



BUSINESS CASE

BC Watershed
Security Fund

Healthy Watersheds,
Healthy Communities

December 2022

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EXECUTIVE SUMMARY

The Foundation of Our Health, Security & Prosperity

British Columbia's watersheds are the foundation of our health, security and prosperity. Our rivers, streams and aquifers are the lifeblood of the province, and of our communities. Rich and abundant watersheds such as the Fraser, Skeena, Peace, Columbia and Cowichan are global icons.

An Urgent Need to Rebuild Our Natural Defences

However, BC is now in an era of watershed insecurity due to decades of degradation that is compounded by the accelerating impacts of climate change. The results of watershed insecurity are plain to see. Devastating floods in Fall 2021 followed by historic drought in Fall 2022. Economic disruption from emergency water bans, polluted drinking water, reduced water reliability for growing food, and declining fish productivity due to low summer flows. And as BC seeks to address the housing crisis, one of the big challenges will be securing water supply for new development.

There is an urgent need for investment in BC's watersheds to reverse this trend of degradation and loss of natural capital, and to strengthen the province's natural defence systems in the face of climate change and increasingly extreme drought, flood and fire.

In 10 years of polling on fresh water issues, there has been a 25% decrease of British Columbians that believe our fresh water bodies are in 'excellent/good' health.

A Visionary Investment to Deliver on Provincial Priorities

Establishing the BC Watershed Security Fund will deliver on provincial government and public priorities by strengthening the security of BC's watersheds, demonstrating global leadership on Indigenous rights, building climate resilience, and catalyzing inclusive economic opportunities for a clean and sustainable future.

By investing \$400 million in a sustainable endowment—the equivalent of one year of provincial water rental revenue—the provincial government can leverage contributions from other levels of government and the private sector to achieve \$1.5 billion in funding for BC's watersheds over the next 10 years.

EXECUTIVE SUMMARY

Building on the impressive outcomes of the Healthy Watersheds Initiative, a BC Watershed Security Fund will deliver a bold and strategic investment that:

- Rebuilds the natural infrastructure of our watersheds
- Recognizes and resources Indigenous water stewardship
- Invests in the growth of BC's watershed sector and workforce
- Prioritizes the protection of drinking water sources
- Supports food security and sustainable food production
- Ensures our rivers continue to flow and critical wetlands are restored

These actions will result in tangible outcomes that British Columbians can see and feel, including: cleaner drinking water, improved flood control and water storage, healthier communities, thriving fish and wildlife, and thousands of new jobs and training opportunities.

A Funding Model that Achieves Impact at Scale

The funding model has three core elements built around a sustainable funding base from the provincial government that will leverage and attract new funds at a 3:1 ratio.

1. Provincial Endowment - \$25 Million Annually in perpetuity

- The provincial government invests \$400 million into a one-time endowment, generating \$25 million on average annually as sustainable base funding.

2. Federal Matching - \$40 Million Annually over 10 years

- The federal government matches BC's commitment with \$400 million over 10 years to watershed initiatives.

3. Private Investment - \$10 Million Annually over 10 years

- The Fund raises an additional \$10 million on an annual basis through a range of non-government funding sources, including donations, philanthropic contributions, business and local government partnerships.

EXECUTIVE SUMMARY

Co-Governed Funding with Indigenous Nations

The Watershed Security Fund's governance and decision-making structure provides an important opportunity to demonstrate global leadership by advancing the principles of UNDRIP and the Truth and Reconciliation calls to action. Developing a structure that facilitates shared decision-making with Indigenous Nations on funding is also consistent and necessary for progress on key elements of the DRIPA Action Plan.

A Clear Accountability Framework

The Fund will ensure accountability for public dollars through a clear mandate established in founding documents, provincial government and Indigenous Nations' Board appointments, publicly posted strategic plans, and published annual program and financial reporting.

Actions to Establish the Watershed Security Fund

Three priority actions are required to create this long-term legacy of watershed security:

1. **Invest \$400 million** in a sustainable endowment for a new Watershed Security Fund.
2. **Establish a co-governed structure** for the Watershed Security Fund with explicit roles on the Board and management for First Nations.
3. **Build the budget for annual expenditures through the co-governed structure**, based on addressing priority needs across BC.
4. **Develop a results and evaluation framework** that demonstrates tangible community impacts from funding allocations.

The outcomes secured by this investment will include the demonstration of global leadership on Indigenous rights and tangible progress on the province's UNDRIP commitments. Towns and cities will be more resilient and better connected to their natural surroundings. Jobs will be generated where they are needed most, allowing rural British Columbians to stay in their communities and creating pathways for young British Columbians to find well paid and rewarding work. Drinking water sources will be protected and food security enhanced. And our watersheds will once again support flourishing natural habitats so that wild salmon, white sturgeon, frogs, birds, bears and other animal species can thrive.

1



7 VISION

Through the BC Watershed Security Fund, the provincial government can make a bold and strategic investment in the health of our watersheds that improves the lives of British Columbians in all corners of the province.

- **By rebuilding the natural defences of our watersheds**, the Fund will strengthen the resilience of our communities in the face of extreme climate events. It will protect people, homes, livelihoods and the fish and wildlife with whom we share these lands and waters.
- **By recognizing and resourcing Indigenous water stewardship and embodying co-governance in its design**, the Fund will advance reconciliation and demonstrate global leadership in the implementation of the UN Declaration on the Rights of Indigenous Peoples.
- **By investing in the growth of BC's watershed sector and workforce**, the Fund will create broad-based community economic benefits and generate employment opportunities for British Columbians at all career stages—from youth entering the workforce to experienced workers in transition from industry downturns.
- **By prioritizing the protection of drinking water sources**, the Fund will prevent waterborne disease, support public and community health, and reduce the need for expensive water treatment plants.
- **By working with BC farmers**, the Fund will support support food security and sustainable food production that enhances ecosystem services and agricultural lands.
- **By ensuring our rivers continue to flow and critical wetlands are restored**, the Fund will support flourishing natural habitats for wild salmon, giant white sturgeon and the many fish, bird and animal species that make this province such a special place to live.

Healthy watersheds secure clean drinking water, abundant fish populations, water to grow food, and thriving local economies, communities and cultures.

Through a bold and innovative funding approach, the BC Watershed Security Fund will create an enduring legacy that will deepen the connections that British Columbians have to the land, to our communities, and to each other.

2



2 INTRODUCTION

An Opportunity for Leadership

Our watersheds are the foundation of health, security and prosperity in British Columbia. The rivers, streams and aquifers that make up BC's watersheds are the lifeblood of the province, and of our communities. Rich and abundant watersheds such as the Fraser, Skeena, Peace, Columbia and Cowichan are global icons.

British Columbians understand that watershed security is more than an environmental issue, it is a fundamental underpinning of community health, security, and prosperity. Public opinion research shows that three in four British Columbians believe that watersheds are crucial to human health and survival (76%), a life support system for nature (75%), functioning ecosystems (74%) and key to surviving natural disasters (67%).¹

However, British Columbia has entered an era of watershed insecurity due to decades of degradation as a result of mismanagement, over-allocation, resource extraction and industrial development that is now being compounded by the accelerating impacts of climate change. Public concern for watershed health is at an all-time high.

Over the past 12 months, the consequences of watershed insecurity have been felt acutely in British Columbia. In Fall 2021, large areas of the province faced unprecedented flooding that impacted livelihoods, supplies, food security and devastated entire communities. In Fall 2022, historic drought caused rivers to run dry, killing salmon before they could spawn, shutting down farms and businesses in numerous regions, and threatening drinking water supplies for millions of British Columbians.

With global trends and climate science all pointing in the same direction, it is clear these extreme events are not one-offs and the costs of inaction will only increase over time. By taking action to strengthen BC's watershed security now, the provincial government can demonstrate global leadership in building climate resilience and catalyzing inclusive economic opportunities in a clean and sustainable future.

What is Watershed Security?

“Watershed security implies the availability of good quality water for healthy ecosystems and communities. Watershed security will look different from watershed to watershed, and so will best be defined locally. Some elements of watershed security may include:

- Safe drinking water for all;
- Healthy and resilient aquatic, riparian, wetland, and watershed ecosystems,
- Sufficient water to support food security, recreation, jobs, and local economies;
- Sufficient water for First Nations; and
- Reduced risks from water related hazards such as flooding and drought.”

Definition of watershed security in the Watershed Security Strategy and Fund - Discussion Paper, released by BC provincial government January 2022.²

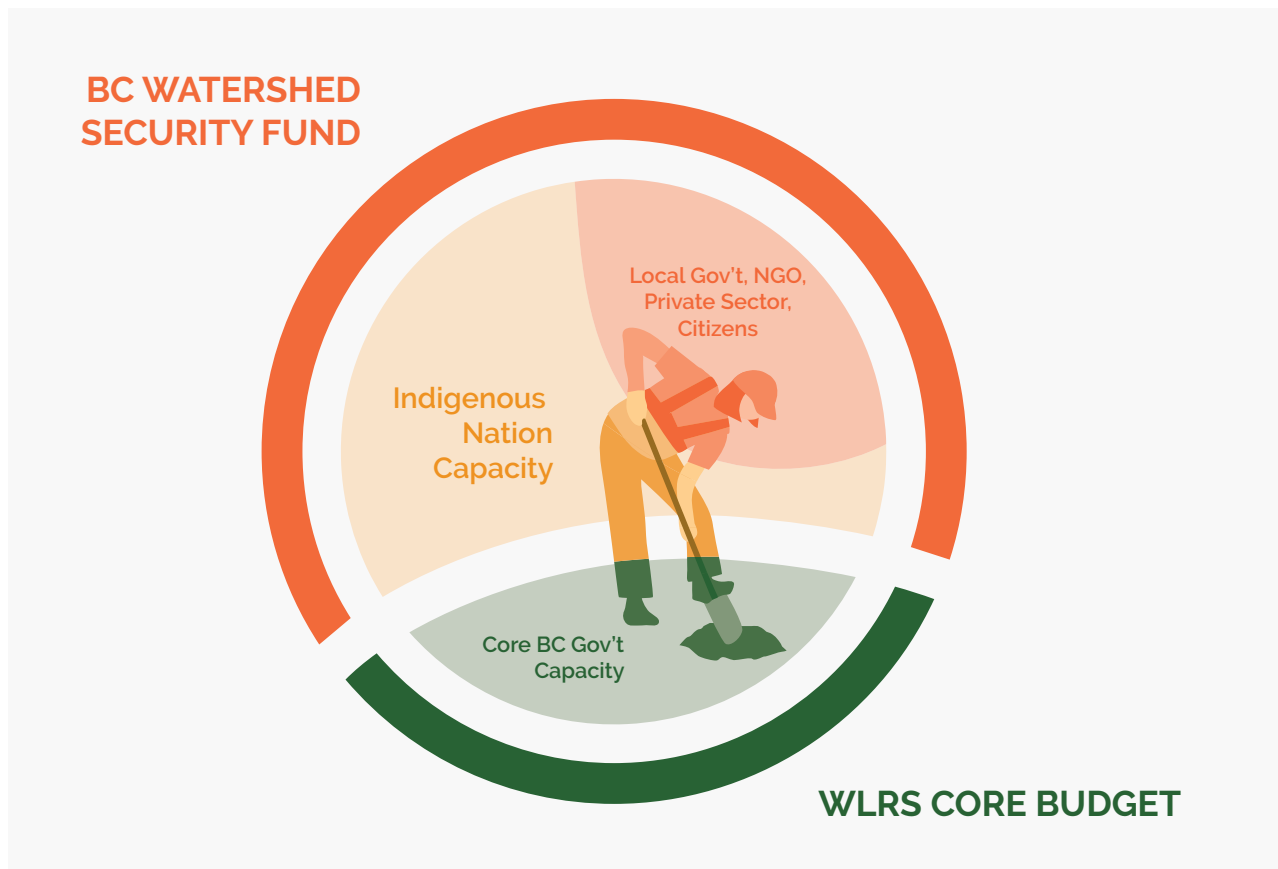
Delivering on Provincial Government and Public Priorities

The Minister of Water, Land and Resource Stewardship, has an explicit mandate to respond to British Columbians’ concerns for watershed security by developing a BC Watershed Security Strategy and a Watershed Security Fund.

“Lead BC’s work on water, watersheds and our coast, including work to: Co-develop, complete, and launch the Watershed Security Strategy and Fund the Coastal Marine Strategy, and continue implementation of the Wild Salmon Strategy...”³

In order to achieve success that people can see and feel, the provincial government must work in partnership with Indigenous Nations, and actively collaborate with local governments, communities, stewardship groups and many others. The development of the BC Watershed Security Fund will ensure Indigenous Nations and other partners have the capacity to collaborate and help drive successful impacts on the ground, including the implementation of the Watershed Security Strategy (Figure 1).

Figure 1: Partnerships for Watershed Security



The creation of a Watershed Security Fund will also advance other provincial government priorities. In particular, the BC Watershed Security Fund provides an important opportunity to demonstrate global leadership on the rights of Indigenous peoples. It can also enable integration between various provincial strategies at the landscape level, including the Flood Strategy, Drinking Water Strategy and Salmon Strategy that are currently in development.

Additional mandate commitments the Fund will support include: building a sustainable economy, strengthening climate readiness, protecting and enhancing biodiversity, and transforming land and water stewardship in partnership with First Nations (See Appendix A).

Pathway to Impact

The new Watershed Security Fund will fill three key gaps to put BC on the path to achieving watershed security:

1. **Strengthen Watershed Planning & Governance** – investments in the protection of drinking water sources, readiness for droughts and floods, and new collaborative structures that lead to better decisions for local communities.
2. **Rebuild Natural Infrastructure** – investments in wetland restoration to create natural filters, streambank repairs to shade spawning salmon, and forest preservation to slow water flow during storms and release water when it's dry.
3. **Bolster Collaborative Monitoring & Indigenous Stewardship** – investments in Indigenous water stewardship and a province-wide network of watershed monitoring and assessment initiatives.

It is estimated that filling these gaps requires a strategic investment in excess of \$3 billion dollars, or \$300 million annually over ten years. The core request of the provincial government is a one-time commitment of \$400 million in BC Budget 2023 to create a permanent endowment that will enable actions to begin immediately and achieve impacts at the right scale over the long-term.

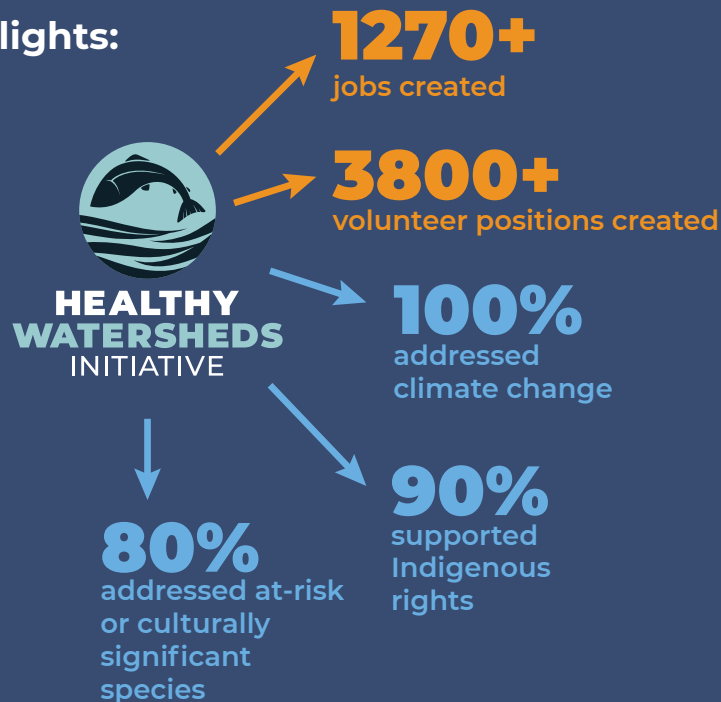
This stable base of funding can be expected to attract more than three times the provincial commitment from federal and private funding sources. By 2032, it is estimated that the Fund will have achieved a \$1.5 billion investment in BC's watersheds, resulting in positive and measurable outcomes in watershed security for all British Columbians.

