

**Living Water Smart**  
BRITISH COLUMBIA'S WATER PLAN

“Water defines  
British Columbia.”



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# Living Water Smart

BRITISH COLUMBIA'S WATER PLAN



“This plan is  
government’s vision  
and commitment to ensure  
our water stays healthy  
and secure.”

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MESSAGE FROM  
THE B.C. GOVERNMENT

**British Columbians** are proud of our rivers, lakes, streams and watersheds and recognise that keeping them healthy is important to all of us. A plentiful amount of clean water is needed for our growing communities, economic growth, healthy food, clean energy and our beautiful environment. As a finite resource, water’s limits must be recognized, which means that the days of taking our “unlimited” supply of water for granted have passed.

This plan is government’s vision and commitment to ensure our water stays healthy and secure. It’s important we take good care of this valuable resource for future generations.

What government does is only part of the solution. Together, we need to challenge

ourselves and our businesses to think about how we can help protect our water and how the government can support these actions.



# Living Water Smart

## BRITISH COLUMBIA'S WATER PLAN

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[www.livingwatersmart.ca](http://www.livingwatersmart.ca)



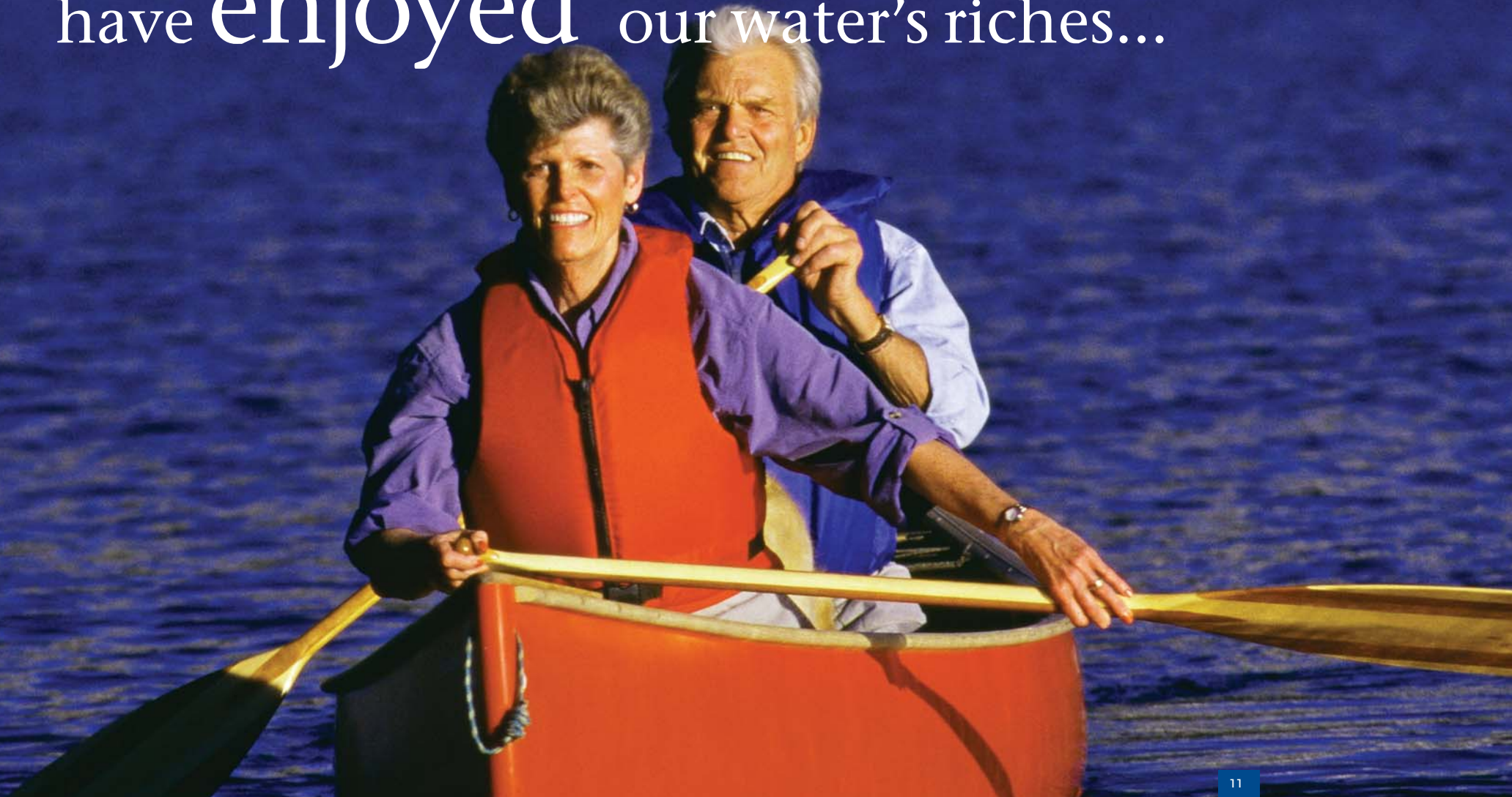


water makes **life** on earth possible.



British Columbians  
care about our 291,000 unique watersheds...

...our grandparents and parents  
have **enjoyed** our water's riches...



...we want our children  
and grandchildren  
to **enjoy** them too.



water **MOVES** us



“Since about 1900 five generations of my family have been working the Fraser River. Great-grandad started doing towing jobs with a forty foot vessel made from a huge log.”

Mike Hodder  
HODDER TUGBOAT COMPANY LIMITED  
RICHMOND B.C.



An aerial photograph of a large dam and hydroelectric power plant. The dam is a massive concrete structure with a spillway on the right side. The power plant is a large complex of buildings and equipment situated behind the dam. The surrounding landscape is mountainous and forested, with a river flowing through the valley. The sky is blue with some clouds.

water powers us

"I'm proud of B.C.'s reliance on clean energy. I have upgraded all my appliances at home in recent years to be energy efficient and I'm saving at least \$150 a year on power. Clean and renewable sources of electricity are important to help B.C. get ready for the future"

Larry Townsend  
PRINCE GEORGE B.C.

A bald eagle is shown in flight over a vast, deep blue ocean. The eagle's wings are fully extended, revealing the intricate structure of its feathers. It has a white head and neck, a yellow beak, and yellow talons. In its right talon, it holds a large, silvery fish. The background is a clear, deep blue sky that meets the ocean at the horizon.

