



CANADA

Recommendations for Budget 2020



CLIMATE EMERGENCY



NATURE CONSERVATION



SUSTAINABLE AGRICULTURE



TOXICS AND PESTICIDES



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This document will be available, in English and French, at www.greenbudget.ca and from info@greenbudget.ca.

Departmental Acronyms

AAFC: Agriculture and Agri-Food Canada

CIRNAC: Crown-Indigenous Relations and Northern Affairs Canada

CMHC: Canada Mortgage and Housing Corporation

CSA: Canadian Space Agency

DFO: Fisheries and Oceans Canada

ECCC: Environment and Climate Change Canada

ESDC: Employment and Social Development Canada

Finance: Finance Canada

GAC: Global Affairs Canada

HC: Health Canada

IAAC: Impact Assessment Agency of Canada

INAC: Indigenous and Northern Affairs Canada

Infc: Infrastructure Canada

ISC: Indigenous Services Canada

ISED: Innovation, Science & Economic Development

NRCan: Natural Resources Canada

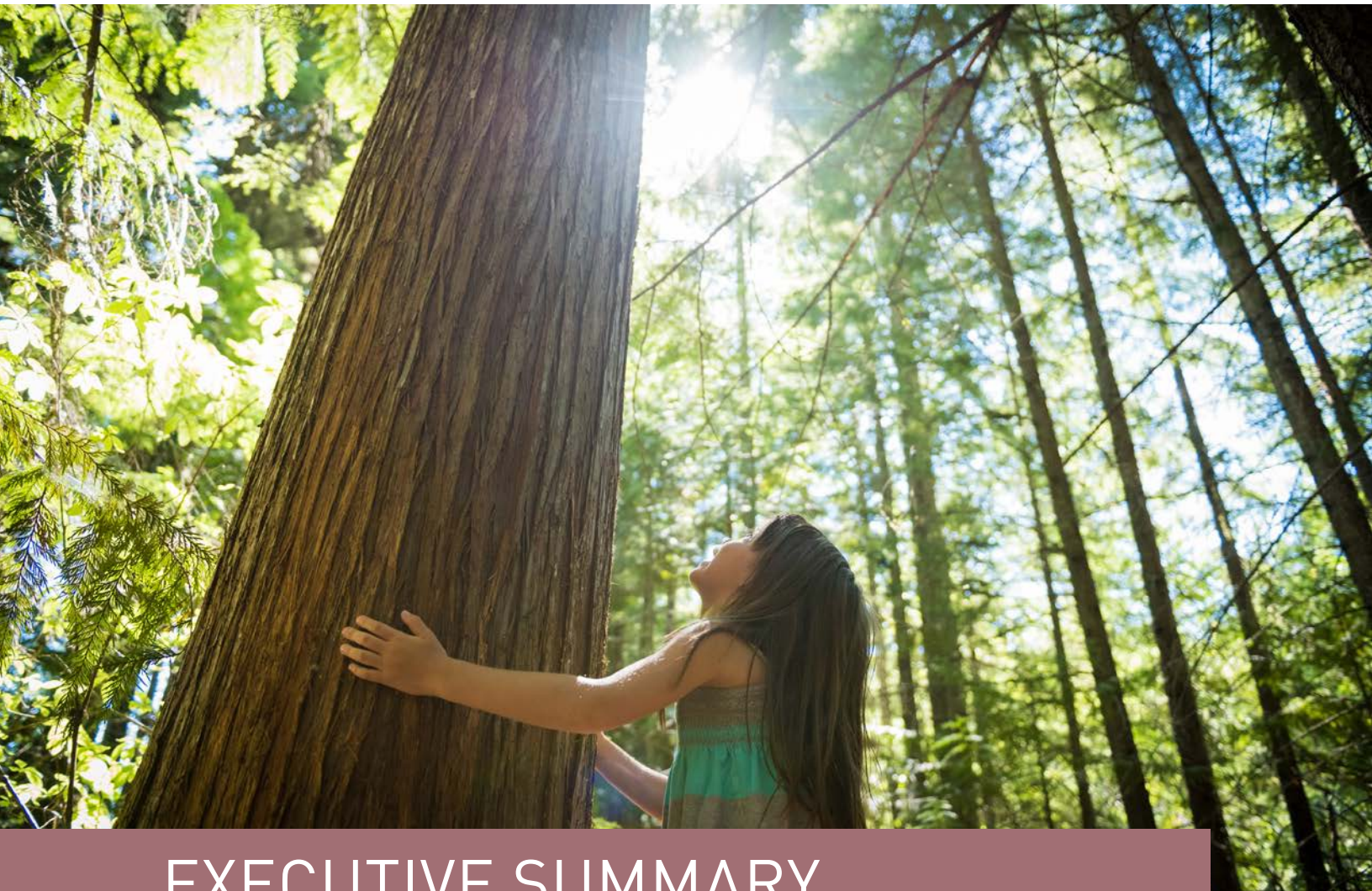
PCA: Parks Canada Agency

PMRA: Pesticide Management Regulatory Agency

PSC: Public Safety Canada

StatCan: Statistics Canada

TC: Transport Canada



EXECUTIVE SUMMARY

Photo: StockstudioX

Canada and the world face a climate emergency and a biodiversity crisis. Canadians are already experiencing floods, fires, ecological disruption and a rapidly warming Arctic, and scientists project these and other impacts will intensify if climate change remains unchecked.¹

The **Green Budget Coalition**, comprising twenty-two leading Canadian environmental organizations, urges the Government of Canada to step up to this defining moment in history with the necessary investments in Budget 2020 to enable effective action.

¹ See for example, the UN's International Panel on Climate Change October 2018 special report, Global Warming at 1.5 °C, at https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf, and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment Report on Biodiversity and Ecosystem Services (May 2019) at <https://www.ipbes.net/news/Media-Release-Global-Assessment>

Our *Recommendations for Budget 2020* will help Canada make rapid progress. We draw upon the expertise of Canada's environmental movement, as well as global knowledge and experience, to provide detailed, costed, strategic budget recommendations addressing critical environmental challenges. Implementing these recommendations would furnish economic, health, and environmental benefits for Canadians.

The GBC welcomed progress in recent federal budgets on climate action, protected areas, building and vehicle energy efficiency, food policy, and water, transit and natural infrastructure. However, we now need to scale up action before it is too late, to address the closely-related climate and biodiversity crises.

In this context, the Green Budget Coalition has developed its *Recommendations for Budget 2020* addressing four themes:

First, the Green Budget Coalition urges scaled-up fiscal action to address the climate emergency, including eliminating fossil fuel subsidies and allocating major funding to building energy efficiency, transportation, community energy, international climate financing, nature-based solutions, and marine shipping, plus a number of complementary measures, including on carbon pricing, the Sustainable Finance report, and a just transition for energy sector workers.

Second, the Green Budget Coalition urges continued and ongoing investment in nature conservation and biodiversity, with a focus on: protected areas on public and private lands; habitat restoration, including wetlands and grasslands; oceans; and migratory birds.

Third, GBC recommendations regarding **Sustainable Agriculture** call for investing in agri-environmental programs, research and development, and a new facility for the National Insect Collection, to improve the agricultural sector's sustainability, resilience and competitiveness.

Fourth, on Toxics and Pesticides we point to the need for regulatory departments to receive sufficient resources to meet and enforce current legislative requirements for managing toxic substances, including pesticides, to protect the health of Canadians and our environment.

We further outline complementary recommendations regarding environmental data and science, governance, plastics, water monitoring, wildlife vehicle collisions, and First Nations water infrastructure.

Implementing these Green Budget Coalition recommendations would lead to dramatic progress in advancing a healthier future for Canadians from coast to coast to coast.



WHO WE ARE

The **Green Budget Coalition (GBC)**, founded in 1999, brings together twenty-two leading Canadian environmental and conservation organizations (logos at side), which collectively represent over one million Canadians, through our volunteers, members and supporters.



Our Mission

The mission of the Green Budget Coalition is to present an analysis of the most pressing issues regarding environmental sustainability in Canada and to make a consolidated annual set of recommendations to the federal government regarding strategic fiscal and budgetary opportunities.

Our Vision

The Government of Canada contributes to securing and maintaining the environmental sustainability of Canada through appropriate investments in environmental programs, and through the adoption of appropriate policies related to taxation, pricing and subsidies.

Objectives

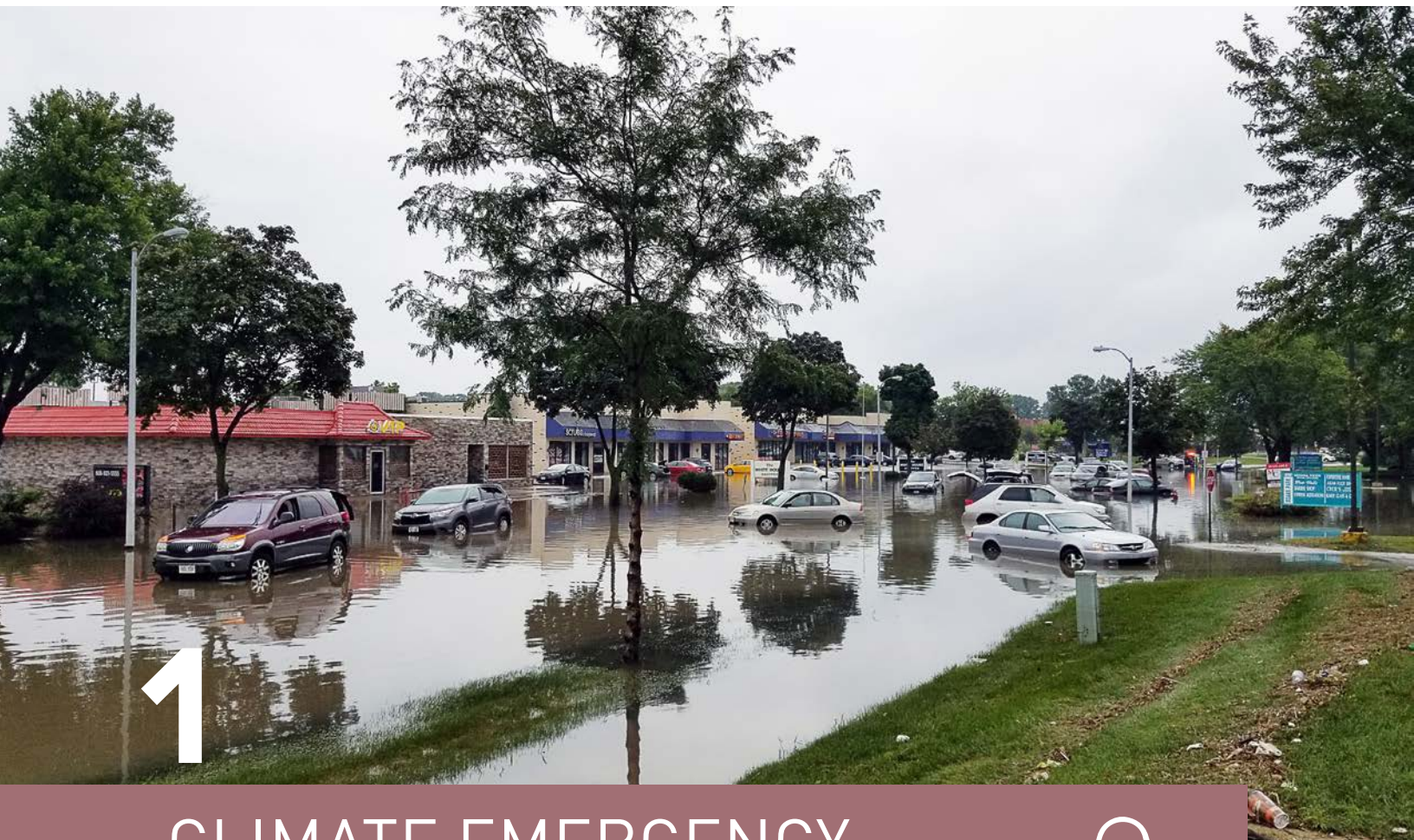
- To bring together the collective expertise of leading Canadian organizations regarding the important environmental issues facing Canada;
- To prepare and promote prioritized recommendations annually to the federal government on policies, actions and programs whose implementation would advance environmental sustainability and which could be reflected in the federal budget; and
- To monitor federal budget decisions and spending estimates and to track GBC recommendations with a view to assessing the likely effect of budgetary and fiscal decisions on the environment and to evaluating the GBC's impact on fiscal policy and budgetary actions.

The Green Budget Coalition makes its decisions on a consensus basis. The GBC's Co-Chairs are Lisa Gue, Senior Researcher and Analyst, David Suzuki Foundation, and David Browne, Director of Conservation, Canadian Wildlife Federation. Nature Canada hosts the GBC.

The Green Budget Coalition sincerely thanks the Echo, McLean, McConnell, and Metcalf Foundations for their generous financial support. The GBC's efforts are funded by its members and these foundations.

FEATURE RECOMMENDATIONS





CLIMATE EMERGENCY

Scaled-up Fiscal Actions



Photo: Jim Gade

Canadians are witnessing the impacts of the climate crisis, from fires and floods, to severe heat. These impacts will only get worse unless action is taken. Low-income and climate-vulnerable people, including Northern communities, are already disproportionately affected.

Preventing catastrophic climate change demands scaled-up federal fiscal action. The Green Budget Coalition recommends implementing the following recommendations (*detailed in the subsequent pages*):

- 1. Phasing Out Fossil Fuel Subsidies and Non-Tax Support** — five measures with annual savings of several hundred million dollars. [ECCC, Finance, NRCan, GAC]
- 2. Building Energy Efficiency** — increased financing tools, and \$200 million over three years to train Canada's low-carbon building workforce. [ESDC, NRCan, Infc, ECCC, Finance]

- 3. Transportation** — \$200 million over five years in incentives for fuel saving devices on heavy-duty trucks; \$85 million in 2020 to support Canadian transit agencies in purchasing zero-emissions buses. [TC]
- 4. Community Energy** — \$178 million over five years for community renewable energy development. [NRCan, Finance, ISED, ECCC]
- 5. International Climate Finance** — \$2.9 billion annually from 2020-2026 (with options for generating equivalent revenue). [ECCC, GAC, Finance]
- 6. Nature-Based Solutions** — \$1 billion over four years. [ECCC, Infc, NRCan, PSC]
- 7. Marine Shipping** — \$40 million over two years, plus \$15 million over five years to reduce climate impacts and spill risks. [TC, ECCC]

Complementary recommendations:

- Carbon Pricing — \$5 million for mid-term review, \$1.5 million to increase scope; [ECCC, Finance, NRCan]
- Clean Fuel Standard — \$15 million over five years to promote innovation and ensure indirect land use changes are appropriately integrated in the policy design; [ECCC, NRCan]
- Transportation — \$150 million in 2021 in additional funding for purchase incentives for electric and plug in hybrid vehicles [TC]; plus extended and expanded funding for urban transit [Infc];
- Strategic Assessment of Climate Change — \$3 million over three years to establish an expert panel; [ECCC, IAAC]
- Ensuring that Budget 2020 Reflects the True Costs of Climate Change — \$2 million over two years; [ECCC]
- Sustainable Finance report [Finance, NRCan, ISED, ECCC, Infc]
- Just Transition for Canadian Energy Workers and Communities [ECCC, NRCan, ISED & ESDC]

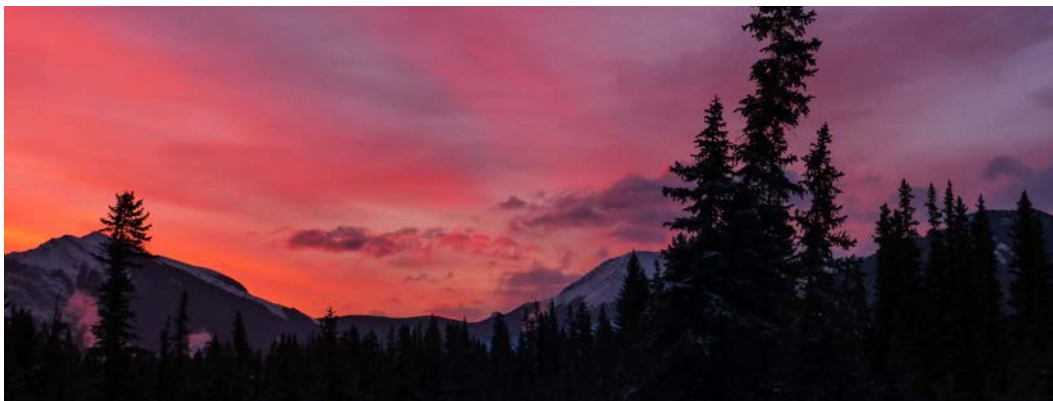


Photo: Kym MacKinnon

Background and Rationale

Canadians recognize the importance of this moment in history. A recent Abacus Data poll shows that 82% of Canadians are seriously concerned about climate change and confirms that a strong majority are ready for bold and ambitious climate policies.²

Last fall, the UN's International Panel on Climate Change laid out the irreversible global impacts that we should expect as the planet warms to 1.5 degrees and 2 degrees above pre-industrial temperatures.³ The world's leading scientists said nations have 12 years to reduce global emissions by 45% to avoid disastrous impacts.

Canada is warming at twice the rate of the rest of the world⁴ and the stability and security of our country depends on the global community reducing net greenhouse-gas emissions to zero by 2050.

Furthermore, the UN's first comprehensive report on biodiversity,⁵ published in May 2019, identifies climate change as one of the leading causes of mass extinction threatening one million species of plants and animals worldwide.

Canada must take a leading role in responding to these challenges. Now is the time for bold and meaningful action to address the climate emergency.

Scaled-up action will create hundreds of thousands of new well-paying jobs. Funding targeted programs to train and assist workers who will be affected by the shift to a zero-carbon economy will help ensure a just transition.

Nature-based solutions will strengthen the resilience of Canada's natural ecosystems, while reducing emissions and mitigating biodiversity loss.

Canada signed the Paris Agreement and developed the Pan-Canadian Framework on Climate Change and Clean Growth — a historic climate strategy.

But despite these unprecedented steps, much remains to be done. The gap between Canada's expected reductions and our Paris target continues to widen, and the target is insufficient to meet the objectives of the Paris Agreement to limit warming to below 2 degrees.

