BATTLE RIVER WATERSHED ALLIANCE

Watershed Management Plan:
Water Quality Component

Non-point Source Pollution Management:
Policy Advice
Nutrient Management Focus

December 2013

About This Document

Water quality in the Battle River watershed is a major issue of concern. In particular, high nutrient levels pose a threat to water quality and the overall health of aquatic ecosystems in this watershed. In turn, poor water quality has implications for the quality of life in our communities and the stability of our economy. About half of the nutrient loading to the Battle River comes from non-point sources of pollution. Relatively little is known about water quality in the Sounding Creek watershed. It is important to build a greater understanding of water quality and non-point source pollution in this watershed in order to manage it effectively.

The following document outlines the BRWA's policy advice for non-point source pollution management in the Battle River and Sounding Creek watersheds in Alberta. Non-point source pollution management is one component of the BRWA's watershed management planning (WMP) process. For more information about this process, see page 8.

This advice was developed with broad input from watershed residents, stakeholders and decision-makers[1], and is supported by information compiled in the BRWA's *Policies and Practices for Managing Non-point Source Pollution (Nutrient Management Focus)* report[2].

Accompanying Guidelines for Implementation

This policy advice document is accompanied by corresponding implementation guidelines[3]. The policy advice outlined below puts forward an overarching policy direction for non-point source pollution management, while the implementation guidelines document describes options for management strategies to support the implementation of this policy direction.

Policy Statement

The objective of this policy advice is to improve water quality in the Battle River and Sounding Creek watersheds in Alberta through reducing and minimizing water contamination from non-point sources. Nutrient management is the focus of these management recommendations.

Policy Advice Goals

- Reduce and minimize nutrient loading to the Battle River and its tributaries by addressing both urban and rural non-point sources of nutrients
- See a decreasing trend in total phosphorus and total nitrogen levels in the Battle River over time, with the ultimate goal of reducing these levels to below the Government of Alberta site-specific water quality objectives for the Battle River
- Increase knowledge of water quality and non-point source pollution in the Battle River and Sounding Creek watersheds
- Address the root causes and sources of non-point source pollution

Policy Application

This policy advice applies to the Battle River and Sounding Creek watersheds within Alberta, and is intended for all residents, stakeholders and decision-makers within these watersheds. This includes all four orders of government (municipal, provincial, federal and First Nations), urban and rural residents, agricultural producers, business and industry, environmental and community organizations, academia and watershed stewardship groups. See page 9 for a map of these watersheds.

The BRWA's WMP process is non-regulatory. Implementation of the policy advice and implementation guidelines developed for each of the BRWA's 12 watershed management priority areas is dependent on the voluntary actions of watershed residents, stakeholders and decision-makers. The BRWA will work to support the implementation of policies and management practices that align with the goals and objectives outlined in this document.

Policy Advice

1 Water Quality Management Framework

Additional water quality monitoring is required to build a greater understanding of water quality conditions and trends and identify sources and loadings of non-point source pollution in the Battle River and Sounding Creek watersheds. Site-specific water quality objectives would establish targets for water quality. Management strategies could then be developed to help achieve these targets.

Policy Advice

A framework should be developed to guide the improvement of water quality in the Battle River and Sounding Creek watersheds. Enhanced water quality monitoring, site-specific water quality objectives, and non-point source pollution management strategies are essential components of this framework.

2 Agricultural Management

Nutrient losses from agricultural lands are recognized as a significant contributor to surface water quality degradation in Alberta. Beneficial agricultural management practices may have significant economic, social and ecological benefits.

Policy Advice

Agricultural management practices which limit non-point source pollution and other adverse ecological impacts should be promoted, while ensuring that the economic viability of agricultural operations is not impeded by these practices.

In particular, improvements should be made to livestock, crop and manure management practices.

Agricultural regulations should be reviewed to ensure that they adequately address water quality concerns in agricultural regions of Alberta.

3 Natural Areas

Wetlands and riparian areas act as natural buffer zones, capturing runoff and sediment and filtering out nutrients and other pollutants. As such, they play a significant role in protecting water quality and reducing adverse water quality impacts associated with non-point source pollution.

