

Executive Summary

Purpose and Outline

The Report on Naturalization is a document designed to be used as a conceptual framework for the design and implementation of a naturalization plan in the National Capital Region (NCR). It is intended to be used as an educational resource, outlining the possible impacts of naturalization programs, in order to present a comprehensive vision of how naturalization can enhance the environmental, social and economic well being of the National Capital Region.

Methodology and Scope

Two research methodologies were employed in this report. The first involved a literature review of academic sources including sources from the fields of environmental design, ecology and environmental ethics. Professional sources, including reports relating to naturalization from municipalities, as well as reports from municipalities and other agencies relating to ecosystem planning were also researched. The second methodological approach adopted was a series of interviews with individuals in governmental agencies and private firms who have either created naturalization plans, or worked with these plans on an on-going basis.

The geo-political scope of this report is the National Capital Region. Over the past twenty years, the National Capital Region has experienced spectacular growth to the west, east and south- growth which has tended to replace less developed "natural" or agricultural areas with greenspace characterized by planters and mown turf. In this way the National Capital Region represents a microcosm of a process experienced in most western cities. However, what sets the National Capital region apart, is the complexity of its government structure. Both these characteristics present interesting challenges in terms of naturalization.

Understanding Naturalization

Two themes underlie naturalization theory. The first is the importance of natural processes as sustainers of the entire natural environment. The second is the inclusion of humans as part of the natural environment.

Drawing on these two themes, for the purposes of this report, naturalization is defined as **an ecologically sustainable approach to the design and maintenance of the larger ecosystem**. An "ecologically sustainable approach" definition concentrates on the effects that naturalized landscapes would have on natural processes within both local and regional ecosystems. Based on the underlying themes, for the purposes of this report, the goal of naturalization is:

to encourage the functioning of natural processes to create a healthy ecosystem

Using an ecosystem approach which recognizes that humans are part of ecosystems and that everything- environmental, social and economic- is connected to everything else, it is possible to set objectives for its environmental, social and economic components. These objectives are:

- ▶ **environmental: *to create a more sustainable urban environment***
- ▶ **social: *to provide more opportunities for people to enjoy and learn about the natural environment and the place of humanity within the larger ecosystem***
- ▶ **economic: *to make more efficient use of the resources required to maintain urban landscapes***

The first component of the naturalization goal is to create a more sustainable urban environment. Naturalization can accomplish this goal through transforming high energy, low ecological benefit landscapes into landscapes that complement natural processes, meaning that they both draw their energy from, and contribute back to the natural environment. In practical terms, the benefits of naturalization can include reducing the amount of water and pesticides required to maintain landscapes and replacing them with landscapes that encourage bio-diversity, help purify air and water and reduce the effects of the urban heat "island".

The second objective of naturalization is to provide more opportunities for people to enjoy and learn about the natural environment and the place of humanity within the natural world. Urban design has created a landscape of placelessness in North American cities symbolized best by the "green carpet" that characterizes the modern suburb. This placelessness has caused further dislocation between what is considered the human experience and the natural world. Naturalizing the urban landscape acts to increase our exposure to the power and importance of natural processes. In this respect it can help to educate about the natural world and the processes that sustain it. Naturalization can also help to create a sense of place for the region, community, or even the individual. This is done by creating environments that are indigenous to the area, rather than an "oasis" environment of mown turf and non-native species. Finally, community involvement in naturalization projects can help to create stronger community ties.

The third objective of naturalization is to make more efficient use of the resources required to maintain the urban landscape. Through creating a landscape that is self regenerating and one that enhances the natural processes that make the urban environment more liveable, naturalization can create both short term and long term financial savings. Short term savings can be realized through reduced dependence on water, pesticides, air conditioning and reduced mowing costs. However, perhaps the greatest savings that can be realized through naturalization are its long term benefits to human health by purifying our air and water, and by offsetting the heating effects of the built urban environment.

Naturalization Applied: Four Examples

Numerous government agencies across Canada have embraced naturalization in some form or another. The following four examples illustrate how naturalization works in a practical way.

