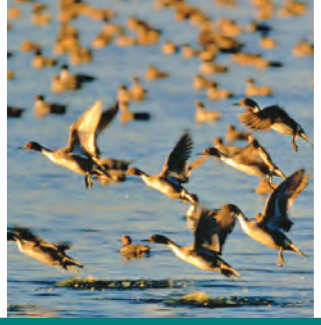




THE CITY OF Edmonton

Natural Connections

BIODIVERSITY ACTION PLAN | 2009

LAB
Local Action for Biodiversity
AN ICLEI INITIATIVE

ENHANCING URBAN NATURE THROUGH A GLOBAL NETWORK OF LOCAL GOVERNMENTS

The Local Action for Biodiversity (LAB) Project is a 3 year project which was initiated by the City of Cape Town, supported by the eThekwini Municipality (Durban), and developed in conjunction with ICLEI – Local Governments for Sustainability and partners. ICLEI is an international association of local governments and national and regional local government organisations that have made a commitment to sustainable development. LAB is a project within ICLEI's biodiversity programme, which aims to assist local governments in their efforts to conserve and sustainably manage biodiversity.

Local Action for Biodiversity involves a select number of cities worldwide and focuses on exploring the best ways for local governments to engage in urban biodiversity conservation, enhancement, utilisation and management. The Project aims to facilitate understanding, communication and support among decision-makers, citizens and other stakeholders regarding urban biodiversity issues and the need for local action. It emphasises integration of biodiversity considerations into planning and decision-making processes. Some of the specific goals of the Project include demonstrating best practice urban biodiversity management; provision of documentation and development of biodiversity management and implementation tools; sourcing funding from national and international agencies for biodiversity-related development projects; and increasing global awareness of the importance of biodiversity at the local level.

The Local Action for Biodiversity Project is hosted within the ICLEI Africa Secretariat at the City of Cape Town, South Africa and partners with ICLEI, IUCN, Countdown 2010, the South African National Biodiversity Institute (SANBI), and RomaNatura. For more information, please visit www.iclei.org/lab

CONTENTS

INTRODUCTION **4**
What is a Biodiversity Action Plan (BAP)? 4
Why have we set out in this direction? 4
WHERE WE ARE: **6**
Integrating the Biodiversity Action Plan into the current planning context 6
The Current State of Edmonton's Biodiversity 6
Biodiversity Protection Challenges and Opportunities 8
A. Key Challenges 8
B. Key Opportunities 9
Guiding Legislation 10
Conservation Governance Structure 12
Supporting Council Priorities 13
Measuring our Success: Achievements and Outstanding Opportunities in working towards the Natural Connections Strategic Directions 13
WHERE WE'RE GOING: **17**
A Vision for the Protection of our Biodiversity 17
A Community's Vision of Success 17
Goals 17
Guiding Principles 18
HOW WE'LL GET THERE: **19**
The Action Plan 19
Monitoring and Reporting Framework 19
BAP System Outcomes and Indicators 20
BAP Update 22
Implementing the Action Plan 22

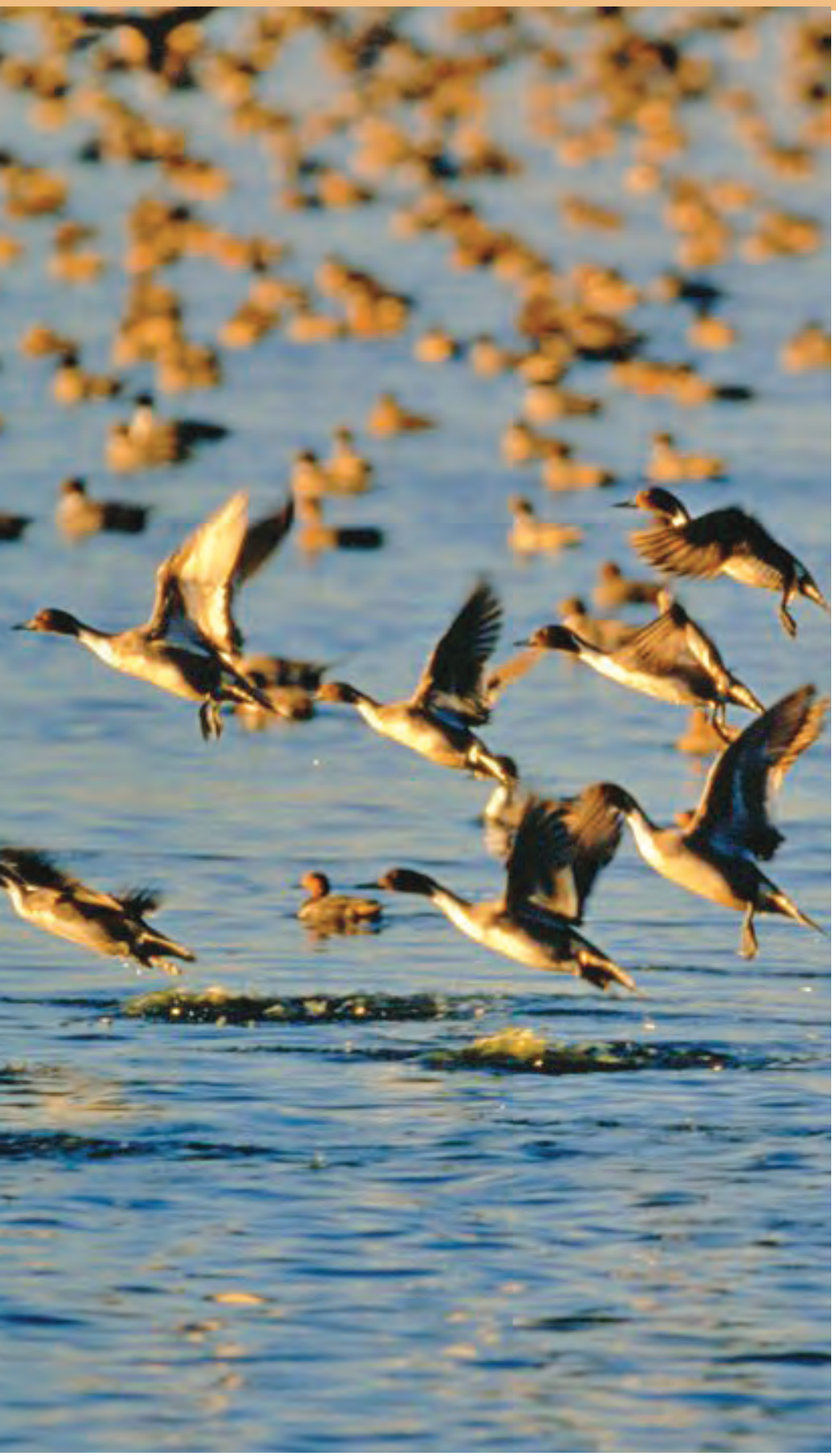
List of Figures

Figure 1: The Benefits of Biodiversity 5
Figure 2: Basic Structure of an Ecological Network 6
Figure 3: Status of Edmonton's Natural Areas in 2005 7
Figure 4: Edmonton's Conservation Governance Structure 12
Figure 5: Relation of Natural Connections Goals to Vision 18
Figure 6: Biodiversity Action Plan Activities 19
Figure 7: BAP Monitoring and Reporting Cycle 22

List of Tables

Table 1: Legislation, Policy and Plans Governing Biodiversity Protection in Edmonton 11
Table 2: Charting our Progress 14

STRATEGIC DIRECTIONS, STRATEGIES AND ACTIONS **23**
1.0 Expand Edmonton's Ecological Network through Securement and Restoration. 23
2.0 Increase the City's Capacity for Conservation Planning 24
3.0 Increase the City's Capacity for the Management of Natural Areas 25
4.0 Build a well-connected network of conservation partners 26
5.0 Support a system of shared conservation education. 27
6.0 Enhance Edmonton's culture of ecological innovation and excellence. 28
7.0 Increase the accessibility and integration of information 29



Our Vision...

*A **system** of conserved natural areas, **ecologically** and effectively managed, **connecting** the river valley with tableland natural areas, **restored** green spaces and **regional** natural areas, and recognized and supported by the **community** of Edmonton as a **valued asset**.*

INTRODUCTION

In 2007, the City of Edmonton approved a new *Natural Area Systems Policy*, which included a commitment to conserve, protect, and restore Edmonton's biodiversity, and to balance ecological and environmental considerations with economic and social considerations in its decision making. The Policy was expanded on in *Natural Connections*, a strategic plan for the conservation and restoration of Edmonton's natural systems and the biodiversity they contain. *Natural Connections* outlines an ecological network approach to protecting biodiversity, managing it for the long-term, and engaging the community in this effort.

This document, the City's first Biodiversity Action Plan, articulates actions through which to implement the vision, goals and strategic directions identified in *Natural Connections*.

What is a Biodiversity Action Plan (BAP)?

A Biodiversity Action Plan is a tool through which City staff and relevant partners can work together to deliver a program of continuing action for biodiversity stewardship on a local level. It is a roadmap for the protection of our natural systems, and a guidepost for the engagement of the community in conservation activities.

This BAP outlines a ten-year path for the effective conservation of Edmonton's biodiversity. Section 1 illustrates the current planning context that the BAP needs to take into account. Section 2 describes the future that we hope this plan will help us to create. Finally, with an understanding of the gap between where we are and where we'd like to be, Section 3 articulates an action plan to help us achieve our vision.

Why have we set out in this direction?

The findings of the City of Edmonton's 2006 State of Natural Areas report revealed that the City's current approach to land development would result, over time, in the loss of more than half the area of existing natural systems in Edmonton's tablelands. The potential loss of Edmonton's natural areas is more significant than most of us imagine: it is not simply a matter of proximity to nature that we risk losing. Edmonton's ecological network provides many benefits, most of which are not generally considered in land-use planning.

Biodiversity can be defined as the variety of life on Earth at all its levels, from genes to ecosystems, and the ecological and evolutionary processes that sustain that life. This diversity is fundamental to the health and well-being of all living beings, providing the resiliency that allows natural systems to recover from environmental and human-caused stresses, and providing a great many other benefits to us and the other species with whom we share this earth.

These benefits can be divided into five categories (see Figure 1):

- **provisioning** services – including the production of energy and water;
- **regulating** services – including the control of climate and waste;
- **supporting** services – including nutrient cycles and crop pollination;
- **cultural** services – including research, education, spiritual and recreational benefits; and
- **preserving** services – including guarding against uncertainty through the maintenance of diversity.