Policy Advice

Wetlands and riparian areas should be maintained and restored within the Battle River and Sounding Creek watersheds, with a focus on restoration efforts that support water quality enhancement.

Monitoring and restoration strategies should be developed to support this work.

4 Storm and Waste Water Management

Stormwater runoff is the principal means through which non-point source pollution enters surface water systems from communities. Alternative stormwater management techniques may reduce non-point source pollution from this source.

Private sewage disposal systems that are failing, inadequate, approaching end-of-life, or not meeting current standards may contribute to non-point source pollution in our watersheds and pose a risk to human and animal health when effluent is not treated to an adequate level. Adequate effluent treatment and disposal would alleviate these concerns.

Policy Advice

Enhancements should be made to stormwater management and private sewage effluent disposal to limit impacts to water quality.

Efforts should be undertaken to bring attention to these issues and ensure that management improvements are not cost-prohibitive.

5 Encouraging Beneficial Management Practices

Research has shown that providing support and incentives for the implementation of beneficial management practices may be a more effective and positive approach than requiring compliance through regulations.

Policy Advice

Implementation of beneficial non-point source pollution management practices should be supported through incentive programs and other support mechanisms.

6 Additional Research

The benefits of beneficial management practices may be maximized by: 1) focusing efforts in those areas where risk of non-point source pollution is greatest (also referred to as critical source areas), and 2) implementing those practices that have the greatest potential for non-point source pollution reduction in those areas.

Policy Advice

Research should be undertaken to identify critical source areas in the Battle River and Sounding Creek watersheds, understand the degree to which different land covers and land uses contribute to non-point source pollution, and evaluate the relative effectiveness of various beneficial management practices in reducing non-point source pollution in different regions of the watershed.

About the Battle River Watershed Alliance

The Battle River Watershed Alliance (BRWA) was created in 2006 as a non-profit society. Shortly after its formation, the BRWA was selected by Alberta Environment, under *Water for Life: Alberta's Strategy for Sustainability*[4], as the designated Watershed Planning and Advisory Council (WPAC) for the Battle River and Sounding Creek watersheds within Alberta. See page 9 for a map of the Alberta portions of these watersheds.

Under Alberta's *Water for Life* strategy, WPACs have a role to report on the state of the watershed, lead in watershed planning, develop best management practices, educate users of the water resource and foster stewardship activities within the watershed.

The BRWA works in partnership with communities, individual watershed residents, watershed stewardship groups, all four orders of government (municipal, provincial, federal and First Nations), industry, academia, and environmental organizations to promote the health and sustainable management of the land and water resources of the Battle River and Sounding Creek watersheds using the best science and social science available.

We exist to have a watershed that sustains all life by using sound knowledge, wisdom, and wise actions to preserve our watershed for future generations.

