CALGARY
RIVER
VALLEYS

Get to Know the Bow River

B. Amell

Calgary River Valleys

Calgary River Valleys (CRV) grew out of a 20-year history as the River Valleys Committee (RVC), established by City Council mandate. Assuming its new status as an independent, non-profit organization in March 2010, CRV continues to champion Calgary's rivers, creeks and wetlands and promote the stewardship of our watershed resources for future generations.

Purpose

Calgary River Valleys is a strong and effective voice for Calgary's most valued natural resource, its river valleys. CRV relies on a volunteer board and community representatives to engage the public in the recognition, protection and appreciation of our river valleys and other watershed features. CRV brings together Calgary residents, community associations, Council members and staff from all levels of government to ensure the long-term health of Calgary's water resources. Whether thinking about the quality of our drinking water or the ability to picnic by a pristine river, these issues matter to Calgarians.

Vision

Calgary River Valleys is widely recognized as an essential public champion for the protection and stewardship of Calgary's river valleys, watershed resources and riparian areas.

Mission

Calgary River Valleys vigorously supports the integrity of local rivers, creeks, reservoirs and wetlands. We engage organizations and citizens in building awareness and the strong sense of community ownership needed to steward and sustain our watershed resources for future generations. We are committed to the growth of community and civic responsibility, public education and the highest standards in urban environmental policy, planning and implementation.

Key Strategies

CRV meets a range of educational, planning and organizational goals through specific projects and activities designed to support community engagement. Strategic objectives include stakeholder forums, legislative and urban planning recommendations, riparian restoration and activities that promote greater understanding of the need to preserve the ecological integrity of a rapidly growing urban environment.

Come get to know us at www.CalgaryRiverValleys.org.

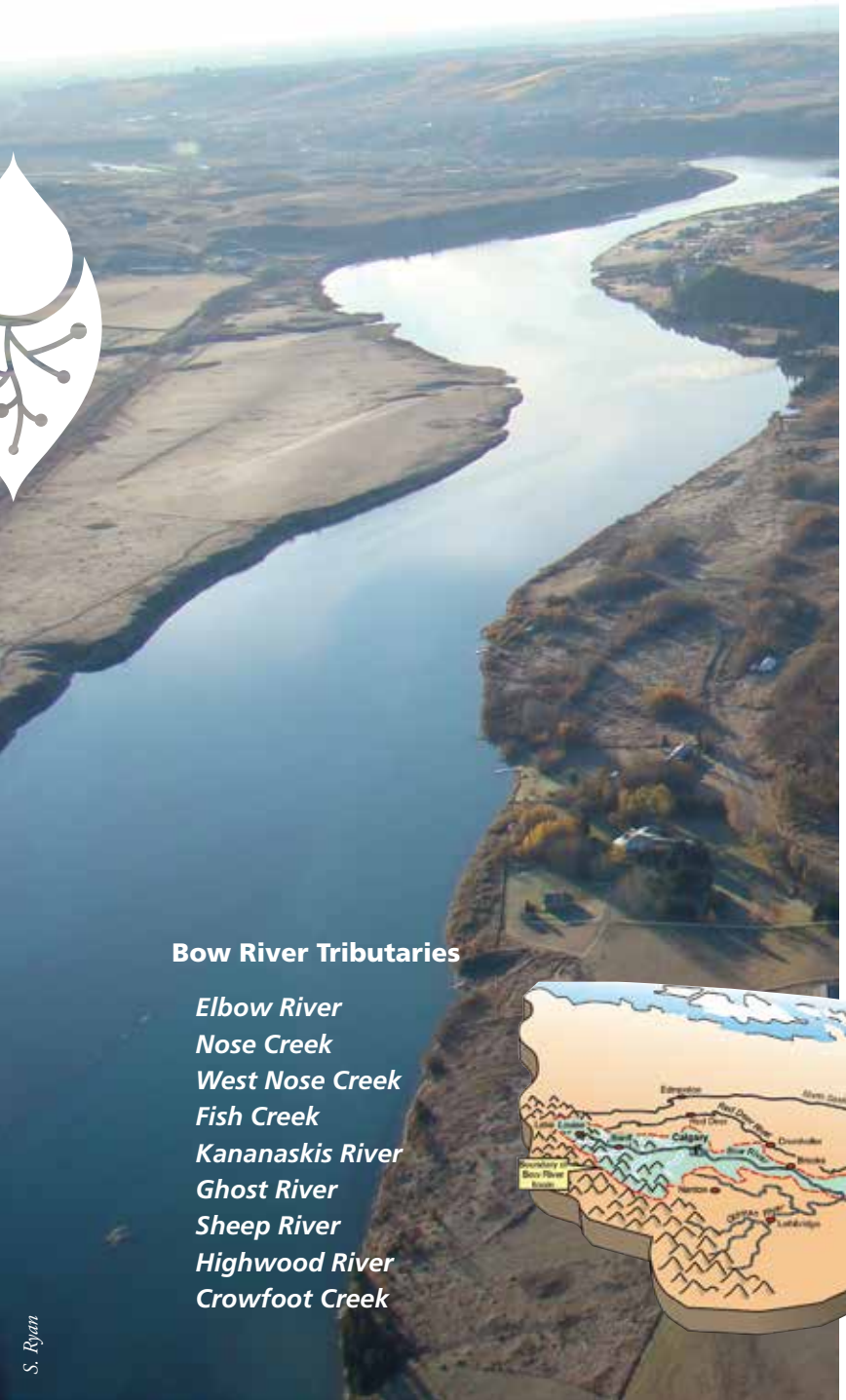
Contents

S. Ryan

S. Ryan

The Bow River represents a ribbon of wilderness through a very busy city, enabling easy access to a nature escape from the daily hustle and bustle. What a pleasure to watch an osprey dive for fish, a falcon hunt the shoreline bushes for small birds, or a spotted sandpiper searching for insects.

—Brian Keating,
Honourary Conservation Advisor, Calgary Zoo
Adjunct Assistant Professor of Anthropology, U of Calgary



S. Ryan

Bow River Tributaries

Elbow River
Nose Creek
West Nose Creek
Fish Creek
Kananaskis River
Ghost River
Sheep River
Highwood River
Crowfoot Creek

Bow River Watershed Defined

Calgary's influence extends far across the continent through our rivers. To understand and respect our place on the land, we need to look beyond the city limits upstream and downstream. Taking a regional perspective helps us to understand and plan for future growth and development in changing natural conditions.

In southern Alberta, water sources are scarce. Rain clouds empty themselves on the eastern slopes of the Rocky Mountains and the landscape goes quickly from forest to grasslands. At one time, southeastern Alberta was a desert prone to 30-year droughts.