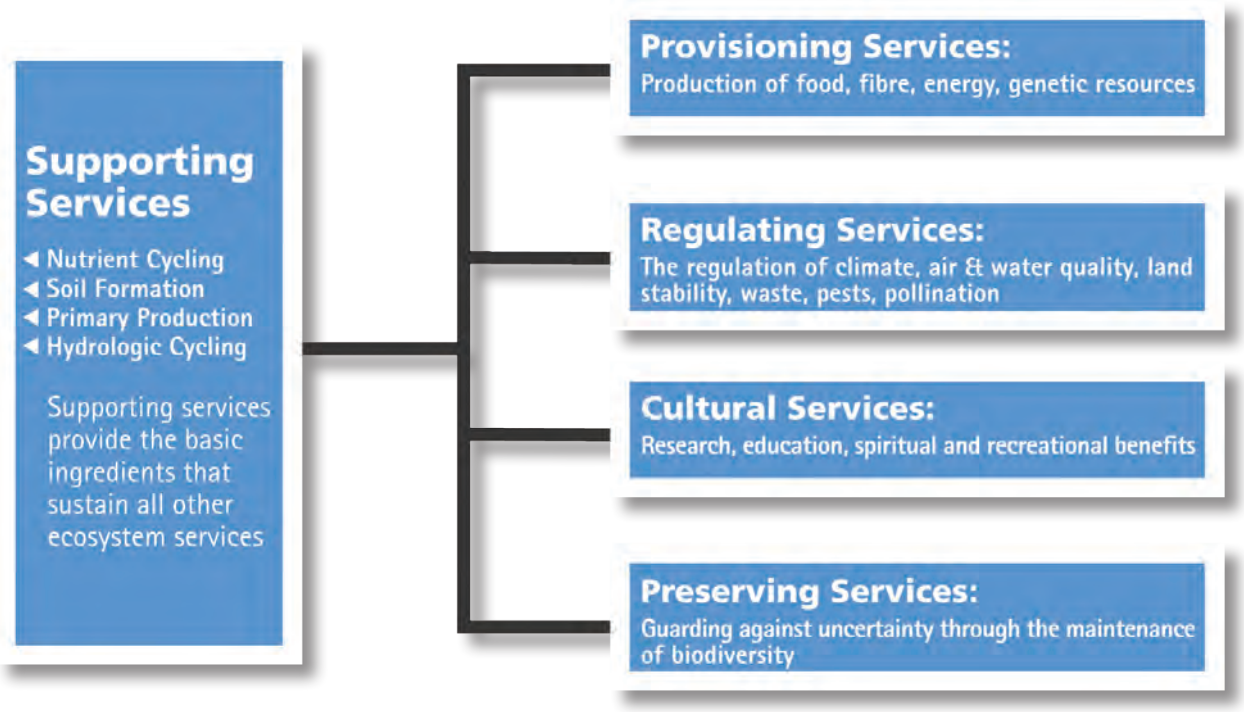


FIGURE 1: THE BENEFITS OF BIODIVERSITY

One of the results of sustaining natural areas systems is that these benefits are available to us "for free". Natural areas intercept rainfall, reducing the need for expensive stormwater infrastructure. Wetlands filter pollutants out of water, making us less dependent on water treatment. Trees and other natural vegetation remove carbon dioxide from the air, reducing the harmful contribution of emissions to climate change. Losing these natural systems also means losing these benefits. In their place, we will be forced to replicate with built infrastructure – less efficiently and at great expense – the intricate processes they support.

Sustaining natural systems also means protecting the many species that depend on them for survival, and ensuring the persistence of Edmonton's ecosystems for their inherent value, and their intrinsic right to exist.

This plan has been completed:

- as an implementation strategy for the *Natural Connections Strategic Plan*; and
- to fulfill one of the City's commitments to ICLEI *(Local Governments for Sustainability)*'s *Local Action for Biodiversity* project.

The plan will guide the City of Edmonton in protecting Edmonton's biodiversity, and the invaluable benefits it provides. It will be updated annually, based on the results of regular monitoring of both actions undertaken and the impact these activities are having on the quality of Edmonton's natural systems and the effectiveness of efforts to engage the community in this task.

While biodiversity is obviously not limited to designated natural areas, it is highest there, and most effectively protected. Therefore, throughout this document you will often see the terms "biodiversity", "natural systems" and "natural areas" used interchangeably.

WHERE WE ARE...

Integrating the Biodiversity Action Plan into the current planning context

No effective plan is developed in a vacuum. This section outlines the planning and administrative context within which the plan will be implemented.

THE CURRENT STATE OF EDMONTON'S BIODIVERSITY

Edmonton's natural areas include several habitat types: wetlands, forest, riparian/riverine areas and some remnant areas of grassland, peatland and sand dune ecosystems. These habitats support considerable biodiversity, including over 500 plant species, 50 species of mammal, over 150 bird species, five species of amphibian, two species of reptiles, and over 30 fish species. As well, Edmonton is home to two threatened species: the Peregrine Falcon and the Lake Sturgeon. In addition to these plants and vertebrates, Edmonton also has a diversity of mosses, lichens, mushrooms, and insects that play essential roles in local ecosystems.

Edmonton's natural areas support the highest level of biodiversity of any lands in Edmonton. In 2006, the City of Edmonton completed a *State of Natural Areas Report*. The report was a comprehensive analysis of Edmonton's ecological network, and provided the basis for the development of the *Natural Connections* Strategic Plan. The report identified the following:

- The existing natural areas within Edmonton's municipal boundaries – protected and privately owned – constitute a *functional ecological network*. A functional ecological network, as illustrated in Figure 2 includes several **core areas** (large patches of vegetation), wide vegetation corridors along major watercourses (for example, Edmonton's river valley and ravine riparian areas), **corridors** and **stepping stones** (linear and non-linear connective features).

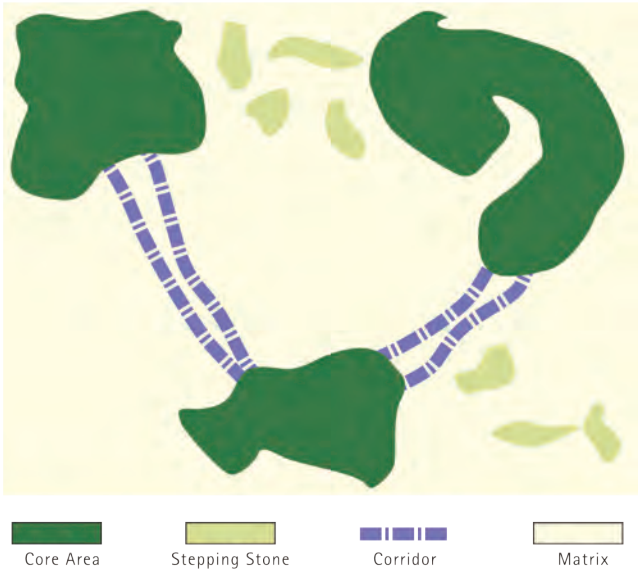
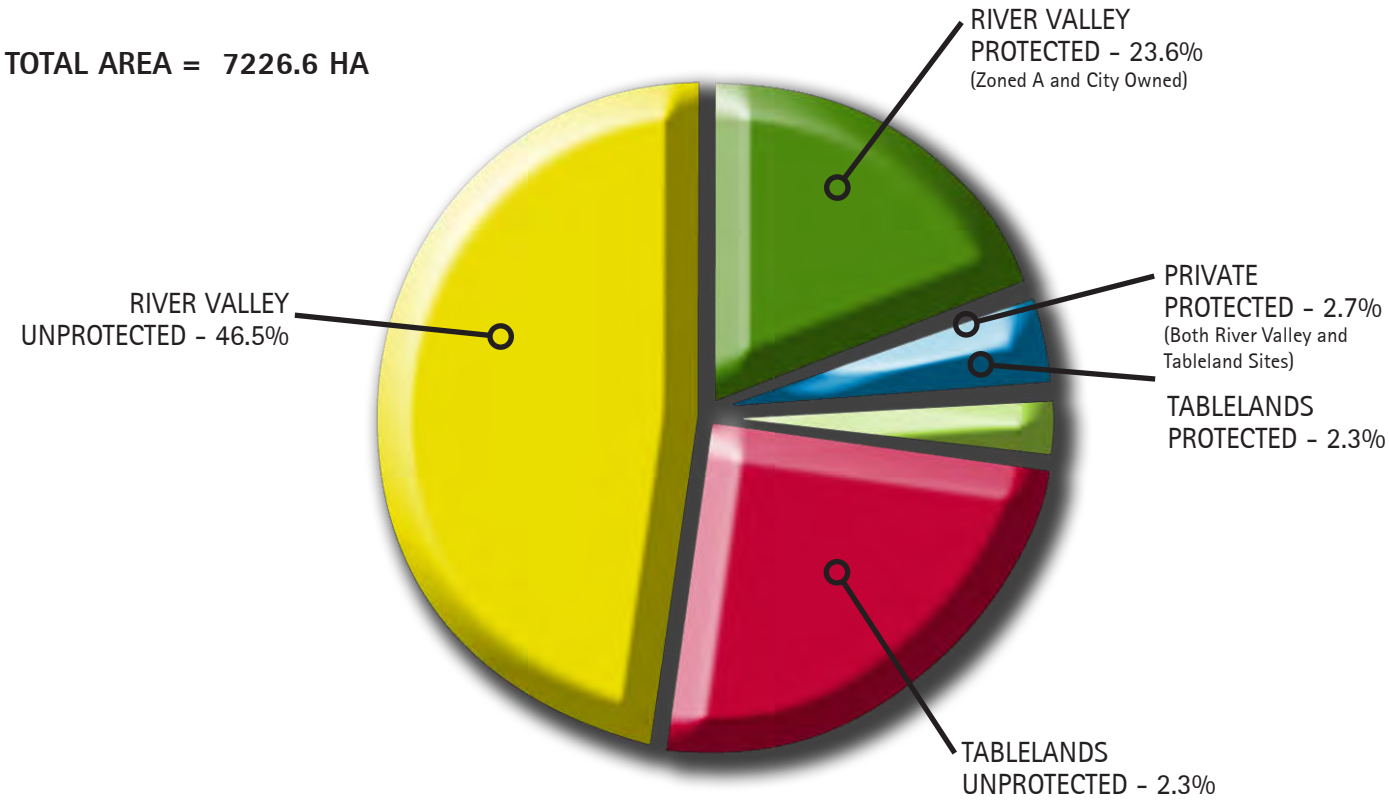


FIGURE 2: BASIC STRUCTURE OF AN ECOLOGICAL NETWORK

- Ten percent of Edmonton's land base consists of natural areas, including 63 percent of the river valley and just three percent of the tablelands.
- Of the total land base of tableland natural areas identified in an inventory undertaken in 1993, as of 2006, 23 percent had been lost to development; another 21 percent had come under some form of protection through either public or private means.
- The 56 percent of remaining tablelands natural area lands is unprotected, subject to increased development pressure, and therefore at a high risk of loss.
- 41 percent of river valley natural areas are protected through being zoned "A" for active and passive recreational uses, and another 2 percent are protected through other conservation initiatives, but natural areas in the river valley in the southwest and northeast remain under development pressure.