Canada must reduce its dependence on fossil fuels to secure a climate-safe future. We need to take science seriously and implement ambitious measures to get Canada on a low carbon trajectory by 2030 and to reach net zero carbon by 2050.

² <https://abacusdata.ca/wp-content/uploads/2019/08/Climate-Emergency-Polling-July-2019-RELEASE.pdf>

³ https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf

⁴ <https://changingclimate.ca/CCCR2019/>

⁵ The media release and summary report are available at the following links: https://www.dropbox.com/sh/yd8l2v0u4jqptp3/AAAI0_fXnTjXP1LarvqW3sA1a/20190504%20IPBES7%20Media%20Release%20Global%20Assessment%20Final%20Errata2%20ENG.pdf?dl=0 and <https://www.dropbox.com/sh/yd8l2v0u4jqptp3/AACpraYjOYWpTxAfv5H-2vrKa/1%20Global%20Assessment%20Summary%20for%20Policymakers?dl=0&preview=Summary+for+Policymakers+IPBES+Global+Assessment.pdf>



Photo: Ampersand Creative

Phasing out Fossil Fuel Subsidies and Non-Tax Support

In 2009, as part of the G20, the federal government first committed to phasing out inefficient fossil fuel subsidies,⁶ recognizing that these subsidies undermine efforts to address climate change, encourage wasteful consumption, and impede adoption of clean energy. Exactly ten years later, little progress has been made.

Among the G7, Canada remains the largest provider of subsidies to oil and gas production per unit of GDP. The federal government continues to introduce new subsidies. For example, in the 2019 federal budget, the government introduced a new subsidy: \$100 million to oil and gas companies to improve their environmental performance,⁷ something that could be accomplished by regulating best practices. That followed an announcement in December 2018 of \$1.6 billion in new grants, loans and financial supports for oil and gas companies.⁸ Meanwhile, unsuccessful exploration expenses can still be deducted from business income, and exploration and development expenses for fossil fuels can still be renounced as flow-through shares.

In April 2019, Canada's Commissioner of the Environment and Sustainable Development found that Finance Canada and ECCC have not provided the necessary information and advice to government to ensure that it can meet its G20 commitments. The Commissioner criticized both departments for failing

⁶ <http://www.g20.utoronto.ca/2009/2009communique0925.html>.

⁷ <https://www.budget.gc.ca/2019/docs/plan/chap-02-en.html>

⁸ <https://www.canada.ca/en/natural-resources-canada/news/2018/12/government-of-canada-announces-support-for-workers-in-canadas-oil-and-gas-sector.html>



Photo: Gab Pili

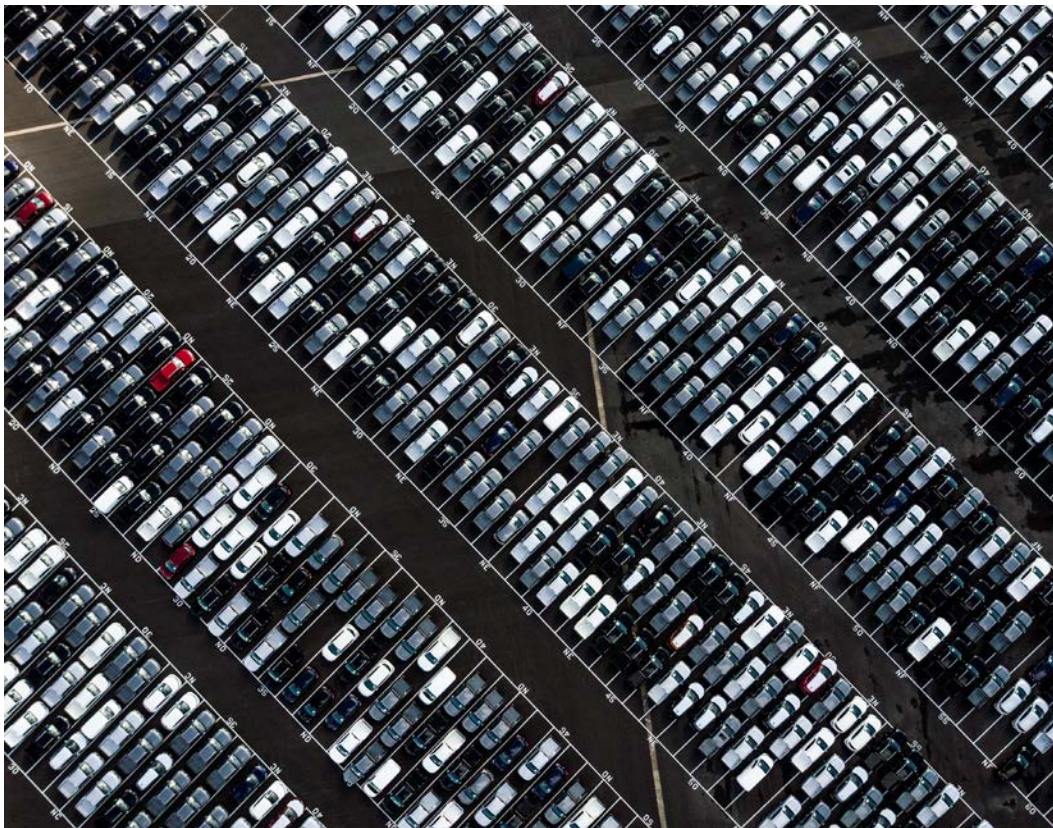


Photo: Ryan Searle

Photo: Brad Neathery



to clearly define what an inefficient subsidy is and for incomplete inventories of what was analyzed by each department. Neither department has developed an implementation plan with timelines to support a phase-out by 2025.

Crown corporation Export Development Canada (EDC), Canada's official export credit agency, continues to provide on average over \$10 billion in government-backed support for oil and gas companies every year. Up to 30% of EDC's support for oil and gas is aimed at financing the domestic operations of Canadian companies, rather than fulfilling EDC's original mandate of export-focused international finance. Between 2012 and 2017, EDC provided twelve times more support for oil and gas than it did for clean technologies. Underwritten by Canadian taxpayers, EDC's financing is are make-or-break support for many fossil fuel businesses and large oil and gas projects.

There continues to be a lack of transparency around the financial aspects of the Trans Mountain pipeline expansion. The Green Budget Coalition is concerned that there will be a subsidized element of the sale, such as the government's commitment to indemnifying TMX or the possibility that the newly-acquired assets could be sold for an amount that is below market value.

The Green Budget Coalition calls on the Government of Canada to:

1. Legislate a timeline for the phase-out of remaining tax deductions for fossil fuel exploration and production as well as other non-tax supports to the fossil fuel industry. [Finance, NRCan]

2. Disclose costs of all federal direct spending and the value of annual tax deductions claimed for exploration, development and production of coal, oil and natural gas, including costs associated with the Trans Mountain pipeline expansion; and provide this information to the Parliamentary Budget Office. [Finance]
3. Proceed with a transparent, credible, and timely peer review of Canada's fossil fuel subsidies with Argentina in 2019. [Finance, ECCC, NRCan]
4. Commit to not introduce new subsidies for fossil fuels, which includes not spending additional funds on the expansion of the Trans Mountain pipeline. [Finance]
5. Commit to ending Export Development Canada's financing and support for fossil fuels by 2020 and ensure their climate change policy aligns its investments with Canada's climate commitments. [GAC]

Costs: Very Low. Annual savings of several hundred million dollars.

Contacts

Julia Levin – jlevin@environmentaldefence.ca

Vanessa Corkal – vcorkal@iisd.ca



Photo: Terra Firma

Buildings and Energy Efficiency

Canada's buildings sector contributed about 17% of national GHG emissions in 2017.⁹ The government's climate action plan contains a series of measures to tackle these emissions, and requires all new construction to be Net Zero Energy or Net Zero Energy Ready.

However, while new construction is important, the most significant emissions reductions can be achieved by retrofitting existing buildings. For example, in British Columbia it is estimated that code requirements for new buildings will account for only a third of the building-related emission reductions needed by 2050.¹⁰

Despite high interest from many provinces, organizations and individuals to complete retrofits, there are two key barriers: the lack of financing and lack of sufficiently trained workers.

Building financing initiatives

Financing tools are needed to mobilize private capital and to mainstream energy efficient and low carbon building techniques. Many departments, including Infrastructure Canada, CMHC and NRCan have a role to play in providing the mechanisms that will enable the retrofit economy to scale at the pace needed to meet our decarbonization targets. Options meriting consideration include loan guarantees, dedicated Canada Infrastructure Bank funding, a national green bank, a regional green bank network, and Low Carbon Cities Canada (LC3) involvement. The GBC encourages consideration of the recommendations from the Expert Panel on Sustainable Finance for accelerating the development of a vibrant private building retrofit market.¹¹ [Inf, Finance, NRCan, ECCC, CMHC]

Workforce Development

Progress in the low carbon building industry is hindered by the lack of professionals trained in building science and energy efficiency. Without a skilled workforce, the cost of building energy efficient measures is cost prohibitive¹² and the quality of builds done to meet newly-introduced codes is at risk.¹³ Training is required not only for those currently in the industry, but for the over 118,000 new jobs that will be created through retrofits and the Net Zero Energy Building

9 Environment and Climate Change Canada (2019) National Inventory Report 1990-2017: Greenhouse Gas Sources and Sinks in Canada.

10 T.-P. Frappé-Sénéclauze, D. Heerema and K. Tam Wu, Deep emissions reduction in the existing building stock: Key elements of a retrofit strategy for B.C. (Pembina Institute, 2017). <http://www.pembina.org/pub/building-retrofits>

11 http://publications.gc.ca/collections/collection_2019/eccc/En4-350-2-2019-eng.pdf

12 Efficiency Canada (2018). Building a competitive economy through energy efficiency. https://www.efficiencycanada.org/wp-content/uploads/2018/10/EC-Budget-2019-Proposal_VF-updated.pdf

13 Canada Green Building Council (2019). Trading Up: Equipping Ontario Trades with the Skills of the Future. <https://www.cagbc.org/tradingup>



Photo: Illia Cherednychko

Code.¹⁴ This includes contractors, tradespeople, building inspectors, municipal officials, designers, engineers, architects, builders, building operators and managers. Training for all the jobs associated with the building industry will need to be ongoing over the next decade and beyond as technologies and practices change.¹⁵

The Green Budget Coalition recommends that the Government of Canada build on its progress in this area by accelerating progress on retrofits, supporting job creation, and training this much-needed workforce.

Recommended Investment: \$200 million over three years for training for Canada's low-carbon building workforce. [ESDC]

Contact

David Stonham – efficiency@ecologyaction.ca

¹⁴ Dunsky Energy Consulting (2018). Economic impact of improved energy efficiency in Canada. Produced for Clean Energy Canada. <https://www.energycanada.org/wp-content/uploads/2018/04/Economic-Impact-of-Pan-Canadian-Framework-Energy-Efficiency.pdf>

¹⁵ Canada Home Building Association (2018). "Environmental Scan of the Residential Construction Industry for Capacity Building Related to Energy in the Building Codes". Prepared for the Housing Division of the Office of Energy Efficiency, Natural Resources Canada.

Transportation — Accelerating the de-carbonization of heavy-duty vehicles

Freight trucks accounted for 34% of total Canadian transportation GHG emissions in 2017.¹⁶ With truck activity increasing and fewer vehicle efficiency gains compared to light vehicles, emissions from freight are expected to surpass those from passenger movement by about 2030 in Canada.¹⁷ Canada is making progress towards the de-carbonization of transportation, but much more remains to be done. The following recommended investments would build on the existing Electric Vehicle and Alternative Fuel Infrastructure Deployment Initiative (EVAFIDI) and Budget 2019's proposed tax incentives for business purchases of zero-emission light-, medium- and heavy- duty vehicles.¹⁸

Recommended Investments: [Transport Canada]

1. Establish financial incentives for fuel saving devices on heavy-duty trucks: **\$200 million over five years (2020-2024).**
2. Establish new financial incentives to support Canadian transit agencies in purchasing zero-emissions buses: **\$85 million in 2020.**

To make the most efficient use of current and future government resources, the Green Budget Coalition also recommends that Transport Canada:

- Assess the Canadian trailer and retrofit market to determine any cost premiums that may apply to domestic fleets should Canadian and U.S. rules with respect to trailers diverge. **\$1.5 million**

Please see also, later in this document, complementary recommendations on funding zero emission vehicle rebates and urban transit.

Contacts

Isabelle Turcotte – isabellet@pembina.org

Patricia Lightburn – plightburn@davidsuzuki.org

¹⁶ Environment and Climate Change Canada, "Transportation sector greenhouse gas emissions, Canada, 1990 to 2017," spreadsheet, May 2019. <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html>

¹⁷ Bora Plumptre, Eli Angen and Dianne Zimmerman, *The State of Freight: Understanding greenhouse gas emissions from goods movement in Canada* [Pembina Institute, 2017]. <https://www.pembina.org/reports/state-of-freight-report.pdf>

¹⁸ Government of Canada, Investing in the Middle Class: Budget 2019 (2019), 82. <https://www.budget.gc.ca/2019/docs/plan/budget-2019-en.pdf>

Community Energy

Canada and the world are undergoing a major transition to economies based on renewable energy and decentralized electricity generation. The Green Budget Coalition recommends the federal government invest in and support communities as they take part in this transition. Community renewable energy leads to secure, local jobs and new skill-building opportunities for our workforce, economic and energy diversification, increased energy price certainty, and increased local resiliency. As urban and rural communities experience these benefits, cross-country support for renewable energy, climate change initiatives, and a low-carbon economy will grow.

Community renewable energy projects are typically located within or near the community and involve some local investment or ownership by local public utilities, co-operatives, Indigenous communities or community development funds. There is a large untapped opportunity to mobilize local savings to invest in clean energy, as investments by citizens in community-owned energy in Canada and around the world has already shown.¹⁹

The federal government can play a key role in leveraging and unlocking capital to finance community renewable energy and support innovative new business models, building on the Low Carbon Cities Canada (LC3)²⁰ program. Federal investments could leverage several billion dollars in community capital investment, as indicated by the successes of existing community cooperatives.

¹⁹ See for example: <https://www.cleanenergywire.org/factsheets/citizens-participation-energiewende>, and http://www.trec.on.ca/wp-content/uploads/2016/06/TREC_Primer_Jun28_Approved_Final-LR.pdf
²⁰ <http://lc3.ca>

Photo: David Dodge of @GreenEnergyFutures



Recommended Investment: \$178 million over five years

1. Promote community investment options for individual citizens, such as co-operative business models.
\$10 million over five years [NRCan, Finance, ISED]
2. Expand the Low Carbon Economy Fund to provide funding for feasibility studies for communities to assess renewable energy options.
\$9 million over three years [ECCC, NRCan]
3. Implement a second round of the federal Smart Grid program²¹ focusing on deployment of community renewable energy technologies such as community-scale storage and virtual net metering for community solar.
\$100 million over five years [NRCan]
4. Support development of tools that new community energy enterprises need:
\$9 million over three years. [ISED, NRCan, Finance] These tools include:
 - a. Guidance on how to raise community capital, including (RRSP and TFSA eligible) community bonds and preference share sales;
 - b. Templates for Power Purchase Agreements (PPAs) for the sale of clean energy from community energy projects to individual customers; and
 - c. Virtual net metering protocols for the marketing and sale of clean energy from community sources to multiple customers.
5. Fund targeted federal programs to establish community energy programs in low-income and vulnerable communities.
\$50 million over five years [NRCan]

Contacts

Stephen Hazell – shazell@naturecanada.ca

Patricia Lightburn – plightburn@davidsuzuki.org

²¹ <https://www.nrcan.gc.ca/energy/science/programs-funding/19793>

International Climate Financing

Canada and other industrialized countries committed in the Paris Agreement to mobilizing USD 100 billion per year to help developing countries adapt to climate change and undertake low-carbon development. So far, the bulk of Canada's funding has gone toward technological approaches to mitigation, such as clean energy and renewables, and adaptation measures that do not necessarily provide mitigation benefits. To better support climate mitigation and adaptation in developing countries, the GBC recommends that Canada increase its contribution to an amount in line with our share of anthropogenic greenhouse gases, and direct at least half of this for nature-based solutions, which involve sequestering carbon in natural ecosystems and avoiding emissions from the loss and degradation of natural ecosystems. Nature-based solutions (NBS) are cross-cutting, addressing climate mitigation and adaptation while advancing biodiversity conservation and providing benefits to local communities and Indigenous people. They thus help fulfill Canada's goal of providing financial resources that achieve a balance between adaptation and mitigation, while also helping developing countries with biodiversity conservation (Convention on Biological Diversity) and Sustainable Development Goals.

Avoiding catastrophic climate change will require both aggressive reduction of GHG emissions and negative emissions measures (removing CO₂ from the atmosphere). Nature-based solutions can help the world achieve 37% of the Paris Agreement target (to limit global temperature rise to well below 2°C) through 2030.²² No existing negative emissions technologies offer the scale or cost needed.

²² Griscom et al. (2017) Natural Climate Solutions. Proceedings of the National Academy of Sciences, 114 (44) 11645-11650; DOI: 10.1073/pnas.1710465114



Photo: Eric Gofreed



Photo: Anand Varma

In applying nature-based solutions, the priority actions are to: (1) avoid tropical deforestation and the loss or degradation of coastal ecosystems and peatlands; and (2) restore or allow regeneration of degraded forests, peatlands, and coastal ecosystems. Options include: bilateral agreements with select developing countries, results-based REDD+ payments, and conservation partnerships with Indigenous people (as being pursued within Canada). Further contributions to the Green Climate Fund or Least Developed Countries Fund could be helpful only if they are determined to be cost effective and can be implemented without delay.

Recommended Investment (with suggested new revenue sources): **Annual funding of at least \$2.9 billion from 2020-21 to 2025-2026.**²³ [GAC]

This is the minimum that would constitute Canada's fair share, which is considered to be 3 – 4% of the USD 100 billion per year committed by industrialized countries under the Paris Agreement.²⁴ One option is to generate this funding through a levy on bunker fuels used in international aviation and/or marine shipping.²⁵ [Finance]

Carbon Benefit: Applying these recommendations (at a cost of USD 5/t CO₂ from readily available low-cost NBS initiatives) would reduce global CO₂ emissions by 217 megatonnes — equal to 30% of Canada's total annual greenhouse gas emissions.

