

THE FEDERAL POLICY ON WETLAND CONSERVATION

Government of Canada 1991

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BACKGROUND

In 1986 and early 1987 Environment Canada developed a national statement and fact sheet on wetland issues in Canada summarizing management problems and identifying the major obstacles to wetland conservation. The Department subsequently sponsored a non-government organizations Workshop on Wetland Conservation Policy in February 1987. This workshop developed a series of recommendations directed to all governments in Canada concerning the need for wetland policy. These recommendations were sent to all Environment and Natural Resource Ministers across the country.

The Federal-Provincial Committee on Land Use (FPCLU) in 1987 identified "wetlands management" as a significant land use issue. A Wetlands Subcommittee of the FPCLU was convened in June 1987, and produced a report entitled "A Framework for Wetlands Policy in Canada". This report was endorsed by the full committee and members agreed to encourage use of this framework, as appropriate, in their own jurisdictions. Also in early 1987, the Federal Interdepartmental Committee on Land identified the need to develop a wetlands policy statement to supplement the "wise land use" provisions of the Federal Policy on Land Use. The Federal Water Policy adopted in 1987 also identified wetlands conservation as a significant water resource issue.

For over 10 years Canada has been a signator nation to the Ramsar Convention, an international treaty focusing on conservation of wetlands of international importance. A major obligation under the Convention is implementation of principles, proposed in 1987 by Canada, for the wise use of wetlands. The Convention notes the "wise use" of wetlands is defined as their "sustainable utilization for the benefit of humankind in a way compatible with the maintenance of the natural properties of the ecosystem". Further, it calls for the establishment of wetland conservation policies in each nation to improve institutional and organizational arrangements, to address legislative needs, to increase knowledge and awareness of wetland values, to monitor the status of wetlands, to identify program priorities and to develop action plans for specific sites. Canada is a major supporter of this Convention, having hosted the Third Conference of the Contracting Parties at Regina in 1987 and, more recently, providing the Vice-Chairperson to the Convention's Standing Committee. Thirty wetlands of international importance have been designated to date in Canada out of about 450 such sites worldwide.

A commitment to wetlands conservation and the need for wetland policy have not only been recognized at the international level by Canada but also nationally. In April 1990, the Federal Government and numerous non-government and industry groups (including Ducks Unlimited Canada, Wildlife Habitat Canada, and the National Round Table on the Environment and the Economy) co-hosted a national policy conference entitled the "Sustaining Wetlands Forum". This national meeting focused on opportunities for partnerships in wetland conservation and development of responses by all economic sectors to the implementation of the North American Waterfowl Management Plan. A series of national recommendations were developed including a call for all jurisdictions in Canada to develop mutually supporting wetland conservation policies by 1991. At the Sustaining Wetlands Forum the Prime Minister of Canada was a keynote speaker. His address included statements confirming the Federal Government's intention to act on wetland policy as part of the national Green Plan.

During the summer of 1990, the Federal Government undertook national consultations on Green Plan proposals. The summary report of these consultations indicated that there is

widespread public support for the conservation of Canadian wetlands, for actions to reclaim degraded sites, and for protection of important wetlands through a cooperative, national approach. Subsequently, in December 1990 the Green Plan included a specific commitment that the Federal Government would adopt *The Federal Policy on Wetland Conservation* in 1991.

Hence, for over three years a consultative process has been underway to develop clear policy by the Federal Government that promotes wetland conservation. This has arisen as a result of interdepartmental and intergovernmental interest in this area, the support and consultative advice of non-government groups, Canada's international treaty commitments, support by a national policy conference on wetlands with strong business and private sector involvement, a public commitment by the Prime Minister of Canada, and most recently, widespread public support and a clear commitment for action in this area via the Green Plan. These actions all clearly demonstrate that concerns for conservation of wetlands have been elevated to the national environmental agenda. *The Federal Policy on Wetland Conservation* has undergone extensive review by stakeholders, consultation with affected federal agencies and discussion with provincial and territorial agencies and non-government groups. The Policy represents a prudent and thoughtful federal response to wetland decline in Canada.

