

**BUILDING A  
GREENER  
CAPITAL**



National Capital Commission

**ANNUAL  
ENVIRONMENT  
REPORT**

2010–2011



## **NATIONAL CAPITAL COMMISSION**

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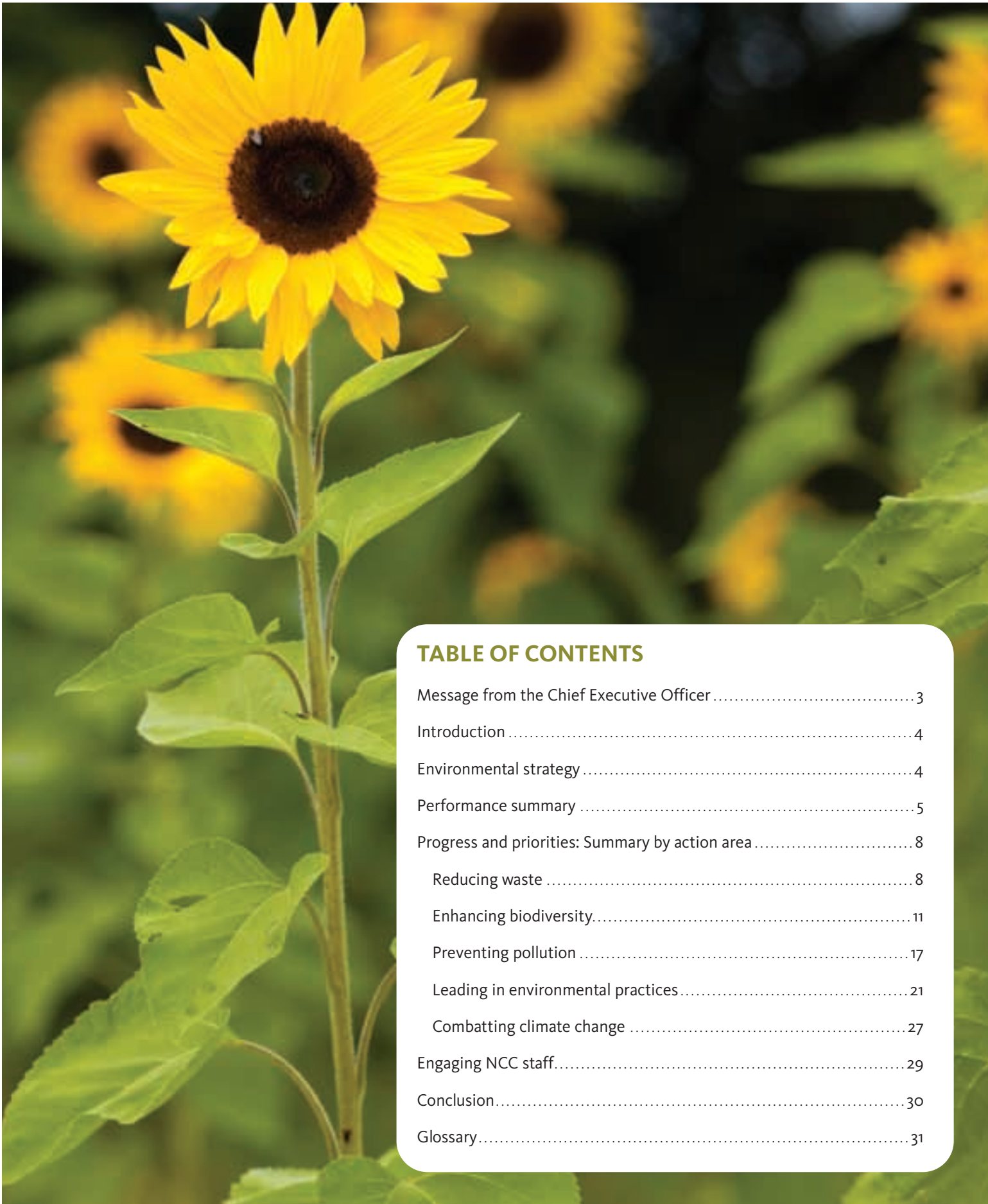
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## 1. MESSAGE FROM THE CHIEF EXECUTIVE OFFICER

I am pleased to present the National Capital Commission's (NCC) annual environment report for the 2010–2011 fiscal year.

This report is intended to do three things. First, it demonstrates our ongoing commitment to making measurable environmental progress in Canada's Capital Region. Second, it highlights the importance of managing our environmental risks and compliance requirements. Third, and finally, it features the NCC as a leader that is taking concrete action on the environment across the full range of projects, plans and activities that we undertake.

Over the past several years, we have been working very hard throughout the NCC to build a greener capital. I have made it one of my personal priorities to stress environmental considerations in all of our corporate activities.

I believe our work is beginning to pay off. From hosting greener events and providing and promoting more sustainable transportation alternatives, to informing and engaging our staff and stakeholders, we are starting to see real, tangible progress on the environmental front.

That being said, we know that we still have a lot of work to do. We have a number of concrete environmental goals that we are aiming to achieve this year, and there are others that we are committed to realizing in the near future.

As CEO, I want to thank our staff, our stakeholders and all of our partners in continuing to help build a greener capital.



Marie Lemay, P.Eng., ing.  
Chief Executive Officer  
National Capital Commission



## 2. INTRODUCTION

Environmental management at the National Capital Commission (NCC) is guided by *Building a Greener Capital*, the corporation's eight-year environmental strategy, which was launched on June 4, 2009.

This report provides members of the NCC's Board of Directors and the public with an account of the corporation's environmental management approach and performance in the 2010–2011 fiscal year. This is the second annual report since the strategy was launched. It provides detailed information about 2010–2011 accomplishments, and builds on the previous year's report to present a more comprehensive picture of the progress that the NCC has made toward meeting its environmental objectives since the strategy was initiated. The report also reviews and reports on how the NCC has managed key environmental regulatory compliance risks and issues during the year.

## 3. ENVIRONMENTAL STRATEGY

*Building a Greener Capital* is the foundation for the NCC's environmental leadership in Canada's Capital Region. The strategy builds on the corporation's long-standing tradition of environmental stewardship, and reflects its core mission to build a great capital and create national pride among all Canadians.

The strategy is founded on four core principles.

- **Transparency:** The NCC will clearly articulate its environmental priorities and objectives and will provide ongoing public reporting on key indicators to measure progress and help adjust the strategy's aim, as needed.
- **Collaboration:** The NCC knows that it cannot achieve all of its objectives alone, and will work with stakeholders and partners on environmental improvements, while encouraging a culture of sharing ideas, solutions and best practices.

- **Leadership by example:** The NCC believes that a key aspect of environmental leadership is for staff throughout the organization to be fully engaged in greening the NCC's own policies, practices and activities, and to encourage other parties within its sphere of influence to do the same.
- **Continuous improvement:** The NCC will learn from its experiences and constantly strive for greater positive environmental impact.

The strategy centres around five key areas for action that are highly relevant to the NCC's core business activities, and where the potential positive impacts on the environment are meaningful and clear. The areas for action are as follows:

- **Reducing waste**
- **Enhancing biodiversity**
- **Preventing pollution**
- **Leading in environmental practices**
- **Combatting climate change**

One priority objective and a focused set of secondary objectives are associated with each action area. The priority objectives are corporate commitments to firm, measurable targets. The secondary objectives support the overall goals in each area. Many activities are under way to meet the secondary objectives, while others require additional preparatory work before they can be implemented. Still others will be undertaken at an appropriate date as financial resources and staff time are made available to devote to them.

More information about the NCC's environmental strategy, including last year's environment report and a document outlining the full strategy, is available on the NCC website at [www.canadacapital.gc.ca](http://www.canadacapital.gc.ca).

#### 4. PERFORMANCE SUMMARY

The 2010–2011 fiscal year was the first full year of implementation of the environmental strategy. During the year, work continued on measuring baselines and planning, and new emphasis was placed on implementing specific activities. In addition, key initiatives were undertaken to engage staff and stakeholders in meeting the strategy's objectives.

Important progress was made during the year in all five areas for action. Highlights include the first carbon neutral event hosted by the NCC — Canada Day 2010 celebrations — and the NCC's work in facilitating the acquisition of a 477-hectare property adjacent to Gatineau Park to help protect the ecological integrity of the Park.

