



Financing Conservation

How conservation financing
could be used to protect
Canada's ecosystems

About Rally Assets



Rally Assets is an impact investment management and advisory firm. It works with corporate and institutional investors, foundations, family offices and philanthropists to deliver specialized solutions that help its clients create positive social and environmental impact without compromising financial returns. Since its start in 2010 as Purpose Capital, it has been a trusted leader in the sector.

Rally is a Portfolio Manager and Exempt Market Dealer registered in Alberta, British Columbia, Ontario and Quebec with the respective provincial securities commissions.

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About NCC



The Nature Conservancy of Canada (NCC) is the nation's leading not-for-profit, private land conservation organization, working to protect our most important natural areas and the species they sustain. Since 1962, NCC and its partners have helped to protect 14 million hectares (35 million acres), coast to coast to coast. To learn more, visit:

natureconservancy.ca

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About This Report

This report is written for a diverse group of stakeholders, including different investor types and conservation partners. The goal of this report is to provide a framework for organizations with an interest in conservation finance to understand the Canadian conservation finance landscape in the context of global best practices.

November 2020



The Nature Conservancy of Canada is grateful for Metcalf Foundation's financial support of this project.

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Executive Summary

Conservation finance is an important and necessary tool to help protect ecosystems, and it is one being used around the world to restore and conserve healthy terrestrial and marine ecosystems and restore clean air, fresh water and species diversity. **To be most effective, conservation globally requires significantly more funding. Estimates over the past decade of the funding gap have ranged from a \$250-350 billion US a year, while a more recent estimate is that the annual biodiversity funding gap is \$598-824 billion US.¹ We estimate that in Canada alone the additional funding needed is \$15-20 billion US a year.**

Traditionally, the main stakeholders in the conservation finance landscape have been governments, government-aligned institutions, land trusts and other nonprofits, philanthropists and philanthropic organizations. **However, conservation finance also offers opportunities for private investors, mainstream investment firms and corporations interested in a triple bottom line of serving people, planet and profit.**

Conservation finance offers these groups many benefits:

- For traditional players, it offers the ability to achieve total portfolio activation and program innovation and education, and to meet donor attitudes and interests
- For private investors, conservation finance can increase asset quality, develop long-term sustainable returns, tap into growth in emerging markets, diversify and hedge portfolios, utilize tax advantages or credits, and avoid or reduce costs

While nature is priceless and invaluable, there are many ecosystem services that have monetary value to various stakeholders, such as carbon sequestration or flood risk mitigation. Monetizing these services allows stakeholders to create mechanisms and products to measure, finance and promote conservation initiatives, based on the outcomes they provide.

High potential outcome areas include:

- Indigenous-led or -stewarded conservation in which stewards are compensated for their conservation efforts
- Blended social and environmental outcomes that are relevant to other communities, such as nature-based tourism communities, cities and peri-urban areas
- Offsets and credits supported by natural capital stocks other than carbon, such as biodiversity or nutrient credits

Conservation finance models that provide the mechanisms to monetize ecosystem services include credits and offsets, outcome-based models, green bonds and other alternative investments.

When considering conservation finance in Canada, there are two critical issues: land ownership and Indigenous engagement:

- **Land ownership:** Unlike in most countries, in Canada, most land is formally recognized as Crown owned – that is, land owned and administered by the Canadian or various provincial governments
- **Indigenous engagement:** Indigenous land and millennia of Indigenous land stewardship practices, both on Indigenous treaty territory and unceded lands, will play a critical role in future conservation efforts within Canada

There is great potential for conservation-related investment products in Canada, though the sector remains nascent today. These products can be developed using traditional and innovative financial models and by bringing in new development partners and investors. Recommendations to catalyze development include:

- **Grantors** to provide funding to early-stage initiatives to grow the project pipeline and develop the market for later-stage private investors. They can also provide targeted capacity-building funding to conservation organizations, to develop in-house conservation finance expertise
- **Blended-capital investors** to help achieve impact goals, de-risk investments, or boost returns for traditional investors, crowding in more capital to scale conservation efforts
- **Competitive-returns investors** to act as anchor investors and collaborate with other stakeholders to structure appealing products
- **In-kind supporters** to contribute non-monetary support in the form of partnership, risk valuation, indigenous engagement, measurement and evaluation, research, and the creation of favourable regulatory environments
- **Natural asset owners** to monetize conservation activities in order to subsidize the costs of project development and stewardship, as well as create products/proof of concepts for investors. Nature-based solutions can be implemented to make greater use of the value that natural assets provide to organizations and the various communities that depend on them

The time is right for a new approach.

Conservation, as a field, has been chronically underfunded and investments in conservation to date have been disproportionately funded by governments and a relatively small number of philanthropic foundations. This is problematic when the extent of international commitments made by governments around the world, including Canada, to conserve various landscapes is taken into account.

Due to international commitments as well as national policies, Canada is working to conserve terrestrial areas and inland waters, marine and coastal areas through a network of protected areas and other effective area-based measures. As of December 2018, 11% of Canada's terrestrial areas and inland water and 8% of coastal and marine areas were conserved. The Government has committed to higher conservation targets for the future. With these types of commitments comes an enormous requirement for capital, the burden of which should not and cannot rest solely with governments and a small number of foundation actors. Nature provides a wide array of ecological goods and services to society writ large, underscoring the benefit and the opportunity for many types of investors to participate in financing the conservation of Canada's abundant natural capital.

The Nature Conservancy of Canada and Rally Assets believe that the time is right to develop a much wider array of innovative financial approaches to conservation in order to attract other sources of capital, much of this from the private sector. Many such approaches are being used around the world that can be applied to the Canadian context. Conservation financing in Canada is a large opportunity waiting to be exploited.

This report, a first for Canada, is therefore written with a diverse group of stakeholders in mind, including not only traditional conservation partners and organizations that deliver on-the-ground results, but also those many different types of investors, including corporations, financial institutions, asset managers and social impact-driven investors, who may be attracted to conservation opportunities

We hope this report helps you to understand the Canadian conservation finance landscape in the context of global best practices, the opportunity that exists to attract the needed non-traditional sources of capital into the conservation field, and the need to act quickly and decisively on that opportunity.



1. The Fundamentals of Conservation Financing

Conservation financing is a necessary tool to protect ecosystems, and one being used around the world. Canada can learn from, replicate and build on these practices.

1.1 Global Financing Gap

Currently, approximately \$52 billion US per year flows to global conservation projects. The bulk of these funds (79.4%) come from government and philanthropic funding. The remaining 20.6% of finance flows into conservation are private investments through mechanisms such as debt-for-nature swaps and certified green products.²

Still, there is a significant unmet demand for the funding of conservation programs at a global scale. Estimates on the size of the gap vary based on methodology and conservation focus, but all have determined that several hundred billion dollars in annual funding is required to adequately conserve and protect our ecosystems. Estimates of the gap have included:

- **\$250-350 billion US** annually to conserve healthy terrestrial and marine ecosystems and restore the earth's natural capital stock of clean air, fresh water and species diversity³
- **\$300 billion US** annually for comprehensive conservation and adoption of sustainable agriculture practices worldwide⁴
- **\$350-385 billion US** annually for total ecosystem protection in the context of climate change⁵
- **\$598-824 billion US** annually to reverse the decline in biodiversity by 2030, including the cost of shifting agricultural, infrastructure and other high-impact sectors to more sustainable business practices for the first time⁶

To meet this global need for annual conservation funding, Credit Suisse and McKinsey have estimated that investment capital needs to be 20-30 times greater than current levels even if current government and philanthropic funding doubles.⁷

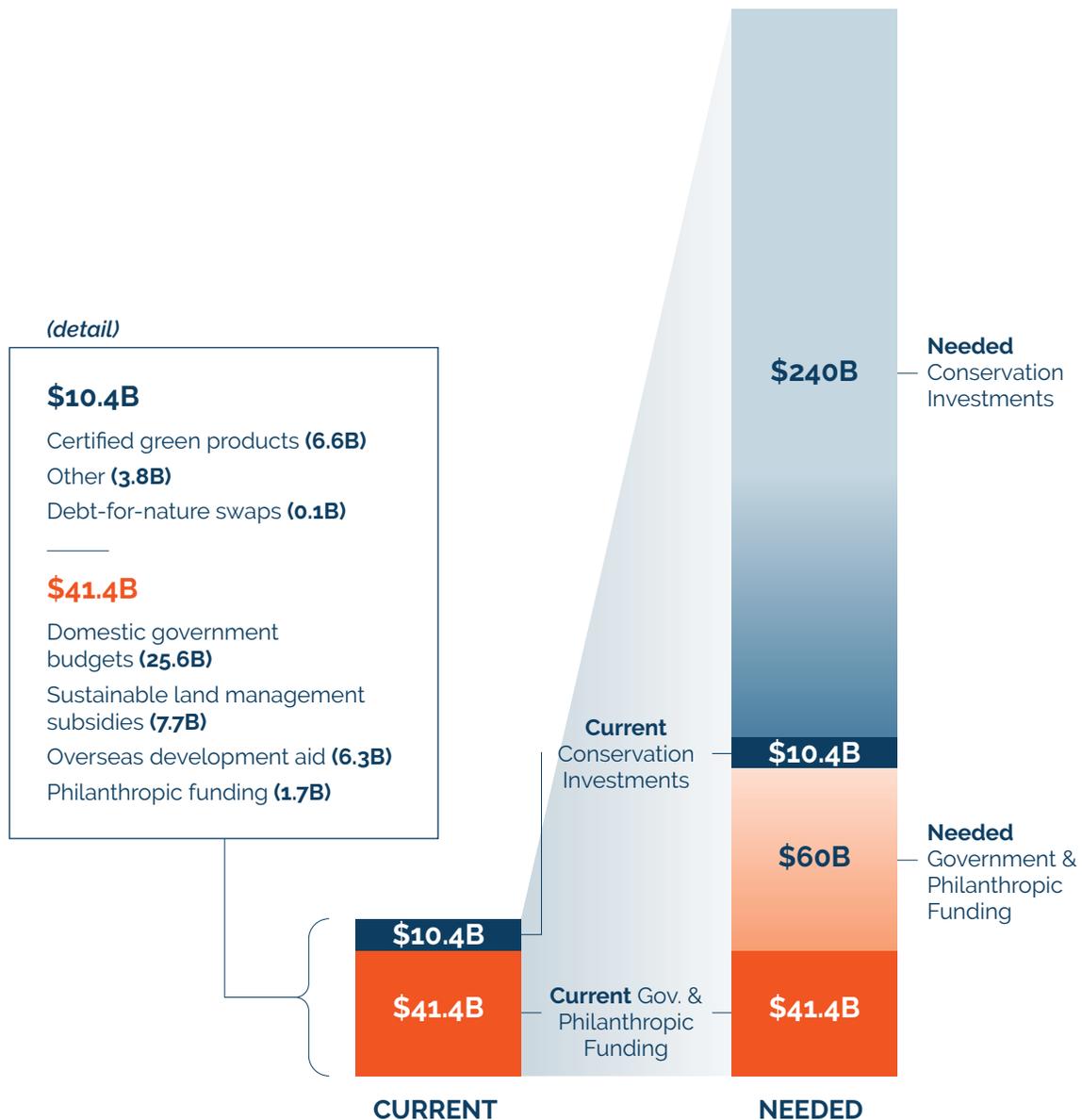
Conservation Finance

A mechanism through which a financial investment into an ecosystem is made that aims to conserve the values of the ecosystem for the long term. Conservation includes not only the protection of lands and waters, but the restoration and management of landscapes, ecosystems, ecosystem services and the species they support.

1. The fundamentals of conservation financing

As conventional public and philanthropic finance sources alone have proven inadequate in addressing global conservation issues, different approaches need to be deployed if significant and lasting progress is to be made in restoring and conserving the world's natural capital.

Global Annual Conservation Funding Need
(\$ Billion US)



Source: <https://www.canadahelps.org/en/the-giving-report/>;
Credit Suisse, McKinsey & WWF <https://www.cbd.int/financial/privatesector/g-private-wwf.pdf>

1. The fundamentals of conservation financing

1.2 The Case for Stakeholders

Organizations with Conservation Interests

For conservation actors, such as philanthropic and government organizations, land trusts and nature trusts, there is a strong case for adding conservation finance to their suite of funding tools.

- **Total Portfolio/Assets Activation.** Going beyond granting capital to aligning and activating all assets to achieve conservation outcomes will give organizations access to greater amounts of funding while allowing portfolio investments to be realigned with the organization's mission.
- **Program Innovation.** Philanthropy is essential, but systemic challenges require more than granting can do alone.
- **Education and Sharing.** Monetizing natural assets can make their value to human society even more tangible, which could in turn show more investors how to opportunistically engage in conservation finance in the future.

Private Capital (Investment Case)

There is a strong case for attracting private investment to the conservation financing market with different value propositions for various investor types. These include:

- Increasing asset quality and developing long-term sustainable returns through exposure to cash flows from assets that have a stable, accreting value when conserved (for example, forests and renewable energy).
- Exposure to growth in emerging markets, which also tend to have higher conservation finance needs.
- Portfolio diversification and hedging against changes to macro trends, such as future resource constraints, and regulatory changes, such as compulsory offsetting.
- Utilizing tax advantages or tax credits in some jurisdictions.
- Avoiding or reducing costs by increasing efficiency of resource usage or restoring free ecosystem services.