The impetus behind the naturalization plan for Ottawa city parks lay both in the restricted recreational opportunities provided by turfed parks and the sense of placelessness that these parks instilled. The City of Ottawa's naturalization program relies on community initiatives whereby community groups approach the city with a

particular project in the hopes of receiving funding, materials and expertise. Although a wide variety of projects exist, very often projects are designed primarily for aesthetic and community building purposes, with little consideration given to environmental issues. The city's program is very effective in promoting community building and creating a sense of attachment between community members and their physical neighbourhood. However, the passive role played by government in initiating naturalization projects means that long term planning is very difficult.

The National Capital Commission (NCC), the manager of federal lands in the NCR, created an internationally renowned park and green space system based on 1950s attitudes about what type of landscape portrays the best image of the country's capital. This philosophy is symbolized through the manicured landscape, with aligned exotic trees, meticulously trimmed shrubs and hedges and a green carpet of grass. The naturalization project organized by the National Capital Commission on parts of the western parkway was initiated to try to reduce the budgetary resources spent on mowing. A consultants' report determined that the design of green space, in particular the planting of trees individually, led to a more labour intensive mowing schedule. The N.C.C. proceeded with a naturalization program that involved the introduction of native trees and shrubs, designed to limit mowing to where it was essential.

The City of Kitchener's Idlewood Creek naturalization project offers a good example of the way naturalization projects can greatly increase bio-diversity. The city undertook a naturalization program that would create a naturalized wetland area, wildflower meadow and planting area, a raised pathway through the new wetland, and a raised sodded area for recreational purposes. Four years later, the wetland pioneer species are thriving, as are the meadows. However, perhaps the most exciting aspect of the regeneration is the natural establishment of species that were never planted such as cattails and bulrushes. As well, the number and variety of species of animals has also increased dramatically over the past four years.

The economic and environmental impacts of clearing transmission corridors made Ontario Hydro rethink their approach to maintenance. In an effort to minimize the costs of maintenance and to reduce the impact of the corridors on local flora and fauna,

Hydro developed an approach to corridor maintenance that used compatible native vegetation. The approach involves allowing certain species of plants to grow in order to create an environment that would be self regenerating to a large extent, but never develop into a forest. This type of management greatly reduced the amount of maintenance and herbicides needed.

The Next Step: Recommendations for Action

Although this report offers suggestions as to the substance of a naturalization plan, it is only through full participation of relevant stakeholders such as community groups, governments and private citizens that a naturalization plan can adequately reflect the needs of the National Capital Region. However, the report can act as an important resource for decision makers in developing naturalization planning priorities. The following five issues were identified within readings and by interview subjects as being particularly important for the success of naturalization programs.

First, naturalization requires a planning typology that allows for cooperation among agencies, and uses ecological boundaries, rather than political boundaries, as planning units. An ecosystem approach is based on the philosophy that all elements of an ecosystem (including humans and human activities) are connected to one another.

Second, balancing the environmental, social and economic components of naturalization programs will be one of the most significant challenges to naturalization planners.

Third, a priority for managers in virtually all the agencies studied was the importance of a well trained maintenance staff when implementing naturalization programs. Many indicated that it was also necessary for the operations staff to be supportive of naturalization for naturalization programs to be successful. Based on the experience of other municipalities, therefore, any naturalization plan should recognize the essential role that maintenance personnel play in implementing and maintaining naturalization projects.

Fourth, increased public environmental awareness can result in a greater demand for

naturalization programs. The key, therefore, to incorporating a naturalization approach into the design and maintenance of the urban landscape is to ensure that the goals, process and benefits of naturalization are communicated both to the general public as well as to government decision makers.

Fifth, possible negative impacts of naturalization must be addressed. These include health and safety concerns over the interaction of wildlife and plants with humans, and the impact that naturalization may have on personal safety.

As a conceptual framework, the Report on Naturalization can act as an important resource in the design and implementation of a naturalization plan for the National Capital Region. It is hoped that this introduction will act as a catalyst to dialogue on naturalization and its place in landscape design in the NCR.