But there continues to be room for improvement. For example, a more systematic integration of environmental considerations in projects and activities across the NCC is essential for the corporation to remain a true environmental leader.

Table 1 provides an overview of the NCC's accomplishments in terms of the strategy's priority and secondary objectives. More details are provided in the remainder of the report.

**TABLE 1: SUMMARY OF PERFORMANCE ON ENVIRONMENTAL STRATEGY**

OBJECTIVES	HIGHLIGHTS OF ACCOMPLISHMENTS	STATUS <sup>1</sup>	INFORMATION
<b>Reducing Waste</b>			
By 2013, the NCC will reduce the waste going to landfills from the activities associated with Canada Day, Winterlude and the Rideau Canal Skateway, by 50 percent against a 2009–2010 baseline.	The 2009–2010 baselines for all three events have been determined. There was a reduction of 2.9 tonnes (21 percent) of waste going to landfill from Canada Day 2010. Waste to landfill from the Rideau Canal Skateway in the 2011 season increased by 8.5 tonnes (38 percent) over the 2010 season, primarily because of a longer skating season. However, the amount of waste per skating day remained the same. Waste to landfill from Winterlude in the 2011 season decreased by 4.2 tonnes (31 percent) compared with the 2010 season.		See page 8
The NCC will achieve 70 percent waste diversion (through reducing, reusing, recycling) for all NCC business areas by 2017.	A refreshed office waste management program is being rolled out across NCC offices, beginning in summer 2011. It features new recycling, composting and waste stations, and employee information initiatives.		See page 9
The NCC will challenge partners hosting events on NCC lands to achieve a 50 percent waste diversion target.	The NCC will include this challenge in new event partnership agreements in 2011.		
The NCC will develop green procurement guidelines for implementation in 2010, which will include low waste as an important criterion.	Green procurement guidelines have been developed. The NCC's procurement policy has been revised to include the environment as an important procurement criterion. Both documents are scheduled for review and approval by the NCC's Executive Management Committee in June 2011.		See page 9
The NCC will implement green demolition practices by 2010, which place a strong emphasis on waste diversion and resource conservation.	Green demolition practices are now applied in most demolition and decommissioning projects, where applicable.		
<b>Enhancing Biodiversity</b>			
The NCC will ensure that all 28 high-value ecosystems and habitats found within the Greenbelt and Gatineau Park and on urban lands in the region are designated as conservation lands by 2012.	The high-value ecosystems and habitats in Gatineau Park are designated as conservation lands in the Gatineau Park Ecosystem Conservation Plan. Master plans for both the Greenbelt and the Capital's urban lands are under development, and plans are in place to identify appropriate designations for the high-value ecosystems and habitats on NCC lands when completed in 2012–2013.		See page 11
The NCC will implement new recovery plans for federally and provincially listed species at risk on NCC lands, within one year of finalization.	The NCC currently collaborates with provincial and federal partners on the implementation of existing recovery plans for species at risk found in Gatineau Park. No new official recovery plans for listed species were finalized this past year.		See page 13
The NCC will protect all critical habitats identified on NCC lands under federal or provincial law for species at risk, within one year of designation.	To date, no critical habitats have been identified on NCC lands under federal or provincial species at risk law.		
The NCC will develop a thorough understanding of the biodiversity on NCC lands through the NCC's Natural Resources Research Program.	Under the NCC's Natural Resources Research Program, several projects were completed, advancing knowledge in terms of biodiversity on NCC lands: the monitoring of five biodiversity indicators, the development of a conservation plan for the spotted turtle, and an inventory and survey protocol for the Blanding's turtle.		See page 15
The NCC will reduce the amount of NCC urban land infested by aggressive invasive plant species by 10 percent against a baseline by 2014.	Preliminary work to identify priorities and management techniques is under way. Also, 5.5 hectares of urban lands were treated to remove dog-strangling vine and other invasive plants.		See page 14

- The objective is on track or achieved.
   
 There is some delay in achieving the objective.
   
 There are significant delays, and the objective may not be met.



OBJECTIVES	HIGHLIGHTS OF ACCOMPLISHMENTS	STATUS <sup>1</sup>	INFORMATION
<b>Preventing Pollution</b>			
All contaminated sites on NCC lands will be secured by 2017.	A review of all NCC properties was completed to identify which were contaminated. Six sites were remediated in 2010–2011, and 47 contaminated sites have been secured.		See page 17
The NCC will identify and remove or repair all problem underground storage tanks on NCC property by 2011.	All underground storage tanks on NCC lands have been identified and assessed. Two are scheduled to be replaced in the fall of 2011.		See page 18
The NCC will adopt a policy to confirm the elimination of the cosmetic use of pesticides on NCC lands by 2010.	A policy is scheduled for completion in the 2011–2012 fiscal year. Until then, the NCC continues to follow the advanced pesticide management regimes of Ontario and Quebec, which generally do not permit the applications of pesticides for cosmetic purposes.		See page 18
<b>Leading in Environmental Practices</b>			
All new building construction on NCC lands, for buildings over 250 square metres, will be certified LEED® (Leadership in Energy and Environmental Design) Gold by 2013, and all major building renovations will meet LEED® certification standards.	Construction and renovation projects are being assessed on a case-by-case basis to determine the applicability of LEED® certification. One NCC heritage building (the Dome Building at Rideau Hall) is currently being renovated to LEED® Silver. New facilities at the Wakefield Mill are being built to LEED® Gold.		See page 21
The NCC will use green building practices for the construction of all buildings under 250 square metres.	Green construction practices are being used in most new building construction or existing building renovation projects undertaken by the NCC.		See page 21
The NCC will integrate environmental education into all NCC activities, where appropriate.	In 2010–2011, NCC Green Team activities, staff information sessions and other special events (e.g. on Earth Day) helped educate NCC staff and the public about the environment.		See page 29
The NCC will strengthen environmentally sensitive practices in all maintenance contracts.	Comprehensive environmental guidelines and specific requirements were developed in 2010, and are now integrated in all major maintenance contracts.		See page 25
The NCC will provide and promote environmentally sustainable transportation alternatives.	A bike share program with 10 stations and 100 bicycles in downtown Ottawa–Gatineau was launched in the spring of 2011.		See page 24
The NCC will lead the effort to engage partners in improving the water quality of key watersheds in Canada's Capital Region, with the Ottawa River as the first priority.	The NCC sponsored the Ottawa River Summit in August 2010, and heads the Ottawa River Coordinating Group with the cities of Ottawa and Gatineau.		See page 24
The NCC will integrate a green urbanism approach into the 2013 Plan for Canada's Capital.	Green urban planning principles have been integrated into the 2013 Plan for Canada's Capital, Horizon 2067.		See page 23
<b>Combatting Climate Change</b>			
The NCC's signature events and programs will become carbon neutral, starting with Canada Day 2010.	Canada Day 2010 was carbon neutral. The carbon footprints of Christmas Lights Across Canada, Winterlude and the Rideau Canal Skateway were determined as a first step to making them carbon neutral.		See page 27
The NCC will reduce its overall carbon footprint by 30 percent by 2017, based on a 2011–2012 baseline.	Work to identify potential measures to reduce emissions for Canada Day and other events is under way. Planning has begun to determine the carbon footprint of all NCC's operations for 2011–2012.		See page 28
The NCC will seek renewable sources of electricity. By 2013, 25 percent of all NCC electricity purchases will be from renewable sources.	The NCC will begin to investigate the feasibility and costs of options for the purchase of renewable energy in 2011.		See page 28
The NCC will advance public understanding of climate change impacts on Canada's Capital Region.	This is an ongoing secondary objective, and progress will be reported in future annual reports.		

## 5. PROGRESS AND PRIORITIES: SUMMARY BY ACTION AREA

### 5.1 Reducing Waste

Sending garbage to landfills for its final destination is a waste — of materials, energy and money. Diverting waste from landfills reduces greenhouse gases, shrinks the demand for new natural resources and lowers the need for new landfills. It can also save money by reducing the need for haulage, and generate revenue, as many waste materials have real value. For example, recycled aluminum soft drink containers can be worth as much as \$2,000 per tonne. Recycling can pay!

