta T2P 2E1	455 - 12th Street, NW, Calgary, AB, T2N 1Y9 Calgary, Alberta T2P 2E1	http://albertawilderness.ca	awa.info@shawcable.com	403-283-2025; 1-866-313-0713	403-270-2743		They have a library of Alberta-related environmental documents that goes back to the late 1960s. A good source for historic or benchmark documents.
PNGO	Association of Summer Villages of Alberta (ASVA): Lake Stewardship Steering Committee		Executive Director		Danielle Tunke 7119 95th Ave Edmonton, Alberta T6B 1B1		asvaed@wildroseinternet.ca	780-967-3506			
PNGO	Clean Air Strategic Alliance				10035 108th Street NW Edmonton, Alberta T5J 3E1	http://casahome.org	admin@casahome.org	780-427-9793	780-422-3127		
PNGO	Community Planning Association of Alberta				205 - 10940 166A Street Edmonton, Alberta T5P 3V5	www.cpaa.biz	cpaa@cpaa.biz	780-432-6387			

Name/Department	Indicators: Land Use													Water Quality												Water Quantity								Biological Community					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
Alberta Lake Management Society (ALMS)																																							
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— Executive Director																																							
Alberta Recreational Canoe Association																																							
Alberta Stewardship Network (ASN)																																							
ASN Chair																																							
ASN Program Coordinator																																							
Alberta Trailnet Society																																							
Alberta Wilderness Association (AWA)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Association of Summer Villages of Alberta (ASVA): Lake Stewardship Steering Committee																																							
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	Name/Department	Subgroup	Role	Mailing Address	Civic Address						
PNGO	Cows and Fish (Alberta Riparian Habitat Management Society) Main Office		Executive Director	Norine Ambrose Lethbridge, Alberta T1J 2J8	Norine Ambrose 2nd Floor YPM Place 530-8th Street South Lethbridge, Alberta T1J 2J8	www.cowsandfish.org	nambrose@cowsandfish.org	403-381-5538	403-381-5723		Riparian Health - one or a few sites on 12-15 waterbodies spread throughout the basin (will have to check about data sharing)
PNGO	Cows and Fish (Alberta Riparian Habitat Management Society) Edmonton Office		Range/riparian specialist	Kerri O'Shaughnessy Edmonton, Alberta T6H 5T6	Kerri O'Shaughnessy 306 J.G. O'Donoghue Building, 7000-113th Street Edmonton, Alberta T6H 5T6	www.cowsandfish.org	koshaugh@cowsandfish.org	780-427-7940	780-422-9745		Riparian habitat
PNGO	Federation of Alberta Naturalists				11759 Groat Road Edmonton, Alberta T5M 3K6	www.fanweb.ca	fan@fanweb.ca	780-427-8124	780-422-2663		
PNGO	Grizzly Bear Alliance			P.O. Box 8589 Canmore, Alberta T1W 2V4		www.grizzlybearalliance.org	info@grizzlybearalliance.org				
PNGO	Land Stewardship Centre of Canada (LSCC)				Land Stewardship Centre of Canada Imrie House 17503 - 45th Avenue Edmonton, Alberta T6M 2N3	www.landstewardship.org	info@landstewardship.org				
PNGO	Glenbow Museum		Archives Director	Doug Cass Calgary, Alberta T2G 0P3	Doug Cass 130 — 9th Avenue SE Calgary, Alberta T2G 0P3		dcass@glenbow.org	403-268-4100	403-265-9769		Historic information about the Peace Watershed Area including the Peace River County Research Project, compiled in 1955-1956
PNGO	Prairie Conservation Forum		PCF Secretary		Ian W. Dyson Southern Region, Alberta Environment 2nd Floor, Provincial Building 200 5th Avenue South Lethbridge, Alberta T1J 4l1	www.albertapcf.ab.ca	Ian.Dyson@gov.ab.ca	403-381-5430	403-382-4428		Efforts focused on Parkland and Grassland Natural Areas, no info for the Peace
PNGO	Riparian Action Team (RAT)		RAT Chairman	Mark Heckbert Alberta Environment, Natural Resources Service P.O. Box 236, Provincial Bldg. High Prairie, Alberta T0G 1E0			mark.heckbert@gov.ab.ca	780-523-6520	780-523-6525		RAT efforts are not within the Peace River Watershed
PNGO	Stewards of Alberta's Protected Areas Association (SAPAA)		President		Peter Kershaw 51163 Range Road 204 Sherwood Park, Alberta T8G 1E5		postmaster@SAPAAStewards.com				
PNGO	Water Matters		Associate Director	Joe Obad P.O. Box 8386 Canmore, Alberta T1W 2V2		www.water-matters.org	joe@water-matters.org	403-538-7785			
National Non-Governmental Organizations											
Economic											

Name/Department	Indicators: Land Use A	B	C	D	E	F	G	H	I	J	K	L	M	Water Quality N	O	P	Q	R	S	T	U	V	W	X	Y	Water Quantity Z	AA	AB	AC	AD	AE	AF	AG	AH	Biological Community AI	AJ	AK	AL	AM
Cows and Fish (Alberta Riparian Habitat Management Society) Main Office		✓																																					
Cows and Fish (Alberta Riparian Habitat Management Society) Edmonton Office		✓																																					
Federation of Alberta Naturalists																																							
Grizzly Bear Alliance																																							
Land Stewardship Centre of Canada (LSCC)																																							
Glenbow Museum				✓		✓	✓																																
Prairie Conservation Forum																																							
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	Name/Department	Subgroup	Role	Mailing Address	Civic Address							A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
NNGO	Community Futures Network of Alberta	Grande Prairie & Region	Manager		Holly Sorgen 104 – 9817 101st Avenue Grand Prairie, Alberta T8V 0X6	www.cfofgp.com	office@cfofgp.com	780-814-5340	780-532-5129																																									
NNGO	Community Futures Network of Alberta	Northwest Alberta		Mike Osborn P.O. Box 210 High Level, Alberta TOH 1ZO	Mike Osborn 9810 – 99th Street High Level, Alberta TOH 1ZO	www.cfnwa.ab.ca	info@cfnwa.ab.ca	780-926-4233	780-926-2162																																									
NNGO	Community Futures Network of Alberta	Peace Country			Randy Hodgkinson 9816-98th Avenue Peace River, Alberta T8S 1J5	www.cfpeacecountry.com	admin@cfpeacecountry.com	780-624 1161	780-624 1308																																									
NNGO	Peace Region Economic Development Alliance (PREDA)		Vice-Chair of PREDA Councillor for MD of Spirit River	Elaine Garrow P.O. Box 20 Grande Prairie, Alberta T8V 6J4	Elaine Garrow 10320-99th Street Grande Prairie, Alberta T8V 6J4		preda@peacecountrycanada.com berwin@telusplanet.net	780-833.1035	780-538.5332																																									
NNGO	Regional Economic Development Initiative (REDI)			Lindsay Thompson			lthompson@rediregion.ca				No applicable info.																																							
Environmental Stewardship																																																		
NNGO	Canada's Stewardship Communities Network (CSCN)				Doug Wolthausen ,	www.stewardshipcanada.ca		613-489-3520																																										
NNGO	Canadian Water Resources Association (CWRA)	Head Office	Executive Director		F.A. (Rick) Ross 1401 - 14th Street Lethbridge, Alberta T1H 2W6	http://www.cwra.org/	executivedirector@cwra.org	403-317-0017																																										
NNGO	Canadian Water Resources Association (CWRA)	Alberta Branch	President		Monica Wagner ,	www.cwra.org/About_CWRA/CWRA_Branches/Alberta/alberta.html	monica.wagner@amec.com	403-387-1793																																										
NNGO	Community Mapping Network		Senior Habitat Inventory Biologist		Brad Mason Fisheries and Oceans Canada Habitat and Enhancement Branch 201 - 401 Burrard Street Vancouver, British Columbia V6C 3S4	www.shim.bc.ca	Brad.Mason@dfo-mpo.gc.ca	604-666-7015			Detailed maps of rivers, streams, lakes, wetlands. Information on land use, land cover, fish species, fish habitat. Can build a customized map.	✓	✓	✓	✓							✓																											✓		
NNGO	Ducks Unlimited Canada (DUC)		Manager of Provincial Operations, Alberta Ducks Unlimited Canada		Perry McCormick ,	www.ducks.ca	p_mccormick@ducks.ca	Main: 403-476-1873; Cell: 403-620-4824	403-201-5580	Calgary, Alberta																																								
			Manager of NPS - West Division		Rick Shewchuk ,		r_shewchuk@ducks.ca																																									
			GIS Manager		Alain Richard GIS Manager 100 - 18236 105 Avenue, Edmonton, Alberta T5S 2H5		a_richard@ducks.ca	(780) 489-8110			A portion of the area is mapped for wetland inventory.Will complete the eastern portion at the end of next year, and the western portion in late 2013.																																							

