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## Setting a Biodiversity Course for 2020 – *Promoting and Enabling Canadian Implementation of the 2011-2020 Aichi Targets*

Canadian Business and Biodiversity Council Workshop  
Toronto  
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Ecosystems and Biodiversity Priorities  
Environment Canada  
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## Purpose of presentation

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Provide an over-view of recent Federal Government initiatives focused on valuing nature and transitioning to an ecosystem services approach.

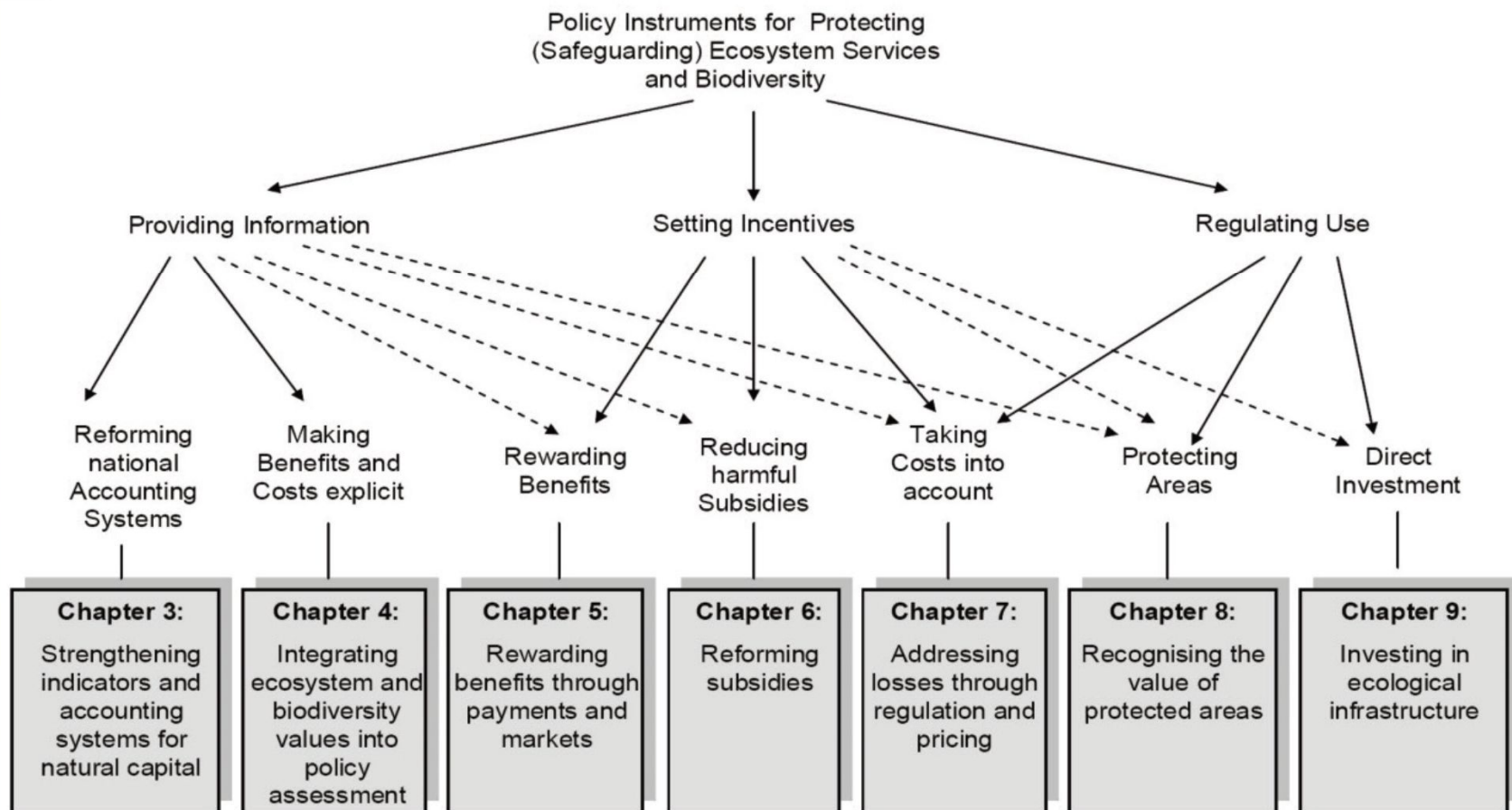


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# TEEB Report highlights ways that Governments can influence actions and decisions impacting biodiversity