The NCC continues to work on reducing waste going to landfills from all aspects of its business, through more aggressive use of the “3 Rs” — reducing, reusing and recycling. As a first step, efforts have focused primarily on improving management of the waste generated during events and at NCC offices.

The 2009–2010 waste generation baselines for Canada Day, Winterlude and the Rideau Canal Skateway were established last year. A long-term contract was awarded in early 2011 to conduct follow-up audits annually. This will allow the NCC to measure progress toward its waste diversion objectives on an ongoing basis.

The results of the 2010–2011 audits show a reduction of 3.3 tonnes in the amount of waste produced on Canada Day 2010. Initiatives such as the implementation of water stations for filling reusable water bottles and the use of online media to reduce the need for paper programs are believed to have contributed to reducing waste. In addition, recycling rates for Canada Day increased in 2010, helping to reduce the amount of waste going to landfill.

For the Rideau Canal Skateway, the total amount of waste sent to landfill increased between 2010 and 2011. This was likely because of the greater number of skating days during the 2011 season (53 days compared with 36 days in 2010). In fact, the amount of waste sent to landfill per skating day was about the same in both 2010 and 2011. However, large quantities of non-recyclable items were found in the recycling bins in 2011. This “contamination” of the recycling bins meant that not all the material collected in the bins was able to be recycled.

For Winterlude, the total amount of waste sent to landfill decreased by 4.2 tonnes between 2010 and 2011. As with the Skateway, there was a high rate of contamination in the recycling bins during Winterlude. The NCC is looking at ways to reduce the contamination rates for the 2011–2012 skating season and for Winterlude 2012, on a priority basis.

**TABLE 2: SIGNATURE EVENT AND PROGRAM WASTE AND RECYCLING AUDIT RESULTS, 2009–2011<sup>1</sup>**

	Canada Day		Rideau Canal Skateway		Winterlude	
MEASURED RESULTS <sup>1</sup>	2009	2010	2010	2011	2010	2011
Total material collected	12.3	9.0	24.1	33.1	17.4	11.4
Total amount recycled	2.4	2.0	1.9	2.3	3.8	2.0
Total sent to landfill	9.9	7.0	22.2	30.7	13.6	9.4
<b><i>Target for 2013<sup>2</sup></i></b>		<b><i>5.0</i></b>		<b><i>11.1</i></b>		<b><i>6.8</i></b>

1. Figures in metric tonnes and rounded up to one decimal place.

2. Numbers in italics are the NCC's target for 2013. These numbers represent 50 percent of the baseline measured in 2009–2010.

This year, the NCC piloted a composting program for Winterlude concessions. Concessionaires in Jacques-Cartier Park and Confederation Park — the main sites of the festivities received a compost bin and biodegradable bags with a list of the materials they could put in the bins. The waste audit showed that much less compostable waste was captured than had been anticipated. The NCC is working to determine the reasons why this pilot project was not as successful as expected. These lessons will serve to improve the program for future events.

The NCC is also implementing a comprehensive overhaul of its office waste management systems at all its office locations. This involves refreshing the recycling programs to better align them with those of the cities of Ottawa and Gatineau, and introducing a new composting program. New recycling, compost and waste containers will be installed across NCC offices, beginning in summer 2011. Subsequently, annual audits will compare the new waste diversion rates against the baseline established in 2009–2010.

In 2010–2011, the NCC completed revisions of its procurement policy and finalized a set of green procurement guidelines. These will allow staff to better consider the environmental impacts of the goods and services they wish to purchase, when making procurement decisions. The policy and guidelines are scheduled for review and approval by the NCC's Executive Management Committee in June 2011.





## **SIMPLE CHANGES CAN MAKE A BIG DIFFERENCE!**

It was a staff member in the NCC's Information Technologies and Geomatics Services Division who first proposed the idea for a waste reduction pilot project. The idea was simple: as old printers, faxes, scanners and photocopiers begin to break down at NCC offices, replace them with centralized multi-function machines and save on paper by having one machine do it all. And save we did! The NCC has had default double-sided printing practices in place for a long time. But, since the introduction of this project, NCC offices at 40 Elgin Street have cut their paper use by an additional 20 percent, saving \$11,000 and the equivalent of 130 trees per year!

The additional benefits of the project also make this story an environmental success. So far, 35 office devices have been unplugged. By not replacing each of these devices with a new one, the NCC will not only save the electricity that would have been consumed by each device, it will also save on building cooling costs by not having to eliminate the heat these machines produce. The success of this ongoing initiative shows how seemingly little ideas from dedicated environmental champions on NCC's staff make a big difference to the corporation and to the environment!

### **ENVIRO-SNAPSHOT:**

- 130 trees saved per year
- \$11,000 saved per year
- 35 energy-consuming machines unplugged

## 5.2 Enhancing Biodiversity

As the owner of 11 percent of the land in Canada's Capital Region, which straddles the Quebec–Ontario border, the NCC is the chief steward of federal lands in the region. Its rural, urban and wilderness lands are characterized by a high level of biodiversity.

Conserving this biodiversity improves the quality of life in the region, and is an essential element of maintaining a green capital. Climate change, pollution, over-exploitation by people, rapid expansion of non-native species, habitat change and fragmentation are the main threats to biodiversity here, as in other parts of the world. The NCC recognizes both the importance and the necessity of protecting ecosystems, natural processes, and plant and animal species found on its lands, so that they will be conserved for future generations.

The NCC has a network of high-value ecosystems and habitats distributed across its lands. Not only will protecting these sites make an important contribution to the long-term conservation of biological diversity, it will also allow for research, education and interpretation about biodiversity in the region.

The NCC's priority objective in this area is to ensure that all 28 high-value ecosystems and habitats found within the Greenbelt (9), Gatineau Park (8) and on its urban lands (11) are designated as conservation lands by 2012. The conservation designations will follow the framework of protected area management categories developed by the International Union for the Conservation of Nature (IUCN).

In 2010–2011, the NCC built on the progress made last year toward achieving this objective. In 2009–2010, all high-value ecosystems and habitats identified in Gatineau Park were designated as conservation lands through the NCC's Gatineau Park Ecosystem Conservation Plan. The review of the Greenbelt Master Plan and the development of the first Capital Urban Lands Master Plan are progressing well. The appropriate designations for the high-value ecosystems and habitats found in those two land portfolios will be incorporated in these master plans. Completion of both the Greenbelt Master Plan and the Capital Urban Lands Master Plan is expected in the 2012–2013 fiscal year.

In 2010–2011, the NCC worked with Quebec's Ministère des Ressources naturelles et de la Faune (MRNF) and the Nature Conservancy of Canada to acquire a five-square-kilometre (477-hectare) property to help protect the ecological integrity of Gatineau Park. Located adjacent to the Park along the northwest boundary, the natural area is a mosaic of forests, wetlands and ponds, representative of the forest ecosystems in the Outaouais Hills. This acquisition will facilitate the development of several important ecological corridors, as identified in the Gatineau Park Ecosystem Conservation Plan. Supervision and stewardship of the land will be ensured by the three partners.

In early 2011, the NCC acquired close to one square kilometre (84 hectares) of land in the Mer Bleue Bog, a wetland conservation area of international importance in the eastern section of the National Capital Greenbelt. Mer Bleue plays an important role in protecting the diversity of plants and animals in the Capital Region, as well as in stabilizing the climate globally. With the purchase of this land, the NCC has expanded its ownership to more than 90 percent of this recognized natural area.



### **PROTECTING A SPECIES AT RISK IN GATINEAU PARK**

Wild leek is a widely occurring plant in eastern North America, including parts of southern Canada. Because it is edible, wild leek is now in decline in many areas, and has been legally designated as a threatened species in Quebec. In Gatineau Park, monitoring by the NCC has shown that wild leeks have all but disappeared from many high-traffic areas of the Park.

Educating the public is an important part of the NCC's efforts to conserve this species at risk. Signs at Gatineau Park entrances alert the public that picking wild leek is completely prohibited within Park boundaries. NCC conservation officers patrol wild leek habitat, and anyone caught picking the plant can face fines as high as several thousand dollars. Information pamphlets at the Gatineau Park Visitor Centre also educate visitors about the importance of protecting this species at risk.