FIGURE 3: THE STATUS OF EDMONTON'S NATURAL AREAS IN 2005



WHERE WE ARE

BIODIVERSITY PROTECTION CHALLENGES AND OPPORTUNITIES

In any planning situation, there are key opportunities for planners to build on, and challenges which must be accounted for in plan development. The following is a brief exploration of some of the challenges and opportunities that shaped the development of this BAP.

A. KEY CHALLENGES

Threats to Natural Areas

Conventional urban development poses many threats to natural areas worldwide, and Edmonton is no exception. Land development results in the destruction and fragmentation of natural areas – the loss or partial loss of natural areas to residential, commercial and industrial development, and associated infrastructure. This is the most significant threat to biodiversity in Edmonton, particularly on the tablelands, where land development decisions and the location of roads have resulted in the steady, piecemeal loss of natural areas. As a result, only isolated fragments of the original ecosystems remain as islands in an otherwise urban landscape. Such fragmentation prevents wildlife movement and seed dispersal and could potentially lead to species extirpation.

In addition to the outright loss of natural areas, development can result in the *degradation* of wildlife habitat – the reduction in the quality of natural areas so that they are unable to sustain normal ecological processes. Such degradation in quality can result from many impacts – pollution, erosion and sedimentation of water bodies, encroachment of activities on adjacent lands, and heavy recreational use are just a few examples. Degraded natural areas are more susceptible to invasion by non-native species which can spread quickly, choking out native species by dominating available resources.

Climate change will compound the other issues facing Edmonton's natural areas. Longer, hotter summers may strain already drought-stressed plants and trees that are not adapted to new climatic realities, and could lead to more wildfires. Increased intensity and frequency of summer storms will make the river valley and ravines vulnerable to erosion, and the river and its tributary creeks prone to sedimentation. Shorter, warmer winters could make Edmonton's trees prone to new insect-borne diseases such as the Mountain Pine Beetle.

Collaboration, proactive planning and education will help the City to protect Edmonton's biodiversity from these threats.

Land development pressure and associated increase in land value

Alberta's booming economy has presented many challenges to conservation in Edmonton. The city's population has increased steadily since the 1990s, and another 83,000 new residents are expected to arrive by 2010. A total of 400,000 are anticipated to move to the region in the next 25 years. This huge population influx has resulted in rapid urban development in the last two decades, with a preference for sprawling residential development and transportation infrastructure.

While clear foresight saw the river valley and ravines protected in the early part of the last century, the protection of smaller natural areas in Edmonton's tablelands has been a greater challenge in the face of competing pressures for land by private interests. Land development has led to the fragmentation and loss of many of the wetlands and forested stands in Edmonton's tablelands.

Limited municipal funds

The rate of growth in the Edmonton area has resulted in a rapid increase in the value of land. This has made it increasingly expensive for the City to purchase natural areas for the purpose of protection and doubly important that land be purchased rapidly, before the cost becomes even more prohibitive. In some cases, landowners are unwilling to sell land at all. While the City does have the option of expropriating land for purposes that benefit the general public, this can be a risky and costly endeavour and is not an option that the City has generally exercised for acquisition of natural areas.

Restricted legislative authority

The Municipal Government Act provides limited authority to Albertan municipalities to protect natural areas. Municipalities can require that developers dedicate, without compensation, 10% of their net developable area as Municipal Reserve for municipal purposes such as schools, playing fields and other parks. Meeting the land needs for school recreation and active recreation in parks leaves as much as 2 of the 10% for natural areas. Cities can also dedicate lands as Environmental Reserve in the subdivision process to protect hazard lands such steep slopes, flood plains and some wetlands. Beyond these limited tools, Albertan municipalities are quite restricted in their ability to protect ecologically significant land. For example, the City cannot compel a landowner to protect a forest if it is on private land.

In 2007, as a first step to overcoming this challenge, several Alberta municipalities put forward a resolution to the Alberta Urban Municipalities Association (AUMA) asking that AUMA request of the provincial government expanded authority for municipalities to protect natural areas within their boundaries. The resolution was adopted and will go forward to the Province.

Limited regional collaboration to protect natural systems

A further challenge Edmonton faces is the absence of regional governance to bring a common vision to regional partners. As urban areas continue to expand in Edmonton's "boom economy", natural areas must be understood and planned for as connected systems that are not limited or divided by political boundaries. Regional conservation planning will play a crucial role in approaching the management of our natural systems holistically, proactively and collaboratively.

This year, however, the Province made an important step in increasing regional collaboration with its creation of a Capital Region Board. The Board is currently working to develop a Capital Regional Plan, which will include ecological planning considerations. As well, the Province recently completed a Land Use Framework, which will help to focus planning efforts at the regional scale.

Limited public awareness of the value of natural systems

Edmonton has a strong and active conservation community, as well as an academic community that is highly skilled and dedicated to understanding and protecting our local ecosystems. However, in spite of the awareness and commitment of many Edmontonians, there is still a limited understanding amongst a large portion of the Edmonton population about the true value of Edmonton's natural systems.

Clearly the City has an important role to play in raising general awareness among Edmontonians of the value of natural areas. This will include providing more opportunities for public involvement in the active stewardship of natural areas, as well as improved education and involvement of Edmonton's youth and children. In an increasingly urbanized environment, there remains an important opportunity for learning. Only with widespread awareness and shared commitment to conservation will there be the political will to find solutions in spite of the challenges the City faces.

B. KEY OPPORTUNITIES

Edmonton is in a time of transition

Many of the local and provincial plans affecting land use in Edmonton are currently being updated, and new planning and management tools are being developed. The City is currently revising its Municipal Development Plan, Edmonton's highest-level strategic land use plan, as well as its Transportation Master Plan. New Terms of Reference are now in place for area and neighbourhood structure plans, which include more comprehensive ecological information requirements to ensure earlier consideration of this information in planning decisions. Each of these review processes has provided the City with an opportunity to better integrate biodiversity protection measures.

In 2006, the Edmonton and Area Land Trust (EALT) was created, including six equal partners: the City of Edmonton, the Edmonton Community Foundation, Legacy Lands Conservation Society, the Urban Development Institute, the Edmonton Nature Club and the Land Stewardship Centre of Canada.

The mission of the EALT is to be "a not-for-profit leader in the selection, securement and stewardship of natural area systems, appropriate natural interconnections and cultural heritage landscapes in the Edmonton area primarily for the use, enjoyment or benefit of its present and future citizens."

As well, in 2008, the Government of Alberta released a new provincial wetland policy applicable to all wetlands in Alberta. The policy will enable municipalities to better conserve wetlands, and will empower them to require compensation, in the form of restored wetland area, for any alteration or destruction of natural wetlands. This will be an important tool in integrating wetlands into the city's ecological network.

Finally, as noted above, there is real potential for the Capital Region Plan currently under development to contribute to regional conservation planning. As well, the provincial Land Use Framework recently completed by the Province will set forth an approach to manage Alberta's public and private lands and resources, and will provide further land-use planning guidance to municipalities.

Edmonton will host the ICLEI World Congress in 2009

Edmonton has been selected to host the 2009 World Congress of the international organization *Local Governments for Sustainability* (ICLEI). This designation has created a new momentum and enthusiasm for biodiversity conservation throughout the city. Edmonton is also a partner in the *Local Action for Biodiversity* project, an international partnership of 21 municipalities who have joined forces to share information about how best to protect their local biodiversity. In joining this project, the City committed to completing a survey of local biodiversity and biodiversity protection initiatives, to developing a BAP, to signing an international declaration for biodiversity protection, and to completing five on-the-ground conservation/restoration projects. This plan fulfills the second of those commitments.

A New Approach to Wetland Protection

The loss of wetlands in Alberta is a significant issue. The vast majority have been drained and filled to make way for other land uses, particularly agriculture and urban development. However, there is growing recognition of the need to protect these valuable natural areas. The Province, which owns the bed and shore of all permanent and naturally occurring water bodies in Alberta, has had an interim policy for the management of wetlands in place since 1993. In addition, the Province requires compensation for the alteration or destruction of wetlands, either in the form of cash payment or through the reconstruction or restoration of other wetlands. And, as noted above, the Province recently approved a new, comprehensive wetland policy that applies to all wetlands.

The City has also taken a proactive approach to stormwater management, which has supported the protection of Edmonton's natural wetlands, and resulted in the naturalization of constructed stormwater management facilities. This naturalization effort has helped the City to manage stormwater runoff, improve stormwater quality and encourage biodiversity.