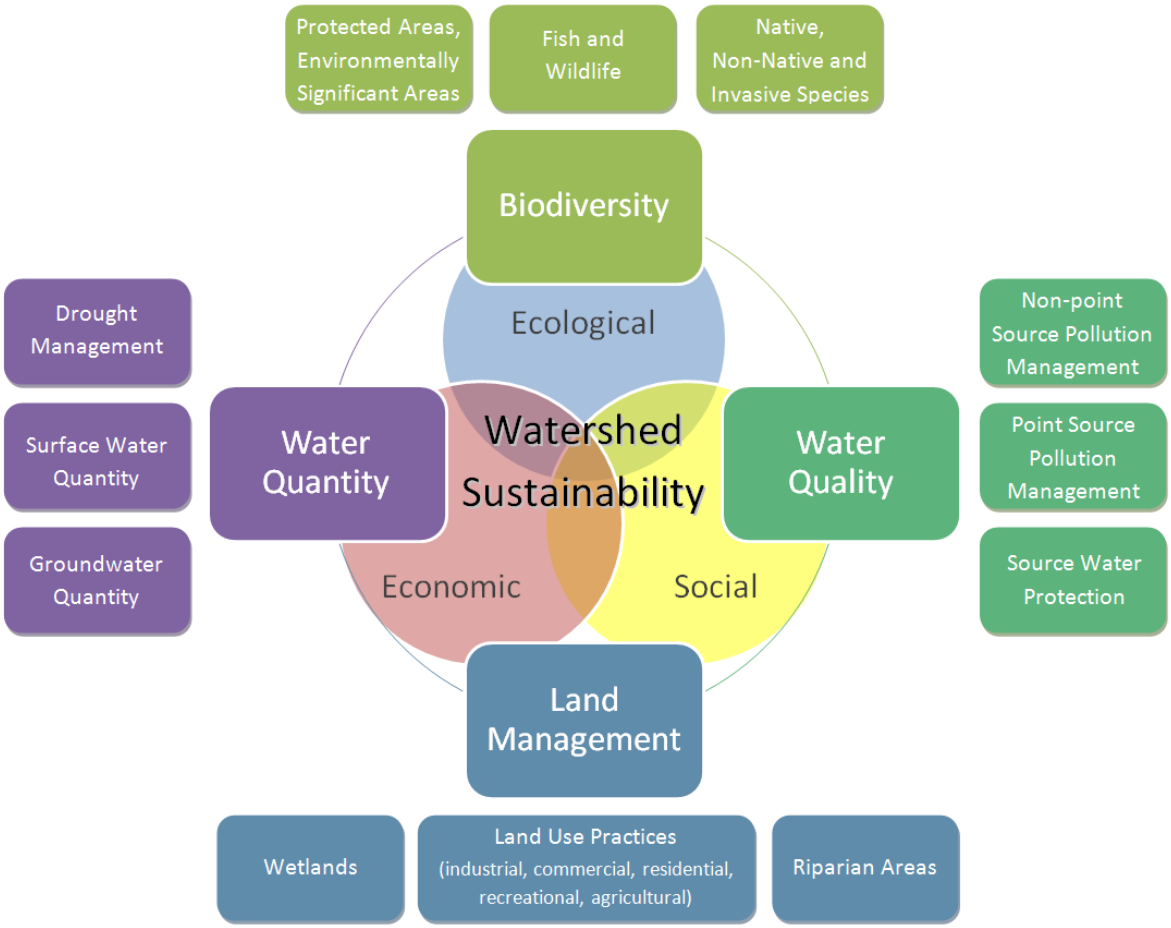
About BRWA's Watershed Management Planning Process

As the provincially designated Watershed Planning and Advisory Council (WPAC) for the Battle River and Sounding Creek watersheds within Alberta, the BRWA has a role to lead in watershed planning.

The BRWA's Watershed Management Planning Process was initiated in 2011. This planning process will ultimately result in a comprehensive Watershed Management Plan for the Battle River and Sounding Creek watersheds in Alberta, and is guided by the *Battle River Watershed Management Planning Process Phase Two Terms of Reference*[5].