THE WETLAND RESOURCE

The Importance of Wetlands

Canada is the custodian of a major portion of the world's wetland resource base. With more than 127 million ha of wetlands, the country is estimated to incorporate up to one-quarter of the world's wetland area.

These wetlands are more than a peculiar landscape form. Indeed, the *World Conservation Strategy* has identified wetlands as one of the key life support systems on this planet, in concert with agricultural lands and forests. Their importance goes beyond their status as the habitat of many endangered plant and animal species. They are a vital element of national and global ecosystems and economies.

Ecological Functions

Wetlands serve many important ecological functions, including:

- **water recharge**, providing natural purification and storage of freshwater for humans and wildlife
- **natural shoreline protection** from wave action and erosion
- **natural flood reduction and control**, through water storage and retention
- **important source of oxygen**, and a vital element of the **natural evapotranspiration and climatic cycles**
- **habitats** for a wide range of waterfowl, flora, furbearers, reptiles and fish
- **refugia for rare and endangered species**
- **preservation of biodiversity and vitality of species**
- **natural storage base for carbon**

- **natural sinks for pollutants** such as sulphur from acid rain and heavy metals
- **nutrient source** for connected waters
- **soil and water conservation**

Socio-Economic Functions

With their unique properties, wetlands also serve many important socio-economic functions, including:

- **hunting, trapping and fishing** resource base (many wetland-based enterprises have special economic importance in remote areas such as for native communities that depend upon the harvest of waterfowl, ungulates, fish, and fur-bearing animals that thrive in wetland areas)
- **major attractions for tourism and recreation**
- a potential major **domestic peat energy source** available in remote areas
- an important **domestic source of peat** for horticultural and agricultural applications
- **forest products** harvesting for hardwood and pulpwood
- **agriculture** (in their natural and/or managed states, wetlands support the soil base for market garden crops and production of other specialty crops such as berries and wild rice)
- **a rich and varied landscape** serving as a valued aesthetic resource
- a focus **for scientific research**
- **natural heritage areas**

Estimated Value of Wetland Functions

In financial terms alone, Canada's wetlands are valued in the billions of dollars. This includes the financial value of annual production directly related to wetlands, including both consumptive activities such as hunting, fishing and trapping, and non-consumptive activities such as tourism and recreation. It also includes the value derived from natural functions such as flood control and water purification. Estimates in the internationally recognized book *Wetlands of Canada*, published in 1988, indicate that the economic returns derived from wetlands exceed \$10 billion annually in Canada. The economic values of wetlands alone are a strong argument for their conservation.

Loss and Degradation of Wetlands in Canada

Despite the importance of wetlands to Canada's ecological and economic health and vitality, the last two centuries have witnessed their continued loss and degradation. Since 1800, an estimated 20 million ha – one seventh of Canada's total wetland base -- have been drained or lost to other functions. Millions more hectares have been seriously degraded or are at imminent risk.

The loss of wetlands has been felt in every region of the country:

- two-thirds (65%) of the **Atlantic coastal salt marshes** are gone
- 80 to 98% of wetlands immediately within or adjacent to many of Canada's **urban centres** have been lost
- more than two-thirds (68%) of the wetlands once present in **southern Ontario** no longer exist

- over half of the **potholes in the central prairies** have been lost
- the majority (70%) of the **Pacific estuary marshes** are gone or degraded

Threats to Wetlands

The greatest single threat to wetlands historically has been drainage for agricultural purposes, accounting for 85% of total known conversions. Urban growth and industrial expansion account for an additional 9%. Other factors also contribute to wetland degradation including recreational development, hydro development, lake-level management, and drainage for forestry and peat harvesting. These figures refer to outright losses or conversions of wetlands. They do not tell the whole story, since pollution, competing and incompatible uses, and other intrusions also affect the quality and character of wetlands – their ecological vitality, geographic contiguity and the surviving individual plant or animal species whose habitats or nesting grounds are in wetlands. The impacts of such major long-term forces as global climatic change, groundwater pollution and acid rain are unknown, but of great concern.

Since the settlement era in each region of the nation, wetland use and conversion have contributed significantly to socio-economic development and to the ecological vitality of Canada. However, continuing wetland degradation and loss have now reached critical levels in many areas. In order to ensure that remaining wetlands are conserved and utilized in a sustainable manner, these trends cannot be allowed to continue.