Box 1: Healthy Watersheds Initiative—A Foundation for Success

In 2021, the provincial government provided \$27 million in economic recovery funding for 60+ watershed projects in communities throughout BC. The Real Estate Foundation of BC, in partnership with Watersheds BC, administered this funding through the Healthy Watersheds Initiative (HWI).

HWI projects restored rivers and streams, protected salmon habitat, managed water flows, collected data, and conducted watershed mapping and sustainability planning. Through these projects, teams hired and trained over 1,200 local workers who were affected by the COVID-19 pandemic.⁴

HWI Data Highlights:



As a bridge to the creation of the BC Watershed Security Fund, an additional \$30 million was allocated in Budget 2022/23 to improve BC's watersheds.⁵ These initial investments provide a strong, well-documented, foundation of learning, relationships and impact for a permanent BC Watershed Security Fund to build upon.

3



3 PROBLEM STATEMENT

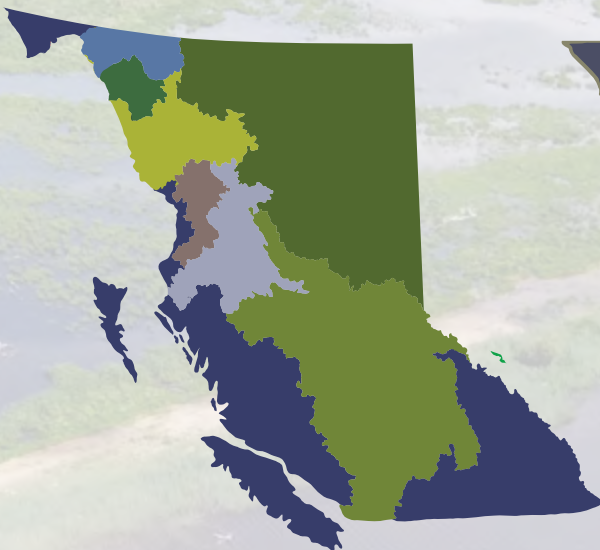
Growing Watershed Insecurity

3.1 How do Healthy Watersheds Increase Security?

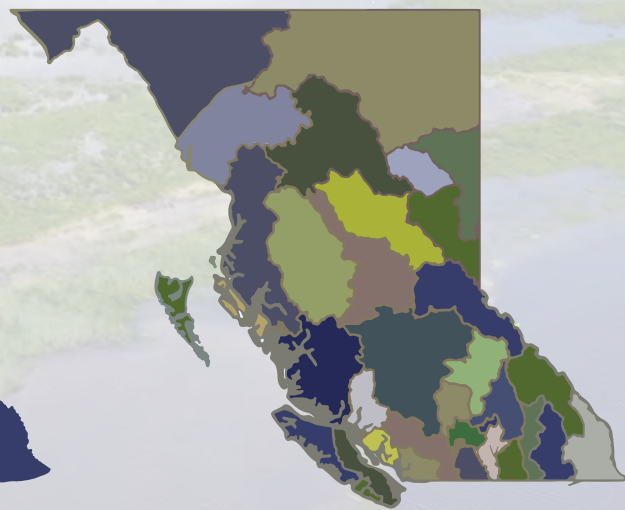
A watershed is an area of land that drains water (rain, snowmelt, groundwater) into a particular body of water such as a lake or river. High points on the landscape, such as mountain ranges, mark the edges of a watershed and the headwaters of a particular body of water. There are 9 major watersheds (see below) or river basins in British Columbia and many sub-watersheds nested within each of these basins. BC's drought response plan divides the province into 34 sub-watersheds.⁶

Key components of a healthy watershed include: 1) intact and functioning headwater streams, floodplains, riparian corridors, biotic refugia, instream habitat and biotic communities; 2) natural vegetation in the landscape; and 3) hydrology, sediment transport, fluvial geomorphology, and disturbance regimes expected for its location.⁷

Healthy watersheds are a vital component of BC's critical infrastructure since they provide essential services for material security and the well being of all living things. These services support: climate resilience, clean drinking water, Indigenous rights, economic activity, food security, habitat for fish and wildlife, and physical and mental health.



9 Major River Basins



34 Sub-Watersheds

3.2 Watershed Degradation & Loss of Natural Assets in British Columbia

Although there are major gaps in provincial-scale data on watershed health, studies have shown that BC has experienced substantial watershed degradation and loss of natural assets over the past three decades.

WETLAND LOSS

Wetlands and marshes are critical features of healthy watersheds and are used by more than 50% of wildlife and 30% of species at risk, despite occupying only 6% of provincial lands. Wetlands also provide critical flood and water filtration services for humans. However, 60%-98% of original wetlands in the southern part of British Columbia have been drained and filled. Wetland habitat loss has been 85% in the South Okanagan, 50-70% in the Fraser Lowlands, and higher in parts of Vancouver Island.⁸

RIPARIAN HABITAT LOSS

The blend of streambed, water, trees, shrubs and grasses in healthy riparian areas provide a unique habitat that is critical for fish and biodiversity.⁹ They also provide flood control, reduce drought impacts, regulate sediment, and keep stream temperatures low.¹⁰ BC has lost hundreds of kilometers of riparian habitat in the past decades in the Lower Mainland alone due to urbanization, industrial development, forestry and agricultural practices.¹¹ While protections for riparian areas have improved, there are still concerns over enforcement.¹² Historical forestry and agricultural practices have created a legacy of riparian disturbances in many watersheds in British Columbia.¹³

FOREST COVER LOSS

Mature forests are essential to healthy functioning watersheds. Timber harvesting, logging road development, as well as natural disturbances such as fire, insects or disease, have altered hydrology and reduced watershed health throughout BC.¹⁴ Impacts have included increased erosion and sedimentation affecting water quality, altered snow accumulation and infiltration of rain, along with faster snowmelt, exacerbating both floods and droughts.¹⁵

WATER SCARCITY AND LOW FLOWS

Approximately 63% of BC's population (2.9 million people) live in water-stressed areas based on rivers and streams that the provincial government designates as fully recorded.¹⁶ In these areas, water licenses may not be available to support new farms and businesses. As well, low summer flows in these areas have been shown to greatly impact productivity of salmon and freshwater biodiversity.¹⁷

WATER POLLUTION & CONTAMINATION

British Columbia's watersheds have experienced high-profile pollution events from single point sources, such as the Mount Polley mine disaster in 2014, which released an estimated 25 million cubic metres of wastewater and tailings into three lakes, as well as selenium pollution from coal mines in Elk Valley.¹⁸ In addition, non-point source pollution has led to elevated nitrate levels in groundwater in many regions in BC, including the Fraser, Comox and Cowichan Valleys, and resulted in contamination of drinking water in the North Okanagan.¹⁹

CUMULATIVE IMPACTS

Watershed degradation in BC is typically a confluence of impacts of all of the above and from the cumulative effects of multiple land use activities such as oil and gas, hydro-electricity, forestry, mining, transportation, urban development, and agriculture.

Indigenous Rights, Title & Laws

Healthy watersheds are a conduit for well-being, kinship networks and community health, and are essential for exercising Indigenous rights, such as access to traditional foods and medicines, cultural and spiritual practices, and stewardship obligations. Watershed degradation caused by the cumulative effects of multiple land use activities and intensive industrial development has a disproportionate impact on Indigenous communities and the exercise of Indigenous rights, such as fishing, hunting, accessing clean water for drinking and cultural practices.

In *Yahey v British Columbia* (2021), the BC Supreme Court found Treaty 8 rights had been infringed as a result of cumulative impacts caused by provincially authorized activities associated with oil and gas, forestry, mining, hydropower and agriculture.²⁰

3.3 The Compounding Effects of Climate Change

Even without a warming climate, degradation caused by the cumulative impacts of intensive land use activities would be creating significant challenges for British Columbia's watersheds. However, it is clear that climate change is further exacerbating these challenges.

BC's preliminary climate risk assessment, published in 2019, highlights an example of a compound climate event as "a seasonal or long-term water shortage followed by wildfire, which in turn primes the landscape for severe landslides following heavy precipitation,"²¹ with impacts that include severe flooding, disruption of critical road transport corridors, contamination of waterways affecting agriculture and public health. Each of these impacts were actually experienced during the floods of Fall 2021, which along with the extreme drought of Fall 2022, has underscored the severe and costly consequences of the 'multiplier effect' of climate change on BC watershed security.

3.4 Impacts & Examples of Watershed Insecurity

The following table contrasts the services provided by healthy watersheds with the consequences of watershed degradation, along with examples of watershed insecurity in British Columbia.

Services	Healthy Watershed	Degraded Watershed	Examples
Climate Resilience	Healthy watersheds provide a first line of defence against climate impacts by absorbing and slowing heavy precipitation in the winter and releasing water in the summer months when it's needed the most.	Degraded watersheds increase run-off, erosion and sedimentation and decrease groundwater recharge. Compounding climate impacts are larger and more costly in degraded watersheds.	Laird Creek Landslide (2011) - a post-harvest landslide triggered a debris flow into the drinking water source for more than 100 homes. ²² Duffey Lake Road Landslide (2021) - a legacy logging road contributed to a landslide that killed 5 people during November atmospheric rivers. ²³
Clean Drinking Water	Since the Walkerton disaster and inquiry in Ontario in 2000, healthy watersheds have been recognized across the country as the first barrier in drinking water protection, referred to as source water protection. ²⁵	Degraded watersheds experience increased sedimentation and groundwater pollution that elevates risk of contamination, waterborne illness and the need for expensive water treatment solutions.	Hullcar Aquifer Contamination - \$1 million spent to date on excessive nitrate from inadequate agricultural waste management affecting the Hullcar Aquifer; remediation is ongoing. ²⁵
Economic Activity	Fresh water is a critical input to almost every economic activity in British Columbia, including agriculture, hydropower, oil and gas, mining, pulp and paper, tourism, and manufacturing.	Degraded watersheds can disrupt economic activity and increase business risk by exacerbating the impacts of floods and droughts and through an unreliable supply of clean water for industrial processes or to support tourism and recreation.	Sunshine Coast Emergency Order (2022) - severe drought in the Chapman Watershed resulted in an Emergency order that banned water use by businesses that use large volumes of water such as alcohol producers, bottled water, and cement production. ²⁶

Services	Healthy Watershed	Degraded Watershed	Examples
<p>Food Security</p>	<p>Farmers and fruit growers depend on a sustainable supply of clean water. Healthy watersheds are also the basis of Indigenous food systems, such as wild salmon, eulachon, moose, deer, berries and many different plants.</p>	<p>Degraded watersheds that are over-allocated and suffer from poor soil quality place food production at risk with knock-on effects for the cost and supply of food at grocery stores. Indigenous food systems are particularly sensitive to declining watershed health.</p>	<p>Koksilah Fish Protection Orders (2019 and 2021) - water use for crop irrigation was restricted due to low water flows in the Koksilah river. Declining flows have corresponded with increasing the number of water licenses and demand for both surface and groundwater.²⁷</p>
<p>Habitat for Fish & Wildlife</p>	<p>Healthy watersheds support productive biodiversity, including fish and wildlife species.</p>	<p>Degraded watersheds result in removal or damage to sensitive habitats for fish, amphibians, birds and wildlife.</p>	<p>Nicola River Salmon Productivity (2013) - a study of 22 generations of fish linked low summer flows with lower productivity of chinook salmon. Low flows were attributed to climate change, water withdrawal and land use.²⁸</p>
<p>Physical & Mental Health</p>	<p>Healthy watersheds provide opportunities for recreation and physical activity, such as swimming, hiking, sport fishing, paddling.</p>	<p>Degraded watersheds reduce recreational opportunities and can negatively impact well-being.</p>	<p>Smithers Flood Settlement (2022) - BC settled a lawsuit by a couple whose property flooded after forests in the surrounding watershed were cut down. In addition to loss of property value, the residents claimed they suffered from ecological grief and depression from changes to the watershed.²⁹</p>

Box 2: What the Public Thinks

Public opinion research on watershed security was undertaken by McAllister Opinion Research in 2021.³⁰ Findings revealed:

Public Concern for Watershed Health Increasing

Six in ten (62%) of BC residents say they are concerned about pollution of lakes, rivers, and streams, making it the top environmental concern, closely followed by issues that connect to water, including climate change (59%), and declining salmon stocks (59%).

And British Columbians perceive the health of BC's water and watersheds to be getting worse. In 10 years of polling on fresh water issues, there has been a 25% decrease of British Columbians that believe our fresh water bodies are in 'excellent/good' health.

Top Environmental Concerns of BC Residents



Support for a BC Watershed Security Fund to Address Issues

8 in 10 British Columbians believe "BC needs to make major investments in watershed security."

The BC Watershed Security Fund will be more widely supported than other major infrastructure projects and investments (see Figure 5 on page 37).

8 out of 10



Believe BC needs to make major investments in watershed security

4



4

WHAT IS NEEDED?

Funding Needs for Watershed Security

4.1 An Assessment of BC’s Watershed Security Funding Needs

There are three areas where current funding capacity to protect and restore watershed security is inadequate. Over the next 10 years, the total funding needed in these three areas is an estimated \$3 billion with an annual need of \$306 million.

Watershed Need	Annual Funding Need (\$ Millions)
Governance & Planning	\$50
Restoration (High & Medium Priority Watersheds)	\$200
Indigenous Stewardship & Coordinated Monitoring	\$56
TOTAL	\$306

1. Watershed Governance and Planning

Effective and properly resourced watershed governance and planning is necessary to prevent further watershed degradation and erosion of natural capital and is less expensive than paying the costs of repair following damage.

Watershed Governance – improved governance and decision-making processes strengthen watershed security through better management of watersheds, stronger Indigenous partnerships and improved coordination with local governments and other water users. Unlike other provinces, BC lacks a clear framework for watershed governance and the resources required to support the creation and operation of these structures.³¹

The cost of these new governance structures will vary depending on the scale and complexity of the watershed. A reasonable estimate of the funding required per governance structure is \$750,000. This amount is based on the core operating costs of a watershed governance pilot taking place in the Nicola Watershed between the provincial government and 5 Nicola Nations, and includes Indigenous Nations' staffing, travel, training and office space.³²

While BC has 9 major river basins, these are considered too large a scale for effective watershed governance. The 34 sub-watersheds identified by the Water Management Branch (Ministry of Forests) through the provincial drought response program may be a more appropriate governance scale for shared decision-making and watershed planning.³³

Watershed Planning - in addition to new structures there are four categories of watershed planning that require resourcing:

- **Water sustainability plans & tools (enabled by *Water Sustainability Act 2016*)**
 - to prevent conflicts in water scarce regions, ensure sufficient ecological flows, and support land-use decisions that account for cumulative watershed impacts. To date, no Water Sustainability Plans have been created (though one has been initiated in the Koksilah Watershed). Many water stressed watersheds need these plans.³⁴
- **Drinking water source protection plans (enabled by *Drinking Water Protection Act 2001*)** – designed to reduce the risk of contamination of drinking water supplies. More than 20 years since enactment, there are no legislated source protection plans in BC. The lack of consistent source protection planning is a major public health concern.³⁵
- **Incorporating a water or watershed focus in land-use plans** – the provincial government has committed to modernized land use planning. To address failings of past land use planning efforts, these plans need to adequately address water and watershed values.³⁶
- **Indigenous watershed plans** – Indigenous Nations are developing watershed plans for their territories to strengthen traditional governance processes and support engagement with other governments, industry, and non-Indigenous communities.³⁷

Watershed plans may be nested, integrated or undertaken separately. Depending on the region, multiple plans may be required to address the different challenges of specific sub-watersheds. For example, East Vancouver Island is considered one watershed for provincial drought response but separate plans will be needed for distinct sub-watersheds, such as the Koksilah River, Comox Lake, and Salt Spring Island.

