

Chapter 1 Sustainable Development

1. What is sustainable development?

This guide gives a basic explanation of sustainable development (SD). Its main goal is to help museums develop and implement SD policies and practices.

According to the Brundtland Report¹:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- the concept of 'needs,' in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

¹ <http://worldinbalance.net/agreements/1987-brundtland.php>

The definition of SD in the Federal Sustainable Development Act echoes the Brundtland definition. In adopting the Sustainable Development Act, “the Government of Canada accepts the basic principle that sustainable development is based on an ecologically efficient use of natural, social, and economic resources and acknowledges the need to integrate environmental, economic and social factors in the making of all decisions by government.”²

In adopting the Sustainable Development Act, “the Government of Canada accepts the basic principle that sustainable development is based on an ecologically efficient use of natural, social, and economic resources and acknowledges the need to integrate environmental, economic and social factors in the making of all decisions by government.”³

Since 1997, federal departments and agencies have been required to implement three-year SD strategies. This approach has been backed by the adoption of the Federal Sustainable Development Act, encouraging the implementation of a federal SD strategy. As a result, organizations which want to implement an SD strategy must address the economic, environmental and social impacts of their activities. Thus, a museum would be considered sustainable if it assessed the impact of its activities on the environment, on the quality of life of its stakeholders and on the economy.

A museum contributes to the social component of SD as a custodian of social and cultural heritage and through its community involvement. By encouraging its employees and volunteers participation in museum activities, a museum fosters their social involvement and their sense of belonging. On the economic front, a museum must ensure the sound financial management of its resources, promote the exchange and redistribution of assets, and recognize the work of its employees. For instance, a museum could decide to create an SD fund by reinvesting a percentage of its revenues in SD, such as purchasing equipment that would improve energy efficiency or without volatile organic compounds (VOCs). Museums must manage their human, material, and natural resources carefully, and must also reduce waste to minimize their ecological footprint.

SD also means giving back to the community, as indicated in these extracts from *Green your Business: Toolkit for Tourism Operators*, published by the Tourism Industry Association of Canada in 2008:

Sustainability is about more than just sorting the glass from the plastics; it's also about strengthening local economies and building a strong community. It's about respecting workers, acting ethically and treating those around you fairly. It's about giving something back. Whether you choose to participate in a fundraiser, organize a party for volunteers, promote local artisans, or simply write a cheque to a local charity, your organization can make a big difference.⁴

²Federal Sustainable Development Act, Interpretation

³Federal Sustainable Development Act, Basic Principles

⁴Green your Business: Toolkit for Tourism Operators, Tourism Industry Association of Canada, Canadian Tourism Commission and Parks Canada, 2008, p76

Many museums are already actively involved in their communities. List what you already do, or draw inspiration from the examples below for launching your SD efforts:

- Support the local economy by offering a mentoring program or internships for young people
- Create job opportunities for economically vulnerable communities
- Coordinate volunteering initiatives in partnership with other companies and local organizations
- Move beyond philanthropy or sponsorship efforts: help build new initiatives
- Partner with improvement initiatives in your neighbourhood or region
- Make in-kind and monetary donations, to school boards for example
- Contribute to the community development through social enterprises and independent business⁵

You could create partnerships with local communities, with groups whose concerns are aligned with your mission. Such initiatives help develop the local population's sense of belonging to both the museum and the local culture. For example, you could encourage them to use your facilities by offering room rentals at preferred rates or even free of charge.