Most of the Bow River's annual water comes from rainfall and snowmelt in the foothills. However, melting glaciers contribute crucial flows in late summer. Soil, wetlands, reservoirs and beaver ponds store water and allow it to gradually flow downstream through valleys, ravines and subsurface aquifers.

The Bow River starts at Bow Glacier and follows land contours past Lake Louise, Banff and Canmore. There are 11 dams on the Bow before it reaches Calgary.

The land area that sends water into the Bow River extends over the southern half of Banff National Park and some of the mountains and foothills east of the Park. Bow River tributaries such as the Ghost and Kananaskis rivers collect water that comes from snowmelt and rain events by way of mountain streams. The Bow River brings that water to Calgary, where it flows through the Bearspaw Reservoir. The Elbow River brings water from the front ranges of the mountains and the foothills to the Glenmore Reservoir. These are the two main sources of Calgary's drinking water.

People may say "we're all downstream," but Calgary is more upstream to other communities and habitats than most.

After the Bow River leaves Calgary, it heads south until just east of DeWinton where it turns directly east. The river then turns southeast at Bassano to Bow Island where it merges with the Oldman River to become the South Saskatchewan River.

The South Saskatchewan River travels northeast until it merges with the Red Deer River, then merges with the North Saskatchewan River (flowing southeast through Edmonton) east of Prince Albert, Saskatchewan. Eventually, all that water travels through Lake Winnipeg to flow into Hudson Bay via the Nelson River. This is why some people call Alberta's Eastern Slopes "Western Canada's Headwaters."

Bow River Basin
Image courtesy of Natural Resources Canada

Hydrological Connections

The Bow River is hydrologically positive along its course where the landscape drains runoff into the river. It becomes hydrologically negative when the river becomes the most significant water source for the surrounding landscape.

This is not an easy line to draw, but along the Bow River, it occurs close to Gleichen, where the last large tributary joins the Bow. Southeast of that point, the Bow River is the most significant source of water and likely recharges more of the landscape than any other source.

Watershed Definition

A watershed is an area of land where gravity makes all the water flow downhill to the lowest point where rivers form and head for the nearest ocean. Pick any river, lake, creek, wetland or aquifer (underground water) and it will be in a watershed.

Watersheds tend to look a lot like the human circulatory system. This is why experts often refer to rivers as arteries and water as life blood because all living things need water to survive.

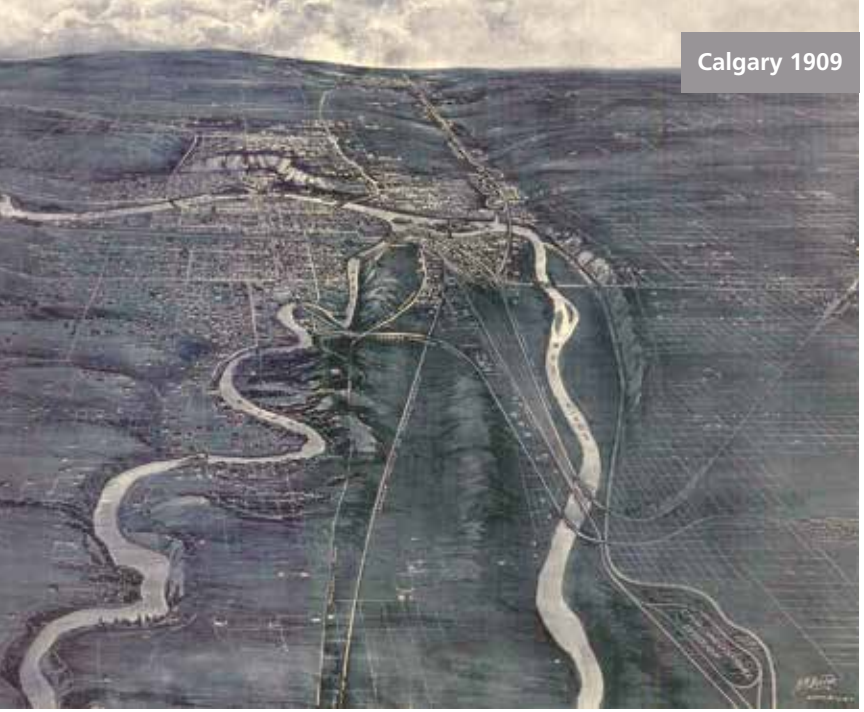
There are five major sub-watersheds in the Bow River watershed, and the Bow is one of four major tributaries of the South Saskatchewan River.

S. Ryan

C. Lacombe

For generations of families, the Bow River has satisfied our thirst, irrigated our crops, powered our prosperity and nourished our souls.

—Alana DeLong, MLA Calgary Bow



© H.M. Burton, Calgary Engraving Co.