Watershed plans incur two types of costs: 1) the costs of developing the plans, including expenses of data collection and community engagement; 2) costs for plan implementation and adaptive management, including regular monitoring, review and updates.³⁸ Initial plan development costs are higher, approximately \$1,000,000 per plan, with implementation costs an estimated \$500,000 annually. These cost estimates are based on three sources: a) initial budget estimates of developing the first Water Sustainability Plan in the Koksilah watershed; b) the costs of watershed-based land use planning in the Nicola Watershed governance pilot; c) the costs of developing non-legislated drinking water protection plans by local governments, such as Nanaimo.³⁹

Financial need for watershed governance and planning

Need	Capacities	Annual Average Cost Estimate	Number	Annual Total
Watershed Governance Processes	Staffing, facilitation, meeting & travel, office, communications	\$750,000	34	\$25,500,000
Watershed Plans	Facilitation; technical consultants, data collection, community engagement, communication, monitoring & review	\$500,000	50	\$25,000,000
TOTAL				\$50,500,000

2. Watershed Restoration

Preventing watershed degradation through improved governance and planning is a preferred strategy. However, as outlined in Section 3, BC is already dealing with substantial legacy issues from past damage and continued cumulative impacts.

The last provincial-scale assessment of watershed restoration was undertaken in the 1990s through the Watershed Restoration Program under Forest Renewal BC. In 1994, the program estimated that 2,800 watersheds were in need of repair with 1,150 classified as either high or medium priority. Between 1994-99, this program invested \$304 million over 5 years and completed restoration of 150 watersheds.⁴⁰ At its peak in 1997/98, the program invested \$131 million annually in watershed restoration.⁴¹

Assuming a similar number of watersheds are still in need of repair today at a comparable cost for repair, a conservative estimate of the total cost to assess and restore BC's watersheds over the next 10 years is \$2 billion for high & medium priority watersheds at an annual cost of \$200 million.

Financial need for restoring high & medium priority watersheds

Need	Capacities	Annual Cost Estimate per Watershed	Number Restored per Year	Annual Total
High & Medium Priority Watersheds Requiring Repair (Total = 1,000)	Watershed assessments, labour, training, equipment, native plants/trees, transportation	\$2,000,000	100	\$200,000,000
TOTAL				\$200,000,000

3. Indigenous Water Stewardship & Collaborative Monitoring

Indigenous Nations each have their own unique culture, laws and watershed priorities. Funding for Indigenous water stewardship programs is essential for advancing self-determination and Indigenous rights. A 2021 landscape scan (see 4.2 for more detail) indicates that most Nations would create water stewardship programs if resources were available.⁴² A conservative estimate of financial need is based on at least a quarter of BC’s First Nations establishing such a program at an estimated cost per program of \$220,000.⁴³

There are over 125 water monitoring initiatives in BC that vary in scope from monitoring at a single site to province-wide networks.⁴⁴ Initiatives are undertaken by provincial and federal governments, Indigenous Nations, local governments, stewardship groups, and industry. However, they lack coordination at the watershed scale resulting in considerable data gaps.⁴⁵ Under the Living Water Smart Plan (2008) the provincial government committed to State of the Water reporting every five years. To date, no State of the Water report has been issued.⁴⁶

An example of coordinated monitoring is the Columbia Basin Water Monitoring Framework, which is a pilot initiative launched with the goal of establishing a unified monitoring framework based on local, scientific and Indigenous priorities.⁴⁷ Through this framework, the Columbia Basin Water Hub was launched to provide a central platform to access water data in the region.⁴⁸ Estimated annual operating costs for this framework are \$5 million.⁴⁹ BC requires this level of coordination for each of its 9 major watersheds.

Financial need for Indigenous stewardship & coordinated water monitoring

Need	Capacities	Annual Average Cost Estimate	Number	Annual Total
Indigenous Water Stewardship Programs	Indigenous staff/ contracts, training, equipment, transportation, outreach	\$220,000	50	\$11,000,000
Water Monitoring Frameworks, Data Hubs, State of Watershed Reports	Science labour, equipment, engagement, data management, technology	\$5,000,000	9	\$45,000,000
TOTAL				\$56,000,000

4.2 Needs for Program Design

1. Dedicated and Sustainable Funding

Activities such as restoring watersheds, collaborative planning, and long-term monitoring all require dedicated, long-term funding. Restoration projects can take several years to complete, and may require periodic maintenance. Watershed plans can take multiple years to develop and implementation is an ongoing endeavour. Collaborative monitoring is most effective when it allows decision makers to track longer-term trends over many years to inform good decisions.

Watershed initiatives bring together different Crown and Indigenous governments, as well as a wide range of stakeholders and public interests. However, relationships and trust take time to establish, and need continuity in leadership, staffing and partnerships. With consistent funding these initiatives will strengthen relationships between governments, stakeholders and communities, increasing collaboration and decreasing conflict.⁵⁰

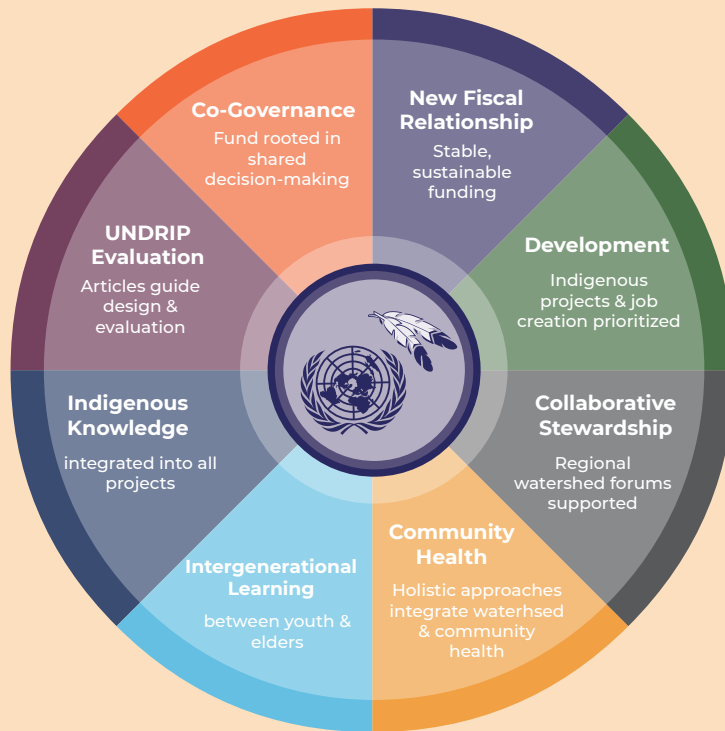
2. Advance UNDRIP & DRIPA

Sustainable funding is also essential for advancing a new fiscal framework with Indigenous Nations. Nations require stable funding to build internal staffing and capacity for self-determination and to engage in partnerships with others.

In 2021, the First Nations Fisheries Council of BC conducted a landscape scan of First Nations freshwater management and governance. The survey revealed that funding challenges present major barriers to First Nations capacity to develop water strategies and to engage with stakeholders and other levels of government.⁵¹ Two-thirds of respondents indicated the annual budget of their First Nation for working on water is **less than \$100,000**, less than many NGOs and local governments, and 73% of the respondents would like to hire dedicated staff.⁵² The survey indicates a critical need for funding for First Nations to build stable, long-term capacity for watershed management.

Building from the UNDRIP Evaluation and Report produced by the Healthy Watersheds Initiative⁵³ there are a number of actions that are necessary to uphold Indigenous rights in the development, design and implementation of the Fund (Figure 3) and make significant progress on the provincial government's DRIPA commitments (Appendix B).

Figure 2: Centering UNDRIP in the Watershed Security Fund



UNDRIP Articles & DRIPA Actions that a WSF can advance

UNDRIP Articles

- 18 Decision Making
- 20 Just & Fair Redress
- 23 Development
- 24 Traditional Medicines
- 25 Spiritual Relationship
- 26 Rights to Land
- 28 Rights to Redress
- 29 Conservation of Environment
- 36 Rights to Relationships
- 39 Rights to Financial Assistance

DRIPA Actions

- 1.2 Co-develop long-term agreements
- 1.4 New fiscal relationship
- 1.5 Resource revenue sharing
- 2.6 Collaborative stewardship
- 2.7 Sustainable water management

3. Workforce Training & Community Transition

Short-term funding creates little incentive to invest in the training or re-skilling of employees or contractors that will leave their roles at the end of a funding cycle.⁵⁴ With longer-term funding, Indigenous Nations, local governments and stewardship organizations can invest in creating permanent, skilled positions with the necessary training and support for career development.⁵⁵

There is also an opportunity for watershed funding to help address transition needs for local areas that are dependent on diminishing industries such as the timber sector or aquaculture on the north coast of Vancouver Island. Many of the skills in resource industries, such as heavy equipment operation, water quality monitoring, and resource planning are transferable to watershed security work. Dedicated support can be provided for reskilling and transition in these areas of the province through training programs and targeted funding, allowing workers to stay in their communities and contribute broad-based local economic benefits (see Section 5.3 for examples of these benefits).

A focus on training through college programs, placements and internships can also provide a pathway to well paying and rewarding work for young British Columbians.

4.3 Limitations of Existing Funding Programs

The provincial government has established and operates a number of funding programs either directly or in partnership with the federal government that have a connection to water or watersheds. These programs, described in more detail in Appendix C, include:

- Economic recovery funding
- Infrastructure grants
- Salmon, fish & wildlife funding
- Collaborative stewardship & land-use planning funding
- Wildfire recovery funds
- Indigenous community capacity funds

A number of gaps or limitations are evident through the scan of provincial government funding programs:

1. **No dedicated provincial government funds for watershed security beyond March 2023** – two short-term funding programs for watershed security will be fully spent by March 2023: \$27 million in economic recovery funding for Healthy Watersheds Initiative and \$30 million in Budget 2022 for the Indigenous Watersheds Initiative and 6 stewardship groups. Funding for watersheds in other government programs is either incidental or not the primary focus of those programs.
2. **Insufficient funding for watershed restoration** – some funding is currently available for salmon habitat restoration through the BC Salmon Restoration and Innovation Fund and more modest funding is available for other fish habitat and wetland restoration through the Habitat Conservation Trust Foundation. However, this funding is much less than current restoration needs (see Section 4.1) and considerable funding gaps exist in non-salmon bearing watersheds, such as in northeast BC.
3. **Lack of climate resilience funding** – infrastructure funding for flood resilience and mitigation through the Adaptation, Resilience & Disaster Mitigation program included natural infrastructure such as restoring wetlands or opening up buried watercourses. However, this funding is now closed. ARDM did not cover adaptation to other climate impacts on watersheds, such as drought, scarcity and invasive species.
4. **Collaborative watershed governance & planning is under-resourced** – there is no funding program that specifically supports watershed governance or the four watershed planning categories identified in Section 4.1. There is also no provincial funding specifically allocated to Indigenous water stewardship or collaborative water monitoring.
5. **Limited support for training & skills building** – there is very limited funding currently available to support training and reskilling opportunities in BC’s watershed sector.
6. **No existing funds are co-governed with First Nations** – no provincial funds are currently being managed in partnership and through shared decision-making with First Nations. Only one Fund in BC is Indigenous-led (New Relationship Trust) and it does not have a watershed focus.
7. **Most funds are time-limited** – few funds are long-term or sustainable.

The BC Watershed Security Fund can address key gaps and limitations with existing funds. In addition, the Watershed Security Fund can support integration and alignment with and between existing funding programs. For example, the Watershed Security Fund could be designed to be complementary and aligned with funding for Collaborative Stewardship Forums.

5



5

FUNDING MODEL & BUDGET

Achieving Results for British Columbians

5.1 Funding Model

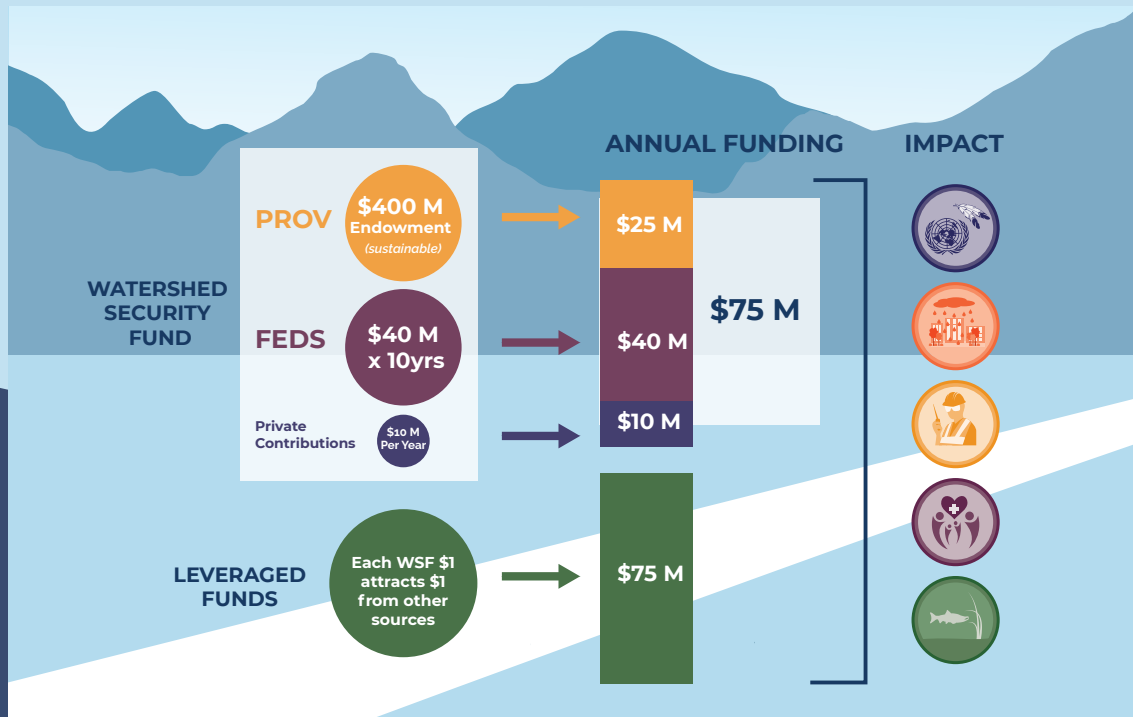
Over the next ten years, BC needs an estimated \$3 billion investment in watershed security, with an annual funding need of \$306 million.

The funding model and budget outlined in this section is designed to make a significant contribution to address this need through an annual investment of at least \$150 million in BC's watersheds over the next 10 years. The model is also designed to fill the key gaps in existing provincial government funds identified in Section 4.3.

Key goals of this funding model are:

1. Achieve an annual funding target for the Watershed Security Fund of \$75 million, with \$25 million being delivered by a provincial endowment fund.
2. Attract an additional \$75 million for watershed security from sources outside the Fund.
3. Create an enduring funding legacy that will provide long-term stable and sustainable funding for Indigenous and non-Indigenous communities in perpetuity.

Figure 3: Funding Model Snapshot



The Funding Model has 3 Core Elements:

1. Provincial Endowment - \$25 Million Annually in perpetuity

- The provincial government invests \$400 million into a one-time endowment.
- Based on independent investment analysis, this endowment will generate annual revenue of at least \$25 million.
- Establishing this base funding will provide the opportunity for long-term funding partnerships with the federal government and private sources of funding.

2. Federal Matching - \$40 Million Annually over 10 years

- The federal government matches BC's commitment with \$400 million over 10 years to watershed initiatives.

