



**WATERSHED RESILIENCY AND
RESTORATION PROGRAM**

ENVIRONMENT AND SUSTAINABLE
RESOURCE DEVELOPMENT



OVERVIEW: WATERSHED RESILIENCY AND RESTORATION PROGRAM

Flooding and drought have significant effects on the lives of Albertans, causing community and economic damage, as well as impacting the watersheds Albertans depend on for water and other environmental functions.

In June 2013, parts of Southern Alberta were devastated by significant flooding. The Government of Alberta responded to this catastrophe with a number of funding programs to address a wide range of recovery activities. In order to maintain resilient and vibrant communities and well-functioning environmental systems, Alberta must prepare today for future floods or droughts. As the province moves forward with projects to improve community resiliency to floods and droughts, it is important to implement measures that increase overall watershed health and function as part of the strategy. Enhancing the natural mitigative function of watersheds is a critical element in the long-term mitigation of the environmental, social, and economic impacts of severe natural events on a watershed level.

Unlike traditional mitigation projects, which use large-scale physical construction, bank armoring and/or engineered structures to

reduce or avoid impacts, watershed mitigation approaches focus on the creation and/or enhancement of natural systems such as wetlands and riparian areas to improve watershed functioning.

Appropriate mitigation to natural events such as droughts or floods contributes to long-term community sustainability and resiliency. Mitigating impacts reduces risk to public safety, developments and infrastructure, provides environmental benefits and results in savings in tax dollars for post-event recovery costs.

Environment and Sustainable Resource Development's (ESRD) Watershed Resiliency and Restoration Program (WRRP) aims to improve natural watershed functions in order to build greater long-term resiliency to droughts and floods through restoration, conservation, education and stewardship, and research and data.

“If managed properly, wetlands can provide water filtration and groundwater recharge, contribute to flood prevention, and provide habitat for numerous species of interest to [Albertans]”.

Ecosystems Services Approach Pilot for Wetlands – Final Results Report October 2011.

RATIONALE: THE NEED FOR A NEW PROGRAM

A watershed, or drainage basin, is an area of land that captures surface water and funnels it to a single point at a lower elevation. They are complex natural systems and Alberta has a number of them.

If appropriately managed Alberta's watershed systems will assist in mitigating severe natural events such as floods and droughts. Promoting the restoration of drained or degraded areas of the watershed, such as wetlands and riparian areas, enhances the watersheds' ability to be resilient to the effects of floods and droughts in the future. This will foster increased resiliency of Alberta's communities to the impacts from future flood or drought events. Further, sound stewardship and conservation ensure these areas are maintained and enhanced.

The health of riparian areas has declined dramatically in many areas of Alberta, partly because the functions and roles riparian areas provide to landscapes and communities are often not understood or fully appreciated.

OBJECTIVES

ESRD has established the WRRP to promote the long-term ability of watersheds to mitigate the effects of future flood and drought events. The primary objective of the program is to increase the natural ability of the province's watersheds to reduce the intensity, magnitude, duration and effects of flooding and drought through watershed mitigation measures. Additionally, the program aims to address impacts of past

flooding and/or droughts through the restoration of degraded priority areas of watersheds which will enhance communities' ability to withstand future flooding or droughts. Finally, the program seeks to promote the ongoing stewardship and preservation of key components of Alberta's watersheds.

This program is being implemented with the help of partners who have expertise in watershed management, from habitat restoration and fisheries improvement, to natural hazard mitigation and wetland enhancement. ESRD will be looking to these partners to help identify priority projects and lead the implementation of the WRRP in collaboration with the Government of Alberta. Through collaboration with stakeholders, natural watershed functions are improved and sustained to build greater long term resiliency to droughts and floods utilizing an integrated watershed approach.

OUTCOMES

Accepting the desire to increase the natural ability of the province's watersheds to reduce the intensity, magnitude, duration and effects of flooding and drought to the benefit of Albertans, the WRRP will focus on the following outcomes:

- ▶ Identification and ranking of priority areas for wetland and riparian restoration and conservation;
- ▶ Advancing flood and drought resiliency in priority areas within watersheds in Alberta to enhance communities and improve environments;
- ▶ Restoring and enhancing ecological connectivity and function in critical areas;



- ▶ Increasing knowledge, awareness and participation by program participants and the public in activities that restore and sustain watershed functions; and,
- ▶ Enhancing community capacity to restore and maintain critical watershed features for future generations.

SCOPE

The WRRP is provincial in scope, with a focus on priority areas within the province and within individual watersheds. The WRRP is limited to non-structural watershed mitigation efforts that promote the long-term ability of watersheds to mitigate the effects of future flood and drought events. Watershed mitigation efforts relate to the creation and/or enhancement of natural systems such as wetlands and riparian areas to improve watershed function.