# water nourishes our spirits

“I am taught that our waters cleanse our spirits, minds and bodies, the waters sustain us, and are our highways. We defended our waters from all takers under *s’aalh snuw’uy’ulh*—our laws, teachings. These laws were based on *uy shqwalawun*, which is a law that requires of the *hwuhwilmuhw* (people) good thoughts, good manners, good behaviour—to each other, to the land, to wildlife, to resources and to water.”

Kathleen Johnnie

PERSONAL COMMENT

PENELAKUT TRIBE (COAST SALISH)

A close-up, profile view of a young girl with long, straight brown hair and bangs. She is holding a clear glass of water to her lips and drinking. The background is a soft, out-of-focus green, suggesting an outdoor setting. The lighting is bright and natural, highlighting the texture of her hair and the clarity of the water.

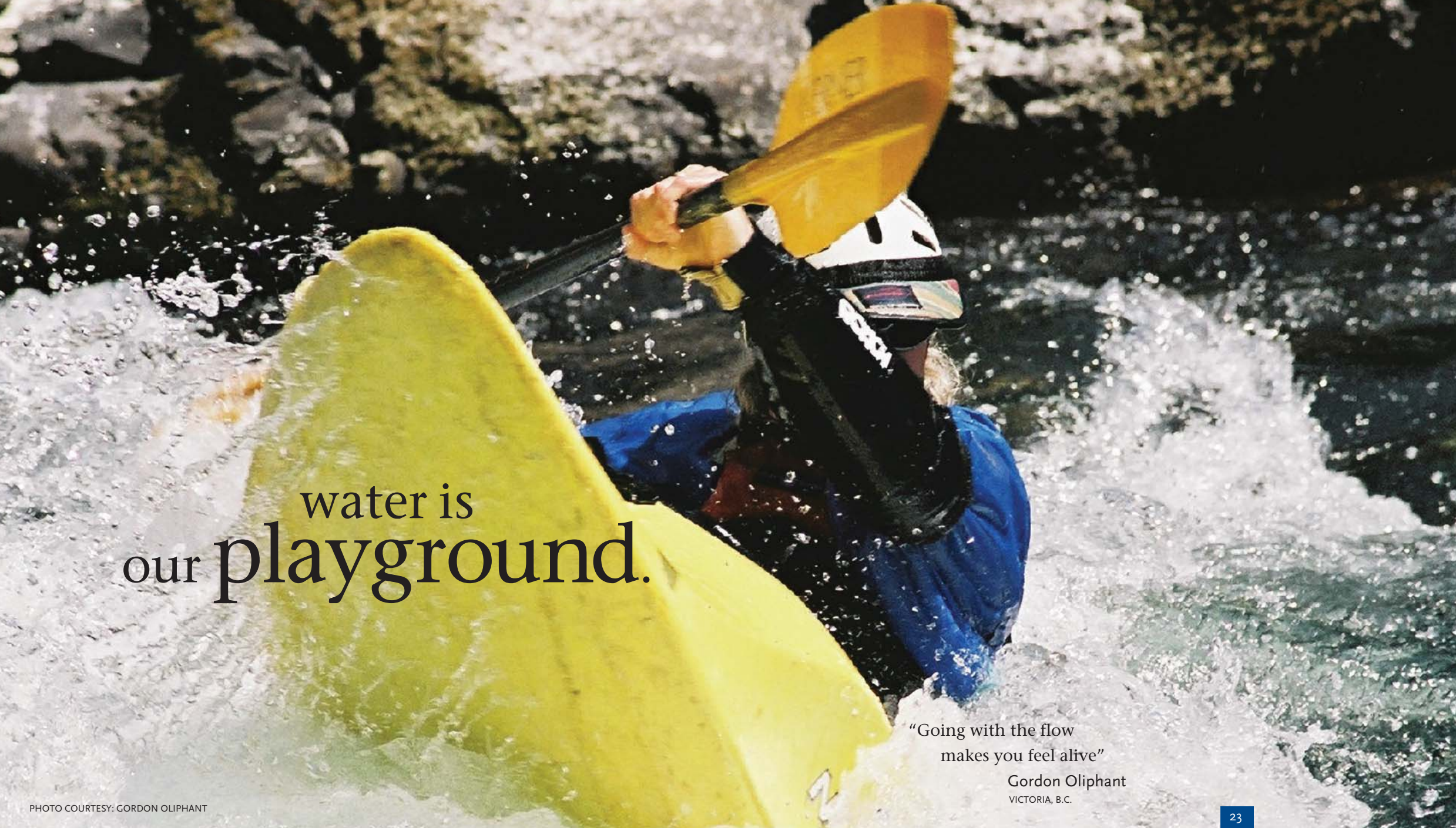
water nourishes our bodies

"I'm glad healthy, fresh water flows from our taps and grows our food."

Katelyn Farley

AGE SEVEN

MILL BAY, B.C.



water is  
our playground.

“Going with the flow  
makes you feel alive”

Gordon Oliphant  
VICTORIA, B.C.

A dynamic splash of clear water against a white background, with droplets and ripples visible. The water is positioned primarily on the right side and bottom of the frame, creating a sense of movement and freshness.

# imagine...

EVERYONE KNOWS WHERE OUR WATER COMES FROM  
AND CARES WHERE IT GOES.

imagine our **watersheds** are places where



People live, work, and play in harmony with nature's resources without compromising them

Forests stabilize our soils and slow the melting of the snow pack to prevent flooding and erosion

Soils and wetlands absorb water, filter and clean it, and slowly release it back to our creeks and streams

Creeks flow with water clean enough to drink

Bears, caribou, and other wildlife have enough wild space in which to live and roam

Healthy water is all that flows to the sea

# imagine our farms and ranches



Have enough water to irrigate their crops and only use **efficient irrigation** methods

Grow **crops suited** to our soils and climate

Preserve the top soil to **absorb and retain** water and, where possible, use reclaimed water

Have healthy streams flowing through them with their valuable stream banks (riparian zones) **restored** with the help of the local community

Keep **farm animals** out of waterways

Use fertilizers, pesticides, and compost properly to take care of our **soils and water**

Capture and clean the **run off** from farmyards before it reaches the creek

# imagine our industries



Continually **collect**, **clean** and **reuse** water—lowering costs, reducing pressure on our water supplies and keeping our rivers clean

Know how to **avoid impacts** on the environment and consider environmental and social costs in all operations

**Lead the world** in innovative technologies that reduce industry's impact on the environment

**Partner** with communities and governments to demonstrate collective water stewardship



# imagine our **businesses**



Protect our water from pollutants by using and selling non-toxic paints, cleaners, and beauty products