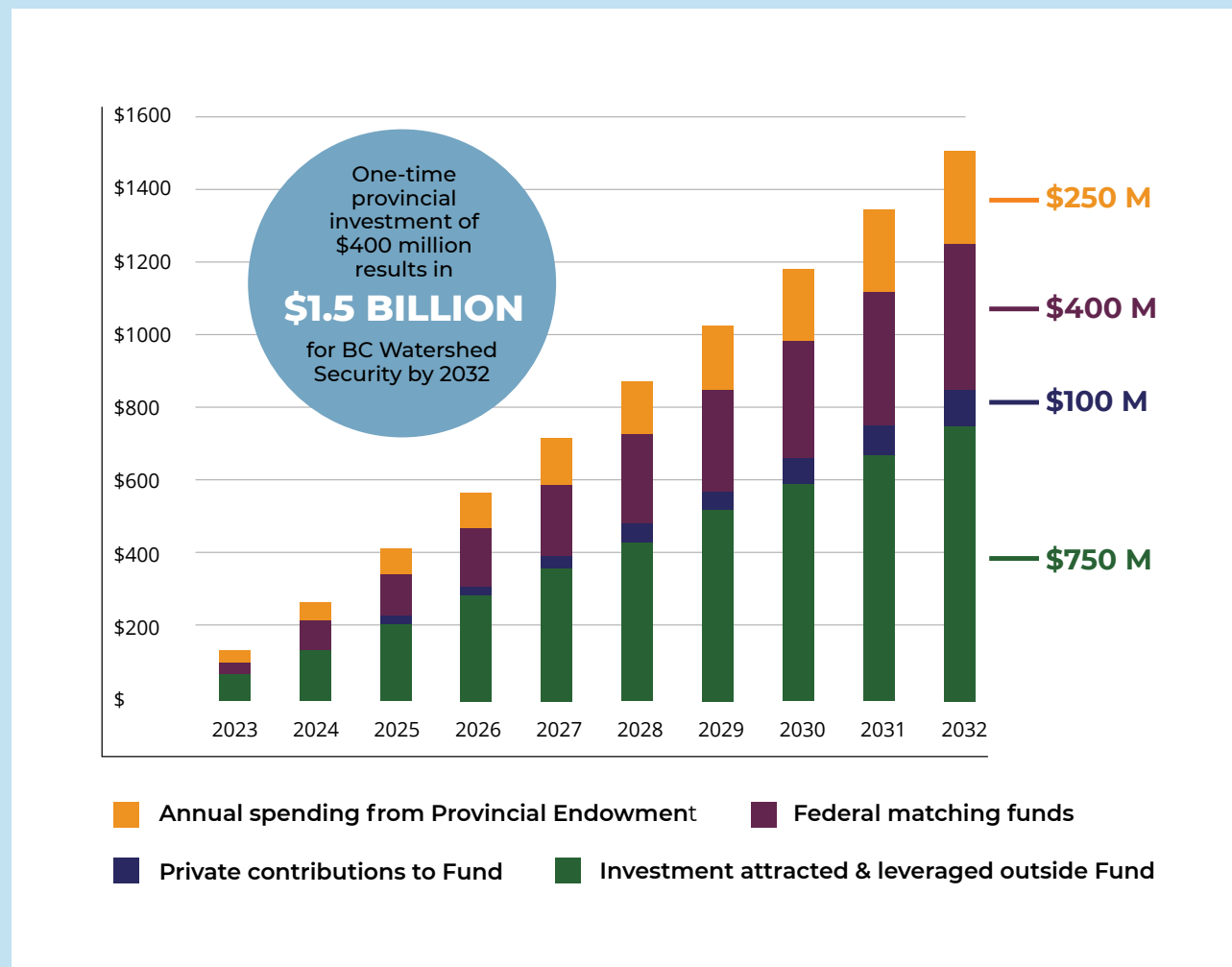
3. Private Investment - \$10 Million Annually over 10 years

- The Fund raises an additional \$10 million on an annual basis through a range of non-government funding sources, including donations, philanthropic contributions, business and local government partnerships.

Over the next 10 years, this funding model will contribute at least \$1.5 billion of investment to BC's watershed security.

It is anticipated that a one-time provincial investment of \$400 million will leverage matching funding from the federal government over a 10 year period and a steadily increasing annual contribution from private sources. Projects supported by the Fund would also be expected to leverage every dollar they receive from the Fund with another dollar from outside sources, which would contribute \$750 million over 10 years. This could be a requirement that is built into funding applications and staff for the Fund could play an active role in supporting projects to achieve 1:1 funding from outside sources.

Figure 4: Investments in BC's Watersheds by 2032 (cumulative)



5.2 How an Endowment Will Work for BC’s Watersheds

George & Bell Consulting, an independent firm of pension, benefits and investment consulting professionals, have undertaken a detailed investment analysis and portfolio modeling for the endowment approach outlined in this business case (See Appendix D - Investment Strategy and Model Portfolios). The analysis focuses on maintaining the value of the Fund after project distributions and operating expenses (ie. not encroaching on capital), while maximizing the impact that the Fund can make on watershed security.

- With a \$400 Million endowment, the BC Watershed Security Fund can distribute at least \$25 million annually without encroaching on the capital.
- Applying a capital gain focused investment portfolio, the endowment is projected to generate 7.4% in average long-term annual returns.
- After 10 years, the market value of the assets in the endowment is projected to be at least \$452 million (an increase of 13%), supporting annual average distributions of 5.9% (\$25 mill).

Scenarios for a larger endowment (\$600 million) and smaller endowment (\$200 million) are also presented, which show that this model is scalable. The three scenarios are outlined in the table below.

	\$600 Million	\$400 Million	\$200 Million
Long-term average return	7.4%	7.4%	7.4%
Average annual funding	\$40 million	\$25 million	\$12 million
Total funding distributed after 10 years	\$400 million	\$250 million	\$120 million
Market value of endowment after 10 years	\$641 million	\$452 million	\$234 million
Annual distribution rate as % of assets	6.5%	5.9%	5.6%

The creation of an endowment will allow the Fund to invest with a long-term time horizon in a diversified portfolio like other perpetual investors such as foundations, pension plans, and Indigenous legacy trusts. This will allow the endowment to weather any economic downturns and grow over time.

The long-term average annual return of **7.4%** (net of investment fees) for a capital gain focused Fund is premised on George & Bell's detailed analysis of asset classes and assumptions of return, volatility, cash yield, and correlation expectations for the next 10 years. This compares favourably with a typical retail balanced portfolio (only expected to earn an average annual return of 5.6%).

This rate of return is a conservative estimate, and a number of factors may increase the ending market value, including the impact of investment managers, the use of more leverage (debt) within the funds, and the effect of regularly rebalancing the asset mix which historical studies indicate can add value of up to 0.5% per year. A comparable example of an endowment fund is Coast Conservation Endowment Fund, which has achieved an average return of 8% since inception in 2007 (see Box 3).

Endowment funds have become a common funding mechanism in BC and Indigenous Nations have significant experience establishing and managing such funds (see Appendix E).

Box 3: Case Study - Coast Conservation Endowment Fund

The endowment fund started as a \$56 million endowment in 2007 (just prior to the 2008 economic downturn) and had grown to **\$95 million** at the end of 2021, an increase of \$39 million in 14 years. The Fund's portfolio has generated an average return of 8% since inception, demonstrating the strength of growth that is possible with the endowment model. Since inception, the endowment has generated \$74 million in earnings so the capital has been fully returned.⁵⁶

The income generated from the endowment provides ongoing funding to First Nations in the Great Bear Rainforest and Haida Gwaii to support conservation science, resource planning, capacity development, and related conservation management activities.

As the Fund grows, the pay back from the original investment will continue to increase, which is why endowment funds are such a powerful funding mechanism and legacy.

Putting the Endowment Scale in Context

One Year of Water Rental Revenue

On an annual basis, the BC government collects approximately **\$400 million** through water rental fees—the fees charged to businesses and municipalities that have a provincial license to use water.⁵⁷ These fees are currently directed to general revenue. The provincial government could contribute a one-time, one year allocation of water rental revenue to a Watershed Security Fund to create the proposed endowment without impacting future water rental revenues.




An Investment in BC's Infrastructure

Natural infrastructure provides many of the same services as traditional grey infrastructure, often at a fraction of the cost. As a point of comparison, the cost of replacing the Pattullo Bridge over the Fraser River in the Lower Mainland is estimated to be \$1.4 billion.⁵⁸ For less than one-third the cost of building this single major bridge, the provincial government can create a legacy of natural infrastructure and watershed security across BC that will continue to appreciate over time. According to public opinion research, such an investment would receive higher levels of public support than other high-profile infrastructure projects (see Figure 5).

7% of Disaster Recovery to Build Back Stronger

Following the devastating floods in Fall 2021, the federal government committed \$5 billion towards flood and fire recovery.⁵⁹ In BC Budget 2022, \$1.1 billion was committed to both recovery and improving climate resilience and preparedness.⁶⁰ The BC Watershed Security Fund should be a central plank for delivering on the goal to build back better and to strengthen the resilience of communities in the face of increasing floods, droughts and fires. Allocating just 7% of the \$6.1 billion committed to flood recovery would create the base endowment of \$400 million for the BC Watershed Security Fund.

Figure 5: Public Opinion of Proposed or Completed Publicly-Funded Projects in BC⁶¹

		GOOD Idea	BAD Idea	Unsure
	BC Watershed Security Fund (\$1 billion)	65%	11%	24%
	Victoria Sewage Treatment Plant (\$775 million)	64%	8%	28%
	Patullo Bridge (\$1.4 billion)	53%	13%	33%
	Massey Tunnel Replacement (\$4.15 billion)	48%	20%	31%
	Broadway Subway Line (\$2.83 billion)	45%	21%	34%
	Site C Dam (\$1.6 billion)	39%	27%	34%

5.3 Attracting Additional Funds

Securing Matching Federal Funds

The BC Watershed Security Fund aligns with multiple federal commitments, presenting opportunities to attract matching federal funding of \$400 million from one or more sources:

- **Federal Freshwater Commitments** – the federal government has committed to establishing a Canada Water Agency and implementing a strengthened Freshwater Action Plan, including “a historic investment to provide funding to protect and restore large lakes and river systems,” including the Fraser and Mackenzie River Basins.⁶²
- **Pacific Salmon Strategy Initiative** – the federal government has committed \$647 million for a transformative investment in salmon. Two of the four pillars for this initiative align with the BC Watershed Security Fund: conservation and stewardship, and integrated management and collaboration.⁶³
- **Infrastructure Funds** – future federal contributions to adaptation, resilience and disaster mitigation funding.⁶⁴
- **National Climate Adaptation Strategy** – investing in the BC Watershed Security Fund would support implementation of the federal national adaptation strategy that is currently in development.⁶⁵
- **Reconciliation** – the Fund aligns with federal commitments designed to advance reconciliation, including the First Nations Adapt Program, Emergency Management Assistance Program, and Indigenous Guardians funding.⁶⁶
- **Nature Legacy** - federal funding commitments to protect 30% of Canada’s lands and freshwater by 2030, strengthening protection of species and risk, Indigenous leadership in conservation and healthy natural infrastructure.⁶⁷

Leveraging Philanthropic & Private Sources

Funding will be attracted from both private and philanthropic sources. BC has an active network of funders that support freshwater work. Philanthropic funders may be able to invest directly in the Fund, and/or collaborate to co-fund projects supported by Fund.

A range of options exist for attracting funding from the private sector. For example, the Bonneville Environmental Foundation is working with a number of businesses in the United States to support watershed restoration through its Change the Course program.⁶⁸ This program is expanding to BC and may provide an opportunity for partnership. Businesses could also be asked to pay a mandatory or voluntary surcharge on their water license fees to

support the Fund, similar to the surcharge paid on hunting licenses that supports the Habitat Conservation Trust Foundation.

An additional benefit of creating an independent endowment is the ability to develop an active fundraising program that attracts large and small donations, including legacy gifts.

Local Government Funding Mechanisms

The BC Watershed Security Fund also has the potential to help leverage local government funding. A few local governments have already established regional services, enabling the allocation of parcel or property taxes to support watershed protection. However, a limiting factor for some regional districts that have explored these funding mechanisms is the lack of provincial funding and concerns around funding responsibilities being downloaded.⁶⁹ The Fund will help regional districts make a stronger business case for implementing local funding mechanisms in partnership with the provincial government.

5.4 Mobilizing the Capital

In addition to its annual granting program (based on returns), the Fund will also be able to mobilize the endowment by investing through an approach that incorporates Indigenous, environmental, social, and governance (I+ESG) considerations into its investments. Fund managers would be selected with regard to not only financial metrics but their ability to demonstrate I+ESG investment approaches.

There are a number of ways the capital can be mobilized to amplify the impact of the Fund and support provincial government priorities, including watershed security:

1. **I+ESG Screen** - by applying filters to lists of potential investments to rule companies in or out of contention for investment, based on values or ethics.
2. **Improving Investees' I+ESG Performance** – discussing I+ESG issues with companies to improve their handling and disclosure of such issues. For example, the importance of companies effectively assessing and disclosing water risk. Also undertaking proxy voting on resolutions and proposing shareholder resolutions on specific I+ESG issues.
3. **Impact Investing** – based on George & Bell's investment analysis, a significant portion of the Fund's portfolio could be directed to impact-focused investments designed to achieve specific outcomes for watershed security or other key related issues, such as climate mitigation, Indigenous rights, clean technology, and affordable housing (see Appendix F).

5.5 Annual Budget Estimates

The tables below provide an illustrative budget for annual expenditures under this funding model.

Notes & Assumptions for Annual Budget:

It should be noted that this is an 'illustrative' budget. Specific project priorities and budget allocations would be developed by the Board and staff of the BC Watershed Security Fund.

Project categories are organized into three focus areas: 1) Strengthen Watershed Planning & Governance 2) Rebuild Natural Infrastructure 3) Bolster Indigenous Stewardship & Community Monitoring. The budget estimate also includes Capacity Supports (training, communications, events) that cross-cut all areas, and the costs of administering the Fund.

The assessment of the scale of funds for each project category is established by benchmarking against the costs of actual projects that are undertaking analogous work (under the 'Benchmark Project' column). Additional detail on each of the Benchmark Projects is provided in Appendix G.

The number of projects is based on achieving equitable distribution of funding in priority areas in each of BC's 9 major watersheds. A number of factors would need to be considered for equitable distribution, such as priority for Indigenous-led projects, watershed risk, ecological values, and economic benefits. Actual allocations would be expected to reflect regional needs and priorities to ensure funds are used strategically for the highest impact.

The provincial government's base funding of \$25 million is specifically identified as BC Gov't Base Funds. This base funding is weighted slightly higher to watershed planning and governance since these activities are most clearly provincial jurisdiction. Based on current federal priorities, it is anticipated that matching support from the federal government will be easier to attract for the other two focus areas, which may also be the case for private funding sources (see 5.3).