Calgary and the Bow River

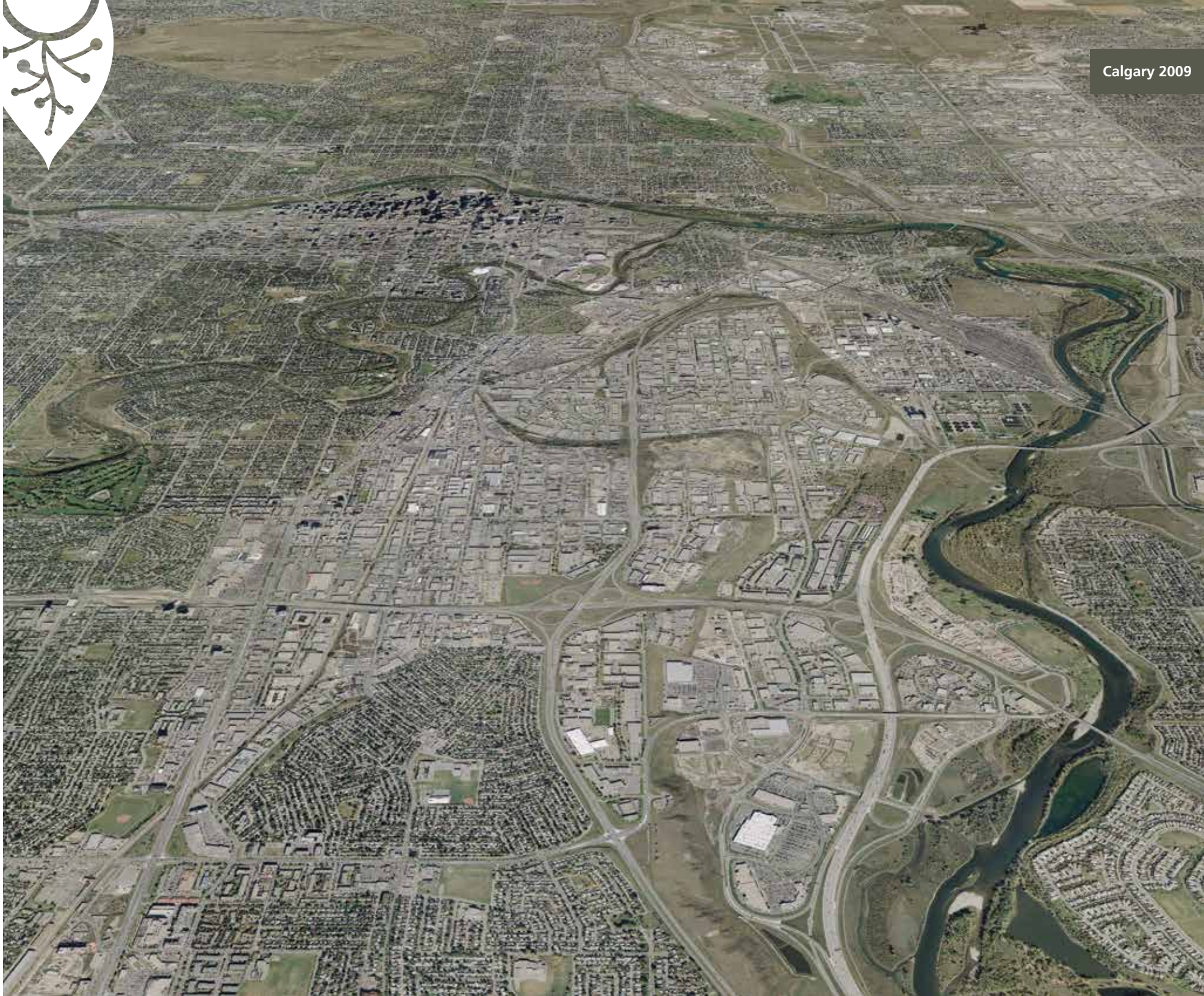
These aerial views illustrate Calgary's growth over the past 100 years as it expanded across the Bow and Elbow flood plains and its tributaries Nose Creek and Fish Creek.

As Calgary continues to grow, Calgarians need to decide how we want to treat the rivers in our midst.

CRV volunteers spearheaded the restriction of motorized boats on the rivers in Calgary and led discussions for provincial legislation that restricts pollution from urban runoff. Initiatives such as these contribute to public safety and downstream water quality.

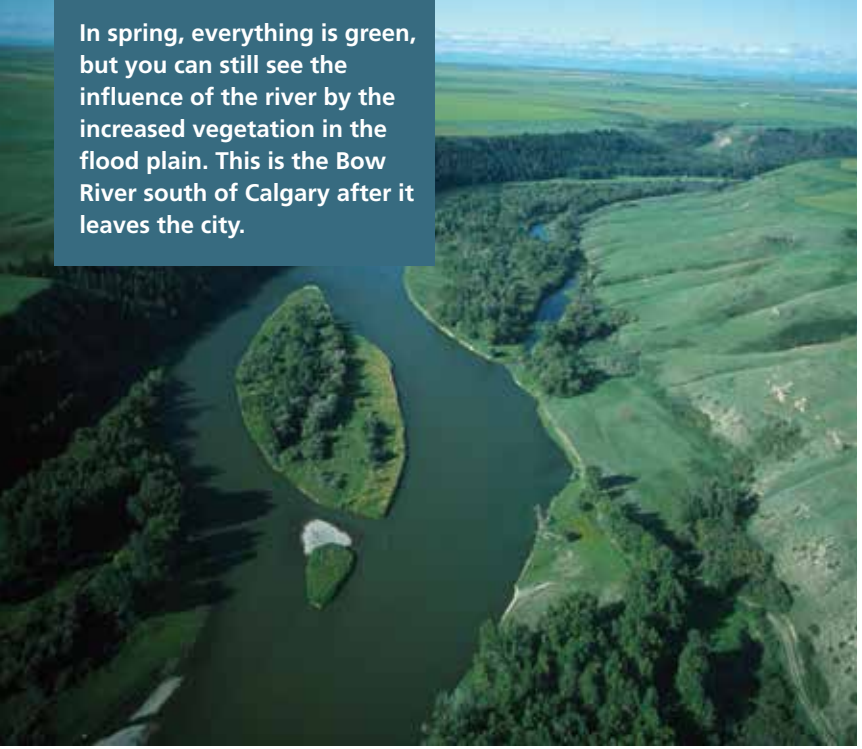
Many cities around the world are spending billions of dollars to revitalize local watersheds and bring back the natural services inherent in healthy riverine environments. Calgary is wisely investing in river valley preservation now.

C. Lacombe



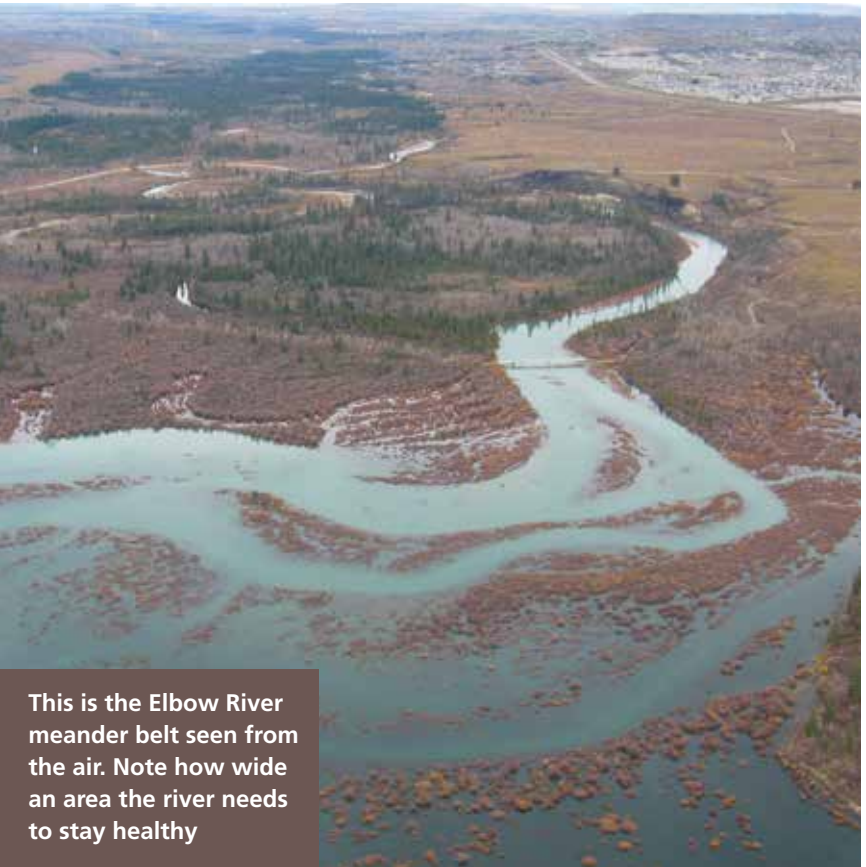
Calgary 2009

courtesy of The City of Calgary



In spring, everything is green, but you can still see the influence of the river by the increased vegetation in the flood plain. This is the Bow River south of Calgary after it leaves the city.