Eco museology

Eco museology has been defined as a “concept and movement that originated in France, and that focuses on people and their environment. People and their environment are also seen as ‘people and their territory: their home, village, district or region.’⁶ As museum forums, green museums offer a global, seamless vision of people and their environment, calling the community they serve to action by contributing to their own development.”⁷

It should be noted that not all ecomuseums focus on environmental or sustainable development. Some maintain a social perception of museology, delving into lifestyles and means of production that have often disappeared, and sometimes overlook the disastrous impacts these activities may have had on society and the environment. Their mission is generally centred on capturing a snapshot of a social situation. According to Montreal's Écomusée du Fier-monde⁸:

From 1850 to 1950, Montreal was the Canadian metropolis, and the south central district of Montreal was its industrial heartland. Discovering the history of that district leads to the history of industrialization and its huge impact. It means delving into the past of hundreds of companies in a variety of industrial sectors. It means learning about the way of life of thousands of workers and their families. It also means gaining a better understanding of the present: from the industrial revolution to new technologies. South central Montreal is all about contemporary issues and the trends of tomorrow!

This type of museum, however, could also mount environmental or sustainable development exhibitions of local community.

⁵Ibid

⁶André Desvallées, in *Public et Musées*, no.17-18 « L'écomusée : Rêve ou réalité », 2000

⁷[TRANS] www.fems.asso.fr/index2.php?id=itemmenu_article_8_99_1_1&visualitem=normal&itemracine

⁸[TRANS] www.ecomusee.qc.ca/expo_tempo.php

2. Why integrate sustainable development into museum operations?

Museums should incorporate SD into their operations, first of all, to serve as model for the society to which they belong. Museums need to be involved in SD to contribute to improving quality of life in their communities building meaningful community spaces while minimizing their environmental impacts.

Institutions that are actively involved in SD benefit in the long term because they will sustain their economic viability while branding themselves as environmentally and socially responsible.

There is a marketing edge in being a forerunner in the area of SD and the environment, an edge that could pay off handsomely image-wise. Peers' and clients' perceptions and recognition might be enhanced and have a positive effect on your funding. Over and above the often substantial savings, integrating certain principles such as energy efficiency and responsible resource management will help you conserve resources, often far more than anticipated. By being proactive, you will encourage your staff, management, visitors and volunteers to incorporate this new knowledge into their daily lives. Integrating SD will help you live up to your mission by promoting responsible management of your institution's economic and human resources.

It is essential to consider such major factors as life cycle assessment and return on investment. Today, for example, the average cost of an eco-efficient building is similar to the cost of a non eco-efficient building.⁹

According to the Federation of Canadian Municipalities, your SD approach can merge in a sustainable community approach:

A sustainable community is a smart community. It achieves economic, environmental and social health by:

- Making the most efficient use of its resources
- Generating the least amount of waste
- Providing high quality services to its residents
- Living within the carrying capacity of its natural resources

Sustainable communities preserve or improve quality of life while minimizing their impact on the environment.¹⁰

Every type of institution, not just science centres and environmental museums, can get involved! Children's museums would do well to offer healthy food in their food courts, in addition to selecting carpeting that emits few or no volatile organic carbons (VOCs).

Federal and provincial legislation on SD can help guide you to implement SD strategies.

- The Government of Quebec's sustainable development act: <http://www2.publications-duquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2006C3A.PDF>
- The federal sustainable development act: <http://www2.parl.gc.ca/HousePublications/Publication.aspx?DocId=3598186&Language=e&Mode=1&File=30>

⁹ Lisa Fay Matthiessen and Peter Morris, "The Cost of Green revisited: Re-examining the Feasibility and Cost Impact of Sustainable Design in the Light of Increased Market Options" <http://www.davislangdon.com/USA/Research/ResearchFinder/2007-The-Cost-of-Green-Revisited/>

¹⁰Canadian Federation of Municipalities, www.fcm.ca

3. How to integrate sustainable development into museum operations?

A. Diagnosis

The first step in incorporating SD into museum operations is to assess the situation. This will help you to set targets, identify actions, and achieve your objectives. You will need to conduct an inventory of your practices in every area of your operations. There are many tools available to help you conduct such this assessment. Note that the measures you choose should address the three pillars of SD, this will lead to protecting the environment, promoting fairness and social solidarity, and finally strengthening the economy.

Identifying SD priorities can be done as part of the regular planning process or when reviewing a program or exhibit. It is essential to refer to the SD principles so as to identify opportunities for concrete action both in the planning process and in developing strategy, policy or other measures. A good diagnosis will help you create a prioritized action plan with a budget and timeframe.