Different actors can activate different mission-driven and business-driven cases for engaging in conservation finance to close the global conservation funding gap while achieving their relevant organizational goals.

Changing Donor and Investor Attitudes and Interests

Millennials and women, in particular, are more likely to demand socially and environmentally aligned investments and engage in sustainable finance⁸. In a 2017 study, 90% of Canadian high-net-worth individuals were interested in impact investing⁹. With a large wealth transfer to Millennials and women underway and increasing interest in impact investing from traditional investors, engaging in conservation finance through portfolio construction and reallocation as well as through new product creation can position organizations to better attract funding and investment.

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1.3 Stakeholder Roles

Conservation programs have traditionally been delivered primarily through governmental and nonprofit organizations.¹⁰ However, there is a finite limit to what government budgets can provide; consequently, there is a large need for the international community to develop new and innovative sources and approaches to financing conservation. To achieve the scale-up necessary to meet these challenges, it is crucial that the field of conservation finance expands from a reliance on government- and donor-driven funding to a financing mix that includes a commercial- and investor-driven market.

The investor market can include traditional investing but the strategy of highest importance to conservation financing is “impact investing”.¹¹ With impact investing, investors use capital to create positive social and environmental impact while securing a good financial return.

Impact investing can be applied across asset classes, sectors and geographies and include a range of return expectations and risk profiles. The common strategies are:

- Using environmental, social and governance (ESG) factors to evaluate risk
- Screening out harmful investments and engaging shareholders as a way of securing desired impact
- Targeting investments that contribute to measurable positive outcomes

To bring conservation finance into the mainstream and to reach its necessary scale, we must leverage the roles of different stakeholders, and attract new investors, to meet funding requirements across the entire investing spectrum.

There are many roles stakeholders can play to increase conservation finance in this country, including:

1. **Investor.** Most investors are looking for competitive returns. Such investors provide capital injections in the form of a given investment structure, by way of either equity or debt or a combination thereof, where the investor requires a market-based return.

Other investors aren't looking for competitive returns. They use catalytic/blended capital investing (de-risking), which entails a combination of repayable (investment), non-repayable (granting and donation) and/or concessionary capital to de-risk projects for other investors. This can include concessionary returns (below market or even zero) or, alternatively, putting up ‘first loss’ capital.

- Developing early stage projects to grow the pipeline of investible conservation projects
 - Subsidies to incentivize investment
 - Investing in pioneering conservation projects that are designed to generate a cash flow (for example, grazing leases, selective timber harvest, pay for access, among others)
2. **Grant Provider.** Governments and foundations offer grants and entities and individuals often provide donations.
 3. **Partner.** Non-financial support that nonetheless has economic value may be provided from entities or individuals that have expertise in specific areas, such as scientific, structuring, legal or other relevant skills necessary to create investable conservation outcomes.
 4. **Regulator.** Much of the conservation finance market is catalyzed through the establishment of regulations that mandate conservation outcomes or mandate actions that can be achieved through conservation – e.g. water quality or biodiversity.
 5. **Guarantor**

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6. **Issuer.** Entities that issue financial investment products. These can be financial or investment organizations, such as banks or asset managers or they can be issued more directly by the entity raising capital.
7. **Implementation Partner.** Partners that conduct the conservation projects themselves. This could be an issuer or a third-party entity and can be non-profits, government agencies, Indigenous organizations, etc.
8. **Off-Taker**

Stakeholder considerations

Below are the various stakeholder groups that have roles to play in providing funding to conservation efforts. Much of this is adapted from Baumann et al, 2017.¹²

GOVERNMENT	
Roles	Investor, grant provider, supporter of de-risking mechanism, guarantor, regulator. In addition to providing capital, the government plays a key role in achieving conservation outcomes and incentivizing other groups to create conservation outcomes using regulatory and tax-based tools.
Funding they provide	Traditional: Environmental levies, grants, regional economic development incentives from the public finance pools, general budget, user fees, licenses (such as sustainable forest licenses).
Key motivations	<ul style="list-style-type: none">• Public and industry pressure• International agreements (such as Aichi Targets, Paris Agreement, UN Sustainable Development Goals)
Considerations	<ul style="list-style-type: none">• May provide tax relief and/or concessionary funding alongside private investment capital, matching capital or technical assistance• Can support financial de-risking mechanisms• Well placed to lead market development and capacity building effort. In addition to providing capital, the government plays a key role in achieving conservation outcomes and incentivizing other groups to create conservation outcomes using its unique suite of regulatory and tax-based tools• Generally, requires reporting on non-financial metrics• May have complex approval processes and reporting requirements• Scope might be thematically or geographically limited• Often short term and may be challenging to sustain over long term due to changing political environment

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DEVELOPMENT FUNDING INSTITUTIONS

Roles	Investor, grant provider, supporter of de-risking mechanisms, guarantor
Funding they provide	Taxes, levies, grants, etc., from the public through donor governments
Key motivations	Mandate from donor government
Considerations	<ul style="list-style-type: none">• May provide concessionary funding alongside private investment capital, or support technical assistance• Can support financial de-risking mechanisms• Demand performance and reporting on non-financial metrics• May have complex approval processes and reporting requirements• Scope might be thematically or geographically limited• Political landscape may affect funding terms

The following groups and their subgroups have different advantages and challenges. As a result, a specific investment opportunity or vehicle designed to fit the requirements of one subgroup may not be investable for another. Individual actors within these subgroups also differ widely in their risk-return expectations, investment horizon and interest in non-financial performance. As outlined earlier in this report, the various types of investors have unique motivations, capacities and challenges when engaging in conservation investments. A blended finance approach may present the best opportunity for merging these disparate interests to create investable structures that achieve lasting conservation outcomes.

FOUNDATIONS AND OTHER NON-GOVERNMENTAL ORGANIZATIONS

Roles	Investor, grant provider, support de-risking mechanism, guarantor, issuer
Funding they provide	Private (individuals, families) or corporate sponsorship, government funding
Key motivations	<ul style="list-style-type: none">• Legal charitable objectives determined by board of directors• Mission-related investments• Program-related investments
Considerations	<ul style="list-style-type: none">• May be flexible in the type of funding that can be provided between investing and granting sides• Can support financial de-risking mechanisms• Demand performance and reporting on non-financial metrics• Scope might be thematically or geographically limited

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Foundations and donors are often better positioned to enable transactions through de-risking approaches or guarantees but may seek very specific outcomes. Given their mandates, they are often more likely to have the capacity to understand or even execute conservation projects and possibly assess varying risk profiles across different geographies and projects.

INDIVIDUALS	
Roles	Source of charitable giving; for example, to grantors or nonprofit. Support de-risking mechanism through concessionary capital. Guarantor, investor.
Funding they provide	High (and ultra-high) net-worth individuals, crowd-funders, retail
Key motivations	<ul style="list-style-type: none">• Ethical mindset• Tax incentives• Portfolio diversification
Considerations	<ul style="list-style-type: none">• Nimble source of financing• Traditionally limited scalability of small, retail investors• Requires retail-accessible investment vehicles and retail-friendly investing platforms.

Private wealth investor

Many wealthy individuals are also donors who dedicate significant amounts of their personal wealth to good causes. Interviews conducted by Credit Suisse and McKinsey found that many HNW individuals would welcome more investment opportunities that lie on the return spectrum between donations and investments, particularly wealth-preserving investments with an impact component.¹³

Retail investor

For retail investor penetration to grow, conservation investment opportunities would need to be perceived as viable alternatives to mutual funds and low-cost passively managed products, such as ETFs. Making conservation products accessible to the retail market would also require overcoming suitability hurdles imposed by existing regulations, as retail investors may not be qualified for higher-risk products. Demonstrating through an ESG lens (that is, environmental, social and governance) the benefits of investments in conservation may also incentivize retail investment.

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OTHER INSTITUTIONAL INVESTORS

Roles	Investor
Funding they provide	Pensions, asset managers
Key motivations	<p>Preserving and growing asset base through:</p> <ul style="list-style-type: none">• Generating financial return• Risk diversification through uncorrelated assets• Interest in responsible investments, alignment to the Sustainable Development Goals (SDGs) resulting from stakeholder pressure
Considerations	<p>Institutional investors such as pension funds or insurance companies typically have long-term investment horizons and seek stable returns. Typical investments include direct equity and bond investments, as well as alternative asset classes such as infrastructure, renewables, and other non-traditional assets classes.</p> <ul style="list-style-type: none">• Large and growing pool of capital allocated to responsible investments• For some: relatively quick decision making• Financial return expectations• Fiduciary duty may limit risk appetite• Typically, low familiarity with conservation objectives and methods• For impact investors, confidence in impact reporting is crucial

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CORPORATIONS (excluding asset management and philanthropic divisions)	
Roles	Investor, Implementation partner, Off-taker
Funding they provide	Revenue from operations, channelled through strategic funds or corporate sustainability budgets
Key motivations	<ul style="list-style-type: none">• Securing or improving supply chain• Ensuring high-quality or high margin products• Maintaining social license to operate• Complying with government-mandated targets on corporate social responsibility
Considerations	<ul style="list-style-type: none">• Commercial interest• Association with well-respected conservation organisations brings visibility and credibility• Operational and technical know-how• Can de-risk projects; for example, through off-take agreements• Incentive to transform 'unprofitable' corporate engagement into 'profitable' business case• Depending on size and structure of corporation, decision-making process may be complex• Budgets subject to satisfactory performance of overall business, internal capital allocation strategies

Financial investors and corporations may bring scale, but may also have higher return expectations, a shorter investment time horizon driven by budgeting and reporting periods, differing ESG priorities and variable capacities to understand and properly assess conservation opportunities.

Historically, the main stakeholders in the conservation finance landscape have been governments, NGOs and Government-aligned institutions, individual philanthropists and philanthropic organisations.

However, the evolving landscape of conservation finance identifies opportunities for participation from individual investors, mainstream investment firms and corporations interested in a triple bottom line of serving people, planet and profit.

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1.4 Global Initiatives

In response to increasing investor interest, several fora have been established to facilitate conservation organisations collaborating with major investor groups. Some examples are as follow:

Tropical Forest Alliance 2020. A public-private partnership in which partners take voluntary actions, individually and collectively, to reduce the tropical deforestation associated with the sourcing of commodities such as palm oil, soy, beef and paper and pulp. Doing so significantly reduces global carbon emissions, improves the livelihoods of millions of farmers, conserves natural habitats and protects tropical landscapes for future generations.

Coalition for Private Investment in Conservation. A global multi-stakeholder initiative formed by a group of 28 investors, banks, project developers and research institutions, focused on the creation of enabling conditions to support a material increase in private, return-seeking investment in conservation. The coalition is developing conservation 'blueprints' that are models for the successful delivery of investable conservation projects.

Conservation Finance Investor Conference. Organised annually by Credit Suisse to explore and highlight effective financing strategies for conservation, restoration, and sustainable use of land, water and other natural resources, the objective of this conference is to facilitate interaction between investors and conservation practitioners and review progress to date in scaling up conservation investments, with an emphasis on highlighting innovative global financial approaches.

Natural Capital Coalition. An international collaboration that unites the global natural capital community. The coalition of over 300 organizations come from all parts of civil society and span the global economy. Coalition organizations fall into seven broad stakeholder groups: conservation and civil society; science and academia; business; membership organizations; standard setters and disclosure; finance; and government and policy.

i-Tree. A peer-reviewed software suite from the USDA Forest Service that provides forestry analysis and benefits assessment tools. The ability to articulate the significance of trees and forests in terms of air pollution mitigation, stormwater run-off reduction, carbon sequestration and storage has allowed i-Tree users to improve tree and forest management, plan strategically, engage decision-makers and build new partnerships.

Ceres. A leading global, sustainability-oriented nonprofit organization working with influential investors and companies to build leadership and drive solutions throughout the economy. Ceres tackles sustainability challenges such as climate change, water scarcity, and pollution. The Investor Initiative for Sustainable Forests is a working group of Ceres' Investor Network that aims to provide salient and credible information on the environmental and social impacts of deforestation, as well as solutions for improved investment decision-making and corporate engagement.

Carbon Disclosure Project. A charity that runs the global carbon disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. Its work with forests on behalf of more than 525 signatory investors represents \$36 trillion US in investable assets. Information is collected through the lens of the four agricultural commodities responsible for most deforestation: timber, palm oil, cattle and soy.

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1.5 Monetizing Conservation

It goes without saying that nature is, intrinsically, priceless. The intrinsic value of wilderness, biodiversity, land, water and ecosystems exceeds the limits of traditional economic measures. However, there are many discrete ecological services performed by nature that may be expressed in terms of their monetary value for different stakeholders – from governments to corporations to individuals. Collectively, nature's services are referred to as ecosystem services.

Types of Ecosystem Services¹⁴

Provisioning services

The material or energy outputs from ecosystems. They include food, water, fibre, raw materials and other resources.

Regulating services

Services that ecosystems provide by acting as regulator; for example, regulating the quality of air and soil, pollination, water purification, sequestering of carbon dioxide, or providing flood and disease control.

Habitat or supporting services

The importance of ecosystems to provide living space for resident and migratory species. Examples of this include nursery services, nutrient cycling, and connective corridors that maintain gene pools, give species room to roam and facilitate migration.