Jerry Brunen



This is the Elbow River meander belt seen from the air. Note how wide an area the river needs to stay healthy

Caitlin Mader

How Nature Builds a River

The Riparian Zone

To understand what a riparian zone is, find a spot on a high bluff overlooking a river. Particularly in southern Alberta, the riparian zone is easily identifiable by the increased vegetation along undisturbed riverbanks.

The presence of water in the river and its alluvial aquifer promotes growth not always possible farther from the river. At the end of a long summer dry spell, you can see a distinct green area in high contrast to the brown prairie.

A riparian area is a complex interface between aquatic and terrestrial environments – a three-dimensional transition zone of energy and material that extends outward across the flood plain, down into groundwater, up above forest canopies, across onto escarpments and along or around water bodies.

The reason a natural, undisturbed riparian environment protects river health is that a mixture of trees, shrubs and grasses at various stages of life have roots that help to anchor the riverbanks and prevent soil erosion. The plants also slow down and filter surface runoff before it flows into the rivers and creeks. Trees, shrubs and tall grasses also shade the water in summer, keeping it cool. This deters excessive algae growth and shades aquatic species.

Low-lying lands are naturally subject to flooding and typically support greater levels of biodiversity than other landscapes. Riparian areas and river corridors are vital for local and migratory birds, fish, insects, amphibians, reptiles and mammals of all sizes, including people.

The Meander Belt

A meander belt is the area a winding river takes up as it weaves back and forth across the valley. The river channel may roam in this valley, but it will not migrate outside the meander belt.

The Elbow River is a major tributary of the Bow River, entering the Bow at Fort Calgary. This picture of the Elbow River (lower left), taken from above the Glenmore Reservoir, looks west toward the Rocky Mountains. The picture illustrates the rich riparian habitat that makes up the river's meander belt where more water is available for trees and shrubs than in the surrounding uplands.

Much of the Bow and Elbow River's natural ability to meander has been constrained through the City of Calgary by berms, riprap and extensive urban development.

Aquifers – Water that Hides Underground

Sometimes people refer to aquifers as underground rivers; which is only correct if you imagine channels of gravel and sand that allow water to travel underground.

The water in a river extends into the sand and gravel adjacent to the river to form an alluvial aquifer. Calgary's rivers are interconnected with alluvial aquifers that were created when melt waters from receding glaciers filled the ancient river valleys with sand and gravel. When you look at a river, you see the water flowing on the surface. What you can't see is the area below the river and the adjacent flood plain that consists of loose gravel, sand and more water. Much of the Bow and Elbow river flows occur underground in these alluvial aquifers. Downtown Calgary and many riverside communities are built over alluvial aquifers. This explains why the groundwater table rises and falls with the river.

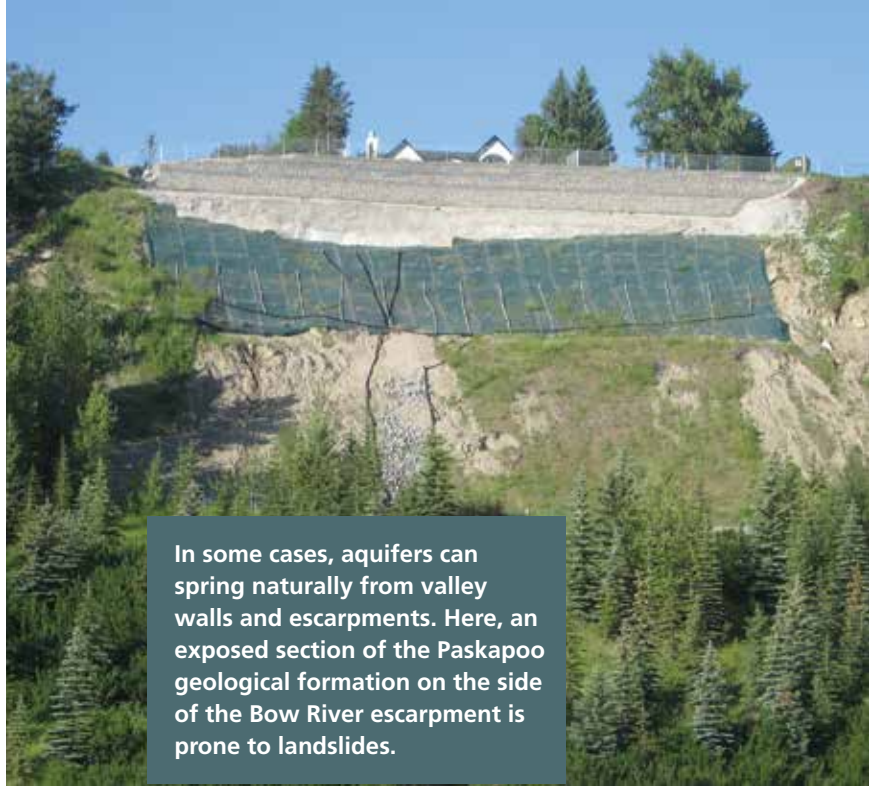
When people talk about groundwater, they are referring to aquifers. However, not all aquifers connect to a river. Some aquifers are the underground equivalent of lakes or wetlands.

Deep and shallow aquifers within the Paskapoo geological formation were formed when ancient glaciers left sweeping trails of gravel and sand across the prairie. The Paskapoo formation is a vast, interwoven network of buried channels, where water flows through layers of gravel, sandstone and shale. Some say that the Paskapoo formation contains some of Alberta's most significant groundwater resources, but we need more research to fully understand its extent.

Understanding aquifers allows the city to plan and develop infrastructure to avoid interrupting or altering the flow. This helps to avoid potential problems because flowing water will always find a way downhill even if it has to go through someone's basement or undermine a road to get there.