For a more comprehensive approach, consult the following documentation:

- ISO 14000 is an environmental management standard that provides a framework for developing an environmental management system and an auditing support program.
http://www.iso.org/iso/iso_14000_essentials
- First published by AFNOR in 2003, the Guide AFNOR SD 21000 (FD X 30-021) sets out guidelines for incorporating sustainable development issues into strategies and management practices for businesses of all sizes, public administrations and other organizations for the common good.
<http://www.afnor.org/en/profiles/focus/sustainable-development>
- Verteego CSR is a collaborative Social Responsibility assessment and communication tool for your organization that generates a sustainability report that you can share with your stakeholders to do more and better business.¹¹
Verteego helps you to generate a high quality report on 60 issues including environment, employees, society, product innovation and ethics without any prior knowledge about sustainability.
In a second step Verteego offers you some simple online and offline communication tools that help you to show everybody that your company is committed to sustainable business. To learn more, go to:
<http://www.myverteego.com/report/verteego>
- The University of Quebec at Chicoutimi has developed an assessment chart:
http://depcom.uqac.ca/eco-con/chaire/documents/grille_analyse_dd.xls
And a guide to use it:
http://depcom.uqac.ca/eco-con/chaire/documents/analyse_dev_dur_2007.pdf
- The Association of University Leaders for a Sustainable Future (ULSF) supports sustainability as a critical focus of teaching, research, operations and outreach at colleges and universities worldwide through publications, research, and assessment. ULSF also serves as the Secretariat for signatories of the Talloires Declaration, a ten-point action plan committing institutions to sustainability and environmental literacy in teaching and practice. Over 350 university presidents and chancellors in more than 40 countries have signed the Declaration.¹² [http://www.ulsf.org/programs_talloires.html]

¹¹Verteego.Online Sustainability Report, 2008, <http://www.verteego.com/>

¹²Electrolyph, University Leaders for a Sustainable Future (ULSF), Sustainability Assessment Questionnaire, 2008, www.ulsf.org/programs_saq.html

B. Sustainable development policy

Terms such as green, ecological and environmental best practices can be all be grouped together in the same family of terms.

However, these terms are often confused with the term sustainable. In the dictionary, sustainable is defined as something “that is long lasting.” This definition can encompass the use of all materials or resources considered renewable or recyclable. Finally, the principle of eco-responsibility, a more comprehensive term which is closer in meaning to SD, refers to “administrations assuming social and economic responsibilities while protecting the environment, contributing to the improvement of working conditions, and promoting budgetary savings.” It can be said that implementing an SD policy is a way of assuming eco-responsibility.

What is a sustainable development policy?

A policy is a rule of action adopted by an operating organization to insure uniformity of procedures under similar, recurring circumstances.

Isocèle Conseil defines an environmental policy as a “statement by the organization of its intentions and principles in relation to its overall environmental performance, which provides a framework for action and for setting its environmental objectives and targets.”¹³

On the basis of these definitions, an SD policy could be defined as a commitment made by the organization to incorporate the three pillars of sustainable development (environmental, economic and social) into its natural, social and economical resources management process. An SD policy provides an essential working framework for operations, defines procedures and processes and represents the ideal context for identifying objectives along with their means of assessment. The policy is a vehicle for the organization to put its SD vision into writing.

What are the advantages of having an SD policy in place?

A museum’s policy is a tool that will have a positive impact on your working environment, partners and community in that it will guide your decisions. It will influence your operating policies by directing your practices toward more sustainable practices. In some ways it will be a change driver for your institution.

How to implement an SD policy?

An SD policy must be in line with a museum’s mission statement. The diagnosis referred to earlier will identify your organization’s significant issues and areas where you can take action. The next step is to determine measurable objectives and targets. It is also important to identify other individuals or entities which can play an important role in achieving the various objectives. Remember that policy change can be implemented gradually: it is preferable to focus on a few realistic objectives than to become discouraged by an insurmountable task.