The Federal Response

Although wetland conservation is a shared federal, provincial, and territorial responsibility, the Federal Government has a particular role to play. Wetlands are critical to federal responsibilities for maintaining the quality of the environment, migratory bird populations, inland and ocean fisheries, and international or transboundary resources such as water and wildlife. The Federal Government is also responsible for managing the impacts of over 900 of its policies and programs in Canada. Many of these directly or indirectly affect wetlands. For example, the Federal Government is a major landowner in its own right, and has direct management responsibility for major tracts of wetlands across the country. Over 29% of all of Canada's wetlands are estimated to be located on federal lands or waters, largely in our northern territories. These include national parks, community pastures, ports and harbour lands, wildlife areas, and a wide range of other crown land holdings. An estimated 8% of our National Parks are covered by wetlands, and 60% of the combined area of National Wildlife Areas and Migratory Bird Sanctuaries are wetlands. The Federal Government also develops and administers a range of broader social, economic and environmental policies and programs – both domestic and international – that can have an important impact on wetland conservation and use. It has a series of international treaty obligations for wetlands as well.

The Federal Government views its role in wetland conservation as a partner with other governments and the private sector, reflecting the national interest. It intends to be a leader by example and is committed to assisting national efforts in wetland conservation through the provision of models, tools and expertise and improving knowledge on the wetland resource of Canada. It will act as a catalyst, stimulating and enabling Canadians to participate in a collective effort.

The recommendations of the (Brundtland) World Commission on Environment and

Development, the Canadian Council of Resource and Environment Ministers' (CCREM) National Task Force on Environment and Economy, the Federal-Provincial Agriculture Committee on Environmental Sustainability, the Sustaining Wetlands Forum, and public consultations on the Green Plan all have emphasized the need for wetland policy and the incorporation of environmental objectives into the mainstream of economic decision-making. *The Federal Policy on Wetland Conservation* accordingly builds wetland conservation into the daily business of the Federal Government. Working primarily through existing programs and regulatory and decision mechanisms, the Policy is designed to advance wetland conservation within the context of efficient delivery of federal services.

To carry out its responsibilities with respect to the nation's wetlands, the Federal Government has outlined a broad objective, supported by a number of specific goals. Guiding principles are presented to govern how this federal policy will be applied. Seven strategies specify the ways and means by which the Federal Government will proceed.

The Federal Policy on Wetland Conservation complements the goals and objectives of the North American Waterfowl Management Plan, the Federal Water Policy, the Fisheries and Oceans Canada Policy for the Management of Fish Habitat, the Great Lakes Water Quality Agreement, the International Ramsar Convention, the Wildlife Habitat Canada "Common Ground" Initiative, and the Wildlife Policy for Canada adopted by the Wildlife Ministers Council of Canada.

THE FEDERAL POLICY ON WETLAND CONSERVATION

Objective

The objective of the Federal Government with respect to wetland conservation is to:

promote the conservation of Canada's wetlands to sustain their ecological and socio-economic functions, now and in the future.

Goals

In support of the above objective, the Federal Government, in cooperation with the provinces and territories and the Canadian public, will strive to achieve the following goals:

- **maintenance** of the functions and values derived from wetlands throughout Canada
- **no net loss of wetland functions** on all federal lands and waters
- **enhancement and rehabilitation** of wetlands in areas where the continuing loss or degradation of wetlands or their functions have reached critical levels
- **recognition** of wetland functions in resource planning, management and economic decision-making with regard to all federal programs, policies and activities
- **securement** of wetlands of significance to Canadians
- **recognition of sound, sustainable management practices** in sectors such as forestry and agriculture that make a positive contribution to wetland conservation while also achieving wise use of wetland resources
- **utilization** of wetlands in a manner that enhances prospects for their sustained and

productive use by future generations

Guiding Principles

In pursuing the above objectives, the Federal Government will respect the following principles. All are critical to this Policy and are not presented in any particular order of importance:

- Wetlands and their functions contribute significantly to the health and well-being of Canadians and are a desirable element of Canada's natural diversity; as such, they are a priority requirement of environmental conservation and sustainable development efforts.
- Wetland conservation is dependent on the incorporation of environmental objectives into the economic decision-making process, as recommended by the (Brundtland) World Commission on Environment and Development, the CCREM National Task Force on Environment and Economy, the Federal-Provincial Agriculture Committee on Environmental Sustainability, and the Sustaining Wetlands Forum.
- Wetlands and wetland functions are inextricably linked to their surroundings, particularly aquatic ecosystems, and therefore wetland conservation must be pursued in the context of an integrated systems approach to environmental conservation and sustainable development.
- On-going development and refinement of scientific knowledge and expertise in Canada is fundamental to the achievement of wetland conservation.
- Wetland conservation can only be achieved through a coordinated, cooperative approach involving all levels of government and the public, including landowners, non-government organizations, and the private sector.
- The Federal Government will play a major role in advocating and achieving wetland conservation, while respecting the jurisdiction of the provinces and territories and the rights of individual landowners.
- In consultation and cooperation with native institutions and representatives in Canada, the Federal Government will promote a cooperative approach to wetland conservation for lands and waters held by the Federal Government for native peoples.
- A basic change in the attitude and perceptions of Canadians regarding wetlands, through communication and education programs, is a vital prerequisite of wetland conservation.
- Canada has a special responsibility to provide leadership in international wetland conservation efforts, through the management of transboundary resources such as water and wildlife in North America, encouragement of global wetland conservation, and active participation in international treaties, conventions and forums.

Strategies

The Federal Policy on Wetland Conservation outlines seven strategies to provide for the use and management of wetlands so that they can continue to provide a broad range of functions on a sustainable basis. These strategies are aimed at working in concert with other ongoing initiatives for wetland conservation. They are aimed at providing practical direction, support, and tools to program managers. They set out direction to put the federal house in order, to manage federal wetlands, and to ensure effective wetland science and public awareness actions both nationally and internationally. All seven strategies are deemed to be critical to the success of the Policy.

1. Developing Public Awareness

The Federal Government will promote public awareness and understanding of the wetland resource in Canada and actively encourage participation of the Canadian public, including landowners, non-government organizations, aboriginal governments and institutions, and the private sector, in wetland conservation.

- Design and deliver a national public awareness program on wetlands in cooperation with other governments, non-government organizations and the private sector. This should be targeted at all levels including political.
- Inform Canadians of the health of the wetland resource on a regular basis through State of the Environment Reporting. Ensure that results of wetland research are available in formats suitable for public use and education.
- Promote the use of National Parks, National Wildlife Areas, other federal lands and waters secured for conservation purposes, and a proposed network of wetlands of significance to Canadians to communicate the values of wetlands.
- Continue to provide information and expertise concerning sustainable land use management and conservation practices, particularly as they affect soil, water and wetland conservation and management.
- Provide suitable opportunities for public review and evaluation of the Federal Government's performance relative to its wetland conservation goals.
- Promote development of targeted wetland education and outreach materials.

2. Managing Wetlands on Federal Lands and Waters and in Other Federal Programs

The Federal Government will develop exemplary practices in support of wetland conservation and sustainable wetland use to be incorporated in the design and implementation of federal programs and in the management of federal lands and waters.

- Encourage actions to enhance wetland functions on federal lands and waters through the on-going implementation of all federal programs, especially in those areas of Canada where the continuing loss or degradation of wetlands has reached critical levels, or where wetlands are important ecologically or socio-economically to a region.
- Commit all federal departments to the goal of no net loss of wetland functions (i) on federal lands and waters, (ii) in areas affected by the implementation of federal programs where the continuing loss or degradation of wetlands has reached critical levels, and (iii) where federal activities affect wetlands designated as ecologically or socio-economically important to a region. Due to local circumstances where wetland losses have been severe, in some areas no further loss of any remaining wetland area may be deemed essential.
- Develop guidelines to ensure the mitigation of the impacts of Federal Government activities affecting wetland functions and, where appropriate, develop compensatory measures.
- Promote a cooperative approach to wetland conservation initiatives for lands and waters held by the Federal Government for native peoples (such as Indian Reserves and lands and waters transferred to native peoples under comprehensive land claim settlements) in consultation and cooperation with native institutions and peoples.
- Pursue opportunities to expand or enhance federal policies, programs and regulations that have a positive effect on wetland conservation, and improve those that would otherwise result in wetland conversion or degradation in the pursuit of other objectives.