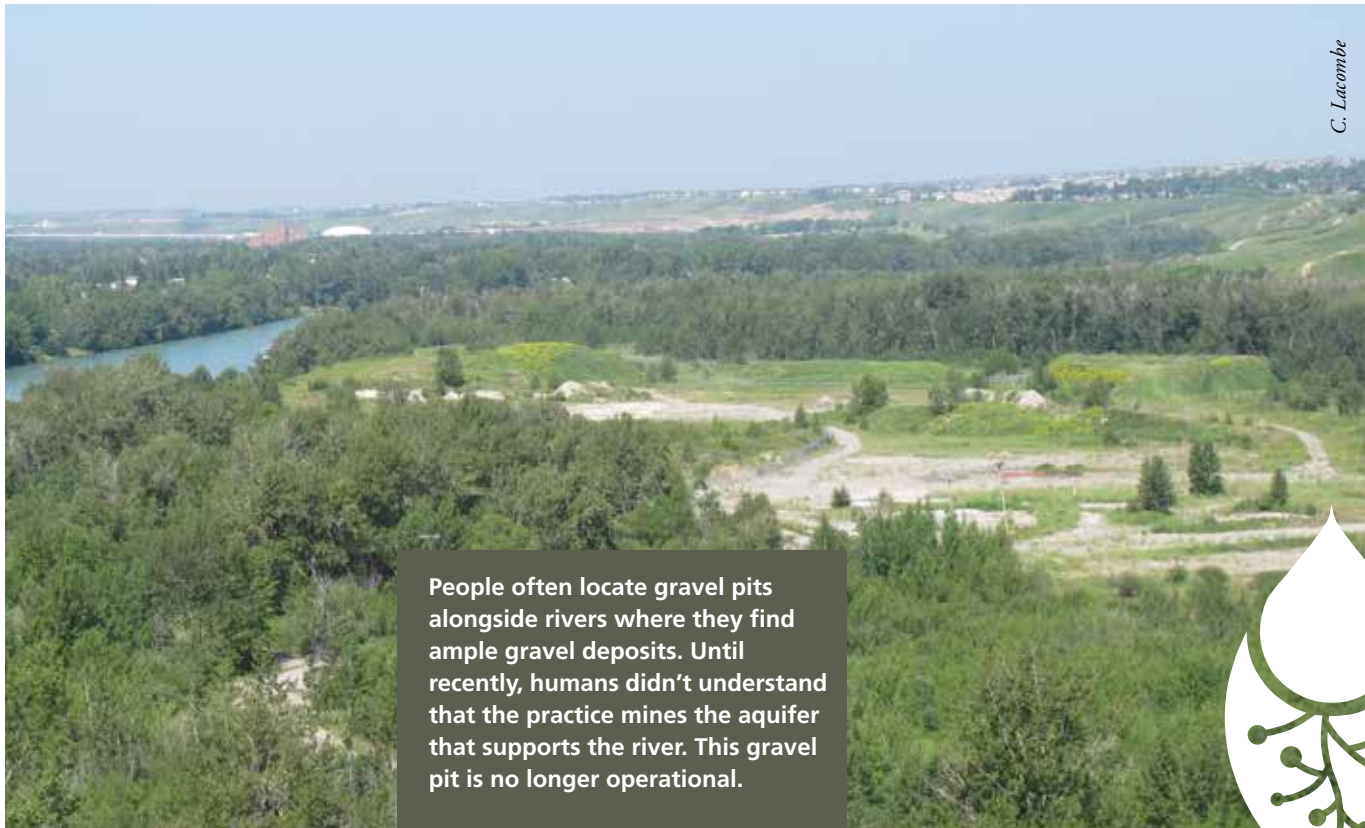
The pressures on the Bow River are many and diverse, including pressures to the entire watershed, floodplain and channel. The people of the Bow River basin have the ability to positively influence these pressures with more informed decisions and actions.

—Norine Ambrose,
Program Manager, Cows and Fish



Mac Hickley

In some cases, aquifers can spring naturally from valley walls and escarpments. Here, an exposed section of the Paskapoo geological formation on the side of the Bow River escarpment is prone to landslides.



C. Lacombe

People often locate gravel pits alongside rivers where they find ample gravel deposits. Until recently, humans didn't understand that the practice mines the aquifer that supports the river. This gravel pit is no longer operational.

Geese swimming among the trees during high water June 2012.