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		Red Deer	Industry & Gov't Relations		Tracy Scott 1 - 5550 45th Street Red Deer, Alberta T4N 1L1	www.ducks.ca	t_scott@ducks.ca	403-342-1314	403-346-1211																																											
		Grande Prairie	Conservation Programs Specialist		Stacy Wabick 9615-105th Street Grande Prairie, Alberta T8V 6V5	www.ducks.ca	s_wabick@ducks.ca	780-532-7960	780-532-0427																																											
NNGO	Living-by-Water Project				c/o Federation of Alberta Naturalists 11759 Groat Road Edmonton, Alberta T5M 3K6	www.livingbywater.ca	shorelines@fanweb.ca	780-427-8124	780-422-2663																																											
NNGO	National Watershed Stewardship Coalition			Dick Hunter Conservation Ontario P.O. Box 11 Newmarket, Ontario L3Y 4W3	Dick Hunter 120 Bayview Parkway Newmarket, Ontario L3Y 4W3		dhunter@conservationontario.on.ca	905-895-0716																																												
NNGO	National Watershed Stewardship Coalition				Ernie Ewaschuk Land Stewardship Centre of Canada Imrie House, 17503-45 Avenue Edmonton, Alberta T6M 2N3		ernie@landstewardship.org	780-483-1885																																												
NNGO	Nature Canada				1 Nicholas Street Ottawa, Ontario K1N 7B7	www.naturecanada.ca	info@naturecanada.ca.	1-800-267-4088																																												
NNGO	Nature Conservancy of Canada (NCC)				830, 1202 Centre Street SE Calgary, Alberta T2G 5A5	www.natureconservancy.ca	alberta@natureconservancy.ca	403-262-1253																																												
NNGO	North American Waterfowl Management Plan (NAWMP)		Alberta NAWMP Partnership Coordinator		Brent Calverley 200 - 10720 178th Street Edmonton, Alberta T5S 1J3	www.nawmp.ab.ca	b_calverley@ducks.ca; nawmp@ec.gc.ca	780-930-1244	780-489-1856																																											
NNGO	North American Wetlands Conservation Council (NAWCC)	Alberta	Coordinator		Deanna Dixon c/o Environment Canada 2nd floor, 4999 98th Avenue Edmonton, Alberta T6B 2X3		deanna.dixon@ec.gc.ca	780-951-8652																																												
NNGO	North American Wetlands Conservation Council (NAWCC)	Head Office	NABCI Coordination Unit Canadian Wildlife Service Environment Canada		15th Floor, Place Vincent Massey 351 St. Joseph Boulevard Gatineau, Quebec K1A OH3		NAWMP@ec.gc.ca	819-934-6034	819-934-6017																																											
NNGO	Pembina Institute for Appropriate Development				200 - 608 7th Street SW Calgary, Alberta T2P 1Z2	www.pembina.org		403-269-3344	403-269-3377																																											

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NNGO	Pheasants Forever Canada		Executive Director		Bob Haysom 6A - 2115 27 Avenue NE Calgary, Alberta T2E 7E4		director@pheasantsforevercalgary.com	403-802-3777	403-247-9648		
NNGO	Prairie Habitat Joint Venture		Coordinator		Deanna Dixon c/o Environment Canada 2nd floor, 4999 98th Ave Edmonton, Alberta T6B 2X3		deanna.dixon@ec.gc.ca	780-951-8652			
NNGO	Stewardship Canada Portal						administrator@stewardshipcanada.ca				
NNGO	Trout Unlimited Canada (TUC)			P.O.Box 6270, Station D Calgary, Alberta T2P 2C8		www.tucanada.org	tuc@tucanada.org	403- 221-8360	403-221-8368		
			Director of Conservation Education				LRobb@tucanada.org				
			Alberta Provincial Biologist				bmeagher@tucanada.org				
NNGO	Wildlife Habitat Canada (WHC)		President		Len Ugarenko 301 - 1750 Courtwood Crescent Ottawa, Ontario K2C 2B5	www.whc.org	lugarenko@whc.org				No information as WHC does not collect or store that kind of data.
			Grants administrator - Executive Assistant		Julia Lambrechts ,		jlambrechts@whc.org; reception@whc.org				
NNGO	World Wildlife Fund (WWF)				410 - 245 Eglinton Ave. East Toronto, Ontario M4P 3J1		ca-panda@wwfcanada.org				
NNGO	Yellowstone to Yukon Conservation Initiative (Y2Y)				200 - 1240 Railway Ave Canmore, Alberta T1W 1P4	www.y2y.net	wendy@y2y.net	1-403-609-2666			No active projects within the Peace River watershed
Private Sector Stewardship and Resources - Businesses with Stewardhip Programs and Industry Associations											

Name/Department	Indicators																																						
	Land Use													Water Quality												Water Quantity								Biological Community					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
Pheasants Forever Canada																																							
Prairie Habitat Joint Venture																																							
Stewardship Canada Portal																																							
Trout Unlimited Canada (TUC)																																							
Wildlife Habitat Canada (WHC)																																							
World Wildlife Fund (WWF)																																							
Yellowstone to Yukon Conservation Initiative (Y2Y)																																							

Mighty Peace Watershed Alliance
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Category	Organization		Contact			Web	Email	Phone	Fax	Location	Available Information/Accomplishments
	Name/Department	Subgroup	Role	Mailing Address	Civic Address						
PSSG	Alberta Capital Region Wastewater Commission			23262 Township Road 540 Fort Saskatchewan, Alberta T8L 4A2		www.acrwc.ab.ca	info@acrwc.ab.ca	780-467-8655	780-467-5398		No Info. They discharge to the North Saskatchewan.
PSSG	Alberta Environmental Farm Plan Company				Mike Slomp The Alberta Environmental Farm Plan Company 801, 4445 Calgary Trail Edmonton, Alberta T6H 5R7	www.albertaEFP.com		780-436-2339; 1-866-844-2337	780-436-2382		
PSSG	Alberta Research Council Inc.				250 Karl Clark Road Edmonton, Alberta T6N 1E4	www.arc.ab.ca	referral@albertainnovates.ca	780-450-5111			
PSSG	Piikani First Nation: Piikani Environmental Services Ltd.							403-965-3940			
PSSG	Synergy Alberta					www.synergyalberta.ca	info@synergyalberta.ca				
PSSG	Mainstream Aquatics Ltd.		Principal, Senior Biologist		Rick Pattenden 6956 Roper Road Edmonton, Alberta T6B 3H9		rpattenden@mainstreamaquatics.ca	780-440-1334	780-440-1252		Fisheries studies for BC Hydro (including instream flow needs)
PSSG	The Dugout Dude		water treatment (dugouts)		Randy Ehman High Prairie, Alberta	www.the dugoutdude.ca	info@thedugoutdude.ca	1-866-365-2999			
Private Sector Stewardship and Resources - Industry Associations											
PSSG	Alberta Beef Producers				320 - 6715 8th Street NE Calgary, Alberta T2E 7H7	www.albertabeef.org	abpfeedback@albertabeef.org	403-275-4400	403-274-0007		
PSSG	Alberta Forest Products Association		Director, Environmental Affairs	Keith Murray Edmonton, Alberta T5J 3N3	Keith Murray 500 - 10709 Jasper Avenue Edmonton, Alberta T5J 3N3	www.albertaforestproducts.ca	kmurray@albertaforestproducts.ca	780-452-2841 ext 227; Cell: 780-984-2372	780-455-0505		Members include: LaCrete Sawmill, Manning Diversified Forest Products, Boucher Bros (Nampa), Canfor, Millar Western and Alberta Plywood
PSSG	Weyerhaeuser				Brian Gilliland ,		Brian.gilliland@weyerhaeuser.com				
			Timberlands	Rick Watson P.O. Box 1020 Grande Prairie, Alberta T8V 3A9			Richard.watson@weyerhaeuser.com	780-539-8251			Monthly (since 1997) and annual (since 1998) waste and water treatment operations reports submitted to AENV. Will provide data on request.

Name/Department	Indicators: Land Use													Water Quality												Water Quantity								Biological Community					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
Alberta Capital Region Wastewater Commission																																							
Alberta Environmental Farm Plan Company																																							
Alberta Research Council Inc.																																							
Piikani First Nation: Piikani Environmental Services Ltd.																																							
Synergy Alberta																																							
Mainstream Aquatics Ltd.																													✓					✓		✓			✓
The Dugout Dude																																							
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Alberta Beef Producers																																							
Alberta Forest Products Association																																							
Weyerhaeuser																																							
Weyerhaeuser – Timberlands																																							

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	Name/Department	Subgroup	Role	Mailing Address	Civic Address						
			GP Pulp	Grant Bourree P.O. Box 1020 Grande Prairie, Alberta T8V 3A9			Grant.bourree@weyerhaeuser.com	780-539-8180			
			Gov/Public Affairs	Wayne Roznowsky P.O. Box 1020 Grande Prairie, Alberta T8V 3A9			Wayne.roznowsky@weyerhaeuser.com	780-539-8832			
PSSG	BC Hydro			Martin Jasek ,			martin.jasek@bchydro.com	1-888-964-9376			Coordinating a response with other departments (Sept 15, 2011). Have not heard back
				Kelly Galway ,			kelly.galway@bchydro.com	1-888-964-9376			
				Paul Higgins ,			paul.higgins@bchydro.com	1-888-964-9376			
			Public Relations	Debbie Rinvold ,			debbie.rinvold@bchydro.com	1-888-964-9376			
PSSG	BC Hydro			Darren Sherbot ,			darren.sherbot@bchydro.com				
PSSG	Canadian Association of Petroleum Producers				2100 - 350 7th Avenue SW Calgary, Alberta T2P 3N9	www.capp.ca	communication@capp.ca	403-267-1100	403-261-4622		
PSSG	Environmental Services Association of Alberta Alberta				1710 - 10303 Jasper Avenue Edmonton, Alberta T5J 3N6	www.esaa.org	info@esaa.org	780-429-6363; 1-800-661-9278	780-429-4249		
PSSG	Alberta Canola Producers Commission		General Manager		Ward Toma 170 - 14315 118th Street Edmonton, Alberta T5L 4S6	www.canola.ab.ca	web@canola.ab.ca	780-452-6487	780-451-6933		
PSSG	Alberta Chicken Producers		General Manager		Lloyd Johnston 111 - 4208 97th Street Edmonton, Alberta T6E 5Z9	www.chicken.ab.ca	abcp@chicken.ab.ca	780-488-2125	780-488-3570		
PSSG	Alberta Egg Producers Board		General Manager		Susan Gal 101 - 90 Freeport Boulevard NE Calgary, Alberta T3J 5J9	www.eggs.ab.ca	info@eggs.ab.ca	403-250-1197	403-291-9216		
PSSG	Alberta Elk Commission		Operations Manager		Diana O'Hara 4603 - 61 st Avenue Leduc, Alberta T9E 7A4	www.albertaelkcommission.com	coordinator@peaceforageseed.ca	1-877-630-2198	250-630-2115		
PSSG	Alberta Milk		General Manager		Mike Southwood 1303 - 91st Street SW Edmonton, Alberta T6X 1H1	www.albertamilk.com	srietveld@albertamilk.com; msouthwood@albertamilk.com	780-453-5942	780-455-2196		
PSSG	Alberta Pork		Executive Director		Darcy Fitzgerald 4828 - 89th Street Edmonton, Alberta T6E 5K1	www.albertapork.com	darcy.fitzgerald@albertapork.com	780- 491-3529	780-471-8065		
PSSG	Potato Growers of Alberta		Executive Director		Edzo Kok 6008 - 46th Avenue Taber, Alberta T1G 2B1	http://www.albertapotatoes.ca/	edzo@albertapotatoes.ca	403-223-2262	403-223-2268		
PSSG	Alberta Sheep and Wool Commission		Manager		Margaret Cook 97 East Lake Ramp NE Airdrie, Alberta T4A 0C3	http://www.absheep.com/	info@ablamb.ca	403-948-8533	403-912-1455		
PSSG	Alberta Soft Wheat Producers Commission		Executive Director	Andrew Kovacs P.O. Box 875 Lethbridge, Alberta T1J 3Z8			aswp@telusplanet.net	403-380-4189	403-380-4189		