Cultural services

The non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection and aesthetic experience, including knowledge systems, social relations, and aesthetic values.

Natural Capital

The planet's stocks of water, land, air, and renewable and non-renewable resources, such as plant and animal species, forests, and minerals. The resources and processes of our natural capital interact to produce ecosystem services that are imperative to the survival of all life on Earth. As such, they are the basis for all economic activity.¹

Ecosystem Services

The collective benefits (goods and services) provided by the resources and processes supplied by our Natural Capital.¹

1. The fundamentals of conservation financing

Examples of effective methods of monetization

CARBON SEQUESTRATION

Carbon sequestration is a regulating ecosystem service provided by trees, soil, water and ice. When intact, these parts of the ecosystem store carbon and also sequester (continue to absorb) carbon on an ongoing basis, thereby acting as carbon sinks or reservoirs. Sequestering carbon is needed to help keep the natural balance of CO₂ in the atmosphere intact.

Monetization	Through volunteer and compliance (mandatory) markets for carbon. In the compliance markets (such as Quebec and California), carbon emitters beyond a certain threshold are required to purchase carbon credits; while in voluntary markets, corporations and individuals voluntarily offset their emissions, primarily for CSR reasons.
Valued by	All levels of government, supranational entities, corporations, nonprofits and individuals.

REDUCED FIRE RISK

There is significant fire risk within many of Canada's forests, where forest biomass, such as live trees, deadfall and detritus (in other words, the fuel load) has accumulated after many decades of successful fire suppression. With greater incidence of dry, hot weather conditions, forest fires are becoming a more frequent and increasingly intense threat. In many years, forests are emitting more carbon than they are able to store and sequester. One way to reduce this risk is to actively manage the forest by way of forest thinning and reduced forest floor debris and fuel load; however, forest management agencies (typically under provincial jurisdiction within Canada) do not always have the upfront capital to fund the management systems necessary.

Monetization	Outcome-based financing where agencies and utilities pay for successful fire prevention and reduced risk of insurance claims from those affected by forest fires.
Valued by	All levels of government, federal and provincial parks agencies, nonprofits, insurance and utility companies and many corporations.

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QUALITY OF DRINKING WATER

In many communities, drinking water is sourced from local watersheds. Healthy, conserved watersheds act as important sources of clean water for communities and natural ecosystems. All water that is not naturally clean or is subject to pollution sources (like agricultural run-off, industrial leakage and untreated water release) must be chemically treated in water treatment plants. It is extremely expensive to build, maintain and upgrade these systems, many of which are ageing or lack the capacity to handle increasingly frequent catastrophic weather events, such as floods.

Monetization

Fee-for-service, or outcome-based compensation. Entities that preserve and maintain watersheds by way of restoring or enhancing natural green infrastructure may be compensated by entities that will financially benefit from reduced or no water treatment.

Valued by

Federal and provincial governments, municipalities, conservation authorities, utility companies, food and beverage companies, other corporations with a particular interest in clean water programs.

FLOOD MITIGATION

Forests, wetlands, parks and other natural areas retain water in their ecosystems. The built environment, particularly in urban and suburban areas, has converted much of the land, soil and trees that provide naturally occurring water management services, thereby requiring human-made artificial drainage systems. These drainage systems are costly to maintain and upgrade, but more importantly, can fail outright under extreme flooding, causing significant damage (and associated financial costs) to private and publicly owned infrastructure assets.

Monetization

Fee-for-service, or outcome-based compensation. Entities that preserve and maintain natural areas are compensated by municipalities and companies, such as insurance companies, that can financially gain from cost avoidance (avoiding paying for flood damage).

Valued by

Municipal governments, insurance companies, individuals

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TOURISM AND RECREATION

Nature has a recreational value for individuals who spend their leisure and vacation time visiting natural areas. Visiting and spending time in nature has been inherently thought of as a 'free' activity, but there is a tangible cost associated with protecting natural areas from development, destruction and overuse. There is increasing evidence of a willingness to pay by end users for the protection of these sites, particularly as tourism increases globally.

Monetization

Fee for service – park fees, airport or port-of-entry tax, permits and licensing for individuals and companies operating in parks.

Valued by

Individuals, tour operators, companies that make outdoor gear, other corporates, governments.

While nature is ultimately priceless, there are many ecosystem services provided by natural capital that have monetary value to various stakeholders. Monetizing these services allows stakeholders to create mechanisms and products to finance and promote conservation initiatives.

2. The Canadian Context for Conservation Financing

While Canada is in the early stages of developing a robust conservation finance ecosystem, a range of factors signal that it has strong potential to grow.

Canada represents approximately 6% of the earth's surface area yet hosts a disproportionate share of the Earth's natural capital. It is the second largest country in the world at over 9.98M km², 27% of which is north of the treeline. Canada's coastline, the longest in the world, stretches over 243,000 km across three oceans. Within Canada is contained 20% of the world's renewable freshwater resources and approximately one-third of the world's Boreal forest, the latter of which is also the world's largest carbon sink.¹⁵ Canada is also a prosperous, developed nation with low population density. In the view of many, Canada has a moral obligation to harness its enormous financial and economic capacity to conserve its vast share of the world's natural capital.

As of the end of 2019, Canada had conserved, either by protected areas or OECM (other effective area-based conservation measure) 12.1% of its terrestrial area and 13.8% of its marine territory¹⁶. While these numbers represent steady increases in terrestrial and marine conservation (66% and 20x over the last 20 years, respectively), **to meet the Aichi Conservation goals, Canada needs to protect an additional 485,500 km² of land.**¹⁷

Despite this, Canada remains in the early stages of developing a robust conservation finance ecosystem, but a range of factors signal that it has strong potential to grow, including;

- **Climate Change.** Climate change and related concerns for wildlife and nature have become mainstream priorities for governments, corporations and individuals
- **Diversification.** Conservation organizations are increasingly seeking ways to attract new capital to complement government and philanthropic funding
- **Policy.** The Government of Canada has made significant budgetary and regulatory commitments to combatting climate change, along with signing global accords. Provincial, territorial and municipal governments are also taking increased proactive roles in climate policy
- **Investors.** With the focus on ESG investing and increasing demand for climate-related financial disclosure from public companies, there is consistently growing interest in impact and responsible investment, from individual and institutional investors as well as from banks, asset managers and investment advisors^{18,19}

2.1 Financing Gap

There is no clear data available on the conservation finance gap in Canada, however, it is reasonable to assume that Canada faces similar challenges and a similar relative gap to that seen globally. We have made a rough determination, based on Canada's overall landmass and conservation targets in comparison to global gaps, that **the financing gap is at least \$15-20 billion annually.**

While additional government support has been pledged through programs and legislation such as the Pan-Canadian Framework on Clean Growth and Climate Change and the Canada Nature Fund, Canada is still significantly short of meeting long-term conservation targets. Additionally, philanthropic giving is failing to keep pace with population growth and will likely count for a decreasing percentage of conservation funding going forward.²⁰

2. A Canadian context for conservation financing

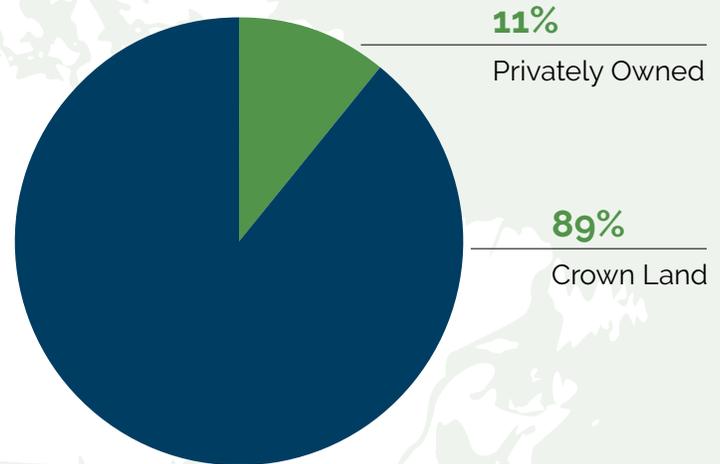
Land ownership in Canada

11% is privately owned

- 0.1% (~11,330 km²) are owned by Nature Conservancy of Canada

89% is Crown land

- 48% held provincially
- 41% held federally
- 0.2% (28,000 km²) reserve land
- 6% (600,000 km²) modern land claim settlements



2.2 Land Ownership

Conservation in Canada must be understood the context of historical land ownership and land rights and how this affects modern land ownership, land rights, and conservation.

Crown Lands

Unlike in most countries, in Canada, most land is formally recognized as Crown owned – that is, land owned by the Canadian government. This land is administered by the government and is divided between federal Crown land, at 41% of total land mass, and provincial Crown land at 48% of total land mass.²¹ Federal Crown land is held predominantly in the Territories and National Parks, while provincial Crown land is spread across the country, but is particularly high percentage-wise within certain provinces such as British Columbia, Newfoundland and Labrador and Alberta.^{22,23}

Significant revenue is generated through leasing agreements to private companies for the use of Crown land for logging and mineral exploration rights. **This creates a natural tension between permitting Crown land resources to be used for extractive economic development purposes on the one hand and conservation of land on the other.** Conservation finance, however, has the potential to reduce this conflict between competing stakeholders by allowing for mutual benefits to be derived on Crown land, such as sustainable forestry, nature-compatible economic development through tourism, and reconciliation and land stewardship with Indigenous nations. Because Crown land is a publicly owned resource, its responsible use must be governed in a way that ensures that Crown resources are managed sustainably and benefit a wide range of stakeholders, including future generations of Canadians. Consequently, responsible, sustainable land management practices are of critical importance to the ongoing conservation of land within Canada.

2. A Canadian context for conservation financing

Indigenous and Unceded Territory

Indigenous reserves account for 28,000 km² (approx. 0.2%) of Canada's land ownership. In addition, 600,000 km² has been returned to Indigenous ownership to date under modern land claim settlements.²⁴ While the Federal government has made progress in addressing the substantial land claims backlogs, there are more than 450 claims that remain outstanding.²⁵ Land claim settlements can include monetary compensation, land ownership, sovereignty, wildlife rights and joint land and resource management.²⁶

Indigenous land ownership and stewardship is fundamental to Canada's commitment to reconciliation, but it also aligns with conservation goals and has the potential to create mutually beneficial outcomes, such as those proposed by the creation of Indigenous Protected and Conserved Areas (IPCAs). It is also well recognized that Indigenous nations have successfully stewarded this land for thousands of years and traditional knowledge must play a key role in conservation practices in Canada.

Forest Ownership

Forest ownership in Canada is highly concentrated, with over 90% of forests Crown owned and the rest being held under private ownership.²⁷ Canada is also home to nearly one-third of the world's Boreal Forest.²⁸ Forests are extremely important for conservation in Canada. Not only can forests act as large carbon sinks, old growth forests in particular are significantly more resilient to drought, fire, and other hazards, while providing important services such as biodiversity conservation, erosion prevention and water regulation and quality.

When thinking about forest conservation, it is imperative to acknowledge Canada's forest industry. Forestry is currently an important economic force, contributing \$25.8 billion (1.2%) of Canada's gross domestic product (GDP) in 2018,²⁹ and employing 210,615 Canadians. Forestry is even more important to specific regions, such as British Columbia, Quebec and New Brunswick³⁰. While some forestry occurs on private land, the majority occurs on Crown land, most often through agreements with provincial governments. **Conserving old growth forests, for their critical climate and conservation benefits is imperative, while also putting strong consideration towards sustainable forest management practices and the role that sustainable forestry can play in conservation.**

“The land is the most important thing, our songs, our place names, our history, our stories – they come from the land that we are a part of. All of it is interrelated with who we are.”ⁱ

- Tsilhqot'in Chief Roger William

ⁱ Source: Excerpt from The indigenous land rights ruling that could transform Canada. The Guardian. <https://www.theguardian.com/environment/true-north/2014/oct/21/the-indigenous-land-rights-ruling-that-could-transform-canada>

2. A Canadian context for conservation financing

Private Land

Forests

Private forest land ownership in Canada only makes up 6% of forest land (mostly in NB, NS, ON, QC and BC), but it provides 18% of the timber supply.³¹ Private forest lands are owned by 450,000 woodlot owners, farmers, families and companies and disproportionately account for ecological goods and services and higher economic value, as many of these lands are in the southerly portion of the country. **There is significant opportunity to work with private owners or timber investment firms to ensure that private forests are sustainably managed.**³²

Farmland

Farmland in Canada represents 64 million hectares³³, spread across 193,492 farms with 80% of all farms located in the Prairies. Agriculture and the agri-food sector is a key economic driver in Canada, representing 6.7% of GDP and employing approximately 2.3 million people in 2016.³⁴

Agricultural soils store enormous amounts of carbon and are widely recognized to be one of Canada's most significant carbon sinks. Canada's croplands used to be a net emitter of CO₂, but by 2011 represented a net carbon sink of approximately 11.9 Mt of CO₂ per year. **Canada's agricultural land could sequester up to 22 Mt of carbon per year, which would represent approximately 11% of Canada's carbon emissions.**³⁵

Private farmland also provides habitat for bird and insect pollinators, which play an important role in our food supply. Over one-third of North America's fruit and nut production is estimated to be vulnerable to pollinator service losses.