¹³[TRANS] www.isocele.com/iso_14001/glossaire_environnement.htm

Not only is management support essential but the various sectors within the organization should have a word to say about the potential various impacts. Consider drawing inspiration from existing policies (see page 23).

In short, an SD policy should:

- Be adapted to the museum's values and mission
- Be developed in conjunction with stakeholders (including personnel)
- Have senior management support
- Be communicated to personnel
- Be made available to the general public
- Incorporate a commitment to continuous improvement
- Incorporate a commitment to pollution prevention, health and safety promotion, both on the job and during visits
- Incorporate clear, realistic and measurable objectives with respect to each dimension of sustainable development

How to promote your SD policy?

To sustain your commitment, you will need to promote the policy and integrate it into your operations, from cleaning products and electronic equipment procurement to cafeteria operations. Communicating your policy will ensure its integration.

Your institutions' communications should reflect your SD policy. For example, you could develop a logo or slogan for use in promotional material, or on your website. Adding messages to email footers is a simple tool, for example: "Please think of the environment before printing this email." Or you could put up posters in washrooms concerning water consumption.

All personnel, trainees and volunteers affiliated with your museum must be aware of and understand the policy. They are your front-line people and they will make the difference between a museum that has thoroughly embraced the policy and one that has not. You also need to inform partners and suppliers, encouraging them to follow your example, and by establishing clear, specific agreements that take SD into account. The involvement of your SD steering committee (or green team) in developing the policy action plan is essential as it will facilitate incorporating your SD into daily operations.

Also, the policy should be promoted through museum activities, by informing visitors about the approach used in selecting materials for exhibits, as well as posting signs featuring the recycling and composting programs. The policy could also be made available to the public through your website or simply be posted in a visible location in the institution. You could mention it in your brochures and feature it in other promotional material.

You should refer to it in your calls for tender so as to ensure your suppliers are aware of your policy. The policy should allow incorporating sustainability criteria into your contracts.

Obviously, it is essential that you set a consistent example in terms of your objectives and the image you wish to project. You also need to recognize that implementing such a policy is a complex change management process. Good communication and a work environment fostering discussions are part of a SD approach.

C. Implementing an SD policy

Here are two SD action plans:

- Société immobilière du Québec (French only):
http://www.siq.gouv.qc.ca/html/leader/doc/plan_action_dev_durable.pdf
- Musée de la civilisation de Québec (French only) :
http://www.podcastmcq.org/fr/documents/complexe/developpement_durable.pdf



Photo: Granby Zoo.

Integration into operations

Integrating SD into operations is a time-consuming process that depends on various factors including the size of the institution and the local context.

The *Musées* magazine published by the Société des musées québécois (SMQ) produced an issue on sustainable development (Vol. 27/2008) in cooperation with the Biosphère and Montreal's Nature Museums. This issue offers ideas as well as issues to consider with respect to integrating SD into your operations.

Commitment

Setting SD objectives, preparing and implementing an action plan confirm an institution's commitment to sustainable development. Securing and maintaining commitment from staff is accomplished through the transmission of objectives. Here are two sample objectives for a museum:

1. Lower electricity consumption by installing solar systems for lighting
2. Lower greenhouse gas emissions by planting trees to offset greenhouse gas emissions, by supporting Earth Day or Tree Canada Foundation by planting and maintaining trees (\$4 to \$5 per tree), and by planting symbolic trees on the property

These examples were extracted from:

http://www.cepas.qc.ca/autre/ecoguide_complet_web.pdf

4. Sample SD policies

Environment Canada's Biosphère



Photo: Environment Canada's Biosphère.

The Biosphère wishes to highlight the importance it places on embracing sustainable development. We all, regardless of our role in the organization, have a duty and a responsibility to ensure our organization continues to progress.

As a national environmental museum, the Biosphère has a teaching and conservation mission in addition to being a national centre of excellence for environmental education and commitment. It is therefore fully aware that its actions must reflect its major leadership role in the community.