C. Lacombe

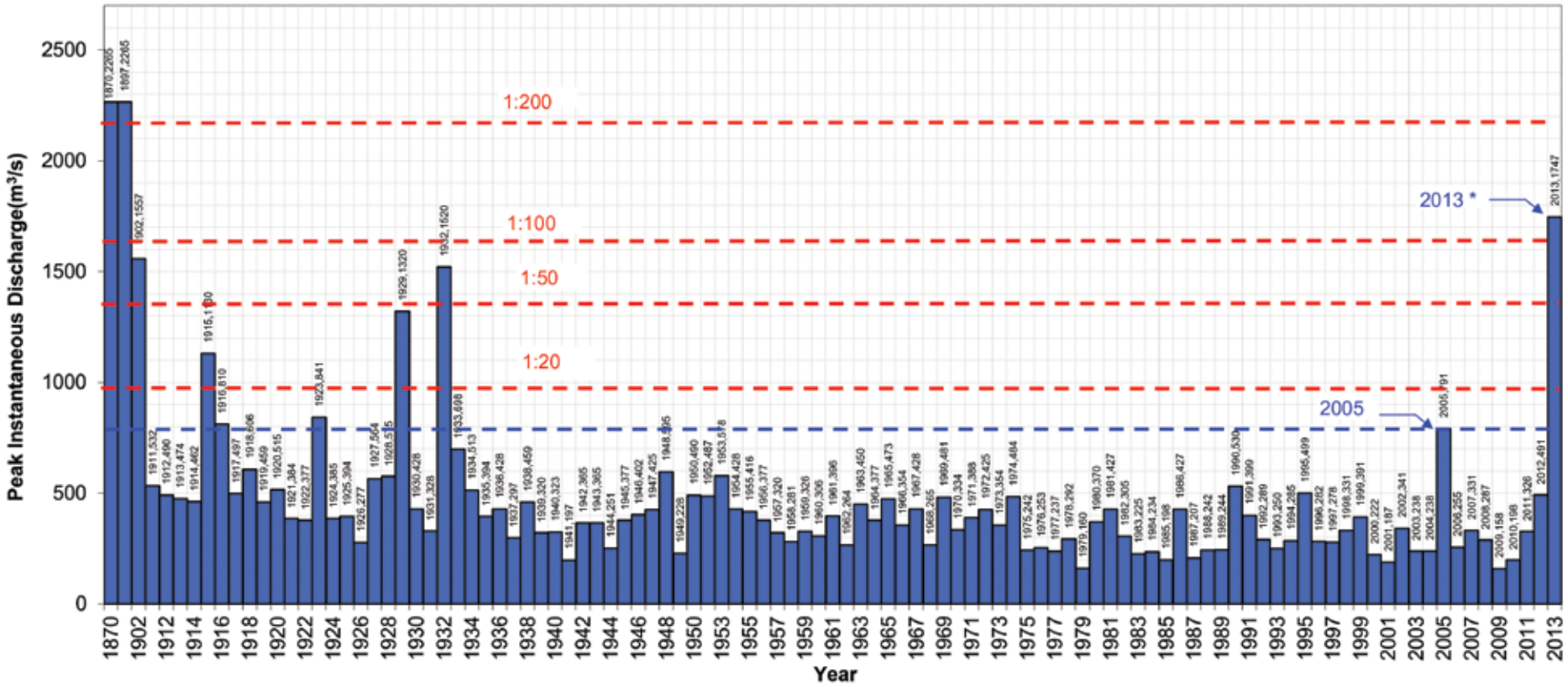
The Way of the Water

The City of Calgary has records of Bow River flows back to the late 1800s. Large floods in 1870 and 1897 reached estimated flows of about 2,200 cubic meters per second (m^3/s). The flood of 1932 peaked at about 1,520 m^3/s and the flood of 2005 reached almost 800 m^3/s. Then in June 2013 the river flooded to 1747 m^3/s. These flows are measured above the confluence with the Elbow River.

By the City of Calgary's calculations, the 2013 flood was greater than a 1 in 100-year flood event on the Bow River. Keep in mind that this statistic means that there is a 1% chance of the same or greater flood occurring in any year, depending mainly on the weather and snow conditions in the mountains to the west of us.

The City of Calgary, TransAlta Utilities and the Government of Alberta work closely to anticipate the annual spring melt and severe storm events. While upstream dams and reservoirs somewhat shelter Calgary, they are neither designed nor able to eliminate the effects of large floods. In practice, dam operators protect downstream developments whenever possible, but the forces behind large natural storms can overpower most of our built infrastructure.

Historical Annual Maximum Flows: Bow River above Elbow River Confluence



Preserving the Benefits of the Bow River

The Bow River provides 60 % of Calgary's drinking water. That water supports health, commerce, tourism and a first-class lifestyle. The watershed above Calgary produces clean, clear water that is less expensive to treat. If Calgarians and Albertans treat the Bow with respect, it will provide clean water forever. It is a precious resource to millions of people, many of whom live downstream from Calgary.

The Bow River also flushes away a lot of waste that Calgarians would rather not keep close. Fortunately for the river and our downstream neighbours, Calgary has state-of-the-art wastewater treatment facilities.

Most Calgarians enjoy the Bow River and its tributaries through the many parks along the shores. These parks offer a nature getaway within everyone's reach. A picnic, a walk or a bicycle ride can take a person's mind off more hectic aspects of life.

The Bow River also provides summer fun for responsible boaters. Many people enjoy an afternoon on the river right at their doorstep in a way other city dwellers around the world envy. Sometimes, just dipping your toes into the cool water can turn a hot, sticky day into a pleasant experience.

Healthy riparian corridors throughout the city allow Calgarians to glimpse wildlife that would otherwise avoid populated areas. Nature enthusiasts appreciate our local biodiversity and it's always inspiring to catch sight of a White-tailed Deer or a Great Horned Owl while on a walk.

C. Lacombe

C. Lacombe

Don't it always seem to go
That you don't know what
you've got 'til it's gone
They paved paradise and
put up a parking lot.

—Joni Mitchell

Sometimes in urban settings, rivers become constrained by development and there is no room left for riparian health. Urban centres may then use large rocks or poured concrete walls to slow erosion of the banks.

Highs and Lows of Floods

High water deposits nutrient-rich sediments and topsoil for germination and growth.

C. Lacombe

June 19, 2005 Elbow River footpath at Stampede Park.

S. Ryan

How nature sees a flood

Floods are nature's way of spring cleaning. Out with the old to start the summer fresh and make way for new growth. Sometimes, it's a big job.

When a flood occurs, riverbeds move. High river flows scour much of the silt and associated nutrients off the river bottom and deposit them across the floodplain, naturally fertilizing riverside parks and open spaces. Cottonwood trees and willows depend on the spread of nutrient-rich sediments and topsoil for germination and growth. Research shows that on some flood-controlled rivers, reintroducing well-timed spring floods can result in significant benefits for native tree populations. Floods also help to flush out invasive species by returning a local state of equilibrium and giving native species a leg-up.

Floods clean out fish spawning areas near the riverbanks too, making it easier for some species to create spawning beds (also known as redds).

How citizens see a flood

In Calgary, how we feel about the river flooding can depend a great deal on where we live.

In June, 2005, the City of Calgary saw the largest flood since 1932. The river over flowed its banks into riverside communities and the storm sewer system was overwhelmed. Much of the damage in that flood was caused by rising groundwater tables and sanitary sewer backup that flooded basements. At that time, the public thought the 2005 flood was an extreme event, but it was approximately equal to a 1 in 20-year event on the Elbow River, according to City of Calgary calculations.

The flood of 2013 was the most expensive natural disaster in Alberta's history. In 2005 and again in 2013 the public was not expecting to see such extensive uninsured and non-compensable damage from a flood. Property damage and potential loss of life are a genuine concern. Damage from flooding can be caused in four basic ways:

- Seepage into basements of single buildings is caused by downspouts or landscaping that direct water toward the building's foundation. Proper lot drainage can prevent this.
- Localised flooding can be caused when urban stormwater systems get overloaded. If stormwater regularly flows into buildings at street level, the City may have to upgrade old stormwater systems (at great expense). Overloaded storm sewer systems can also cause sanitary sewers to backup into basements. This is bacteria-laden water that causes dangerous mould problems. If it is not cleaned up properly it becomes dangerous to human health. Backup valves in the building's sanitary sewer can help prevent this.
- More widespread basement flooding comes from a rising water table. Controlling the depth of the basement excavation so that it remains above the water table can prevent groundwater seepage. At a minimum, in areas with shallow groundwater, or where the alluvial aquifer may rise with the river level, the electrical box and furnace should be located out of the basement, and only things that can be moved easily should be stored below ground level. Don't depend on a sump pump during a major flood unless you can keep it running with a gas or diesel powered generator. The neighbourhood electricity may be cut off.
- Overland flow from rivers and streams that have over-topped their banks causes the most devastating flooding. This water is full of silt and clay that gets left behind when the water recedes. Municipal and provincial governments may take steps to reduce overland flow damage, but they cannot prevent floods from occurring. Giving the river room to move through a community is the best defence against future property damage and loss of life.

A Blue Ribbon Fishery

People from all over the world come to enjoy the Blue Ribbon Trout Fishery on the Bow River; a designation that identifies extremely high quality recreational fisheries. People tell Calgary fish stories all over the world and for business travellers, fly-fishing in the city has become the new golf!