For much more detail on the nature-based solutions aspect of this recommendation, please see: <http://greenbudget.ca/2020finance>

Contacts

Anne Lambert – anne@icfcanada.org

Dale Marshall – dmarshall@environmentaldefence.ca

²³ This amount is based on a US-Canada exchange rate of 0.75, and the assumption that public financing will leverage private sector funds to increase Canada's contribution by 38%.

²⁴ Demerse, Clare. (2009). "Our Fair Share: Canada's Role in Supporting Global Climate Solutions." Pembina Institute. <https://www.pembina.org/reports/our-fair-share-report.pdf>

²⁵ For more GBC advice on potential sources of revenue, please see the Green Budget Coalition's feature recommendation for Budget 2018 on International Climate Financing, <http://greenbudget.ca/wp-content/uploads/2017/09/GBC-Climate-Financing-2018.pdf> (pages 35-36).

Nature-Based Solutions in Canada

Canada's vast forests, grasslands, oceans and wetlands — our natural infrastructure — are very important in relation to climate change. These ecosystems generate GHG emissions when lost or degraded and, conversely, sequester carbon when they recover or are restored. They also can help communities be more resilient to the effects of climate change. The Pan-Canadian Framework on Clean Growth and Climate Change noted the importance of strategies to harness the potential of forests, wetlands, and soils to combat the climate challenge. Environment ministers across Canada have also noted the need to address the biodiversity crisis and have made the link between these two issues.

To make progress on both the climate and biodiversity issues, the GBC recommends that Canada start a Nature-Based Climate Solutions Fund, to support actions that reduce land sector²⁶ emissions, sequester carbon or furnish climate adaptation benefits, while also benefiting biodiversity conservation. The GBC recommends that this fund: complement the Nature Fund, the Green Infrastructure Fund, and the Disaster Mitigation and Adaptation Fund; be able to generate an additional emission reductions of 20 Mt CO₂ eq beyond those projected in Canada's 2018 GHG emission projections; and generate information needed to regulate such emissions in the future. Co-benefits would include improving water, air and soil quality, providing and protecting habitat for wildlife, creating recreational green spaces, and providing employment opportunities in rural communities. Investments are also required in the science and information needed to improve GHG accounting methodologies for assessing ecosystem emissions and the potential of different mitigation options.

Recommended Investment: \$1 billion over four years (2020-2024) [ECCC]

For more details on the Nature-based Climate Solutions Fund, please see https://cpaws.org/wp-content/uploads/2018/02/CPAWS-Nature-Based-Climate-Fund-Recommendation_8_26_Final.pdf, or

Contact

Florence Daviet - fdaviet@cpaws.org



Photo: Neal Rosenstech

²⁶ "Land sector" denotes land use, land use change and forestry (LULUCF), which includes agriculture.

Marine Shipping – Reducing Climate Impacts and Spill Risks

The shipping industry is one of the world's largest sources of GHG emissions, with local and global climate impacts.

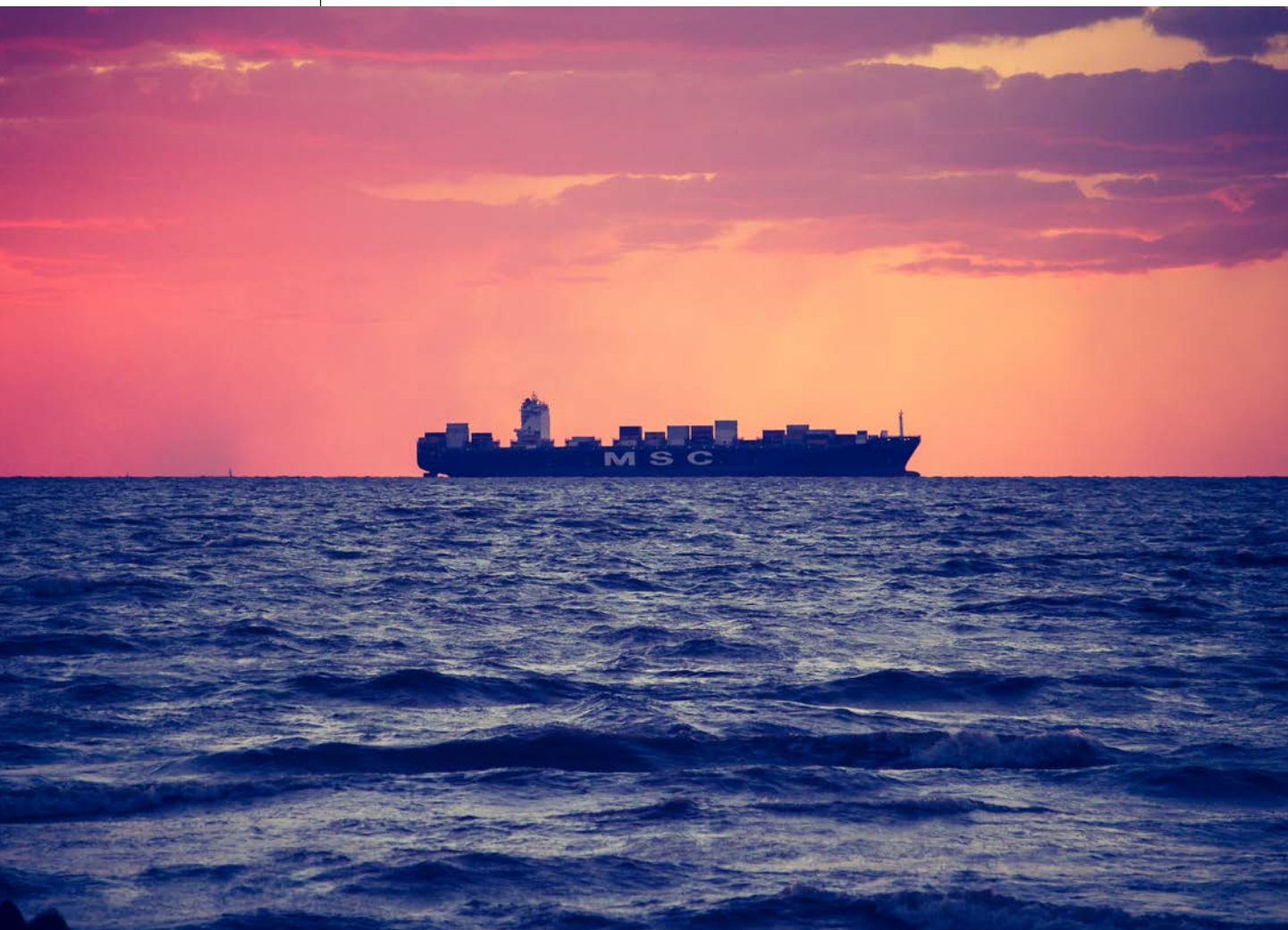
Yet, Canada's climate plan does not currently address the shipping industry.

Heavy Fuel Oil (HFO), a dirty and polluting fossil fuel, accounts for 80% of marine fuel used worldwide. If spilled in cold polar waters, it breaks down slowly, persisting for weeks and often longer. An Arctic HFO spill would have long-term devastating effects on Indigenous communities, livelihoods and the marine ecosystems they depend upon. Lack of spill-response capacity and equipment in the Arctic would make clean-up almost impossible.

Furthermore, ships emit black carbon (soot), when they burn HFO. Black carbon deposition on Arctic sea ice increases local warming and can also negatively affect human health.

Lighter, less-polluting fuels can replace HFO, and recent advances in motor technology and alternative fuels even make it possible to operate zero-emissions vessels on shorter routes.

Photo: Thais Morais



Recommended Investments:

- **\$15 million over two years** for Transport Canada [with ECCC & DFO] to:
 - Develop a policy instrument to include domestic shipping in the Canadian carbon pricing system; (*See also Carbon Pricing, later in this document*)
 - Develop a national strategy to reduce black carbon emissions and air pollution from Canada’s shipping industry (not only of CO₂, but also particulate matter, nitrous oxide, sulfur oxide, and methane);
 - Review and publish the lifetime carbon costs of fuel for government-procured ships; and
 - Develop a national speed reduction regime for maritime shipping. Reducing the speed of marine vessels lowers the chances of ship strikes on marine mammals and reduces GHG emissions and underwater noise.
- **\$20 million over two years** for R&D and sea trials to achieve 100% zero emission vessels in Canadian inland waters by 2030 [Transport Canada, NRCan].
- **\$5 million over two years** towards a GHG reduction innovation fund to design, retrofit and test emerging technologies such as wind-assist, rigid solar sails, and hull appendages, that save fuel and reduce GHGs and other pollutants [Transport Canada].
- **\$15 million over five years**, starting in 2021 (when an international ban on HFO is in place), for an Arctic shipping fuels transition fund to support the phase-out of HFO while preventing prohibitive price increases in communities that rely on shipped goods [Transport Canada, ECCC].

Contact

Andrew Dumbrille – adumbrille@wwfcanada.org

COMPLEMENTARY RECOMMENDATIONS

CARBON PRICING – IMPROVING ITS EFFECTIVENESS

The federal price on carbon pollution will reduce GHG emissions by 50 to 60 MT by 2022, and help the Canadian economy tap into the USD 26 trillion global cleantech market.²⁷

Provinces and territories were encouraged to develop their own system that meets established criteria, or be subject to a federal backstop. The backstop consists of a fuel charge to provide a consistent market signal to consumers to lower their emissions and an output-based pricing system (OBPS) to ensure Canada's emissions intensive and trade-exposed (EITE) industries reduce emissions, while limiting the risks of competitive disadvantage and emissions leakage.

The 2020 mid-term review of the Pan-Canadian Framework on Clean Growth and Climate Change (PCF) will assess the overall approach to pricing pollution and best practices to address the competitiveness of EITE sectors. ECCC needs adequate resources to perform this review and make any necessary adjustments.

²⁷ The New Climate Economy, The 2018 Report of the Global Commission on The Economy and Climate, <https://newclimateeconomy.report/2018/>

Additionally, the Green Budget Coalition recommends investments in research and expert analysis to support expanding the scope of the federal carbon pricing system beyond combustion and industrial emissions to include ecosystem emissions associated human activity — e.g., land use change and land degradation.

Recommended Investments [ECCC]:

\$5 million for mid-term review to address competitiveness

\$1.5 million for increasing scope of carbon pricing system

For much more detail on the GBC's advice for improving the carbon pricing system, please see www.greenbudget.ca/2020carbonpricing

Please see also, earlier in this document, Nature-Based Solutions and Marine Shipping - Reducing Climate Impacts and Spill Risks.

Contacts

Isabelle Turcotte – Isabellet@pembina.org

Florence Daviet – fdaviet@cpaws.org



Photo: Brian Holdsworth

CLEAN FUEL STANDARD – INCREASING BENEFITS

A budget strategy for clean fuels

ECCC has developed a proposal for a Clean Fuel Standard (CFS), a performance-based regulatory approach to progressively improve the carbon intensity of fuels across the Canadian economy. Representing 14% of total emissions to be reduced by 2030, the CFS is the most significant measure in the Pan-Canadian Framework for Clean Growth and Climate Change (PCF). Moreover, the CFS establishes a new foundation for competitiveness in domestic fuel markets. Government support can help catalyze clean innovation and the scale-up of industrial economies based on renewable and low-carbon fuels to support the successful implementation of the CFS.

ECCC also requires additional resources to study the effects of indirect land use change (ILUC) on the lifecycle carbon intensity values of different fuel types in the Canadian context. This work would complement Canada's international leadership role in advancing the Sustainable Biofuels Innovation Challenge (part of Mission Innovation). More importantly, it would prepare ECCC to fully account for ILUC in CFS.

Recommended Investment:

\$15 million over five years to promote innovation [NRCan] and to ensure indirect land use changes are appropriately integrated in the policy design [ECCC]

For further details on this recommendation, please see www.greenbudget.ca/2020cfs

Contact

Isabelle Turcotte – Isabellet@pembina.org

TRANSPORTATION

Zero Emission Vehicles (ZEVs)

Electric vehicles can dramatically lower emissions from cars and light trucks, which generate 11% of Canada's carbon pollution. Regulated ZEV sales targets, along with financial support for purchasing ZEV vehicles and charging infrastructure, are the most effective way to accelerate adoption. Budget 2019 provided \$300 million for a three-year purchase incentive program (iZEV), and other complementary measures. However, based on the iZEV program's initial months, it could run out of funding in 2020, and require additional funding to fulfill its mandate.²⁸

Recommended Investment: \$150 million top-up to Transport Canada's iZEV incentive program, in 2020-21, along with regulated sales targets.

Contact

Patricia Lightburn - plightburn@davidsuzuki.org



Photo: Matt Henry

²⁸ In the iZEV program's initial three months, Transport Canada received more than 14,000 incentive requests. "Sale of zero-emission vehicles jump after launch of federal incentive program." Transport Canada News Release, August 1, 2019.

<https://www.canada.ca/en/transport-canada/news/2019/07/sale-of-zero-emission-vehicles-jump-after-launch-of-federal-incentive-program.html>

TRANSPORTATION

Urban Transit

Modernizing and expanding public transit infrastructure and service is critical to reducing Canadians' use of their personal vehicles and increasing transit ridership, and in turn reducing emissions from the transportation sector.

Federal funding for public transit infrastructure through the Gas Tax Fund and programs such as the Public Transit Infrastructure Fund and Investing in Canada Infrastructure Program's Public Transit Stream are playing an important role in enhancing and expanding transit infrastructure and increasing transit ridership. The **GBC recommends providing long-term sustained funding** beyond the 12-year Investing in Canada plan, to enable the necessary planning work required by governments and agencies to improve transit systems, and also **recommends that the federal government help fund the operational costs of public transit** to improve service delivery. [Infrc]

Please see also, earlier in this document, the Transportation recommendation for funding to support purchase of zero-emission buses.

Contact

Carolyn Kim – carolynk@pembina.org

THE STRATEGIC ASSESSMENT OF CLIMATE CHANGE

The Strategic Assessment of Climate Change (SACC), announced by ECCC in February 2018,²⁹ is intended to provide guidance on how environmental laws, policies and regulations associated with greenhouse gas reduction and Canada's climate change commitments should be considered as part of the project impact assessment process.

A robust SACC must provide a decision-making framework to evaluate individual projects in light of their complete lifecycle GHG emissions. Unfortunately, the draft SACC released by ECCC in August 2019 does not meet this standard.³⁰ The Green Budget Coalition recommends that ECCC establish and support a balanced and independent expert advisory panel to develop a SACC that aligns Canada's decision-making on energy and industrial projects with deep decarbonization by mid-century and ensures emissions are allocated in a rational, transparent, and fair manner.

Recommended Investment: \$3 million over three years [ECCC]

Please see also Collaborating on Regional-Scale Environmental Governance, later in this document, regarding regional and strategic assessments.

Contacts

Isabelle Turcotte – isabellet@pembina.org

Julia Levin – jlevin@environmentaldefence.ca

²⁹ <https://www.strategicassessmentclimatechange.ca/>

³⁰ <https://www.strategicassessmentclimatechange.ca/9529/documents/17911>



Photo: Aditya Chinchure

ENSURING THAT BUDGET 2020 REFLECTS THE TRUE COSTS OF CLIMATE CHANGE

Federal budgets to date have failed to consider, or have underestimated, the cost implications of climate change and failed to examine how the government should pay for these increased costs.

For example, Budget 2019 includes \$130 million per year for the Disaster Financial Assistance Arrangements, far less than the Parliamentary Budget Officer's estimate that this program will cost \$902 million per year from 2016-2020.³¹

In addition to estimating current and future budgetary needs associated with climate change, Canada must enable transparent decision-making regarding keeping these costs manageable, including through investments in GHG mitigation, climate adaptation, and cost-recovery from corporations and individuals that

³¹ http://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2016/DFAA/DFAA_EN.pdf

benefit financially from fossil fuel production and use.

Recommended Investment: \$2 million over two years (2020-22) to ECCC to:

- Work with each federal department to identify and quantify the budgetary implications of Canada's Changing Climate,³² to ensure that those implications are incorporated into, and clearly identified in, the federal budget, starting with Budget 2021; and
- Explore opportunities to recover climate costs from polluters.

Contact

Andrew Gage – agage@wcel.org

³² <https://www.nrcan.gc.ca/maps-tools-and-publications/publications/climate-change-publications/canada-changing-climate-reports/canadas-changing-climate-report/21177>

Photo: Matt Howard



SUSTAINABLE FINANCE REPORT

The GBC acknowledges the importance of the June 2019 Final Report of the Expert Panel on Sustainable Finance³³ which provides a blueprint for integrating sustainability into the financial sector and financing the transition to a clean economy.

The Expert Panel calls for recognition of the economic opportunity presented by the transition to a “competitive low-emissions, climate-smart economy”. This would be guided by a detailed capital plan aligned with Canada’s long-term climate change plans.

The Panel also recognizes the opportunity for targeted tax incentives to drive private investment into clean innovation to embolden Canadians toward climate-aligned investments. The GBC’s recommendations on community energy represent a concrete approach to realize this opportunity.

The Panel recommends creating and strengthening financial sector institutions to help integrate climate considerations throughout the sector. The Panel also recommends a focus on products to finance clean innovation in priority areas of the economy, including clean technology, oil and gas, buildings, and electricity. The **GBC recommends that the federal government, especially Finance Canada, give the Panel’s report the most serious consideration**, while not establishing additional subsidies for fossil fuels [Finance, NRCan, ISED, ECCC, Infc].

Please see also GBC recommendations on Buildings and Energy Efficiency, Community Energy, and Fossil Fuel Subsidies, earlier in this document.

Contact

Stephen Hazell – shazell@naturecanada.ca

³³ http://publications.gc.ca/collections/collection_2019/eccc/En4-350-2-2019-eng.pdf

JUST TRANSITION FOR CANADIAN ENERGY WORKERS AND COMMUNITIES

The GBC notes the important final report from the Task Force on Just Transition for Canadian Coal Workers and Communities.³⁴ It outlines ten practical, achievable recommendations to support the transition of coal workers and communities by prioritizing local involvement and decision-making.

Embedding just transition in Canada’s budget and climate policy will set a strong precedent for worker transition as we move to a low-carbon economy. Providing tangible support to affected communities will also increase public support for complementary climate policies at the federal level.