Examples of eligible projects include:

- ▶ Riparian enhancements (e.g. fencing, plantings, grazing management, off-stream watering, weed control, invasive species control, or pest control)
- ▶ Wetland enhancements (e.g. wetland creation, conservation or restoration)
- ▶ Floodplain/river improvements (e.g. channel naturalization, removal of old structures, removal of flow impediments, re-vegetation, floodplain storage capacity enhancements)
- ▶ Impervious surface removal
- ▶ Creation/increase of absorptive capacities
- ▶ Removal of existing drainage projects or works
- ▶ Onsite water retention efforts
- ▶ Conservation initiatives
- ▶ Data collection efforts for the purpose of research, evaluation and assessment

PROGRAM ELEMENTS

RESTORATION AND ENHANCEMENT

Restoration, enhancement and/or creation of healthy wetland and riparian areas are at the heart of the WRRP. This mitigation approach will restore or re-introduce functionality to natural features that have been compromised or altogether lost. Restoration and enhancement activities that improve the watersheds' function and enhance the watersheds' ability to be resilient to future floods and droughts are the primary focus of the program.

PROGRAM OUTCOME:

Restoration of degraded or lost wetlands, riparian areas and floodplains within priority areas of watersheds to improve flood and drought resiliency

Strategies to achieve this outcome:

- ▶ Fund restoration and creation of healthy watersheds through a grant program and other activities by the Government of Alberta;
- ▶ Priority areas for this program will be set by major watersheds within Alberta and completed by December 2014, where possible led by Watershed Planning and Advisory Councils in collaboration with the Government of Alberta;
- ▶ Enhance capacity of existing organizations already engaged in watershed enhancement activities that will further build drought and flood resiliency; and,
- ▶ Promote collaboration and ongoing communications between key stakeholders regarding restoration initiatives aligned with the WRRP.

CONSERVATION

Conservation is aimed at the retention of existing habitats – maintaining the functionality of critical riparian and wetland areas.

PROGRAM OUTCOME:

Within priority areas, critical wetland, riparian area and floodplain features within watersheds are identified to decision makers and landowners, and greater consideration is given to conserving these areas/features

Strategies to achieve this outcome:

- ▶ Provide data, tools and other support to land use decision makers to consider conservation and preservation in priority areas; and,
- ▶ Promoting the “Stepping Back from the Water” Guidebook as a tool that can be used by land use decision makers.

EDUCATION AND STEWARDSHIP

Education and stewardship with stakeholders, landowners and the public will be pursued to ensure that the imperative functions and roles of floodplains, riparian areas and wetlands are understood and fully appreciated.

PROGRAM OUTCOME:

Increase the understanding and awareness of the public, land use decision makers and other key stakeholders regarding the importance of improving watershed functions, and their relationship — to flood and drought mitigation

Strategies to achieve this outcome:

- ▶ Targeted messaging to stakeholders, land use decision makers and the general public regarding the importance of wetlands, riparian and healthy floodplains in reducing the effects of flooding and droughts pursued through existing Government of Alberta and external partnership programs;
- ▶ Provide forums for information exchange and collaboration between key stakeholders in Alberta; and,

- ▶ Explore opportunities to align existing programs and initiatives related to watershed restoration and resiliency.

RESEARCH AND DATA

Underpinning all the above approaches is research and data, which is necessary to help define critical areas and provide direction to existing regulatory and planning systems. The WRRP uses scientific processes and tools to define the areas of highest priority and quantify losses, set targets, and apply the appropriate actions.

PROGRAM OUTCOME:

Ensure key data is available to support the WRRP and aid future decision making

Strategies to achieve this outcome:

- ▶ Gather critical data necessary to complete a high level prioritization;
- ▶ Encourage research and collaboration with academia; and,
- ▶ Disseminating and sharing key program information.

IMPLEMENTATION

PRELIMINARY PROGRAM PHASE–2014

Due to the urgent need resulting from the 2013 floods, the WRRP will be accepting limited applications for the 2014 fiscal year using a transitional delivery mechanism. Funding provided in the program’s inaugural year will focus on short-term and immediate projects that result in action on the ground and preliminary activities that support the development of long-term projects seeking funding for subsequent grant years.

This funding will be provided in three categories of projects:

- ▶ Short-term restoration activities that can be implemented immediately and completed this year which have a clear and demonstrable benefit to the watershed’s flood or drought mitigation abilities;



- ▶ Funding for the first year of a multi-year proposal, including initial project planning and development related to a partnership project for flood or drought mitigation that will be implemented in subsequent grant years of the program; and/or,
- ▶ The undertaking of education, outreach, data collection, research or other planning activities related to long-term projects to be funded and completed in subsequent grant years of the program that are directly tied to watershed restoration and resiliency and “on the ground” projects.