The Biosphère raises awareness among young people and their families of major environmental issues relating to water, air, biodiversity, climate change, sustainable development and responsible consumption.

The purpose of the following policy is to define the Biosphère's sustainable development commitments, throughout its operations.

With respect to the environmental component, the sustainable development policy of Environment Canada's Biosphère commits, in compliance with current laws and regulations, to ensuring the sustainable management of water, air, energy, residual materials, and hazardous materials, through the application of the following five principles of environmental management:

- Pollution prevention
- Efficient resources management
- Compliance with laws and regulations
- Implementing custom training programs
- Continuous improvement

With respect to the social component, the sustainable development policy of Environment Canada's Biosphère shall undertake to make sustainable development a shared issue by:

- Getting involved in the community in which it operates
- Disseminating and enhancing knowledge and cooperative multidisciplinary efforts
- Developing teachers' guides: using education as an instrument for sustainable development
- Ensuring quality of employment
- Undertaking occupational training
- Overcoming discrimination in employment practices (e.g. employment of people with disabilities)

With respect to the economic component, the sustainable development policy of Environment Canada's Biosphère seeks to:

- Encourage and facilitate responsible consumption
- Encourage use of procurement contracts because they can help promote sustainable production and consumption
- Manage budgets responsibly

Vancouver Aquarium

The Vancouver Aquarium¹⁴ is a mission-based organization dedicated to effecting the conservation of aquatic life. Our Environmental Policy reflects and complements our mission in two ways. We will ensure that we conduct our operations and activities in ways that minimize the negative impact on our environment. Our organization will become a model of an environmentally responsible organization, which will promote environmentally responsible behaviour among our workforce, including those who work for and on behalf of us, our visitors and our community.

This policy refers to the Vancouver Aquarium and its activities within Stanley Park: our operations and processes; the resources we use; the material we acquire, use and dispose of; the goods we sell; the species we display and aim to conserve. We are committed to actively seek and implement means to incorporate these types of behaviours into our daily activities.

The Vancouver Aquarium as an organization is committed to the following:

- To prevent and reduce pollution that may arise from our activities
- To adhere to relevant legal and other requirements associated with our environmental aspects
- To continually improve our environmental performance by setting and reviewing our environmental objectives and targets annually
- To report at least annually, on the environmental performance of this organization
- To ensure that we communicate this report both internally and externally

This document has been reviewed for completeness, correctness, and conformity with ISO14001 Standards.

Cathy Imrie, Chief Financial Officer, May 28, 2007

¹⁴http://www.vanaqua.org/ems/documents/EM-4.2Rev.1EnvironmentalPolicyPoster_000.pdf

The British Museum

The British Museum Policy on Sustainable Development¹⁵

1 Introduction

- 1.1 The British Museum recognises that its activities impact on society and on the environment at local, regional and global levels through the energy and water used the waste it produces, the travel and work patterns it encourages amongst its staff and the products it buys.
- 1.2 The British Museum is committed to sustainable development throughout all the aspects of its operation, and to promote sustainability in its educational and research activities. It will encourage environmental and sustainable development best practice throughout the Museum community and will demonstrate its commitment to continual improvement and innovation in all aspects of environmental management and sustainable development. It will seek to achieve this by: the efficient and effective use of energy; through the elimination or reduction of any detrimental impact that its activities might have on the environment; and by the integration of sustainable development into its procurement activities.