So, the next time you're in Gatineau Park and come across this species at risk, remember that it can be enjoyed for many more years if it remains in the forest, where it acts as an integral part of the ecosystems on which we depend.

## SPECIES AT RISK

In 2010–2011, NCC lands provided habitat for 193 species at risk. Since last year, updates in the federal and provincial lists of species at risk, as well as work by the NCC to determine their presence, has led to changes to the inventory of species at risk on NCC lands. Three species were added to the list of species at risk found in Gatineau Park, 21 species were added to the list in the Greenbelt and 13 species were added to the list on urban lands.

The NCC undertakes research, planning and protection measures for species at risk found on its lands. In 2010–2011, the NCC worked to implement the measures outlined in federal and provincial recovery plans for one plant species, one reptile species and one amphibian species found in Gatineau Park. These plans were existing plans, and no new recovery plans were finalized by the provincial or federal authorities this past year for species at risk on NCC land. Gatineau Park also participated in two provincial committees for the recovery of two species at risk found in the Park (one reptile and one amphibian species). In the Greenbelt, the NCC completed a conservation plan for the spotted turtle in the Mer Bleue Bog. The implementation of this plan is expected to start in 2011–2012.

In summer 2010, there was a lot of excitement in Gatineau Park when a pair of peregrine falcons built a nest in the Park for the first time in recent memory. The site is part of the potential habitat identified by the MRNF, and is being monitored jointly by the NCC and the MRNF.



**TABLE 3: SPECIES AT RISK IDENTIFIED IN GATINEAU PARK, IN THE GREENBELT AND ON URBAN LANDS**

Portfolio	Gatineau Park	Greenbelt	Urban Lands
Number of species at risk <sup>1</sup>	<b>146</b>	<b>104</b>	<b>86</b>
Mammals	11	5	0
Birds	19	25	23
Fishes	7	1	11
Amphibians	3	1	2
Reptiles	8	6	9
Invertebrates	7	1	1
Flora	91	65	40
Total species at risk on NCC lands <sup>2</sup>		<b>193</b>	

1. The term “species at risk” used in this report refers to plant and animal species with special status at the federal and/or provincial levels. It also includes the species listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and those on the provincial lists of species likely to be designated as threatened or vulnerable.

2. Since a species at risk can be found in more than one land portfolio, the total for the NCC is not the sum of the species identified in Gatineau Park, the Greenbelt and on the Capital's urban lands.

### INVASIVE PLANT SPECIES

The NCC’s environmental strategy commits the corporation to the active management of invasive alien plant species. This is important, because invasive species can out-compete native species and negatively affect ecosystems and local species diversity. In 2005, the NCC identified 67 alien plant species on its lands; 10 of these are considered extremely invasive.

The NCC has taken initial steps to systematically identify lands infested by invasive plant species and to set priorities for more aggressive management. An internal coordinating team has been established, and projects are under way to gather data on the extent of infestation on NCC lands.

In 2010–2011, the NCC completed a project to collect information on effective methods used by other land management organizations to manage five aggressive invasive plant species. In the urban lands portfolio, two and a half hectares of land were cleared of dog-strangling vine, and three hectares were cleared of European buckthorn this past year. The NCC is introducing new management practices and requirements in maintenance contracts, which will begin in 2011–2012. For instance, the turf within open space natural lands will be mowed once annually to prevent the establishment of invasive species. In addition, maintenance contractors will be required to remove invasive species each year on several priority sites identified by the NCC.



## **EMERALD ASH BORER**

In July 2008, the emerald ash borer, an invasive beetle that feeds only on ash trees, was confirmed in the region, and continues to spread. Approximately 25 percent of the trees in urban areas of the region are ash. In April 2009, the Canadian Food Inspection Agency (CFIA) issued an order to control the movement of firewood (all species) and all ash products, to contain the spread of the insect.

In 2010–2011, the NCC continued to be an active partner in the Regional Task Force on the Emerald Ash Borer, a platform to share information on monitoring and control mechanisms. The NCC developed an action plan to control the emerald ash borer on urban lands. This past year, it injected 115 valuable urban trees to prevent infection and removed or destroyed 50 trees infected with this devastating pest. Going forward in 2011, four main strategies will be pursued: continuing to monitor the insects with a trapping program; expanding the planting program by targeting sites with a high concentration of ash trees for proactive planting; expanding the injection program for valuable trees in urban parks; and removing dead trees in manicured parks, while leaving fallen trees on site in natural areas.

In Gatineau Park, the NCC continued to collaborate with the CFIA. During summer 2010, two traps were installed to monitor Philippe Lake campground and the Lac des Fées Sector. No emerald ash borers were found. However, preventive measures are in place at Philippe Lake campground in order to avoid the spread of the insect. The location and health of ash trees in Gatineau Park is being monitored and recorded annually.

## **CORPORATE NATURAL RESOURCES RESEARCH PROGRAM**

The NCC's Corporate Natural Resources Research Program was established in 2004 to support projects that increase the understanding of biodiversity under the NCC's stewardship. Phase Two of the program (ongoing from 2009 to 2014), comprises 26 projects which will increase the NCC's knowledge of several species, including species at risk, found on its lands.

In 2010–2011, a project to monitor five biodiversity indicators in Gatineau Park (species at risk, anurans, invasive plant species, common loon and vascular flora) and two indicators in the Greenbelt and urban lands (species at risk and vascular flora) was completed. Of the five, the anurans (frogs and toads) indicator was the only one that suggested there was a concern. Seven species were recorded in 2010, compared with a baseline of nine species established in 2006. However, warmer temperatures in the spring of 2010 led to an earlier than usual mating season. At the time of monitoring, the mating calls that the researchers were listening for were probably over, and the presence of these species could not be verified.

This past year, in addition to its recovery plan for the spotted turtle at Mer Bleue, the NCC developed an inventory and survey protocol for the Blanding's turtle in the Greenbelt.

In addition, the NCC is working with the province of Quebec and local municipalities to identify ecological corridors on lands adjacent to Gatineau Park.



### **STANLEY AVENUE PARK: WORKING WITH THE COMMUNITY TO PREVENT POLLUTION**

As the steward of a number of parklands within Canada's Capital Region, the NCC has a responsibility to ensure that any contamination of its lands does not pose a threat to human health or the environment. Stanley Avenue Park is a 5.6-hectare open space along the east shore of the Rideau River, adjacent to the community of New Edinburgh. This land has seen many uses over its long history, including being used as a railway right-of-way and a landfill. After a number of research studies indicated that the park was contaminated, the NCC created a plan to remediate the site. However, before going ahead with its plans, the NCC consulted the New Edinburgh community to hear its concerns and share plans to replace the top layer of contaminated soil with new soil, install a fence along the NCC property line, and build a gravel path along the river's edge. The result of these community meetings was a series of changes to the remediation plan that would bring it more in line with community values, but would still adequately protect the public from the risks associated with site contamination. Through the relationship created with the New Edinburgh community, the Stanley Avenue Park project became more than just an exercise in remediation; it became a cooperative effort to rejuvenate the park.

## 5.3 Preventing Pollution

The NCC is committed to protecting human health and the environment from the impacts of pollution. In this area, the NCC is showing continued leadership to prevent the pollution of lands, groundwater and surface water, by applying advanced environmental standards to its operations and practices on its lands and properties.

### CONTAMINATED SITES

The NCC actively identifies, assesses and manages contaminated sites located on its lands in order to reduce the risks to human health and the environment. In 2010–2011, the NCC conducted 82 environmental site assessments, at the phase two level or above. Phase two work generally involves the use of advanced techniques, such as testing groundwater and analyzing soil samples for the presence of oil, heavy metals and other contaminants. Most of the assessments completed this fiscal year were supplementary studies on sites already known to be contaminated. However, as a result of this work, five additional NCC properties were determined to be contaminated.