- Demonstrate and clarify links with other federal policy initiatives including the Federal Water Policy, Federal Policy on Land Use, the Fisheries and Oceans Canada Policy for the Management of Fish Habitat, the Federal Environmental Quality Policy Framework, the Arctic Marine Conservation Strategy, and the objectives of the North American Waterfowl Management Plan, that serve to advance wetland conservation interests. This may involve agreements and memoranda of understanding between federal departments or agencies to clarify respective federal roles and responsibilities with regard to wetland conservation.
- Encourage recognition of wetland functions in natural resource conservation and development strategies such as those for forests, minerals, agricultural lands, and water.
- Support protection of critical wetlands of significance to Canadians by federal or other mechanisms wherever feasible.
- Ensure that the hydrologic functions of wetlands, such as groundwater recharge, water flow regulation and water purification, are adequately reflected in federal water management activities.
- Encourage the use of watersheds as appropriate spatial units for implementation of integrated water management policy and programs.

3. Promoting Wetland Conservation in Federal Protected Areas

The Federal Government will continue to manage the use of National Parks, National Wildlife Areas, Migratory Bird Sanctuaries, National Capital Commission lands and other federal areas established for ecosystem conservation purposes so as to sustain their wetland functions and natural processes.

- Require the creation of management plans which adequately reflect the special role of the wetland resource on federal lands secured for ecosystem conservation purposes, and the periodic review and update of these plans. Management of such wetlands should only support those activities which are compatible with sustaining wetland functions.
- Commit federal land managers to the goal of no net loss of wetland functions in all federal areas secured for conservation purposes.
- Protect these wetlands from impacts resulting from land or water use and environmental quality changes, both internal and external to the federal area boundaries, by applying the Federal Environmental Assessment and Review Process, by enforcing compliance with federal regulations, by working cooperatively with other levels of government, non-government organizations and the private sector and, if required, by intervening in legal or decision-making processes.
- Encourage recreational, scientific, and educational uses of wetlands as long as these uses are not detrimental to wetland functions and do not conflict with the purposes of the area.
- Develop and amend, where necessary, new and existing federal policies and legislation so as to enhance wetland conservation within federal areas established for ecosystem conservation purposes.

4. Enhancing Cooperation

The Federal Government will continue to be a partner in cooperative activities and agreements with the provinces and territories and non-government agencies to advance wetland conservation.

- Continue to participate in joint federal, provincial and territorial wetland inventory,

evaluation, and monitoring programs in support of: the identification of geographic areas within which the continuing loss or degradation of wetlands has reached critical levels; the identification of significant wetlands requiring protection; and the identification of management strategies for the sustainable use of wetland resources.

- Encourage and support provincial and territorial policies that promote wetland conservation, and promote the development of other related strategies. Encourage recognition of wetlands in the development and implementation of provincial, territorial and regional conservation strategies.
- Encourage consultation with interested provinces and territories and other parties whereby senior levels of government ensure that their wetland conservation policies and programs are supportive of each other.
- Enhance and, where necessary, develop new mechanisms for the resolution of interjurisdictional wetland problems.

5. Conserving Wetlands of Significance to Canadians

The Federal Government will participate in and promote the establishment of a systematic and coordinated national network of secured wetlands to be achieved in cooperation with provincial and territorial governments and other stakeholders. Such an approach will lead to a comprehensive network of secured sites or complexes of exemplary and strategically important wetlands of significance to Canadians, together representing the full range of wetland functions and types.

- Establish and assist in maintenance of inventories of wetlands that have been secured for conservation purposes in each of the 20 wetland regions of Canada.
- Develop national and regional criteria for identification and promote listing of wetlands of significance to Canadians in all regions using a standardized approach primarily on the basis of existing information.
- In those cases where wetlands of significance to Canadians are found to be unprotected, encourage use of all suitable mechanisms to secure these wetlands on a priority basis.
- Encourage management of all secured wetlands of significance to Canadians to promote long-term protection of their wetland functions.
- Promote use of a national network of secured wetlands as benchmark sites for environmental monitoring, scientific research, education, and public awareness.