The GBC encourages the federal government [ECCC, NRCan, ISED & ESDC] to:

- Provide further details on the \$35 million over five years announced for the Canada Coal Transition Initiative in 2018;
- Implement the Task Force’s full suite of recommendations; and
- Identify opportunities in Budget 2020 and beyond to scale up just transition funding for all energy workers and the communities that rely on these industries.

Contacts

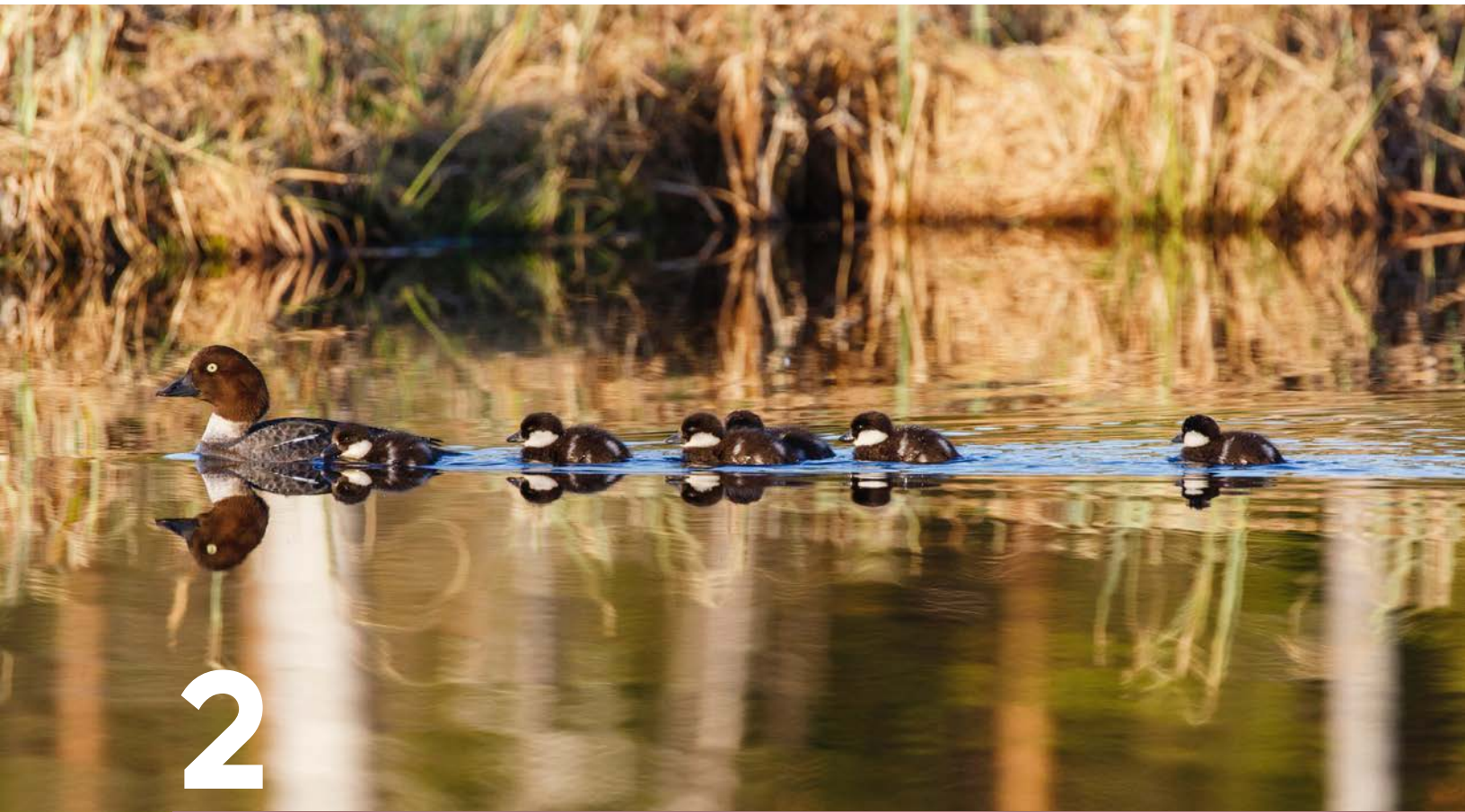
Vanessa Corkal – vcorkal@iisd.ca

Julia Levin – jlevin@environmentaldefence.ca



Photo: Max Larochelle

³⁴ <https://www.canada.ca/en/environment-climate-change/services/climate-change/task-force-just-transition/final-report.html>



2

NATURE CONSERVATION

A Truly Canadian Solution to
Wildlife Loss and Climate Change

Canada, with 30% of the world's boreal forest, 20% of the world's freshwater resources, the world's longest coastline, and one of the largest marine territories, has a unique opportunity — and responsibility — to protect its expansive wilderness not just for Canadians but for the overall health of the planet. This requires continued investment in nature with a focus not just on the next government mandate, but for the foreseeable future.

Photo: Zdenek Machacek

The Green Budget Coalition recommends implementing the following recommendations (*detailed in the subsequent pages*):

- 1. Protecting Public Lands** — Investing in conservation & protected areas: [ECCC, Parks Canada]
 - a. To achieve 17% protection of land and freshwater by 2020 — \$467 million in 2020-21;
 - b. To protect 30% of land and freshwater by 2030 — \$963 million over 2021-24, and \$2.15 billion over 2024-2030;
 - c. Ongoing protected area management — \$64 million in 2020-21, \$197 million over 2021-24, and \$415 million over 2024-2030;
- 2. Protecting Private Lands**, \$10 million in 2020-21 for North American Waterfowl Management Plan; and \$40 million over four years for management and stewardship. [ECCC]
- 3. Restoring Terrestrial Habitat:**
 - a. Wetlands: \$50 million per year over five years, matched by non-federal government funding. [ECCC]
 - b. Grasslands: \$20 million per year for five years (2020-2025), matched by non-federal government funding. [ECCC]
- 4. Oceans:**
 - a. Marine spatial planning: \$188 million in 2020-2021, \$706 million over 2021-2025, \$72 million per year, ongoing thereafter [DFO, ECCC, Parks Canada]
 - b. Rebuild and enhance fisheries stock assessment — \$175 million over five years [DFO]
 - c. Enhancing capacity to implement Species at Risk Act requirements — \$125 million over five years [DFO]
 - d. Sustainable Aquaculture Program — \$125 million over five years [DFO]
- 5. Conserving Canada's Birds Across Their Year-Round Range:**
 - a. International habitat: \$20 million over four years; [ECCC, GAC]
 - b. Science, conservation, and *Species at Risk Act*: \$34 million over four years; [ECCC]

Complementary Recommendations:

- Building a World-Class Freshwater Monitoring Framework: \$100 million over five years [ECCC]
- National Wildlife Collision Reporting System: \$4.5 million over three years [TC, ECCC]



Photo: Kalen Emsley

Background and Rationale

Our planet is currently experiencing two environmental crises: the catastrophic loss of wildlife species around the world and climate change.

In May of 2019 the Intergovernmental Science Panel on Biodiversity and Ecosystem Services (IPBES) published a grim report showing that one million species around the globe are at risk of extinction, many within decades. This report concluded that the number one driver of this wildlife loss is changes in land and sea use — 75% of the world’s terrestrial environment and 66% of the world’s oceans have been “severely altered” to date by human activities. Said one author, “This loss is a direct result of human activity and constitutes a direct threat to human well-being in all regions of the world.”³⁵

Canada is not immune to either species loss or the impacts of climate change. Canada is facing species population declines at an alarming rate — half of Canada’s vertebrate species populations have declined by 83% since 1970.³⁶

If Canada is going to stop the degradation of nature that is leading to this dangerous decline in wildlife, we need to act now. For its recommendations for Budget 2020, the Green Budget Coalition is focusing its nature conservation recommendations on terrestrial protected areas, habitat restoration, oceans management, and range-wide migratory bird conservation, because this is what is needed to both reverse wildlife loss and allow us to mitigate and adapt to the negative impacts of climate change.

Conservation works. The recent IPBES report found a 29% reduction in the extinction risk for mammals and birds in 109 countries thanks to conservation investments between 1996 and 2008. However, unless transformative changes are implemented, the report indicates that current negative trends in nature — such as mass species extinction, land degradation, plastic pollution, and unsustainable harvesting — will continue beyond 2050.³⁷

35 <https://www.ipbes.net/news/Media-Release-Global-Assessment>

36 https://assets.wwf.ca/downloads/WEB_WWF_REPORT.pdf

37 <https://www.ipbes.net/news/Media-Release-Global-Assessment>

CONSERVATION AND PROTECTED AREAS

Protecting Public Lands

Canada's Chance to be a Conservation Leader

In 2010, Canada committed under the UN Convention on Biological Diversity (CBD) to protect at least 17% of our land and inland waters by 2020 and to improve the quality of our protected area networks. In the 2018 federal budget, Canada committed \$1.3 billion over five years (2018-2023) for nature conservation — the largest investment in nature in Canada's history, including a \$500 million Nature Fund.

Canada's commitments under the CBD and the Nature Fund are already positively impacting species at risk and the creation of new protected areas. Canada has rapidly created new marine protected areas since 2015 and has now protected more than 13% of its oceans. However, it is still lagging behind on terrestrial protected areas, with around 12% protection achieved.^{38,39}

Now, new targets are being negotiated for the CBD – and the global community is coming together with a call for ambitious action on nature conservation. The “Global Deal for Nature” is a growing movement of businesses, NGOs, and state parties to the CBD calling for 30% protection of land and ocean by 2030, on the way to 50% by 2050.⁴⁰ Now is Canada's chance to truly lead for conservation.

38 <https://www.canada.ca/en/environment-climate-change/news/2019/04/protecting-nature-across-canada.html>

39 As of April 2019, Canada was reporting 11.8% of Canada's land and freshwater protected. Since that time, new protected area announcements have increased the percentage; however, these have not been officially reported yet.

40 <https://www.globaldealornature.org/about/>

Photo: Davi Costa



With much of the world's remaining wilderness, Canada must assume the mantle of conservation leader. For public lands, the Green Budget Coalition recommends that the federal government:

1. Continue investment in conservation and protected areas to achieve 17% protection of land and freshwater by 2020;
2. Commit to protecting 30% of land and freshwater by 2030 and investing in achieving this target in this mandate; and
3. Make the investments necessary for ongoing management and stewardship of nature.

1) Continue to invest in conservation and protected areas to achieve 17% protection of land and freshwater by 2020

Canada is 90% publicly owned land, meaning that the responsibility for land management and responsible stewardship is shared among federal, provincial, territorial, and Indigenous governments. Thus, all levels of government must contribute to the effort to protect more land and freshwater. In southern Canada, private land dominates, and non-governmental land trusts play an important role in conserving land.

The Nature Fund has encouraged governments and communities across Canada to protect important spaces, but the job is not done yet. Continuing to expand Canada's network of protected areas will deliver important environmental, economic, social and cultural benefits to Canadians, including:

- Slowing wildlife loss by safeguarding habitat and establishing well connected ecological networks;
- Mitigating climate change by storing carbon and allowing species and ecosystem adaptation;⁴¹
- Providing clean drinking water and air;
- Preventing or reducing the severity of natural disasters (e.g., flooding and landslides);
- Supporting jobs and diversified economies in rural and remote communities;
- Delivering on the UN Sustainable Development Goals in Canada;
- Improving physical and mental health; and
- Connecting people with nature.

⁴¹ According to one study, Canada's national parks store approximately 4.43 billion tonnes of carbon, which is approximately 23 times the Canada's 2009 annual greenhouse gas emissions. <http://www.parks-parcs.ca/english/CPC%20Climate%20Change%20Report%20FINAL%20engLR.pdf>



Photo: Garrick Sangill

2) Commit to protecting 30% of land and freshwater by 2030 and invest in achieving this target

Canadians want Canada to lead on conservation. Polls show that public support for conservation and protected areas is high. One poll in 2017 found that 88% of Canadians support protected areas.⁴² A recent poll commissioned by the International Boreal Conservation Campaign found that there is near consensus among Canadians that conserving existing forests and wetlands will help combat climate change,⁴³ and 93% of Canadians agree or strongly agree that protected areas are necessary and that between 45% and 51% of Canada's land and sea should be protected.⁴⁴

The current political target of 17% protection for land and freshwater is a step in the right direction, but evidence shows that we will likely need to protect between 30% to 70% of different ecosystems in the long term.⁴⁵

42 Earnscliffe Strategy Group. 2017. National conservation survey. Earnscliffe Strategy Group, Vancouver, British Columbia [online]: Available from earncliffe.ca/wp-content/uploads/2017/11/National-Conservation-Survey.pdf

43 <https://www.borealconservation.org/stories-1/2018/1/22/64kyddlmm08y20pqb1ym2gv9l5312-gz6tt-gmgr3-9yh42-s8ks5-3rpxp-g279f-zbgmp-2mf9d-4w62n-j82fn-d6hg3-t6lse-47xlm-2czyf-nazgz-8c3sh-bbhpz-lghdh-y4c49-sa33f-ey4ph-mz45x>

44 Wright PA, Moghimehfar F, and Woodley A. 2019. Canadians' perspectives on how much space nature needs. *FACETS* 4: 91–104. doi:10.1139/facets-2018-0030

45 For example, Noss et al (2012) Bolder thinking for conservation, *Conservation Biology* 26(1): <http://onlinelibrary.wiley.com/doi/10.1111/j.1523-1739.2011.01738.x/full> ; E.O. Wilson (2016) *Half Earth: Our Planet's Fight for Life*. Liveright Publishing; <http://natureneedshalf.org/how-much-is-enough/> ; IUCN World Conservation Congress motion 053 <https://portals.iucn.org/library/sites/library/files/documents/IUCN-WCC-6th-005.pdf>

Photo: Matt Thomason



Photo: Ron Whitaker



Photo: Krista Kankula

3) Investing in Nature: Necessary Ongoing Investments in Protected Area Management

It is not enough to draw a line on a map and call it conservation. For conservation and protected areas to be effective, ongoing investments must be made in management and stewardship.

Recommended Investments [ECCC, Parks Canada] :

1. Continue to invest in conservation and protected areas to achieve 17% protection of land and freshwater by 2020 — **\$467 million in 2020-21**;
2. Commit to protecting 30% of land and freshwater by 2030 and invest in achieving this target — **\$963 million over 2021-24, and \$2.15 billion over 2024-2030**; and
3. Necessary ongoing investments in terrestrial protected area management — **\$64 million in 2020-21, \$197 million over 2021-24, and \$415 million over 2024-2030**.

Please see the summary table (page 70) for more details on the above funding recommendations, including specific annual amounts for federal, provincial/territorial, and Indigenous protected areas, respectively.

Contacts

Alison Ronson – aronson@cpaws.org

Gauri Sreenivasan – gsreenivasan@naturecanada.ca

Protecting Private Lands

All levels of government in Canada have a role to play in enhancing biodiversity, protecting species at risk, and conserving the landscapes that Canadians cherish. This includes private lands, which contain many of Canada's most important areas for biodiversity on our most threatened landscapes. Canada's land trust community supports the protection of these lands by engaging communities, donors, foundations, partners and volunteers to protect and manage lands across the country.

Governments have recognized the value of this work and have supported land trusts in expanding Canada's network of privately protected and conserved areas through successive commitments to supporting the North American Waterfowl Management Plan (NAWMP) and other matching programs like the Natural Areas Conservation Program (NACP), followed by its successor, the Natural Heritage Conservation Program (NHCP).

NAWMP, which has been regarded as one of the most successful habitat conservation partnerships in the world, directly contributes to Canada's Target 1 of 17% protection of land and freshwater by 2020. With half of the \$20 million NAWMP portion of the Canada Target 1 Challenge funding allocated in 2019, the GBC encourages the Government of Canada to commit to allocating the remaining \$10 million in Budget 2020 to drive progress towards Target 1.

Furthermore, recent increases in United States NAWMP investments allocated for habitat conservation in Canada provide a critical opportunity for the Government of Canada to leverage additional Canadian NAWMP investments and advance our progress towards meeting Target 1 by 2020. The GBC recommends a matching funds top-up investment in 2020-2021 to support NAWMP joint venture habitat securement priorities.

Photo: Ducks Unlimited





Photo: Darwin Chambers Ducks Unlimited

Recommended Investment: \$10 million in 2020-2021, matched by external funds from other NAWMP and Joint Venture partners. [ECCC]

Furthermore, while protecting intact functioning natural habitats is more cost effective than restoring lost or degraded ones, achieving net habitat gains requires restoring lost or degraded habitats as we continue to protect new ones. Although the NHCP will help to secure and manage additional lands, it does not provide funds for the ongoing management and stewardship of previously secured private lands, including those secured under the NACP. Inadequate land management, stewardship and conservation infrastructure funding jeopardizes the critical goods and services that these lands provide to all Canadians.

The GBC recommends new federal investments to ensure that existing privately protected lands are properly managed and that their conservation values are safeguarded for the long-term. These investments would be administered by ECCC and implemented in collaboration with other levels of government and non-government partners, who would be required to match federal government contributions on a cost-shared basis.

Recommended Investment: \$40 million over four years [ECCC]

Contacts

Paul Hewer – paul.hewer@natureconservancy.ca

James Brennan – j_brennan@ducks.ca

HABITAT RESTORATION

Federal Wetland Restoration Funding

Canada is home to 25% of the world's remaining wetlands, which contribute significantly to our social, economic and ecological well-being. Wetlands provide carbon storage and sequestration, flood-water attenuation, water filtration, water supply regulation, and critical habitat for many at-risk species, including migratory birds that depend on coastal and forested wetland habitats.

However, we continue to lose wetlands despite having already lost more than 70% of wetlands in the settled southern regions of Canada, and more than 95% in some urban and agricultural areas.

Wetland loss and degradation results in biodiversity loss, increased greenhouse gas emissions, reduced carbon storage capacity and increased runoff of nutrients and pesticides. The significant financial costs from wetland loss stem from new demands for infrastructure to compensate for lost functions provided by natural ecosystems, fewer recreation and tourism dollars, disaster relief and rebuilding expenses in response to extreme weather events, and significant costs for the implementation of species at risk recovery strategies.