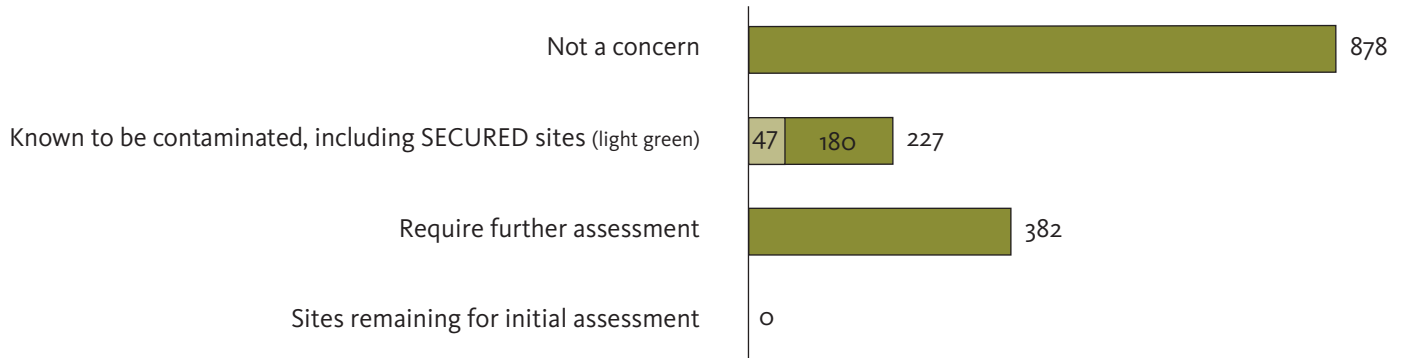
Active remediation took place at six sites during the past year. Some of these initiatives were continued from 2009–2010. At Stanley Avenue Park, the NCC completed a project to provide a clean cover for areas contaminated with lead and other contaminants (*see feature story on page 16*). At Ridge Road, the cleanup continued at the site of the engineered wetland, and monitoring is ongoing. At the NCC's Bayview property, a long-term project to remediate groundwater for trichloroethylene continued. At Hurdman North, new remediation strategies are being developed for the site, while the pumping and treating of free phase petroleum hydrocarbons is ongoing. At Richmond Landing, the new location of the Canadian Navy Monument, soil and groundwater remediation were undertaken at the same time as the monument construction. Finally, the project to manage the environmental risks at Riverfront Park, near the Canadian War Museum, was completed; the site was covered with clean soil and seeded.

Over the past year, the NCC reported a liability cost of \$42.6 million, \$3.3 million higher than the value reported in the previous year (\$39.3 million). The NCC also reported an increased contingent liability cost of \$494.9 million in 2010–2011, up from \$431.5 million reported for the 2009–2010 fiscal year.

In its environmental strategy, the NCC has committed to securing all of its contaminated sites by 2017. Securing a site involves studying it and taking all necessary remediation or other risk management actions consistent with the designated use of the site. By 2017, the NCC is aiming to have all contaminated sites on its lands be at the point where only routine monitoring and maintenance is needed.

This approach builds on the work that the corporation has undertaken over the past decade to manage its contaminated sites. The NCC has completed a systematic review of its almost 1,500 properties to determine what would need to be done to secure each site. Figure 1 (*on page 18*) provides the results of this work. The NCC currently has 227 contaminated sites. As of March 31, 2011, 47 are considered secured. Over the course of the next year, the NCC is working to secure as many as 30 additional contaminated sites.

**FIGURE 1: STATUS OF NCC CONTAMINATED SITES, 2010–2011**



**FUEL STORAGE TANKS**

By the end of the fiscal year, the NCC had 491 active fuel storage tanks, with 60 tanks on NCC lands subject to the federal fuel storage tank regulations. All 60 tanks were inspected in 2009–2010. In 2010–2011, the majority of them were inspected again to monitor the progress made toward meeting the compliance requirements. Three tanks were compliant, and the rest require further work in order to be compliant by the 2012 deadline. Eight of the 57 non-compliant tanks are owned by the NCC, and plans are being developed to ensure that they are compliant. Two of these are underground storage tanks scheduled to be replaced in fall 2011. The remaining 49 non-compliant tanks belong to tenants or other owners. All owners have been advised that they are responsible for ensuring that their tanks meet compliance requirements.

An additional 33 non-regulated tanks were also inspected in 2010, and the results were entered into the NCC’s asset management system. Issues were noted on virtually all tanks, and they are being addressed by the various NCC portfolios on a priority basis. Ten non-regulated above-ground storage tanks were decommissioned in 2010–2011.

**PESTICIDE MANAGEMENT**

The provinces of Ontario and Quebec have very advanced pesticide management regimes in place, anchored by legislation. The NCC made a commitment to develop a policy by 2010 to confirm the elimination of the cosmetic use of pesticides on its lands. This work is now expected to be completed during the 2011–2012 fiscal year. Until the formal policy is established, the NCC will continue to follow the legal requirements of Ontario and Quebec.

**DESIGNATED SUBSTANCES**

The NCC owns 1,296 buildings in active use, and is implementing a program to identify and assess buildings where designated substances such as asbestos and paint containing lead may be found. This is required under the *Canada Labour Code*, Part II.

In 2010–2011, surveys were completed at 106 buildings, including 52 high-priority buildings and an additional 54 lower-priority buildings, because of their proximity to the high-priority ones. Surveys on 47 high-priority buildings are still ongoing and will be completed in the next fiscal year. Obtaining access to some buildings for inspection has posed challenges and slowed progress.

To date, the NCC has determined that 714 buildings are not likely to pose a risk, and another 289 buildings revealed the presence of designated substances. Work on buildings with designated substances is advancing on a case-by-case basis, primarily under the direction of the various NCC portfolios, based on the results of these assessments. In 2010–2011, three buildings were remediated. Of the 293 priority buildings left to be inspected, 100 are slated for inspection during 2011–2012. The rest will be scheduled for assessment over the next several years.

**TABLE 4: STATUS OF REVIEW OF NCC BUILDINGS FOR DESIGNATED SUBSTANCES, MARCH 31, 2011**

Building Status	2009–2010 Results	2010–2011 Results
<b>Buildings in active use</b>	<b>1,322</b>	<b>1,296</b>
Buildings determined to be not at risk	727	714
Buildings with designated substances	248	289
Buildings remaining to be assessed	347	293
Scheduled for assessment in 2011–2012 <sup>1</sup>	N/A	100

*1. The buildings scheduled for assessment in the next fiscal year are also included in the buildings remaining to be assessed.*

#### **HAZARDOUS MATERIALS MANAGEMENT / SPILLS AND EMERGENCY RESPONSE**

The NCC documented 15 minor spills on its lands in 2010–2011. Only four of those necessitated reporting to the provincial authorities. As of March 2011, all had been cleaned up, with two exceptions, where the cleanup process was still in progress. Both of these spills are located in the Greenbelt: one is a diesel spill at Ramsayville Road and the other is a residential heating fuel spill on Russell Road.

In 2010–2011, 28 NCC employees received online training on the Workplace Hazardous Materials Information System (WHMIS). Signage on WHMIS was also posted within NCC office sites. An update of the inventory of hazardous materials was conducted in the summer of 2010, and modifications to replace hazardous materials with greener and safer products have been implemented. For instance, certain cleaning products are being replaced by greener options. In the past year, the NCC also developed guidelines to manage the use of scented products and chemicals in the workplace.

### FEDERAL PCB REGULATIONS

Owners of equipment that contains polychlorinated biphenyls (PCBs) are required to comply with the federal PCB regulations, which came into effect in 2008 and are part of the *Canadian Environmental Protection Act, 1999*. These regulations include reporting requirements, labelling and record-keeping requirements and end-of-use dates by which PCB-containing equipment must be removed from service and destroyed. One key date is December 31, 2025. All PCB-containing equipment, including fluorescent light ballasts, must be removed by this date.

In order to become fully compliant with the PCB regulations, the NCC is compiling information to complete an inventory of PCB-containing equipment. Some of the information is collected when designated substances and hazardous materials surveys are completed.

### WATER QUALITY

The NCC is responsible for overseeing the quality of water for drinking and swimming at a number of locations on its lands. The NCC has 272 water wells. In 2010–2011, twelve drinking water wells were decommissioned, as part of the NCC's life cycle management program. In addition, no beach closures due to cyanobacteria were required in summer 2010.

