



SUPPORTING EVIDENCE-BASED DECISION MAKING

Peer reviewed science, data and information, including geographic information and mapping (GIS), form the foundation for public policy and environmental leadership. The government has recognized this in its commitment to “evidence-based decision making”, and in its understanding of the role that science plays in informing effective government policy.

The Green Budget Coalition recommends that the federal government continue to rebuild and enhance Canada’s ecosystem science capacity and specifically fund 3 important initiatives:

- 1. National Ecosystem Monitoring** – provide funding to make significant progress toward developing and implementing a comprehensive national ecosystem monitoring framework to support effective land-use management, climate change adaptation, sustainable resource development and biodiversity conservation

Investment Required:

For 2017/18: \$30 million
For 2018 to 2022: \$120 million (total)
Ongoing: \$25 million/year

- 2. Measuring Ecological Goods and Services** – provide funding for Statistics Canada to support inter-departmental research to track the “stocks” and changes in the ecosystems and ecological goods and services that are fundamental to Canadians’ health, economy and natural heritage.

Investment Required:

For 2017/18 \$1.4 million
Total: \$4.5 million of incremental funding over 3 years

- 3. Wetlands Inventory and Monitoring** – provide funding to make significant progress towards completing the Canadian Wetland Inventory to support land-use planning, sustainable development and the creation of climate-resistant communities.

Investment Required:

For 2017/18: \$10 million
For ongoing: \$10 million/year over 4 years

1. National Ecosystem Monitoring

Recommendation Summary

The Green Budget Coalition recommends that the Government of Canada provide funding of \$150 million over five years starting in Budget 2017 to make significant progress towards developing and implementing a comprehensive national ecosystem monitoring framework that would underpin evidence-based decision making in land-use management, climate change adaptation, sustainable resource development and biodiversity conservation. The GBC also recommends that continuous funding of \$25 million per year be provided to support effective administration of the proposed framework.

This framework would be jointly led by Natural Resources Canada and Environment and Climate Change Canada, and would be developed in partnership with provincial and territorial governments, along with other core federal departments and agencies, including Agriculture

and Agri-Food Canada, Fisheries and Oceans Canada, Canadian Food Inspection Agency, Public Health Agency of Canada, Statistics Canada, Parks Canada and Canadian Space Agency.

Investment Required

For 2017/18: \$30 million
For 2018/19 to 2021/22: \$120 million (total)
Ongoing, from 2022/23: \$25 million/year

Background and Rationale

To support evidence-based policy- and decision-making, Canada must develop a comprehensive, authoritative and multi-sector ecosystem monitoring framework. This monitoring system would provide governments, industry and the general public with timely information critical for climate change adaptation and mitigation actions, sustainable land-use planning, conservation and risk management.

The GBC is aware of the proposed National Ecosystem Early Warning System (NEEWS) and in principle, supports

this initiative. The GBC recommends that the Government use this initiative to effectively remedy critical data gaps in existing national-scale monitoring activities and programs by:

- Increasing the number of ground-plots from 1000 to 10 000, which would ensure statistically robust data;
- Expanding the type of data collected for new elements such as critical habitat for species at risk, carbon sequestration, and potential pathogen sources, to effectively mitigate risks and identify threats to humans and wildlife; and
- Incorporating other ecosystems and lands monitoring (in addition to forests), including wetlands, grasslands, agricultural lands and boreal ecosystems in order to better understand the cumulative effects of land-use and climate change.

Developing and effectively implementing a national ecosystem monitoring network, like the NEEWS, would enable Canadians to measure and evaluate the goods and services provided by terrestrial ecosystems, forecast risks and vulnerabilities associated with cumulative effects of land-use changes and climate change impacts, and subsequently establish evidence-based solutions for climate resiliency and sustainable growth.

2. Measuring Ecological Goods and Services

The Green Budget Coalition recommends that the Government of Canada provide funding of \$4.5 million over three years, starting in Budget 2017, to Statistics Canada to allocate seed funding for a second phase of the Measuring Ecosystems Goods and Services (MEGS) project. This phase would support inter-departmental research to track the “stocks” and changes in the ecosystems and ecological goods and services that are fundamental to Canadians’ health, economy and natural heritage.