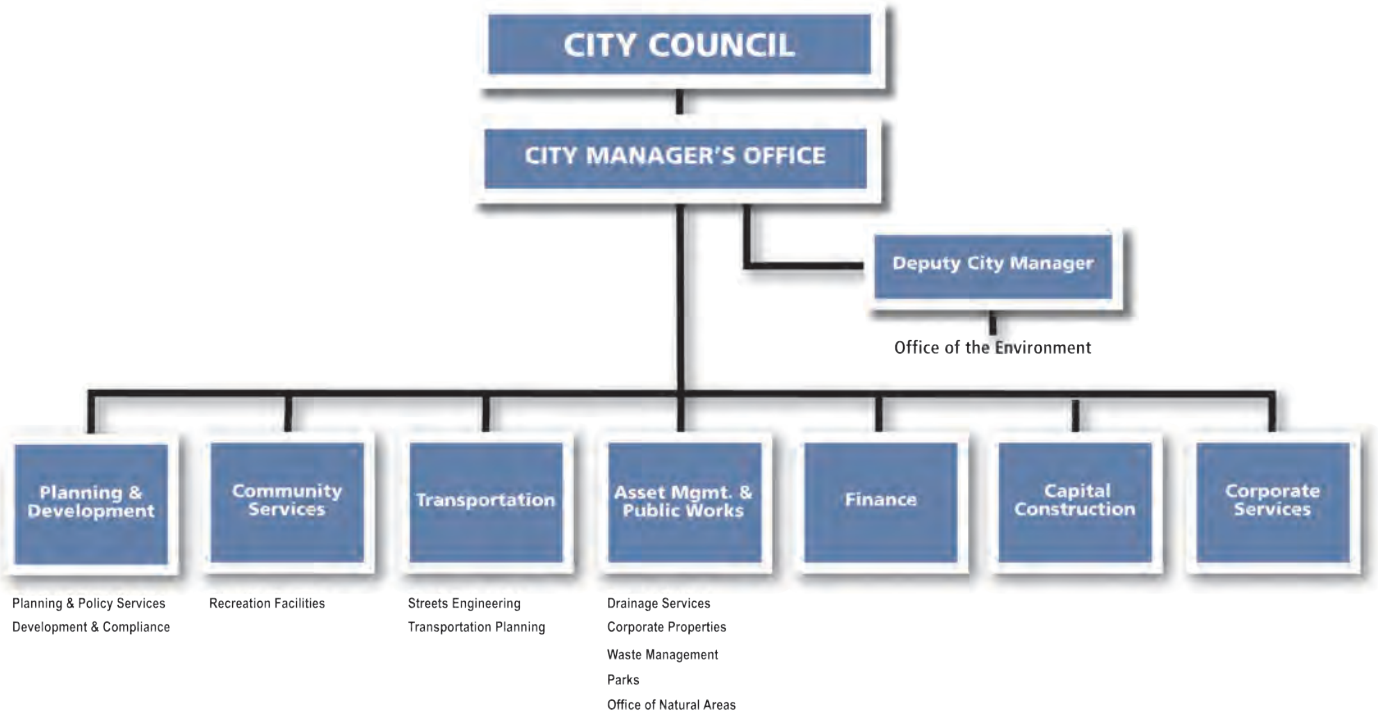
GUIDING LEGISLATION

This table identifies the four levels of government involved in conservation activities in the Edmonton area, as well as the associated responsible agencies, the documents by which they govern, and the topics addressed in each document.

Table 1: Legislation, Policy and Plans Governing Biodiversity Protection in Edmonton

LEVEL OF GOVERNMENT	RESPONSIBLE AGENCY	DOCUMENT (Legislation / Plan / Policy / Bylaw)	TOPIC ADDRESSED
Federal	Environment Canada	Canadian Environmental Assessment Act	Environmental Assessment
		Migratory Birds Convention Act	Wildlife Protection
		Species at Risk Act	Wildlife Protection
	Department of Fisheries & Oceans	Fisheries Act	Wildlife Protection
Provincial	Alberta Environment	Water Act	Wetlands/Water
		Alberta Wildlife Act	Wildlife Protection
		Environmental Protection & Enhancement Act	Environmental Assessment
		Wetland Policy	Wetlands/Water
	Alberta Sustainable Resources Development	Public Lands Act	Land Use Planning/Wetlands/Water
		Alberta Fisheries Act	Wildlife Protection
	Alberta Municipal Affairs	Municipal Government Act	Land Use Planning
		Land Use Policies	Land Use Planning
		Capital Region Integrated Growth Management Plan	Land Use Planning
Regional	North Saskatchewan Watershed Alliance	Integrated Watershed Management Plan (in progress)	Land Use Planning
	River Valley Alliance	A Plan of Action for the Capital Region River Valley Park	Land Use Planning
	Capital Region Board	Capital Region Plan (under development)	Land Use Planning
Municipal	Planning & Development	Municipal Development Plan	Land Use Planning
		Zoning Bylaw	Land Use Planning
		Sustainable Building Policy (C-532)	Ecological Design
		River Valley Area Redevelopment Plan	Land Use Planning / Ecosystems Protection
	Office of the Environment	Environmental Policy (C-512)	Ecosystems Protection
		Environmental Management System Policy (C-501)	Environmental Assessment / Wetlands / Water / Ecosystems Protection
		Environmental Strategic Plan	Ecosystems Protection
	Office of Natural Areas	Natural Areas Systems Policy (C-531)	Ecosystems Protection
		Biodiversity Action Plan	Ecosystems Protection
		Natural Connections Strategic Plan	Ecosystems Protection
	Parks	Corporate Tree Management Policy (C-456)	Ecosystems Protection
		Integrated Pest Management Policy (C-501)	Ecosystems Protection
		Parkland and North Saskatchewan River Valley Utility Installation Policy (C-307)	Ecosystems Protection
		Urban Parks Management Plan	Ecosystems Protection / Land Use Planning / Ecological Design
		Roadways and Parks Naturalization Master Plan	Ecosystems Protection
		Ribbon of Green Master and Concept Plans	Ecosystems Protection

FIGURE 4: EDMONTON'S CONSERVATION GOVERNANCE STRUCTURE



Conservation Governance Structure

As depicted in Figure, 4, Edmonton's conservation governance structure includes staff in ten separate City branches, as well as City Council and senior management.

Activities related to the protection and management of Edmonton's biodiversity are not limited to any one branch or department. Individual departments and branches are responsible for initiating best practices for biodiversity protection. The Office of Natural Areas (ONA) coordinates the City's corporate strategic efforts to protect the network, and the Parks, Planning and Policy Services, Drainage Services, Corporate Properties, Waste Management, and Recreation Facilities branches provide essential operational and planning services.

For detailed information on the role each branch plays in biodiversity protection and management,

see p. 30 – 33 of the *City of Edmonton Biodiversity Report* (2008), available on the Office of Natural Areas website at **www.edmonton.ca/naturalareas**.

Supporting Council Priorities

In 2008, City Council developed a series of ten- and three-year priority goals. To read all of the goals in full go to **http://www.edmonton.ca/city_government/documents/COE_strategicbook-FINAL.pdf**. Of those goals, the following are supported by *Natural Connections* Strategic and Action Plans:

10-Year Goal: Preserve and sustain Edmonton's environment.

In partnership with its citizens, businesses and institutions, Edmonton is the nation's leader in setting and achieving the highest standards of environmental preservation and sustainability both in its own practices, and by encouraging and enabling the practices of its partners.

3-Year Goals:

1. Increase and broaden advancement towards zero waste;
2. Reduce water consumption (per capita);
3. Increase use of renewable energy (in city operations);
4. Reduce greenhouse gas emissions (in city operations);
5. Improve air, water and soil quality (in city operations); and
6. Increase access and proximity to ecological (natural and groomed) systems.

10-Year Goal: Improve Edmonton's Livability.

Edmonton is one of Canada's most livable cities because it is welcoming to all; is safe and clean; fosters its heritage and supports its arts and multicultural communities; encourages active lifestyles through recreational opportunities; and engages its citizen's in the city's vision and directions.

3-Year Goals:

1. Enhance social connectedness for all citizens;
2. Reduce barriers to participation in recreation activities and local programs; and
3. Improve community engagement and participation.

10-Year Goal: Transform Edmonton's Urban Form.

Edmonton has increased its density and optimized existing infrastructure while maintaining and revitalizing strong, vibrant neighborhoods; ensuring high standards of urban design; adopting best land use practices; and preserving natural areas and public spaces.

3-Year Goals:

1. Improve city's urban architecture and urban form to ensure it meets environmental standards and exemplifies excellence in urban, architectural and landscape design.

Measuring our Success: Achievements and Outstanding Opportunities in working towards the Natural Connections Strategic Directions

The 2007 *Natural Connections* Strategic Plan identified seven strategic directions, supporting the protection and management of Edmonton's biodiversity and the encouragement of public stewardship in this regard. The table below provides a short overview of where things stand with respect to achievement of each of these strategic directions, including both City and community achievements and outstanding opportunities. It also identifies key priorities for the coming year.

Table 2: Charting our Progress

Strategic Direction	WHERE WE ARE NOW	
	Achievements	Outstanding Opportunities/ Challenges
Expand Edmonton's Ecological Network through Securement and Restoration	• In 2007, a new Natural Area Systems Policy was established to ensure ecological considerations are balanced with economic and social considerations in City decision-making, and to promote the conservation and restoration of Edmonton's biodiversity • In 2006, an Edmonton and Area Land Trust was established. This new organization, of which the City is a one-sixth owner, has the potential to provide enormous support in the acquisition and long-term protection of Edmonton's natural areas. • In 2008, Senior Management Team gave Administration the go-ahead to begin implementing a strategy to borrow funds for the purchase of natural areas, using the existing Natural Area Reserve Fund ($2.5 million/year) to make payments on the loan. • In 2008, the Province will release a new Integrated Wetland Policy. This Policy will include a requirement that all wetland loss be compensated through wetland restoration elsewhere. • A partnership project including the Office of Natural Areas, Drainage Services and Corporate Properties will see the identification of priority wetlands for restoration (underway) • The City put forward a resolution to the Alberta Urban Municipalities Association asking that AUMA request of the Province expanded authority for municipalities to protect natural areas within their boundaries	• According to the Municipal Government Act, the City has limited authority to protect natural areas within its boundaries • The cost of purchasing private natural lands to add to the City's parks/natural areas inventory is often prohibitive – if natural areas are not secured in the near future, the opportunity to protect our existing ecological network through direct purchase will be lost • The lack of identified priority wetlands for protection has meant that the City has missed opportunities to see compensatory funds applied locally **Key Priorities for 2009** • Develop a formal Natural Areas Acquisition Strategy • Identify new funds for natural areas protection • Identify wetlands that should be prioritized for restoration, including the nature of the restoration work required • Contribute an ecological perspective to the Capital Region Plan
Increase the City's Capacity for Conservation Planning	• In 2008, two new ecological planners joined the Office of Natural Areas, bringing the total number to four, including the Natural Areas Coordinator. This new capacity has enabled the Office to dedicate one full-time position to review of planning applications, and two full-time positions to strategic planning and public engagement projects. The Natural Areas Coordinator manages the Office of Natural Areas. • An update of the Area and Neighbourhood Structure Plan Terms of Reference in 2007-08 resulted in the requirement for additional ecological information, including a Phase I/II Ecological Network Report, which will better reflect the City's new ecological network approach to conservation. • In 2007, the first Ecological Design Report was completed for Big Lake Neighbourhood 1. Similar reports are planned or underway for other neighbourhoods.	• Ecological protection is still often viewed as secondary to other priorities (e.g. roadway construction) in the planning process – one of the most common results of this way of thinking is the loss and fragmentation of our remaining natural areas **Key Priorities for 2009** • Finalize the Ecological Network Report and Ecological Design Report Terms of Reference to formalize a natural *systems* approach to planning • Ensure ecological planning principles are captured in the Suburban Design Guidelines currently being developed

Table 2: Charting our Progress cont'd.

