

Subject: [Fwd: Biodiversity in a Nutshell]

Date: Fri, 22 Oct 2004 14:32:45 -0700

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To: Corrie Kost <kost@triumf.ca>

Subject: Biodiversity in a Nutshell

Date: Fri, 22 Oct 2004 13:37:36 -0700

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Dear DNV Alpine Recreation Strategic Study Planners and Councillors: This is an article found in your own website. Please practice what you preach. Do not just talk the talk, walk the walk. Please keep High Impact Sports, such as mountain biking, off of DNV natural lands. Be a true environmental leader. Thank you.

Monica Craver

http://www.dnv.org/upload/pcdocsdocuments/5@_001!.htm

Biodiversity in a Nutshell

The value of Biodiversity

The complex ecosystems present on the North Shore have undoubtedly endowed most of us with a quality of life almost unsurpassed in the world. Yet, to understand how the ecosystems have developed over the millennia to support such a rich tapestry of life will keep many a scholar busy for a lifetime. It is the sustainable viability, and biological diversity of local and global ecosystems, on which the health of this planet relies.

Historical Intervention

Over the last century, the North shore Forest ecosystem has witnessed the virtual loss of many species. From the unsuspecting Cascara Buckthorn harvested for the medicinal trade to the more obvious Sitka spruce for the manufacture of many products including airplane frames. Likewise the forest has given way to urban settlement and ecosystems have become increasingly fragmented. Meanwhile the wildlife, which relies on the forest ecosystem, has had to adapt to a radically changing and fragmented habitat and the virtual disappearance of a number of key species / habitat on which they depend. To put it into perspective consider the statistics: that more than eighty species of vertebrates and countless invertebrates rely on wildlife trees for their livelihood. That means that if trees are removed before dying naturally these dependant species either perish or are displaced from the ecosystem. Likewise if the seed source of a particular tree species is removed from an area regeneration becomes slow, sporadic or even absent, for many years: consider the last time you saw a Western White Pine, unfortunately the few remaining are also under attack from White Pine blister rust an introduced pathogen.

Therefore a healthy ecosystem will contain a broad spectrum of both living and dying trees, and the interdependency of component organisms within the matrix is very complex and under natural conditions finely balanced. The chance sighting of a woodpecker or a Douglas squirrel busy at work might reassure us that the ecosystem would appear still healthy and viable. However, who knows what long term damage may have been caused by the removal of one or more threads of this complex tapestry.

Redressing the balance

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Research has demonstrated that wildlife on this planet is incredibly adaptable in the most part, having had to adapt or perish following a plethora of global events over the millennia. Likewise trees have re-established themselves in a variety of inhospitable habitats and evolved to survive periods of glaciation, retreating and advancing during each interglacial period.

However the re-establishment of the forest starts with the pioneer species, such as Alder, Cottonwood and Hemlock and develops into a rich matrix of dominant species and associated understorey flora and fauna. As a general rule of thumb, the climax or more dominant species advance much more slowly at a rate of around one-mile for every hundred years. This assumes virtually uninterrupted progress and the help of the associated fauna. Simplistically to put this into context, the remaining scattering of Sitka Spruce in North Vancouver might take more than a thousand years to re-establish itself in its native riverine habitat across the district.

Streamside Ecosystems

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Typically in its natural state the Riparian forest ecosystem will contain a disproportionate biological diversity in comparison to similar systems on mountain slopes or elsewhere. What we have locally inherited would be more akin to a stand of pioneer species in the early stages of re-establishment and in the 60 – 140 year age class. This early stage of re-development is quite dynamic however it could be expected to take several hundred more years before it resumes a natural balance and provides the quality of habitat once experienced by our aquatic wildlife. Whilst we have made progress in the restocking of our streams many other factors will play a role in the eventual sustainable Health and viability of this vital ecosystem.

Community Biodiversity challenge

Herein lies the dilemma, to intervene or not? It would seem logical that having reaped the benefit of this ecosystem and reached a stage where the pioneer forests are at a stage of natural change that we may find a way to re-inject a small piece of the puzzle which will in turn self perpetuate a rejuvenation of what once stood in our community. The reintroduction of one or more species will bring with it birds, insects, butterflies and many other valuable assets to the habitat. As one of my life long mentors once explained, " If you protect the habitat the species will generally look after themselves" and in all my years of habitat management this motto has time and again held true. Forest edge shrubs will provide resident forest birds with winter food and they in turn will spread the seeds across the district. Bear in mind that for many Berried species it is essential that the berries pass through a bird's stomach before they become viable and germinate.

Community Benefits

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A more diverse network of ecosystems in our community will reap long-term benefits, almost too many to mention.

A broader diversity of trees and shrubs will lessen the impact of an outbreak of pests or disease. The climax species are generally longer lived and therefore their eventual dominance will reduce the frequency of tree death and its associated conflict with human activity.

A naturally balanced ecosystem develops its own microclimate, which is favorable for germination and its inhabitants. Today's hemlocks exposed to the sun are suffering from sun scorch to compound with other natural pathogens. Believe it or not in a natural forest there is actually order in the matrix with shade species relying on the over-storey to protect them and so on.

Should we be concerned?

"We are but tenants in our children's world".

Facts

We are losing species. At least four species of plants, three freshwater fish, one mammal, three birds, one reptile, three butterflies, one beetle and a hornwort have disappeared from British Columbia since the early 1900s.

Of these species five occurred nowhere else in the world and are now extinct.

Surely any small part we as a community can play in the reversal of this trend has to be worthwhile.

“Ramblings of a community Forester”

Mark Brown. M.I.C. For.

District Arborist