Alternative Land Use Services

ALUS is a voluntary incentive program, active in six provinces, that supports farmers and rangers by acknowledging the role they play in managing land and producing food. Through the ALUS system, farmers receive annual payments to ensure ongoing stewardship of their ALUS projects.

This program incentivises farmers to conserve and restore natural features such as wetlands, creeks, shorelines, native grasses and trees, and unique ecosystems like tall grass prairie and oak savannah. In this way, parcels of farmland are converted into habitat for wildlife.

Source: <https://ontarionature.org/programs/greenway/alus/>; <https://alus.ca/>

2. A Canadian context for conservation financing

Threats to Land

- **Development.** Farmland and forests located near urban centres are increasingly being converted to residential and commercial property use in order to meet the demand for suburban housing and job opportunities, with the related infrastructure requirements to service these populations. Yet these very same urban and peri-urban lands also represent some of the most productive and rich agricultural land in the country, further magnifying the impact of this depletion of natural capital.
- **Natural Resources.** In many cases, there is a higher upfront economic value ascribed to the extraction and consumption of the natural resources located in a given landscape, when compared to the perceived value of conserving these resource-rich lands. This threat is equally prevalent across all types of land ownership.
- **Farmland Decline.** From 1996-2016, Canada's total farm area declined by approximately 5.6%.
- **Pasture Conversion.** Although Canada managed to increase cropland while total farm area declined during the same period, this was achieved in part by converting pastures (which have much higher habitat and biodiversity values for wildlife) to cash crops which are much more sterile landscapes.
- **Pesticide Use.** Although Canada's overall water quality is still considered "good" (scoring 74 out of 100 on Agriculture and Agri-food Canada's water quality compound index), Canada's score on this index declined by 18 points from 1981-2011, due to an increase in pesticide and nutrient applications.

Engaging Canadian landowners to identify their respective incentives and address their respective concerns will uncover new opportunities and reduce barriers to creating and implementing conservation finance solutions that are beneficial to multiple stakeholders. There needs to be recognition that the value of land, as measured by the multiple ecological goods and services that land provides for free in many cases, far exceeds the market price that may be paid for such land.

2. A Canadian context for conservation financing

2.3 Indigenous Engagement

The relationship in Canada between Indigenous and colonial nations is complex, painful and lengthy. However, it is without dispute that land and its protection and conservation is integral to the Crown-Indigenous relationship. Indigenous land and millennia of Indigenous land stewardship practices, both on Indigenous treaty territory and unceded lands, will play a critical role in future conservation efforts within Canada.

Historical Context

Canada, both historically as British North America and as the modern Dominion of Canada, recognizes Aboriginal Title – that is, the inherent right of Indigenous Peoples to land or a territory. When the British arrived in North America it was formally recognized that there were existing peoples on the land and under British common law, it could not simply be claimed by the Crown as vacant land. As the British began establishing a formal presence and creating governments across North America, treaties were signed with more than 300 Indigenous nations³⁶. While not all treaties were the same nor were they administered fairly, they generally consisted of a land exchange, where traditional territories were turned over to the Crown in exchange for smaller parcels of land held in reserve in a different area, along with a financial annuity from the Government.

However, there are also a significant number of nations with a valid land claim under Aboriginal Title that did not sign a treaty and never agreed to give up their land. Most of those traditional territories are now described as unceded land.

Unceded lands are subject to a long and ongoing land claim settlement process. Numerous Supreme Court rulings support Aboriginal Title including 1984's *Guerin v. The Queen* and 2004's ruling in the favour of the *Tsilhqot'in* nation.³⁷ According to the Government of Canada, land claim agreements have resulted in 600,000 km² of unceded land being returned to Indigenous nations, along with financial settlements, particularly in cases where the land was not returned to Indigenous ownership.

When discussing conservation in Canada, it is paramount to acknowledge the complex history of Crown land, unceded traditional territories that are both sacred to Indigenous Peoples and subject to ongoing land claim settlements, the millennia of Indigenous stewardship of the land, and the modern role of settlers and non-Indigenous government in land ownership. It is not the purpose of this report to delve into that complex history. However, it is important to set some context for the reader.

“Having Indigenous leadership in conservation today is a very important step not only in reconciling our relationship between the Crown and Indigenous societies but to reconciling our relationship with the Earth.”

- **Eli Enns**, member of Tla-o-qui-aht First Nation, co-founder of IISAAK OLAM Foundation

2. A Canadian context for conservation financing

Indigenous Circle of Experts

As part of Canada's Pathway to Target 1 (Aichi Targets) process, two advisory groups to the Minister of Environment and Climate Change Canada were created: The National Advisory Panel and the Indigenous Circle of Experts (ICE).

The ICE is a group of Indigenous and non-Indigenous Canadians who have led efforts to consider how IPCAs could be realized in the spirit and practice of reconciliation. Members of the ICE included a core group of Indigenous experts from across Canada and officials from federal, provincial, and territorial jurisdictions.

The ICE was mandated to produce a report with recommendations and guidance on IPCAs for consideration by Indigenous, federal, provincial and territorial governments. The ICE hosted four regional gatherings to hear from Indigenous Peoples across Canada on the IPCA concept and inform its recommendations with Indigenous knowledge and local experiences in Indigenous-led conservation.

Indigenous Protected and Conserved Areas

IPCAs is the term chosen by ICE to describe lands and waters where Indigenous Peoples have the primary role in protecting and conserving ecosystems through Indigenous laws, governance and traditional knowledge systems. While IPCAs embody a common goal for conserving the ecological and cultural values important to Indigenous Peoples, the priorities and objectives of individual IPCAs may vary greatly.

The Government of Canada's 2018 federal budget announcement of \$1.3 billion for conservation, specifically \$500 million for a Nature Fund, expressly mentions the intention to develop and grow IPCAs.

Three essential elements of IPCAs

1. Indigenous led
2. Represent a long-term commitment to conservation
3. Elevate Indigenous rights and responsibilities

Source: *We Rise Together*, 2018. Indigenous Circle of Experts

Characteristics of IPCAs

- They should promote respect for Indigenous knowledge systems
- They should respect protocols and ceremony
- They should support the revitalization of Indigenous languages
- They can seed conservation economies
- They should conserve cultural keystone species and protect food security
- They should adopt integrated, holistic approaches to governance and planning

Source: *We Rise Together*, 2018. Indigenous Circle of Experts

2. A Canadian context for conservation financing

Indigenous Guardian Programs

Indigenous Guardians are the “eyes on the ground” in Indigenous territories. Guardian programs employ Indigenous community members to act as stewards on the land, patrolling protected areas, monitoring fish and wildlife harvests, collecting data on the impacts of climate change, tracking industrial development activities, and educating visitors about proper land use.

Federal Pilot Program

In the 2017 Budget, the Government of Canada announced \$25 million over four years to support an Indigenous Guardians Pilot Program. The Pilot Program supports Indigenous rights and responsibilities in protecting and conserving ecosystems, developing and maintaining sustainable economies and continuing the profound connections between Canadian landscape and Indigenous culture. The pilot program will inform a long-term approach for a potential National Indigenous Guardians Network.

Lutsel K'e and Dehcho, Northwest Territories

The guardian programs in Lutsel K'e and Dehcho have generated significant benefits in a short amount of time. For every \$1 invested in these programs, approximately \$2.50 of social, economic, cultural, and environmental value has been created for stakeholders. With support from a national network, researchers projected the value could increase to up to \$3.70 for each dollar of investment.

Source: <https://www.ilinationhood.ca/wp-content/uploads/2016/11/value-in-indigenous-guardian-work-nwt.pdf>

Conservation organizations and governments have an opportunity to contribute their resources to assist Indigenous communities in using their experience, knowledge and resources to achieve their conservation and stewardship goals.

2. A Canadian context for conservation financing

2.4 Legal, Regulatory and Policy Landscape

The role played by governments is multi-faceted and paramount to the success of all conservation initiatives. Governments act as lawmakers, landowners and funders, along with setting the broader tone and agenda for public discourse within their jurisdictions.

In Canada, all levels of government are active in shaping the regulations, incentive programs, and funding that support conservation efforts across the country. It is imperative to look for the opportunities and roles that each level of government currently plays and could play in the future.

International agreements

Globally, Canada has made many public declarations and commitments related to conservation including:

Aichi Targets. In 2010, nearly 200 of the world's nations developed a set of global conservation goals known as the Aichi Targets. These targets aim to protect the world's land, waters and species – and ultimately, wellbeing for all life on earth. Canada adopted the 2020 Biodiversity Goals and Targets for Canada to meet its Aichi Targets, which state:

“By 2020, at least 17% of terrestrial areas and inland water, and 10% of marine and coastal areas of Canada are conserved through networks of protected areas and other effective area-based measures.”

Paris Agreement. An Agreement of the United Nations Framework Convention on Climate Change. Its long term objective is to limit global temperature increases to a maximum of 1.5-2°C above pre-industrial levels.

Forests Principles. Produced in 1992 at the United Nations Conference on Environment and Development, it makes recommendations for the conservation and sustainable development of forestry. It helped catalyze the Montréal Process for the conservation and sustainable management of temperate and boreal forests.

Rio Declaration on Environment and Development.

Adopted in 1992 at the United Nations Conference on Environment and Development, it contains 27 principles for sustainable development. It notably contains the polluter pays principle, which specifies that the party that pollutes is responsible for the damage done to the environment.

Agenda 21. Adopted in 1992 at the United Nations Conference on Environment and Development, it focuses on sustainable development and more recently added the United Nations SDGs as part of its agenda for the 21st century.

Convention on Biological Diversity. Adopted in 1992 at the United Nations Conference on Environment and Development and set to be updated in 2021. Its three core goals are, the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits from the use of genetic resources.

The United Nations Framework Convention on Climate Change. Adopted in 1992 at the United Nations Conference on Environment and Development, UNFCCC set out to “to stabilise greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system.” It laid the groundwork for the annual Conference of the Parties (COP) meetings, the Kyoto Protocol and the Paris Agreement.

2. A Canadian context for conservation financing

In addition to the direct funding that governments contribute to conservation efforts, they can wield a wide set of regulatory tools to achieve conservation outcomes and incentivize other actors to do so as well. Those tools include:

Tax Tools

- **Taxes on Environmentally Relevant Activities** e.g. Carbon Tax. Regulatory price signals through direct or indirect taxes. These can create secondary markets through tradeable permits (e.g. biodiversity offsets, tradeable water permits, carbon credits) that make transition to a low-carbon economy efficient at the industry level.
- **Favorable Tax Concessions** to incentivize desirable behaviour from private sector actors or to compensate private landowners for the ecosystem services their land is providing.

Ownership and Benefits

- **Title Transfers** – selling or donating land for conservation
- **Trusts** – giving or selling land to a Conservation Trust or private trust
- **Life Estate** – giving or selling land with permission to live on the property
- **Land Acquisition** of conservation area, particularly parcels of land that have exceptionally high biodiversity value or that are critical to an ecosystem service
- **Conservation Easements** that prescribe right(s) or restriction(s) on land use which are permanently registered on the title to a piece of land, and which carry from owner to owner. Easements are negotiated between a landowner and a third party, such as a federal, provincial municipal government body or a nonprofit conservation organization. These are a common alternative to land acquisition when the latter is too costly or when a landowner may wish to retain legal ownership of the land yet wishes to nonetheless protect it.

Federal Government

The Government of Canada has power over matters of national interests such as defence, foreign affairs, Indigenous relations, pipelines, and fisheries. The federal government is a vital conservation partner through its ability to create national legislation, in its role in managing federal Crown lands, as a grant funder and investor, and in its oversight of key national issues such as Indigenous land claims and natural resource development. The Government of Canada also represents Canada's interests and priorities abroad, including in international climate and conservation agreements.

Budget Commitments

The federal government showed its commitment to meeting conservation goals in Budget 2018, which allocated \$1.3 billion to conserve land, water and wildlife, and outlined a new model for collaborative funding that brings together Indigenous leadership and local communities.

Highlights include:

- A commitment to plant two billion trees
- Canada Nature Fund, \$175 million to meet Aichi Target 1 goals

Legislation

The government has also made regulatory commitments to combatting climate change, such as the Pan-Canadian Framework on Clean Growth and Climate Change, which mandated that each province and territory establish a mechanism for pricing carbon emissions by July 2019 (see box)

2. A Canadian context for conservation financing

Habitat Conservation Partnerships Program³⁸

Habitat Conservation Partnerships program (HCP) funds projects, provides tax incentives, and encourages partnerships and habitat conservation activities that secure, protect, improve and restore important and ecologically sensitive habitat for wildlife, including migratory birds and species at risk. The HCP is focused on ensuring that wildlife habitat on private lands, provincial Crown lands and indigenous lands and in aquatic and marine areas across Canada are secured and managed in ways that are compatible with habitat conservation.

Ecological Gifts Program

The Ecological Gifts Program allows corporations and individuals to donate ecologically sensitive land or partial interests in land, in exchange for federal (and in Quebec, provincial) tax benefits. The land's biodiversity and environmental heritage is conserved in perpetuity.

Federal and Provincial Joint Solutions - Carbon Markets in Canada

In Canada, the carbon markets are growing but fragmented.