Thus, while it is critical that we protect Canada's remaining wetlands, we must also invest in restoration efforts. The Green Budget Coalition recommends that the federal government establish a Wetland Restoration Program under the Canada Nature Fund to restore lost and degraded wetlands and associated uplands. This program would be administered by ECCC and implemented in collaboration with other levels of government and non-government partners.

This investment would directly support several of the federal government's other environmental commitments, including the Sustainable Development Goals, Ramsar Convention, Aichi Biodiversity Targets, post-2020 biodiversity framework, the Paris Agreement on Climate Change, the Migratory Bird Convention Act and protecting critical habitats including those that support species at risk.

Recommended Investment: \$50 million per year over five years, matched by \$50 million per year in non-federal government sources of funding. [ECCC]

Contact

James Brennan – j_brennan@ducks.ca



Photo: Ducks Unlimited

Restoring Canada's Grasslands

Grasslands are one of the most endangered ecosystems in Canada with high concentrations of species at risk, including Greater Sage Grouse, Burrowing Owl, Swift Fox, Black-footed Ferret, Mountain Plover, Chestnut-collared Longspur, Sprague's Pipit, Long-billed Curlew and Prairie Falcon. Loss of prairie grasslands, especially in Saskatchewan, is accelerating the loss of grasslands biodiversity and threatens Canada's ranching communities.

Grasslands are important globally as carbon sinks. In 2010 the United Nations Food and Agriculture Organization declared that "... globally, the potential to sequester carbon by improving grassland practices or rehabilitating degraded grasslands is substantial – of the same order as that of agricultural and forestry sequestration." Restoration of grasslands also has an advantage over that of forests and wetlands, in that restored native grasses sequester carbon quickly.

Key threats to grasslands are conversion to cropland and other development and invasive species. In Manitoba, for example, the invasive leafy spurge infests 340,000 acres of land, costing an estimated \$19 million per year in protection of grazing land and public lands.

The Green Budget Coalition is recommending a focused federal effort to restore and conserve Canada's grasslands so as to stabilize declining bird populations, conserve grassland mammals, reptiles and amphibians, many of which are at risk, and support sustainable management of grasslands by ranching communities. (See also *Sustainable Agriculture, later in this document.*) Restoration funding could support, for example, reseeding of native grasses in cultivated and formerly cultivated fields, similar to the program offered by the South of the Divide Conservation Action Program (SODCAP). Funding is also needed to restore some lands in the Govenlock, Nashlyn and Battle Creek grasslands, which are expected to be protected by the federal government following a land swap with the Saskatchewan government.

Recommended Investment: \$20 million per year for five years (2020-2025), matched by \$20 million per year in non-federal government sources of funding. [ECCC]

Contact

Stephen Hazell – shazell@naturecanada.ca



Photo: Ducks Unlimited

CONSERVING THE BIODIVERSITY AND HEALTH OF OUR OCEANS

Recommendation Summary

Sustained and increased funding is required to fulfill Canada's domestic and international marine conservation commitments and to prepare for new, more ambitious international ocean protection targets. This will require investments in ocean governance, co-management and conservation, support for Indigenous Reconciliation, and in opportunities for durable Blue Economy initiatives. The Green Budget Coalition recommends the following investments to ensure Canada meets these challenges:

1. Marine spatial planning, including co-governance, marine protected area (MPA) networks, National Marine Conservation Areas and conservation economy development [DFO, ECCC]:
 - **\$193 million in 2020-2021**
 - **\$726 million over 2021-2025**
 - Ongoing funding of **\$72 million per year thereafter**
2. Enhancing fisheries stock assessment, integrating ecosystem considerations in fisheries management, increasing fisheries monitoring and data collection capacity, and ensuring fisheries data transparency — **\$175 million over five years** [DFO]
3. Enhancing capacity to meet *Species at Risk Act* requirements to recover abundance of aquatic endangered and threatened species — **\$125 million over five years** [DFO]
4. Aquaculture research, environmental protection standards, innovative technology research, monitoring, enforcement, and incentives for alternative production methods — **\$125 million over five years** [DFO]

Photo: Nick Hawkins





Photo: Susanna Davies

Background and Rationale

Healthy marine ecosystems are the foundation for economically prosperous maritime sectors, communities, and fisheries. Globally and in Canada, our oceans are suffering as a result of climate change and harmful human activities.⁴⁶ A comprehensive, ecosystem-based approach to ocean governance, protection, and management is needed to ensure that Canada's ocean environments thrive.

The budget allocations we propose will allow Canada to play a global leadership role at the UN Convention on Biological Diversity (CBD) Conference of the Parties (COP) where these new targets will be agreed in 2020, and set the stage for a new national plan for the oceans to be led by the Ministers of DFO and ECCC. Canada has already made a commitment through the G7 declaration.⁴⁷ These allocations would also address the Auditor General's concerns on fisheries and salmon aquaculture⁴⁸ and help in the government's efforts on reconciliation with Indigenous Peoples.

⁴⁶ Jones et al. 2018. The Location and Protection Status of Earth's Diminishing Marine Wilderness. *Current Biology* 28, 1–7 August 6, 2018 © 2018 Elsevier Ltd. <https://doi.org/10.1016/j.cub.2018.06.010>

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). (2019). *Global Assessment Report on Biodiversity and Ecosystem Services*.

⁴⁷ The June 8, 2018 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities commits G7 leaders to: "advance efforts beyond the current 2020 Aichi targets including, the establishment of MPAs where appropriate and practicable and contribute towards these objectives, the sustainable management of fisheries and the adoption of marine spatial planning processes."

⁴⁸ Office of the Auditor General of Canada. Report 2—Sustaining Canada's Major Fish Stocks—Fisheries and Oceans Canada. http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201610_02_e_41672.html#hd3a

Office of the Auditor General of Canada. Report 1 - Salmon Farming. http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201804_01_e_42992.html

1. Marine Spatial Planning (MSP)

Marine Spatial Planning enables governments, resource users and communities to engage in regional level assessments of resource use and conservation needs to provide a sound basis for marine management and conservation.

Achieving real success in the development and implementation of marine use plans and marine protected area (MPA) networks depends on effective co-governance and co-management structures involving federal departments, provinces, territories, and Indigenous Peoples. Adequate funding is required to support technical analyses, data collection and management, consultation processes, and monitoring and enforcement.

Priority marine bioregions for MSP efforts over the next five years are: Pacific North Coast, West Coast Vancouver Island, and Salish Sea; Hudson Bay, Eastern and Western Arctic; and Newfoundland and Labrador Shelves, Scotian Shelf and Bay of Fundy, and Gulf of St. Lawrence.

1a. Marine Protection – National Marine Protected Areas (MPA) Network

Marine protected areas can make a vital contribution to Canada's \$39 billion a year ocean economy.⁴⁹ MPA networks are an effective tool for conserving marine biodiversity, from whales to fish and seabirds, commercial fish stocks and the habitats on which they depend. They also boost nature-based tourism and support ecological resiliency.

In August 2019, Canada exceeded its international and national commitments to protect at least 10% of our ocean territory by 2020. More ambitious targets are expected to be adopted at the CBD COP (e.g., the IUCN World Conservation Congress has a resolution calling for protection of at least 30% by 2030).

⁴⁹ Canada's ocean economy based on 2008 numbers - <http://www.dfo-mpo.gc.ca/rpp/2013-14/S01/so-rs-1-eng.html>

Photo: Nick Hawkins





Photo: Nick Hawkins

Beyond these numerical targets are also qualitative elements related to ecosystem representation and conservation significance that still need to be achieved in Canada, with many marine bioregions in Canada currently significantly under-protected.

Canada needs an effective well-connected national MPA network, embedded in ecosystem-based marine spatial plans. Additional funding is required to replace the National Conservation Plan funding that ended in 2019 and this must be adequate to the task.

Recommended Investment for MSP (including *Oceans Act* MPAs and network planning): **\$382.5 million over five years**, followed by **\$72 million per year ongoing** [DFO]

Recommended Investment for National Marine Conservation Areas: **\$25 million over five years** for five new NMCA feasibility assessments [ECCC, Parks Canada]

1b. Conservation Economy

Respecting Indigenous rights and upholding the government's commitment to reconciliation must be addressed in relation to MSP and MPAs in Canada. Indigenous communities and organizations have expressed interest in advancing a conservation economy, which would include impact benefit agreements (IIBAs) across the four Inuit land claim regions. Significant long-term, stable and transparent funding is necessary to establish community infrastructure to allow communities to manage and benefit from marine conservation.

Recommended Investment: \$500 million over five years [DFO, ECCC]

1c. Fifth International MPA Conference (IMPAC5) 2021

In 2021, Canada will play host to the International Marine Protected Areas Conference in Vancouver. As the host country for this once every four-year conference which brings together MPA practitioners and decision makers from around the world, Canada will have an opportunity to highlight its achievements on MPAs and collaboration with Indigenous peoples, and to demonstrate leadership in advancing a new ambitious global target. The conference will also feature a high-level government meeting focused on advancing MPAs globally.

Recommended Investment: \$11.5 million in 2020 [DFO, ECCC]

2. Rebuild fisheries and enhance fisheries data collection, assessment, and monitoring capacity

Since 1970, an estimated 52% of the biomass of Canada's fisheries has disappeared. A recent report by the Auditor General (OAG) highlighted the need for DFO to better manage, update and improve data as well as rebuild fish stocks in Canada.⁵⁰ Eighteen Atlantic Canadian marine fish species are considered endangered or threatened⁵¹ and forage fish populations from coast to coast have seen unprecedented declines, affecting the health of species like the western Bluefin Tuna and the endangered Southern Resident Killer Whale.

New measures are urgently needed to undertake more frequent stock assessments, and improve knowledge of data poor fisheries in order to rebuild

50 Office of the Auditor General of Canada. Report 2—Sustaining Canada's Major Fish Stocks—Fisheries and Oceans Canada http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201610_02_e_41672.html#hd3a

51 McDevitt-Irwin, J. M., Fuller, S.D., Grant, C., Baum, J. K. 2015. Missing the safety net: evidence for inconsistent and insufficient management of at-risk marine fishes in Canada. *Can. J. Fish. Aquat. Sci.* 72: P6. <https://foca.on.ca/wp-content/uploads/2015/06/Fish-Species-at-Risk-insufficiently-managed-NRC-Report-Sep-2015.pdf>

Photo: Jon Eckert



fish stocks upon which coastal and indigenous communities rely.⁵² Increased funding would align Canada with leading progressive fishing nations and international fisheries law, and help drive progress on ensuring recovery of threatened/degraded stocks and on the long-term sustainability of fisheries and the populations of fish upon which they depend.

The GBC recognizes recent federal government investments to better protect fish, modernize the *Fisheries Act*, protect species at risk, and establish new recovery initiatives for priority species.⁵³ However, significant gaps remain. New investments are needed to:

- Refine policies and management structures to update and implement science-based rebuilding plans by dates committed in response to the OAG report on Sustaining Canada's Fisheries;
- Establish science-based catch limits and management plans that account for ecological interactions/requirements;
- Adopt tools needed to advance rebuilding plans, fulsome data collection, and ecosystem-based management including electronic monitoring and data system modernization; and
- Coordinate fisheries management with MPA management plans.

Recommended Investment: \$175 million over five years [DFO]

3. Enhancing capacity to meet *Species at Risk Act* requirements to recover abundance of aquatic endangered and threatened species

Over 30 aquatic species with a COSEWIC designation of threatened or endangered await listing on SARA, with some waiting for years. Aquatic species are often left in this limbo because they are impacted by economically important fisheries that may be curtailed if there is a SARA listing decision. There are also dozens of freshwater and marine species listed under SARA now awaiting critical habitat declarations and the required recovery action plans. DFO requires additional capacity to develop and implement effective management measures either through SARA or the Fisheries Act as soon as a marine species is assessed by COSEWIC. DFO also needs to conduct a legislative review to make the SARA legislation more effective for protecting species.

Recommended Investment: \$125 million over five years [DFO]

52 Hutchings, J.A., Côté, I.M., Dodson, J.J., Fleming, I.A., Jennings, S., Mantua, N.J., Peterman, R.M., Riddell, B.E., Weaver, A.J. and VanderZwaag, D.L. 2012. Sustaining Canadian marine biodiversity: responding to the challenges posed by climate change, fisheries, and aquaculture. Expert panel report prepared for the Royal Society of Canada, Ottawa.

53 <https://www.budget.gc.ca/2018/home-accueil-en.html>

4. Ensure environmental sustainability within all aquaculture programs

Properly managed, sustainable aquaculture has the potential to benefit Canadians and support coastal and rural communities, including Indigenous communities.⁵⁴ However, open net pens in the ocean can have unacceptable impacts on wild fish, benthic habitat, and the larger ocean ecosystem.⁵⁵

Additional investment is required to address the concerns identified by the Auditor General in 2018 that DFO is not adequately managing the risks associated with salmon aquaculture consistent with its mandate to protect wild fish and fish habitat.⁵⁶ This is critical for both the Pacific and the Atlantic coasts. The GBC recommends that DFO's Sustainable Aquaculture Program be expanded to include a cross-department approach to ensure that the aquaculture industry does not harm ocean health or infringe on Indigenous rights. The recommended investment would support:

- Monitoring, compliance and enforcement;
- Improved transparency and public reporting;
- Research on environmental effects, especially disease and parasite impacts and management for wild salmon;
- Land-based aquaculture systems research, science, and innovation; and
- Alternative species production and farming practices to support land-based systems.

Recommended Investment: \$125 million over five years [DFO]

Regarding plastic in the oceans, please see the Plastics recommendation later in this document.

Contacts

Bill Wareham - bwareham@davidsuzuki.org

Candace Newman - cnewman@cpaws.org

Shannon Arnold - sarnold@ecologyaction.ca

⁵⁴ The Finance Minister's Advisory Council on Economic Growth identified agriculture and food – including aquaculture – as key sector to leverage as a driver for a future-oriented economic agenda.

⁵⁵ Office of the Auditor General of Canada. Report 1 – Salmon Farming. http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201804_01_e_42992.html

⁵⁶ Office of the Auditor General of Canada. Report 1 – Salmon Farming. http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201804_01_e_42992.html

CONSERVING CANADA'S BIRDS ACROSS THEIR YEAR-ROUND RANGE

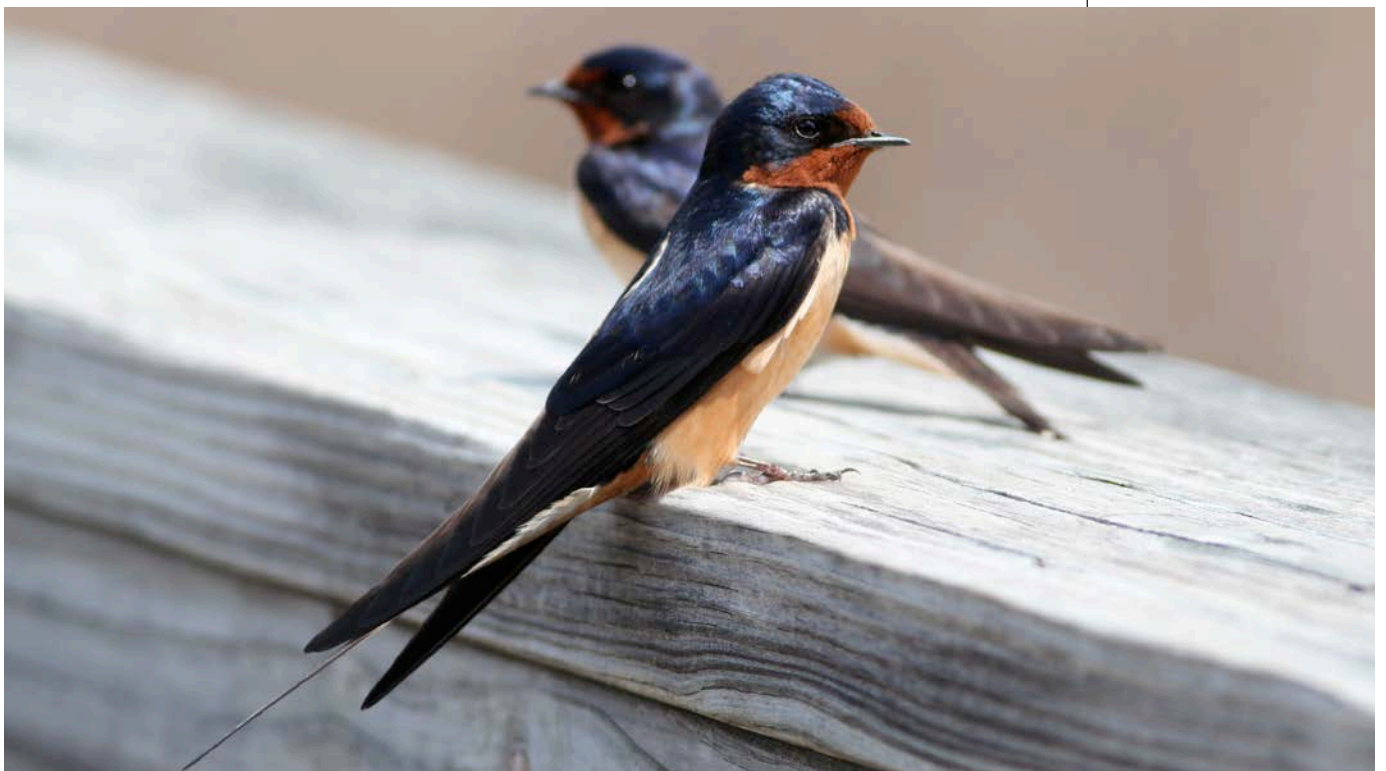
Canada's 451 native bird species are found across every habitat, providing important ecological services such as pollination, pest control, seed dispersal and nutrient cycling. Birds contribute billions of dollars to the global gross domestic product through these ecological services.

Yet all is not well. The 2019 *State of Canada's Birds* reports that many bird species continue to decline at alarming rates primarily due to habitat loss in Canada and Latin America. Canada has lost 40% to 60% of our grassland birds, shorebirds and aerial insectivores. Dozens of bird species that breed in Canada and winter in Latin America are undergoing steep population declines, with birds migrating to South America showing an average decline of 53% since 1970. Nearly all seabird species that use Canadian waters are of conservation concern.