6. Ensuring a Sound Scientific Basis for Policy

The Federal Government will support and promote the development of expertise for a sound technical and scientific basis for wetland conservation, ensuring that the information necessary for making decisions regarding wetlands is accessible to planners, managers, regulators, and other decision-makers at all levels.

- Encourage research that is directed toward advancing wetland conservation and sustainable use of wetland resources and ensure that the results of such research are effectively integrated into decision-making.
- Encourage the establishment of wetland centres of research and expertise in Canadian and foreign educational institutions.
- Support and promote a nationally standardized approach to consistent and comparable wetland inventories, monitoring, and evaluations to guide the use, management and

conservation of wetlands across Canada and to recognize the full range of wetland functions.

- Undertake, support and promote the development of guidelines and standards aimed at establishing regional target levels for the quantity and quality of wetlands required to safeguard the range of wetland functions across Canada. Such standards must refer to the level at which wetland loss or degradation threatens the health of regional ecosystems and species survival.
- Promote the use of wetland benchmark sites for long-term ecosystem monitoring, scientific research, education, and public awareness.
- Support research and demonstration projects on mitigating the impacts of inappropriate development on wetlands, and on the restoration and rehabilitation of degraded wetlands.
- Monitor wetland trends from national and regional perspectives so as to establish wetland baselines and statistics for use in targeting of conservation efforts in priority areas. Monitor wetland quality in support of the development and application of standards and guidelines for wetland conservation.
- Encourage the development of techniques for the integration of wetland functions into natural resource allocation decisions, reflecting the full range of wetland functions and values in such techniques, and demonstrate the appropriate roles of wetland conservation in solving land use problems.
- Promote research to better define the role of wetlands in the hydrologic cycle (groundwater recharge, water purification, flood control, and the maintenance of flow regimes), and the effects on wetlands of global atmospheric cycles, shoreline erosion, renewable resource production, management of exotic species such as purple loosestrife, and the provision of fish and wildlife habitat.
- Promote research on the impact of climate change on Canada's wetlands, and the implications of such change for federal policies and programs.
- Promote research on wetland restoration, minimum operating standards, and codes of ethics for peatland resource harvesting and peatland forestry industries.

7. Promoting International Actions

The Federal Government will promote conservation and sustainable use of wetlands internationally, and encourage the involvement of other nations and international organizations in wetland conservation efforts.

- Ensure that Canadian international assistance programs, such as those administered by the Canadian International Development Agency and the International Development and Research Centre, are based on sustainable development principles and promote the maintenance and enhancement of wetland functions. Promote pro-active strategies such as that emphasized in the Canadian International Development Agency's Environmental Policy.
- Provide technical and advisory assistance to wetland conservation efforts in other countries, particularly for those wetlands used by wildlife populations shared with Canada.
- Continue to support and implement Canada's commitments under international conventions and agreements that contribute to the global conservation of wetlands and their functions and encourage other nations to become signatories to such conventions and agreements.

- Strengthen Canada's role in international wetland conservation, by requiring regular review of Canadian progress on international conventions with relevance to wetlands, and by identification of gaps or weaknesses in honouring international commitments and responsibilities.
- Promote wetland conservation through continued strong commitments to the Ramsar Convention on Wetlands of International Importance, the World Heritage Convention and international agreements and treaties.
- Continue to support and implement bilateral and multilateral agreements and similar arrangements that promote conservation and sustainable use of wetlands such as the North American Waterfowl Management Plan, the Great Lakes Water Quality Agreement, the Western Hemisphere Shorebird Reserves Network, the International Biosphere Reserves Program, and new or existing agreements on marine and estuarine environmental quality, and emerging issues such as biodiversity and climate change.
- Provide leadership in global wetland conservation through development and transfer of models, tools, information and expertise to other nations.
- Ensure that Canadian representatives on international inquiries and commissions have an adequate understanding of wetland issues so as to promote wetland conservation in their consideration of the implications of transboundary management issues and opportunities for the sustainable use of wetland resources.