2 Principles

- 2.1 The British Museum will manage and control its environmental risks in a sustainable manner by complying with all relevant and applicable legislation and codes of practice, and will seek to operate within the Government's commitment to energy, sustainability and good environmental practice. The 'Framework for Sustainable Development on the Government Estate' sets out key objectives and criteria on which sustainable development activities should focus.
- 2.2 The British Museum will endeavour to incorporate sustainable development issues into future policy decision making at all levels.
- 2.3 The British Museum will support and encourage conservation of energy, water and natural resources, and reduction in waste, through re-use and recycling where possible.
- 2.4 The British Museum will ensure that the risk of any potential harmful effects through any of its actions are minimised wherever practicable, thereby aiming to reduce the impact on the environment.
- 2.5 The procurement of goods and services which have the least environmental impact in terms of their production, delivery, installation, use and disposal will be considered by The British Museum wherever practical and appropriate. Contractors and suppliers will be encouraged to develop environmentally preferable goods and services, and to be aware of sustainability issues.
- 2.6 The British Museum will undertake to communicate its sustainable development policy to staff, and stakeholders, educate and motivate its employees and contractors to understand the principles of sustainable development, to operate in an environmentally and socially responsible manner, and to conserve resources wherever practicable.
- 2.7 The British Museum undertakes to identify sustainable development priorities and to develop plans to address them.

Approved by: The Trustees of the British Museum

Date of Adoption: 1 November 2007

¹⁵<http://www.britishmuseum.org/pdf/Sustainable%20Development%20Policy%202007-11.pdf>

Royal Botanic Gardens, Kew

Environmental Policy

Operating as a Non-Departmental Public Body under Defra the Royal Botanic Gardens, Kew is a scientific, amenity and educational organisation devoted to plant and fungal conservation. Kew's mission statements is as follows:¹⁶

To inspire and deliver science-based plant conservation worldwide, enhancing the quality of life.

In seeking to achieve this mission, RBG, Kew believes that its operation should be undertaken with minimal adverse impact on both the local and global environment. Environmental considerations are therefore at the centre of RBG, Kew's corporate strategy. It is the policy of RBG, Kew to establish and maintain an effective environmental management system based on the requirements of BS EN ISO 14001:2004. As part of this process the following commitments have been made:

- (i) RBG, Kew annually assesses its operation to determine how it impacts on, and interacts with, the environment. Necessary procedures and control measures are implemented to promote the avoidance of and prevent pollution.
- (ii) RBG, Kew sets annual objectives and targets designed to ensure continual improvement of its environmental performance. Environmental improvement objectives have been set in several areas including:
 - Emissions / Discharges: RBG, Kew is continually improving processes to reduce emissions and discharges to air, water and land.
 - Waste management: RBG, Kew is introducing an active waste management strategy to reduce the amount of waste produced and increase recycling initiatives.
 - Water management: RBG, Kew is committed to improving both infrastructure and processes to increase the effective use of mains and 'grey' water.
 - Procurement: RBG, Kew is introducing an internal policy and guidelines to work towards sustainable procurement on site.
- (iii) RBG, Kew complies with all relevant environmental legislation.

To ensure this policy is available to the general public, it will be displayed on the website and key locations in the Gardens. RBG, Kew will ensure that all staff and contractors are kept aware of this policy, and their individual responsibilities within it.

Professor Steven Hopper, Director

¹⁶http://www.kew.org/aboutus/env_policy.pdf

American Museum of Natural History

AMNH Sustainability Principles

In 1998, the American Museum of Natural History¹⁷ initiated a formal review of the sustainability of its operational practices and convened a cross-departmental Sustainability Practices Committee to research opportunities to increase awareness about sustainability practices at the Museum and to make recommendations for and, where appropriate, implement changes that add or improve upon environmentally sound practices at the Museum. Through collaboration with government agencies, funders, and others, the Museum has helped adapt its magnificent facility which, in some cases, is more than a century old, to a more sustainable state. Much progress has been made to reduce the Museum's environmental impact, and, as new research and "green" technology advances, there will be future opportunities as well. As an institution committed to science and education, including about the environment, the Museum has an important role in helping to encourage and educate its staff, visitors, and others about how to improve their own sustainability practices.

