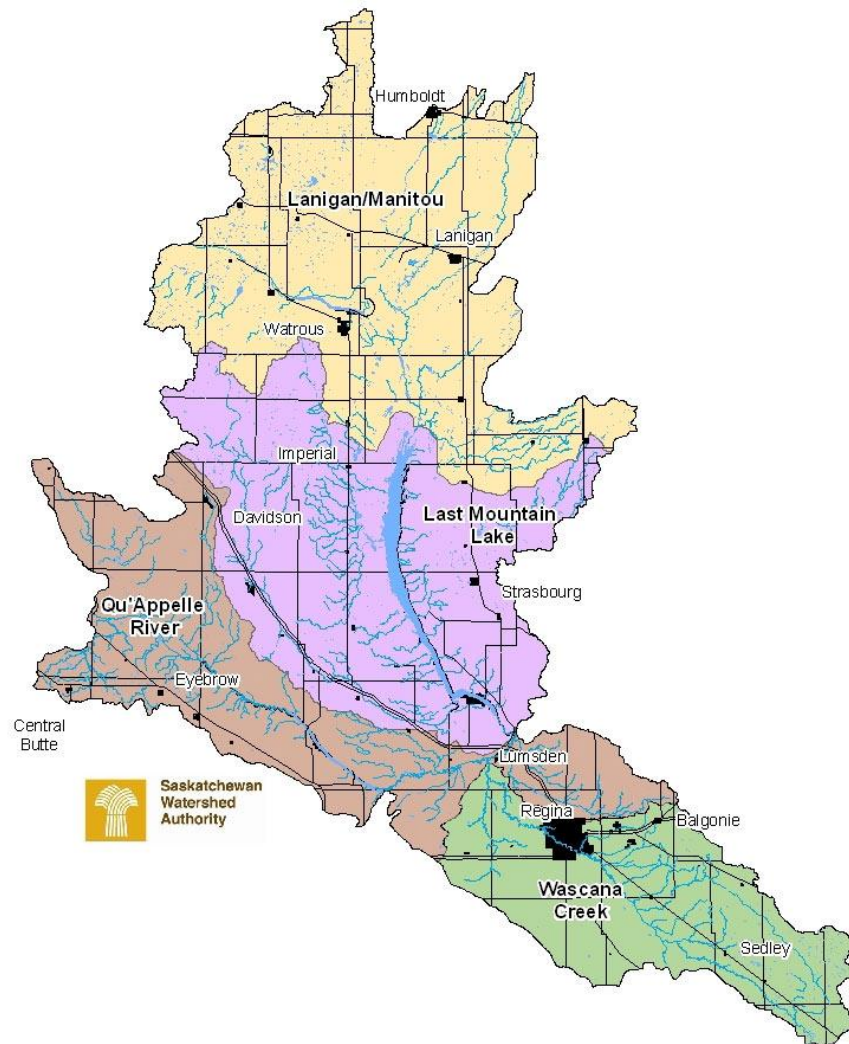


Wascana-Upper Qu'Appelle AEGP

Five-year Work Plan

11/28/2013



Introduction

The main goal of the Wascana-Upper Qu'Appelle AEGP is increase education and awareness among producers about agri-environmental issues within the watershed, and to protect our water and agricultural resources. The AEGP will also communicate with the general public about water and agri-environmental issues and increase awareness of producer driven efforts.

Broad goals

1. Protect ground water
2. Protect surface water from damage and contamination from agricultural activities, such as siltation, erosion and nutrient and pesticide application.
3. Protect biodiversity, focussing on wetlands, rangelands, woodlands, and riparian areas.