**TABLE 5: SELECTED POLLUTION PREVENTION INDICATORS**

Pollution Prevention Indicators	2009–2010 Results	2010–2011 Results
Number of wells decommissioned	10	12
Number of wells rehabilitated	1	0
Number of rehabilitated or decommissioned fuel storage tanks	0	13



## 5.4 Leading in Environmental Practices

The activities of the NCC contribute to a better quality of life in the Capital Region. To enhance its contribution, the NCC is looking at ways to green all aspects of its business, from buildings, planning and transportation to workplace guidelines and practices. This includes not only areas where the NCC may have direct control over outcomes, but also areas where the NCC and its staff have influence, through working with partners, suppliers and stakeholders.

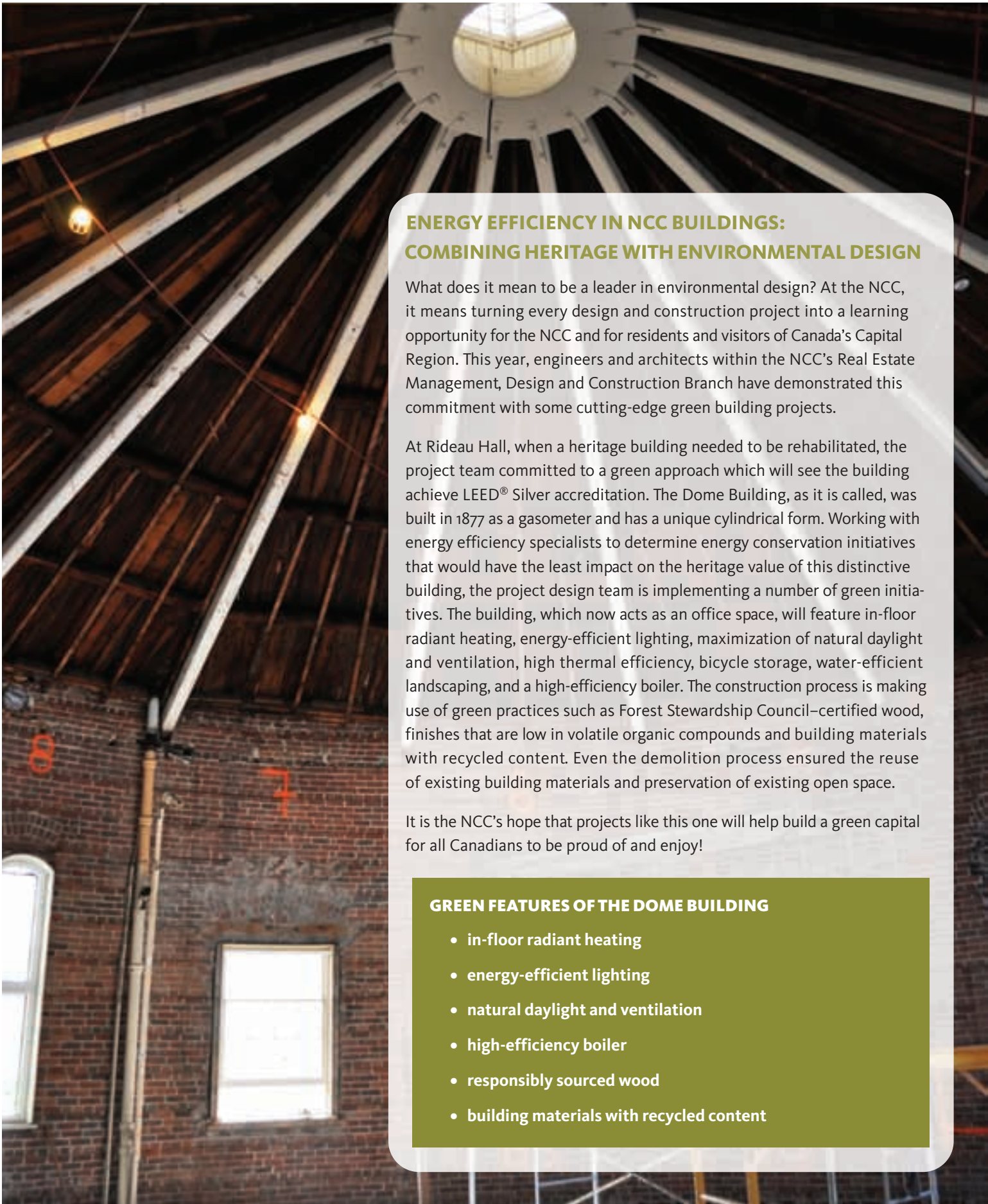
### **BUILDINGS**

The NCC has almost 1,300 buildings in active use on its lands. The way buildings are built and managed has an important impact on the environment. According to the Canada Green Building Council, buildings in Canada account for 37 percent of all primary energy use, and are responsible for 30 percent of greenhouse gas emissions. Higher standards of construction will help conserve energy, reduce the carbon footprint of buildings, and enable more efficient use of water and other resources.

To accelerate the pace of moving to high-performance sustainable building construction, the NCC has made a commitment to LEED® standards. LEED® is a third-party certification program administered by the Canada Green Building Council for the design, construction and operation of high-performance green buildings.

During 2010–2011, the NCC embarked on one LEED®-eligible building project on its lands, striving for LEED® Silver designation for the rehabilitation of the Rideau Hall Dome Building (*see feature story on page 22*). The project is slated for completion in summer 2011. In Gatineau Park, the expansion of the facilities at the Old Mill near Wakefield is being built on NCC lands to meet LEED® Gold standards. The project is scheduled for completion in June 2011.

Other building projects undertaken at Vincent Massey and Hog's Back parks, funded by the NCC and the Infrastructure Stimulus Fund, integrate a number of environmental best practices. The new Service Pavilion at Vincent Massey Park is constructed in such a way as to preserve and blend in with its natural surroundings. To reduce water use, the building has low flow toilets and sinks, waterless urinals, and rain harvesting technology that will supply 90 percent of the building's water needs. The building also requires little energy, because of its efficient use of natural light, combined with motion sensors and lighting controls. Moreover, 27 solar panels were installed on-site to generate renewable energy and return it to the grid in order to fully offset the energy the pavilion consumes. These measures result in a net-zero energy and carbon neutral building. Thirty solar panels were also installed at Hog's Back Park. Together, these installations are the first construction projects at the NCC to generate revenue through renewable energy via the Ontario Power Authority's Feed-in Tariff Program.



## **ENERGY EFFICIENCY IN NCC BUILDINGS: COMBINING HERITAGE WITH ENVIRONMENTAL DESIGN**

What does it mean to be a leader in environmental design? At the NCC, it means turning every design and construction project into a learning opportunity for the NCC and for residents and visitors of Canada's Capital Region. This year, engineers and architects within the NCC's Real Estate Management, Design and Construction Branch have demonstrated this commitment with some cutting-edge green building projects.

At Rideau Hall, when a heritage building needed to be rehabilitated, the project team committed to a green approach which will see the building achieve LEED® Silver accreditation. The Dome Building, as it is called, was built in 1877 as a gasometer and has a unique cylindrical form. Working with energy efficiency specialists to determine energy conservation initiatives that would have the least impact on the heritage value of this distinctive building, the project design team is implementing a number of green initiatives. The building, which now acts as an office space, will feature in-floor radiant heating, energy-efficient lighting, maximization of natural daylight and ventilation, high thermal efficiency, bicycle storage, water-efficient landscaping, and a high-efficiency boiler. The construction process is making use of green practices such as Forest Stewardship Council–certified wood, finishes that are low in volatile organic compounds and building materials with recycled content. Even the demolition process ensured the reuse of existing building materials and preservation of existing open space.

It is the NCC's hope that projects like this one will help build a green capital for all Canadians to be proud of and enjoy!

### **GREEN FEATURES OF THE DOME BUILDING**

- in-floor radiant heating
- energy-efficient lighting
- natural daylight and ventilation
- high-efficiency boiler
- responsibly sourced wood
- building materials with recycled content



In addition to the work being done at Vincent Massey and Hog's Back parks, green construction features were designed and built into many other building projects undertaken by the NCC in 2010–2011. Highlights of this work include the following properties.