Strategic Direction	WHERE WE ARE NOW	
	Achievements	Outstanding Opportunities/ Challenges
Support a system of shared conservation education	• The *Nature Net* website project currently under development will help to share information and raise awareness about the value of Edmonton's biodiversity and how Edmontonians can become involved in its protection. Eventually, this website will also capture "citizen science" – information which can then support the City in improved decision-making about biodiversity protection. • The 2008 Edmonton Biodiversity Report included an extensive inventory of local biodiversity protection initiatives. This information will be shared widely within the conservation community and hopefully inspire new initiatives.	• There is growing awareness of the value of Edmonton's natural systems and processes, but this issue lacks the public profile of recycling programs, litter clean-up, and other "environmental" efforts • Many conservation efforts are underway (both by the City and by the community), but these are not widely recognized by the community, and there is a perception that "nothing is being done" • The City currently does not have the means to capture/apply "local ecological knowledge" • There is a real opportunity to involve children and youth more meaningfully in conservation education/activities, through the continuation of the *Naturescapes* school programs, etc. • Need to consider ways to assess the value of Edmonton's biodiversity and make this relevant to City Council and the community Key Priorities for 2009 • Develop a brochure including a map showing Edmonton's natural areas, as well as information about the different habitat types, species, etc. • Develop a quarterly newsletter to raise public awareness about the City's conservation activities, successes, trends – post on ONA website and broadcast widely via email networks
Enhance Edmonton's culture of ecological innovation and excellence	• Apparent willingness in development community to develop "greener" neighbourhoods, pursue innovative design concepts (as demonstrated by voluntary completion of Ecological Design Reports as suggested by the Office of Natural Areas) • Edmonton to host 2009 ICLEI World Congress; political will to demonstrate environmental innovation	• Opportunities to leverage *Local Action for Biodiversity* project, upcoming ICLEI conference to foster an environment of innovation and excellence in Edmonton Key Priorities for 2009 • Share information about the *Local Action for Biodiversity* project and Edmonton's biodiversity through the Mayor's signing of LAB Declaration on Biodiversity Protection
Increase the accessibility and integration of information	• Office of Natural Areas website in place; planned City of Edmonton website overhaul • 2006 State of Natural Areas report complete; further inventory work planned • Working to incorporate Natural Area Systems Policy principles into City's strategic plans currently being updated	• Need to update the Conservation Atlas, including all natural areas identified in State of Natural Areas Report 2006, and based on Planning Areas identified in *Natural Connections* – post to website (update regularly), distribute widely • Need to establish a program to capture "citizen science" (online forum, as proposed above) Key Priorities for 2009 • Complete the Nature Net project to facilitate the dissemination of information about Edmonton's biodiversity and how Edmontonians can become involved in its protection

Table 2: Charting our Progress cont'd.

Strategic Direction	WHERE WE ARE NOW	
	Achievements	Outstanding Opportunities/ Challenges
Increase the City's Capacity for the Management of Natural Areas	• The Master Naturalist Program (currently being developed) will be implemented as part of the Local Action for Biodiversity project. This will give Edmontonians the opportunity to become directly involved with monitoring and managing natural areas in Edmonton, and will support the City in its management activities. • The City supported research on the ecological function of naturalized/constructed stormwater management facilities (SWMFs) as compared to natural wetlands, and will apply the findings in the design of new SWMFs.	• There is a need for management resources for those responsible for the management of natural areas, to ensure an understanding of ecological management practices. • There is a need to resolve capacity issues with implementation of Natural Area Management Plans, including identifying strategies not conventionally part of any branch's operational activity, and finding solutions (e.g. volunteer involvement, etc.) **Key Priorities for 2009** • Complete the Greening the Matrix communications document to increase staff and public awareness about how and why the City is involved in naturalization • Complete a pilot run of the Master Naturalist Program
Build a well-connected network of conservation partners	• The Province has initiated the development of an Alberta Capital Region Integrated Growth Management Plan, which will include consideration for the conservation of natural systems. This process will bring together planners from across the Capital Region. • The City provided time and in-kind support to a number of local conservation group projects, including the Edmonton Nature Club's bird checklists, the Land Stewardship Centre's *Green Communities Guide* and Living by Water's *Urban Stormwater Education Program*	• Opportunities for regional collaboration and partnerships with academic community are not yet being capitalized on • At a recent workshop held to initiate the engagement of the community in planning for the 2009 ICLEI World Congress, it was proposed that an Edmonton Stewardship Network be formalized **Key Priorities for 2009** • Formalize a Regional Stewardship Network comprised of representatives of local government, community groups, academia, etc. to collaborate on inter-municipal conservation projects/programs

WHERE WE'RE GOING...

A Vision for the Protection of our Biodiversity

*The **Natural Connections Strategic Plan** identified, through an extensive public engagement process, a community vision, three mutually-supportive goals, and a series of guiding principles to guide the development and implementation of the plan. These Strategic Plan components are included in this section and provide the basis for the Action Plan that follows.*

A COMMUNITY'S VISION OF SUCCESS

A system of conserved natural areas, ecologically and effectively managed, connected to the ravines and river valley, linking the natural and restored green spaces and regional natural areas, recognized and supported by the community of Edmonton as a valued asset.

GOALS

Three interconnected, mutually-supportive goals have been developed to support the achievement of the *Natural Connections* vision (see Figure 5).

1. **The City of Edmonton will secure a protected and functional ecological network.**

   Proactive natural systems planning, site acquisition through a suite of existing approaches, and the development or application of new approaches will be crucial to securing the network. Approaches will include acquiring new sites within the means of the City budget and the limits of provincial legislation, restoring and connecting key network elements, and encouraging the dedication of private lands through conservation easements and incentive programs.

2. **The City of Edmonton will manage Edmonton's ecological network effectively and will work collaboratively with other conservation agencies to do so.**

   Stewardship and monitoring programs will help the City to ensure the network components – core areas, riparian corridors, linkages and stepping stones – and the flora and fauna supported within each of Edmonton's ecological communities are protected both for their intrinsic value and for the many benefits they provide to Edmontonians.

3. **The City of Edmonton will work with the community to support conservation goals, and will form partnerships with conservation leaders in the community.**

   Much of the current success of natural areas conservation in Edmonton has been the result of combined efforts with individuals and organizations in the private, public and non-government sectors. *Natural Connections* will encourage the growth of this conservation culture. Engaging the community will enable the City to share information, draw upon the expertise and experience of knowledgeable community members, and identify opportunities for collaboration with conservation organizations and other orders of government.

WHERE WE'RE GOING

GUIDING PRINCIPLES

These guiding principles guided the development of the Natural Connections Strategic Plan and this BAP, and they will also guide the implementation of both plans.

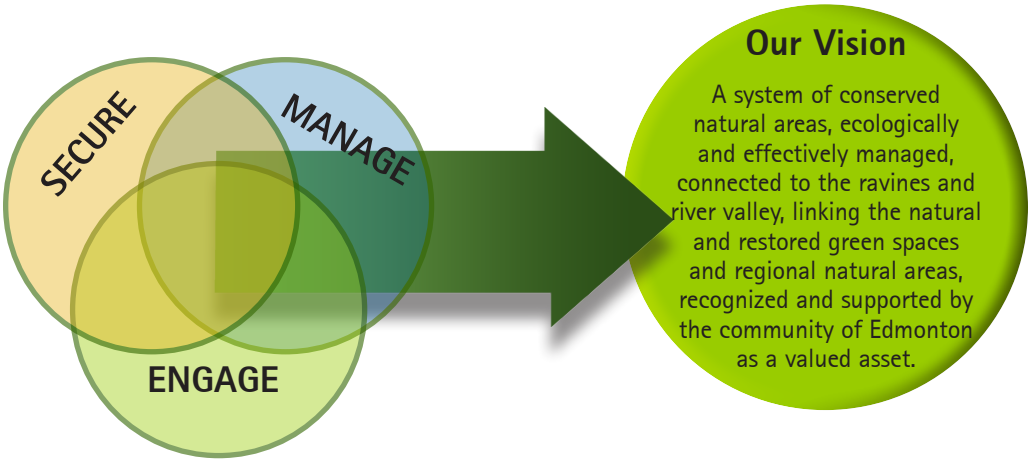


FIGURE 5: RELATION OF NATURAL CONNECTIONS GOALS TO VISION

1. **Build capacity for ecological protection in Edmonton.**

   Natural areas protection and management are complex and large-scale issues, and ones which will require the cooperation of many partners. The Office of Natural Areas is well-positioned to lead, partner with and coordinate other organizations in aspects of this work. This will result in strengthened community capacity for conservation.

2. **Engage the community in conservation and management of natural areas to harness existing local knowledge and raise awareness.**

   The scope of natural areas conservation is beyond the capacity of the City of Edmonton to manage alone; partnership arrangements are essential to successfully implement conservation goals. Partnerships will also enable the City to leverage differing levels of knowledge and expertise available in the local community. Accordingly, the City will promote natural areas as a common good and conservation as a collective responsibility.

3. **Think continentally and regionally, and plan locally.**

   Ecological boundaries must be considered at different spatial scales ranging from the site level to regional, continental and global scales. In addition, ecological boundaries almost never coincide with administrative boundaries. It is essential that this be recognized in the decision-making process. Decisions made locally can have significant consequences beyond local borders.

4. **Align with existing conservation plans, aiming to be additive rather than redundant.**

   Other orders of government and non-government organizations have developed a wide range of conservation plans. The City of Edmonton will find ways to align its goals and objectives with those of other plans and form partnerships where possible.

5. **Use best available science.**

   The City's efforts must be grounded in current conservation science. Because the knowledge base of conservation science is continually improving, implementation of the plan must adapt to this changing knowledge base.

6. **Balance public interest with property rights.**

   Implementation requires a balance between the public interest and the rights and responsibilities of individual property owners.

7. **Promote Edmonton's ecological network as a context to which urban development must be tailored, not the opposite.**

   An ecological network that is viable into the future must maintain diversity at genetic, species, population, and ecosystem levels. Consequently, it is essential that ways be found to accommodate urban development while, at the same time, protecting the ecological network and integrating other social and aesthetic benefits.