Contact	Indicators																																						
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Grant Bourree																	✓		✓	✓	✓	✓		✓	✓														
Wayne Roznowsky																																							
Martin Jasek																																							
Kelly Galway																																							
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Darren Sherbot																																							
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Environmental Services Association of Alberta																																							
Alberta Canola Producers Commission																																							
Alberta Chicken Producers																																							
Alberta Egg Producers Board																																							
Alberta Elk Commission																																							
Alberta Milk																																							
Alberta Pork																																							
Potato Growers of Alberta																																							
Alberta Sheep and Wool Commission																																							
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	Name/Department	Subgroup	Role	Mailing Address	Civic Address						
PSSG	Alberta Turkey Producers		Executive Director		Greg Smith 4828 - 89 Street Edmonton, Alberta T6E 5K1	http://www.albertaturkey.com	info@abturkey.ab.ca	403-465-5755	403-465-5528		
PSSG	Alberta Vegetable Growers (Processing)		Secretary / Manager		Terry Cradduck 5217 - 50 Avenue Taber, Alberta T1G 1V3		avgp@telusplanet.net	403-223-4242	403-223-3130		
PSSG	Alberta Winter Wheat Producers Commission		Executive Director		Rick Istead 1065 Deer River Circle SE Calgary, Alberta T2J 6Z6	http://www.wintercereals.ca	rwistead@telus.net	403-754-2541	403-271-0939		
PSSG	Wild Rose Agricultural Producers		Executive Director		Rod Scarlett 102 - 115 Portage Close Sherwood Park, Alberta T8H 2R5	www.wrap.ab.ca	wrap@planet.eon.net	780-416-6530	780-416-6531		
Industry											
Water											
IND	AQUATERA Utilities Inc.		Environmental Coordinator		Ashely Parker 11101-104th Avenue Grande Prairie, AB T8V 8H6		aparker@aquatera.ca	780-830-7051			
Energy Associations											
IND	Alberta Water & Wastewater Operators Association		Executive Director		John Voyer 11810 Kingsway Avenue Edmonton, Alberta T5G 0X5	https://awwoa.ab.ca	awwoa1@telus.net	780-454-7745	780-454-7748		
			Executive Advisor	Michael Aherne Box 60638, U Alberta RPO, Edmonton, AB (Canada) T6G-2S8			maherne@responsivestrategies.com	1-780-413-8195	1-780 413-8196		
IND	Alberta Water Well Drilling Association		President	Chris Gerritsen P.O. Box 187 Rockyford, Alberta T0J 2R0			drilling@rockyford.ca	403-533-3884	403-533-3888		
IND	Canadian Association of Petroleum Producers		President		David Collyer 2100 - 350- 7th Ave SW Calgary, Alberta T2P 3N9		dave.collyer@capp.ca	403-267-1100	780-261-4622		
			Manager, Water Issues and Land Reclamation		Tara Payment						
IND	Small Explorers & Producers Association of Canada				Gary Leach 1060 - 717 7th Ave SW Calgary, Alberta T2P 0Z3	www.sepac.ca	leachg@sepac.ca	403-444 0115			
Forestry											
IND	Ainsworth			Dave Cook Grande Prairie,			Dave.cook@ainsworth.ca				Modeling on the effect of harvesting as part of the forest management planning process. Available in approved Detailed Forest Management Plans.
IND	Alberta Pacific			Shaun McNamera P.O. Box 8000 Boyle, Alberta T0A 0M0			Shaun.mcnamera@alpac.ca				
IND	Alberta Plywood			Kevin Arnell General Manager Alberta Plywood Ltd. Box 517 Mitsue Industrial Site Slave Lake, AB T0G 2A0							
IND	Buchanan Lumber			Greg Buchanan Buchanan Lumber 1 Railroad Box 38 High Prairie, Alberta T0G 1E0			service@buchananlumber.ca	780-523-4544	780-523-5422		

Name/Department	Indicators: Land Use A	B	C	D	E	F	G	H	I	J	K	L	M	Water Quality N	O	P	Q	R	S	T	U	V	W	X	Y	Water Quantity Z	AA	AB	AC	AD	AE	AF	AG	Biological Community AH	AI	AJ	AK	AL	AM
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Alberta Vegetable Growers (Processing)																																							
Alberta Winter Wheat Producers Commission																																							
Wild Rose Agricultural Producers																																							
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Alberta Water & Wastewater Operators Association																																							
Alberta Water Well Drilling Association																																							
Canadian Association of Petroleum Producers																																							
Small Explorers & Producers Association of Canada																																							
Ainsworth			✓	✓	✓		✓																								✓								
Alberta Pacific																																							
Alberta Plywood																																							
Buchanan Lumber																																							

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Category	Organization: Name/Department	Organization: Subgroup	Contact: Role	Contact: Mailing Address	Contact: Civic Address	Web	Email	Phone	Fax	Location	Available Information/Accomplishments
IND	Canadian Forest Products Ltd. (Canfor)		Chief Forester, Alberta Operations		Jim Stephenson		jim.stephenson@canfor.com	780-538-7790			Canfor is the holder of a Forest Management Agreement within the Peace watershed. Spatial inventories and data include: Forest cover (Alberta Vegetation Inventory); Existing anthropogenic disturbance (including timber harvesting, rights of way for roads, pipelines and transmission lines and seismic lines); Reforestation history; Natural disturbances (i.e. fires); Streams and lakes; Fisheries classification; Existing stream crossings (e.g. bridges and large culverts); Hydrology models (for selected streams). May be willing to enter a data sharing agreement with MPWA. Daishowa Marubeni International (DMI) has similar datasets for Notikewin and Chinchaga Watersheds.
IND	Crestview Sawmills Ltd.				Ed Loewen		dtloewan@telus.net				
IND	DMI (Daishowa-Marubeni International)		Environmental Manager	Tom Tarpey P.O. Box 4400 Peace River, Alberta T8S 1V7			ttarpey@prpddmi.com	780-624-7070			Daishowa Marubeni International (DMI) has similar datasets to Canfor for Notikewin and Chinchaga Watersheds.
			Forestry	Tim Barker P.O. Box 6500 Peace River, Alberta T8S 1V7			tbarker@prpddmi.com				
IND	ERCO			Karin Slater P.O. Box 848 Grande Prairie, Alberta T8V 3R5			kslater@ercoworldwide.com	780-539-2258			
IND	Friesen Logging Ltd.				George Friesen		friesen_logging@hotmail.com				
IND	Foothills Forest Products Inc.				David Smith		dsmith@foothillsforestproducts.com				
IND	Footner Forest Products Ltd.				Jayson Kofluk		jayson.kofluk@footner.ca				
IND	La Crete Sawmills Ltd.				John Unger		junger@lacretesawmills.com				
IND	Little Red River Forestry Ltd.										
IND	Manning Diversified Forest Industries & Boucher Brothers				Real Arseneault		realmdfp@telusplanet.net				
IND	Millar Western- Fox Creek				Austin Walsh		mwfp@millarwestern.com				
IND	Precision Lumber Products Ltd				Tom Friesen		preclumb@telusplanet.net				
IND	Tolko Industries				Mark Stevens		highlevel@tolko.com				
					Jim Baskerville		jim.baskerville@tolko.com				
IND	Woodmere Nursery Ltd. – Alberta Division				Jeff Hoyem		Woodmere.Nursery@wispernet.ca				Water quality analysis of raw water from the Peace River.
IND	Zavisha Sawmills Ltd.				Ashley Zavisha		loyd @zavishamills.com				
Minerals, Oil and Gas											
IND	Grande Cache Coal		Corporate Manager Environment	Bernd Martens P.O. Box 8000 Grande Cache, Alberta T0E 0Y0			berndm@gccoal.com				
			ESH Superintendent	Brenda McFadyen-Landry P.O. Box 8000 Grande Cache, Alberta T0E 0Y1			blandry@gccoal.com	780-827-1007			
IND	Alliance Canada Pipeline		Area Manager		Rick Starkey 10944- 42 Street Grande Prairie, Alberta T8V 6B5		rick.starkey@alliancepipeline.com	780-402-3102	780-402-3134		

Indicators (Land Use: A–M; Water Quality: N–Y; Water Quantity: Z–AG; Biological Community: AH–AM)