Keep our rivers and ocean **clean** by taking back and recycling the packaging, batteries, pharmaceuticals, and paint they sell

Sell local produce and products and **save** 70 litres of water for every litre of gasoline saved in transportation

Use and promote **water-efficient** appliances and practices and use phosphate-free detergents

Capture the oil and grease from restaurants and turn it into **energy** to heat our homes and businesses

**Teach others** how to reclaim and reuse water and turn wastes into riches

Make B.C. the “go to” place for **sustainable** water management and green building technologies

# imagine our neighbourhoods



Are connected by streams and wetlands—giving us **green corridors** to walk in and use to get to the grocery store

Have trees and shrubs along stream banks that **COOL** our communities and capture greenhouse gases

Have plentiful trees to **catch the rain** and snow, so water seeps slowly into the ground instead of rushing straight into storm drains and creeks

Have **fish in the creeks** that our kids can catch and eat

Have sidewalks and roads that allow water to flow into the ground—**replenishing** our supply

Are filled with **native plants** that aren't so thirsty

# imagine our homes

Use only **water-efficient** appliances and faucets

Catch **rainwater** for us to water our gardens,  
wash our cars, and flush our toilets

Capture and clean all water used so that we can **USE**  
**it again** and again

**Reuse energy** from hot showers, dishwashers, washing  
machines and sewage to heat our buildings

Enjoy **precious** drinking water only for drinking—  
leaving more water in our streams



# how do we get there?



**We all rely** on B.C.'s great water. In the next 25 years, the province's population will grow by another 1.4 million people so the same amount of water will have to go a lot further, without compromising nature's needs.

*Living Water Smart* is government's vision and plan to keep our water healthy and secure for the future. Through this plan, government commits to new actions and targets and builds on existing efforts to protect and keep our water safe. The plan draws on a variety of policy 'tools' including planning, regulatory change, education, and incentives like economic instruments and rewards.

A fresh and flexible approach is required to deal with competing demands and climate risks. Our children and grandchildren are depending on us to ensure they inherit healthy water resources. It's important we all get involved and make positive changes to our attitudes and actions.

**This plan outlines government's commitments to safeguarding our water and suggests some of the things you can do to help.**

# doing business differently

**Healthy water** and watersheds are vital to B.C.'s economy. Therefore, it makes sense to safeguard water for the long term. It's an important investment for government, for everyone who does business in the province, and for you. Shifting our focus to stream health requires substantial time and effort on the part of governments, communities, and other partners.

Everyone benefits from better protection and use of our water resources. By using water more responsibly, governments can save on the costs

of water infrastructure and energy, reduce their need to find new water supplies, and protect water quality for healthier communities. Businesses can save money, and enhance their competitiveness.

This section outlines changes government will make to the way we regulate and do business with water. By implementing these actions, we will see positive benefit to the way water, and our environment, is valued.

# we take care of our water, our water takes care of us...

**Water** makes up two-thirds of our bodies and its quality is intricately linked to the quality of life we enjoy.

Water defines British Columbia. It has helped build the province we are so proud of today. It remains an important clean energy source, a transportation link, and a crucial input to mining, farming and industry.



Our current laws protect many aspects of the ways we use water for fishing, drinking and transportation. Our laws can also protect ecological values. Our streams, lakes, and wetlands must stay healthy and function as nature intended, if water is to continue providing its riches forever.



#### WATER WISE FACT

The amount of water on Earth never changes but its form and location moves around the Earth in rivers, aquifers, oceans and clouds.

#### GOVERNMENT POSITION

By 2012, all land and water managers will know what makes a stream healthy, and therefore be able to help land and water users factor in new approaches to securing stream health and the full range of stream benefits.

# nature is the best teacher

the best architect, and the best engineer when it comes to storing, treating, and filtering our water

**Rivers and lakes** require certain amounts of water at different times of the year to protect natural ecosystem functions like cleaning river

beds and fish rearing. In areas where there is a lot of human demand for water, there is competition among users and environmental needs.

The protection of aquatic habitat is essential to maintaining biodiversity in the province. Stream health will be considered first so watersheds remain healthy and we reverse the decline evident in many of our rivers and streams.



We can improve the way our water laws protect stream flows, fish, wildlife, and aquatic habitats. The allocation of water for ecosystem needs will generate opportunities for fisheries, recreation, and tourism in B.C.

## Nature's Lessons

- 1 Water is the basis of life on Earth; nothing can survive without it.
- 2 All water is part of a single whole: glaciers, snow, lakes, rivers, streams, rainwater, and groundwater are all part of the same great water cycle.
- 3 Water has no substitutes in most of its uses.
- 4 Water is renewable from year to year, but there is a finite supply.
- 5 Water should be kept on the land as long as possible.
- 6 The trees in our forests capture, store, and use water that would otherwise run off the land too quickly.

## GOVERNMENT POSITION

**By 2012, water laws will improve the protection of ecological values, provide for more community involvement, and provide incentives to be water efficient.**

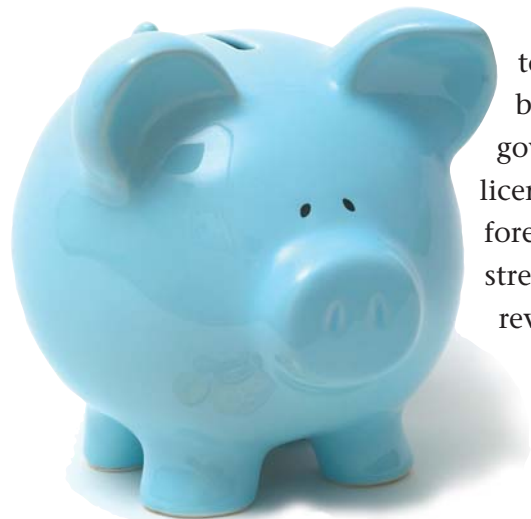
**Legislation will recognize water flow requirements for ecosystems and species.**

# living within our means



Some streams in B.C. are under significant pressure. Water overuse has put real stress on some rivers and streams, trying to meet too many demands.

We need to look at these situations to regain some of the water that has been allocated in perpetuity. The government has stopped giving out licences for power generation that last forever. In times of drought or where streams are not healthy, government will review the amount of water that has been allocated. All users will need to innovate or improve their practices



to be more efficient with water use. We can start by conserving water and not wasting it.

Together we will find a way to ease future water tensions that's fair for everyone, including new users. Equitable allocation of water will improve the certainty of access to water for social, economic, and environmental needs. The days of taking our "unlimited" supply of water for granted are over.