What makes the Bow River fishery unique is that humans introduced the primary sport-fish species to this watershed (Rainbow Trout and Brown Trout). These species flourished and populations grew along with the urban population. The adaptability of Rainbow and Brown Trout, cold clean waters and nutrient inputs from the city all contribute to the success of this fishery.

The native Cutthroat and Bull Trout populations declined dramatically with the development of power generation facilities along the river, but the native Mountain Whitefish survived. The hydro dams act as barriers to the native species' spawning migrations. Rainbow Trout found throughout the city use tributaries like the Elbow and Highwood rivers for spawning each spring, while Brown Trout and Mountain Whitefish utilize side channels and the mainstream reaches in the fall.

Mountain Whitefish

Brown Trout

We forget that the water cycle and the life cycle are one.

—Jacques Cousteau

Trout Unlimited Canada

Adult Rainbow Trout

Trout Unlimited Canada

Pine Creek wastewater treatment facility

City of Calgary

Urban Water Management

Inside

When it comes to Calgary's domestic water supply, the City has two separate systems. Drinking water comes from water treatment plants at Glenmore and Bearspaw reservoirs (about 40 and 60 per cent respectively) and reaches Calgary households through an extensive treatment and delivery system. Water that goes down an indoor drain travels to one of Calgary's three wastewater treatment plants that meet the highest international standards and contribute to Calgary's worldwide reputation for best practices in water treatment.

Most places in the world envy our drinking water and applaud our wastewater treatment system.

Outside

Over time, urban landscapes lose the ability to absorb and filter water as more hard surfaces such as roofs, driveways, parking lots and sidewalks cover the ground surface area.

During rain events, water rushes off roofs and sidewalks, down roads and storm drains and straight into our rivers and creeks. The resultant flushing effect causes erosion, contaminated water and degraded wildlife habitat and biodiversity.

Sudden stormwater inputs cause accelerated bank erosion and exaggerated channel migrations. With untreated runoff, fine silt and larger debris wash downstream and settle. Runoff transports chemicals such as nitrates and phosphates attached to silt. These chemicals act much like lawn fertilizers promoting algae and plant growth on river bottoms. If nutrient levels become too high, excessive algae and plant growth can reduce dissolved oxygen supply in the water, limit spawning opportunities for fish and suffocate life in the river.

Historically, runoff from the urban centres generated very little concern, as we thought of it as harmless rain. However, modern water testing has identified many of the harmful things rainwater washes into our rivers, lakes and streams.

Calgary's older stormwater drainage systems collect rain and snowmelt from almost 80per cent of the city and deliver it through 400+ outfalls directly into a river or the Glenmore Reservoir, without any form of treatment. Retrofit programs are starting to address this by installing stormwater ponds where space allows. In some neighbourhoods, rain gardens have been installed to clean and retain the water to help sustain community parks and public landscaping naturally.

In newer communities, storm ponds are required to intercept rainwater, reduce peak flows and settle out some of the pollutants before they reach the river. Constructed wetlands and new lot-level stormwater management techniques filter and cleanse the runoff and reduce the volume of water and snowmelt that reaches the river. Rainwater harvesting and re-use can further reduce the impacts of stormwater runoff in urban and suburban areas.

How Urban Centres Learned What to Do

Constructed Wetlands

The Elbow Valley Constructed Wetland allows researchers to study, quantify and optimize the effectiveness of constructed wetlands in southern Alberta's climate. Researchers have tried many different approaches and tested design alterations in Calgary's local conditions. As a result, this facility is one of North America's premier living laboratories for urban stormwater management.

Constructed wetlands include components specific to their location and applications, with specialized sections for mixing runoff inputs, settling contaminants, aeration, filtration and regular access for maintenance. Some also include floating islands of aquatic vegetation with hanging underwater root systems for added water cleaning benefits.

Calgary's Learning

Calgary is now home to over 150 constructed storm ponds and wetlands, many that serve multiple purposes. For instance, wetlands at Elbow Valley, Pearce Estate Park and Fish Creek Provincial Park host educational tours for school classes, bird-watchers and naturalists and continue to evolve and inspire urban environmental researchers of all ages.

A key function of storm ponds is to improve the quality of the water that returns to the river. Approximately 80% of the sediments that flow into wet ponds settle out in the still water, including the majority of pollutants. However, remember that everything that hits the ground flows into the wet ponds and rivers. We must still do our part by making sure that nothing toxic goes into the storm system.

The City requires new developments be able to withstand a theoretical 1 in 100-year flood event, but the best protection against flood damages is to preserve our natural landscape features including wetlands, riparian vegetation, open meander belts and other flood plain functions. These natural infrastructure components often offer the best and most cost effective results.

Edgemont wetland

B. Amell

Pearce Estate Wetland

B. Amell

This is a healthy constructed wetland at Fish Creek.

B. Amell

Citizen Action Always Helps

At Home

Many of the actions we can take to conserve and protect our rivers also save money for our households. Most Calgary homes have a water meter and reducing water use reduces our expenses.

Indoors, cut back on water use wherever possible and never pour toxic chemicals or medications down your drains. For specific suggestions, visit www.onesimpleact.alberta.ca or www.calgary.ca/water for fact sheets on water and energy conservation, waste reduction and more.

Outside, water conservation and protection are broader topics.

In yards, rainwater harvesting, permeable paths and driveways, prairie vegetation and xeriscaping help to slow or retain runoff on our property. Plants love the warm, non-chlorinated water that harvested rainwater provides.

Transforming part of a lawn by replacing it with drought tolerant perennials can reduce outdoor water consumption, increase property value and reduce the use of pesticides and fertilizers. Local indigenous plants help reduce the risk of invasive plants escaping from private gardens into parks and natural areas.

Mulch reduces weed problems and protects soils from drying out or eroding during rain or wind events.

Permeable surfaces, such as gravel, reduce the need for outdoor watering by allowing water to soak deeply into the soil during rain events. All these activities help protect our rivers, streams, wetlands and riparian areas, by controlling runoff close to its source.

A. Stiles

Shoreline clean-ups repeatedly find every type of trash left behind by the very people who enjoy our rivers

S. Ryan

Placing a garden where rain will naturally flow captures runoff and creates beauty instead of erosion.

In the Community

In city parks and river valleys, please stay on built pathways, use existing river access points carefully and don't litter. All those little foot paths and random riverbank trails increase the likelihood of erosion during high water events. Litter is just another name for pollution particularly when the wind and runoff carry debris into the river.