- Repairs to Rideau Hall, a heritage structure, included tightening the building envelope to diminish air movement and heat loss in and around heritage elements dating from 1872, adding insulation where there had been none previously, and selecting construction materials that offer greater durability and longer service.
- A project to conserve the heritage Rideau Hall Ceremonial Greenhouses consisted of reusing the original 1926 cast iron trusses and adding laminated glazing which, combined with a new motorized shading system, will reduce heat loss by an estimated 65 percent. Programmable greenhouse control systems were also added, along with a new, more efficient, hot water heating system, replacing the original steam system. Rainwater harvesting will also be introduced for watering the greenhouse plants.
- At the Moore Farm Estate, a geothermal heating/cooling system was installed to provide summer cooling and winter heating, cutting the electricity and natural gas needs of the main house.
- In Gatineau Park, the washroom facilities at Philippe Lake campground were refurbished using 90 percent of the original building envelope structure and incorporating a series of green refits: energy-efficient lighting, low-flush and dual-flush toilets, waterless urinals, energy-efficient hand dryers, natural ventilation of the shower and washrooms, and solar water heating, as well as increased day-lighting for the showers.
- For 16 addresses on Sussex Drive, upgrading the basement foundations and utilities included adding rigid insulation to significantly reduce heat loss, and placing dedicated sanitary and storm sewer lines from NCC buildings to the municipal infrastructure.

## PLANNING

A key corporate priority over the next several years involves the review and update of Horizon 2067 — the NCC's Plan for Canada's Capital. This plan will look 50 years into the future, and will incorporate sustainability and green urban planning principles. It will also promote policies that strengthen and protect the region's green and blue (i.e. land and water) assets, and contribute to good long-term environmental management. In 2011–2012, the NCC, in partnership with the Royal Canadian Geographic Society, will roll out a national engagement strategy to involve Canadians in the development of a vision for their capital.

At the same time, the NCC is participating in Choosing Our Future, a joint NCC–Ottawa–Gatineau sustainability visioning project. This is a multi-year project aiming to reduce the impacts of human activity on the environment, adapt successfully to changing circumstances, and maintain a vibrant economy and high quality of life for the people who live in, work in and visit Canada's Capital. In 2010–2011, work focused on developing strategies to achieve set goals and principles, different future scenarios, and hosting a series of public events and consultation sessions, including a sustainability summit in June 2010. The NCC also advocates green urban planning practices for all federal land use and design approvals.

The health of the Ottawa River is an environmental and planning priority for the NCC. The first Ottawa River Summit was held in August 2010, in collaboration with Ottawa Riverkeeper, to discuss the health and future of the Ottawa River and its tributaries. The Ottawa River Coordinating Group — involving the NCC and the cities of Ottawa and Gatineau — met twice in 2010–2011 and, in the future, will seek to continue to meet on a regular basis.

The NCC is currently undertaking preliminary work on developing a sustainable mobility strategy. Several initiatives were ongoing during 2010–2011, such as Gatineau Park's Green Transportation Plan and the review of the NCC Parkway Policy, as part of the development of the Capital Urban Lands Master Plan. The NCC was actively involved in the Sustainable Cities 2010 conference in September, attending the Velo-City Global 2010 conference in Copenhagen, holding several seminars with urban planner Jan Gehl, author of *Cities for People*, and organizing the Sustainable Mobility Summit 2010 in partnership with the Association for Commuter Transportation of Canada.

## CYCLING

Bicycling in the Capital Region makes an important contribution to reducing urban air pollution and greenhouse gas emissions, and plays a key role in making the region a sustainable urban area. In addition to its environmental benefits, active transportation contributes to a healthier lifestyle.

Canada's Capital Region is home to one of North America's largest networks of recreational pathways: the Capital Pathway network. About 236 kilometres of recreational pathways link natural areas, parks, gardens, museums and attractions across the region. In 2009, a pilot project involving 50 bikes and four stations was undertaken between the cities of Ottawa and Gatineau and the NCC to examine the possibility of establishing a full bike-sharing service in the region. Its success led to the NCC signing a five-year contract for 100 bikes and 10 stations to serve Canada's Capital, starting in May 2011. The bike-sharing scheme could be expanded in future years through the participation of other partners, with an objective of achieving 50 stations and 500 bicycles.

Other cycling initiatives that took place in 2010–2011 include the following.

- The launch of Ottawa–Gatineau Google Maps biking directions in November. Canada's Capital Region was the first region in Canada to include its cycling network in the Google Maps biking directions tool.
- The construction of 16 kilometres of new recreational pathway links (Champlain corridor, Moore Farm, Aviation Pathway, Pine Grove, Bruce Pit, and Laurier Street in Gatineau), bringing the total of recreational pathways managed by the NCC to 236 kilometres.
- The establishment of an inter-agency pathway committee between the cities of Ottawa and Gatineau and the NCC to coordinate the multi-use pathway system, as well as to develop and implement cycling initiatives.
- The improvement of the pathway wayfinding system, through the replacement and upgrade of 75 map panels and the addition of directional signs on the NCC pathway system.

In addition, the NCC has identified a list of initiatives to continue promoting cycling to its staff, residents and visitors to Canada's Capital Region. A number of these initiatives are planned for 2011–2012, and will be reported on in next year's environment report.

### **MAINTENANCE OPERATIONS**

In 2010–2011, the NCC's environmental guidelines for maintenance contracts were comprehensively revised and updated. The intent of this work was to minimize the environmental impact of contractor work on NCC lands through the use of best practices. These guidelines specify environmental practices that can help to minimize the potential environmental effects of normal business activities. For example, when disposing of waste, contractors are required to respect all municipal recycling and composting programs, and report to the NCC on the total weight of waste diverted from landfills. The guidelines are now being included in all major new maintenance contracts and renewals of existing contracts.

In 2010–2011, additional green practices were introduced to the maintenance operations at the official residences. For example, the NCC introduced battery-powered electric lawn mowers to cut lawns at Rideau Hall. In addition, under a new agreement between the Central Experimental Farm and the NCC, the farm will use up to 30 truckloads of compostable materials generated at the official residences, as a soil amendment.

### **ENVIRONMENTAL ASSESSMENT**

In compliance with the *Canadian Environmental Assessment Act* (CEAA), the NCC reviewed over 100 project files this year to determine whether the Act applied and an environmental assessment was required. Approximately 25 environmental assessments were completed for NCC-led projects, seven environmental assessments were done for projects under the Infrastructure Stimulus Fund, and expert advice was provided on approximately 20 external environmental assessments affecting NCC lands.

The NCC continues to be engaged in environmental assessment work related to City of Gatineau and City of Ottawa transit projects, including the environmental assessment of the City of Ottawa Light Rail Project. The NCC and Parks Canada are also conducting an environmental assessment on a project related to stormwater management under the Lansdowne Park redevelopment proposal.

The NCC is also involved in the environmental assessment of the Province of Quebec's Highway 5 extension. The second phase of the environmental assessment was completed in January 2011, with follow-up requirements ongoing for the next three years. Phase three was initiated and is expected to be completed in 2011.

The NCC continues as project manager of a joint federal–provincial (Ontario and Quebec) environmental assessment study for future interprovincial crossings. The federal environmental assessment is being coordinated by the Canadian Environmental Assessment Agency to ensure coordination with the Quebec process and careful consideration of the Ontario process. The completion of the environmental assessment is expected in 2013.

The NCC is required to comply with the provisions in the CEAA. A legislated review of the Act was expected to be undertaken in 2010 by a parliamentary standing committee, but was deferred until the fall of 2011. Changes to the Exclusion List Regulations, temporarily introduced in 2009 to expedite the federal Economic Action Plan initiative, were fully implemented through the federal 2010 budget.

## CANADA DAY 2010: RED, WHITE AND GREEN!

Photos of Canada Day in Canada's Capital invariably depict a sea of red-and-white-clad Canadians and visitors. But Canada Day 2010 was not only red and white — it was green too!

After two years of diligently keeping track of the fuel and energy used to plan and implement the Canada Day festivities, to determine the event's carbon footprint, the NCC is proud to declare Canada Day 2010 as its first carbon neutral event! This means that Canada Day's net, global carbon emissions were zero.