STRENGTHEN WATERSHED PLANNING AND GOVERNANCE					
Project Category	WSF Full Budget	# of Projects	BC Gov't Base Funds	# of Base Projects	Benchmark Project
Watershed Plans	\$6,000,000	8-12	\$2,500,000	4-6	Koksilah Water Sustainability Plan \$500,000
Source Protection	\$5,000,000	8-12	\$2,500,000	4-6	Nanaimo Drinking Water Protection \$500,000
Collaborative Governance Tables	\$6,000,000	8-12	\$2,500,000	4-6	Nicola Watershed Governance Project \$500,000
Indigenous Water Laws & Plans	\$3,000,000	6-10	\$2,000,000	4-7	Yinka Dene Water Law \$300,000
Subtotal	\$20,000,000	30-46	\$9,500,000	16-25	

REBUILD NATURAL INFRASTRUCTURE					
Project Category	WSF Full Budget	# of Projects	BC Gov't Base Funds	# of Base Projects	Benchmark Project
Wetlands Renewal	\$7,500,000	20-30	\$2,000,000	7-10	Yaqaan Nukiy Wetlands Restoration \$250,000
Riparian Restoration	\$7,500,000	20-30	\$2,000,000	7-10	Kwakiuti Cluxewe River Restoration \$250,000
Urban Natural Assets	\$7,000,000	8-12	\$1,500,000	2-4	Kus Kus Sum Unpaving Paradise \$700,000
Payment for Ecological Services	\$3,000,000	5-10	\$1,000,000	2-4	Farmland Advantage \$600,000
Subtotal	\$25,000,000	53-82	\$6,500,000	18-28	

BOLSTER INDIGENOUS STEWARDSHIP & COMMUNITY MONITORING

Project Category	WSF Full Budget	# of Projects	BC Gov't Base Funds	# of Base Projects	Benchmark Project
Indigenous Water Stewardship	\$9,500,000	10-16	\$2,500,000	5-8	Kwikwetlem FN Stewardship \$450,000
Community Monitoring	\$3,000,000	8-12	\$1,000,000	3-5	Nechako Watershed Monitoring \$250,000
Water Data Hubs	\$7,500,000	4-6	\$2,000,000	2-3	Columbia Basin Water Hub \$1,250,000
Subtotal	\$25,000,000	53-82	\$6,500,000	10-16	

CAPACITY SUPPORTS

Project Category	WSF Full Budget	# of Projects	BC Gov't Base Funds	# of Projects	Benchmark Project
Training & Skills Development	\$6,500,000	-	\$2,000,000	-	Coastal First Nations Training Programs
Communications & Events/Gatherings	\$1,500,000	-	\$500,000	-	Healthy Watersheds Initiative; Watershed Conferences
Subtotal	\$8,000,000		\$2,500,000		

ADMINISTRATION

Project Category	WSF Full Budget	# of Projects	BC Gov't Base Funds	# of Projects	Benchmark Project
Staffing & Management	\$2,000,000	-	\$1,000,000	-	Healthy Watersheds Initiative
Subtotal	\$2,000,000		\$1,000,000		

Annual Budget Estimate Totals

FUNDING AREA	WSF Full Budget	# of Projects	BC Gov't Base Funds	# of Projects
Strengthen Watershed Governance	\$20,000,000	30-46	\$9,500,000	16-25
Rebuild Natural Infrastructure	\$25,000,000	53-82	\$6,500,000	18-28
Bolster Indigenous Water Stewardship & Community Monitoring	\$20,000,000	22-34	\$5,500,000	10-16
Capacity Supports	\$8,000,000	-	\$2,500,000	-
Administration	\$2,000,000	-	\$1,000,000	-
Total	\$75,000,000	105-162	\$25,000,000	44-69

6



6 OUTCOMES & RESULTS

Achieving Results for British Columbians

6.1 Five Core Outcomes

Through the investments outlined in the previous section, the BC Watershed Security Fund will achieve results in five key areas:



Global Leadership on Indigenous Rights



Healthy Communities



Resilience Against Climate Impacts



Thriving Fish & Ecosystems



Local Jobs & Economic Benefits

An overview of each of these outcome areas along with illustrative examples and data is provided below. This is followed by an overview of a results framework that identifies how each project category in Section 5 contributes to results under these five outcome areas. It is recognized that the final results and evaluation framework would need to be developed through the Fund's co-governed structure (see Section 7) and informed by engagement with Indigenous Nations, along with input from local governments and other key watershed stakeholders.



Global Leadership on Indigenous Rights

Results:

Indigenous self-determination

Indigenous economy

Reduced conflict

Decreased litigation

Business certainty

Investing in watershed security will advance Indigenous rights in very concrete ways. Supporting new watershed governance arrangements that bring the provincial government and Indigenous Nations together to establish common goals and share decision making will reduce conflict and expensive litigation, while supporting the exercise of Indigenous rights. By supporting the revitalization of Indigenous water laws and governance systems, a Watershed Security Fund will strengthen self-determination while increasing certainty for business.

- **Koksilah Water Sustainability Plan** - in response to persistent low flows, Cowichan Tribes and the provincial government are working together to develop and implement BC's first legislated Water Sustainability Plan to address water allocations in times of scarcity.⁷⁰
- **The Yinka Dene Water Law & Policy** - was designed as a guiding document for government and industry and has significantly improved the previously poor relationship between Nechako Nations and the Endako mine. Endako has now adopted the water law as a foundation for future mitigation and management.⁷¹

Prioritizing Indigenous-led water stewardship will enhance access to traditional medicines, maintenance of Indigenous peoples' distinctive spiritual relationship with lands, territories and waters, and advance Indigenous economic development.

And by developing a Fund structure that ensures Indigenous leadership at all levels of decision-making and operations, the provincial government can establish an internationally recognized funding model.



Resilience Against Climate Impacts

Results:

- Lower taxpayer costs*
- Reduced business risk*
- Natural flood control*
- Communities prepared*
- Carbon storage*

Investing in BC's natural infrastructure is a cost-effective way to build resilience against the impacts of climate change for communities and businesses. Natural infrastructure, such as wetlands, provides services, including climate resilience, flood mitigation, and water purification at around 50% less cost than equivalent built infrastructure while delivering the same-or better-outcomes.⁷²

- **The Buttertubs Marsh Conservation Area** - is a 55 hectare wetland and floodplain habitat reclaimed by the City of Nanaimo. By estimating the cost of engineered solutions that would be required to serve the same stormwater detention function, the City has estimated the BMCA has an asset value of \$4 to \$4.5 million, which increases to \$8 million under climate change conditions.⁷³
- **Kettle River Floodplain** - the Municipal Natural Assets Initiative has identified that the Kettle River floodplain provides, at a minimum, between \$500 and \$3,500/ hectare in flood damage reduction for downtown buildings in the City of Grand Forks during high flow events.⁷⁴
- **Ontario's Greenbelt** - the wetlands and forests of Ontario's Greenbelt prevent an estimated \$224 million of flood damage to properties each year.⁷⁵

Well managed watersheds with effective planning and governance also reduces the business risks from climate change. Without improved management and climate resilience, these risks could result in a total loss of \$108 billion to Canadian GDP from droughts, floods and storms between 2022 and 2050.⁷⁶



Local Jobs & Economic Benefits

Results:

Local employment

Transition jobs

Youth training

Community economic benefits

Benefits to other sectors

BC's watershed sector encompasses activities that directly support the maintenance, restoration, or improvement of healthy watersheds. This sector supports employment in rural and urban areas, with widespread opportunities for growth across a range of sub-sectors, including restoration, urban and industrial water management, education and public administration. In 2019, the watershed sector directly employed 27,200 people, which grew to 47,900 British Columbians when including indirect and induced employment. And the sector contributed an estimated \$5 billion to the province's GDP.⁷⁷

- **The Healthy Watersheds Initiative** - has demonstrated the growth potential with its investments creating more than 1273 jobs between 2021 and 2022 along with broader community economic benefits (see Box 4).⁷⁸

The Delphi Group has forecasted that a \$75 million/year investment by the BC Watershed Security Fund will create an estimated 10,000 more jobs over the next 10 years than a business as usual scenario.⁷⁹

By establishing a dedicated focus and directing resources to training and re-skilling, including coordination between existing programs at regional colleges and universities, the Watershed Security Fund will support community transition in regions that are experiencing closures of key industries. It will also support Indigenous Nations to train community members rather than outside consultants, and help drive innovation in the jobs of the future such as in water technology and data systems.⁸⁰

Box 4: Case Study of Community Economic Benefits

Healthy Watersheds Initiative received \$27 million through BC's economic recovery plan and has reported a broad range of community economic benefits:⁸⁰

- **Hiring Local Contractors** – the Clayoquot Sound Watershed Recovery Initiative leveraged \$1.1 million in funding from HWI to support staffing costs of \$1 million. A further \$1 million was directed to local contractors in the region, strengthening the local economy, and building sustainable, well-paying jobs.
- **Supporting Indigenous Businesses** – the Cowichan and Koksilah Sediment Removal Project hired community members working for Cowichan-member construction companies.
- **Boosting income for Local Landowners** – the Bulkley-Morice Water Sustainability Initiative provided part-time employment to nine local contractors and supported contracts to landowners, whose agricultural businesses needed a boost in income.
- **Purchasing Plants From Local Nurseries** – the Slocan Valley Riparian Restoration Project purchased plants and other supplies from local businesses and leveraged additional funds to bring even more money into the local economy.
- **Supporting Local General Stores** – the Columbia Wetlands Project reported the impact of increased business for the local general store, especially for fuel.
- **Partnerships With Local Business** – the Vancouver Water Monitoring Program brought people and publicity to partner companies in False Creek.
- **Indigenous Economic Development** – Indigenous communities benefited from job creation of meaningful positions that provided wages and stability to community members. In addition to individual staff positions, many Indigenous-owned contractors and organizations were hired. The employment of Indigenous youth had significant benefits for individuals and communities, with youth feeling more connected to community and culture.
- **Training & Skills Development** - more than 50% of the projects engaged in skill development and training in a wide range of areas including Indigenous knowledge, stream, wetland and riparian assessment and restoration, data management and analysis, water quality and quantity monitoring, fish sampling and project management.



Community Health and Well-Being

Results:

Clean drinking water

Less illness

Sustainable food

Safe for swimming

Physical and mental health

By supporting local and Indigenous governments to develop source protection plans, the Fund will ensure the provision of clean, safe drinking water and save taxpayers millions, potentially billions, of dollars.

- **Lower Treatment Costs** - cities that face degraded source watersheds see increased water treatment costs of 44% in capital costs and 53% in operations.⁸² Conversely, a US study of 27 drinking water utilities found that for every 10% increase in forest cover of the source water area, chemical and treatment costs decrease by 20%.⁸³ New York City has spent \$2.5 billion since 1997 on ecosystem protection in the Catskill and Delaware watersheds, the source of the city's drinking water. This has saved the city an estimated \$10 billion in the cost required to build a water filtration plant, plus annual operating expenses of \$100-300 million.⁸⁴

Farmers and food producers play a critical role in ensuring watersheds remain healthy, and understand that if they look after their watershed, the watershed will look after them. The BC Watershed Security Fund will play a key role in supporting food security and sustainable food production.

- **Farmland Advantage** - is a program that compensates farmers in BC to enhance the natural values, or ecosystem services, on their land, such as water or stream setbacks, strategic fencing, reforestation, or rangeland enhancement. This program has worked with 60 farm sites across BC, resulting in the protection of 300 hectares of riparian habitat, 30 kilometres of shoreline and 160 hectares of grassland.⁸⁵

Known to Indigenous peoples for millennia, there is also increasing scientific evidence of the medicinal benefits of watersheds, sometimes called 'blue space'. Wellness studies show that when people are near water, they are both more active and experience reduced stress and anxiety.⁸⁴



Thriving Fish & Ecosystems

Results:

Flows for fish

Increased biodiversity

Fewer invasive species

Natural habitat for wildlife

Benthic invertebrates (bugs)

The Fund will support Indigenous leadership and government-to-government partnerships to strengthen water allocation regimes, including Water Sustainability Plans, that prioritize ecological flows. Funds will also support the restoration of fish and riparian habitat and upgrading to fish friendly flood infrastructure.

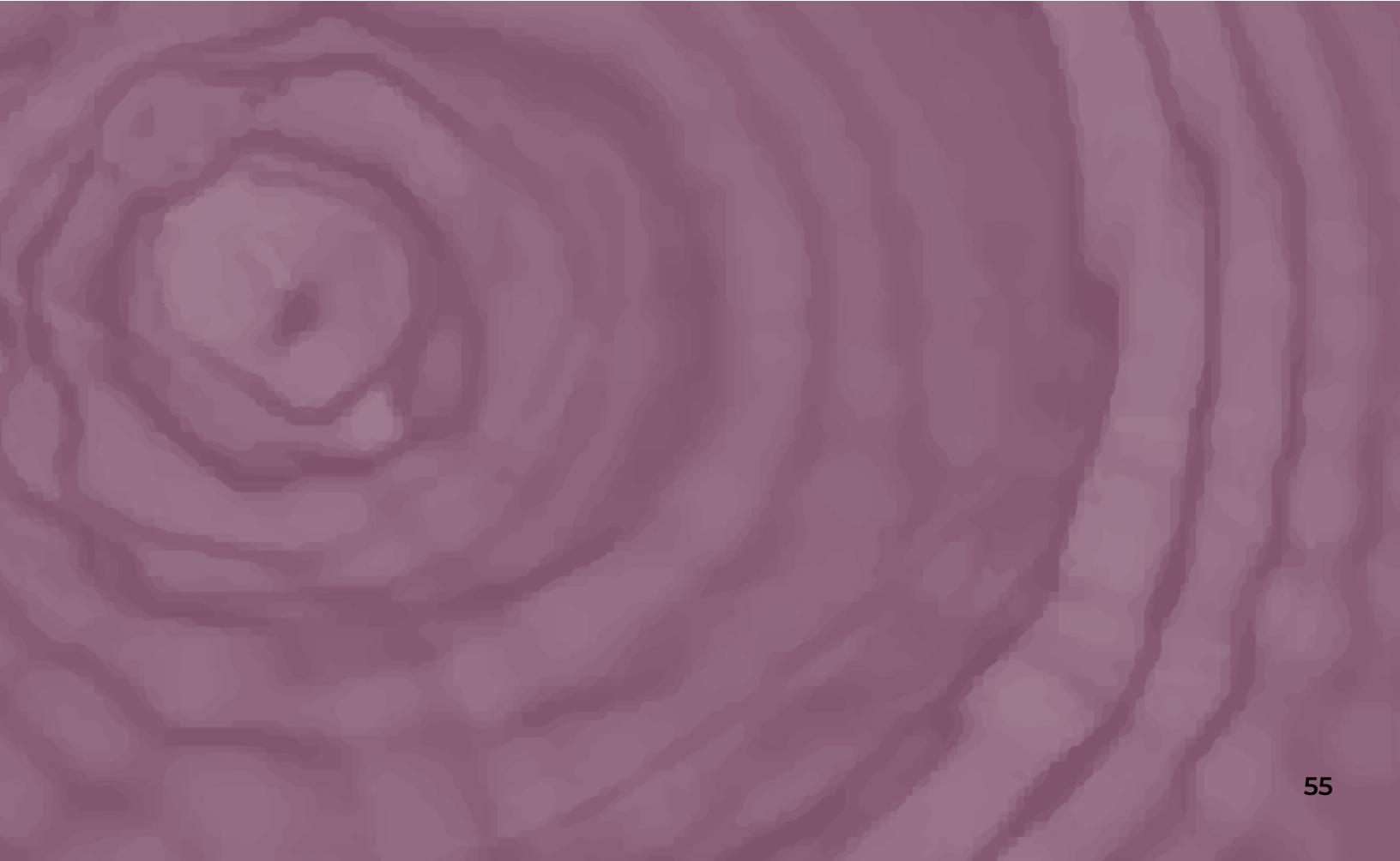
- **Reconnecting Agassiz Slough** - in 2021, the District of Kent upgraded an outdated flood gate and narrow culvert with a much larger culvert and fish-friendly gate that will remain open nearly 11 months of the year, connecting seven hectares of upstream salmon habitat in the Lower Agassiz Slough to the Fraser River. This system protects the community and allows safe access to important habitat for salmon nearly all through the year.⁸⁷
- **nk'e?xep Management Committee** - created under the Nicola Watershed Governance Partnership, this collaborative committee is supporting shared decision-making on water allocation decisions during times of drought. Indigenous governments and the provincial government are working together to apply Indigenous knowledge of ecological flows and work in partnership and cooperation with local ranchers, the City of Merritt and other water users.⁸⁸

Protecting and restoring wetlands is also essential for increasing biodiversity and supporting the natural abundance that BC is renowned for.