Many of Calgary's community organizations care for local parks and amenities. Some Natural Environment Parks have volunteer stewardship committees that allow community members to engage in local initiatives that can shape the look and function of their own green spaces. Investigate what your local community association has on the go or participate in the City of Calgary Adopt-A-Park volunteer program. If you have an idea to protect our river valleys, contact CRV and we may be able to help you organize your project.

There are several excellent river-focused, non-profit organizations in Calgary. Calgary River Valleys (CRV) encourages you to become one of our members. Also, check some of the local organizations online listed at the back of this booklet, as many work to inform the public, initiate projects or improve decision-making by municipal councils, staff and the public.

CRV works with City of Calgary Water Resources and in partnership with many other organizations, (such as Trout Unlimited Canada, Alberta Ecotrust and the Government of Alberta), to do research, initiate on-the-ground projects and advise legislators on policy development and urban and regional environmental planning processes.

All these activities require volunteers and funding, so please help when you can. There are lots of ways to get involved and many of them are fun for individuals and families.

"Small things, lovingly done are always within our reach ."

—Paul Hawken, environmentalist, entrepreneur and journalist

S. Ryan

Footpaths compromise the bank integrity and can cause major damage during high water.

B. Amell

Take a Virtual Journey

Watershed Stewardship

Calgary River Valleys
www.calgaryrivervalleys.org

Alberta Water Council
www.albertawatercouncil.ca

Bow River Basin Council
www.brbc.ab.ca

Elbow River Watershed Partnership
www.erwp.org

Nose Creek Watershed Partnership
nosecreekpartnership.com

Ghost River Watershed Alliance Society
www.ghostwatershed.ca

Municipal Authorities

Calgary - www.calgary.ca/water

Cochrane – www.cochrane.ca

Airdrie – www.airdrie.ca

Banff – www.banff.ca

Canmore – www.canmore.ca

Okotoks – www.okotoks.ca

High River – www.highriver.ca

Rocky View County - www.rockyview.ca

MD of Big Horn - www.mdbighorn.ca

MD of Foothills - www.mdfoothills.com

Conservation Non-Profit Organizations

Alberta Invasive Plant Council
www.invasiveplants.ab.ca

Alberta Riparian Habitat Management Society
www.cowsandfish.org

Ducks Unlimited Canada
www.ducks.ca

Eco Living Events (Calgary)
www.ecolivingevents.ca

Friends of Fish Creek
www.friendsoffishcreek.org

Green Calgary
www.greencalgary.org

Nature Calgary
www.naturecalgary.com

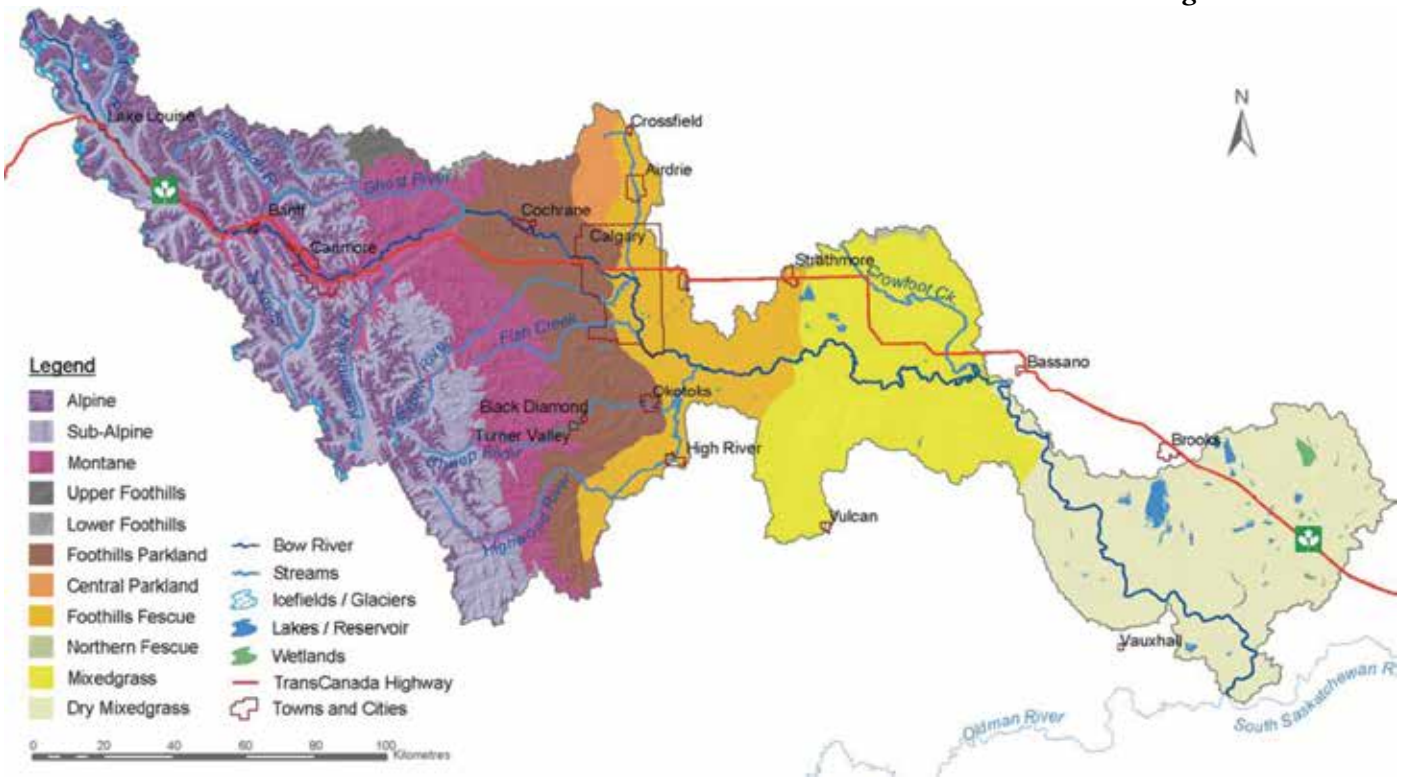
Riverwatch Institute of Alberta
www.riverwatch.ab.ca

Trout Unlimited Canada
www.tucanada.org

Weaselhead/Glenmore Park
Preservation Society
www.theweaselhead.com

Western Sky Land Trust
www.westernskylandtrust.ca

The Bow River Basin Council has produced a number of maps that highlight the different landscapes, human and climate variations within the Bow River watershed. This one shows the natural regions



Calgary River Valleys wishes to thank our sponsors for the production of this booklet, our web site and ongoing support.

THE CITY OF CALGARY

RiverWatch
Science. Education. Adventure

cenovus ENERGY

Calgary Stampede

Trout Unlimited Canada

With funding from

alberta ecotrust

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