#### WATER WISE FACT

There are approximately 44,000 active water licences in British Columbia. Annual rentals from the licences provide more than \$270 million of revenue to the province each year.

#### GOVERNMENT POSITION

**Government will require all users to cut back their water use in times of drought or where stream health is threatened.**

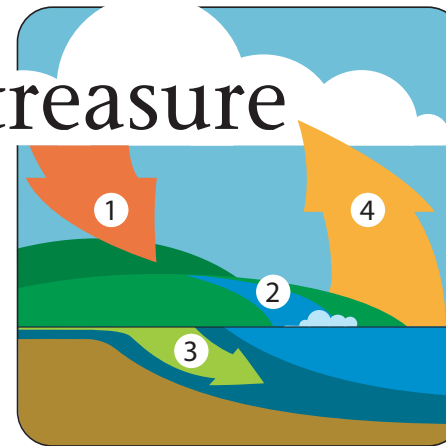
**Government will limit all new licences to 40-year terms in areas where there is high demand and pressure on water.**



# groundwater is our hidden treasure

**Protecting** the safety and security of groundwater is essential to communities. In the past we've taken our groundwater for granted. Groundwater is closely connected to surface water through co-dependent ecosystems and the flow of water. The province's groundwater quality is generally good but it is threatened by nitrates and other pollutants in some aquifers that provide drinking water to communities.

Currently, the use of groundwater in B.C. is not regulated, making this high quality resource vulnerable, as well as impacting streams especially in areas under high water demand. This plan commits government to protecting the



The Water Cycle

- 1 Condensation causes precipitation
- 2 Surface water flow
- 3 Groundwater flow
- 4 Transpiration from plants and evaporation

inter-connections between groundwater and surface water and will protect our groundwater from pollution and overuse.



#### WATER WISE FACT

An estimated 750,000 British Columbians drink groundwater. Hundreds of groundwater aquifers provide water for industries, municipalities and rural homes in B.C.

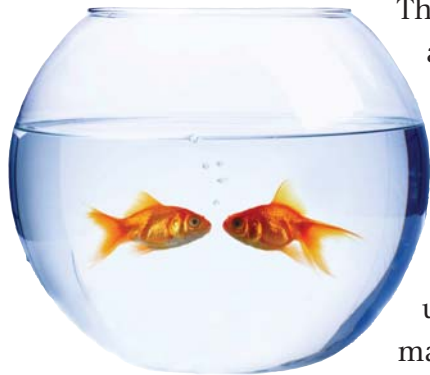
#### GOVERNMENT POSITION

The Ground Water Protection Regulation will protect the quality and quantity of our groundwater.

By 2012, government will regulate groundwater use in priority areas and large groundwater withdrawals.

# get together decide together

**Around the world** there is a trend towards greater community involvement, resulting in more effective community solutions to managing water.



Throughout our province communities are taking action to protect and sustain our water.

We need to make sure what happens on our land doesn't create problems for our water, especially the water we drink or rely on for other uses. Future planning will integrate the management of stormwater, drinking

water, wastewater and oceans. Watershed planning helps to resolve land and water use problems or conflicts in a given region by bringing together interested agencies, First Nations, stakeholders and communities.

*Living Water Smart* will enable and support local water stewardship initiatives that recognize the broad value of freshwater ecosystems to find creative and suitable solutions to local water issues. Government will continue to be accountable for the protection of water resources in the public interest.

#### GOVERNMENT POSITION

**Government will support communities to do watershed management planning in priority areas.**

# we can't **manage** what we don't **measure**

Water makes a **valuable contribution** to our economy and we need to know more about who, where, when, and how people are using it. Measuring the amount of water people use provides essential information to effectively manage water supplies and understand if there is more water available for new uses. Measuring water use also benefits the water user. For example, we can identify leaks and other inefficient uses, and show how much water has been consumed to maximize production. Advances in technology mean water use information can be collected automatically.



Becoming water efficient is a key objective of this plan. Studies estimate that in almost every sector of the economy cost-effective water use reductions of 20 to 50 percent, or more, are available from efficiency measures. The benefits are even greater when energy savings, reduced infrastructure needs, and reduced impacts on water are counted. Water use information helps us all become more efficient water users.



#### **WATER WISE FACT**

Of the total volume of fresh water on earth, a whopping 68.9 percent is in the form of ice and permanent snow cover in mountainous regions, the Antarctic and Arctic.

#### **GOVERNMENT POSITION**

**By 2020, water use in B.C. will be 33 percent more efficient.**

**By 2012, government will require all large water users to measure and report their water use.**

# our farms need water



**B.C.** has an Agricultural Land Reserve of approximately 4.7 million hectares or five percent of the province. Reserving water for these lands will encourage farmers to invest in water-efficient farming practices. Certainty of access to water, like access to land, is crucial for agricultural development and food security in the province. For example, an agricultural water reserve would have benefits for the economic performance of the agricultural sector, as well as

adding vitality to rural towns, and providing us with healthy, local food.

While providing water security for farmers, government will support the continued innovation and efficiency from the agricultural sector. Future applications for water licences will consider the crop and soil water requirements under best practice scenarios, to help ensure that water use on farms is as efficient as possible.



#### WATER WISE FACT

Beef cattle need about 45 litres per day and dairy cattle need about 135 litres per day. These amounts increase by one and a half to two times on a hot day.

#### GOVERNMENT POSITION

**Government will secure access to water for agricultural lands.**

**Government will require more efficient water use in the agricultural sector.**

# conserve and restore

**Healthy watersheds** help us and are an important part of B.C.'s water legacy. Freshwater environments, and the riparian zones that border waterways, conserve biodiversity, provide habitat for fish, wildlife, plants and insects, filter water and waste, buffer floods, and are a primary means of transportation for humans and nature.

Despite the important services our streams and wetlands provide,

if we don't pay attention they could be at risk due to population growth and industrial development. The Province will continue funding watershed and habitat restoration projects through the \$21 million Living Rivers Trust Fund, Habitat Conservation Trust Fund, and other initiatives.

We will examine new incentives to revitalize our lakes, rivers, and streams. A collective effort is needed to clean up, and minimize, the effects of our daily activities on watersheds.



#### WATER WISE FACT

The Fraser River is the longest river in B.C. at 1,368 km (850 mi) long. The largest lake is Williston Lake (reservoir) at 1,761 sq km (680 sq mi).

#### GOVERNMENT POSITION

Government will work with the private sector and support communities to conserve and restore stream function.