- **Yaqaan Nukiy Wetland** - in partnership with the BC Wildlife Federation, the Lower Kootenay Indian Band is now five years into a project that is restoring 517 hectares of floodplains, streams and rivers nestled between the Purcell and Selkirk Mountain ranges in the Creston Valley. The project is providing habitat for waterfowl, elk, moose, grizzly bear, mule deer and amphibians. Already, many species at risk have returned, including the Western painted turtle and brown bats.⁸⁹

6.2 Results Framework

WATERSHED SECURITY FUND RESULTS FRAMEWORK		PROJECT TYPE										
		 Watershed Planning & Governance				 Natural Infrastructure				 Indigenous Stewardship & Monitoring		
OUTCOMES	RESULTS	Watershed Plans	Source Protection	Collaborative Governance	Indigenous Water Laws	Wetlands Renewal	Riparian Restoration	Natural Assets	Payment for Eco-goods	Indigenous Stewardship	Community Monitoring	Water Data
 Global Leadership on Indigenous Rights	Indigenous self determination	✓	✓	✓	✓							
	Indigenous economy			✓	✓							
	Reduced conflict	✓		✓	✓							
	Decreased litigation			✓	✓					✓		
	Business certainty	✓		✓	✓	✓	✓	✓	✓	✓		
 Resilience Against Climate Change	Lower taxpayer costs					✓	✓	✓	✓			
	Reduced business risk	✓				✓	✓	✓	✓	✓		✓
	Natural flood control					✓	✓	✓	✓			
	Communities prepared	✓	✓	✓	✓					✓	✓	✓
	Carbon Storage					✓	✓	✓	✓			
 Workforce & Local Economies	Local employment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Transition jobs					✓	✓	✓	✓	✓	✓	
	Youth training	✓			✓	✓	✓	✓	✓	✓	✓	
	Community economic benefits	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Benefits to other sectors	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
 Community health & well-being	Clean drinking water		✓	✓		✓	✓	✓	✓	✓		
	Less illness		✓	✓		✓	✓	✓	✓			
	Sustainable food								✓	✓		
	Safe for swimming		✓			✓	✓	✓	✓			
	Physical/mental health					✓	✓	✓	✓			
 Thriving Fish & Ecosystems	Flows for fish	✓		✓	✓	✓	✓	✓	✓	✓		
	Increased biodiversity	✓		✓	✓	✓	✓	✓	✓	✓		
	Fewer invasive species					✓	✓	✓	✓	✓		
	Natural habitat for wildlife					✓	✓	✓	✓	✓		
	Benthic invertebrates (bugs)					✓	✓	✓	✓			



7



7 GOVERNANCE & ACCOUNTABILITY

Protecting the Public Interest

The Fund's governance and decision-making structure provides an important opportunity to advance the principles of UNDRIP and the Truth and Reconciliation calls to action, including support for the *establishment and maintenance of mutually respectful relationships*⁹⁰ between Indigenous and non-Indigenous peoples. Developing a structure that facilitates shared decision-making with Indigenous Nations on funding is also consistent and necessary for progress on key elements of the DRIPA Action Plan, including a *new distinctions-based fiscal relationship with relationship that supports the operation of Indigenous governments* (see Appendix B).

Fund governance should establish explicit roles in the Board and management structure for First Nations, recognize Indigenous rights and authority, and reflect principles of Indigenous governance in decision making.

Establishing a true co-governance structure based on a mutually respectful relationship between the Crown and Indigenous Nations requires the funding model to be established as an independent entity outside Crown institutions. However, clear accountabilities to both the provincial government and Indigenous Nations can be established to ensure the Fund is managed in the public interest. Key mechanisms for establishing these accountabilities are outlined in this section.

Fund Mandate & Founding Document

The Fund's mandate and structure should be clearly defined in a founding document created through a shared agreement between the provincial government and BC First Nations and under legislation. The founding document could be created under the BC Societies Act (eg. Coast Funds⁹¹), new legislation (eg. New Relationship Trust⁹²), or an amendment to existing legislation such as the BC Water Sustainability Act (eg. Habitat Conservation Trust Foundation was created under an amendment to the Wildlife Act⁹³).

Mission & Purpose

The mission and purpose would be clearly stated in the founding agreement or legislation and the constitution and bylaws of the Fund. All funding decisions would need to be consistent with the mission and purpose as stated.

Board Composition

Board composition would embody the co-governance structure. At least 50% of the Board would be representatives of Indigenous Nations that could be appointed by an appropriate appointment body, such as the First Nations Leadership Council or First Nations Water Caucus. The provincial government would appoint Board members through the Crown Agency's Board Resourcing Office. A Board position or positions could also be available to local governments with appointments made by the Union of BC Municipalities, and the federal government based on a federal funding commitment.

The Board would be co-chaired by an Indigenous member and appointee of the Crown. A comprehensive governance manual would be established to guide Board policies and ensure accountability, including Terms of Reference for board roles as well as Board and CEO evaluation processes.

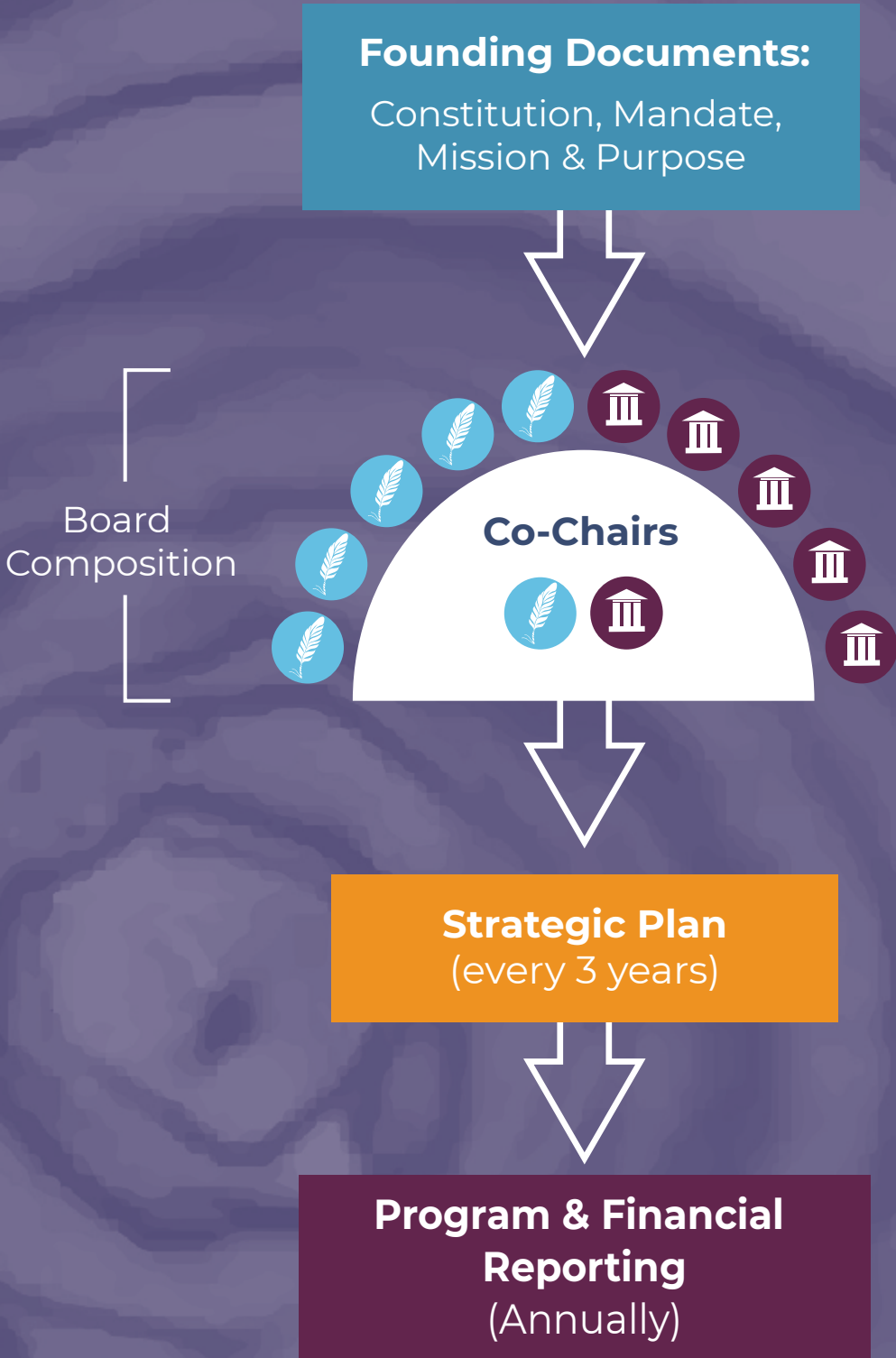
Strategic Planning & Reporting

A requirement in the founding document would be the development and publication of a strategic plan every 3 years, as well as annual impact and financial reporting to the provincial government and founding partners/funders, which would also be made available publicly.

Financial Policy

The Fund would also be required to develop a comprehensive investment policy for the endowment, that would include an agreement to not encroach on the capital to preserve the Fund in perpetuity.

Governance Structure



8



8 CONCLUSION

There is an urgent need for investment in BC's watershed security to reverse a decades-long trend of degradation and loss of natural capital, and to strengthen the province's natural defence systems in the face of climate change and increasingly extreme drought, flood and fire events.

By investing \$400 million in a sustainable endowment—the equivalent of one year of provincial water rental revenue—the provincial government can leverage contributions from other levels of government and the private sector to achieve \$1.5 billion in funding for BC's watersheds over the next 10 years.

The outcomes secured by this investment will include the demonstration of global leadership on Indigenous rights and tangible progress on the province's UNDRIP commitments. Towns and cities will be more resilient and better connected to their natural surroundings. Jobs will be generated where they are needed most, allowing rural British Columbians to stay in their communities and creating pathways for young British Columbians to find well paid and rewarding work. Drinking water sources will be protected and food security enhanced. And our watersheds will once again support flourishing natural habitats so that wild salmon, white sturgeon, frogs, birds, bears and other animal species can thrive.

The BC Watershed Security Fund has broad support from First Nations, local governments, farmers, stewardship groups and the vast majority of British Columbians. A bold and strategic investment today can create a legacy of healthy watersheds and safer and stronger communities for all British Columbians to enjoy long into the future.

Appendix A: Alignment with Other Mandate Commitments

BC Mandate Areas	Ministry	How WSF Advances Mandate Commitment
<p><i>"A sustainable, clean, secure, and fair economy: We will continue our work investing in British Columbians, fighting racism and promoting equity, and building a clean economy that addresses our obligations to climate change by driving down emissions, while creating good, family supporting jobs."</i></p>	<p>All Ministries</p>	<ul style="list-style-type: none"> • Supports a clean and sustainable economy. • Leverages funding and innovation to generate employment that combats climate change, builds community resilience and enables just transition.
<p><i>"Continue to transform the management and stewardship of our waters, lands, and resources, together with First Nations, and work toward modern land use plans and permitting processes rooted in science and Indigenous knowledge that consider new and cumulative impacts to the land base."</i></p>	<p>WLRS</p>	<ul style="list-style-type: none"> • Supports place-based integration of different planning processes & strengthens capacity to implement plans. • Scales and expands watershed co-governance partnerships & initiatives across BC.
<p><i>"Protect wildlife and species at risk, and work collaboratively with First Nations, other ministries, and the federal government to protect and enhance BC's biodiversity through implementing recommendations of the Old Growth Strategic Review, and the Together for Wildlife Strategy."</i></p>	<p>WLRS</p>	<ul style="list-style-type: none"> • Watershed restoration supports critical habitats for species at risk. • Employment associated with watershed security provides transition opportunities for under-employed forest workers.
<p><i>"Lead cross-ministry coordination for our government's work to enhance BC's resilience, such as our work through the Climate Preparedness and Adaptation Strategy, the BC Flood Strategy, and other cross-government efforts, including work to build back better from recent disasters...."</i></p>	<p>MOEMCR</p>	<ul style="list-style-type: none"> • Supports cross-ministry coordination on climate resilience at a watershed scale in partnership with Indigenous Nations, local governments and communities. • Provides funding to communities to strengthen resilience and prioritize actions that address risks associated with floods and drought.
<p><i>"Continue to implement the Climate Preparedness and Adaptation Strategy to help communities, businesses, key public services and infrastructure be prepared for and resilient to our changing climate."</i></p>	<p>MOECCS</p>	<ul style="list-style-type: none"> • Integrates preparedness & response to climate impacts through comprehensive watershed planning.
<p><i>"Continue to improve our government's relationships with Indigenous Peoples by moving from short-term transactional arrangements to long-term agreements that recognize and support reconciliation, shared decision-making, self-determination, and economic independence, including advancing work to co-develop the new distinctions-based fiscal relationship with Indigenous peoples."</i></p>	<p>MIRR</p>	<ul style="list-style-type: none"> • A co-governance funding model enables shared decision-making and prioritizes long-term funding for Indigenous-led initiatives, self-determination and reconciliation.
<p><i>"With support from the Minister of Emergency Management and Climate Readiness, and in collaboration with local, federal and Indigenous governments, strengthen the province's flood response through the completion of BC's Flood Strategy, and start the work to translate the strategy into action through the BC Flood Resilience Plan."</i></p>	<p>MOF</p>	<ul style="list-style-type: none"> • Provides funding to communities to strengthen resilience to floods through better planning, governance and investments in natural infrastructure.

Appendix B: How WSF Advances the DRIPA Action Plan

	DRIPA Action Plan	Ministry	How the WSF can Advance
1.2	Shift from short-term transactional arrangements to the co-development of long-term agreements that recognize and support reconciliation, self-determination, decision-making and economic independence.	MIRR	Provide stable, sustainable funding over the long-term that prioritizes Indigenous initiatives and multi-year projects.
1.4	Co-develop with Indigenous Peoples a new distinctions-based fiscal relationship and framework that supports the operation of Indigenous governments, whether through modern treaties, self-government agreements or advancing the right to self-government through other mechanisms. This work will include collaboration with the government of Canada.	Finance MIRR	Create the WSF in partnership with First Nations, ensure the WSF is co-governed & prioritize funding for Indigenous watershed management & self-government.
1.5	Co-develop and implement new distinctions-based policy frameworks for resource revenue-sharing and other fiscal mechanisms with Indigenous Peoples.	Finance MIRR	Co-develop a stream of sustainable funding for Indigenous governments via water license rental revenue sharing.
2.6	Co-develop strategic-level policies, programs and initiatives to advance collaborative stewardship of the environment, land and resources, that address cumulative effects and respects Indigenous Knowledge. This will be achieved through collaborative stewardship forums, guardian programs, land use planning initiatives, and other innovative and evolving partnerships that support integrated land and resource management.	WLRS MIRR MOECC MOF EMLC BC Oil & Gas Com	Co-develop the WSF to support collaborative watershed governance and stewardship that addresses cumulative effects and respects Indigenous knowledge. Ensure alignment with land use planning, guardians & other partnerships.
2.7	Collaborate with First Nations to develop and implement strategies, plans and initiatives for sustainable water management, and to identify policy or legislative reforms supporting Indigenous water stewardship, including shared decision-making. Co-develop the Watershed Security Strategy with First Nations and initiate implementation of the Strategy at a local watershed scale.	WLRS	Ensure the WSF provides funding and capacity to implement new policy or legislative reforms that supports Indigenous water stewardship and shared decision-making, and implements the Strategy at a watershed scale.

Appendix C: Scan of Existing Funding Programs

Funding Program	Funder	Description of Watershed-Related Funding	Gaps & Limitations	Co-Governed with First Nations	Sustainable/ Long-Term
Healthy Watersheds Initiative (Real Estate Foundation BC & Watersheds BC)	Arms-length Fund	\$27 million from Stronger BC that funded 61 projects across BC in support of fish-friendly flows, healthy communities, Indigenous partnerships, sustainable agriculture, and watershed renewal.	Program concludes Dec 2022	No	No
Indigenous Watershed Initiative (MakeWay & Watersheds BC)	Arms-length Fund	\$15 million in Budget 2022 being allocated to indigenous watershed stewardship, advancing Indigenous laws and knowledge, securing drinking water, and mitigating against climate change.	All funds allocated by March/ April 2023 Funds not available to non-Indigenous orgs	No	No
Infrastructure Planning Grant	Municipal Affairs	Assists local governments in developing well planned community infrastructure that will improve public health, encourage resilient communities, and protect the natural environment	Not watershed focused Maximum grant of \$10,000 per project	No	No
Investing in Canada Infrastructure Program - Adaptation, resilience & disaster mitigation program	Municipal Affairs	Includes natural infrastructure to prevent, mitigate & protect against floods. Open to Indigenous and local governments.	Focus on flooding only (does not include adapting to droughts or other climate impacts on watersheds) Not open to non-profit organizations Construction must begin no later than Oct 11, 2024 Must be new project & does not apply to on-going operations & maintenance	No	No Intake closed Oct 2022. Continuation unclear.
Investing in Canada Infrastructure Program - Environmental Quality	Municipal Affairs	Funds capacity for water, stormwater and wastewater treatment and management. Available to Indigenous and local governments.	Focused on built infrastructure projects ie. new water or sewage treatment plants Does not funding drinking water source protection or natural infrastructure solutions	No	No Intake closed Feb 2022. Continuation unclear.
Investing in Canada Infrastructure Program - Rural & Northern Communities Stream	Municipal Affairs	Funding available for green infrastructure & climate resilience. Open to Indigenous and local governments, and to no	Core outcomes are food security, travel infrastructure, broadband, energy, education & health. Green infrastructure is an alternative rather than core outcome.	No	No Final intake closed.