- A comprehensive piece of legislation, the 2016 **Pan-Canadian Framework on Clean Growth and Climate Change** represents a wide-ranging framework for combatting climate change. A cornerstone of this framework is the **Pan-Canadian Approach to Pricing Carbon Pollution**, which mandated that, by 2019, provinces and territories must either develop their own carbon pricing system or adopt the federal backstop of a carbon tax.
- Ontario, Manitoba, and New Brunswick will be using the full federal backstop, while Saskatchewan, Prince Edward Island and Alberta will be partially using it.
- British Columbia has had a long-standing carbon tax, while Newfoundland recently adopted one.
- Quebec has been part of the Western Climate Initiative (WCI) California-Quebec cap-and-trade market since 2016, while Nova Scotia recently launched its own cap-and-trade system with support from WCI.
- Quebec permits carbon offsets for up to 8% of compliance market obligations of covered emitters and is currently developing protocols to specifically include reforestation and afforestation offsets. Nova Scotia is currently examining if carbon offsets will be included in their system.

Sources: <https://www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework.html>;
<http://www.environnement.gouv.qc.ca/changements/carbone/credits-compensatoires/index-en.htm>

U.S. Example – Levies

In the U.S., municipalities, counties, conservation districts, and park districts levy taxes for parks and open space – the revenues may be used directly or to pay back bonds. In Illinois alone, since 1992 voters have approved 60 measures in 43 jurisdictions authorizing over \$1.46 billion US for land conservation.

Source: <https://www.trustfornature.org.au/images/uploads/newsEvents/Publications/Conservation-Finance-Scoping-Paper-2018/Conservation-Finance-Scoping-Paper-30-October-2018.pdf>

2. A Canadian context for conservation financing

Provincial and Territorial Governments

Provincial and territorial governments have power over matters of a local nature, such as education, health care, some natural resources and road regulations.

Provinces and territories manage their own natural resources, including forests, except on Indigenous lands and on federal lands, such as national parks. Each province and territory sets the policies, legislation and other regulatory matters for its own resources.

Ontario's Conservation Land Tax Incentive Program

Under this program, landowners agreeing to protect the natural values of habitats or areas identified by the Ministry of Natural Resources as provincially significant are eligible for tax relief of up to 100% of property taxes. Significant lands include significant wetlands, areas sheltering species at risk and their habitats, community conservation lands (owned by charitable conservation organizations) or which are part of an Area of Natural and Scientific Interest.

Municipal Governments

Municipal governments are responsible for infrastructure and services that are highly specific to their region, such as libraries, parks, community water systems, local police, roadways and parking. They receive authority for these areas from the provincial governments. For example, the Province of Ontario's City of Toronto Act created and governs the City of Toronto's organization and political powers.

With the climate crisis impacting regional infrastructure and other services that municipal governments are responsible for, municipal governments are using conservation finance tools like green bonds to access pools of low-cost capital.

U.S. Example – Tax Credits for Conservation

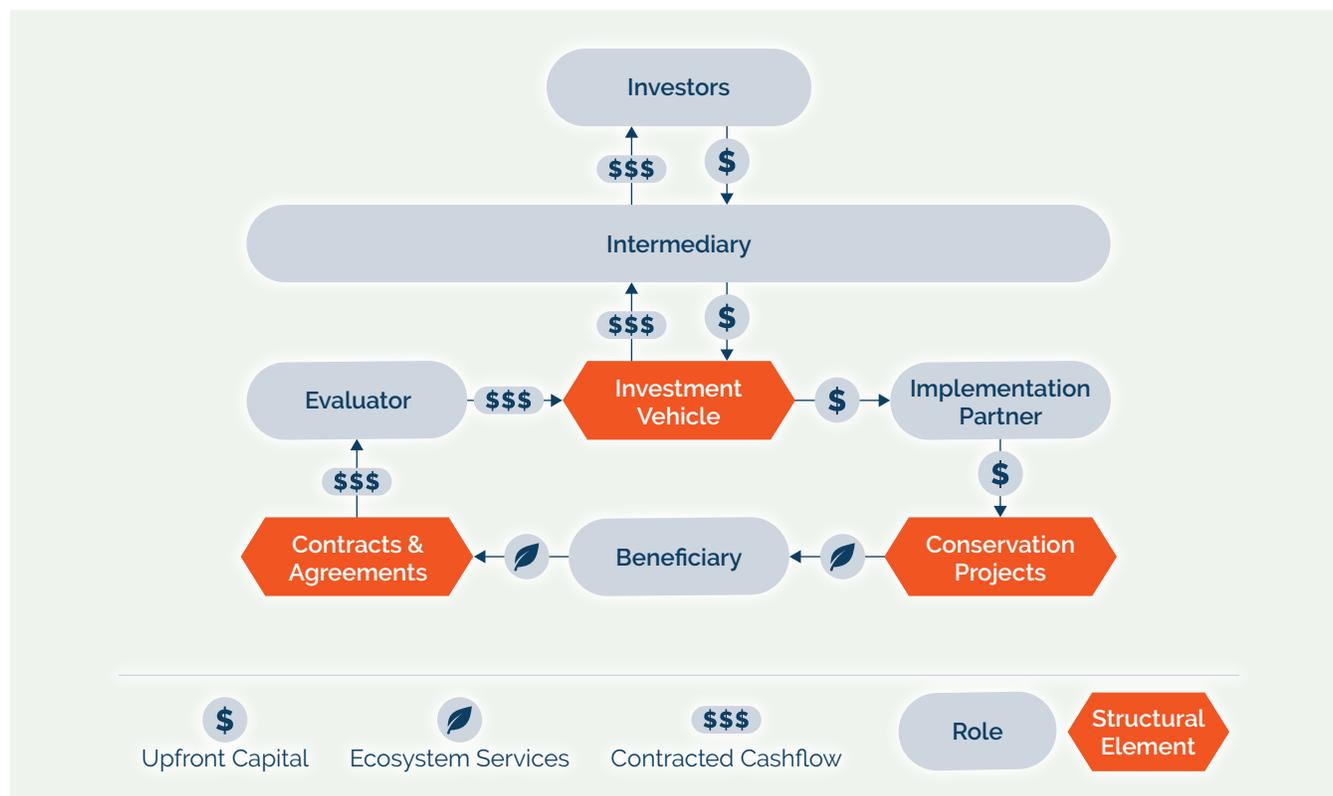
In the U.S., 16 states offer some form of tax credit for conservation covenant donations. Even more powerful than simple tax credits are tradable tax credits, which allow a taxpayer with no tax liability (and therefore an inability to use the credit) to sell a tax credit to a taxpayer who has a tax liability and can then take advantage of that tax credit. In Colorado alone, around \$ 1 billion US in tax credits have been issued since 2000 which has resulted in the permanent protection of 0.7 million hectares of conservation land.

All levels of government have roles to play and an array of tools and programs by which to incentivize conservation as lawmakers, landowners, and funders.

3. Conservation Finance Models

To restore the earth's ecosystems and natural capital stocks and prevent environmental disaster, we must close the conservation funding gap, noted earlier at \$250-350 billion US a year. It can be done, if all actors utilize their tools and assets to develop, implement and establish new funding models.

Key Elements of Investment Models



Investors provide upfront capital to an intermediary that structures and manages an investment vehicle. This investment vehicle provides funding for conservation projects, which are executed or overseen by an implementation partner. Those conservation projects create value for beneficiaries, who share some of that value back into the investment vehicle through contracted cashflows. A third-party evaluator is often used to verify the achievement of project outcomes and the valuation of the associated benefits. The intermediary coordinates cashflows back to investors.

Investors

Excluding governments, the overwhelming majority of investors in conservation finance products have been institutional investors such as banks, pension funds and foundations. This group is a major purchaser of green bonds. Retail investors can gain exposure to environmentally impactful investments by investing in publicly traded securities such as green ETFs or similar mutual fund-type investments, and some green bond products, but generally do not have access to more complex investment products.

3. Conservation finance models

In order to achieve the scale needed to address the conservation challenge, sources of investment must extend well beyond philanthropic, government and institutional capital – the latter of which rarely assumes early stage development risk. Other capital providers must be incentivized to provide capital at market, sub-market and even zero rates of return, potentially in combination with or exchange for non-monetary CSR-oriented returns. Government grants and non-governmental concessionary pools of capital are crucial.

Intermediary

Typically, the intermediary's role is to structure the investment vehicle and coordinate cashflows by facilitating contracts with implementation partners and beneficiaries. When developing the investment, they engage with stakeholders and scientific partners, and are responsible for bringing the investment from concept to market. Intermediaries could be third-party intermediary firms, financial institutions, government issuers, private or public corporations, or conservation non-profits.

Investment Vehicle

The investment vehicle, which may be a special purpose entity set up for a specific transaction, receives payments from beneficiaries and distributes them to investors based on achieving certain outcomes or a predetermined payment schedule. Examples include a bond with one type of cash flow and uniform repayment profile, a multi-tranche structure with varying payment flows that mirrors an infrastructure project finance deal, a direct investment in an operator, or an investment fund with a portfolio of projects.

Implementation Partner

Implementation partners may conduct the conservation projects directly themselves or, alternatively, may contract directly with third parties which may be better positioned to conduct on-the-ground conservation activities. These third parties could be local conservation nonprofits, government agencies, Indigenous organizations, NGOs or other commercial entities.

Conservation Projects

Projects may be identified through an evaluation of existing opportunities which have been identified, or through consultation with the beneficiaries themselves, in order to identify the best opportunities. Local community groups are often resource-constrained but exceptionally knowledgeable, so their input is needed to ensure that concerns and opportunities are addressed wherever possible. Properly engaging and incentivizing local communities is often critical to the long-term success of projects.

Beneficiaries

Having multiple beneficiaries may be positive in terms of diversifying cashflows but too many beneficiaries may increase transaction costs and the risk of completion. Each additional beneficiary also increases complexity when developing and scaling projects. The optimal number of beneficiaries is of course dependent on project complexity. Beneficiaries typically include local governments, water and electric utilities, insurance companies, corporates dependent on ecosystem services or interested in CSR outcomes, Indigenous communities, local farmers, ranchers and fishermen.

Contracts and Agreements

Contracts and agreements are used to quantify and monetize the benefits accruing to multiple stakeholders, converting them into payment streams. Contracts with traditionally risk-averse beneficiaries often incentivize participation by offering investment upside potential to compensate for trying something with a limited track record (for example, a higher rate of interest or a bonus interest payment). The value of conserving ecosystem services to a beneficiary can be demonstrated from the

3. Conservation finance models

beneficiary's avoidance of substantial costs or by enhancing or protecting their profitability (reduced expenses). Among many others, this could include reduced cost of water treatment for utilities, reduced insurance payouts to insurance companies, reduced insurance premiums for other investors, jobs for Indigenous communities, or tourism revenue for local governments.

Evaluator

In many conservation finance models, third parties provide independent audit and verification of ecosystem service benefits. Standardised frameworks are referenced and, in many cases, further developed in order to assist investors in assessing risk and in measuring and benchmarking conservation outcomes, which are critical to triggering conservation finance flow. Evaluators include academic institutions, green bond certification providers, accounting and auditing firms and other subject matter experts.

3.1 Credits and Offsets

Credits and offsets are market mechanisms that put a monetary value on a unit of measurement representing either an increase or a reduction of an environmental impact that typically has a non-monetary value, such as a unit of carbon emission reduction or a unit of increased water quality. While sometimes used interchangeably, there is a distinct difference between an offset and a credit.

Offsets represent a unit of a reduction or increase in an environmental impact that occurs in one location in order to 'offset' the opposite occurring in another location. Companies, governments and individuals purchase these offsets to meet environmental targets. The offset is issued as a credit and, when third party certified, can be sold on markets that accept offsets.³⁹ Offsets remain somewhat controversial because the practice of offsetting can be seen as a way of preserving the status quo. Instead of minimizing environmental impacts through their own operations, it can be viewed as companies and other entities 'buying their way out.' On the other hand, offsets can move capital at a quick rate and can provide significant economic value for those who generate them. Offset purchasers follow the mitigation hierarchy and only resort to offsets after they have taken all steps available to minimize impacts which might occur. Offsets are a transitional instrument, which when used responsibly, provide organizations with time to transition to more sustainable practices. The highest quality offsets often deliver co-benefits beyond simply the offset itself, which are valued by offset purchasers. This is particularly evident in the carbon marketplace, where conservation-based offset projects typically deliver co-benefits (such as improved biodiversity, protection of species at risk and climate change adaptation opportunities) that investors are willing to pay for and highly value.

Credits are permits issued within a system that allow all participants to collectively emit or pollute a certain amount, such as carbon or wastewater discharge. They are most commonly used in mandatory markets where all participants are subject to regulatory requirements that must be met by the whole market but can be traded among participants. Cap-and-trade carbon markets provide the best example: under these schemes, there is a total amount of carbon that is permitted to be emitted. Permits are either sold at auction or given out for free and are based on forecasted carbon use (the "cap") which is legislatively required to be reduced over time. If a participant uses fewer credits than it purchased or received, these credits can be sold, thus creating a market for the credits. In some mandatory markets, offsets are permitted for selected use with pre-determined limits on the percentage of offsets which may be used, but, in general, credit-based systems operate on the premise of absolute goals (maximum caps which ratchet down over time) versus net goals.