8. **Embrace innovative approaches to conservation.**

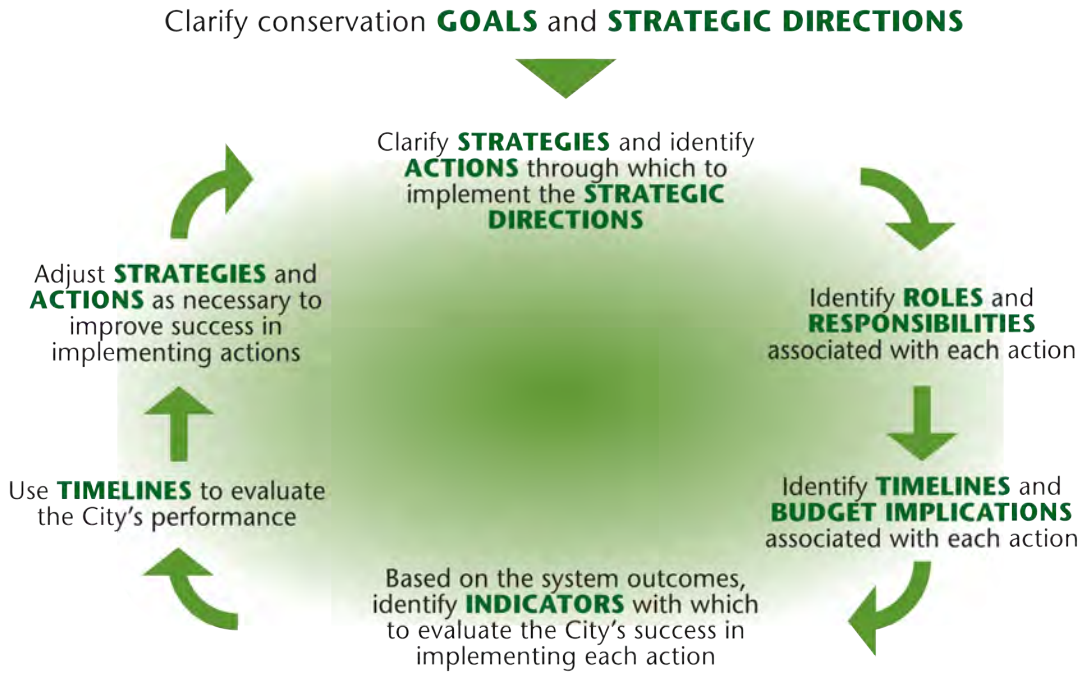
   If we are to achieve significant change, it is critical that the City be open to new and innovative approaches to securing and managing natural areas.

HOW WE'LL GET THERE...

The Action Plan

This Biodiversity Action Plan (BAP) will build on the Natural Connections Strategic Plan. Where the Strategic Plan outlined **goals**, **system outcomes** *and* **strategic directions**, *the BAP will flesh out* **strategies** *for the implementation of the strategic directions, including specific* **actions**, **roles** *and* **responsibilities**, **timeframes** *and* **budget implications**.

FIGURE 6: BIODIVERSITY ACTION PLAN ACTIVITIES



MONITORING AND REPORTING FRAMEWORK

If the City is to be successful in achieving its conservation vision and outcomes, a sound monitoring and reporting framework will be critical. Such a framework, which includes the corporate Environmental Strategic Plan as well as individual branch environmental management systems, will provide us with a clear understanding of how effectively we are reaching our short-, medium- and long-term goals.

HOW WE'LL GET THERE

EcoVision: Edmonton's Environmental Strategic Plan

EcoVision is Edmonton's corporate Environmental Strategic Plan, and provides policy direction on 10 strategic areas, including a *Natural Area Systems* Strategy. EcoVision performance measures are reported on annually with input from all relevant branches.

Enviso: Edmonton's Environmental Management System

Enviso is the City of Edmonton's corporate Environmental Management System (EMS). It is based on the international standard ISO 14001 and provides the City with a systematic method of managing and improving its environmental performance. Currently, ten City branches have EMSs in place, although not all have yet been certified to the ISO 14001 standard: Drainage Services, Waste Management, Edmonton Transit, Parks, Recreation Facilities, Streets Engineering, Corporate Properties, Fire Rescue Services, Mobile Equipment Services and the Office of Environment and Energy. Some, though not all, are currently implementing policies, programs and procedures that support biodiversity protection.

This Action Plan has been developed so that the actions assigned to each branch can be monitored through branches' respective EMSs. This will ensure an integrated and efficient approach to the City's monitoring of the effectiveness of its biodiversity protection efforts. Where branches without EMSs in place take on BAP projects, progress on these projects will be monitored through the Environmental Strategic Plan annual report.

BAP SYSTEM OUTCOMES AND INDICATORS

In keeping with the outcome-based approach taken in *Natural Connections* Strategic Plan, the following system-level outcomes were identified. This section outlines a set of system-level indicators that correspond with those outcomes.

1. The protection of Edmonton's existing natural areas has been maximized, and restoration of additional lost, degraded or fragmented areas is increasing.

Indicators:

a) Number/Area (ha) of natural areas in the Tablelands approved for securement in Neighbourhood Structure Plans (not yet incorporated into City's inventory of managed sites)

b) Number/Area (ha) of Environmentally Sensitive and Significant Natural Areas approved for securement in Neighbourhood Structure Plans (not yet incorporated into City's inventory of managed sites)

c) Number/Area (ha) of natural areas in the Tablelands and the River Valley under the management of the City of Edmonton
   i. Owned by City of Edmonton
   ii. Owned by private land owners (e.g., Edmonton & Area Land Trust, University of Alberta, etc.)

d) Number/Area (ha) of remaining Environmentally Sensitive Areas (ESAs) and Significant Natural Areas (SNAs) secured annually (Senior Management Team target[1])

e) Percentage of City of Edmonton Tableland natural areas (>1 ha) secured (by area) according to approved Neighbourhood Structure Plans (not yet incorporated into City's inventory of managed sites)

f) Percentage of new neighbourhoods containing one or more natural area that were approved during the year in question
   iii. in the Tablelands
   iv. in the River Valley & Ravines Area Redevelopment Plan area

[1] SMT Target: "The City of Edmonton will annually secure at least 5% of remaining Environmentally Sensitive and Significant Natural Areas within Edmonton's tablelands and in the river valley."

g) Number/Percentage (by area) of natural areas managed by the City that have an approved Natural Area Management Plan (NAMP) in place

h) Number/Area (ha) of natural areas protected in each Ecological Planning Area

a) Number of large-scale restoration projects completed
b) Number of native trees planted

2. Connectivity within Edmonton's ecological network is increasing.

No indicators have been identified for the assessment of connectivity at this time, but an action has been included in the following section to develop a set of indicators to measure both the structural and functional connectivity of Edmonton's ecological network.

3. The quality of natural areas is increasing due to effective management.

No indicators have been identified for the assessment of the quality of natural areas at this time, but an action has been included in the following section to develop a set of indicators to measure natural areas quality and the impact of management efforts (positive/negative) on those areas. This strategy will include the development of species inventories for each natural area, with the support of local conservation organizations and the University of Alberta.

4. The community and Administration are increasingly knowledgeable about the value of natural areas, and actively involved in their stewardship.

Indicators:

a) Level of awareness about ecological issues and biodiversity among the community and City Administration (based on results of an annual survey[2])

b) Number of natural areas that have active community stewards

c) Number of graduates of the Master Naturalist Program

5. Conservation of Edmonton's natural areas is increasingly achieved through partnerships.

Indicators:

a) Number of partnerships dedicated to conservation (as described qualitatively in an annual report, and/or through an annual survey of conservation organizations)

These indicators will be measured on an annual basis, with Parks branch taking the lead and seeking the support and information of other branches as appropriate. The support of community partners may also be sought.

[2] *This is a commonly-used tool for gauging community members' positioning on a continuum of knowledge □ action □ leadership.*

BAP UPDATE

While the BAP has a ten-year scope, it will be reviewed on an annual basis. The outputs of all Management Review Reports generated throughout the year by all relevant branches will be considered comprehensively and the results will, in turn, inform an update of the strategies and actions identified in the Action Plan. Strategies and actions may be removed, added or adjusted in order to guide continual improvement in the protection of biodiversity.

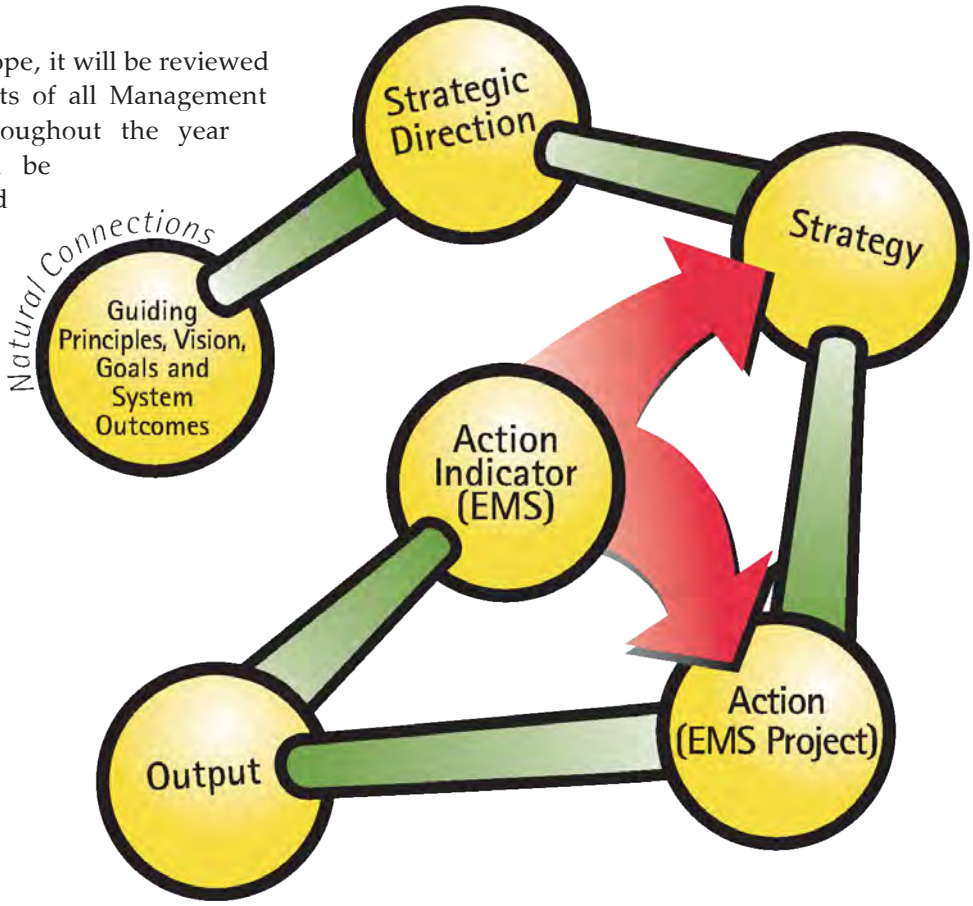


FIGURE 7: BAP MONITORING AND REPORTING CYCLE

IMPLEMENTING THE ACTION PLAN

The following section constitutes the Action Plan, and includes detailed description about how the plan will be implemented. Specific strategies and actions are outlined for each strategic direction that was identified in the *Natural Connections* Strategic Plan, and Lead/Partner/Reporting Agencies and a general timeframe are assigned to each action.