Various GBC recommendations (elsewhere in this document) provide co-benefits to birds. Bird populations will directly benefit from actions to protect and restore habitat in Canada, particularly in regions of the country with highly altered and threatened landscapes. Marine protected areas and measures to reduce marine pollution will benefit Canada's beleaguered seabirds. Recommendations on pesticides, grassland restoration/conservation, range-fed beef and nature-based agricultural incentives will benefit grassland and wetland-dependent species.

However, these actions in Canada will not be enough to keep common migratory species common and to restore populations of bird species at risk. Additional resources and international cooperation are needed to protect habitat in Latin

Photo: Brigham Stephen



America to conserve migratory species across their year-round range. Canada can work with governments and NGOs to:

- Create or expand protected areas, with an emphasis on shorebirds and grassland birds.
- Reduce human disturbance and direct mortality to shorebirds from hunting, poisons, feral cats and dogs, and livestock, through regulations, enforcement, and public education.
- Reduce habitat loss and fragmentation and support restoration in protected areas and other important sites.

Recommended Investments:

\$20 million over four years (2020/21 through 2023/24) for protection of important wintering habitats and migration staging and stopover sites outside Canada for shorebirds and other migratory birds (\$5 million/year). [ECCC, GAC]

\$34 million over four years (2020/21 through 2023/2024) including:

- \$12 million (\$3 million/year) for investments in science and conservation, especially monitoring and protection of seabirds, including through siting guidelines for offshore gas and oil development and promotion of fishing technologies to reduce seabird bycatch. [ECCC]
- \$10 million over four years for targeted research, mitigation of domestic threats, and population restoration actions for aerial insectivores, grassland birds and shorebirds. [ECCC]
- \$12 million (\$3 million/year) for delivery of Species at Risk Act to reduce the backlog in recovery strategies and action plans and implement recovery actions not yet acted upon. [ECCC]

Contacts

Silke Nebel – snebel@birdscanada.org

Stephen Hazell – shazell@naturecanada.ca

Anne Lambert – anne@icfcanada.org

COMPLEMENTARY RECOMMENDATIONS

BUILDING A WORLD CLASS FRESHWATER MONITORING FRAMEWORK

Long-term watershed health must be supported by a strong national freshwater monitoring framework that is open and accessible to all sectors of society including academia, the public, and non-governmental organizations. To modernize freshwater management for the challenges of the 21st century, Canada needs an ongoing national monitoring system to track the state of freshwater as climate change and other pressures increase.

The Green Budget Coalition recommends:

- Providing dedicated, long-term monitoring funding;
- Advancing the standardization of data collection and reporting across jurisdictions to improve data integration and comparison; and
- Extending coverage of water monitoring catchments to better understand historically underrepresented, and in some cases high-risk, areas (e.g., Saskatchewan, Nunavut, Northern Ontario, Northern Quebec).

Recommended Investment: \$100 million over five years [ECCC]

See also, later in this document, Supporting Evidence-Based Decision-Making Through Environmental Science and Data.

Contact

Elizabeth Hendriks – ehendriks@wwfcanada.org

NATIONAL WILDLIFE COLLISION REPORTING SYSTEM

Wildlife-vehicle collisions incur significant medical and environmental costs, including impacts on endangered species, and are on the rise, costing an estimated \$280 million per year in Alberta alone in direct and indirect costs, according to a 2015 Alberta Transportation study.⁵⁷

A 2003 study for Transport Canada recommended a national wildlife accident reporting system.⁵⁸ The data collected by the system would be used to plan collision mitigation measures, including infrastructure, and to create habitat connectivity plans.

The federal government has shown leadership with wildlife crossings in Banff National Park. Work on this issue is being done in Alberta, British Columbia, New Brunswick, Nova Scotia, Ontario and Quebec. However, there is no standardization for collecting, sharing or analyzing wildlife-vehicle collision data.

Recommended Investment: \$4.5 million over three years to work with the provinces, territories and other stakeholders to develop and implement a national wildlife collision data reporting system. [TC, ECCC]

Contact

Gretchen Fitzgerald – gretchenf@sierraclub.ca

⁵⁷ Wildlife Watch App for Improved Road Safety in Alberta, Tetra Teck EBA, February 2016

⁵⁸ Collisions Involving Motor Vehicles and Large Animals in Canada, L-P Tardiff & Associates Inc., March 2003

3

SUSTAINABLE AGRICULTURE



Transitioning to a Vibrant and Environmentally Sustainable Food Production System in Canada

Photo: Elias Morr

Recommendation Summary

The Green Budget Coalition envisions a future in which our food production is environmentally sustainable, while maintaining a strong agriculture and food sector employing millions of Canadians. Feeding the world's increasing population sustainably in the context of climate change requires resilient and diverse food systems that minimize environmental impacts, protect and restore the ecosystem services that are vital to a thriving agricultural economy, and offer long-term solutions for climate adaptation and mitigation.

Recommended Investment: \$596 million over the next five years (2020-2025) to improve the sustainability, resilience and competitiveness of the agricultural sector via the following programs:

1. Agri-Environmental Programs: **\$471 million over five years** [AAFC, ECCC]
2. R&D in Regenerative Agriculture: **\$80 million over five years** [AAFC]
3. Support an important scientific asset by building a facility for the National Insect Collection: **\$45 million over three years** [AAFC]

Canada has the potential to become a world leader in environmentally sustainable agriculture that also meets international targets such as the UN Sustainable Development Goals (SDGs) by delivering social benefits, including gender equality, food security, economic development, reconciliation with Indigenous Peoples, and support for the next generation of farmers. This will require decisive action through strategic and targeted investments beyond announcements already made under the new Canadian Agricultural Partnership and a National Food Policy.

Photo: Ducks Unlimited



Recommendation Summary (continued)

PROGRAM	COST/PROGRAM DETAIL	MAIN OUTCOMES
<p>AGRI-ENVIRONMENTAL PROGRAMS</p> <p>Create positive incentives for on-farm conservation.</p>	<p>\$471 million over five years for:</p> <ul style="list-style-type: none"> Establishment of a National on-farm Land Management & Stewardship Program (\$250M); [AAFC, ECCC] Measuring results through improved indicators/metrics for biodiversity (\$20M); [AAFC, ECCC] Establishment of a National Perennial Cover Incentive Program (\$120M); [AAFC] Establishment of a Pollinator Conservation Initiative (\$60M); [AAFC, ECCC] Developing an Agri-insurance scheme to reduce use of harmful pesticides (\$20M); [AAFC] and Providing support for developing markets for beef production that sustains native grassland and grassland birds (\$1M). [AAFC, ECCC] 	<ul style="list-style-type: none"> Provide matching dollar producer financial supports to advance on-farm conservation of critical habitats, biodiversity and vital ecosystem services in targeted areas. Increase sector competitiveness Increase climate resilience for farmers Enhance farm income and livelihoods
<p>R&D IN ENVIRONMENTALLY SUSTAINABLE AND REGENERATIVE AGRICULTURE</p> <p>Accelerate the development and adoption of climate resilience and climate change mitigation practices.</p>	<p>\$80 million over five years [AAFC] for:</p> <ul style="list-style-type: none"> R&D in regenerative agriculture for all farm practices to improve the soil's capacity to store carbon; Support for on-farm collaborative and farmer-led research for regenerative and environmentally sustainable agricultural practices; Developing incentive program for adoption of beneficial management practices; Building a knowledge transfer program to help producers transition to environmentally sustainable farming; Encouraging carbon markets on agricultural land to reduce reliance on incentives over time; Providing support for entry to the sector by young farmers to help them establish environmentally sustainable farms; and Supporting the conservation of the diversity of genes, varieties, cultivars, breeds, and species available to Canadian farmers by re-establishing publicly-funded plant breeding programs. 	<ul style="list-style-type: none"> Contribute to climate change mitigation and adaptation Improve soil quality Increase agricultural diversity and climate resilience for farmers Protect soils and water against degradation, loss and pollution Grow more high-quality food Enhance farm income and livelihoods Increase sector competitiveness
<p>BUILD A FACILITY FOR THE CANADIAN NATIONAL COLLECTION OF INSECTS, ARACHNIDS, AND NEMATODES</p> <p>Create a lasting legacy for the 5th largest invertebrate collection in the world.</p>	<p>\$45 million over three years [AAFC] for:</p> <ul style="list-style-type: none"> Building a proper storage facility for the 17 million specimens in the Canadian National Collection of Insects, Arachnids and Nematodes. 	<ul style="list-style-type: none"> Support research for bio-control. Reduce impacts of new crop pests due to climate change. Support global knowledge of biodiversity.
<p>TOTAL</p>	<p>\$591 million over five years (2020-2025)</p>	

Background and Rationale

The recent Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment Report on Biodiversity and Ecosystem Services⁵⁹ notes the critical role of sustainable agriculture in feeding humanity while enhancing the conservation and sustainable use of biodiversity. According to the report, land use changes, related largely to agricultural expansion and unsustainable practices, have the largest negative impact on ecosystems people depend on for food, clean water and a stable climate. Species and habitat loss pose as much of a danger to life on Earth as does climate change. The world can and must address this biodiversity crisis, the IPBES summary report says, but doing so will require transformational change: proactive environmental policies, the sustainable production of food and other resources, and a concerted effort to reduce greenhouse-gas emissions.

Although Canada's overall ranking in *The Economist's* 2018 Food Sustainability Index⁶⁰ was very high (3rd of 67 countries), Canada ranked as the 10th worst performer (59th of 67 countries) on environmental impact of agriculture and the third worst performer (65th of 67 countries) for sustaining biodiversity on farmland. Agriculture and Agri-Food Canada's own indicator for biodiversity ranks Canadian farmland as being poor for biodiversity and the ranking has had a decreasing trend over the past decade. There is much room for improvement.

The federal government has invested significantly in science and technology to spur growth in the agriculture industry in Canada and to provide risk management tools to ensure business viability. It has made very little investment in reducing environmental risk or building agricultural resilience to climate change. The future of Canadian agriculture will remain unsustainable without mitigating the negative environmental impacts of agricultural production, particularly under changing climate conditions. The federal government must be

59 <https://www.ipbes.net/news/ipbes-global-assessment-summary-policymakers-pdf>

60 <http://foodsustainability.eiu.com>



Photo: Eric Prouzet

a key driver in supporting agricultural producers' transition to environmentally sustainable agriculture, including regenerative agriculture and practices that support ecosystem services. Investing in environmentally sustainable agriculture leads to a more productive and more climate resilient sector that creates more green jobs.

The unprecedented rate of extreme weather events including drought, flooding, and wildfires are the undisputed effects of climate change. A warming planet brings increasing risk of crop failure due to extreme weather, insect pests, invasive weeds, and disease. Agricultural producers are on the front line of climate change and the federal government is well positioned to help them transition to climate resilient agriculture by providing programs and policies that will help i) adapt to changing conditions and ii) mitigate agricultural impacts on climate change. This can be achieved by building programs that incentivize ecological and regenerative agriculture, which aids soil health, drawdown of carbon from the atmosphere, and restoration of natural habitats on farms (such as wetlands, hedgerows, forest patches, and native grasslands) to improve adaptation of farmland to extreme weather.

A sustainable food system needs high quality, locally adapted seeds that perform well in low-input systems with key traits of drought and flood tolerance, pest and disease resistance, productivity, and efficient nutrient use. Farmers' ongoing, unrestricted access to these varieties must be guaranteed. Greater support is needed for publicly funded initiatives to conserve the diversity of genes, species, varieties, cultivars, and breeds. This requires re-establishing robust, publicly-funded research stations and their breeding programs that will serve the public interest while enhancing biodiversity, climate mitigation and adaptation, rural economies and food security.

Effective public policy needs evidence-based decision-making and this requires protection of scientific assets. The Canadian National Collection of Insects,

Photo: Priscilla Du Preez

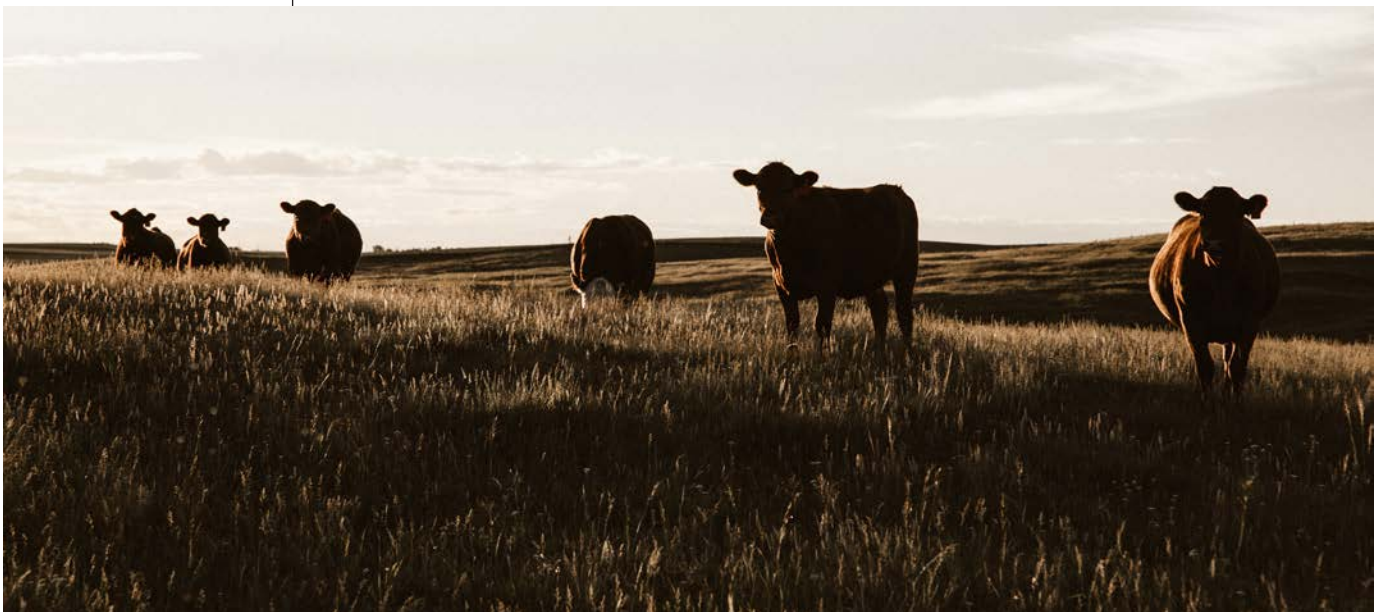


Photo: Markus Spiske



What is Environmentally Sustainable Agriculture?

- Environmentally sustainable agriculture aims to maintain ecosystem functions and ensures a sustainable food system for future generations. Both conventional and organic farmers can apply environmentally sustainable techniques, which:
 - Rely on innovative practices that conserve, protect and enhance on-farm biodiversity, improve soil, water and air quality, and minimize downstream impacts;
 - Seek no net loss of natural cover and pursue net habitat gains;
 - Minimize the use of toxic synthetic fertilizers, pesticides and herbicides - replacing them where possible with natural processes and inputs;
 - Strengthen the resilience of agricultural ecosystems to cope with disturbance and climate change; and
 - Address the environmental, social and economic dimensions of agriculture.

What is Regenerative Agriculture?

Regenerative agriculture is environmentally sustainable and focuses primarily on building and maintaining the capacity of the soil to regenerate and recycle nutrients, to capture and store water, and to draw down carbon from the atmosphere by building soil organic matter. Regenerative agricultural systems require less energy than conventional agriculture and are more resilient to extreme weather events. Soil can be regenerated through practices such as no-till farming, cover cropping, intercropping, contour farming, rotational cropping, fall-seeded cereals, rotational grazing, meadow buffer strips, and soil amendments.

Arachnids and Nematodes is one of the five largest assemblages of its kind in the world. Established in 1886 by James Fletcher, the first official Dominion entomologist, it has grown to contain more than 17 million specimens. Many specimens are the only known representatives of their species. The collection is actively used by entomologists in Canada and around the world to inform research on emerging crop pests and bio-control. This collection will be critical to inform our understanding of change in the agricultural landscape under climate change conditions. Although one of the most important invertebrate collections in the world, it is currently stored in 1,500 metal cabinets, many scattered in the hallways of a building on the federal government's Central Experimental Farm in Ottawa, and is in jeopardy of being lost due to improper storage conditions. With a modest one-time investment, this collection could be safely retained and used to inform scientific understanding and public policy in perpetuity.

Photo: Gustavo Quepon



Supporting the Next Generation: Women Farmers

Women are playing an increasingly larger role in agriculture. According to the 2016 Census of Agriculture, while the number of farm operators in Canada is going down, the proportion of women is going up and reached 28.7% of all farm operators in 2016 (up from 27.4% in 2011). Women were most prevalent among farm operators between the ages of 35 and 54, representing nearly a third of the group.

While more women are choosing to farm, they face important social and economic barriers in a male-dominated sector. Low-income women, new immigrants, young and aspiring female farmers, many of whom are not from farming backgrounds and carry student debt, cannot afford to take on the high costs of land and equipment. An increasing number of women are choosing environmentally sustainable agriculture (organics, small ecological diversified farming) – sectors that are still vastly underfunded and for which Business Risk Management Programs are poorly adapted. Supporting the next generation of women farm leaders is therefore an essential way to guarantee a viable future for agriculture in Canada, as well as moving towards climate-resilient agricultural practices.

Contacts

Carolyn Callaghan (lead) – carolync@cwf-fcf.org

Beatrice Olivastri – beatrice@foecanada.org

Martin Settle – msettle@weseedchange.org

James Brennan – j_brennan@ducks.ca

Blair Carter – b_carter@ducks.ca

Cameron Mack – cmack@whc.org

Silke Nebel – snebel@birdscanada.org



TACKLING TOXICS AND PESTICIDES



Exposure to toxic substances negatively affects our health, the environment and the economy. Key federal programs designed to reduce risks have been chronically under-resourced, while funding for others will soon sunset. To meet legislative requirements for assessing and managing “CEPA toxic” substances and pesticides, the Green Budget Coalition recommends investments in the following areas (*as detailed in the subsequent pages*):

1. Renewal of the Chemicals Management Plan: **\$100 million annually**, starting in 2021-22 and ongoing; [ECCC, Health Canada]
2. Enforcement of pollution prevention laws: **\$50 million in 2020, and then \$100 million annually ongoing**. [ECCC]

Photo: John Cameron

3. Closing the resource gap at Health Canada's Pest Management Regulatory Agency: **\$50 million in 2020, and then \$100 million annually ongoing** for PMRA's post-market review, Label Improvement Initiative, and compliance and enforcement programs.
4. Coordinated collection of necessary data to support pesticide exposure assessments: **\$10 million over five years** for initial pilot of pesticide use data collection [AAFC]; and **\$16.5 million over five years** for systematic water monitoring [ECCC].