Government and partners will restore ecological health to 30 km of stream between Vaseux Lake and Osoyoos Lake.

Government will fund the Mount Washington mine remediation project with \$4.5 million, restoring the health of the Tsolum River.

To enhance some watersheds, government will examine the potential of decommissioning dams.



# preparing communities for change

**Water plays** a huge role in shaping our communities. We need safe drinking water, water for homes and businesses, and enough to keep our environment healthy. We also need protection from floods.

By living water smart, we can save water, energy, fuel, and money. Ways of working with, rather than against, nature have resulted in communities and developments that capture and use rain, treat or reuse wastewater, provide cool green spaces for urban relaxation, and reduce our energy needs.

This section outlines a shift in thinking from taking water for granted to designing our communities to live in harmony with water. Innovative ideas and designs will consider our changing climate, economic, and social contexts. By living water smart, communities will be more prepared for climate change and our quality of life will be enhanced.

# our climate is changing

**Government** is working and investing to help communities adapt to our changing climate.

Changing temperatures and precipitation patterns are already affecting our weather, water cycles, and ecology. Climate change is impacting our forests, ecosystems, water levels, infrastructure, agriculture, industry, and recreational opportunities.

Risks of flooding, sea level rise, and storm surges pose new threats for human health, safety, and property. Warmer temperatures and drier conditions are compounding insect infestations, wildfire threats, and increasing drought risk.

We need to design our communities to adapt to our changing climate while thinking long-term to revitalize our natural systems.



Climate change will have broad impacts across Canada. This presents opportunities to share ideas and work together with other provinces on common challenges around water. The *Western Water Conservation Initiative* will coordinate effort and spending on climate change adaptation initiatives for water, and will better prepare Canada for the future.

Healthy riparian zones can effectively store carbon dioxide, put water vapour back into the air, and help slow global warming. Government will integrate this water plan with its climate action plan to reflect the essential role healthy lakes, rivers, streams, wetlands, and riparian zones can play in:

- storing carbon in plants and soils,
- releasing water vapour to naturally cool landscapes,
- buffering the effects of extreme weather events, and
- storing and providing water during times of drought.

### GOVERNMENT POSITION

By 2012, new approaches to water management will address the impacts from a changing water cycle, increased drought risk, and other impacts on water caused by climate change.

Government will work with other provinces to share ideas and resources to improve water conservation and collectively help communities adapt to climate change.

Community development strategies will be created to recognize the importance of riparian zones in adapting to climate change.

# smart spending on smart infrastructure

**Government** strongly supports change and innovation to improve the performance and lifetime of infrastructure, developments and buildings.

For example, designs for infrastructure like storm drains, bridges and dikes must be updated to cope with larger rainfall or flood events, and water storage may be needed to better cope with drought. Already, building designs and technologies are getting better at reducing water and energy use, which helps us respond to our changing climate.



*Eighty percent of provincial funding to local governments is for water-related infrastructure.* It's important that this money be used wisely. To conserve water and maintain its health, criteria for provincial infrastructure funding will require greener and smarter designs and development. New incentives will encourage developers and engineers to continually seek better solutions to help meet our future water needs.



#### WATER WISE FACT

Canada's per capita water consumption is **65 percent** above the Organization for Economic Cooperation and Development (OECD) average, second only to the United States.

#### GOVERNMENT POSITION

Adapting to climate change and reducing our impact on the environment will be a condition for receiving provincial infrastructure funding.



# rivers need room to meander



**Flood Seasons** will always be characteristic of our province's climate and geography. High waters are essential to a healthy ecosystem; they help rebuild soils, maintain wildlife habitat, and restore groundwater supplies.

To help communities respond to floods, government continues to support the development of Emergency Management Plans.

*Living Water Smart* concentrates on reducing human and property damage during floods.

Concentrating on floodplain management and structural flood protection will decrease spending on emergency response and reduce damage in the long term. New design standards for buildings in flood-prone areas and flood protection infrastructure will be developed that reflect increasing flood risk. Effective ways of helping communities better manage the risk of more frequent floods include:

- avoiding building in flood prone areas,
- allowing room for rivers to meander,
- improving flood protection infrastructure, and
- adopting flood proofing measures.

## GOVERNMENT POSITION

Where new development on flood plains is unavoidable, it will be flood-proofed to high provincial standards.

Government will provide \$100 million for flood protection over 10 years to help communities manage flood losses.

# green development makes sense

**To estimate** the true cost of a development project, the entire life of the project and its impacts

must be considered. In the past, communities were developed when water was regarded as a 'free good' of little or no value. That is no longer so.

New thinking about development leads to new benefits. These include more green spaces, more water and fish in the

streams, improved community vitality, reduced demand for water, and reduced expenditure on infrastructure.

To recognize these extra benefits, government will provide incentives to developments that store more greenhouse gases by restoring sections of streams or wetlands.

It won't be easy to always make the best choices for our communities, but if we all work together we will balance social, economic and environmental values in our community plans.



### GOVERNMENT POSITION

**Wetland and waterway function will be protected and rehabilitated.**

**Government will provide incentives for the restoration of streams or wetlands.**

**Green developments waiting for provincial environmental approvals will be fast-tracked and given priority.**

# leading the way

**There are many** ways to improve how we build our communities and live with water. A life-cycle assessment helps us see the costs and benefits over the lifetime of the good or service. Developments and redevelopments that consider water efficiency, stream health, and smart growth principles will deliver better environmental health and economic returns.

It is essential that we all change the way we think about and act around water. Government intends to set an example. In future, all new provincial public buildings will be constructed to Leadership in Energy and Environmental

Design (LEED™), Gold or equivalent standards. Government will also restore sections of streams or wetlands in the surrounding landscapes where

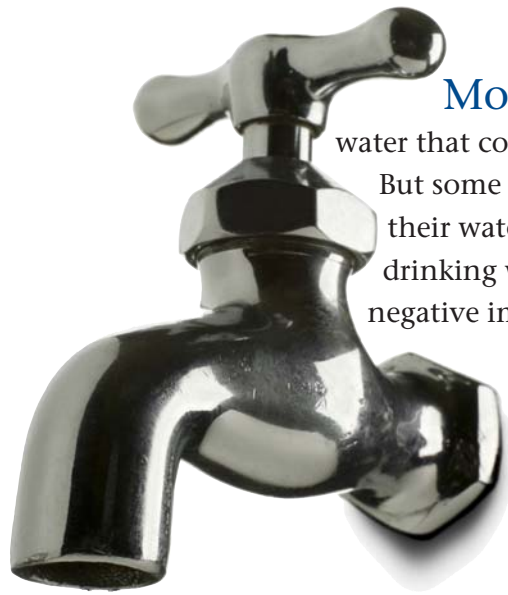


practical. Existing government buildings will be retrofitted to make them more water and energy efficient, climate-friendly, and healthier places to work in.