Name/Department	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
Canadian Forest Products Ltd. (Canfor)				✓													✓		✓	✓	✓	✓		✓						✓	✓								
Crestview Sawmills Ltd.																																							
DMI (Daishowa-Marubeni International) – Environmental Manager				✓													✓		✓	✓	✓	✓		✓						✓	✓								
DMI – Forestry																																							
ERCO																																							
Friesen Logging Ltd.																																							
Foothills Forest Products Inc.																																							
Footner Forest Products Ltd.																																							
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Manning Diversified Forest Industries & Boucher Brothers																																							
Millar Western- Fox Creek																																							
Precision Lumber Products Ltd																																							
Tolko Industries (Mark Stevens)																																							
Tolko Industries (Jim Baskerville)																																							
Woodmere Nursery Ltd. – Alberta Division																	✓			✓	✓	✓																	
Zavisha Sawmills Ltd.																																							
Grande Cache Coal – Corporate Manager Environment																																							
Grande Cache Coal – ESH Superintendent																																							
Alliance Canada Pipeline																																							

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| Category | Organization | | Contact | | | Web | Email | Phone | Fax | Location | Available Information/Accomplishments | Indicators | | |

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Category	Organization		Contact			Web	Email	Phone	Fax	Location	Available Information/Accomplishments
	Name/Department	Subgroup	Role	Mailing Address	Civic Address						
IND	TransCanada				Paul Isaak 450 First Street SW Calgary, Alberta T2P 5H1		paul_isaak@transcanada.com	780-539-8831			
Power											
IND	ATCO Power		Manager- Health, Safety & Environment President		Jim Hackett 900 - 919 11th Avenue SW Calgary, Alberta T2R 3N7		Jim.Hackett@atcopower.com	403-209-6911	403-209-6920		
IND	Transalta	Dunvegan	Manager, Stakeholder Relations	Ralph Leriger P.O. Box 120 Wabamun, Alberta T0E 2K0	Ralph Leriger 240 - 523 Woodpark Blvd SW Wabamun, Alberta T0E 2K0						
First Nations and Metis Groups											
FNG	Intergovernmental, International, and Aboriginal Relations	— First Nations and Metis Relations	Manager, Divisional Operations and Coordination		Christine McCrone 19th fl Commerce Place 10155 102th Street Edmonton, Alberta T5J 4G8		christine.mccrone@gov.ab.ca	780 415-2845	780 427-4019	Alberta	
FNG	Assembly of First Nations	— Environmental Stewardship Program			1002 - One Nicholas Street Ottawa, Ontario K1N 7B7			613-241-6789; Toll free 1-866-869-6789	613-241-5808		
FNG	Athabasca Chipewyan First Nation			Lisa King P.O. Box 366 Fort Chipewyan, Alberta T0P 1B0							
FNG	Beaver First Nation			Terri Lynn Bulldog Bag 270 High Level, Alberta T0H 1Z0							
FNG	Bigstone Cree Nation			Cheryl Moberly P.O. Box 1710 Wabasca, Alberta T0G 2K0							
FNG	Centre for Indigenous Environmental Resources (CIER)				Ruta Fuchs 3rd Floor 245 McDermot Avenue Winnipeg, Manitoba R3B 0S6		trfuchs@cier.ca	204-956-0660	204-956-1895		
FNG	Chipewyan Prairie First Nation				Shaun Janvier C/o Chipewyan Prairie Industry Relations Corporation 205 - 10020 Franklin Avenue Fort McMurray , Alberta T9H 2K6						
FNG	Dene Tha' First Nation			Baptiste Metchooyeah P.O. Box 120 Chateh, Alberta T0H 0S0							
FNG	Driftpile First Nation			Danny Bellrose P.O. Box 326 Slave Lake, Alberta T0G 2A0							
FNG	Duncan's First Nation			Grant Pauls P.O. Box 148 Brownvale, Alberta T0H 0L0							

Name/Department	Indicators: Land Use													Water Quality												Water Quantity								Biological Community					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
TransCanada																																							
ATCO Power																																							
Transalta																																							
Intergovernmental, International, and Aboriginal Relations																																							
Assembly of First Nations																																							
Athabasca Chipewyan First Nation																																							
Beaver First Nation																																							
Bigstone Cree Nation																																							
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Dene Tha' First Nation																																							
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AG - Groundwater Extraction
AH - Index of Biotic Integrity
AI - Macrophyte Community
AJ - Benthic Macroinvertebrates Assemblage

Category	Organization		Contact			Web	Email	Phone	Fax	Location	Available Information/Accomplishments
	Name/Department	Subgroup	Role	Mailing Address	Civic Address						
FNG	First Nations (Alberta) Technical Services Advisory Group (TSAG)				Denise Hammel 200 - 17612 103rd Avenue Edmonton, Alberta T5S 1L3			780-483-8601			
				Chantelle Cardinal ,							
		— Circuit Rider Program			Winslow Davis 18232 102nd Avenue Edmonton, Alberta T5S 1S7	www.tsag.net	wdavis@tsag.net	780-483-8601	780-483-8632		
FNG	First Nations Environmental Stewardship Network						abenviro@inac.gc.ca	780-483-8601			
FNG	Fort McKay First Nation			Lisa Schaldemose P.O. Box 5905 Fort McMurray , Alberta T9H 4V9			lisaschaldemose@shaw.ca				
FNG	Fort McMurray #468 First Nation				Doreen Somers 405 - Mod 4, Comp 1, RR 2 Fort McMurray , Alberta T9H 5S1						
FNG	Horse Lake First Nation		Industry Relations Corporation	Audrey Horseman P.O. Box 303 Hythe, Alberta T0H 2C0							
FNG	Kapawe’no First Nation			Michelle Knibb P.O. Box 326 Slave Lake, Alberta T0G 2A0							
FNG	Little Red River Cree Nation		Director Lands and Environmental Unit	Conroy Sewepagaham P.O. Box 1350 High Level, Alberta T0H 1Z0							
FNG	Loon River First Nation		TLU Director	Richard Davis P.O. Box 189 Red Earth Creek, Alberta T0G 1X0							
FNG	Lubicon Lake Band			P.O. Box 1889 High Level, Alberta T0H 1Z0							
FNG	Métis Nation of Alberta	— Region 6	President		Sylvia Johnson 9621-90th Avenue Peace River, Alberta T8S 1G8		communications@metis.org	780-624-4219			
			Vice President		Carolyn Ridsdale ,						
FNG	Métis Settlements General Council		Environmental Coordinator		Louis Pawlowich 200 - 10335 172nd Street Edmonton, Alberta T5S 1K9		LPawlowich@msgc.ca	780-618-1980			
FNG	Mikisew Cree First Nation		Allison Bay Indian Reservation #219 Mikisew Cree First Nation		Melody Lepine 208 - 9715 Main Street Fort McMurray , Alberta T9H 1T5						
FNG	Peerless Trout First Nation			Helen Starr P.O. Box 69 Peerless Lake, Alberta T0G 2W0							

	Indicators																																						
	Land Use													Water Quality												Water Quantity									Biological Community				
Name/Department	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
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Mighty Peace Watershed Alliance
Peace Watershed Directory of Water Organizations and Information Sources

A - Wetland Inventory	I - Livestock Density	P - Lake Trophic Status	W - Individual Pesticides	AD - Floodplain Presence and Flooding Pattern
B - Riparian Health	J - Linear Development	Q - Nutrients	X - Individual Heavy Metals	AE - Hydrograph Alteration
C - Land Cover	K - Stream Connectivity	R - Pathogens	Y - Wastewater Loadings	AF - Surface Water Allocation and Withdrawals by Sector
D - Land Use	L - Soil Erosion	S - Dissolved Oxygen	Z - Lake Level Index	AG - Groundwater Extraction
E - Terrestrial Habitat Connectivity	M - Fertilizer/Pesticide Application Rates	T - Water Temperature	AA - Deviation of Flow from Naturalized Flow	AH - Index of Biotic Integrity
G - Industrial Features	N - River Water Quality Index (AENV)	U - pH	AB - Deviation of Recorded Flow from Water Conservation Objectives (WCO)	AI - Macrophyte Community
H - Human Population	O - CCME Water Quality Index	V - Sediment Contamination	AC - Deviation of Recorded Flow from Instream Flow Need (IFN)	AJ - Benthic Macroinvertebrates Assemblage

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												Land Use													Water Quality												Water Quantity								Biological Community					
	Name/Department	Subgroup	Role	Mailing Address	Civic Address							A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
FNG	Sawridge First Nation			Winona Twin P.O. Box 326 Slave Lake, Alberta T0G 2A0																																																
FNG	Smith’s Landing First Nation			Cec Heron P.O. Box 1470 Fort Smith, NWT X0E 0P0																																																
FNG	Sturgeon Lake Cree Nation			Curtis Mitchell Bag #5 Valleyview, Alberta T0H 3N0			ccar00@hotmail.com	780-524-3307																																												
FNG	Sucker Creek First Nation			Clayton Cunningham P.O. Box 65 Enilda, Alberta T0G 0W0																																																
FNG	Tallcree First Nation				Sheldon Hughes 105 - 17707 105th Avenue Edmonton, Alberta T5S 1T1																																															
FNG	Treaty 8 First Nations of Alberta Association		Director of Operations		Wendy Fayant J.R. Giroux Santa Fe Plaza 18178 - 102nd Avenue Edmonton, Alberta T5S 1S7		jrgiroux@treaty8.org	780-444-9366	780-484-1465																																											
			Chief Operating Officer		Joseph Jobin ,		jjobin@treaty8.org																																											
			North Peace Tribal Council	Gordon Bjornson P.O. Box 1889 High Level, Alberta T0H 1Z0																																														
FNG	Whitefish Lake First Nation			Brian Tallman Atikameg, Alberta T0G 0C0																																																
FNG	Woodland Cree First Nation			Lawrence Lamouche P.O. Box 7710 Peace River, Alberta T8S 1T3																																																
Municipal Government (Municipalities, Municipal Districts, Counties)																																																		
Municipal Districts and Counties																																																		
RM	Alberta Association of MDs & Counties		Executive Director		Gerald Rhodes 2510 Sparrow Drive Nisku, Alberta T9E 8N5	www.aamdc.com		780-955-3639	780-955-3615																																											
RM	Birch Hills County		CAO	Irene Cooper P.O. Box 157 Wanham, Alberta T0H 3P0			irenec@birchhillscounty.com	780-694-3793	780-694-3788		Tangent WTP & wastewater																	✓		✓	✓	✓	✓			✓														
			Manager of Public Works	Dion Hynes P.O. Box 157 Wanham, Alberta T0H 3P1			dionh@birchhillscounty.com																																											
RM	Clear Hills County		CAO	Allen Rowe P.O. Box 240 Worsley, Alberta T0H 3W0			allan@clearhillscounty.ab.ca; 21@mdclearhills.ab.ca	780-685-3925	780-685-3960																																											
RM	M.D. of Northern Lights		Chief Administrative Officer		Theresa Van Oort 600 - 7 Avenue NW Manning, Alberta T0H 2M0		cao@countyofnorthernlights.com	1-888-525-3481	780-836-3663																																											
		— Public Works	Director of Public Works		Patrick Gauvreau 8 Avenue NW Manning, Alberta T0H 2M1		dpw@countyofnorthernlights.com				Aquality's 2010 State of the County Report		✓		✓		✓	✓	✓								✓	✓		✓	✓	✓	✓			✓									✓				✓	
											Information on water testing (for truckfill stations supplied with drinking water from the Town of Manning)																	✓	✓	✓	✓	✓			✓									✓						