3. Conservation finance models

Markets

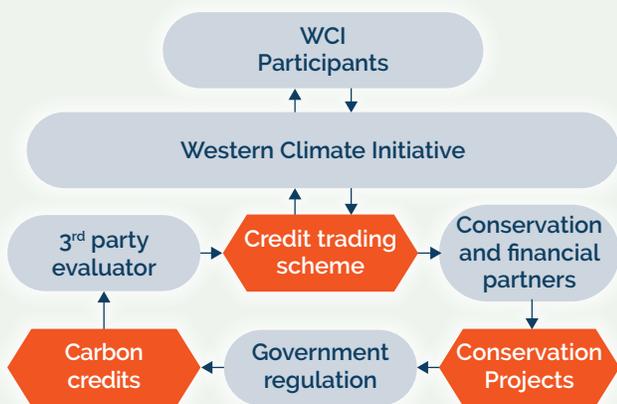
Carbon offsets and credits are traded on both compliance and voluntary markets.

Compliance (or mandatory) markets are used by companies, governments, and other entities that operate in jurisdictions or industries that have mandatory rules around an environmental impact. Carbon markets are the only compliance markets currently offered at scale, but other localized systems, such as biodiversity offsets or water temperature offsets for salmon, for example, exist in localized regions.

Voluntary markets are for entities and individuals who wish to offset their negative environmental impacts to meet personal, institutional or corporate goals. These markets are much smaller, but because they are not under a compliance system, they are made up entirely of offsets purchased by responsible entities seeking CSR-oriented objectives or social license to operate.

The compliance market is significantly larger than the voluntary market and most developed in the European Union and parts of North America. In 2019 the EU Emissions Trading System (ETS) had a cap of 1,855 MtCO₂e and raised \$1.68 billion US, while California and Quebec's linked system was capped at 403 MtCO₂e and raised \$3.7 billion US.⁴⁰ In 2016, the voluntary market represented 84.1 MtCO₂e, worth \$191.3 million US.⁴¹ In the voluntary market, there are a wide range of prices, from less than 1\$ to over 50\$ MtCO₂e.

Western Climate Initiative



The Western Climate Initiative (WCI) jointly administers the cap-and-trade carbon markets for its Participating Jurisdictions of California, Quebec, and Nova Scotia. As of 2014, Quebec and California's markets have been linked, meaning participants can buy and trade with each other. While cap-and-trade systems are primarily concerned with absolute emission reductions, there is a recognized use of offsets as a portion of the scheme.

California permits 4-8% in carbon offsets, depending on the year, including many conservation and forestry-based programs. Quebec permits 8% in carbon offsets and is currently developing protocols to specifically include reforestation and afforestation offsets. Nova Scotia is currently examining if carbon offsets will be included in their system.

Sources: Government of Quebec. (202). Carbon Credits. <http://www.environnement.gouv.qc.ca/changements/carbone/credits-compensatoires/index-en.htm>; California Air Resources Board. (2020). Compliance Offset Program. <https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program>

3. Conservation finance models

Carbon Offsets in Conservation Finance

Carbon offsets are created through a wide variety of project types that reduce emissions, such as renewable energy, energy efficiency, methane combustion, and LULUCF (land use, land use change and forestry). LULUCF or FOLU (forestry and other land use)⁴² function as carbon offsets by capitalizing on land and nature's ability to absorb carbon and create carbon reservoirs or sinks. This can be achieved through active forest management and restoration, farming and ranching practices, and avoided conversion of lands.^{43,44}

REDD+ offsets are also seeing more traction recently. REDD stands for reducing emissions from deforestation and forest degradation, while REDD+ is a broader definition that accounts for conservation of forest carbon stocks, sustainable management of forests and enhancement of forest carbon stocks. It was initially developed by United Nations REDD Programme and the Parties of the United Nations Framework Convention on Climate Change. Its goal is to provide financial resources, through offset payments, for developing nations to prevent deforestation and sustainably manage forests.

Carbon offsets as a conservation finance tool can be most clearly applied to land and water conservation projects, such as reforestation, avoided deforestation, afforestation, improved forest management and soil management.

Conservation-based carbon offsets are being increasingly recognized for their additional environmental benefits, such as biodiversity, water and soil management, and social benefits, particularly where the offset land is being managed in partnership with rural and Indigenous communities.

While conservation-based carbon offsets have significant potential, they require upfront financial and human resourcing to launch. Projects are costly to develop, at \$100,000-400,000, and require protocol selection, plan development, validation, verification and registration. While costs are incurred up front, the offset credits can be challenging to monetize. It is important for any organization exploring carbon offsets to have appropriate staffing and expertise and access to either upfront cash flow or financing.⁴⁵

Darkwoods

Darkwoods is a 63,000 hectare conservation area in the West Kootenays in British Columbia. The Nature Conservancy of Canada sells Darkwoods carbon credits on the voluntary market. Its conservation management practices were independently verified and the carbon sequestration is verified regularly. The capital raised is used for the long-term conservation of the lands.

3. Conservation finance models

Yurok Tribe – California Redwoods Restoration

California's Yurok Tribe is an early participant in the carbon markets. In 2010, when California began developing its cap-and-trade market, the Yurok were eager to find a way to participate that would allow them to restore their ancestral homeland and generate revenue. Eventually, it was agreed that the Yurok Tribe would be issued offset credits, which it could then sell to polluters in California's ETS. The credits are issued in exchange for restoration of the forest and is subject to strict review by the ETS.

To date, Carbon offsets have allowed the Yurok Tribe to purchase 22,000 hectares of ancestral territory and has helped to revitalize the local economy.

While cap-and-trade remains somewhat controversial for some members of the tribe, it has yielded significant social, economic, and ecological benefits such as biodiversity, cleaner water, Indigenous reconciliation and economic prosperity.

The Yurok's forest regeneration is supporting restoration, increased resiliency and water quality, and is improving biodiversity, including bringing back the California condor.

Sources: <https://www.newyorker.com/news/dispatch/how-carbon-trading-became-a-way-of-life-for-californias-yurok-tribe>
<https://www.euromoney.com/article/b1hh34rtryj9l/conservation-finance-it39s-time-to-revisit-carbon-markets?copyrightInfo=true>

Nutrient (Water) Offsets

Nutrient offsets and credits are generated by establishing or maintaining natural systems, such as watersheds, that measurably increase water quality. They are called nutrient offsets because of their ability to remove excess nutrients, such as phosphorous and nitrogen, from water.

Under an offsets model, these credits could be sold to meet regulatory requirements for point-source emitters, such as factories and sewage treatment plants. While this can rightfully be a method that does not put the burden on companies, proponents counter that it can help mobilize capital at a quicker pace and may be easier to implement, politically. It is also possible to develop a cap-and-trade system that issues wastewater discharge permits that are traded among participants. So far, these systems are small and disaggregated, and do not yet exist in Canada, but they have the potential to grow in a similar way as the carbon markets.

Other Water Credits

While nutrient credits have gained more traction due to the significant issues caused by wastewater discharge and runoff, there are other developing areas of water trading including:

- **Water temperature:** There is an active market in Oregon to maintain specific water temperatures for salmon, which are sensitive to temperature.
- **Stormwater:** There is a small market for using nature to reduce the quantity of stormwater

Source: <https://www.conservationfinancenetwork.org/2019/09/25/building-demand-in-us-water-quality-trading-markets>

3. Conservation finance models

As of 2017, the U.S. Government Accountability Office documented 19 nutrient credit trading programs across 11 states⁴⁶. These systems have predominantly come into place under the Environmental Protection Authority's (EPA) Clean Water Act discharge requirements and are then implemented at state and regional levels.⁴⁷

Biodiversity Offsets

Also known as conservation or biodiversity banking, biodiversity offsets are meant to offset biodiversity or species loss caused by development. Biodiversity banking operates under the principle that there is no net loss of biodiversity, with a broader desire for a net positive impact. For a replacement area to count as an offset, it must typically include land protection, restoration, and/or enhancement. It must also, usually, be at least of the same size and ecosystem type. Typically, biodiversity offsets target an offset ratio of up to 3:1 – greater in size than the area affected – in order to buffer against loss and ensure that the offset has integrity.

So far, biodiversity offsets only exist in regions where there are regulations that require a conservation offset for disturbing biodiversity. In 2011, 45 biodiversity offsets, and another 27 under development, were found to exist across numerous jurisdictions including Canada, the U.S., Australia and Germany.⁴⁸ However, there is also growing interest in a voluntary market.

Biodiversity offsets represent a true offset market, where the primary goal is to assure no net biodiversity loss, and in fact realize a net gain. This makes it a natural fit for conservation organizations, which can play a vital role in selecting and conserving the appropriate replacement land.

Credit Stacking

One commonality present throughout the above offset and credit examples is the prevalence of conservation land as the provider of the offset. Whether that's through carbon sequestration, water purification or species habitat, one piece of conservation land can potentially provide numerous ecosystem services and therefore several offsets. This concept remains quite new and presents many challenging regulatory and legal issues, but is anticipated to grow as mandatory and voluntary markets move beyond carbon to include additional environmental impacts.^{49,50} While stacked credit systems must be carefully designed to ensure there is no double counting, it may help provide the appropriate financial upside to entice more conservation entities, farmers, and other private landowners to dedicate additional resources to conservation finance initiatives.

While carbon offsets and credits markets are well established mechanisms for incentivizing the decrease of negative environmental impacts through monetization, other types of offsets (like biodiversity, water, and nutrient offsets) have the potential to incentivize net gains in ecosystem services. Credit stacking these different types of offsets may further provide the financial upside to entice new actors beyond conservation organizations to conservation finance initiatives.

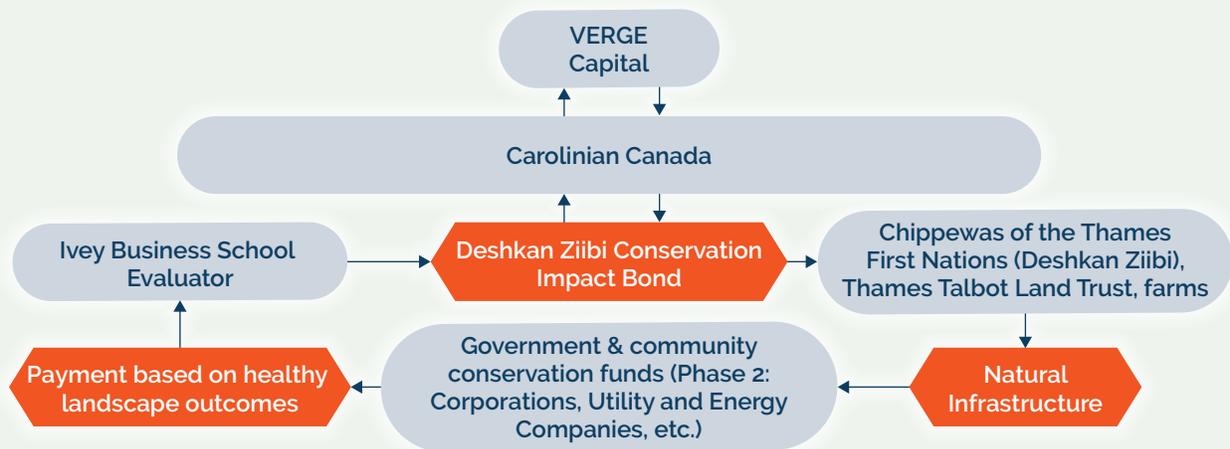
3. Conservation finance models

3.2 Outcome-Based Models

Outcome-based models cover a broad range of funding and structures that involve payment for the achievement of predetermined social or environmental outcomes.⁵¹ This differs from more traditional philanthropic or government financing models that pay for upfront actions.

In conservation finance, outcome-based models include pay-for-performance, payment-for-ecosystem-services, avoided-cost and other models. The commonality between these models is that one or more entities believes there is a tangible, monetary value associated with a service provided by nature and they are willing to pay to ensure nature continues providing this service.

Carolinian CIB



Beginning in 2018, Carolinian Canada has worked alongside social finance intermediary VERGE Capital to develop and implement a Conservation Impact Bond (CIB) for the restoration of natural infrastructure in the Carolinian Zone in Southern Ontario. This bond will demonstrate a scalable model for financing the implementation of natural infrastructure to more effectively improve ecosystem health, which will create multiple measurable benefits for water quality, agriculture, wildlife health, and climate resilience as well as cost savings for outcome partners.

Currently in its pilot phase, the CIB has raised \$304,000 to restore 60 hectares of land in the Carolinian Zone. After implementation of Phase 1 is complete, the CIB will be scaled to 93 hectares. Carolinian Canada's work developing robust outcomes tailored to the local landscape and bringing together of partners that represent diverse interests – including Indigenous Nations, public and private landowners, academic institutions, government, and private investors – make this an excellent example of Canadian leadership in pay-for-success models.