### GOVERNMENT POSITION

**Government will develop new protocols for capital planning that will look at the life-cycle costs and benefits of buildings, goods, and services.**

# safe water from our taps



**Most of us** take the drinking water that comes out of our taps for granted. But some B.C. communities still need to boil their water before they drink it. Sources of drinking water must be protected from the negative impacts activities can have on water.

Throughout B.C., we have seen improvements to drinking water systems but we need to do more. Particularly in First Nations communities, government will improve the quality and protection of drinking water sources. Better protection of our drinking water sources is the easiest and cheapest way to reduce drinking water treatment costs.



#### WATER WISE FACT

The average adult drinks only about 1.5 litres of water per day, and that includes water used in drinks such as coffee, tea and juice.

#### GOVERNMENT POSITION

Government will improve the quality and protection of drinking water sources.

Government will cooperate with Canada to ensure the quality of drinking water in all Aboriginal communities will meet the same provincial standards applied across B.C. by 2015.

# choosing to be water smart

**British Columbians** have one of the highest per capita water use rates in the world.

As our population grows, industrial activities expand, and agricultural demands increase, there is often not enough water where we need it, and too much where we don't. The time of abundance is over. We cannot afford to waste water.

B.C. will continue to experience periods of tight water supply and face increasing demands. Using

water more wisely is key to a sustainable water future for everyone; fortunately, we have a lot of room for improvement!

This section outlines new policies and actions in water demand management and will help reduce water use in the home. This section also recognizes the importance of getting the science and information we need to make good water decisions.

# being **water smart** in British Columbia

**Communities** and water suppliers will need to manage their water demand better because of limited water supply. We can't always find more water to meet demands. Using water more wisely reduces demand on a precious, finite resource and saves on expensive drinking water and wastewater infrastructure. Demand management focuses on ways to save water and use the savings to supplement water supply. By law in B.C., supplementing water supply by transferring it between major basins is not an option.

The City of Kelowna recently announced a city-wide conservation target of 15 percent to be achieved by 2012. This target builds on the 20 percent savings the city has already made since



1998! They found that one of the easiest ways to immediately save lots of water was to fix the leaks in homes and infrastructure.



#### WATER WISE FACT

An average garden hose pours out 20 litres of water per minute! A lot of water can be wasted when gardening or washing the car if you don't turn it off.

#### GOVERNMENT POSITION

Fifty percent of new municipal water needs will be acquired through conservation by 2020.

Government will look at new ways to help promising water conservation technology succeed.

# reduce your use!

**Did you know** we drink less than three percent of the municipally-treated water we use? The rest goes down the drain, down the toilet, or is used to wash our cars and water our gardens. This is both expensive and wasteful. We can do better, saving water and money!

Countries in Europe have reduced their water consumption to a third of what we use by adopting water-efficient practices and technologies. Already in B.C. local measures such as conservation planning, water metering, green buildings, and water efficiency requirements in plumbing codes show

how successfully we can cut our water use, energy bills, and help the environment. If conservation measures are not sufficient, we may have to start pricing water use.

Household purple pipes are a second set of plumbing that captures rainwater and recycles leftover water from the dishes, washing and showers. This 'extra' water can be used for flushing toilets and watering gardens, this means we can save the best water for drinking and take less from the environment.



### WATER WISE FACT

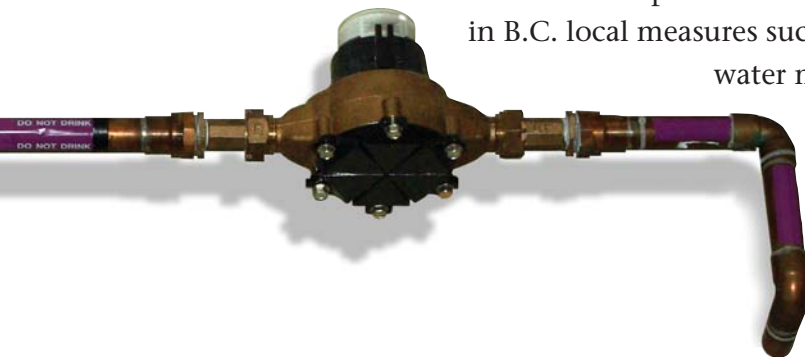
A water saving toilet (6 litres per flush) can save you up to 14 litres each time you flush! For the average family that's 25,000 litres per year, with that water you could fill 25 hot tubs!

### GOVERNMENT POSITION

Government will fund household evaluations of water, energy, and transportation use.

The Green Building Code will require water-conserving plumbing fixtures such as low flush toilets.

By 2010, government will mandate purple pipes in new construction for water collection and reuse.



# are **you** water smart?

**British Columbians** use about 490 litres per person per day—not including industrial or agricultural use of water. Usually, in the home, toilets will use 30 percent and about another 30 percent is used elsewhere in bathrooms. Installing a low-flow toilet and showerhead could achieve an impressive 2,000 litres per week reduction in water use for the average household!

To help you make the smartest water choices, B.C. will lead a voluntary, water-efficiency labelling system for water-consuming products.

- Think ‘water efficiency’ next time you buy products like washing machines, dishwashers, fridges, irrigation systems, taps and toilets.
- Fix that dripping tap; usually it’s an easy job to replace the washer.
  - Put the plug in so precious water doesn’t run down the drain.



- Landscape using native or drought-resistant plants and garden designs that minimize water use.
- Shower as long as you need to get clean under a low-flow showerhead. You’ll save money because you’ll use less hot water!
- Replace your toilet with a low-flow model or put a pop bottle of water in your tank.
- Collect rainwater for watering the garden. Water the roots of your plants, instead of the leaves, with an efficient method like drip irrigation.
- Run the dishwasher only when it is full and don’t rinse your dishes under a running tap.
- Share your smart water choices with friends and neighbours.

For more tips about how your home, farm or business can be water smart check out [www.waterbucket.ca](http://www.waterbucket.ca)



### WATER WISE FACT

Dripping taps are a major cause of wasted water and can also cause water damage in the home. Fixing a dripping tap can save up to 300 litres of quality B.C. drinking water per week.

### GOVERNMENT POSITION

In partnership with industry, government will develop a water efficiency labelling system for water-consuming products.