1.0 Expand Edmonton's Ecological Network through Securement and Restoration.

Strategy	Progress since Natural Connections Strategic Plan adopted (2007)	Actions	Lead Agency[1]* and Partners	Timeframe Short: within 3 years Medium: 3-5 yrs. Long: 5-10 yrs.
STRATEGY 1.1 Ensure the necessary natural systems information is obtained and made available through the planning process and that the process facilitates the long-term protection of key systems.	• Ecological Design Report introduced as a new tool – two EDRs complete and two underway • Ecological Network Report Terms of Reference completed – a more comprehensive and proactive approach to ecological information requirements	Develop a City Procedure for Policy C-531, which includes an Ecological Design Report and an Ecological Network Report as information requirements	Parks (ONA) (Relevant branches – review and approval)	Short-term
		Replace the existing Natural Site Assessment Guidelines with Ecological Network Report Guidelines to reflect Policy C-531 (natural systems approach).	Parks (ONA) (Relevant branches – review and approval)	Short-term
STRATEGY 1.2 Coordinate the processes of key internal branches to identify natural areas for acquisition/restoration.	• Natural Areas Policy Implementation Committee continued to meet regularly – meetings included a report on status of natural areas acquisition • ONA, Drainage Services and Corporate Properties partnered to initiate a project to identify key wetlands for restoration on City-owned lands	Complete a Natural Areas Acquisition Strategy (includes wetlands)	Parks (Planning) Parks (ONA)	Medium-term
		Compile an inventory of local wetlands potentially eligible for restoration with compensatory funds	Parks (ONA)/ Drainage Services/ Corporate Properties	Short-term
STRATEGY 1.3 Where possible, secure biodiversity core areas and linkages through purchase.	• All tools available (Municipal Reserve, Environmental Reserve, Natural Areas Reserve Fund and Parks Purchase Reserve Fund) applied to acquire natural areas where possible	Develop and implement a strategy to borrow funds for the acquisition of natural areas, using the Natural Area Reserve Fund to make payments on the loan.	Parks (ONA)	Short-term
		Develop a set of indicators to measure structural and functional connectivity within Edmonton's ecological network.	Parks	Medium-term
STRATEGY 1.4 Work with the Edmonton and Area Land Trust to encourage the securement of private natural areas in the form of conservation easements and donations.	• EALT hired an Executive Director			
STRATEGY 1.5 Work to restore key natural areas and wetlands and to construct naturalized wetlands.	• Initiated a restoration project at Maple Ridge wetland	Complete construction of Kennedale and Pylypow wetlands	Drainage	Short-term
		Complete construction of Schonsee Wetland	Corporate Properties	Short-term
		Complete the Maple Ridge wetland restoration project	Drainage	Short-term
		Complete the project underway to identify priority wetlands sites for restoration.	Drainage/ Parks (ONA)/ Corporate Properties	Short-term
		Complete new cross-sections for local roads to accommodate the planting of large street trees.	Parks/ Transportation	Medium-term
STRATEGY 1.6 Carry out community ecological restoration projects	• Undertook 8 naturalization plantings (some in partnership with community groups) at Mill Creek Pond, Mill Creek ravine, Louise McKinney, and along road berms	Complete the Cloverbar Landfill revegetation project	Waste Management	Short-term
STRATEGY 1.7 Carry out conservation and naturalization demonstration projects to protect/ restore natural areas and share information	• Held a naturalization bike tour to introduce participants to several examples of naturalization in the City	Carry out a neighbourhood greenway pilot project	Parks/ONA	Medium-term

* *Implies responsibility for reporting.*

2.0 Increase the City's Capacity for Conservation Planning.

Strategy	Progress since Natural Connections Strategic Plan adopted (2007)	Actions	Lead Agency[1]* and Partners	Timeframe Short: within 3 years Medium: 3-5 yrs. Long: 5-10 yrs.
2.1 Ensure that development proponents clearly understand natural systems information requirements and understand the means by which such information is to be considered by City staff in the evaluation of development applications	• Created several guidance documents to help explain the City's requirements for ecological information (e.g. *Planner's Checklist, Guidelines for Determining ER Dedication, Management Plans: What, When, Why & How)*, updated ONA website to include more information.	Develop a guidance document that describes all ecological information requirements, including timing, and post to website.	Parks (ONA)	Medium-term
		Complete a City Procedure for Policy C-531, and clarify roles and responsibilities of various City departments and the ecological information requirements.	Parks (ONA)	Short-term
		Develop a suite of guidelines and post to website: e.g. Wildlife Management, Wildlife Passages, Identification of Buffers, etc.	Parks (ONA)	Medium-term
2.2 Ensure that natural areas are considered early in the planning process so they can be effectively integrated into structure plans and protected through development	• Introduced the Ecological Design Report as a new planning tool. • Initiated development of Terms of Reference for an Ecological Network Report, and formalized this in the ASP/NSP Terms of Reference.	Finalize the new Phase I/II Ecological Network Report Terms of Reference and Ecological Design Report Guidelines and include them as ecological information requirements in the new City Procedure for Policy C-531.	Parks (ONA)	Short-term
		Include ecological planning principles in the new suburban design guidelines	Planning & Policy Services	Short-term
2.3 Adopt a systems approach to conservation planning, ensuring that proposed development is sensitive to both the structure and function of natural systems being integrated into new neighbourhoods.	• See progress notes above.	Include the ecological planning principles outlined in *Natural Connections* in the new MDP (Focus Edmonton)	Parks (ONA)	Short-term
		Develop a City policy and guidelines for the preservation of wildlife passages affected by construction and/or development.	Parks (ONA)	Short-term
2.4 Ensure that agricultural lands are recognized for their connective and supportive habitat value.		Develop a Farmland Conservation Partners Program similar to the BC Land Conservancy's program to work with agricultural land owners to promote and protect the habitat value of their lands	Parks (ONA)	Long-term
2.5 Acknowledge the significance of the North Saskatchewan River Valley as a regional biodiversity corridor and ensure that planning decisions reflect this designation.	• Contributed to the revision of the current Top of Bank Policy to incorporate wildlife movement and habitat considerations	Work with regional partners to complete a Regional Conservation Plan	Parks (ONA)	Medium-term

* *Implies responsibility for reporting.*

3.0 Increase the City's Capacity for the Management of Natural Areas

Strategy	Progress since Natural Connections Strategic Plan adopted (2007)	Actions	Lead Agency[1]* and Partners	Timeframe Short: within 3 years Medium: 3–5 yrs. Long: 5–10 yrs.
3.1 Develop a clear corporate natural area management program and set of practices that is understood by all staff, particularly those responsible for implementation.		Formalize roles & responsibilities in revised City Procedure associated with Policy C531	Parks (ONA)	Short-term
		Develop guiding documents that outline best practices for various aspects of natural area management (e.g. wetlands, riparian areas, tree stands, etc.)	Parks (ONA)	Medium-term
		Complete the *Greening the Matrix* communications document to explain how and why the City is involved with naturalization.	Parks (ONA)	Medium-term
3.2 Actively monitor natural systems and the implementation of management plans, and use this information to evaluate management needs.	• Initiated an ongoing monitoring program that involves using aerial photography annually to assess the change in NA coverage City-wide	Develop a Master Naturalist Program to engage Edmontonians to become involved in the stewardship of local natural areas.	Parks (ONA)	Short-term
		Develop management plans for all protected natural areas in the city.	Parks (ONA) Other branches as appropriate	Medium-term
		Develop a set of indicators to measure the quality of natural areas, and use this information to assess the effectiveness of management approaches.	Parks (ONA) Other branches as appropriate	Medium-term
3.3 Broaden the scope of focus from the site to the neighbourhood, sub-basin and region.	• Partnered with the Federation of Alberta Naturalists (FAN) to share resources generated through the *Living by Water* Stormwater Management Education Program (sub-basin focus)	Formalize systems focus through new information requirements, including the Ecological Network Report and Ecological Design Report	Parks (ONA)	Short-term
		Identify key ecological planning goals for each of the ecological planning areas identified in *Natural Connections*	Parks (ONA)	Medium-term
3.4 Protect both the structure and function of natural areas.	• Formalized focus on ecological function in the Ecological Network Report Terms of Reference	Achieve certification of the City's tree nursery through the Canadian Nursery Certification Institute to reduce the potential for invasive pest problems.	Parks	Short-term
		Formalize focus on ecological function in the development of Ecological Network Report Terms of Reference	Parks (ONA)	Short-term
3.5 Work to improve the quality of "stepping stone" sites, ecological corridors, and the matrix through naturalization.	• Undertook 8 naturalization plantings (some in partnership with community groups) at Mill Creek Pond, Mill Creek ravine, Louise McKinney, and along road berms • Naturalized constructed wetlands to provide additional habitat value, thus supporting Edmonton's ecological network	Implement the *Greening the Matrix* program.	Parks (ONA)	Medium-term
3.6 Facilitate community engagement in stewardship, monitoring and restoration of natural areas on public and private lands.		Develop a Master Naturalist Program to engage Edmontonians in the stewardship of local natural areas.	Parks (ONA)	Short-term