Appendix C cont'd: Scan of Existing Funding Programs

BC Salmon Restoration & Innovation Fund	Fed (DFO) & Province of BC	Supports BC's fish and seafood sector, and to ensure the sustainability of wild Pacific salmon and other BC fish stocks. 3 pillars: Innovation; Infrastructure; Science partnerships. Salmon habitat restoration is one of three current priorities.	Focused on salmon & not other fish or values associated w watersheds While salmon habitat restoration supports healthy watersheds, other SRIF priority areas less relevant to watershed security Includes potential funding for restoration planning but not broader watershed planning or governance	No	No Funding ends March 31, 2026
Land-use planning funds	LWRS	In 2018, BC committed \$16 million over three years to work collaborative with Indigenous governments, communities and stakeholders to modernize land-use planning	Currently limited to five projects covering a relatively small portion of province Only one project has an explicit watershed focus (Nicola Watershed Planning)	No	No 3 Yr Funding Program
Collaborative Stewardship Framework	LWRS	The Collaborative Stewardship Framework and Environmental Stewardship Initiative has funded collaborative stewardship in 9 regions with more than 60 First Nations.	Only one forum has an explicit watershed focus Large geographic regions not covered by this program.	No Funding decisions still made by province	No
Community Gaming Grants	BC Gov't	Distributes \$140 million annually from commercial gambling revenues, to not-for-profit organizations. Environment is one of 5 funding areas.	Not watershed specific. Broad environment category, which is only one of five categories. Limit of \$100,000 for local orgs and \$225,000 for regional orgs.	No	Yes Funding from gambling revenues
Habitat Conservation Trust Foundation	Arms-length Fund created by legislation	Provides grants to projects that focus on native freshwater fish, wildlife and their habitats; have the potential to achieve a significant conservation outcome; align with their purposes as laid out in the Wildlife Act.	Wildlife rather than watershed focus - projects must align with HCTF purposes as laid out in the Wildlife Act Limited to on-the-ground conservation activities, does not support planning & governance Does not fund training	No	Yes Funding from conservation surcharge on fishing & hunting licenses. Investment income from endowments
Forest Enhancement Society of BC	Crown Agency	Support for local and Indigenous government initiatives that build resilience to wildfire.	No watershed focus. Focused on enhancing wildlife habitat, improving low-value forests, re-planting damaged forests, and utilizing fibre that would otherwise be burned	No	No Received \$25 mill in fiscal 2022-23
New Relationship Trust	Arms-length Fund created by legislation	Supports First Nations and Tribal Councils in British Columbia to complete projects that strengthen their community through capacity building and/or nation governance initiatives, according to their self-determined priorities.	No focus on water/ watersheds Only open to Indigenous governments One-off grant up to \$50,000	First Nations Governed	Yes

Appendix D: George & Bell Consulting Full Report



BC Freshwater Legacy Initiative

Investment Strategy and Model Portfolios for BC Watershed Security Fund

September 29, 2022

George & Bell Consulting acknowledges that it is situated on the traditional, ancestral and unceded territories of the x^mməθkwəyəm (Musqueam), Skwxwú7mesh (Squamish), and Salílwata?/Selilwitulh (Tseil-Waututh) peoples.

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1. Executive Summary

George & Bell Consulting Inc. is a privately-held corporation headquartered in Vancouver, British Columbia, with additional offices in Edmonton and Toronto. Our team, which includes fully qualified actuaries and Chartered Financial Analyst charterholders, provides investment, pension and benefits consulting services to pension and benefit plans, endowment, foundations and other investment entities.

This report provides an overview of how the investment strategy of the BC Watershed Security Fund (the "Fund") would benefit from government funding and the establishment of a permanent endowment.

We believe that government funding would help the Fund secure the health of local watersheds, while contributing to the British Columbia economy through not only its granting program but also through its investment program:

- Should the Fund receive funding of \$200-600 million, then we project that they could distribute \$12-40 million per year over the next 10 years to support watershed security in British Columbia. This distribution rate would be sustainable indefinitely without resulting in any encroachment of capital.
- The Fund would be able to invest each dollar of funding multiple times into local communities, not only by funding projects through its granting program but also through the impact investments it intends to make within its investment portfolio.
- Government funding would allow the Fund to take a leadership role as it relates to supporting environmental, social, governance, and Indigenous issues not only here in British Columbia, but also throughout Canada and beyond.
- The Fund would be able to build a diversified portfolio so that the Fund's investment performance would not be primarily driven by one underlying risk factor: the performance of the economy. True diversification could be achieved by extending the investable universe beyond the traditional asset classes of stocks and bonds, and into other investments with attractive risk/return characteristics such as real estate, infrastructure, and private credit. Government funding would allow the Fund to invest with a long-term time horizon in mind like other perpetual investors such as foundations, pension plans, and Indigenous legacy trusts.



2. Risk/Return Objectives

In setting the policy asset mix, the BC Watershed Security Fund should prioritize its key investment objectives. Potential investment objectives include the following:

- Maximize expected return
- Target a specific level of return
- Target a specific level of distributions
- Avoid loss of capital/negative return
- Minimize volatility of return
- Maximize annual return in worst-case scenarios (e.g., 5% likelihood of occurrence); value at risk

Our analysis focuses on maintaining the value of the Fund (i.e., avoid encroaching on capital), after factoring in project distributions and operating expenses, while maximizing the impact that the Fund can make on watershed security.



3. Methodology and Assumptions

Methodology

1. Projection period: 10 years
1. Projections: 10,000 stochastic projections of various asset mixes and constraints, resulting in three portfolios that would be suitable for the Fund for the given return objective.

Assumptions

Cash Flow Assumptions

Assumption/Input	Value
Starting market value of assets	Three funding scenarios: <ul style="list-style-type: none"> • \$200 million • \$400 million • \$600 million
Annual distributions (includes granting and operating expenses)	Three granting scenarios (one for each funding scenario): <ul style="list-style-type: none"> • \$200 million funding scenario: annual distributions of \$12 million • \$400 million funding scenario: annual distributions of \$25 million • \$600 million funding scenario: annual distributions of \$40 million
Ongoing funding	None
Portfolios	Develop three portfolios for consideration: <ul style="list-style-type: none"> • Portfolio A – Income focused • Portfolio B – Balanced return • Portfolio C – Capital gain focused



Asset Classes Included in Analysis

Asset Classes Under Consideration	Description
Short-Term Investments	Canadian fixed income securities with high liquidity and very short maturities (i.e. less than one year).
Universe Bonds	Canadian fixed income securities that have typically 5-15 years to maturity. Credit ratings are usually BBB or above.
High Yield Bonds	Bonds which carry a lower credit rating (lower than BBB) and carry a higher risk of default. Higher yields are paid to compensate for the increased risk.
Mortgages	Income-producing fixed income assets held by a commercial mortgage lender; loans on retail, office, industrial, and multi-family properties.
Private Debt	Loans issued by a non-bank private entity directly to the borrower. Private debt investments have fixed income-like qualities such as a stated interest rate (floating or fixed) for repayment but can also include an equity bonus payable at the end of an investment.
Canadian Equities	Publicly traded stocks of Canadian companies.
Global Equities	Publicly traded stocks of companies located in developed countries.
Real Estate	Equity investments in physical assets such as land, apartments, and office buildings located in Canada. Sources of income include the development of vacant land or collection of ongoing rents from tenants.
Infrastructure	Physical, long-life assets that are required for the proper functioning of an economy. Some examples include toll roads, bridges, airports, pipelines, hospitals, schools, and parking lots.
Private Equities	Ownership stakes in companies that are privately held, i.e. not publicly listed. Two main strategies are venture capital and leveraged buyouts.
Farmland	Land used by farmers to grow agriculture products. Similar to real estate, farmland investors typically realize returns from (1) the lease income on the land, and (2) the potential capital appreciation of the land.



Forward-Looking Asset Class Assumptions

The asset classes that were considered in our analysis, and George & Bell Consulting's after-fee capital market assumptions as of June 30, 2022, are shown in the table below. The assumptions reflect our prospective return, volatility¹, cash yield, and correlation² expectations for the next 10 years.

Long-Term Assumptions	Annualized			Correlations										
	Return	Volatility	Cash Yield	Short-Term Investments	Universe Bonds	High Yield Bonds	Mortgages	Private Debt	Canadian Equities	Global Equities	Real Estate	Infrastructure	Private Equities	Farmland
Short-Term Investments	3.2%	1.0%	3.1%	1.0										
Universe Bonds	4.8%	3.8%	4.9%	0.0	1.0									
High Yield Bonds	6.9%	7.8%	7.4%	-0.2	0.7	1.0								
Mortgages	4.9%	6.0%	5.1%	0.0	0.6	0.2	1.0							
Private Debt	7.5%	8.0%	7.5%	-0.2	0.5	0.9	0.0	1.0						
Canadian Equities	6.2%	17.0%	2.2%	-0.1	0.4	0.6	-0.1	0.6	1.0					
Global Equities	6.2%	14.3%	2.2%	-0.1	0.3	0.5	-0.1	0.5	0.8	1.0				
Real Estate	5.2%	9.3%	3.8%	0.2	-0.1	0.0	0.1	0.2	0.1	0.1	1.0			
Infrastructure	7.0%	8.3%	5.0%	0.1	-0.3	-0.3	0.1	-0.2	0.0	0.1	0.3	1.0		
Private Equities	8.2%	17.0%	0.0%	-0.3	0.2	0.5	0.0	0.5	0.7	0.7	0.3	0.3	1.0	
Farmland	4.2%	6.5%	2.2%	0.0	-0.1	-0.1	0.0	-0.1	0.1	0.2	0.3	0.1	0.2	1.0

Notes:

- 1) Correlations and volatilities are based on 25-year (or since inception) historical data of indices or, where suitable indices were not available, asset class proxies.
- 2) Volatilities for real estate, infrastructure and private equities have been adjusted upwards based on downside analysis.
- 3) The returns and yields shown above are assumed to be net of investment management fees.
- 4) Universe bonds consists of 85% investment-grade bonds and 15% of "plus" investments, including mortgages, high yield bonds, and foreign bonds.
- 5) Long-term assumptions assume a time frame of over 10 years.

While all of the asset classes above were considered in our analysis, the three portfolios of interest do not necessarily invest in all of the asset classes.

¹ Volatility, as measured by the standard deviation of returns, represents the degree of variation of the returns of the asset classes.

² Correlation is a measurement between -1 and 1, which indicates the linear relationship between two variables. If there is no relationship between two variables, the correlation coefficient is 0. If there is a perfect relationship, the correlation is 1. And if there is a perfect inverse relationship, the correlation is -1.



4. Asset Mix Modelling

The tables below summarize the metrics of three portfolios of interest that would be suitable for the Fund:

Portfolio Asset Mixes

Allocations	A: Income Focused	B: Balanced Return	C: Capital Gain Focused
Long-Term Average Annual Return, Net of Investment Fees	6.5%	7.2%	7.4%
Fixed Income			
Universe Bonds	5%	5%	5%
Mortgages ¹	5%	0%	0%
Private Debt ¹	15%	20%	25%
Total Fixed Income	25%	25%	30%
Equities			
Global (Public) Equities	35%	15%	5%
Private Equities ¹	0%	25%	40%
Total Equities	35%	40%	45%
Real Assets			
Real Estate ¹	5%	0%	0%
Infrastructure ¹	35%	35%	25%
Total Real Assets	40%	35%	25%
Total Portfolio	100%	100%	100%
Total in Investments with Restricted Liquidity	60%	80%	90%

¹Asset classes with restricted liquidity can typically be liquidated in 1-24 months for open-ended vehicles, and longer for closed-end vehicles.



Portfolio Metrics

Portfolio Metrics	A: Income Focused	B: Balanced Return	C: Capital Gain Focused
Return Metrics, Net of Investment Fees			
Investment Income (Dividends and Interest)	4.4%	3.8%	3.5%
Capital Gains	2.1%	3.4%	3.9%
Total Long-Term Average Annual Return	6.5%	7.2%	7.4%
Risk Metrics			
Standard Deviation	6.7%	8.0%	9.2%
1 in 20-Year Downside Return ¹	-4.0%	-5.3%	-6.9%
Likelihood of a Negative Return in a Given Year	15.9%	17.9%	20.3%
Scenario 1: Starting Assets of \$200M, Annual Distributions of \$12M			
Market Value of Assets After 10 Years (\$M)	\$207.8	\$226.0	\$233.5
Cumulative Growth in Initial Principal	3.9%	13.0%	16.8%
Average Annual Distributions (\$M)	\$12.0	\$12.0	\$12.0
Average Annual Distribution Rate as a % of Assets	5.9%	5.7%	5.6%
Scenario 2: Starting Assets of \$400M, Annual Distributions of \$25M			
Market Value of Assets After 10 Years (\$M)	\$401.7	\$437.2	\$452.3
Cumulative Growth in Initial Principal	0.4%	9.3%	13.1%
Average Annual Distributions (\$M)	\$25.0	\$25.0	\$25.0
Average Annual Project Distribution Rate	6.2%	6.0%	5.9%
Scenario 3: Starting Assets of \$600M, Annual Distributions of \$40M			
Market Value of Assets After 10 Years (\$M)	\$567.5	\$619.9	\$640.9
Cumulative Growth in Initial Principal	-5.4%	3.3%	6.8%
Average Annual Distributions (\$M)	\$40.0	\$40.0	\$40.0
Average Annual Distribution Rate as a % of Assets	6.8%	6.6%	6.5%

¹Represents the 95th percentile return. Returns are expected to be this return or worse 1 out of every 20 years.



5. Analysis of Results

Our investment analysis results in the following conclusions:

- We believe that the portfolios of interest are well diversified and can generate an average annual return of 6.4-7.4% per year. In contrast, the typical retail balanced portfolio consisting of 5% cash, 35% bonds, and 60% equities is only expected to earn an average annual return of 5.6% per year.
- The Fund can distribute 6.5-7.4% of assets per year, after the deduction of investment management fees, without encroaching on capital over the long term.
- As a permanent endowment, the Fund can earn a significant illiquidity premium by investing in asset classes that would not typically be available to smaller sized investors (e.g., private debt, private equities, commercial direct real estate, direct infrastructure). This will allow them to reduce portfolio risk and increase return when compared to a portfolio consisting of only cash, stocks, and bonds.

Other factors that the Fund should consider prior to selecting an asset mix are outlined in the following section.



6. Implementation Considerations

There are various considerations when implementing a new asset mix. In this section, we discuss the following:

- Responsible Investment
- Impact Investing
- Inflation
- Additional Sources of Return
- Liquidity

Responsible Investment

The Fund is a driving catalyst that supports healthy, resilient relationships between watersheds and Indigenous nations, governments, and diverse sectors that are supported by collaborative stewardship. Consequently, the Fund has the opportunity to be a global leader with respect to investing in a manner that incorporates environmental, social, governance, and Indigenous (ESGI) considerations into its investments.

Institutional investors like the Fund have a duty to incorporate climate change issues into their investment due diligence processes in the same way that other significant investment risks are evaluated. In addition, there is increasing evidence indicating that the analysis of ESGI factors is important to help improve risk-adjusted returns.