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												A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
											Will be completing riparian health assessments if funding comes through from AESA (NPARA)		✓																																					
RM	M.D. of Fairview		CAO	Ben Boettcher P.O. Box 189 Fairview, Alberta T0H 1L0			ben@mdfairview.ab.ca	780-835-4903	780-835-3131																																									
			Councillor Zone #4	Raymond Skrepnek P.O. Box 8 Whitelaw, Alberta				780-835-4452																																										
RM	County of Grande Prairie		Watershed Coordinator	Jill Henry P.O. Box 6000 Clairmont, Alberta T0H 0W0				780-567-5585			County of Grande Prairie, West County Watershed Group	✓	✓															✓		✓	✓	✓																		
			Large Urban Support	Bag 4000 9505 - 112 St Grande Prairie, Alberta T8V 6V3			lramirez@cityofgp.co	(780) 538-0440																																										
			CAO		Bill Rogan 10001-84 Avenue Clairmont, AB T0H 0W0																																											
			Councillor		Sharon Nelson ,		snelson@countygp.ab.ca	780-567-2143																																										
RM	M.D. of Greenview		CAO	Jim Squire P.O. Box 1079 Valleyview, Alberta T0H 3N0			jim@mdgreenview.ab.ca	780-524-7600	780-524-4307																																									
			Manager of Environmental Services	Jennifer Besinger P.O. Box 1079 Valleyview, Alberta T0H 3N0	Jennifer Besinger 3609-46 Street Valleyview, Alberta T0H 3N0		Jennifer.Besinger@MDGreenview.ab.ca	780-524-7638	780-524-4432		Data for two water treatment plants within MD of Greenview: Operating data on the plants; Data for 10 water points for bulk water																	✓	✓	✓	✓	✓			✓															
RM	M.D. of Lesser Slave River		CAO	Alan Winarski P.O. Box 722 Slave Lake, Alberta T0G 2A0			allan.winarski@md124.ca	780-849-4888	780-849-4939																																									
RM	Mackenzie County			Roy Brideau P.O. Box 640 Fort Vermilion, Alberta T0H 1N0	Roy Brideau 4511 - 46 Avenue Fort Vermilion, Alberta T0H 1N0		fvo@md23.ab.ca	780-927-3718	780-927-4266																																									
				Bill Kostiw P.O. Box 640 Fort Vermilion, Alberta T0H 1N0	Bill Kostiw 4511 - 46 Avenue Fort Vermilion, Alberta T0H 1N0		bkostiw@mackenziecounty.com	780-927-3718	(780)927-4266																																									
RM	M.D. of Big Lakes		Interim CAO	Bill Landiuk P.O. Box 239 High Prairie, Alberta T0G 1E0		www.mdbiglakes.ca	cao@mdbiglakes.ca	780-523-5955	780-523-4227																																									
			CAO	Harvey Prockiw P.O. Box 240 High Prairie, Alberta T0G 1E1		www.mdbiglakes.ca	cao@mdbiglakes.ca	780-523-5955	780-523-4227																																									
RM	Northern Sunrise County		CAO	Bob Miles P.O. Bag 1300 Peace River, Alberta T8S 1Y9				780-624-0013	780-624-0023		Heart River Watershed Advisory Committee																																							
			Assistant CAO	Peter Thomas P.O. Bag 1301 Peace River, Alberta T8S 1Y10			pthomas@northernsunrise.net	780-625-3271	780-624-0023																																									

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												A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
RM	M.D. of Opportunity		CAO	Dennis Egyedy P.O. Box 60 Wabasca, Alberta T0G 2K0			cao@mdopportunity.ab.ca	780-891-3778	780-891-4283																																									
				Paul Sinclair P.O. Box 61 Wabasca, Alberta T0G 2K1			psinclair@mdopportunity.ab.ca	780-891-3778	780-891-4283																																									
RM	M.D. of Peace		CAO	Lyle McKen P.O. Box 34 Berwyn, Alberta T0H 0E0			mdpeace@telusplanet.net	780-338-3845	780-338-2222																																									
			Councillor	Richard Keillor, P.O. Box 480 Berwyn, Alberta T0H 0E0			rkeillor@abnorth.com	780-597-2136			Provided info as per his role with Grimshaw Gravels Aquifer																																							
RM	Saddle Hills County		CAO	Dianne Nellis P.O. Box 69 Spirit River, Alberta T0H 3G0			dnellis@saddlehills.ab.ca	780-864-3760	780-864-3904																																									
RM	M.D. of Smoky River		Municipal Administrator	Lucien Turcotte P.O. Box 210 Falher, Alberta T0H 1M0			lturcotte@mdsmokyriver.com	780-837-2221	780-837-2453																																									
RM	M.D. of Spirit River		Acting CAO	Kelly Hudson P.O. Box 389 Spirit River, Alberta T0H 3G0			khudson@mdspiritriver.ab.ca	780-864-3500	780-864-4303																																									
RM	Regional Municipality of Wood Buffalo				9909 Franklin Avenue Fort McMurray, Alberta T9H 2K4			780-743-7000	780-743-7028																																									
Municipalities																																																		
RM	Town of Beaverlodge		CAO	Christopher King P.O. Box 30 Beaverlodge, Alberta T0H 0C0	Christopher King 201 10th Street Beaverlodge, Alberta T0H 0C0	www.beaverlodge.ca	chris@beaverlodge.ca	780-354-2201	780-354-2207																																									
RM	Town of Fairview		CAO	Martin Taylor P.O. Box 730 Fairview, Alberta T0H 1L0			cao@fairview.ca	780-835-5461	780-835-3576																																									
RM	Town of Falher		CAO	Adele Parker P.O. Box 155 Fahler, Alberta T0H 1M0			aparker@town.falher.ab.ca	780-837-2247	780)837-2647																																									
RM	Town of Fox Creek		CAO	Dennis Egyedy P.O. Box 149 102 Kaybob Drive Fox Creek, Alberta T0H 1P0			cao@foxcreek.ca	780-622-3896	780-622-4247																																									
RM	City of Grande Prairie		Councillor	Dan Wong Bag 4000 9505 – 112 Street Grande Prairie, Alberta T8V 6V3			dwong@cityofgp.com	780-538-0440	780-830 – 5112																																									
			Planning Manager	Janette Ferguson Bag 4000 9505 – 112 Street Grande Prairie, Alberta T8V 6V4			jferguson@cityofgp.com	780-538-0440																																										
RM	Town of Grimshaw		CAO	Wendy Johnson P.O. Box 377 5005- 53 Ave Grimshaw, Alberta T0H 1W0			wjohnson@grimshaw.ca	780-332-4626	780-332-1250																																									
RM	Town of High Level		CAO		Dean Krause 10511 103rd Street High Level, Alberta T0H 1Z0		dkrause@highlevel.ca	780-926-2201	780-926-2899																																									

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Category	Organization		Contact			Web	Email	Phone	Fax	Location	Available Information/Accomplishments
	Name/Department	Subgroup	Role	Mailing Address	Civic Address						
					Alan Forsyth , Alberta		aforsyth@highlevel.ca				
RM	Town of Manning		CAO	John Brodrick P.O. Box 125 Manning, Alberta T0H 2M0			jbrodrick@manning.ca	780-836-3606	780-836-3570		
RM	Town of McLennan		CAO	Tammy Dillabough P.O. Box 356 McLennan, Alberta T0H 2L0			twnmcl@serbernet.com	780-324-3065	780-324-2288		
RM	Town of Peace River		Councillor		Geoff Milligan 8110 103rd Avenue Peace River, Alberta T8S 1M9		milligan@telusplanet.net	780-624-4127			
RM	Town of Sexsmith		CAO	Carolyn Gaunt P.O. Box 420 Sexsmith, Alberta T0H 3C0	Carolyn Gaunt 9927 100th Street Sexsmith, Alberta T0H 3C0		cagaunt@sexsmith.ca	780-568-3681	780-568-2200		
RM	Town of Spirit River		CAO	Linda Hannah P.O. Box 130 Spirit River, Alberta T0H 3G0	Linda Hannah 4502 50th Street Spirit River, Alberta T0H 3G0		manager@townofspiritriver.ca	780-864-3998	780-864-3433		
RM	Village of Rycroft		Interim CAO	Norma Maxwell P.O. Box 360 Rycroft, Alberta T0H 3A0			nmaxwell@rycroft.ca	780-765-3652	780-765-2002		
RM	Town of Valleyview		Administration Director	Shari Taylor P.O. Box 270 Valleyview, Alberta T0H 3N0			staylor@valleyview.ca				
RM	Town of Wembley		CAO	Lori Parker P.O. Box 89 Wembley, Alberta T0H 3S0	Lori Parker 9940 101 st Street Wembley, Alberta T0H 3S0		office@wembley.ca	780-766-2269	780-766-2868		
Provincial Government Departments and Agencies											
PG	Alberta Intergovernmental, International, and Aboriginal Relations	— First Nations and Metis Relations	Manager, Divisional Operations and Coordination		Christine McCrone 19th fl Commerce Place 10155 102nd Street Edmonton, Alberta T5J 4G8		christine.mccrone@gov.ab.ca	780 415-2845	780 427-4019	Alberta	
PG	Alberta Agriculture and Rural Development (ARD)					http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex10300					Agricultural Land Resource Atlas of Alberta
						http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1228404141085&lang=eng					Generalized Land Cover
						http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1228406865942&lang=eng					Watershed Drainage Basin Boundaries
		— Alberta Environmentally Sustainable Agriculture (AESA) program	ARD staff		Agri-Environmental Management Branch, J. G. O' Donoghue Building 7000 - 113 Street Edmonton, Alberta T6H 5T6			780-427-3885	780-422-0474		
			Research Coordinator	Gary Ropchan Central Peace Conservation Society P.O. Box 673 Spirit River, Alberta T0H 3G0			CPCS@telusplanet.net	780-864-3595	780-864-2077	Counties of Birch Hills & Saddle Hills, M.D. of Spirit River	