Major agri-environmental issues/threats within the entire watershed

1. **Agricultural inputs** such as pesticides, fertilizer and manure have the potential to enter waterbodies (wetlands, lakes, rivers and tributaries) which act as sources of drinking water, and wildlife/fish habitat.
 - Abandoned wells that are not properly decommissioned can act as a direct conduit to groundwater. Agricultural chemicals, nutrients and other pathogens can enter and contaminate groundwater, the major source of drinking water in rural areas.
 - Agricultural inputs can also enter surface water, a major source of drinking water for the watershed's urban population.
2. **Agricultural practices** have the potential to harm and decrease the effectiveness of natural buffers and control mechanisms for run off events.
 - Spray drift can kill riparian vegetation, which is necessary to maintain the stability and integrity of shores and streambanks. Loss of riparian function can lead to agricultural inputs entering the water body, increased streambank erosion during spring freshet and high precipitation events.
 - Livestock with direct access to waterbodies can also harm riparian areas and streambanks when allowed access at inappropriate times.
 - Soil salinity can result when an area's water table is close enough to the surface that water is transported to the surface through capillary action while at the same time evaporation exceeds precipitation (and/or infiltration of water) for a significant amount of time. Saline soils can also re-emerge where deep rooted perennial forage plants are removed which kept the water table and associated salinity lower in the

soil profile. In these cases, annual cropping or summer fallow can bring the saline conditions back to the surface along with an increased risk for soil erosion.

- Agricultural drainage can alter the course of surface water leading to increased erosion.
- Grazing practices can lead to bare soils and increased risk of erosion. Overgrazing also puts pressure on the desired plant populations leaving them vulnerable to undesirable plant species and invasive weeds.
- Combatting invasive weeds is difficult and often results in increased chemical use. Increases in agricultural inputs can increase the risk for contamination of water bodies.
- Location of livestock confinement areas like corral facilities and wintering sites can lead to manure build up and increased nutrient loading of the soil. It can also lead to surface and ground water contamination depending on local conditions and the proximity of waterbodies. Similar risks are also associated with the use of manure as fertilizer.

Key areas/targets as they relate to identified threats

The AEGP will use education and awareness of the above mentioned threats along with assistance in applying for the available BMP funding options through Growing Forward 2 (FSP, FRWIP and the Invasive Plant Pest Control Program) to help facilitate the following priorities:

1. The AEGP will promote the protection of groundwater through well decommissioning and well head protection throughout the watershed, and will consider targeting highly sensitive aquifer areas.
2. The AEGP will promote the protection of riparian areas and wetlands. The purpose of this is two-fold:
 - Healthy riparian areas act as a filter for incoming water. They trap sediment and nutrients, as well as stabilize streambanks and shorelines.
 - Healthy riparian areas provide critical wildlife habitat.

The following geographic areas of concern have been identified in our Environmental Scan. The AEGP will also consult widely in the watershed to define particular project areas, and new areas of concern.

- a) The Upper Qu'Appelle River and Buffalo Pound Lake provide source water for 25% of the Province's population, including drinking water for the Cities of Regina and Moose Jaw. The AEGP will work with researchers to examine water

quality in the Upper Qu'Appelle River and in Buffalo Pound Lake identify whether agricultural practices are affecting water quality.

- b) Last Mountain Lake and its major tributaries (Lanigan Creek, Arm River and Lewis Creek etc.) are important habitat for fish and birds, and for recreational activities. Last Mountain Lake is one of the largest natural waterbodies in Central-Southern Saskatchewan and is considered a functional waterbody (reservoir) for the Qu'Appelle system, and is a receiving body from a large agricultural area (both crop and livestock). The AEGP will seek collaboration with groups affiliated with Last Mountain Lake (Last Mountain Lake Stewards, Last Mountain Lake National Wildlife Area etc.)
 - c) The Wascana Watershed is ranked as "impacted" in the 2010 State of the Watershed Report (WSA 2010) and serves as the receiving watercourse for intensively cultivated farmland. Water quality studies have found that the Wascana system carries high levels of nutrients.
3. The AEGP will work with SARM and local government (including Saskatchewan Ministry of Agriculture Regional Offices) to increase awareness of invasive weeds, their control and how to limit their presence. This is important to help combat their spread and the associated loss in biodiversity of natural habitat and economic impacts on agriculture. In addition to education and awareness, the AEGP will offer its assistance to RMs and individual producers with technical issues regarding applications to receive cost shared funding through the Invasive Plant Control Program.
 4. The AEGP will build on past work to increase awareness of the importance of rangeland management and promote best management practices. The AEGP will offer its services for assessing rangeland health to producers and/or recommend a professional rangeland to assist the producer.