The portfolios of interest shown in the previous section would be implemented using external investment managers. Managers would be selected with regard to not only financial metrics but their ability to demonstrate best-in-class ESGI investment approaches. This would include ensuring that managers incorporate ESGI considerations into their investment processes, as well as positioning the Fund as an active steward of capital.

The table on the following page shows the various ESGI integration approaches that would be considered by the Fund.



CONSIDERING ESG ISSUES WHEN BUILDING A PORTFOLIO (known as: ESG incorporation)			IMPROVING INVESTEEES' ESG PERFORMANCE (known as: active ownership or stewardship)	
ESG issues can be incorporated into existing investment practices using a combination of three approaches: integration, screening and thematic.			Investors can encourage the companies they are already invested in to improve their ESG risk management or develop more sustainable business practices.	
Integration	Screening	Thematic	Engagement	Proxy voting
Explicitly and systematically including ESG issues in investment analysis and decisions, to better manage risks and improve returns.	Applying filters to lists of potential investments to rule companies in or out of contention for investment, based on an investor's preferences, values or ethics.	Seeking to combine attractive risk-return profiles with an intention to contribute to a specific environmental or social outcome. Includes impact investing.	Discussing ESG issues with companies to improve their handling, including disclosure, of such issues. Can be done individually, or in collaboration with other investors.	Formally expressing approval or disapproval through voting on resolutions and proposing shareholder resolutions on specific ESG issues.

Source: Principles for Responsible Investment, 2020.

Impact Investing

New government funding for the Fund will provide British Columbia with a large-scale impact opportunity to grow and rehabilitate its watershed sector, placing first-line priority on rural and Indigenous communities. The Fund will not only be able to make an impact through its granting program but also by investing capital in impact investments that amplify the Fund's overall objectives, such as climate resilience, Indigenous rights, job creation, and conflict reduction. This multiplies the impact that each dollar of government funding will have.

We believe that the Fund could commit a significant portion of its portfolio to impact-focused investments that address key themes related to watershed security, in addition to incorporating responsible investing considerations throughout the total portfolio (as per the previous section). The Fund could make this commitment and still earn a substantial financial return to support and even improve the amount of capital available for project distributions.

Impact investing could be accomplished by investing through investment managers with expertise in specific sectors. Examples of funds that directly make an impact on local communities, and that may be suitable for the Fund, include the following:

- Connor, Clark & Lunn Infrastructure Fund: Private infrastructure fund that primarily invests in the Canadian renewable energy sector. The Fund has partnered with Indigenous communities on more than 50% of its Canadian projects and has made numerous renewable energy and social infrastructure investments in British Columbia.
- Fiera Capital bonds: Investment manager that made a 10 million USD investment in a 5-year Sustainable Development Bond targeting UN Sustainable Development Goal 6: Clean Water and Sanitation and UN Sustainable Development Goal 14: Life Below Water.
- Fiera Capital equities: Investment manager that helped Coast Funds implement groundbreaking proxy voting guidelines that advocate for the rights of Indigenous peoples,



including ensuring that proxy votes are cast in a manner that is consistent with the UN Declaration on the Rights of Indigenous Peoples (UNDRIP).

- Mirova Environment Acceleration Capital Fund: Private equity fund that contributes to clean water by investing in clean energies, smart cities, natural resources, agro-technologies, and a circular economy.
- New Market Funds Rental Housing Fund: Real estate fund that supports affordable housing in British Columbia and other Canadian provinces by providing non-profit organizations with access to capital.
- Raven Indigenous Impact Fund: Private equity fund that takes ownership interests in seed, early and growth-stage social enterprises based in Canada and the United States and led by Indigenous peoples.
- XPV Water Fund: Private equity fund focusing on investments in the water sector. Former investments include Aquatic Informatics, a water data management software company founded in Vancouver.

The deployment of capital into impact investments like the above would allow the Fund to maximize the effect that each dollar of funding would have on the communities in which it operates.

Inflation

Our asset mix modelling in Section 4 focuses on optimizing the total distributions available for projects. Any additional returns earned in excess of the Fund's funding needs would be retained to grow the capital base. This will help maintain the purchasing power of the Fund and allow the Fund to grow the amount of capital that is available for distributions over time. In addition, the portfolios of interest include allocations to investments with built-in inflation protection mechanisms, such as private debt, that generates higher income when interest rates increase (i.e., floating rate loans), and real estate and infrastructure, which often have structural inflation protection mechanisms, like the ability to pass on inflation increases to the end users.

Additional Sources of Returns

In this section, we discuss the additional sources of return that may increase the ending market value projected by the asset mix optimization.

Manager Value Add

Our return assumptions reflect our expected returns for the market index (e.g., S&P/TSX Composite Index for Canadian equities) or, for asset classes where a market index is not readily available (e.g., infrastructure), the expected return of the average fund in that asset class. Our assumptions do not include the potential value that investment managers may add in excess of the market return over time. The Fund's investment returns will be higher than expected if the selected active investment managers are able to outperform the market, after the deduction of their fees.



Return Assumptions for Private Debt, Private Equities, Real Estate, and Infrastructure

Our return expectations for private debt, private equities, real estate, and infrastructure assume minimal leverage (debt) within the funds. If more leverage is used, the Fund's expected return (and potential risk) would be higher. Furthermore, we have assumed that the investments would be made in high-quality assets, such as senior secured first lien loans for private credit, and stabilized assets with long operating histories for private equities, real estate, and infrastructure. If the Fund invests in lower-quality credit or less stabilized assets (e.g., non-secured loans, early-stage private companies, properties that need renovations or new infrastructure projects), then returns may be higher.

Rebalancing

The asset mix optimization above does not factor in any potential value added from rebalancing activities. Historical studies indicate that regularly rebalancing the asset mix back to its target can result in additional added value of up to 0.5% per year, net of rebalancing costs.

Liquidity

Institutional investors with long time horizons can often invest a portion of their assets in illiquid investments. The amount of illiquidity that the Fund can take on is dependent on (1) the amount of cash required by the Fund each year (i.e., to fund projects and to pay operating expenses), and (2) the amount of cash readily available in liquid investments.

We believe that many institutional investors can have significant allocations to asset classes with restricted liquidity for the following reasons:

- Long-term investors rarely require liquidation of a significant proportion of assets to fund allocations or distributions. This is particularly true for long-term pools of capital such as the Fund, where such a liquidation is a counter to the purpose of the fund.
- Some liquidity may be desired for the rebalancing of assets in the event of major capital market moves (e.g., stocks fall by 30%). However, rebalancing could generally be synthesized to achieve close to the desired outcome by managing the weights of remaining liquid investments (public stocks and bonds).
- If investors can find illiquid assets that have a track record and a reasonable future likelihood of providing an illiquidity premium, those assets should generally be considered as part of an overall portfolio.
- Effective liquidity risk management can reduce the likelihood of experiencing a liquidity squeeze during a market crisis. Potential risk management strategies include:
 - staggering commitments to alternative programs over time;
 - if suitable, investing in asset classes via vehicles that offer liquidity (i.e., open-ended funds);
 - striking a balance between the Fund's outgoing cash flows (i.e., distributions and expenses) and incoming cash flows (i.e., interest, dividends, and distributions from alternative investments); and
 - forecasting project needs over the next 10 years.



Appendix A – Team Biographies

Brendan George FIA, FCIA, FSA, CFA **Partner**

Experience

Brendan has worked in the pension and investment fields for 28 years. His areas of specialization include the financing and actuarial analysis of pension plans and investment consulting.

Brendan's clients include pension plans, insurance funds, workers' compensation funds, endowments and foundations.

Previously Brendan worked for a global consulting company as the National Investment Consulting Practice Leader, and prior to that the Regional Retirement Practice leader. Prior to 1995 Brendan worked in South Africa for a major consulting firm.

Brendan has designed and implemented pension plans and supplementary pension plans. He also has experience with investment policy design and monitoring and investment manager searches, as well as performing risk analysis and asset-liability projections.

He has testified before a workers' compensation board hearing and a judicial compensation commission. Also, Brendan has experience leading education seminars for Boards, pension committees, investment committees and pension plan members.

He is a frequent speaker at industry events, including Canadian Pension & Benefits Institute, Association of Canadian Pension Management, Pacific Business and Law Institute, Federated Press, and International Foundation of Employee Benefit Plans.

Qualifications & Education

Brendan is a Fellow of the Canadian Institute of Actuaries and a Fellow of the Institute of Actuaries (England). He is a Fellow of the Society of Actuaries and a Chartered Financial Analyst charterholder.

He graduated from the University of the Witwatersrand, South Africa in 1993 with a Bachelor of Economic Science Degree (with Distinction) in Statistics and Actuarial Science.





**Hubert Hwang CFA
Principal**

Experience

Hubert is a Principal with George & Bell Consulting where he provides clients with pragmatic research, analysis, and recommendations on investment-related matters.

For the past nine years, Hubert has led George & Bell's investment manager research efforts. His other areas of expertise include investment strategy, asset mix analysis, plan governance, and portfolio monitoring.

Prior to joining George & Bell, Hubert was an Investment Analyst at a global consulting firm where he conducted research and due diligence on investment matters for institutional clients. He previously worked as an accountant for a specialty lending subsidiary of a Canadian bank.



Hubert works with a wide array of institutional investors, including pension plans, benefit plans, endowments, foundations, non-profit organizations, and Indigenous communities.

Qualifications & Education

Hubert is a Chartered Financial Analyst charterholder and a member of CFA Society Vancouver. He graduated from the University of British Columbia in 2008 with a Bachelor of Commerce in Accounting and International Business. Hubert is a member of the Banff Canmore Community Foundation's Finance, Audit, and Investment Committee and the YW Calgary's Finance and Audit Committee.

Appendix E: BC Endowment Funds

Endowment Name	Description	Funding Source/s
Northern Development Initiative Trust	Regionally operated economic development funding corporation for central and northern BC. Operates independently from government and provides funding to identify and pursue new opportunities for stimulating economic growth and job creation within the region.	Provincial Gov't
Island Coastal Economic Trust	Independently governed by a Board of Directors and two Regional Advisory Committees, funds are invested in a wide range of economic development and community building initiatives.	Provincial Gov't
Economic Trust of the Southern Interior	Builds the region's economic development capacity by assisting partners to support local businesses, encouraging entrepreneurship,, and providing support to key sectors to innovate and be more sustainable.	Provincial Gov't
Columbia Basin Trust	Governed by the <i>Columbia Basin Trust Act</i> and guided by the Columbia Basin Management Plan, funds are allocated to the region, representing a fair share of the ongoing benefits being realized outside of the Basin as a result of the Columbia River Treaty.	Provincial Gov't
New Relationship Trust	NRT is a capacity building catalyst for First Nations in BC, providing tools and funding opportunities that advance nation-building initiatives and establish resilient, healthy, and vibrant communities.	Provincial Gov't
Pacific Institute for Climate Solutions	An independent university collaboration to develop innovative, evidence-based climate solutions knowledge that is actively used by decision-makers within BC, nationally and internationally.	Provincial Gov't
Gwaii Trust Society	The Gwaii Trust enhances environmentally sustainable social and economic benefits to Haida Gwaii through the use of the fund. Supports an Islands community characterized by respect for cultural diversity, the environment, and a sustainable and increasingly self-sufficient economy.	Federal Gov't
Gwa'sala-'Nakwaxda'xw Nation Trust	Trust funds are used in three ways: annual disbursements to community members, administrative costs to responsibly manage the Trust, and projects for the benefit of the community.	Federal Gov't
Coast Funds	Dedicated to empowering First Nations in the Great Bear Rainforest and Haida Gwaii to achieve healthy and vibrant economies and communities in tandem with the conservation of their homelands for the benefit of future generations.	Philanthropy & Provincial Gov't
Gitanyow WILP Sustainability Fund	Provides funding to support implementation fo the WILP Sustainability Plan including on-the-ground monitoring, education, and awareness, and gathering critical population enumeration data for high value species.	Philanthropy
Tlatsini Endowment Fund	The purpose of the <i>Tlatsini Endowment Fund</i> is to "support the Taku River Tlingit First Nation in implementing the Atlin Taku Land Use Plan, associated shared decision-making arrangements and related land stewardship activities."	Philanthropy
Morice Watershed Monitoring Trust	A collaborative, long-term, science-based program to collect water quality and water quantity information to identify where water-related issues exist, fill data gaps, and inform resource management decision making.	Philanthropy

Appendix F: Examples of Impact Investments

- **Connor, Clark & Lunn Infrastructure Fund:** invests in the Canadian renewable energy sector and partnered with Indigenous communities on more than 50% of its Canadian projects. Has numerous investments in BC.
- **Fiera Capital bonds:** made a US\$10-million investment in a 5-year Sustainable Development Bond targeting UN Sustainable Development Goal 6: Clean Water and Sanitation and Goal 14: Life Below Water.
- **Fiera Capital equities:** helped Coast Funds implement ground-breaking proxy voting guidelines that advocate for the rights of Indigenous peoples.
- **Mirova Environment Acceleration Capital Fund:** invests in clean energies, smart cities, natural resources, agro-technologies, and a circular economy.
- **New Market Funds Rental Housing Fund:** supports affordable housing in British Columbia by providing non-profit organizations with access to capital.
- **Raven Indigenous Impact Fund:** takes ownership interests in seed, early and growth-stage social Indigenous-led enterprises based in Canada and the U.S.
- **XPV Water Fund:** private equity fund focusing on investments in the water sector. Former investments include Aquatic Informatics, a water data management software company founded in Vancouver.

Appendix G - Additional Detail on Benchmark Projects

Example	Lead	Description of Work	Project Cost	Budget Source
Koksilah Water Sustainability Plan	Cowichan Tribes	Technical work and analysis to support BC's first water sustainability plan in order to restore water flows for fish and water users.	\$500,000	Healthy Watersheds Initiative
Nanaimo Drinking Water Protection	Regional District of Nanaimo	Implementing a comprehensive drinking water protection program including data collection and monitoring, water education and outreach and water policy advocacy and planning.	\$500,000	RDN - 10 Yr Program Review
Nicola Watershed Governance Project	5 Nicola Nations & BC	Undertaking Indigenous laws development, data sharing, advancing co-governance, engaging in drought co-management and watershed planning.	\$500,000	Collaborative Stewardship Framework
Yinka Dene Water Law	Upper Fraser Fisheries Conservation Alliance	In partnership with Carrier Sekani First Nations, applying Yinka Dene Water Law assessing and implementing ecosystem restoration and protection projects.	\$300,000	Healthy Watersheds Initiative
Yaqaan Nukiy Wetlands Restoration	Lower Kootenay Band	Restoring naturally appearing and functioning wetlands and floodplains by filling ditches, removing reed canary grass, and recontouring altered wetlands.	\$235,000	Healthy Watersheds Initiative
Cluxewe River Restoration	Kwakiutl First Nation	Addressing large-scale active erosion in the Cluxewe River through channel stabilization and restoring salmon spawning areas.	\$250,000	Healthy Watersheds Initiative
Kus Kus Sum Unpaving Paradise	Comox Valley Watershed Society	In partnership with K'omoks First Nation and Courtenay, dismantling and restoring a former sawmill site to its native estuary saltmarsh and riverside forest.	\$700,000	Healthy Watersheds Initiative
Farmland Advantage	BC Investment Agriculture Foundation	Working with farmers and First Nations to protect and preserve critical riparian habitats on agricultural land.	\$600,000	Healthy Watersheds Initiative
Kwikwetlem First Nation Resource Stewardship	Kwikwetlem First Nation	Hiring & training four full-time Resource Guardians who will enforce conservation regulations, restore environmentally compromised sites, and monitor development activities.	\$435,000	Healthy Watersheds Initiative
Columbia Basin Water Hub	Living Lakes Canada	Collaborating with Indigenous and non-Indigenous communities to conduct water monitoring and restoration work in the Upper Columbia Basin.	\$1,200,000	Healthy Watersheds Initiative

End Notes

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