## The federal government's role is narrowly defined so it must find ways to inform and enable action by others

- Federal government has a responsibility to take direct action in areas of federal jurisdiction including:
  - International negotiations, the North, oceans, national parks, management of federal lands, aboriginal affairs, etc.
- Federal government also uniquely positioned to lead and enable more broadly-based action through:
  - Providing Information for Decision-making
  - Developing Instruments to Support Stewardship
  - Creating Institutional Mechanisms to Achieve Consensus



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The goal of this type of approach is to target outcomes that achieve both environmental and economic objectives

### **1. Economic and Environmental Signals Aligned**

- Value of ecosystem goods and services visible and reflected in economic models
- Pricing and consumer behaviour reflect ecological values (full-cost accounting)
- Incentives for the maintenance of ecological benefits
- Markets for environmental services
- Natural capital accounts reflected in GDP

### **2. Developmental Footprint Reduced**

- Resource efficiency – sustainable production and consumption
- Greening the supply chain – eco-certification
- Biodiversity values integrated into sectoral policy
- Responsible stewardship, corporate social responsibility
- Competitive advantage, market access, social license

### **3. Ecological Infrastructure (Natural Capital) Enhanced**

- National Network of lands and waters managed for their biodiversity values
- Ecosystem goods and services maintained
- Future options kept open (genetic resources)
- Loss of “blue” and “green” carbon in forests and oceans halted
- Resilience and adaptive capacity maintained



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# To achieve these outcomes, new approaches are needed

## Historical Approach

Costly **remedial**/emergency ward approaches

**Fragmented, issue-by-issue** policy initiatives

Biodiversity as an **“add-on”** in land and resource management decisions

**Compliance-based** regulatory approaches

**Unsustainable production and consumption** that fails to account for biodiversity values

**Intra-disciplinary, targeted** science focused on conserving single components

**Planning**



**Policy Synergies**



**Decision-making**



**Regulation**



**Economics**



**Science**



## Transformative Approach

**Proactive & preventive** whole system approaches that reduce long-term loss and costs

**Mutually supportive** policy initiatives to achieve **co-benefits** – e.g. biodiversity, water, climate change, food security

Biodiversity mainstreamed within land, resource and economic decisions

**Performance-based frameworks** – mix of policy instruments

**Life cycle approaches** and **full cost accounting** of biodiversity and ecosystem service values

**Trans-disciplinary and predictive** science focused on maintaining ecosystem services and biodiversity values



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# This presentation will focus on recent initiatives aimed at supporting this transition

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- Advances in assessing the status and health of Canada's ecosystems
  - Ecosystem Status and Trends Report (“ESTR”)
- Recent initiatives aimed at assessing the importance of nature to Canadians
  - Value of Nature to Canadians (“VNCS”)
    - Including valuation framework
- Measuring and Valuing ecosystem services
  - Measuring Ecosystems Goods and Services (“MEGS”)