Guiding principles of the Museum's sustainability efforts are:

- Manage the Museum's operations and facilities in a manner that reduces the Museum's negative impact on the environment.
- Encourage environmentally responsible practices in projects that call for the design, renovation, and/or restoration of the Museum's facilities.
- Develop opportunities for the Museum to inform and encourage its staff and visitors about sustainable practices and the Museum's efforts to lessen its own impact.
- As appropriate, collaborate with external entities, such as governments, businesses, citizens groups, schools, and peer institutions, to advance awareness of environmental issues and the impact of personal and industrial behaviours.
- Continue to monitor the sustainability of the Museum's operations: assessing the impact of existing and newly initiated practices; establishing and evaluating sustainability goals; and looking for new opportunities to improve the Museum's "green" practices.

For more information on this museum and their sustainable development efforts, go to: <http://www.amnh.org/exhibitions/climatechange/?section=sustainability>

¹⁷<http://www.amnh.org/about/sustainability.php>

Oak Hammock Marsh Interpretive Centre

The mission of this Centre¹⁸ is to foster public awareness and knowledge of the inherent values of wetlands and associated ecosystems. It is a joint project of Ducks Unlimited Canada and the Province of Manitoba. The principles of sustainable development have been integrated into the project at all levels, including construction, operations, and products and services. The Centre's programs are designed to minimize their environmental impact, meet the needs of society, and be cost effective.

The Centre has contributed to building a sustainable economy from the outset by hiring a Winnipeg company to design the Interpretive Centre building in addition to hiring local subcontractors and using local materials during construction. The Oak Hammock Marsh Interpretive Centre has put other measures in place to contribute to a healthy economy, including programs that encourage visitors to extend their stay in the community and jobs for local people.

The environment has been a focus throughout the construction of the Centre's building: the architecture blends into the natural environment (i.e. green roof), the building has minimum visual impact (bird's eye view), construction was suspended during the migration period, and so forth. The green roof has become a biologically diverse site, and a live video showing activity on the roof and marsh is available on the Centre's website.

The Centre is a model of sustainable development having incorporated many elements into its operations:

- Improving wildlife sighting while minimizing impacts on the birds
- Natural wastewater treatment
- Protection of water quality
- Solid waste reduction
- Energy efficiency
- Reduction in greenhouse gases and protection of air quality

Overall, the Oak Hammock Marsh Interpretive Centre applies the principles of sustainable development, taking into consideration economic, social and environmental factors.

¹⁸<http://www.oakhammockmarsh.ca/about-us/pdf/model-of-sustainable-development-2009.pdf>

5. References and tools

- The International Institute for Sustainable Development
www.iisd.org
- Global Reporting Initiative (GRI) – Guidelines for defining SD priorities and a sustainability reporting framework
<http://www.globalreporting.org/ReportingFramework/G3Guidelines/>
- AFNOR
<http://www.afnor.org/en/profiles/focus/sustainable-development>
- Ethipedia.net
- Government of Quebec's Ministry of Environment, Sustainable Development and Parks
http://www.mddep.gouv.qc.ca/developpement/inter_en.htm
- Musée du quai de Branly's SD report
http://www.quaibrantly.fr/uploads/media/MQB-BRDD_GB_.pdf
- American Museum of Natural History
<http://www.amnh.org/exhibitions/climatechange/?section=sustainability>
- Royal Saskatchewan Museum
www.royalsaskmuseum.ca
- The Eco-Guide of the Centre écologique de Port-au-saumon, Quebec (French only)
http://www.cepas.qc.ca/autre/ecoguide_complet_web.pdf
- Musée de la civilisation, Québec, 2009-2013 sustainable development action plan (French only)
http://www.podcastmcq.org/fr/documents/complexe/developpement_durable.pdf
- École de technologie supérieure (Université du Québec), sustainable development policy
http://www.etsmtl.ca/sg/Politique/Developpement_durable.pdf
- The Granby Zoo Green Book
http://www.zoodegranby.com/en/LivreVert_ANG-10.pdf
- Société du parc Jean Drapeau's sustainable development policy
http://www.parcjeandrapeau.com/DATA/DOCUMENT/2_en_v~Politique_de_developpement_durable.pdf