3. Conservation finance models

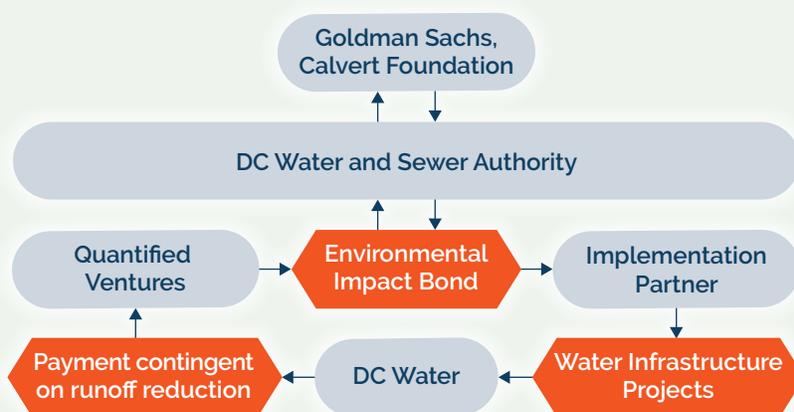
Environmental Impact Bonds

Environmental Impact Bonds (EIBs) have developed from the more commonly known social impact bonds (SIBs). The principle of these pay-for-performance bonds is that there is a party identified that is willing to implement a project to achieve a desired social or environmental outcome, a beneficiary or a third party who is willing to pay for the successful achievement of this social or environmental outcome and another party who is willing to provide the upfront funding to the implementation partner.

While EIBs may sound complex, they are being developed to access new sources of capital which may also be able to move faster, such as private investment capital, to make up for the financing gap from government and philanthropic sources.

For EIBs to be successful there must be standardised measuring frameworks and metrics, consistent annual repayments and the ability for the environmental impact bond to survive without government intervention.⁵²

DC Water Environmental Impact Bond



In September 2016, the DC Water and Sewer Authority issued a \$25M tax exempt EIB, the first of its kind in the United States. Proceeds of the bond will be used to fund green infrastructure projects (rain gardens, permeable pavements, green roofs, rain barrels). There is a mandatory tender set for April 1, 2021, when investors will be paid in line with their performance:

- A \$3.3 million US coupon if runoff is reduced by over 41.3%
- No coupon if runoff is reduced by 18.6%–41.3%
- Investors will pay a "risk share payment" of \$3.3 million US if runoff is reduced by less than 18.6%

DC Water's fourth and latest green bond issuance of \$100 million (\$300 million total) was oversubscribed by \$700 million, which allowed DC Water to lock in favorable rates.

Sources: https://www.epa.gov/sites/production/files/2017-04/documents/dc_waters_environmental_impact_bond_a_first_of_its_kind_final2.pdf; <https://www.goldmansachs.com/media-relations/press-releases/current/dc-water-environmental-impact-bond-fact-sheet.pdf>

3. Conservation finance models

Payment for Ecosystem Services

The central concept behind payment-for-ecosystem services (PES) is that landholders or managers are paid for the successful provision of certain ecosystem services by users or beneficiaries of these services.⁵³

Under PES schemes, the beneficiary or user of the ecosystem service pays the service manager – the entities or individuals who enhance or protect the service – for their work. This value is determined predominantly by another party's willingness to pay.

In 1997, Costa Rica was the first country to use PES mechanisms via its national Pago por Servicios Ambientales program, which aimed to reverse deforestation.⁵⁴

Although large-scale government-led PES programs exist, these models have been criticized for not delivering verifiable conservation outcomes at scale. PES programs are often technically complex to setup and require careful stakeholder negotiation, so PES markets have remained relatively boutique.

Forest Resilience Bond



The Forest Resilience Bond (FRB) is a private partnership between Blue Forest Conservation, Encourage Capital, World Resource Institute and numerous agencies and research partners to finance forest restoration in the western U.S.

Specifically, the FRB leverages public dollars spent on forest restoration through:

- Sharing of costs (and benefits) reduces aggregate costs to each individual stakeholder
- Tapping private capital maximizes scale of restoration without stressing budgets
- Accelerating restoration treatments prevents further overgrowth and future costs to stakeholders

With the first pilot project launched in 2018 in Tahoe National Forest, the FRB is as a new public-private partnership model actively enhancing climate resilience.

Sources: <https://www.blueforestconservation.com/frb/>

Although outcomes-based models can be more complex to set up and require careful structuring, these models can help conservation initiatives access untapped sources of faster-moving private capital to close the conservation financing gap by quantifying the monetary value of an ecosystem service for beneficiaries and users of the service.

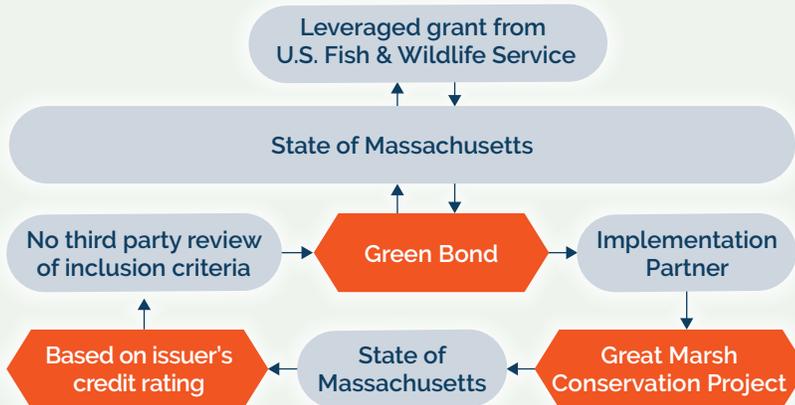
3. Conservation finance models

3.3 Green Bonds

Green bonds are fixed-income securities that raise capital for projects with environmental outcomes. Most green bonds issued in Canada have been either treasury-style retail bonds, with a fixed rate of interest and redeemable in full on maturity, or asset-backed securities tied to specific green infrastructure projects.

Development banks, financial corporates and local governments tend to finance themselves with shorter term debt; 79% of Canadian green bonds have been issued with maturities of less than 10 years. This can be a challenge for impact investors who wish to create a diversified fixed income portfolio that is aligned for impact across all bond maturities. Longer-term maturity green bonds used for conservation projects could serve to fill this supply gap in the green bond market.

Massachusetts Green Bond



In 2013, Massachusetts became the first U.S. state to issue green bonds. A portion of the proceeds were used to fund the acquisition of conservation rights on 28 hectares of coastal habitat in Ipswich, Massachusetts, within the Great Marsh "Area of Critical Environmental Concern."

Though this project would likely have been funded through a normal state bond issuance, the creation of a green bond offering attracted new investors to the state.

Source: MASSACHUSETTS TO OFFER "GREEN BONDS" TO INVESTORS (Issue brief). (2013). <http://www.massbondholder.com/sites/default/files/files/Green Bonds Press Release.pdf>;
Green Bonds and Land Conservation: The Evolution of a New Financing Tool (Working paper). (2015). http://cpicfinance.com/wp-content/uploads/2017/03/RWP15_072_Bilmes.pdf

Green Bond Principles

The Green Bond Principles (GBP) are voluntary best practice guidelines that emphasise the required transparency, accuracy and integrity of information that will be disclosed and reported by issuers to stakeholders. The GBP have four core components:

1. Use of proceeds
2. Process for project evaluation and selection
3. Management of proceeds
4. Reporting

Climate Bonds Standard

The Climate Bonds Standard and Certification Scheme offered by the Climate Bonds Initiative is a FairTrade-like labeling scheme for bonds. It is designed as an easy-to-use tool for investors and governments that assists them in prioritising investments that truly contribute to addressing climate change. Land conservation and restoration is covered under the Forestry Criteria which was released for certification in November 2018.⁵⁵

3. Conservation finance models

General-Purpose Green Bonds

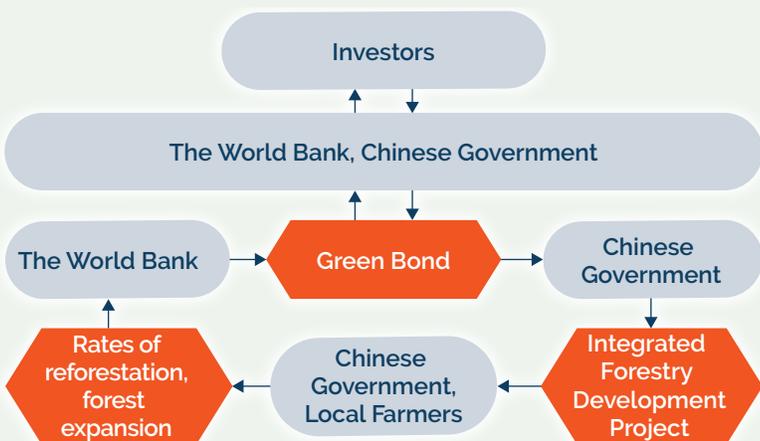
In 2018, green bond issuance in Canada was \$5.5 billion, with governments contributing 42% of that amount⁵⁶. Almost half of government issuance came from the Province of Ontario – Canada's largest green bond issuer with \$3 billion issued since 2014. In fact, the Ontario government increased the size of its planned green bond offering from \$500 million to \$1 billion after the original offering received C\$1.8 billion in investor orders. The demand for green bonds is rapidly outpacing supply of product.

Although provincial governments drive green bond issuance in Canada, municipalities are beginning to follow suit. In late 2017, the City of Ottawa issued the first Canadian municipal green bond, and the City of Toronto entered the green bond market in 2018. Both municipal bonds were used to finance clean public transport infrastructure.

Renewables and transportation dominate the cumulative use of proceeds of Canadian green bonds, with cumulative allocations of 32% and 30% respectively. There is an opportunity here for governments to diversify the use of proceeds of their green bonds to include conservation projects as well. Such models have been successfully applied at the state level in the U.S.

Impact investors may also have concerns about additionality, which is the argument that, of the sustainable land use projects that have been funded by green bonds, most if not all would have been funded regardless.⁵⁷ However, funding these types of projects through green bond offerings can create additional demand for green products and bring the issuer new capital from investors who may not have otherwise invested in the issuer's traditional bonds.

Integrated Forestry Development Project



In China, the World Bank's green bond provided \$100 million in funding to the Integrated Forestry Development Project, matched by \$100 million from the Chinese government. The project aims to improve the ecological conditions of degraded forests through plantation of new native trees and to reform land use rights in collective forests. Collaboration between national governments and large development banks can support large-scale sustainable land use and conservation projects.

Project-Based Green Bonds

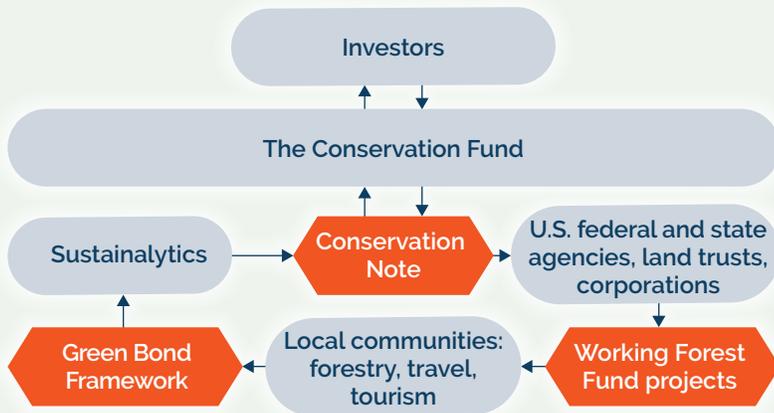
As of 2018, only 5% of Canadian green bond proceeds were directed towards land use projects.⁵⁸ The most significant barriers to use of asset-backed green bond proceeds for land conservation projects are the difficulty of generating cash flows from these projects and achieving the scale required for traditional bond issuance.

For this reason, most green bond issuances that have funded land conservation projects were general purpose bonds based on the issuer's full faith and credit rather than projected cash flows from a single project.⁵⁹ Although the Integrated Forestry Development Project highlighted on the left was funded as part of the World Bank's green bond program, the project provides lessons for larger-scale projects funded at the supranational level.

3. Conservation finance models

Mainstream investors may perceive bonds based on conservation project revenue as more risky than other projects more traditionally financed through green bonds, such as renewable energy infrastructure. Because of the unique risk characteristics of conservation projects, project-specific conservation bonds lend themselves well to outcome-based models, such as the DC Water Environmental Impact Bond highlighted in Section 3.2.

The Conservation Fund



In September 2019, The Conservation Fund, a nonprofit conservation organization based in the United States, issued a \$150 million US conservation note for the acquisition and protection of forests. The proceeds of the note will go to the Working Forest Fund which aims to raise philanthropic and investor capital to conserve 400,000 hectares. The Conservation Fund has designed its own green bond framework to ensure investors that the notes offer a similar level of robustness to other green bonds.

Source: Pothering, J. (2019). The Conservation Fund issues \$150 million green bond to save forests. <https://impactalpha.com/the-conservation-fund-issues-150-million-green-bond-to-save-forests/>

Conservation Notes

Conservation notes are a subset of green bonds that raise capital for the purposes of supporting conservation projects. Conservation notes in the market so far have been broad-based, usually issued by an established conservation entity, and are backed by the general operations and balance sheet of the entity (as opposed to being asset-backed or tied to a specific conservation project or revenue stream). However, there have also been bonds issued by intermediaries, such as Credit Suisse, which uses the third party Althelia Climate Fund to source the projects. To date, there is no conservation-specific green bond framework, but the issuers of conservation notes have generally drafted their own frameworks, referencing the GBP.⁶⁰

GREEN BONDS: There have been no conservation notes issued in Canada so far, but with a robust banking sector that has some experience issuing green bonds, and numerous established conservation organizations across the country, there is strong potential.

