

PRESERVING NATURAL CAPITAL IN THE NATIONAL CAPITAL

Human well-being depends on the services and assets that nature provides for free, everyday and everywhere.

WHAT IS NATURAL CAPITAL?

The term 'natural capital' refers to the land, air, water, living organisms and all formations of the Earth's biosphere that provide us with ecosystem goods and services essential to our survival and well-being. These include the services that nature provides free of charge, including supporting services such as soil formation, maintenance of soil health and fertility, natural pest control, pollination, nutrient cycling, and a stable climate; provisioning services such as food, clean air and water, fuel and fiber; regulating services such as prevention of soil erosion and flood control; and cultural services, which include recreation, spiritual value and a sense of place, among many, many others.

NATURAL CAPITAL IN THE NATIONAL CAPITAL – WHY SHOULD I CARE?

We are increasingly recognizing that healthy natural systems perform a series of vital functions on which our lives depend.

One of the most critical services is watershed protection. Intact watersheds play a pivotal role in providing us with clean drinking water by filtering sediments and pollutants. They also play an essential role in storm protection through managing floods and storing water. These are key functions upon which our communities depend.

Forests, too, provide us with vital ecological services, including storing carbon in trees, vegetation and soils. This process of carbon sequestration is a critical component of the global carbon cycle that regulates the earth's climate. This particular service is likely to become increasingly important as the world strives to address the challenges of climate change.

Soil is yet another example of natural capital that is critical to our well-being, taking hundreds to hundreds of thousands of years to build up – and yet very few years to be lost. Soil moderates the water cycle; shelters seeds and provides the physical support they need to sprout and mature into adult plants; retains and delivers nutrients to plants; plays a central role in the decomposition of dead organic matter and wastes, rendering many potential human pathogens harmless; recycles the products of decomposition, or nutrients, back to plants; and plays a key roles in regulating the earths' carbon, nitrogen and sulfur cycles. When fungi, worms and bacteria transform the raw "ingredients" of sunlight, carbon and nitrogen into fertile soil this transformation is an ecosystem service.

Ecosystem services are not well understood and are far too complex for us to reproduce even with the most advanced technology. Since the flow of services from ecosystems requires that they function as whole systems, the structure and diversity of the system are

important components of natural capital. If we allow our natural capital to be depleted and to degrade, so will the benefits. On the other hand, if we look after and maintain our natural assets, we will benefit from greater returns!

THE DEPLETION OF NATURAL CAPITAL

Until recently, we have tended to take ecosystem services for granted, as they have generally been 'free', despite their obvious economic value to us. Traditionally, produced and human capitals have gauged economic performance, while natural capital has been left out of the equation. This has led to degradation and depletion of natural environments and the loss of valuable ecosystem services with the appreciation of the often tremendous importance and economic value of natural capital only upon its loss.

Although natural capital is essential to sustaining our lives, human activities are often responsible for its depletion and degradation. The quality of natural capital may be degraded through the disposal of wastes from industry and consumption by households. Emissions of various gases from factories and cars can change the composition of the air and contribute to global warming.

As a result of degradation and destruction of nature we could lose some of the sustainable benefits in our region:

- Our neighbourhoods get flooded
- Urban areas get hotter in the summer
- We can no longer find good local fishing places
- Our fresh water supply becomes less reliable and requires more costly processing,
- Our neighbourhoods become flat and boring

Thus, the preservation of natural capital plays a pivotal role for sustainable development: development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

THESE ECOSYSTEM SERVICES HAVE ECONOMIC VALUE

How much is a forest worth? And how do we determine that value? Do we simply count the trees and determine their value if we were to cut them down and turn them into logs, lumber, and pulp and paper? Although this has been the traditional approach, it is becoming clear that a forest is much more than the timber it holds. A forest provides habitat for wildlife, recreational opportunities for hikers and hunters, a place for quiet contemplation, and filtration a place of carbon sequestration, and storage of drinking water. When all the ecological benefits, or services, a forest provides are taken into account, we have to re-evaluate the way we make decisions about how we manage them.

Taking into account all the values of a forest doesn't mean an end to logging and mining, of course. It just means finding better ways to sustainably manage all our activities in these ecosystems.

WHAT CAN I DO?

We are making choices. The choices we make in our activities have an impact on natural capital, and could save money, locally, with the right choices. In fact, protecting natural capital in settled areas could save Canadians hundreds of millions to billions of dollars each year.

Be part of the solution - get involved in Eco-city projects that

- promote compact urban form, encourage sustainable agriculture or maintain forest cover near cities can help preserve precious soil resources;
- retain forest cover, reduce agricultural pollution in upstream areas, preserve headwaters, wetlands, aquifers to help maintain the quality and a reliable supply of fresh water to meet growing demands;
- reduce road expansion or recycle construction materials can reduce the use of natural resources.