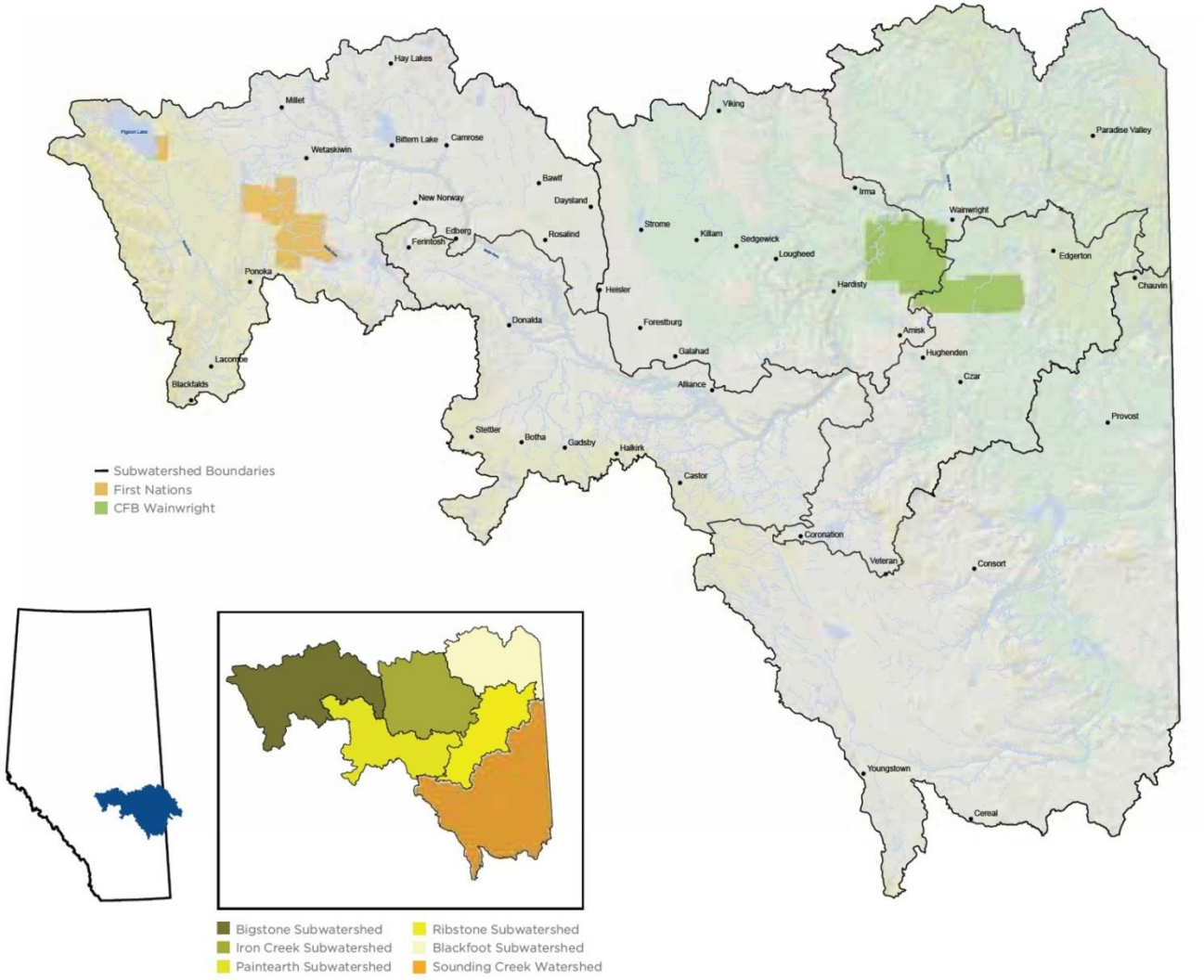
The Watershed Management Planning Process will address a number of watershed management priorities that have been identified through the BRWA's 2011 State of the Watershed Report[6] and extensive public engagement. These priorities are outlined in the figure below.

Policy advice and implementation guidelines will be developed for each of these priority areas. These documents will comprise the Watershed Management Plan for the Battle River and Sounding Creek watersheds in Alberta.



Key components of the BRWA's Watershed Management Planning Process

Battle River and Sounding Creek Watersheds within Alberta



Endnotes

[1] Battle River Watershed Alliance (BRWA). 2013a. *What We Heard: Non-point Source Pollution Management.* BRWA Public Engagement Report, 30 pages.

[2] Battle River Watershed Alliance (BRWA). 2013b. *Policies and Practices for Managing Non-point Source Pollution (Nutrient Management Focus)*. BRWA Watershed Planning Document, 46 pages.

[3] Battle River Watershed Alliance (BRWA). 2013c. *Non-point Source Pollution Management: Implementation Guidelines (Nutrient Management Focus)*. BRWA Watershed Planning Document, 31 pages.

[4] Government of Alberta. 2003. *Water for Life: Alberta's Strategy for Sustainability*. 31 pages.

[5] Battle River Watershed Alliance (BRWA). 2012. *Battle River Watershed Management Planning Process Phase Two Terms of Reference*. Battle River Watershed Alliance Watershed Planning Report, 36 pages.

[6] Battle River Watershed Alliance (BRWA). 2011. *State of the Battle River and Sounding Creek Watersheds Report 2011.* Battle River Watershed Alliance, 64 pages.

This is our battle: the watershed we all share, and the fight to maintain a healthy environment, vibrant communities and a stable economy.

Battle River Watershed Alliance

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Connecting People to Place for Action