# learning about water

The younger generation is the future of water stewardship. British Columbians need a better understanding of the current health of

### Some symptoms of an unhealthy stream

1. Stream banks do not have enough variety of healthy plants to hold the soil in place.
2. The stream does not have enough logs, rocks, and pools to dissipate stream energy and provide hiding places for fish and other organisms.
3. The stream bank is steep and eroding, causing loss of soil, poor water quality, and loss of habitat.



our freshwater, the challenges confronting it, and the broader contribution water makes to the economy. By teaching our youth about the characteristics of a proper functioning stream, they will

learn the values of water, how to reduce human impacts on nature and ways to bring a stream back to health.

We can incorporate student and community gathered knowledge in local planning and decision-making by using tools such as a stream-health checklist.

To learn if your stream is healthy go to [www.livingwatersmart.ca](http://www.livingwatersmart.ca)



### WATER WISE FACT

Land uses like urban development, agriculture, mining and forestry all contribute to habitat loss in streams. A survey of 14 Vancouver Island streams showed that more than 40 percent lacked critical habitat features such as large woody debris, cover and pools.

### GOVERNMENT POSITION

By 2012, all students in B.C. will have completed at least one stream-health assessment.

Government will award a youth water-science prize or scholarship for excellence in water stewardship.

Government will provide summer jobs for youth between the ages of 16 to 22, to undertake 20 stream restoration projects across the province.

# keeping our traditions and knowledge

**First Nations** have a strong spiritual connection with water. The holistic connectedness of ecosystems and watersheds closely aligns with First Nations' values. Aside from drinking and sanitation in homes, healthy water is also important to traditional bathing ceremonies, transport, food and medicinal plant gathering and the health of animals and plants. Like all communities, water is an important economic resource to First Nations. Through the Transformative Change Accord, government commits to ensuring sufficient clean water is available

for ongoing economic growth and development in Aboriginal communities.

First Nations have been observing and collecting wisdom on water and ecological change for generations. Wisdom about water is woven into cultural rules and practices for resource management, as well as First Nations stories and ceremonies. This traditional ecological knowledge can make a valuable contribution to water science and policy.

Building a new relationship and facilitating two-way knowledge sharing will help governments and communities learn about, respect and uphold what is important to First Nations.

## GOVERNMENT POSITION

Government and First Nations' treaty water negotiations and other related agreements support providing a clean and safe domestic, agricultural and industrial water supply for First Nation communities.

Tools to incorporate traditional ecological knowledge into information and decision making will be developed by 2015.

Government will continue to work toward preserving First Nations' social and cultural practices associated with water.



# getting smarter with science

**Excellent** decisions require excellent information. Science needs to drive our decision-making. It's important to understand our watersheds, their contribution to human health and the



environment, and the best ways to protect water resources. Thanks to changes in information systems and the Internet, it's now possible to provide people with great information in a usable format.

Many government information systems need to be updated for the needs of the 21st century, made more accessible for communities,

and B.C.'s ability to monitor, predict and adapt to climate change needs to improve.

We need to establish initial benchmarks for water and then monitor progress towards our vision. This helps us to identify areas to focus on, where we are achieving our goals, and where we get maximum benefits from all our activities.

B.C.'s new water plan website, [www.livingwatersmart.ca](http://www.livingwatersmart.ca) will be a helpful, one-stop shop for water information.



#### WATER WISE FACT

In the summer, one mature pine tree needs about 20 to 40 litres of water every day.

#### GOVERNMENT POSITION

By 2010, a strategy to set the direction for water science in B.C. will be implemented.

Government is expanding B.C.'s hydrometric and other climate-related networks.

Government will publish a report on the state of our water by 2012, and every five years after that.

# recognizing our water smart heroes



By celebrating the successes of individuals or groups, others will feel inspired and motivated and we can all learn how to be better water stewards.

Government wants to recognize and celebrate the important work our water heroes are doing for water stewardship.

Sustainability has been included in the mission and vision of the Vancouver 2010 Olympic and Paralympic Winter Games. Organizers and partners are setting goals to save water and reduce impacts on water. The 2010 Winter Games present a great opportunity to showcase our water smart innovation and choices to the rest of the world.



## GOVERNMENT POSITION

Government will celebrate examples of successful water stewardship by awarding annual water awards to individuals or groups.

The government of B.C. will work with our Olympic partners to use sports and the Olympic Games spotlight to engage British Columbians and support smarter water choices.

# be part of the solution!



To find out more about this plan, to learn what you can do, and to take a water smart quiz, visit [www.livingwatersmart.ca](http://www.livingwatersmart.ca)

Send your thoughts on this plan to [livingwatersmart@gov.bc.ca](mailto:livingwatersmart@gov.bc.ca)

#### A list of helpful water web links:

Waterbucket	<a href="http://www.waterbucket.ca">www.waterbucket.ca</a>
Stewardship Centre B.C.	<a href="http://www.stewardshipcentre.bc.ca">www.stewardshipcentre.bc.ca</a>
Living by Water	<a href="http://www.livingbywater.ca">www.livingbywater.ca</a>
Fraser Basin Council	<a href="http://www.fraserbasin.bc.ca">www.fraserbasin.bc.ca</a>
Habitat Conservation Trust Fund	<a href="http://www.hctf.ca">www.hctf.ca</a>
Waterbalance	<a href="http://www.waterbalance.ca">www.waterbalance.ca</a>
West Coast Environmental Law	<a href="http://www.wcel.org">www.wcel.org</a>

## Doing Business Differently

- By 2012, all land and water managers will know what makes a stream healthy, and therefore be able to help land and water users factor in new approaches to securing stream health and the full range of stream benefits.
- By 2012, water laws will improve the protection of ecological values, provide for more community involvement, and provide incentives to be water efficient.
- Legislation will recognize water flow requirements for ecosystems and species.
- Government will require all users to cut back their water use in times of drought or where stream health is threatened.
- Government will limit all new licences to 40-year terms in areas where there is high demand and pressure on water.
- The Ground Water Protection Regulation will protect the quality and quantity of our groundwater.
- By 2012, government will regulate groundwater use in priority areas and large groundwater withdrawals.
- Government will support communities to do watershed management planning in priority areas.
- By 2020, water use in B.C. will be 33 percent more efficient.
- By 2012, government will require all large water users to measure and report their water use.
- Government will secure access to water for agricultural lands.
- Government will require more efficient water use in the agricultural sector.
- Government will work with the private sector and support communities to conserve and restore stream function.
- Government and partners will restore ecological health to 30 km of stream between Vaseux Lake and Osoyoos Lake.
- Government will fund the Mount Washington mine remediation project with \$4.5 million, restoring the health of the Tsolum River.