GLOSSARY OF TERMS IN THE POLICY

The following terms are used in the Policy. A general definition of each is presented here as a guide to readers of this document.

"Wetland"

A wetland is land that is saturated with water long enough to promote wetland or aquatic processes as indicated by poorly drained soils, hydrophytic vegetation and various kinds of biological activity which are adapted to a wet environment. Wetlands include bogs, fens, marshes, swamps and shallow waters (usually 2 m deep or less) as defined in *The Canadian Wetland Classification System* published by the National Wetlands Working Group of the Canada Committee on Ecological Land Classification (1987).

"Wetland Functions"

Wetland functions include the natural processes and derivation of benefits and values associated with wetland ecosystems, including economic production (e.g. peat, agricultural crops, wild rice, peatland forest products), fish and wildlife habitat, organic carbon storage, water supply and purification (groundwater recharge, flood control, maintenance of flow regimes, shoreline erosion buffering), and soil and water conservation, as well as tourism, heritage, recreational, educational, scientific, and aesthetic opportunities.

"Wetland Regions of Canada"

As spatially defined by the National Wetlands Working Group of the Canada Committee on Ecological Land Classification, wetland regions are areas within which characteristic wetlands

develop in locations that have similar topography, hydrology and nutrient regimes. Twenty wetland regions in Canada have been identified in the book *Wetlands of Canada* (1988).

"Canadian Wetland Classification System"

A national framework presenting standardized criteria and definitions, *The Canadian Wetland Classification System* contains three hierarchical levels: (1) class, (2) form, and (3) type. Five wetland classes are recognized on the basis of the overall genesis of the wetland ecosystem (i.e. bog, fen, marsh, swamp, and shallow water). Seventy wetland forms are differentiated on the basis of surface morphology and pattern, landscape setting, water type, and morphology of underlying mineral (e.g. string bog, shore marsh, stream swamp). Wetland types are classified according to vegetation physiognomy (e.g. treed, moss covered, floating).

"Wetlands of Significance to Canadians"

Wetlands of significance to Canadians are:

- (a) "exemplary" or "characteristic" of the wetlands dominant or rare within each of Canada's 20 wetland regions and the full range of wetland forms and types;
- (b) "strategic" or "essential" to meeting a goal or objective specific to a wetland function (e.g. a marsh essential to the maintenance of a migratory bird population).

Wetlands are considered strategically significant for a variety of factors including:

- Water Quality – the wetland enhances water quality directly, in a related groundwater system, in a watershed in general, or in a domestic or other water source.
- Toxics – the wetland acts to naturally retain toxic substances, thereby improving local or regional soil or water quality.
- Water Quantity – the wetland enhances watershed water storage capacity, thereby affecting flood peaks and seasonal water releases.
- Habitat – the wetland provides a range of valuable wildlife habitats in terms of quality, quantity and/or diversity.
- Wildlife – the population of some species of wildlife is dependent on the wetland.
- Endangered Species – the wetland is habitat for any endangered species as defined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Human Use – a significant portion of the economic benefits derived from consumptive uses of the wildlife, forest products, peat, rice or other wetland natural resources is dependent on the wetland site or complex.
- Recreation – various non-consumptive and other recreational values are derived from the wetland.
- Economic – the wetland has a range of significant economic uses or potentials based on the resources and values present.
- Education and Research – the wetland is used or has potential for education, scientific monitoring, or research.
- Uniqueness – the wetland is a unique or highly representative example of an unusual ecosystem.
- Quantity – based on regional or national thresholds established for specific forms of wetlands,

the wetland is a significant component of the remaining baseline area and critical to the maintenance of local, regional or national biodiversity.

"Sustainable Use of Wetlands"

The sustainable use of wetlands requires management planned within the carrying capacity of the wetland ecosystem, or that of the regional or national resource, so as to ensure that the ecological and socio-economic functions of the wetlands are maintained for the long term in a sustainable manner.

"Secured Wetlands"

Secured wetlands are sites or complexes which are committed to conservation objectives by application of the full range of tenure and protection mechanisms (such as acquisition, legal protection, lease arrangement, or management agreement) that ensure that the wetland and/or its associated functions are sustained.