Name/Department	Available Information/Accomplishments	Indicators																																						
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Town of Wembley																																								
Alberta Intergovernmental, International, and Aboriginal Relations																																								
Alberta Agriculture and Rural Development (ARD)	Agricultural Land Resource Atlas of Alberta			✓	✓	✓			✓	✓			✓																							✓		✓		
	Generalized Land Cover			✓																																				
	Watershed Drainage Basin Boundaries			✓								✓														✓					✓									
— Alberta Environmentally Sustainable Agriculture (AESA) program	ARD staff																																							
	Research Coordinator																																							

Mighty Peace Watershed Alliance
Peace Watershed Directory of Water Organizations and Information Sources

A - Wetland Inventory
B - Riparian Health
C - Land Cover
D - Land Use
E - Terrestrial Habitat Connectivity
G - Industrial Features
H - Human Population
I - Livestock Density
J - Linear Development
K - Stream Connectivity
L - Soil Erosion
M - Fertilizer/Pesticide Application Rates
N - River Water Quality Index (AENV)
O - CCME Water Quality Index
P - Lake Trophic Status
Q - Nutrients
R - Pathogens
S - Dissolved Oxygen
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U - pH
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AJ - Benthic Macroinvertebrates Assemblage

Category	Organization		Contact			Web	Email	Phone	Fax	Location	Available Information/Accomplishments	Indicators																																						
	Name/Department	Subgroup	Role	Mailing Address	Civic Address							Land Use													Water Quality												Water Quantity								Biological Community					
												A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
			Watershed Coordinator	Bonnie Nielsen County of Grande Prairie (see stewardship section) ,																																														
			Manager of PARDA (at Fairview)	Michelle Holden P.O Box 189 Fairview, Alberta T0H 1L0						MDs of Fairview, Peace and Clear Hills																																						
			North Peace Applied Research Association	Nora Pulovich P.O. Box 750 Manning, Alberta T0H 2M0			npara1@telus.net	780-836-3354	780-836-3529	MD's of Mackenzie & Northern Lights																																						
			Smoky Applied Research & Demonstration Association (SARDA)	Shelleen Gerbig P.O. Box 90 Falher, Alberta T0H 1M0			shelleesarda@sebernet.com	780-837-2722 780-837-2900	780-837-8223	County of Northern Sunrise, M.D.'s of Big Lakes, Greenview, Smoky River																																						
			Ag Land Management Specialist	John Zylstra P.O. Box 159 Fairview, Alberta T0H 1L0			john.zylstra@gov.ab.ca	780-835-7542	780-835-3600		Fitzgerald Farmstead Water Quality Survey				✓													✓	✓			✓		✓	✓									✓						
											Farm Well Water Quality In Alberta				✓													✓	✓			✓		✓	✓									✓						
		— Irrigation and Farm Water Division	Executive Director		Brent Paterson Agriculture Centre 100 -5401 1st Avenue South Lethbridge, Alberta T1J 4V6		brent.paterson@gov.ab.ca	403-381-5143	403-381-5903																																							
		— Rural Water Branch	Branch Head		Marshall Eliason 3rd floor, JG O'Donoghue Building 7000 - 113 Street Edmonton, Alberta T6H 5T6		marshall.eliason@gov.ab.ca	780-427-4615	780-422-9745																																							
		—— Farm Water Supply Section	Agricultural Water Engineer		Matthew Scott 1st Floor, Provincial Building 10320 - 99th Street Grande Prairie, Alberta T8V 6J4		matthew.scott@gov.ab.ca	780-538-5630	780-538-5288																																							
		—— Irrigation Management Section	Section Lead		Rod Bennett Agriculture Centre 100 5401 - 1st Avenue South Lethbridge, Alberta T1J 4V6		rod.bennett@gov.ab.ca	403-381-5880	403-381-5765																																							
		— Water Resources Branch																																														
		—— Water Quality Section	Section Lead		Andrea Kalischuk Agriculture Centre 100 5401 - 1st Avenue South Lethbridge, Alberta T1J 4V6		andrea.kalischuk@gov.ab.ca	403-381-5883	403-381-5765		No information																																					
			Watershed Management Engineer		Andy Jedrych 2nd floor, JG O'Donoghue Building 7000 - 113th Street Edmonton, Alberta T6H 5T6		andy.jedrych@gov.ab.ca	780-427-3692	780-422-0474		No information. Forwarded to others in dept.																																					
		—— Basin Water Management Section	Manager		Jennifer Nitschelm Agriculture Centre 100 5401 - 1 st Avenue South Lethbridge, Alberta T1J 4V6		jennifer.nitschelm@gov.ab.ca	403-381-5796	403-381-5765		Alberta Water Well Information Database				✓																													✓						
			Water Management Engineer		Lloyd Healy Agriculture Centre 100 5401 - 1 Avenue South Lethbridge, Alberta T1J 4V6		lloyd.healy@gov.ab.ca	403-382-4407	403-381-5765																																							

Aquality Environmental Consulting Ltd.

Mighty Peace Watershed Alliance
Peace Watershed Directory of Water Organizations and Information Sources

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PG	Alberta Finance and Enterprise (Northern Alberta Development Council)		Manager of Programs & coordination	Audrey DeWit Bag 900 - 14 Peace River, Alberta T8S 1T4	Audrey DeWit 2nd floor Provincial Building 9621 96th Avenue Peace River, Alberta T8S 1T4		audrey.dewit@gov.ab.ca	780-624-6342	780-624-6184		Programs/Funding (Northern Alberta Development Council)																																						
PG			Director - Grande Prairie Regional Office	Eric Burton P.O. Box 20 Grande Prairie, Alberta T8V 6J4	Eric Burton 10320 99th Street Grande Prairie, Alberta T8V 6J4																																												
PG		— Environmental Public Health	Director Projects and Research	Allen Geary Bag 900 - 14 Peace River, Alberta T8S 1T4	Allen Geary 9621 - 96th Avenue Peace River, Alberta T8S 1T4		Allen.Geary@gov.ab.ca	780-624-6337	780-624-6184	Peace River	Discussion Paper Water Information Base Northwest Boreal Region								✓																																
											Chemical testing results of water samples submitted from private wells throughout the province (routine and physical parameters). Contact Debra Mooney																	✓	✓		✓	✓	✓																			
											Ground Water Allocation Map (2001)																												✓					✓						
											Surface Water Allocation Map (2001)																											✓	✓				✓							
											2003 Water Workshop Proceedings					✓																																		
											Water Final Report March 2003					✓																																		
PG	Alberta Health and Wellness	— Environmental Public Health	Project Team Leader		Debra Mooney 23rd floor Telus Tower North 10025 Jasper Avenue Edmonton, Alberta T5J 2N3		Debra.Mooney@gov.ab.ca	427-8273	427-1470		Chemical testing results of water samples submitted from private wells throughout the province (routine and physical parameters).																	✓	✓			✓			✓															
PG	Alberta Infrastructure and Transportation	— Environmental Management Services	Manager, Aquatic Resources		Dana Becker 2nd fl Twin Atria Building 4999 - 98 Avenue Edmonton, Alberta T6B 2X3		dana.becker@gov.ab.ca	780 422-7623	780 427-0353		Fish and Fish Habitat Assessments; Fish Passage Assessments; Wetland Assessments	✓																																	✓	✓	✓	✓	✓	✓
PG	Alberta Geological Survey					http://www.ags.gov.ab.ca/					Geology of Alberta																																	✓						
											Geology and Groundwater Resources of the Peace River District, Northwestern Alberta																																	✓						
											Hydrogeological map of the Peace River area, Alberta, NTS 84C																																	✓						
											Hydrogeological map of the Winagami area, Alberta, NTS 83N																																	✓						
											Hydrogeological map of the Clear Hills - Chinchaga River area, Alberta, NTS 84D and NTS 84E																																	✓						
											Hydrogeological map of the Grande Prairie area, Alberta, NTS 83M																																	✓						
PG	Alberta Sustainable Resource Development				Information Centre Main Floor, 9920 108 Street Edmonton, Alberta T5K 2M4	http://www.srd.alberta.ca/FishWildlife/SpeciesAtRisk/StatusOfAlbertaFish/Default.aspx	srd.infocent@gov.ab.ca	1-877-944-0313		Alberta	Status of Alberta Fish																																		✓			✓		✓