Investment Required:

For 2017/2018:	\$1.4 million
Total:	\$4.5 million of incremental funding over three years

Recommendation Summary

The interdepartmental project on Measuring Ecosystems Goods and Services (MEGS) was coordinated by Statistics Canada and concluded with the release of some of its findings in the 2013 Human Activity and the Environment report. This two-year project propelled research on ecosystem accounting and the quantification of ecosystem goods and services (EGS). Participating departments included Environment and Climate Change Canada, Fisheries and Oceans Canada, Natural Resources Canada, Parks Canada, Agriculture and Agri-Food Canada, and Policy Horizons Canada. It is strongly recommended

that the Government of Canada allocate new funds for the continuation of this project.

Of the total \$4.5 million for incremental seed funding to advance development of a system of ecosystem accounting for Canada and start looking at the feasibility of a census of the environment, the GBC recommends \$2.4 million be directed to Statistics Canada to support their leadership and coordinating role, and \$2.1 million to support the participation of the relevant policy departments.

Background and Rationale

Quality information is vital for understanding and protecting our environment, and for developing effective policies and technologies.

Underpinning the exercise is the concept of natural capital. In simple terms, the concept of natural capital views the natural environment as a collection of assets that provide environmental goods and services.

Using wetlands as an example, measuring the economic values generated by the ecosystem services (flood attenuation, tourism, nutrient retention) of this natural cover would enable Canadians to have a more accurate measure of the services/decreased expenditures required to remedy and manage the impacts of climate change, including severe weather events like flood damage and related issues such as declining water quality.

One result of the MEGS project was Statistics Canada’s decision to invest in developing annual land cover and land use change statistics and renewable water estimates. These reports provide important base data for researchers and policy-makers, and allow them to integrate environmental considerations into economic and policy decision-making, a priority in the Federal Sustainable Development Strategy.

While these new investments are a start, this additional federal funding could greatly extend the reach of this work.

This investment would allow for a more comprehensive approach to the Human Activity and the Environment Reports. With the emergence of the Natural Capital Framework, this work would clearly define what should be measured with respect to the environment and human interaction with it.

Internationally, EGS measuring and accounting projects are gaining traction across multinational institutions, including the United Nations and the World Bank.

3. Wetlands Inventory and Monitoring Recommendation Summary

The Green Budget Coalition recommends that the Government of Canada provide funding of \$50 million over five years starting in Budget 2017 to make significant progress towards completing the Canadian Wetland Inventory (CWI). The completion of the CWI would be an

important complement to existing wetland conservation programs, and would greatly advance government's climate change mitigation and adaptation objectives. It is also recommended that an additional \$4 million is allocated annually over 5 years to develop a Wetland Monitoring component as a core part of the federal Government's national ecosystem monitoring efforts.

This program would be led by Environment and Climate Change Canada in partnership with Natural Resources Canada and Agriculture and Agri-food Canada. This initiative would also be supported by, or complementary to the mandates of, Fisheries and Oceans Canada, the Canadian Food Inspection Agency, the Public Health Agency of Canada, Statistics Canada, Parks Canada and the Canadian Space Agency.

Investment Required

For 2017/18: \$10 million
For ongoing: \$10 million/year over 4 years

Background and Rationale

The federal government is taking steps to restore science, research and information management programs that have been cut over the past decade. The lack of major progress towards a completed national wetland inventory and monitoring program continues to be a significant gap. The Canadian Wetlands Inventory (CWI) is an essential tool for identifying and tracking land use change, particularly the presence of wetlands on the Canadian landscape. Completing this inventory will significantly enhance land-use planning, sustainable development, and the creation of climate-resilient communities.

Once a baseline inventory is set, we recommend that the federal government incorporate this wetland data layer into a national ecosystem monitoring framework designed to track and measure changes on the landscape for better planning and management.

A comprehensive CWI would provide federal, provincial, terrestrial and indigenous governments with vital

information that will enable informed decision-making and strategic investments in nature-based infrastructure, critical habitat conservation, climate change adaptation actions and sustainable resource development.

A completed CWI would also provide industry with important information that would guide and shape the implementation of sustainable resource development plans and best management practices.

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