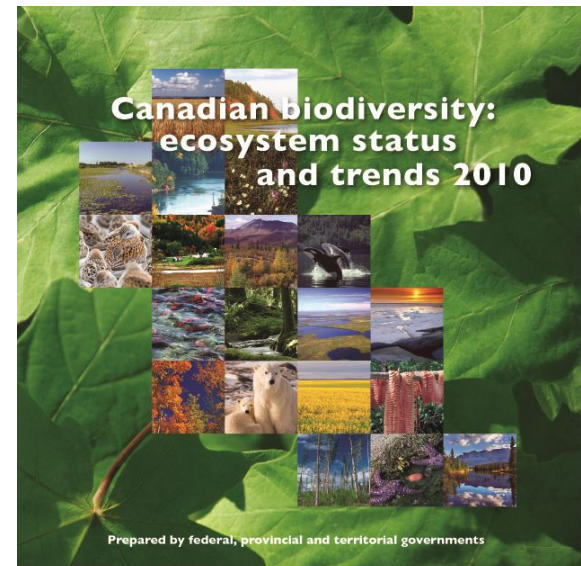
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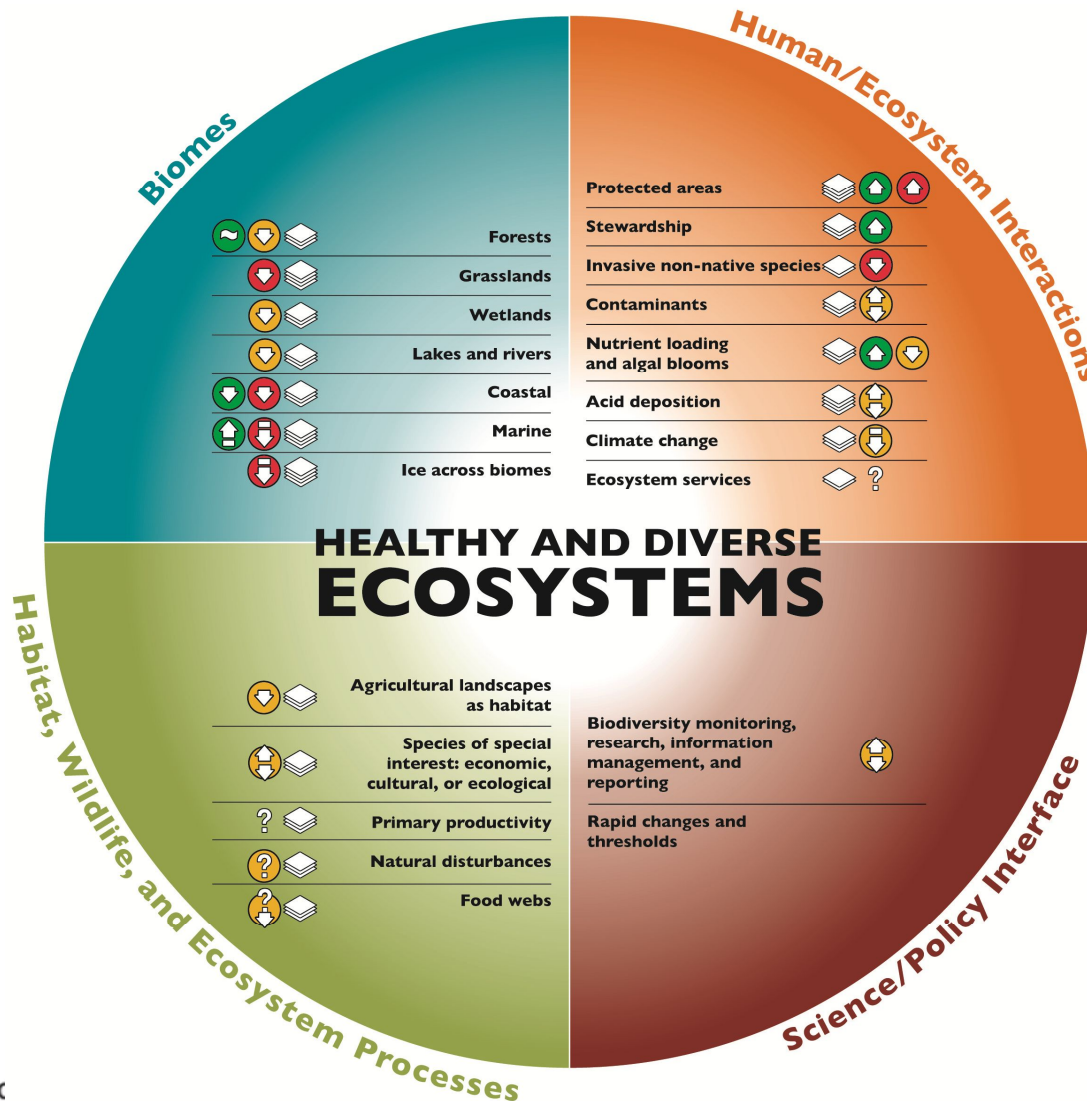
# Ecosystem Status and Trends Report

- Public report released Oct. 15, 2010.
  - Federal/provincial/territorial web site [biodivcanada.ca/ecosystems](http://biodivcanada.ca/ecosystems)
- Technical reports being completed
  - Will be posted as they become available throughout the fiscal year
- Lessons learned & Business Case Under development





# Synthesis of Results



## Value of Nature to Canadians Study came from a desire to implement an ecosystems services approach

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- First value of nature survey in 1980's
  - Surveyed wildlife recreation activities
  - Scope expanded over time
  - Last study done in 1996
- New study started in late 2009
  - National and sub-national governments wanted to update 1996 study
  - Study was priority Federal government biodiversity initiative for 2010
  - Environment Canada is lead agency