Complementary recommendation:

- Banning single use plastics and enabling circular economy strategies: **\$573.3 million over five years** [ECCC, DFO, ISED, Statistics Canada]

Background and Rationale

In a single year, industrial, commercial and institutional facilities release more than three million tonnes of pollutants directly to the Canadian environment⁶¹ and national pesticide sales top 120 million kilograms of active ingredient.⁶² Chemicals in consumer products and pesticide residues on imported foods add to the toxic burden. In addition to impacts on nature and wildlife, there is growing scientific evidence that these exposures are associated with chronic human health conditions including cancer, learning and behaviour problems in children, asthma, allergies and diabetes.⁶³

Nearly nine in ten people in Canada are concerned about children's exposure to toxics from consumer products and impacts on wildlife. Eight in ten are concerned about pesticides in food and the impacts of pesticides on water and wildlife, while less than half are confident in the adequacy of Canadian pesticide regulation.⁶⁴

The federal government has clear statutory authority — and obligations — for assessing and regulating toxic substances to protect human health and the environment, in particular under the Canadian Environmental Protection Act (CEPA) and the Pest Control Products Act (PCPA). For these laws to be effective, the responsible government departments and agencies need sufficient capacity to properly implement and enforce them. Significant investments are urgently needed in Budget 2020 to address persistent and pending resource gaps that threaten to undermine Canada's regulatory regimes for managing toxic risks.

61 National Pollutant Release Inventory: data highlights 2017 <https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/tools-resources-data/fact-sheet.html>

62 Health Canada. Pest Control Products Sales Report for 2016.

63 Landrigan, Philip J., and Richard Fuller. "Pollution, Health and Development: The Need for a New Paradigm." *Reviews on Environmental Health* 31, no. 1 (January 1, 2016). <https://doi.org/10.1515/reveh-2015-0070>; Heindel, Jerrold J., John Balbus, Linda Birnbaum, Marie Noel Brune-Drisse, Philippe Grandjean, Kimberly Gray, Philip J. Landrigan, et al. "Developmental Origins of Health and Disease: Integrating Environmental Influences." *Endocrinology* 156, no. 10 (October 1, 2015): 3416–21. <https://doi.org/10.1210/en.2015-1394>.

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Renewal of the Chemicals Management Plan

Since 2006, the Chemicals Management Plan (CMP) has been the signature CEPA program aimed at identifying and reducing risks to human health and the environment from toxic substances. Successive governments have committed to completing assessments of 4,300 high-priority legacy toxic substances by 2021, when the CMP's current budget envelope will sunset. However, there will be an ongoing need to assess — and in some cases reassess — chemicals, and implement risk-management plans.

The CMP has also funded important monitoring and research on chemicals in the environment. This research informs decision-making under CEPA, PCPA and other legislation. Renewed funding will be necessary to allow these longitudinal studies to continue, and to expand their scope.

Budget renewal also presents an important opportunity to refocus the program in light of emerging challenges such as nanomaterials and the continuous presence of certain substances in widespread use (which result in constant exposure, although they do not meet traditional definitions of persistence or bioaccumulation), and to better address risks to vulnerable populations and cumulative risks. ECCC and Health Canada have consulted extensively on new directions for “CMP 2020”. Also, the House of Commons Standing Committee on Environment and Sustainable Development recent review of CEPA makes several useful recommendations to strengthen the act and its implementation.

It is crucial that Budget 2020 confirm ongoing investment in chemicals management to support appropriate preparations and continuity.

Recommended Investment: \$100 million annually, starting in 2021 [ECCC, Health Canada]

Contacts

Muhannad Malas – mmalas@environmentaldefence.ca

Elaine MacDonald – emacdonald@ecojustice.ca



Photo: Ivan Bandura

Enforcement of pollution-prevention laws

ECCC's Enforcement Branch enforces many of the requirements under CEPA and its 56 regulations, as well as the pollution-prevention provisions in the *Fisheries Act*⁶⁵ and a broad range of other laws and regulations designed to prevent or limit environmental damage and conserve important habitat and biodiversity. Spending on compliance promotion and enforcement activities in 2017-18 was \$58 million and has been relatively stable for more than 10 years — although the number of protected species and places, laws and CEPA regulations has increased. Work is underway to develop or amend over 25 CEPA or Fisheries Act regulations, create or expand federally protected wildlife areas and eliminate SARA listing backlogs,⁶⁶ which will further stretch existing enforcement capacity.

An audit of ECCC's enforcement of CEPA regulations in 2018, by the Commissioner for Environment and Sustainable Development (CESD), found that most toxic substance regulations received few inspections and enforcement measures. In response to this audit, ECCC is nearing completion of a risk framework to identify enforcement priorities, including for substances managed under the CMP. Implementing the risk framework will require additional capacity. Recruiting and training a new environmental inspection officer is a two-year process; investment is urgently needed in Budget 2020 to allow this process to begin.

Enforcement challenges are increasingly sophisticated and require new resources — not only adding and training more inspectors, but also new investigative and intelligence capabilities. The CESD audit found that ECCC had challenges in fulfilling intelligence needs to assist enforcement officers in making informed decisions. Some regions had no dedicated intelligence staff. For example, Ontario had the largest number of regulated businesses but no permanent intelligence staff. The audit underscored that key intelligence information is important to targeting the work of enforcement officers.

This recommended investment would support modernizing environmental enforcement in Canada to ensure federal pollution prevention laws achieve intended results.

Recommended Investment: \$50 million in 2020 and then \$100 million annually [ECCC]

Contacts

Lisa Gue – lgue@davidsuzuki.org

Kathleen Cooper – kcooper@ccla.ca

⁶⁵ Subsection 36(3) of the Fisheries Act prohibits depositing deleterious substances into Canadian fisheries waters. Deleterious substances are oils, sediment, paint and other substances or materials that will degrade or alter water quality so that the water is rendered or is likely to be rendered deleterious to fish. See: Canada's Fisheries Act: The Habitat Protection and Pollution Prevention Provisions of the Fisheries Act, Fisheries and Oceans Canada, n.d. <http://www.dfo-mpo.gc.ca/Library/272733.pdf>

⁶⁶ ECCC Forward Regulatory Plan, 2019-2021



Photo: Vanveen

Closing the resource gap at Health Canada's Pest Management Regulatory Agency

Adequate funding to update pesticide risk assessments. As required by law, PMRA initiates a re-evaluation of each registered pesticide on a 15-year cycle. Double the number of re-evaluations are planned for 2021-22 than in 2019-20, including many complex and large-scale assessments. Without a commensurate increase in funding, the resource gap will affect performance, resulting in delays, and limiting PMRA's ability to respond to stakeholder expectations and emerging issues.⁶⁷ Performance targets were missed for nearly a quarter of the re-evaluation decisions and 62% of special review decisions in PMRA's work plan for 2018-19. PMRA acknowledges that the increasing re-evaluation workload exceeds capacity and current resources.⁶⁸ This situation threatens to undermine Canada's pesticide regulatory regime.

PMRA must also complete re-evaluations for pesticides registered before 1995, which pose unknown risks, never having been assessed in Canada using modern scientific methods. Despite recent progress, 17 large and complex historical reviews remain incomplete. Dedicated resources are needed to clear this backlog.

Upgrade label requirements. Re-evaluations routinely result in changes to use requirements and these are specified on the product label. The label is the key interface between a pesticide risk assessment and its end use. PMRA recently launched a "Label Improvement Initiative," which requires additional resources to address identified problems such as consistency and clarity, as well as implementation issues.

Fund compliance and enforcement. In 2017-18 PMRA conducted 253 "Compliance Outreach" educational activities and just 933 "targeted oversight" inspections, nearly 400 fewer inspections than in 2016-17. This number equates to less than 1% of the 193,000 farms in Canada (not to mention non-agricultural uses of pesticides). The rate of compliance by sub-sector ranged from as low as 11% up to 100%,⁶⁹ with persistent problem areas that require more attention; e.g., non-compliance among pest control operators (exterminators). Across all pesticide uses, a more robust compliance and enforcement program is needed to ensure that end users properly implement risk-reduction requirements and restrictions, particularly label changes.

Recommended Investment: \$50M in 2020, and then \$100M annually [PMRA]

Contacts

Lisa Gue – lgue@davidsuzuki.org

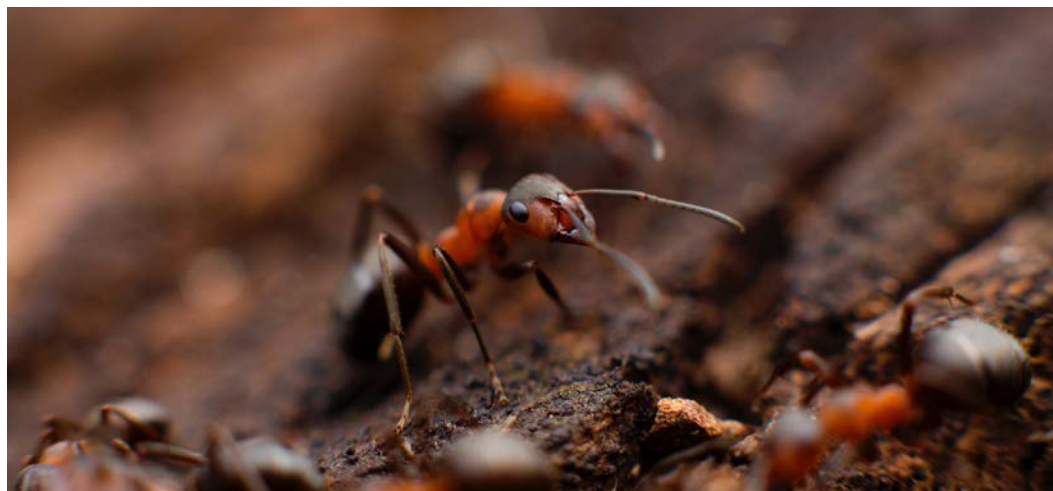
Kathleen Cooper – kcooper@ccla.ca

⁶⁷ Health Canada, Re-evaluation Program Update, PMRA Stakeholder Web Session, December 19, 2018

⁶⁸ PMRA Stakeholder Information Session – May 29, 2019.

⁶⁹ Health Canada's Pest Management Regulatory Agency/Regulatory Operations and Regions Branch Compliance and Enforcement Report 2017-2018.

Photo: Mikhail Vasilyev



Coordinated collection of necessary data to support pesticide exposure assessments

Post-market re-evaluation of pesticides is often limited by a lack of use and environmental monitoring data at the level of detail needed for exposure assessment calculations. *(For more related recommendations, please see the Sustainable Agriculture and Freshwater Monitoring Framework recommendations, earlier in this document.)*

Canada needs a comprehensive, national water-monitoring program for pesticides that delivers robust data, for both environmental and human exposure assessment, in support of regulatory decisions. Similarly, modern agricultural practices have created fundamental changes in pesticide use patterns that need to be reflected in pesticide exposure assessments. Systematic collection of pesticide use data would allow PMRA to perform trend analysis, effectively evaluate exposure assessments submitted by pesticide registrants, and better plan and target compliance and enforcement activities.

Recommended Investment:

- **\$10 million over five years** for initial pilot of pesticide use and annual data collection [AAFC]
- **\$16.5 million over five years** for systematic monitoring of pesticides in water [ECCC]

Contacts

Lisa Gue – lgue@davidsuzuki.org

Kathleen Cooper – kcooper@ccla.ca

Complementary Recommendation

BANNING SINGLE-USE PLASTICS AND ENABLING CIRCULAR ECONOMY STRATEGIES

To support effective implementation of a federal ban on non-essential single-use plastics by 2021, the Green Budget Coalition recommends Budget 2020 invest **\$60 million over five years** in public education and targeted compliance promotion (ECCC), establish a **\$500 million** matching fund to support zero-waste business investment (ISED), and provide **\$8.3 million over four years** to extend and expand programs to prevent and recover abandoned fishing gear (DFO). We further recommend providing **\$5 million** for ECCC and Statistics Canada to map the current level of circularity in the Canadian economy and assess future scenarios.

Total Recommended Investment: \$573.3M over five years

For more detail on this recommendation, please see www.greenbudget.ca/2020plastics

Contacts

Sarah King – sarah.king@greenpeace.org

Lisa Gue – lgue@davidsuzuki.org

Vito A. Buonsante – vbuonsante@environmentaldefence.ca

Gretchen Fitzgerald – gretchenf@sierraclub.ca

Photo: Teerasak Ladnongkhun



COMPLEMENTARY RECOMMENDATIONS



SUPPORTING EVIDENCE-BASED DECISION-MAKING THROUGH ENVIRONMENTAL SCIENCE AND DATA

Peer reviewed science and data are vital to enabling evidence-based decision making and informing effective public policy. Joint federal and provincial leadership in this area is overdue and new investments are urgently needed to move Canada towards an integrated science and data system. Canada must also put in place an effective science and data management strategy to better address rapidly growing environmental challenges, support the transition to a low-carbon economy, and support implementation of federal environmental legislation, while ensuring economic growth is environmentally sustainable.

Meaningful investments are required to fulfill Canada's commitment to evidence-based decision making and address the persistent challenges with environmental science and data management, including: overlapping and fragmented data collection and management responsibilities among federal departments and with other levels of government; incomplete and outdated datasets; poor coordination of data sharing across jurisdictions and sectors; and limited accessibility. The Green Budget Coalition recommends the following strategic investments:

1. Advisory Panel on Integrating Environmental Data and Science

The Green Budget Coalition recommends establishing an external expert panel, led by ECCC and comprised of public and private data collectors, users and processors, including representatives from all levels of governments, industry, Indigenous communities, environmental organizations and the public. The panel would be similar to Statistics Canada's Public Accounts Advisory Committee, and would have a mandate to provide strategic advice to government on data collection and management issues. A key deliverable would be recommendations to the federal government on actions to help close

Canada's environmental information gap and enable evidence-based decision making.

Recommended Investment: \$3 million over three years [ECCC]

2. Coordinated and Updated National Geospatial Ecosystem Data

The Federal Geospatial Platform aggregates geospatial information layers into a national geodatabase. However, the foundational base layers of geospatial data in Canada are often outdated, incomplete, inaccessible to the public, and when publicly available, tend to be spread across multiple government departments and platforms.

Addressing these challenges requires increased collaboration and understanding of existing geospatial datasets (and data gaps) across federal departments and other levels of government. There is also a critical need to update foundational geographic and landscape feature data and create a more coordinated approach to regular data acquisition and ongoing management. This includes ensuring clearly defined roles, responsibilities and objectives among all levels of government and external stakeholders.

Recommended Investment [NRCan and ECCC, in partnership with other federal departments and agencies]:

\$2 million over three years to undertake an audit and inventory of existing geospatial datasets; and

\$125 million over four years to update foundational geographic and landscape feature data to complete national habitat inventories, including completing the Canadian Wetland Inventory, creating a critical fish habitat inventory, grasslands inventory, and national groundwater mapping.

3. A National Census of the Environment

Effectively managing Canada's natural heritage and the essential ecosystem services it provides requires full accounting of environmental assets, including baseline accounting of environmental assets and regular status and trends reporting. This Census will generate important data that will provide a measure of the benefits Canada gains from its ecosystem services, which are often overlooked until the quality of the service degrades. Calls to action for a national environmental census are emerging in other countries with similar challenges, including recommendations made in the United Kingdom's 2019 State of Natural Capital Annual Report.

A national 'Census of the Environment' would inform decisions about efficient resource use and sustainable economic development in Canada and support many other policy objectives, including: accelerating Canada's transition to a low-carbon economy; smart "Green Infrastructure" investments; achieving Canada's biodiversity and protected area targets; environmental and regulatory oversight; and development of

sustainable and climate resilient agriculture and extractive resources.

Recommended Investment [Statistics Canada]:

\$16 million over four years (2020-2024) to advance the development of a robust and full accounting of Canada's environmental assets, including building a central registry and architecture for a national 'Census of the Environment'; and

an additional **\$5 million per year ongoing** for future data acquisition and analysis.

Please see also Building a World Class Freshwater Monitoring Framework, earlier in this document.

Contacts

James Brennan – j_brennan@ducks.ca

Blair Carter – b_carter@ducks.ca

Cameron Mack – cmack@whc.org

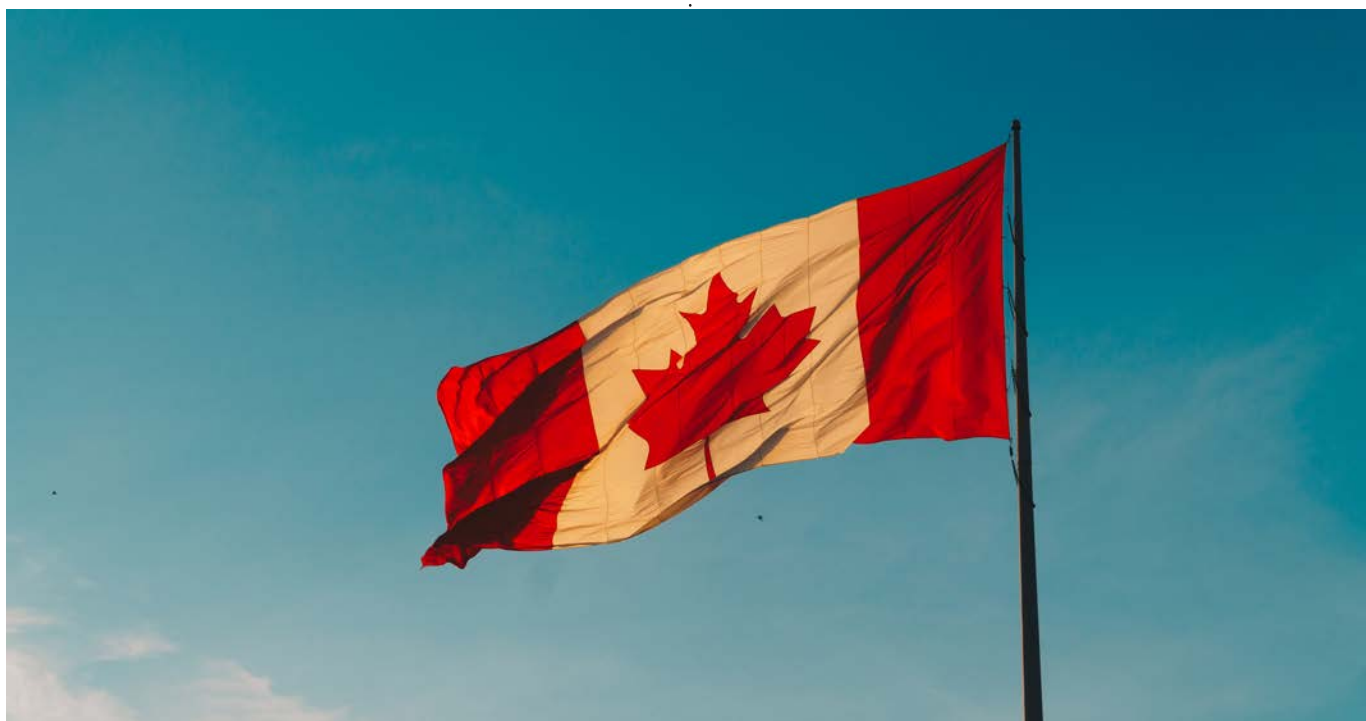


Photo: Hermes Rivera



Photo: J.P. Valery

COLLABORATING ON REGIONAL-SCALE ENVIRONMENTAL GOVERNANCE

Budget 2018 allocated \$1 billion over five years for implementation of environmental law reforms, including funding for the Impact Assessment Agency of Canada (IAAC) to increase capacity, enhance its Indigenous and public funding programs, and implement a pilot project to conduct regional assessments (REAs) and strategic assessments (SEAs).