* *Implies responsibility for reporting.*

4.0 Build a well-connected network of conservation partners.

Strategy	Progress since Natural Connections Strategic Plan adopted (2007)	Actions	Lead Agency[1]* and Partners	Timeframe Short: within 3 years Medium: 3-5 yrs. Long: 5-10 yrs.
4.1 Work with adjacent municipalities to protect regionally-significant natural areas.		Establish a Regional Conservation Network, including representation from key conservation groups, adjacent municipalities and provincial and federal departments, to work cooperatively to achieve common goals.	Parks (ONA)	Medium-term
		Work with the Regional Conservation Network to develop a Regional Conservation Plan (facilitated by Edmonton and Area Land Trust?)	Parks (ONA)	Medium-term
4.2 Work with developers and landowners to achieve "win-win ecology" that protects natural systems and processes, is economically rewarding, and respects the interests of property owners.		Promote the Ecological Conservation Assistance Program (ECAP)	Parks (ONA)	Medium-term
		Work with developers to encourage the completion of Ecological Design Reports with development of Neighbourhood Structure Plans	Parks (ONA)	Medium-term
4.3 Partner with other Alberta municipalities and the provincial government to expand the conservation provisions of the Municipal Government Act.	• Submitted a resolution to the Provincial Government, through the Alberta Urban Municipalities Association (AUMA), with this request.			
4.4 Partner with the Edmonton and Area Land Trust to encourage the conservation and sound stewardship of privately-owned natural systems.		Identify priority natural areas to EALT.	Parks (ONA)	Medium-term
4.5 Provide administrative and financial support to existing community conservation initiatives, as appropriate.	• Worked with the Edmonton Nature Club to produce two bird lists (for the City of Edmonton and Capital Region areas)	Formalize a process for the consideration of community conservation groups' requests for support, and assess ONA's capacity to provide support in each situation.	Parks (ONA)	Long-term
4.6 Partner with the University of Alberta to share/generate information about Edmonton's natural systems and biodiversity.	• Provided support to a U of A student studying amphibian behaviour in Edmonton's wetlands	Complete the Ecological Research Partnership Program, formalizing a procedure to support researchers studying ecological processes and structure in Edmonton, and integrate research findings with City policies and decision making.	Parks (ONA)	Short-term

* *Implies responsibility for monitoring.*

5.0 Support a system of shared conservation education.

Strategy	Progress since Natural Connections Strategic Plan adopted (2007)	Actions	Lead Agency[1]* and Partners	Timeframe Short: within 3 years Medium: 3–5 yrs. Long: 5–10 yrs.
5.1 Encourage the understanding of key ecological terms, current trends in conservation and loss, and conservation effort being made internally and externally.	• Initiated an ongoing monitoring program that involves using aerial photography annually to assess the change in NA coverage City-wide • Released the 2008 Biodiversity Report, including information about Edmonton's natural areas loss and protection, and general information about our local biodiversity	Include this information on the *Nature Net* (interactive website).	Parks (ONA)	Short-term
		Develop a brochure (modeled on Calgary Parks') including a map showing Edmonton's natural areas, as well as information about the different habitat types, species, etc.	Parks (ONA)	Short-term
		Develop a monthly newsletter to raise public awareness about the City's conservation activities, successes, trends – post on ONA website and broadcast widely via email networks	Parks (ONA)	Medium-term
5.2 Encourage the understanding of the many benefits natural areas provide Edmontonians, including ecological services and quality of life enhancement.	• Released the 2008 Biodiversity Report, including information about Edmonton's natural areas loss and protection, and general information about our local biodiversity • Joined the *Local Action for Biodiversity* project, to raise awareness (locally and internationally) about the value of our local biodiversity	Complete the planned expansion of the John Janzen Nature Centre, which will provide opportunities for the public to learn the value of local ecological processes and structure.	Community Services	Short-term
		Partner with the University of Alberta to assess the economic value of Edmonton's natural systems, and make this information available to Edmontonians	ONA/Parks	Medium-term
		Participate in the 2008 Year of the Frog, a global campaign to raise awareness about frogs and encourage their protection.	Community Services	Short-term
		Develop a Centre for Excellence in Urban Biodiversity	Parks/Office of Environment and Energy	Long-term
5.3 Coordinate the City's communication of conservation initiatives to ensure it is clear and consistent		Develop and implement an Office of Natural Areas communications plan	Parks (Communications)	Medium-term
5.4 Provide Edmontonians with the knowledge they need to make lifestyle decisions that do not negatively impact natural areas.	• Released *Zerofootprint Edmonton*, an online ecological footprint calculator that will help people reduce their current ecological impact	Promote the *Living by Water* stormwater education booklet widely, and develop similar materials for terrestrial ecosystems.	ONA/Parks Drainage Services	Medium-term
5.5 Work to move community members towards the leadership end of the "stewardship scale" (awareness □ stewardship □ leadership)	• Distributed brochures with information about how citizens can help protect biodiversity at local environmental events	Implement the Master Naturalist Program.	Parks (ONA)	Short-term
5.6 Work with schools and youth programs to instill in young people a strong understanding of the value of natural areas.		Develop a program for hands-on conservation and learning for school-children and youth, based on specific curriculum topics for different age groups	ONA/Parks	Medium-/Long-term
		Develop a similar program for youth and children outside the classroom (e.g. engage local Scout/Guide groups in natural area management)	ONA/Parks	Medium-/Long-term
		Continue school tours of wetlands initiated in 2008.	Drainage Services	Short-term
5.7 Establish processes and tools to capture, store and make accessible the local ecological knowledge of Edmontonians.		Develop a series of community mapping opportunities.	Parks (ONA)	Medium-term
		Implement the *Greening the Matrix* program.	Parks (ONA)	Medium-term
5.8 Work with private landowners to share information about the value of naturalization of residential, commercial and industrial land, and techniques for accomplishing it.		Complete project to identify priority wetlands for restoration (on City-owned lands)	Parks (ONA) Drainage Services Corporate Properties	Short-term
5.9 Support research projects/ partnerships that will help the City to better understand the structure, function and value of Edmonton's natural systems.	Supported a research project focused on biodiversity monitoring to understand site performance, treatment efficiency and habitat quality of natural and constructed wetlands		Drainage	Short-term

* *Implies responsibility for reporting.*

6.0 Enhance Edmonton's culture of ecological innovation and excellence.

Strategy	Progress since Natural Connections Strategic Plan adopted (2007)	Actions	Lead Agency[1]* and Partners	Timeframe Short: within 3 years Medium: 3–5 yrs. Long: 5–10 yrs.
6.1 Adopt innovative ecological approaches to development and construction, internally and in partnership with the development community	• Introduced the Ecological Design Report as a new tool to ensure proactive conservation planning and identify ecological design criteria for new neighbourhoods • Planned for the protection of natural areas through the planning of new neighbourhoods and industrial areas (e.g. Schonsee, Rampart, Maple Ridge, etc.)	Develop a communications strategy to leverage the *Local Action for Biodiversity* project and upcoming ICLEI conference to foster an environment of innovation and excellence in Edmonton	Communications	Short-term
		Capture these approaches in the new Suburban Design Guidelines	Planning & Policy Services	Short-term
		Prioritize the protection of natural areas in the development of new plans	Parks (ONA) Planning & Policy Services	Short-term
6.2 Showcase the implementation of pilot projects that demonstrate ecological development principles, including the effective integration of natural areas into the urban fabric		Showcase 19 selected "on-the-ground" LAB projects – use these projects as a model for similar future projects	Individual branches	Medium-/Long-term
		Obtain ecological certification for City of Edmonton golf courses	ONA	Medium-/Long-term
6.3 Where appropriate, offer incentives for the private protection of natural areas through the promotion of existing programs (*e.g.*, the Ecological Conservation Assistance Program) and the development of new ones		Promote ECAP in partnership with Environment Canada's *EcoGifts* program	Parks (ONA)	Medium-term
6.4 Report annually on City and partner conservation initiatives to celebrate successes and share this information widely within the community		Develop a series of conservation awards to celebrate innovative local conservation initiatives (categories for developer, homeowner, conservation group, etc.)	Parks (ONA)	Long-term
6.5 Engage Council at a strategic level to champion Edmonton as a conservation community	• Joined the *Local Action for Biodiversity* project • Edmonton to host the 2009 ICLEI World Congress • Mayor signed the Durban Commitment	Share information about LAB/ICLEI through the Mayor's signing of LAB Declaration on Biodiversity Protection	Parks (ONA)	Short-term
		Take advantage of the ICLEI World Congress as an opportunity to implement and leverage ecological "legacy projects"	Parks (ONA) Office of Environment and Energy	Short-term
6.6 Encourage the establishment of new organizations aimed at expanding Edmonton's capacity for innovation	• $50,000 seed funding provided by the City for successful applicants undertaking environmental projects leading up to the 2009 ICLEI World Congress	Create a seed fund for new conservation organizations created.	Parks (ONA)	Medium-/Long-term

* *Implies responsibility for reporting.*

7.0 Increase the accessibility and integration of information.

Strategy	Progress since Natural Connections Strategic Plan adopted (2007)	Actions	Lead Agency[1]* and Partners	Timeframe Short: within 3 years Medium: 3–5 yrs. Long: 5–10 yrs.
7.1 As information becomes available, build an inventory of natural areas (including biodiversity) and ensure that it is accessible to all Edmontonians	• 2008 Biodiversity Report included an inventory of Edmonton's biodiversity	Update the Conservation Atlas, including all natural areas identified in State of Natural Areas Report 2006, and based on Planning Areas identified in *Natural Connections*, and include on *Nature Net* website	Parks (ONA)	Short-term
		Continue to work with local community groups such as the Edmonton Nature Club to develop biodiversity inventories – e.g. an Edmonton Plant List	Parks (ONA)	Short-term
7.2 Obtain and incorporate community knowledge about Edmonton's natural areas into the City's inventory in order to make better planning and management decisions		Implement the *Nature Net* program.	Parks (ONA)	Short-term
7.3 Align City policy on natural areas across all departments and, where appropriate, align municipal policy with the policies of community organizations and other orders of government	• Provided similar input to processes for revision of Focus Edmonton, ASP/NSP Terms of Reference, Transportation Master Plan and Top-of-Bank Policy (emphasizing importance of natural *systems* protection)	Incorporate ecological protection messaging into new Suburban Design Guidelines	Parks (ONA)	Short-term
7.4 Ensure there is a shared understanding within Administration of the processes related to the acquisition, protection, management and restoration of natural areas		Develop a Natural Areas Planning and Management Handbook highlighting all internal processes related to natural areas, and post on ONA website for use by City staff, public, etc.	Parks (ONA)	Medium-term
7.5 Ensure that the benefits of ecological services are considered in municipal cost-benefit analyses and Edmonton's infrastructure inventory		Partner with Office of Infrastructure to share natural areas inventory information, discuss how best to integrate into COE infrastructure inventory	Parks (ONA)/ Office of Infrastructure	Medium-term
		Review the City's Infrastructure Strategy with an environmental lens – consider the economic value of Edmonton's "green infrastructure" (ecological structure and function) and the cost of replacing it with built "grey infrastructure"	Office of Energy & Environment Parks (ONA)	Medium-term

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