Read the story on page 27, "Carbon Neutral, the NCC Way" to find out how the NCC achieves net zero global carbon emissions for its events and programs. For Canada Day 2010, the NCC worked through CarbonZero, a respected carbon offset vendor, to acquire offsets from a variety of Canada-based offset projects, such as energy efficiency, methane gas recovery and tree-planting projects. All offset projects have met high quality standards and represent real, permanent carbon reductions. This means that, for every tonne of carbon emitted for Canada Day 2010, one tonne of carbon has already been offset by these projects.

Purchasing offsets was not the only step the NCC took toward becoming carbon neutral. Along the way, the NCC implemented several greening initiatives to reduce its carbon footprint. By switching to online media sources to distribute information about Canada Day 2010 events, the NCC avoided the production of over 60,000 paper programs, saving the equivalent of 18 mature trees! The NCC also set up seven water stations and encouraged visitors to bring reusable plastic water bottles. In one day, the water stations filled the equivalent of 32,000 plastic water bottles. These initiatives helped the NCC reduce its Canada Day landfill waste by 29 percent and avoid the potential production of nearly two and a half tonnes of carbon emissions from landfills!

With its first carbon neutral event under its belt, the NCC looks forward to working with all of its event partners to make the rest of the NCC's signature events and programs — including Winterlude, Christmas Lights Across Canada, the Rideau Canal Skateway, Fall Rhapsody and Sunday Bikedays — carbon neutral firsts!

### ENVIRO-SNAPSHOT:

- 18 trees saved
- 32,000 fewer plastic water bottles used
- 29 percent less waste to landfill
- the NCC's first carbon neutral event



## 5.5. Combatting Climate Change

Emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases associated with human activities are increasingly understood to be the main cause of climate change. The NCC is committed to reducing the carbon footprint of all aspects of its business, and has made it a priority to render its signature events and programs carbon neutral (i.e. having a net zero carbon footprint). This will be achieved by reducing emissions through increased energy efficiency and other positive environmental stewardship initiatives, as well as by offsetting residual emissions.

### CARBON NEUTRAL SIGNATURE EVENTS AND PROGRAMS

After calculating the carbon footprint of Canada Day as a pilot project in 2009, the NCC's carbon footprinting program for signature events came into full swing in 2010. The most notable achievement toward combatting climate change this year was making Canada Day 2010 the NCC's first carbon neutral signature event (*see feature story on page 26*). For this event, 415 tonnes of CO<sub>2</sub> equivalent were offset with high-quality carbon offsets.

#### CARBON NEUTRAL, THE NCC WAY

To make its signature events and programs carbon neutral, the NCC takes the following steps.

1. Calculation: Each year, the NCC calculates the carbon emissions associated with the event.
2. Reduction: The NCC seeks out ways to reduce its carbon emissions, while retaining the event's programming objectives.
3. Offsetting: The NCC counterbalances the emissions that it cannot reduce by purchasing high-quality carbon offsets.

Carbon offsets (or credits) are typically derived from projects that produce renewable energy, replace old technology with more energy-efficient technology, or capture and flare methane from landfills, as well as through carefully managed reforestation projects. Offsets are issued by the organization that is achieving the reduction, and sold to organizations that wish to balance off the emissions they produce.

In order for a carbon neutral event to be credible with the public, any offsets used must meet a number of quality standards. For example, offset projects must be certified and registered with a credible registry. In addition, the greenhouse gas reductions have to be real, additional, not double-counted, validated before they are created and verified after the fact by a third party. The process of validation and verification is very thorough, and can take several months to a year to complete. It is only by following this highly rigorous, "cradle-to-grave" tracking process that offset buyers and the public can be confident of the integrity of a carbon neutral event.

This year, baseline calculations were also completed for Christmas Lights Across Canada 2009–2010 and Winterlude 2010. The total emissions for these events were determined to be 30 tonnes and 450 tonnes of CO<sub>2</sub> equivalent, respectively. Calculations are under way for the 2010–2011 edition of Christmas Lights Across Canada, the 2011 edition of the Rideau Canal Skateway and the 2011 edition of Winterlude. The 2010–2011 edition of Christmas Lights Across Canada will become the NCC’s second carbon neutral signature event. Carbon neutrality will be achieved through the purchase of carbon offsets in 2011 (see Table 6). Once a signature event or program has been made carbon neutral, it will continue to be carbon neutral in subsequent years.

**TABLE 6: PROGRESSION TOWARD CARBON NEUTRALITY OF NCC SIGNATURE EVENTS AND PROGRAMS**<sup>1,2</sup>

NCC Event or Program	Baseline calculations	Calculation of emissions to offset	Offsets acquired by the NCC
Canada Day	✓	✓	✓
Christmas Lights Across Canada	✓	✓	2011
Rideau Canal Skateway	2011	2012	2012
Winterlude	✓	2012	2012
Fall Rhapsody	2011	2012	2012
Sunday Bikedays	2012	2013	2013

1. A check mark indicates that this step has been completed. A year indicates when it will be completed.
2. The baseline calculations column indicates the first time that the calculations are done for an event, which is treated as a practice year in compiling the emissions inventory. The following year, the calculations serve to determine the number of tonnes that have to be offset to make the event carbon neutral.

The NCC is currently working with a consultant to evaluate ways to further reduce emissions associated with its signature events and programs, while retaining the desired character of the events.

#### OTHER CLIMATE CHANGE INITIATIVES

While the primary focus over the past year continued to be working toward carbon neutral events and programs, work has also begun on other initiatives to reduce the NCC’s carbon footprint.

In 2010, the NCC held initial discussions with providers of renewable energy. In 2011–2012, the NCC plans to evaluate options available for meeting the renewable energy objectives of the environmental strategy.

In 2011–2012, the NCC will identify CO<sub>2</sub> emissions related to all of its operations, including maintenance operations, building energy use and programs. This will establish a baseline against which the NCC can measure progress toward meeting its goal of reducing its overall carbon footprint by 30 percent by 2017.

## 8. GLOSSARY

**Biodiversity:** The full range of animals, plants and other living things, and the places where they live on the planet.

**Carbon dioxide (CO<sub>2</sub>):** A greenhouse gas produced in part by human activities, whose emissions are largely responsible for climate change.

**Carbon footprint:** The total set of carbon-containing emissions (mainly CO<sub>2</sub>) caused directly and indirectly by an individual, organization, event or product.

**Carbon neutral:** Having a net zero carbon footprint by balancing the greenhouse gas emissions created with an equivalent amount sequestered or offset.

**Carbon offset:** An investment in a project or activity elsewhere that reduces greenhouse gas emissions, or sequesters carbon from the atmosphere, that is used to compensate for unavoidable greenhouse gas emissions created by one's own activities.

**Conservation land:** Land specially designated by federal, provincial/territorial or local bodies to protect fragile ecosystems, habitats and species at risk.

**Contaminated site:** Areas of land that contain chemical substances (e.g. heavy metals or petroleum products) that may pose a hazard to human health or the environment, or that exceed the levels set out in policies and regulations.

**Critical habitat:** The habitat that is necessary for the survival of a species at risk and that is identified under law in a recovery strategy or action plan for that species.

**Ecosystem:** A unit of interdependent organisms that share the same habitat.

**Energy efficiency:** Refers to how effectively energy is being used for a given purpose. For example, performing a similar function or providing a similar (or better) level of service with less energy consumption on a per unit basis is considered an improvement in energy efficiency.

**Greenhouse gas:** Emissions of gases such as nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>) and especially carbon dioxide (CO<sub>2</sub>) that accumulate in the atmosphere and act to retain atmospheric heat, thus contributing to climate change.

**High-value ecosystem or habitat:** An ecosystem or habitat that is considered important for the maintenance of biodiversity because it has some combination of the following characteristics: a large diversity of species, habitat for species at risk and/or migratory species, and intact natural processes likely to support increased genetic diversity.

**LEED®**

**(Leadership in Energy and Environmental Design):** A third-party certification program administered by the Canada Green Building Council for the design, construction and operation of high-performance green buildings.

**Secured site:** A contaminated site where all necessary study, remediation and other risk management actions have been taken, consistent with the designated use of the site.

**Waste diversion:** The reduction, reuse and recycling of waste, leading to a reduction of waste being sent to the landfill.