Further funding in Budget 2020 is required to continue the REA and SEA program, in partnership with provincial and Indigenous authorities, to protect biodiversity, nature and the climate across Canada.

Recommended Investment: \$155 million over five years, for IAAC:

- **\$50 million over five years** to: incentivize and facilitate the collaborative participation of provincial and Indigenous authorities in REAs and SEAs, by offering financial support for land and resource use planning following

the successful completion of assessments; encourage land and resource use planning and better management of cumulative effects; and better inform project-level decision making.

- **\$5 million over five years** to establish an advisory panel of Canada’s leading experts to inform the development of regulations and supporting policy under the Impact Assessment Act respecting the processes, objectives and outcomes of REA and SEA. The GBC recommends that this panel also help identify priority REAs and SEAs, and advise on the terms of reference of those first assessments.
- **\$100 million over five years** to establish co-governance bodies with provincial/territorial and Indigenous authorities to conduct further REAs and SEAs according to best practices, do follow-up and monitoring, and ensure that those assessments inform project-level decisions with up-to-date information.

Contact

Anna Johnston - ajohnston@wcel.org

FIRST NATIONS WATER AND WASTEWATER FUNDING

Previous commitments by the federal government have included \$739 million for long term drinking water advisories and operations and maintenance infusions to solve water quality problems. What remains unfunded are requirements for retrofits, upgrades, replacement of obsolete equipment, and capital replacement due to deterioration. These unfunded costs are contributing to the persistent difficulties with adequate system maintenance and the repeated drinking water advisories and boil water advisories.

The Green Budget Coalition supports the adoption of a new federal Operations and Maintenance funding policy for First Nations water infrastructure, based on an industry-standard Asset Management Plan approach. This will support longer term requirements for fully funding operations and maintenance of First Nations water assets, and to support implementation of new First Nations led drinking water and wastewater legislation.

At a bare minimum, the annual cost for the water infrastructure segment of First Nations' assets is estimated by the Parliamentary Budget Officer at \$361 million,⁷⁰ although this may not allow for population growth, climate change resiliency impacts, or on-the-ground and below-ground infrastructure assessments which would disclose the actual state of the infrastructure.

Recommended Investment: \$361 million annually, ongoing, for First Nations' water infrastructure operations and maintenance.

Please see the more detailed recommendation online at www.greenbudget.ca/2020FNs_water

Contact

Theresa McClenaghan – theresa@cela.ca

⁷⁰ Office of the Parliamentary Budget Officer. (2017). Budget Sufficiency for First Nations Water and Wastewater Infrastructure (Pages 6 & 23). https://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2017/FN%20Water/FN_Water_EN.pdf

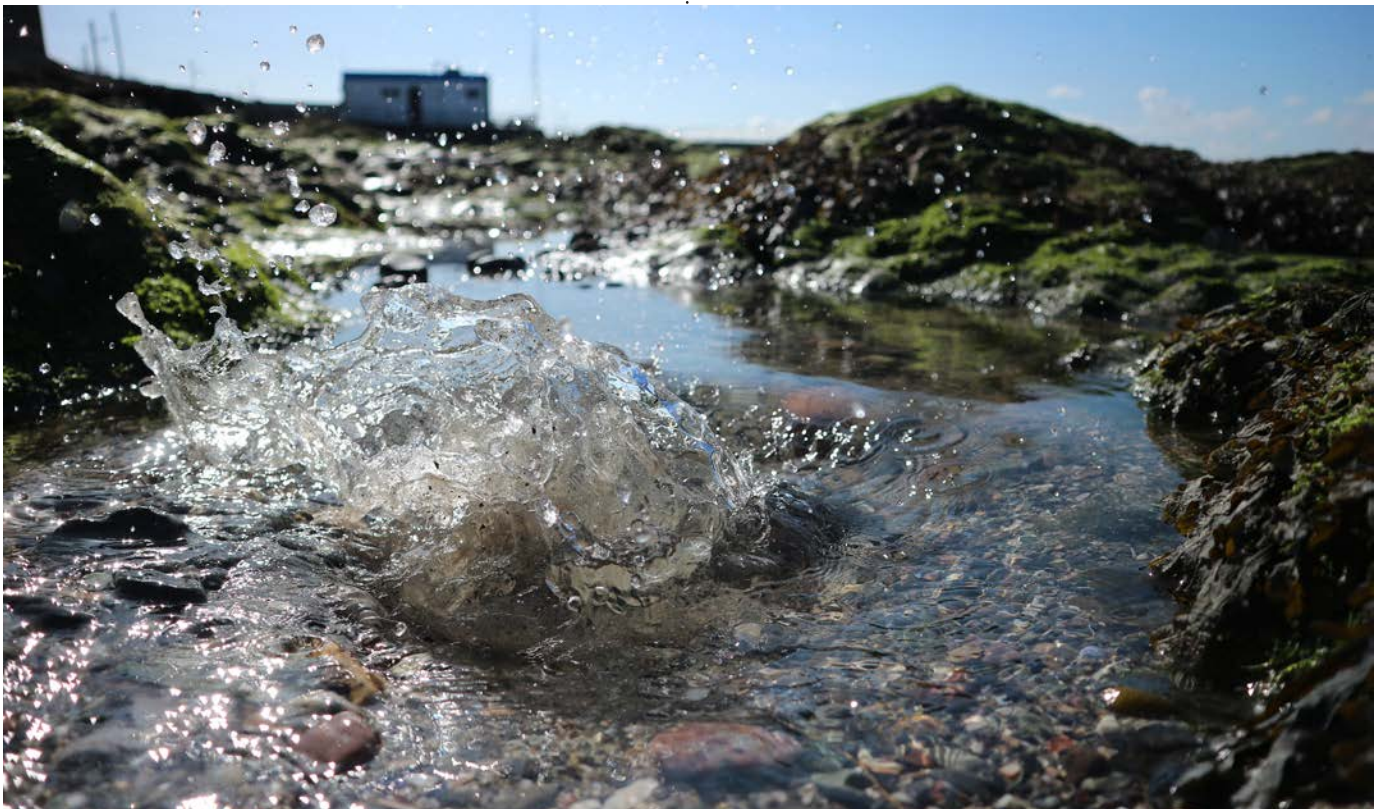


Photo: Cian Cullen

SUMMARY TABLE — RECOMMENDATIONS**Lead Departments and Costs (and Savings) Associated with the GBC's Recommendations for Budget 2020**

(in millions of dollars; negative figures represent savings or revenues)

Recommendation <i>Sub-Recommendation</i>	Likely Lead Department(s)	2020-21	2021-22	2022-23	2023-24	2024-25	ongoing	(end-year)
CLIMATE EMERGENCY								
Fossil Fuel Subsidy Phase-Out								
Phase-out timeline for existing FF subsidies/supports	Finance, NRCan	Very low - annual savings of several hundred million dollars.						
Disclose costs of spending & tax deductions	Finance	No additional cost - we expect this could be achieved using existing capacity.						
Transparent, credible peer review	Finance, NRCan, ECCC	No additional cost - we expect this could be achieved using existing capacity.						
Commit to not introduce new FF subsidies	Finance, NRCan	-	-	-	-	-		
End EDC's support of fossil fuels; align w climate commitments	GAC	No additional cost - we expect this could be achieved using existing capacity.						
Buildings & Energy Efficiency								
Financing tools	Infrc, Finance, NRCan, ECCC, CMHC	Cost depends on option chosen.						
Training for low-carbon building workforce	ESDC + NRCan	67	67	66				
Transportation (road)								
Trucks - financial incentives for fuel saving	TC + NRCan	40	40	40	40	40		
Zero-emission buses - supporting transit agencies	TC + Infrc	85						
Assess cost premiums for trailer & retrofit market	TC	1.5						
Community Energy								
Promoting community investment options	NRCan+Finance,ISED	2	2	2	2	2		
Expand LCEF to fund feasibility studies	ECCC, NRCan	3	3	3				
Smart Grid program focus on deployment	NRCan	20	20	20	20	20		
Support development of new tools	ISED, NRCan, Finance	3	3	3				
Programs for low-income & vulnerable communities	NRCan	10	10	10	10	10		
International Climate Financing								
Financing	GAC + ECCC	at least 2,900	at least 2,900	at least 2,900	at least 2,900	at least 2,900	at least 2,900	(2025-26)
New Revenue sources	Finance, ECCC, GAC	at least 2,900	at least 2,900	at least 2,900	at least 2,900	at least 2,900	at least 2,900	(2025-26)
Nature-based climate solutions								
	ECCC	250	250	250	250			
Marine Shipping								
Reducing Climate impacts								
Research & stakeholder engagement	TC, ECCC, DFO + CIRNAC, NRCan	7.5	7.5					
R&D & sea trials	TC, NRCan + ECCC, CIRNAC	10	10					
GHG reduction innovation fund	TC + ECCC, NRCan, CIRNAC	2.5	2.5					
Fuel transition fund	TC, ECCC + NRCan, CIRNAC		3	3	3	3	3	(2025-26)
Totals - for above lead Climate recommendations		501.5	418	397	325	75		
Carbon Pricing - Improving effectiveness								
Mid-term review to address competitiveness	ECCC	5						
Funding for academic study	ECCC + NRCan	1.5						
Clean Fuel Standard - Increasing benefits								
	ECCC, NRCan	5	3	3	2	2		
Road transportation (contd)								
Purchase incentives for ZEVs	TC + NRCan, ECCC, ISED, Infrc	150						
Strategic Assessment of Climate Change								
	ECCC	1	1	1				
True Costs of Climate Change								
	ECCC	1	1					

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Recommendation	Likely Lead Department(s)	2020-21	2021-22	2022-23	2023-24	2024-25	ongoing	(end-year)
<i>Sub-Recommendation</i>								
NATURE CONSERVATION								
Public Lands								
Achieve 17% protection by 2020								
Federal Protected Areas	ECCC, PCA	82						
Provincial/Territorial protected areas	ECCC+PCA	128						
Indigenous protected areas	ECCC+PCA	257						
Commit to protecting 30% by 2030								
Federal Protected Areas	ECCC, PCA		26	26	26	35	35	(2029-30)
Provincial/Territorial protected areas	ECCC+PCA		98	98	99	107	107	(2029-30)
Indigenous protected areas	ECCC+PCA		197	197	196	214	214	(2029-30)
Ongoing management and stewardship								
National Parks & National Wildlife Areas	ECCC+PCA	64	66	66	65	69	69	(2029-30)
Totals – for Protecting Public Lands		531	387	387	386	425	425	
Private Lands								
North American Waterfowl Management Plan	ECCC	10						
Management and stewardship	ECCC	10	10	10	10			
Habitat Restoration								
Wetland Restoration Program	ECCC	50	50	50	50	50		
Grasslands	ECCC + AAFC	20	20	20	20	20		
Oceans								
Marine Spatial Planning (including <i>Oceans Act</i> MPAs)								
MPAs network	DFO+ECCC,PCA	76.5	76.5	76.5	76.5	76.5	72	
National Marine Conservation Areas	ECCC, PCA	5	5	5	5	5		
Conservation Economy, Inuit Impact Benefit Agreements	DFO, ECCC	100	100	100	100	100		
International MPA conference 2021	DFO, ECCC	11.5						
Enhance fish stock assessment capacity	DFO	35	35	35	35	35		
Capacity to meet SARA requirements	DFO	25	25	25	25	25		
Ensure environmental sustainability within aquaculture programs	DFO+ISED,HC,AAFC,CIRNAC	25	25	25	25	25		
Totals – for Oceans		278	266.5	266.5	266.5	266.5	72	
Birds								
International Habitat	ECCC, GAC	5	5	5	5			
Science & Conservation	ECCC	3	3	3	3			
Aerial insectivores, grassland birds, & shorebirds	ECCC	2.5	2.5	2.5	2.5			
<i>Species at Risk Act</i>	ECCC	3	3	3	3			
Freshwater Monitoring Framework	ECCC	20	20	20	20	20		
Wildlife Collision Reporting System	TC, ECCC	1.5	1.5	1.5				
SUSTAINABLE AGRICULTURE								
Agri-Environmental Programs								
National on-farm Land Management & Stewardship Program	AAFC, ECCC	50	50	50	50	50		
Improved biodiversity metrics/indicators	AAFC, ECCC	4	4	4	4	4		
National Perennial Cover Incentive	AAFC	24	24	24	24	24		
Pollinator Conservation Initiative	AAFC, ECCC	12	12	12	12	12		
Agri-insurance scheme to reduce harmful pesticides	AAFC	4	4	4	4	4		
Supporting beef production supporting grasslands	AAFC, ECCC	1						
R&D in env'lly sustainable & regenerative agriculture	AAFC	16	16	16	16	16		
Facility for Collection of Insects, Arachnids, & Nematodes	AAFC	15	15	15				
Totals – for Sustainable Agriculture		126	125	125	110	110		

SUMMARY TABLES

Recommendation	Likely Lead Department(s)	2020-21	2021-22	2022-23	2023-24	2024-25	ongoing	(end-year)
<i>Sub-Recommendation</i>								
TACKLING TOXICS & PESTICIDES								
Renewal of Chemicals Management Plan	ECCC, HC	-	100	100	100	100	100	100
Enforcement of pollution-prevention laws	ECCC	50	100	100	100	100	100	100
Health Canada's Pest Management Regulatory Agency	HC, PMRA	50	100	100	100	100	100	100
Coordinated data collection for pesticide exposure assessments								
AAFC - initial pilot & annual data collection	AAFC	2	2	2	2	2		
ECCC - Systematic monitoring of pesticides in water	ECCC	3.3	3.3	3.3	3.3	3.3		
Totals – for Tackling Toxics & Pesticides		105.3	305.3	305.3	305.3	305.3	300	
Plastics								
Public education & targeted compliance promotion	ECCC	12	12	12	12	12		
Matching fund to support zero-waste business investment	ISED + ECCC	500						
Prevent & recover abandoned fishing gear	DFO	2	2.1	2.1	2.1			
Map current circularity of Canadian society	ECCC + StatCan	5						
COMPLEMENTARY								
Environmental Science & Data	ECCC, NRCan, StatCan, ISED + AAFC, DFO, PCA, HC, CSA							
Public-Private Advisory Panel	ECCC	1	1	1				
Updated National Ecosystem Geospatial Data								
Audit & Inventory of existing geospatial data sets	NRCan, ECCC	0.7	0.7	0.6				
Updated foundational geographic & landscape feature data	NRCan, ECCC	32	31	31	31			
Census of the Environment	StatCan	4	4	4	4	5	5	
Regional Scale Environmental Governance								
Participation - Indigenous & provincial	ECCC, IAAC	10	10	10	10	10		
Advisory panel on REAs & SEAs	ECCC, IAAC	1	1	1	1	1		
Establishing co-governance bodies to conduct REAs & SEAs	ECCC, IAAC	20	20	20	20	20		
First Nations Water & Wastewater Funding	ISC, CIRNAC + Infc	361	361	361	361	361	361	

Departmental Acronyms**AAFC:** Agriculture and Agri-Food Canada**CIRNAC:** Crown-Indigenous Relations and Northern Affairs Canada**CMHC:** Canada Mortgage and Housing Corporation**CSA:** Canadian Space Agency**DFO:** Fisheries and Oceans Canada**ECCC:** Environment and Climate Change Canada**ESDC:** Employment and Social Development Canada**Finance:** Finance Canada**GAC:** Global Affairs Canada**HC:** Health Canada**IAAC:** Impact Assessment Agency of Canada**INAC:** Indigenous and Northern Affairs Canada**Infc:** Infrastructure Canada**ISC:** Indigenous Services Canada**ISED:** Innovation, Science & Economic Development**NRCan:** Natural Resources Canada**PCA:** Parks Canada Agency**PMRA:** Pesticide Management Regulatory Agency**PSC:** Public Safety Canada**StatCan:** Statistics Canada**TC:** Transport Canada



Contact

Andrew Van Iterson, Manager, Green Budget Coalition
avaniterson@naturecanada.ca, 613-562-8208 ext. 243
300-240 Bank Street, Ottawa, ON K1P 5E7

- Co-Chair:** Lisa Gue, Senior Researcher and Analyst - Science and Policy, David Suzuki Foundation
- Co-Chair:** David Browne, Director of Conservation, Canadian Wildlife Federation
- Director:** Stephen Hazell, Director of Policy & General Counsel, Nature Canada
- Director:** Anna Johnston, Staff Lawyer, West Coast Environmental Law
- Director:** Kathleen Cooper, Senior Researcher and Paralegal, Canadian Environmental Law Association