- To enhance some watersheds, government will examine the potential of decommissioning dams.

### RECENT ACHIEVEMENTS

- B. C. Hydro's water licences have been updated to ensure hydroelectric operating practices are environmentally, socially, and economically acceptable to British Columbians.
- The Ground Water Protection Regulation has set established standards for well drilling and construction, and certification requirements for well drillers and pump installers. Consultation for Phase II of the regulation is underway.
- Over 1800 farms and ranches have completed Environmental Farm Plans, improving farm practices.
- Since 2004, all new water licences issued for water power have been issued with a maximum term of 40 years. This requirement has been included in over 30 new water power licences.
- The BC Energy Plan was announced in 2007 to focus on the province's key natural strengths and balance economic opportunities through clean energy development and sustainable environmental management.
- B.C.'s Living Rivers Trust Fund of \$21 million continues to support watershed protection and restoration projects.
- The BC Agriculture Plan was announced in February 2008 to coordinate food sustainability with water sustainability and promote local, healthy, organic food production.
- Further government support will help complete the Okanagan Basin water supply and demand study (started in 2006). The Okanagan's water supply is affected by population growth, economic development, and climate change, as well as natural snow and rainfall fluctuations.
- The Township of Langley is preparing the first regulatory based Water Management Plan to address groundwater supply issues.

# Preparing Communities for Change

- By 2012, new approaches to water management will address the impacts from a changing water cycle, increased drought risk, and other impacts on water caused by climate change.
- Government will work with other provinces to share ideas and resources to improve water conservation and collectively help communities adapt to climate change.
- Community development strategies will be created to recognize the importance of riparian zones in adapting to climate change.
- Adapting to climate change and reducing our impact on the environment will be a condition for receiving provincial infrastructure funding.
- Where new development on flood plains is unavoidable, it will be flood-proofed to high provincial standards.
- Government will provide \$100 million for flood protection over 10 years to help communities manage flood losses.
- Wetland and waterway function will be protected and rehabilitated.
- Government will provide incentives for the restoration of streams or wetlands.
- Green developments waiting for provincial environmental approvals will be fast-tracked and given priority.
- Government will develop new protocols for capital planning that will look at the life-cycle costs and benefits of buildings, goods and services.
- Government will improve the quality and protection of drinking water sources.
- Government will cooperate with Canada to ensure the quality of drinking water in all Aboriginal communities will meet the same provincial standards applied across B.C. by 2015.

## RECENT ACHIEVEMENTS

- The River Forecast Centre issued 103 advisories, bulletins and forecasts in 2007 alone, enabling science-based decision-making during flood preparation and response.
- Provincial and Federal funding (\$33 million in Spring 2007) has been spent on upgrading dikes for improved flood protection.
- Forty flood protection projects across the province are now underway as part of the first phase of the 10 year, \$100 million B.C. Flood Protection Program.
- The province responded to the massive ice jam on the Nechako River (in the City of Prince George) by providing information on water flows, expert advice on ice issues and financial assistance for uninsurable property damages.
- The Green Cities project was announced in 2006 to encourage the development and exchange of community best practices. An awards program recognizes integrated, sustainable community design and management. Green Cities also includes financial incentives for local governments to use hybrid vehicles and invest in rapid transit initiatives.
- The province announced the establishment of a \$10 million remediation fund to create opportunities to revitalize brownfields (abandoned, underutilized or contaminated lands) and allow new communities to flourish.
- Smart growth and water-aware development principles have been adopted in many communities including: Ucluelet, Oliver, Surrey, Maple Ridge, Squamish, and Dawson Creek.
- Safer drinking water has been achieved for over 120 communities due to provincial and federal funding support for water treatment and delivery infrastructure upgrades.

## Choosing to be Water Smart

- Fifty percent of new municipal water needs will be acquired through conservation by 2020.
- Government will look at new ways to help promising water conservation technology succeed.
- Government will fund household evaluations of water, energy, and transportation use.
- The Green Building Code will require water-conserving plumbing fixtures such as low flush toilets.
- By 2010, government will mandate purple pipes in new construction for water collection and reuse.
- In partnership with industry, government will develop a water efficiency labelling system for water consuming products.
- By 2012, all students in B.C. will have completed at least one stream-health assessment.
- Government will award a youth water-science prize or scholarship for excellence in water stewardship.
- Government will provide summer jobs for youth between the ages of 16 to 22, to undertake 20 stream restoration projects across the province.
- Government and First Nations' treaty water negotiations and other related agreements support providing a clean and safe domestic, agricultural and industrial water supply for First Nation communities.
- Tools to incorporate traditional ecological knowledge into information and decision making will be developed by 2015.
- Government will continue to work toward preserving First Nations' social and cultural practices associated with water.
- By 2010, a strategy to set the direction for water science in B.C. will be implemented.
- Government is expanding B.C.'s hydrometric and other climate-related networks.

- Government will publish a report on the state of our water by 2012, and every five years after that.
- Government will celebrate examples of successful water stewardship by awarding annual water awards to individuals or groups.
- The government of B.C. will work with our Olympic partners to use sports and the Olympic Games spotlight to engage British Columbians and support smarter water choices.

### RECENT ACHIEVEMENTS

- Government and industry partnered on the development of [www.waterbucket.ca](http://www.waterbucket.ca) and the *Water Sustainability Action Plan* which provides simple lessons and innovative tools for more responsible water use.
- The *B.C. Water Quality Index* has been adopted as the Canadian national standard for surface water quality monitoring.
- Surface and ground water quantity and quality data have been regularly collected from more than 620 shared monitoring sites. This information benefits water users, including those in the forestry, hydropower, and agricultural sectors.
- The B.C. Conservation Corps has provided over 450 work opportunities to students and recent graduates since 2005.
- Government funding will support the Northern Environmental Action Team to build a new LEED™ Silver Environmental Educational Centre.
- Stewardship organizations have raised awareness about provincial watersheds. For example, the B.C. Lake Stewardship Society has produced more than 35 lake specific documents which summarize monitoring data and provide protection tips.
- The Green Bylaws Toolkit was released in November 2007, providing a resource for local governments and the public to help protect sensitive ecosystems ([www.greenbylaws.ca/](http://www.greenbylaws.ca/)).
- Government support has enabled the Living by Water organisation to start developing a handbook with tools and techniques to educate and inspire behaviour change.