Farm Stewardship Program BMPs offered

The following BMPs will be offered to producers through the group plan:

- Relocation of confinement facilities
- Fencing to protect surface water
- Farmyard runoff control
- Protecting riparian areas
- Variable fertilizer rate technology

Producers wishing to apply through the group (without an EFP) for variable fertilizer rate technology must demonstrate their operation falls within a target or risk area as outlined in the five year plan.

Measurable goals for key target areas

The AEGP will measure success primarily by our success in the adoption and application for project funds for Beneficial Management Practices in our watershed. Specific goals and measurables for targeted areas will be outlined in the subsequent yearly work plans. The following is a list of measurables. This list is not exhaustive and other measurables may be added.

1. Groundwater protection
 - The number of groundwater related consultations with respect to Growing Forward 2 programs
 - The number of groundwater related consultations
 - The number of wells decommissioned and the number of completed projects for wellhead protection
 - The number of confinement facilities/wintering sites that are moved safely away from wells
2. Healthy riparian areas and wetlands (surface water)
 - The number of surface water related consultations with respect to Growing Forward 2 programs
 - The number of riparian health and surface water related consultations
 - The number of completed projects and/or acres of buffer planted
 - The number of grassed waterways (and acres) planted
 - The number of applications and/or miles of streambank stabilization
 - The number of improved stream crossings
 - The number of completed applications for diversion of surface water to protect it from contamination (farmyard run off control)
 - The number of completed projects and/or the miles of fencing to cordon off surface water
 - The number of remote watering systems installed that access surface water and/or alternatively a well has been dug so that livestock no longer need to directly access the waterbody
 - The number of restored wetlands
 - The number of wintering sites/confinement facilities that are moved away from waterbodies

- The number of applications for Variable Rate Technology
3. Increase awareness of invasive weeds
 - The number of invasive weed related consultations with respect to Growing Forward 2 programs
 - Number of workshops, meetings and consultations (RM, individual, organizations) with respect to invasive weeds
 - Number of articles, flyers, newsletters with invasive weed information
 4. Increase awareness of the impacts of poor rangeland management
 - The number of rangeland related consultations with respect to Growing Forward 2 programs
 - Number of workshops, meetings and consultations (RM, individual, organizations)
 - Number of articles, flyers, newsletters with best management information
 - Number of rangeland assessments

Actions/Deliverables

1. The AEGP will communicate with producers and non-farm audiences about BMPS and the AEGP program through a combination of the following activities:
 - a) Communications
 - Newspaper inserts (newsletters, flyers etc.)
 - Newsletters and flyers (unaddressed admail)
 - Newspaper ads and articles
 - Articles for RM and other partner newsletters, websites etc.
 - Material published on the WUQWATR website
 - b) Education and awareness
 - Producer and/or public workshops, newsletters etc.
 - Classroom presentations
 - Presentations to clubs and organizations
 - Art contests
 - Providing materials and information to supplement school curriculums (i.e.: high school materials for an Environmental Certificate)
 - Presentations to subwatershed advisory committees (Lanigan-Manitou, Buffalo Pound, Wascana Creek, and Last Mountain Lake)
 - Tradeshows (Agribition, SARM, SUMA etc.)
2. Within the whole watershed, efforts will be made to partner with regional and local associations/organizations to increase awareness of agri-environmental issues and to

monitor and mitigate problems where applicable. These partners may include but are not limited to:

- a) Saskatchewan Wildlife Federation provincial and local chapters
 - b) Alternative Land Use Services (ALUS)
 - c) Ducks Unlimited Canada
 - d) Last Mountain Lake National Wildlife Area
 - e) Water Security Agency
 - f) Saskatchewan Ministry of Agriculture
 - g) Saskatchewan Association of Rural Municipalities (SARM)
 - h) Nature Conservancy Canada
 - i) Meacham Hills Forage Club
 - j) WBDC (Tremuende Research Farm)
 - k) 4-H Clubs
 - l) Last Mountain Lake Stewards
 - m) City of Regina
 - n) Nature Regina
 - o) Wascana Centre Authority
 - p) Buffalo Pound Water Treatment
 - q) Local industry (fertilizer, chemical, equipment, potash etc.,)
 - r) Local towns, villages and rural municipalities
3. Ongoing consultation will take place with municipalities and stakeholders will take place in order to remain responsive to changing needs. This will allow us to reassess our priorities for the yearly work plans and to change direction with the work plan.