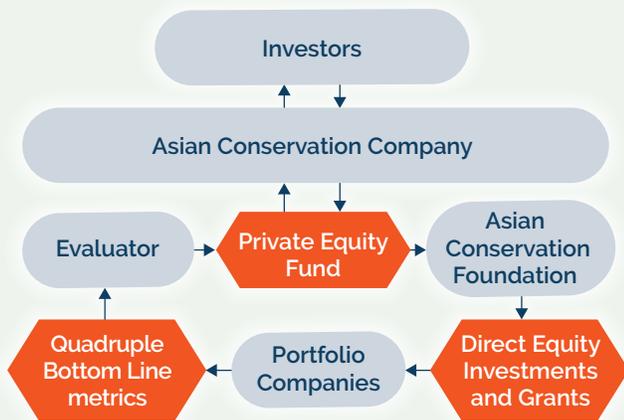
3. Conservation finance models

3.4 Alternative Investments

While most conservation investments have been funded through environmental credit markets, outcome-based models, or green bonds, there are also examples of conservation-aligned investment funds in asset classes such as private equity, private debt and real assets. These funds offer private investors both a financial return on their investment and conservation outcomes. Given their risk profile and minimum investment size, they are often accessible only to institutional investors and high-net-worth individuals.

Most institutional investors consider these to be alternative investments, in contrast to more traditional investments in public equity securities and a range of debt and fixed-income instruments.

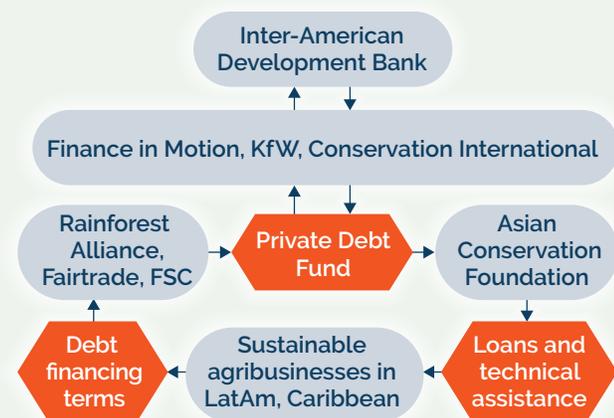
Asian Conservation Company



The Asian Conservation Company (ACC) was created in 2001 with assistance from WWF, the International Finance Corporation and the Global Environment Facility. ACC invests in companies that operate in high-priority biodiversity areas and work to mitigate negative environmental impacts. Company profits provide a sustainable financing stream to support long-term biodiversity conservation. ACC has raised \$12 million US and has invested in three projects: a sustainably managed fishery, an ecotourism venture, and a transportation company serving the ecotourism project.

Source: About ACC. (n.d.).
<https://www.asianconserve.com/ACC/html/index.html>

Finance in Motion's eco.business Fund



Finance in Motion is an impact asset manager focused on green finance and micro, small and medium enterprise finance. The eco.business Fund, launched in December 2014 in collaboration with KfW Development Bank and Conservation International, makes loans to financial institutions which in turn use these funds to finance businesses contributing to biodiversity conservation and the sustainable use of natural resources.

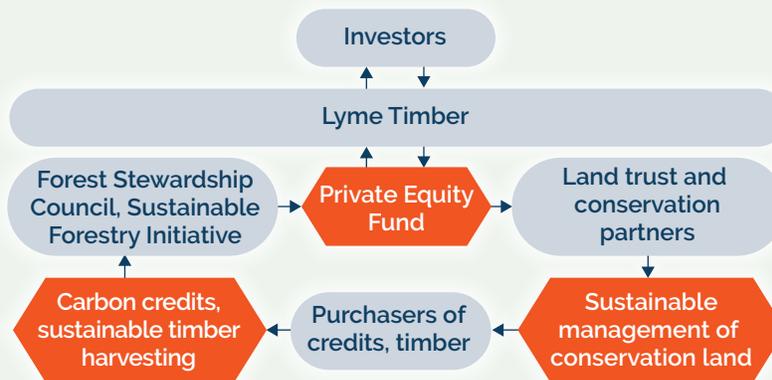
3. Conservation finance models

Private Equity and Debt

Private fund managers use aggregated investor capital to offer equity investments and credit to companies such as forest producers, organic farming enterprises and ecotourism establishments.

Some of these organizations may lack the upfront improvements or ability to adopt more sustainable practices. Some fund managers also offer business skills and environmental technical advice to their portfolio companies, particularly those in the microfinance space.

Lyme Timber



Lyme Timber is a forest investment management organization that invests in and manages forests and rural land with important conservation qualities. Investment returns come from a combination of sustainable timber harvesting, recreational leasing and the sale of carbon-offset credits. Lyme's investment strategy targets land adjacent to protected areas (like National Parks) to positively influence the degree of ecological connectivity at the landscape scale. Lyme selects investments based on both the respective financial returns and conservation outcomes through the use of Geographical Information System data and Impact Reporting and Investment Standards (IRIS) metrics.

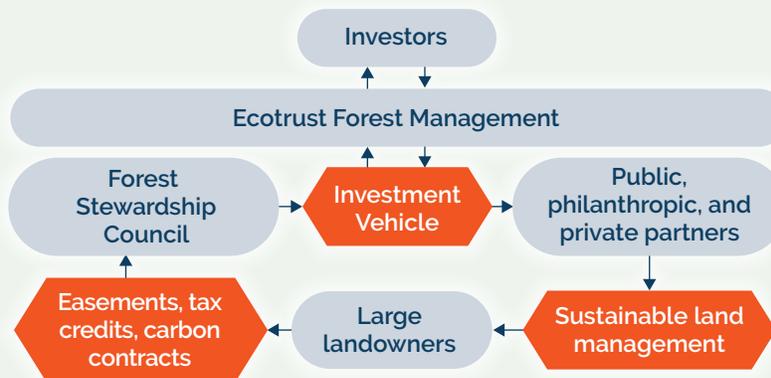
3. Conservation finance models

Real Assets

Real asset investments offer investors the opportunity to increase sustainable land management and other conservation outcomes in assets such as sustainable timber plantations, agricultural lands or fisheries. The most common example of this is timberland funds. The impact objectives of these funds include sustainable timber production, land conservation and biodiversity conservation.

Investors typically look to timberland investments for their potential to add value through multiple avenues—land appreciation, biological growth, tree harvest and other income streams, including grazing and hunting leases—and for diversification benefits, as timber typically exhibits low correlation to other asset classes.

Ecotrust Forest Management



Ecotrust Forest Management is a U.S. timber investment management organization focused on the acquisition and transition of working forests to long-term, permanent ownership and to improved forms of management. The local owners may include Indigenous groups, public agencies, and local conservation entities. Ecotrust's investment strategy is to monetize a number of positive benefits supported by working forests. These can include clean water and open spaces (through conservation easements) in addition to climate change mitigation and habitat protection. The latter can be achieved through a variety of mechanisms, including carbon credit sales, public restoration funds and job creation incentives, in addition to sales of timber and non-timber forest products.

Recommendations

Outcomes to advance

Inherent to conservation finance is the notion that conservation has a monetary value that certain stakeholders are willing to pay for based on the outcomes they provide to people, places and infrastructure. It is imperative in the designing of conservation products that these outcomes are furthered and more accurately measured.

Recommended areas for further research include:

- **Indigenous-led and/or stewarded conservation.** As mentioned throughout this report, Indigenous peoples have been stewards of the land for millennia. It is important to develop conservation models with positive social outcomes for Indigenous peoples, such as models where Indigenous nations are compensated for their conservation of the land and the further development of IPCAs. Research and precedents have demonstrated their ability to triple the value of conservation investments using their expertise and with government support, turning dollars into social, environmental and economic value.⁶¹
- **Other blended social and environmental outcomes.** To further the appeal and engagement of outcomes-based conservation projects, it is critical to explore projects that incorporate outcomes for different communities, such as nature-based tourism communities, cities, and peri-urban areas.
- **Offsets and credits.** One of the more established conservation finance tools is the use of conservation to protect various carbon sinks and the subsequent carbon offsets generated as a result of these activities. While it is important for this market to continue to grow, increasing the interest and product development of other offsets created by nature, such as biodiversity and water (nutrient) credits, will help showcase the broader potential of determining the value of the ecosystem services provided by nature.

Designing products

There are very few conservation-related investment products available in the Canadian market today. This lack of products means retail, institutional, and impact investors with an interest in conservation are typically limited to supporting it through philanthropy or indirectly through environmental or green financial products.

Products that could drive investor interest include:

- **Conservation-focused green bonds.** Green bonds have received traction in Canada and globally, particularly from institutional investors, but are primarily invested into clean tech and renewable energy. Conservation notes or general green bonds with a greater focus on conservation could attract both large scale capital and large investors who are seeking the long-time horizons that are often better suited to conservation projects.
- **Retail products.** Retail investors make up an important part of the investing landscape and many are keen to invest in products that align with their values. Retail investors can also become catalysts and advocates, pushing issuers to create more products to meet client needs. Introducing conservation as an investment, such as World Tree's sustainable timber investment product, to this segment will be important to growing the space. In Canada, this could look something like the bonds offered by, for example, CoPower but with a focus on conservation.

Recommendations

Creating the right enabling conditions

Stakeholders can help to grow conservation finance in Canada through grants, investments, partnerships and natural assets.

Grants and other non-repayable capital

As is common in other nascent sectors, there is a need for non-repayable capital to help develop the appropriate tools, technology and capacity that will facilitate the sector's growth. This can include grants issued by governments and foundations and donations made by entities and individuals.

- **Grant to early-stage initiatives.** Governments, foundations and other donors should provide grant funding to help seed early stage initiatives, such as those developing tech to monitor and measure conservation-related outcomes. Providing non-repayable capital at these early stages will help develop the market for later stage private investors, through traditional capital markets.
- **Conservation finance capacity building.** Conservation entities should seek targeted capacity building funding from foundations, government and other donors to help develop their own internal conservation finance expertise. Grantors should support this work as part of a broader effort to develop the Canadian conservation finance ecosystem.

Catalytic/Blended Capital investing

Blended capital investing uses a combination of repayable (investment), non-repayable (granting and donation) and/or concessionary capital to de-risk projects for other investors. Concessionary capital can include providing below-market returns or no returns or, alternatively, putting up 'first loss' capital.

- **De-risk traditional investors.** Governments and foundations should take concessionary positions or provide 'first loss' capital to new conservation finance products. This can help achieve impact goals, de-risk investments, or boost returns for traditional investors, crowding in more capital to scale conservation efforts.
- **Invest in early stage supporting technologies.** Provide venture funding to early stage ventures and projects that are using technology to identify and measure nature-based solutions.

Competitive returns investing

Institutions, governments and foundations can participate as mainstream investors in conservation finance products. They can also play specific roles to help bring in other mainstream investors.

- **Anchor investment.** Given their typically large capital pool, institutional investors can play a catalytic role in a new product issuance by acting as the anchor, or first major investor, into the fund or product.
- **Product structuring.** Institutional investors can collaborate with other stakeholders, such as conservation entities, to structure products that will appeal to them and other investors from a time horizon, risk and return perspective.

Recommendations

Partnership / in-kind support

Non-financial support that nonetheless has economic value may be provided from entities or individuals with expertise in specific areas, such as scientific, structuring, legal or other relevant skills necessary to create investable conservation outcomes and products.

- **Partnerships.** Conservation organizations, corporations and investors could seek partnerships to become active players in developing new conservation finance models and products.
- **Risk valuation.** Insurance companies, in particular, could collaborate with product issuers to create products that monetize or finance risk-mitigation benefits of conservation.
- **Indigenous engagement.** Foundations provide grants to Indigenous-led organizations or collaborative projects that focus on Indigenous land stewardship.
- **Measurement and evaluation.** Conservation entities could work with research institutions and related entities to develop robust tools to measure and evaluate ecosystem services
- **Research institutions.** University and industry-affiliated researchers could work with conservation entities to develop robust valuation methodologies for ecosystem services that can be used in outcomes-based models.
- **Regulatory environment.** Governments could encourage or mandate conservation-related outcomes to help drive innovation in the sector. For example, by incubating new conservation models/concepts at all levels via tax incentives and investment/subsidies.

Natural assets

Stakeholders can identify whether they are owners, stewards, or users of natural assets, and can leverage the value natural assets provide to their organization or partners in the context of conservation finance modeling.

- **Monetize conservation activities to subsidize costs and create products/proof of concepts for investors** – Utilizing its own natural assets from which revenue-generating conservation projects can be derived, government and philanthropic organizations can supplement the costs of conservation and create proof of concepts or products for investors. An oft-cited example is New York City's Watershed Protection Program, which has saved the city upwards of \$8 billion US.⁶²
- **Leverage land assets** – Through the ownership of land at all government levels, particularly Crown-owned provincial and federal land, governments can play a major role in developing proof-of-concept conservation models on their land.
- **Nature-based companies** – these are companies that rely on nature and conservation areas to provide their goods and services, such as tourism operators or hiking and climbing gear and clothing manufacturers.

Endnotes

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