**ESTABLISHED PROGRAM PHASE-
2015 ONWARDS**

In order to ensure projects funded under this program have the greatest opportunity to improve the resiliency and restoration of Alberta’s watersheds, ESRD will establish external partnerships with other watershed bodies and actors. Specifically, the program framework will include the following external engagement activities:

- ▶ Watershed Planning and Advisory Councils (WPACs) will play a key role in the identification of watershed Priority Areas for the WRRP. ESRD will establish a framework for this process by the end of 2014 and work in collaboration with WPACs to identify and prioritize flood and drought areas within the Province’s watersheds.
- ▶ ESRD will establish a multi-disciplinary External Advisory Committee to provide recommendations to ESRD. These

recommendations will include, but are not limited to, the refinement of program objectives and goals, and the identification of preferred projects and initiatives;

- ▶ ESRD will identify opportunities to leverage other existing programs; and,
- ▶ ESRD will develop an updated funding application process and evaluation criteria for 2015.

**COLLABORATION WITH ALBERTA
AGRICULTURE**

Under Growing Forward 2, Alberta Agriculture is implementing the Agricultural Watershed Enhancement Program directed towards local producers to improve water quality within agricultural areas throughout the Province. While the Agricultural Watershed Enhancement Program has a different focus (i.e. water quality vs. the WRRP’s drought and flood resiliency focus), collaborating and working together to support both programs ensures a more robust watershed approach that supports work at all scales of the watersheds. ESRD and Alberta Agriculture will be working in partnership to ensure alignment between the Agricultural Watershed Enhancement Program and WRRP and further details on this will be developed and communicated by the end 2014.



PROGRAM LINKAGES

The Government of Alberta and other key partners are currently engaged in a number of initiatives, plans, programs and policies focused on the management of watersheds in Alberta, to improve the sustainability of the systems. To help ensure that entities are working in a coordinated manner, the WRRP's outcomes were developed in alignment with the outcomes from various other initiatives, plans, programs and policies (e.g. Alberta Community Resiliency Program).

While the WRRP was established with the primary purpose of improving and maintaining flood and drought resiliency of watersheds, it is imperative to leverage and build on existing knowledge to ensure that key partners are working in a harmonized manner.

FUNDING

A total of \$21 million in funding is available under the WRRP, which will be distributed over three years. Priority will be given to areas where risk and opportunity are highest.

Non-governmental organizations, WPACs, stewardship groups and other not-for-profit organizations, Municipalities, First Nations and all local authorities are eligible to receive funds under the program, provided that the project is undertaken in partnership with single or multiple landowner(s) such as Government, Municipalities or Private Landowners who will "own" the works long-term. As the health and state of watersheds are affected by a number of different parties, such partnerships for the collaborative projects are highly encouraged under the WRRP.

While Municipalities are eligible under this program they are encouraged to seek opportunities for watershed resiliency and

restoration under the Alberta Community Resiliency Program (ACRP) as part of their Community Resiliency Plan to be funded under the program.

Private entities, whether it is an individual or enterprise, are eligible to participate and contribute to projects as a partner, but are not eligible to receive funding directly under the WRRP.

EVALUATION AND REPORTING

The following evaluation and reporting criteria will be considered:

- ▶ Increased improvements in the metrics of landscape health
- ▶ Projects completed and their benefits to flood or drought mitigation
 - ▶ Number of projects that benefit watershed resiliency
 - ▶ Measureable decreases in linear drainages and degraded portions of the watershed
 - ▶ Improvements in riparian areas and overall riparian health
 - ▶ Increase amount of wetland hectares and numbers and ecological services provided
- ▶ Community literacy regarding value of investment in watershed function
- ▶ Increase partnership and collaboration around watershed restoration and resiliency
- ▶ Consideration of projects within the watershed in a cumulative perspective
- ▶ Increased information and forums made available to decision makers to support future decision making



PROGRAM PRINCIPLES

- ▶ On the ground focused with demonstrable and meaningful results
- ▶ Community driven
- ▶ Collaboration with the Government of Alberta, municipalities, Environmental Non-Governmental Organizations, communities, landowners and experts
- ▶ Open and transparent
- ▶ Support current wetland and riparian work and build capacity where needed
- ▶ Ensure alignment with other policies, programs and plans
- ▶ Watershed/landscape scale emphasis
- ▶ Provincial in scope but targeted to priority areas within the watersheds
- ▶ New habitats (e.g. wetland, riparian, etc.) funded under this program may be used by the Government of Alberta for future offsets

GLOSSARY OF TERMS

WATERSHED MITIGATION: Mitigation approaches that focus on the creation, enhancement and conservation of natural systems such as wetlands, enhancing floodplains and riparian areas to improve watershed functioning. These approaches do not use large-scale physical construction.

STRUCTURAL MITIGATION: Large scale engineering projects to reduce or avoid impacts.

RIPARIAN: Riparian areas are the lands adjacent to streams, rivers, lakes and wetlands where the vegetation and soils are strongly influenced by the presence of water. They are the place where water and land meet and interact.

WATERSHED SYSTEMS: A watershed, or drainage basin, is an area of land that captures surface water and funnels it to a single point at a lower elevation. They are complex natural systems, and Alberta has a number of them.

WETLAND: Land saturated with water long enough to promote wetland or aquatic processes as indicated by the poorly drained soils, hydrophytic vegetation, and various kinds of biological activity that are adapted to a wet environment.