Appendix B – Preceding Deliverables

Project 1: Peace Watershed Directory of Water Organizations and Information Sources Project						
Task	**Sub-task**	**Details**	**Proposed Timeline**	**Deliverable**	**Due Date**	**Completed**
1. Project Management	Schedule meetings	Schedule monthly meetings for M. Mclean and R. Clarke-Gauthier (J. White and N.Wyngaarden as availability allows)	Aug 23/11 - Aug 26/11			
	Work Plan	Prepare spreadsheet outlining tasks and deliverables	Aug 23/11 - Aug 30/11	**Project Work Plan**	August 30, 2011	✓
	Invoices	Monthly invoices prepared at end of each month and delivered to R. Clarke-Gauthier	Monthly			
2. Information Sources and Contacts	List of Water Organizations	Prepare directory spreadsheet	Aug 23/11- Aug 25/11			✓
		Contact board members and technical committee members for initial contacts to add to directory	Aug 29/11- Sept 2/11			
		Add the organizations from board/committee members and Alberta Land Stewardship Centre (ALSC) directory	Sept 5/11 - Sept 15/11			
		Add organizations from point 5, Task 2.1 (from proposal) to directory	Sept 5/11 - Sept 15/11			
	Contact Water Organizations	Contact AENV Partnership and Planning unit, transboundry water unit, AENV peace river regional office for contacts, BC Hydro	Sept 5/11 - Sept 15/11			
		Prepare info/intro letter (including MPWA group info, SOW report info, Aquality info, and what information we are looking for). Send to all contacts in directory	Sept 12/11 - Sept 16/11			
		Follow up letters with phone call	Sept 22/11			
	Develop List of Contacts and Available Information	Add the 'available data and information' to the directory spreadsheet, as responses are received	Sept 22/11- Oct 30/11	Directory of water organizations, contact info, and available information	October 30, 2011	
	Determine	Prepare document on 'How to Write a State of the Watershed (SOW) Report'	Aug 26/11 - Sept 7/11	2-3 page document		

3. Information Gathering	Determine SOW Information Requirements	Create outline of information to be included in SOW report	Aug 26/11 - Sept 7/11	**Outline (of information requirements to prepare SOW report) in form of spreadsheet**		
	Compile Information and Determine Gaps	Based on information received from contacts in directory, identify the information gaps	Oct 30/11- Nov 9/11	**Highlight the gaps in the outline spreadsheet**		
	Develop Strategies for Filling Gaps	Identify strategies to obtain the missing information. End product of this task will be the annotated directory	Nov 9/11- Nov 18/11	**Add 'recommendations' to the outline spreadsheet**	November 18, 2011	
4. Development of Directory and Documentation	Prepare Draft Directory and Report	DRAFT - Finalizing the annotated directory; Preparing a report summarizing the study results, conclusions, and recommendations (i.e.: potential strategies, potential partnerships, and recommendations for filling the information gaps).	Nov 18/11 - Nov 30/11	**Draft Directory and Report - electronic submission to MWPA (Rhonda)**	November 30, 2011	
	Prepare final draft directory and report	Final DRAFT - Finalizing the annotated directory; preparing a report summarizing the study results, conclusions, and recommendations (i.e.: potential strategies, potential partnerships, and recommendations for filling the information gaps); editing the draft based on recommendations	Dec 5/11- Dec 23/11	**Draft Final Directory and Report - electronic submission to MWPA (Rhonda)**	December 30, 2011	
	Prepare final directory and report	Final - Finalizing the annotated directory; Preparing a report summarizing the study results, conclusions, and recommendations (i.e.: potential strategies, potential partnerships, and recommendations for filling the information gaps); editing the final draft based on any final recommendations	Jan 2/12 - Jan 30/12	**Final Directory and Report - Three hardcopies and one CD submitted to MWPA (Rhonda)**	January 30, 2012	

Project 2: State of Drinking Water in the Peace Watershed						
1. Project Management	Schedule meetings	Schedule monthly meetings for M. Mclean and R. Clarke-Gauthier (J. White and N.Wyngaarden as availability allows) - Coordinate meetings with Project 1	Aug 23-26, 2011			
	Work Plan	Prepare spreadsheet outlining tasks and deliverables	Aug 23/11 - Aug 30/11	**Project Work Plan**	August 30, 2011	✓
	Invoices	Monthly invoices prepared at end of each month and delivered to R. Clarke-Gauthier	Monthly			
2. Information Sources and Contacts	Collect initial information from MWPA Board and Technical Committee	Contact board members and technical committee members for initial contacts	Aug 29/11- Sept 2/11			
	Develop Additional Drinking Water Sources	Compile a list of organizations to contact, and their contact info, in spreadsheet form (see organizations listed in 2.2)	August 26/11- Sept 15/11	**List of agencies, organizations, and individuals with information on drinking water and wastewater in the watershed**	September 15, 2011	
	Contact Information Sources	Prepare info/intro letter (MPWA group info, Aquality info, and what information we are looking for, determine potential for a partnership with the organization for financial and technical support, and complete any data sharing or confidentiality requirements). Send to all contacts on directory	Sept 12/11 - Sept 16/11			
		Follow up letters with phone call	Sept 22/11			
3. Information	Gather Information in Concert with MPWA and Technical Committee	Review incoming information and data, asses relevance and accurateness, identify data gaps	Sept 30/11- Nov 9/11			

3. Information Gathering and Compilation	Identification of Preliminary Data Gaps	Create a list of data/information gaps and uncertainties	Sept 30/11- Nov 9/11	**Bibliography of data sources and available information, and list of data/information gaps and uncertainties**	November 9, 2011	
4. Report and Presentation Development	Prepare Draft Table of Contents	Based on kick-off discussion with MWPA/Board, form a foundation for the report to highlight the important issues	Sept 15/11- Sept 30/11	**Draft Table of Contents**	September 30, 2011	
	Prepare Draft Report	Summarize the information received from sources and follow the table of contents outlines by the MWPA to write the Draft State of Drinking Water Report. Submit electronically to MWPA and Technical Committee for review	Nov 9/11- Nov 30/11	**Draft Report**	November 30, 2011	
	Prepare Final Report and Presentation	Revise the draft report as advised by the MWPA and board. Submit electronically to MWPA (Rhonda)	Dec 15/11 - Feb 28/12	**Final Report and Presentation (submitted for approval)**		
		Prepare presentation highlighting the findings of the report, for use of the MWPA. Submit electronically to MWPA (Rhonda)	Dec 15/11 - Feb 28/12		February 28, 2012	
	Final Approved Report and Presentation	Submit 10 hardcopies and one electronic copy of final approved report; and one electronic copy of the approved presentation to the MWPA (Rhonda)	Feb 28/12- March 10/12	**Final Approved Report and Presentation**	March 10, 2012	

Aquality™
Environmental Consulting Ltd.
Suite 204, 7205 Roper Road NW ~ Edmonton, Alberta ~ T6B 3J4 ~ www.aquality.ca

September 23, 2011

To Whom It May Concern:

RE: Mighty Peace Watershed Alliance Request for Partnership

The Mighty Peace Watershed Alliance (MPWA) was officially formed on March 18, 2011. The MPWA is a multi-stakeholder, not-for-profit organization, and one of several Watershed Planning and Advisory Councils (WPACs) created under Alberta's *Water for Life* strategy. The MWPA is committed to achieving and implementing the three goals of the *Water for Life* strategy:

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

Aquality has recently been engaged by the Mighty Peace Watershed Alliance (MPWA) to complete 2 projects:

1. Develop a directory of organizations, and their contacts, within the Alberta portion of the Peace River Watershed with a water mandate; and
2. Develop a report on the state of drinking water in the Peace River Watershed.

The directory will provide the MPWA with a listing of organizations, within the Peace River Watershed, that have a water or water-related mandate, including drinking water, and may have information required to complete a state of the watershed report; and with which the MPWA may develop potential partnerships.

The state of the drinking water report will identify the current drinking water sources and the type, level and status of drinking- and waste-water treatment facilities, within the watershed, and identify any information and data gaps on the supply of drinking water.

The Peace River originates in the Rocky Mountains of British Columbia, and flows to Alberta are influenced by the W.A.C. Bennett Dam and Williston Lake, located on the Peace River in British Columbia. The river flows northeast across northern Alberta and drains into the Slave River, east of Peace Point. Within Alberta the Peace River Watershed includes several important tributaries: the Upper Peace, Smoky River (including the Little Smoky and Wapiti Rivers), the Central Peace, the Wabasca River and the Lower Peace.

Figure 1: The Peace River Watershed

State of the Watershed Report

The MPWA intends to complete a State of the Watershed (SoW) report for the Peace River watershed within Alberta, as is intended for all the major river basins in Alberta, under the *Water for Life* strategy.

To complete a State of the Watershed, the MPWA must undertake a watershed assessment. A watershed assessment is a process that characterizes a watershed's current condition by evaluating how well a watershed is working. It is a descriptive survey or inventory of the existing natural and cultural resources within a watershed, including an analysis of how landscape and hydrologic systems interact and function within that watershed. The watershed assessment process includes examining the history of the watershed, describing its features, identifying issues and concerns, evaluating the condition of the resources within the watershed, and determining the impact of human activity. A State of the Watershed report documents and interprets the findings of the watershed assessment process.

A State of the Watershed report is:

- The scientific interpretation of watershed information and data, leading to conclusions about watershed condition;
- An objective tool that uses available data and information to assess conditions and concerns within a watershed, as well as identify information gaps;
- A report on the analysis and findings of the watershed assessment that by identifying factors potentially contributing to concerns within the watershed, can be used to develop appropriate actions; and
- A component of a watershed management package that leads to planning, implementation, and evaluation.

Specifically, a state of the watershed report should contribute to:

- An understanding of how natural features and processes influence watershed conditions;
- Insight into the linkages between watershed health and land and water uses;
- Identification of priority watershed risks, and an evaluation of the individual and cumulative effects of water and land management practices; and
- The validation of public perceptions as to stressors and conditions within the watershed.

Documenting watershed assessment findings in a State of the Watershed report will substantiate potential concerns, may identify information gaps, or make recommendations on the collection of additional data not currently available.