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## There are four overall objectives for the Value of Nature to Canadians Study

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- Provide data/analysis to inform policy, decision-making
- Increase knowledge of ecosystems values
- Develop a national approach to ecosystem services valuation
- Contribute to ongoing public engagement



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## The study encompasses a number of inter-related and complex stages

Stage	Description	Status
Phase 1: Establish analytical frame	Set analysis scope Literature review Gap analysis	Complete
Phase 2: Preliminary studies	Initial communication and engagement Survey of valuation techniques Survey of existing data	Complete
	Set up focus group	Underway
Phase 3: Collect core data	National survey on values Valuation tool kit	Underway
Phase 4: Analysis and reporting	Analyse results of survey and other workstreams Prepare reports for stakeholders	Future



## One key VNCS deliverable is a valuation toolkit for use by decision makers

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- Identified by study working group as a priority
- Objectives
  - Practical
  - Widely applicable
  - Aid in evaluation and valuation
  - Tool for decision makers rather than reporting
- Draws on work done elsewhere
  - National: Water Valuation toolkit, provincial studies
  - International: World Business Council for Sustainable Development, DEFRA (United Kingdom)
- Aiming for completion by first half of 2012



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# Canada is currently expanding our system of national accounts to report ecosystem services

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- Measuring Ecosystem Goods and Services (MEGS) Project
- Draws on existing international work
  - Millennium Ecosystem Assessment
  - The Economics of Ecosystems and Biodiversity (TEEB)
  - World Bank - “Wealth Accounting and Valuation of Ecosystem Services” (WAVES)
  - United Nations System of Environmental-Economic Accounts (SEEA)
- 3-year project
  - Statistics Canada – technical lead
  - Environment Canada - policy lead



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# MEGS vision is to improve data so as to enable better environmental management

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- Objective:
  - Statistical framework to support valuation of ecosystem goods and services
- Guidance on valuation methods for policy makers and non-government stakeholders
- High-quality data available on:
  - impacts of economic growth on the natural capital base;
  - importance of natural capital to the economy;
  - how much to invest to conserve natural capital stocks;
  - economic contribution of natural resources sectors; and
  - effective use of natural capital in support of human well-being



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## There are six major modules in the MEGS project

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- Project teams have been established for:
  - Ecosystem data accessibility
    - Data standards and availability
  - Land cover extent and spatial standards
    - Spatial standards and classifications
  - Landscape condition and environmental quality
    - Develop indicators of ecosystem quality
  - Wetlands
    - Integrated study of extent, quality and values
  - Coastal and marine
    - Data integration and socio-economic factors
  - Valuation
    - Methodologies



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## Although there are still a number of challenges the MEGS vision of ecosystem accounts is well developed

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- The challenges are significant:
  - Data: availability, quality, confidentiality
  - Range of stakeholders
  - Classification of ecosystem goods and services
  - How to define outputs
  - Continued funding after initial project term
- Key elements of the ecosystem accounts have been identified
  - Spatially-referenced land cover and water data
  - Measures of ecosystem quality
  - Valuation methods



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## A possible format for an ecosystem account table has been developed

Ecosystem type	Area	Quality	Goods and services (average \$/ha)				Total
			Provisioning	Regulating	Habitat	Cultural	
Marine/open ocean							
Coastal							
Wetlands							
Lakes/rivers							
Forests							
Woodland and shrubland							
Grass/rangeland							
Desert							
Tundra							
Ice/rock/polar							
Cultivated							
Urban (settled)							
Total							



## There has been good progress since the project started in May 2011

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- Expert team appointed
- Governance structure agreed
- Drafted work plans for the six working groups
- Updated some existing data sets
- Identified applicable Canadian valuation studies
- Reviewed international literature



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# Summary

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- Canada is taking steps to address some of the more challenging Aichi Targets related to underlying causes of biodiversity loss
- This transition to an ecosystem services approach will focus heavily on the socio-economic aspects of biodiversity – both impacts and benefits to society
- Major part of government role is to facilitate actions by businesses, individuals and other levels of government
- Recognises the need for new and innovative incentive and market-based approaches
- Green economy and green growth agendas expected to stimulate mainstreaming of biodiversity across all resource sectors and highlight the role of business



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