How You Can Help

To successfully complete a State of the Watershed report, the MPWA needs to build partnerships with governments, industry, non-government organizations, communities and others to collect all the data and information on a suite of watershed indicators, as per the state of the watershed reporting guidelines developed by Alberta Environment, from numerous sources. They also need these partnerships to secure the necessary financial and technical support to undertake this important work. The Mighty Peace Watershed Alliance, therefore, invites you and/or your organization to partner with, and share the Peace River Watershed water-related and drinking water information and data that may of interest and benefit to them. They would also appreciate your financial and technical support to undertake this important work.

If you have drinking water information and/or data or information that would be helpful in the preparation of a State of the Watershed report for the Peace River Watershed, or if you have any questions, please contact me by telephone or email before Friday, October 14, 2011.

Yours truly,

AQUALITY ENVIRONMENTAL CONSULTING LTD.

Per: _____

Megan McLean, M.Env.Sc., BIT
Biologist
#204 7205 Roper Rd NW
Edmonton AB T6B 3J4
Phone: 780-757-5530
Fax: 866-654-2826
Email: megan.mclean@aquality.ca
www.aquality.ca

September 30, 2011

Rhonda Clarke-Gauthier
Executive Director
Mighty Peace Watershed Alliance
rhondan@telusplanet.net

Dear Ms. Clarke-Gauthier,

RE: MPWA State of the Watershed Directory Project - List of WPAC Information Needs

Attached is the 'List of WPAC Information Needs' as requested in the Request for Proposals titled *Peace Watershed Directory of Water Organizations and Information Sources Project*. We hope this satisfies your requirements.

If you have any questions or concerns, please feel free to contact me at (780) 757-5530 or via email at megan.mclean@aquality.ca, or alternatively you can contact Jay White at Jay.White@Aquality.ca.

Yours truly,
AQUALITY ENVIRONMENTAL CONSULTING LTD.

Per:_____
Megan McLean, M.Env.Sc., BIT
Project Manager

Per:_____
Jay S. White, M. Sc., P. Biol.
Principal

1 Introduction

In August of 2011 Aquality Environmental Consulting Ltd. was contracted to undertake the 'Peace Watershed Directory of Water Organizations and Information Sources Project' for the Mighty Peace Watershed Alliance (MPWA). One of the deliverables of this project, as stated in MPWA's Request for Proposals (RFP) was a 'List of WPAC Information Needs' which would describe the information typically required to complete a State of the Watershed (SoW) report.

This deliverable has been composed in the form of a typical table of contents for a SoW report, with information specific to the Peace River Watershed. This table of contents has been derived from previous SoW reports, and Alberta Environment's 2008 *Handbook for State of the Watershed Reporting*. Where appropriate, a description of the headings and sub headings is provided.

2 List of WPAC Information Needs

Table of Contents

- General description of watershed (location, size, boundaries), including identification of relevant sub-watersheds within the larger watershed. This section will set the geographical context of the watershed within the larger region, and also delineate the smaller sub-watersheds that exist within. This may also provide opportunity for smaller scale investigations into localized issues and opportunities.

3.2 Climate

- Local climatologic data (precipitation, temperature, wind). This information may be used to characterize seasonal weather and runoff patterns in the watershed, to understand the local water budget for the region, and also for modeling purposes.

3.3 Land Cover and Use

- Geographical breakdown of land cover (public/private/agricultural/ residential/forested/ natural) within the watershed and sub-watersheds as interpreted from available satellite, air and/or orthophotos Different land cover types have different potential impacts on water quality, quantity, and other resources.

3.4 Wildlife Resources

Description of types of wildlife and their habitat requirements.

3.4.1 Species at Risk

Description of occurrences of Species at Risk in the region.

3.5 Geography, Soils, and Topography

Description of bedrock and surficial geology, soils, topography, elevation and landforms.

3.6 Surface Water Resources

General overview of surface resources, drainage patterns and infrastructure, volume to area ratio, lake residence times.

3.7 Groundwater Resources/Aquifers

Overview of known groundwater resources in terms of volume, depth to water table, direction of flow, yield, recharge rates, and potability, possibly an inventory of known and licensed groundwater withdrawals.

3.8 Natural Regions in the Peace River Watershed

3.8.1 Central Mixedwood Region

3.8.2 Dry Mixedwood Region

3.8.3 Lower Boreal Highlands Region

3.8.4 Upper Boreal Highlands Region

3.8.5 Peace River Parkland Region

3.8.6 Northern Mixedwood Region

3.8.7 Lower Foothills Region

3.8.8 Kazan Uplands Region

3.9 Air Quality

Overview of known information on status of air quality, trends, sources of contaminants

4.0 Public Perception and Concerns

- Highlight current and/or previously identified public concerns so that they may be used to provide direction/focus to the report, and perhaps also identify issues to be addressed through the findings of the report. Information may come from previous municipal or other surveys, interviews, public meetings, letters to the editor, statements of concern, etc.

4.1 Public Consultations

4.2 Surveys

4.3 Interviews

4.4 Newspapers

5.0 Land Use and Social/Cultural Resources

5.1 History of Human Settlement

Information on history of development (urbanization/industrialization/ agriculture), description of communities, demographics, resources, and cultural values.

5.2 Aboriginal Communities

Description of aboriginal communities inhabiting the area.

5.3 Major Communities in the Watershed

5.4 Land Use

Evaluation of land use type as it influences the physical conditions of the watershed.

5.4.1 Land Resources Overview

5.4.2 Agricultural Resources

- Overview of agriculture in watershed/subwatersheds, breakdown of agricultural lands (cropland/forage/pasture), farm type/size/abundance/ distribution, agricultural production and livestock density/placement, trends/threats/opportunities in agriculture. Knowledge as to the type, intensity and location of agricultural practices.

5.4.3 Recreational Resources

- Inventory of permanent and seasonal lakeshore or other residential/commercial developments, recreational facilities/ areas (eg; beaches, parks, campgrounds), planned and potential expansions, usage rates, services, waste production and disposal facilities, trends/threats/opportunities in recreational activities or investments, mapping of shoreline municipal and environmental reserves, review of shoreline development and municipal land-use zoning planning processes.

5.4.4 Other Human/Industrial Influences, Developments, and Disturbances

Assessment of oil & gas/mining/gravel extraction/other industrial activities.

5.5 Water Supply and Wastewater Systems

- Identification of all sources of drinking water within the watershed, description of water treatment processes and any delivery infrastructure, as well as processes for local treatment of wastewater (lagoon, septic fields, land-spreading of septage, etc). Discussion of any future plans for expansion of supply systems, and/or other actions to meet future demands.

5.6 Riparian Health Assessments

Review of any available shoreline assessment and riparian health data collected within the watershed. Issues of stream/lake water quality/ quantity may be related to riparian health and management.

5.7 Wetland Inventory

Review of wetland inventory findings where such an inventory has been conducted.

7.0 Surface Water Quality

7.1 Water Quality Parameters

- Water quality monitoring initiatives; assessment of chemical, physical and biological data for lakes within the watershed; Identification of potential point/nonpoint sources, internal/external sources.
- Paleolimnological studies which may provide insight into historic, pre-settlement water quality conditions of the lake and its watershed, and provide some context as to natural water quality conditions.
- Record of water quality monitoring initiatives and assessment of chemical, physical and biological data for tributaries within watershed

7.2 Point Source Discharges

- Identification of the location of any known pollutant point sources.

7.3 Aquatic Ecosystem Health (Biological Indicators)

- Assessment of current and historic fish habitat inventory data. Records of catastrophic and seasonal events, such as recorded winter fish kills, algal blooms, or changes to diversity of aquatic species (extirpations/ introductions) may be incorporated. This information may be used as an indicator of water quality and may also highlight particular environmental threats or reoccurring events that should be considered.

7.4 Public Health

- Discussion of any recorded public beach closures, fish consumption advisories, boil water advisories, etc, and description of factors or events contributing to and following public health advisories.

8.0 Surface Water Quantity and Management

8.1 Hydrology and Lake Levels

- Record of lake level fluctuations, river/stream/tributary base flow, inventory and management of lake/river/drainage/ storm-water infrastructure, history of flood/drought events.

8.2 Apportionment and Other Flow Agreements

- Review of conditions of any recognized apportionment and other agreements influencing water flow and management.

8.3 Water Allocations, Withdrawals and Consumption

- Assessment of current and past licensed/permitted water withdrawals from rivers, lakes and tributaries for domestic/livestock/irrigation/ industrial/wildlife usage.

8.3.1 Surface Water Licenses

8.3.2 Groundwater Licenses

8.4 Instream Flow Needs and Water Conservation Objectives

- Studies of calculated flow needs for any rivers/streams within the watershed. Current flow conditions compared to desired conditions and existing plans or efforts to achieve water conservation objectives.

9.0 State of the Peace River Subwatersheds

A sub section will be completed for each subwatershed.

9.1 Wabasca River Subwatershed

9.1.1 Land Use

9.1.2 Water Quality And Quantity

9.1.3 Biological Indicators

9.1.4 Wabasca River Watershed Summary

10.0 Issues and challenges

10.1 Discussion of Data and Data Gaps

- Discussion of data gaps and limitations with available data/knowledge, identification of potential sources of additional data, along with recommendations for the collection of any additional data (including the means of collecting this data).

10.1.1 Land Use Data Sources

10.1.2 Water Quality And Quantity Data Sources

10.1.3 Biological Indicator Data Sources

11.0 Conclusion

General summary of the main sections of the report.

11.1 Discussion of Indicators

11.1.1 Land Use

11.1.2 Water Quality

11.1.3 Water Quantity

11.1.4 Biological Indicators

11.1.5 Conclusion Summary

12.0 Recommendations

- Discussion of where we go from here, how this data could/should be used by landowners, stakeholders, municipalities, and government in future watershed management planning and for the implementation of beneficial management practices.
- Discussion of role, responsibility and mandate of institutional and regulatory bodies in light of this information.

13.0 Stewardship Opportunities

- Discussion of the role of the watershed stewardship group in terms of communications/ outreach, program/project delivery.
- Recommendations for future project areas and stewardship initiatives.

14.0 Glossary

15.0 References