Parks in Winter

Ecological Reserves —
Polar Bear Pass, British Columbia

Parks in the Yukon, Prairies,
Atlantic Provinces, USA
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VOLUME 17, NO. 4
WINTER 1981

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Protecting What’s Left: Prospects for Managing Ecological Reserves in British Columbia

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Introduction

In saving natural areas from development it is difficult to foresee what will be needed to maintain them once legally protected. Objectives for protecting plant and animal communities are often unclear. Theories and techniques for intervening in natural ecosystems, while not disturbing them further, are poorly developed. Recent reports have identified preserve management as a key to global conservation of wildlife.

Degradation of already established wildlands in Canada is rarely front page news. In the long term, the systems of protected lands that we have worked so hard to create could be undermined. Governments have often made shows of drawing lines around public lands and naming them parks. Fiscal support for authentic conservation has often not been forthcoming. Frequently, these areas deteriorate despite and sometimes even because of the new status.

What this means, in practical terms, is that we have a lot of landscapes in preserves that seem and are supposed to be natural but that are quite different from what they were 10 to 50 or 200 years ago. Though change is part of nature, many modern alterations impair diversity and productivity. Some changes are obvious and not nearly as beautiful as the original. Examples include the extirpation (regional extinction) of large mammals, new kinds of forest cover created by damaging logging practices before an area is legally protected or the invasion of an exotic (non-native) grass. These disturbed areas are still extremely important for recreation, habitat and scientific research. However, we’re selling ourselves short if we pretend that they represent the extent of our natural heritage.

In 1979 and 1980, I visited 13 of the 100 ecological reserves in British Columbia as part of the research for an M.Sc. in ecology. In June 1981, 10 years after the province’s Ecological Reserves Act was passed, I released a report, FRAGMENTS: Management, Protection and Restoration Proposals for Thirteen Ecological Reserves in British Columbia, Canada. The report was prepared for the Ecological Reserves Unit (and its Committee and Advisory Board), Ministry of Lands, Parks and Housing, Victoria and aimed at providing new information and management perspectives. After looking at reserves in three ecological regions (Gulf Islands, southern Interior valleys, Queen Charlotte Lowlands), the report outlines what it will take to protect and rehabilitate them.

Ecological Reserves Act of 1971

This provincial act came as part of a wave of environmental protection legislation. Its concept was developed and lobbied for by local scientists. The Act lists five categories of provincially owned lands for ecological reserves: “scientific research and educational purposes”, “representative examples of natural ecosystems”, disturbed areas that “offer an opportunity to study the recovery of the natural ecosystem”, preservation of rare species in their habitats, and unique examples of nature.

The Act banned economic uses like logging, mining and grazing, as well as hunting, camping and motor vehicle use without a permit. So far, few permits have been requested, numerous illegalities have occurred and no prosecutions have been initiated. The “bugs” in B.C.’s legal means for dealing with land vandalism have not been worked out. The Act has largely functioned to keep corporate development (logging and mining) and government operations (such as roads) from these specially marked lands.

The other accomplishment of the Act has been the organization of natural areas that begin to represent the diversity of the plant and animal communities of British Columbia. New reserves are proposed for unallocated government land by an advisory committee. Different provincial government natural resource and development departments comment on individual proposals and if there are no objections (no plans or economic values) a new ecological reserve is created. The boundaries of proposals are often trimmed before final approval. In 1980, with the original objective of 100 ecological reserves in sight, the application process was made more difficult and lengthy. Since then, only a few proposals have made it through the bureaucratic maze. An added worry is that the government has the power to cancel all or part of an ecological reserve at any time and without giving a reason. So far, this hasn’t happened.

Ecological Change and Environmental Problems

The crux of protecting an ecological reserve is in first defining the natural features that should be maintained. Concepts like “as wild as possible” or “totally unaltered” don’t work in practical, management situations. By 1981, even the wildest parts of British Columbia have felt; in some way, the coming of modern society. There is debate among scientists about what kinds of ecological changes are acceptable in places that are supposed to be natural. Some forms of hunting are considered acceptable because they were done by Native peoples. Other influences such as clearcut logging and associated...
roads are definitely unnatural.

Some scientists argue that any influence of human beings on an ecological reserve is a problem and should be kept out. This "species guilt" position says that people, by nature, not just our technologies and social patterns, are the root of environmental problems. Such thinking can't differentiate between the impact of traditional native clam gathering and modern, commercial activities.

At the other end of the discussion is a romantic view of the native land use patterns that existed at the time of modern contact (in most of B.C., 1800 is a working date). This "noble savage" approach views pre-farming land uses as being necessarily stable and harmonious with wildlife. Although the period before the coming of Europeans was no Golden Age, this perspective is important because it infers that everything that people do in wildland areas is not destructive. It also recognizes that people have had established niches in natural ecosystems in British Columbia for a long time. Traditional clam gathering was as much a part of the functioning of nature as was the otter eating clams. The problem is that today's consumer society has obliterated the checks and balances and dented the old land ethics.

In 'Fragments' I defined disturbance as any obvious change in species (maple that was Douglas fir forest) and biomass (barren roadbed that was once forest) that happened as a result of modern activities. Each ecological reserve was examined for these kinds of changes and then a set of "preservation objectives" was developed. Only a few ecological reserves (some remote watersheds) still hold the intact set of plant and animal communities that existed at the time of modern contact. The objectives make a list of what the ecological reserve "does best" and point to what should be given special attention in protection. A tiny spot next to farmlands will never be able to host a natural population of bear but may be an important refuge for rare birds and wildflowers.

**Gulf Islands**

Of the ecological reserves of the three regions, those on the Gulf Islands near Victoria and Vancouver are the most altered. Most disturbances (95%) were initiated before the protected status began in the early 1970s. Nearly all marketable timber was logged. These forests are in various types and stages of regeneration. Patches of trees that were not logged, due to inaccessibility, provide key habitat for species that require "old growth" for their survival. Wildfire, which in this region of summer drought was frequent, has been suppressed.

Sheep and goat grazing have changed the character of vegetation, especially the herb layer. Some lilies have been almost extirpated because of this. Today feral descendants find refuge in ecological reserves and continue to graze in ways that favor some plant species over others. Exotic plants have escaped from gardens and pastures. Some outcompete native plants. Mammals, such as bear, wolf and elk were hunted (along with habitat change) to extirpation. Irreversible ecological change has been particularly severe on these islands. Logging, agriculture and settlement have been intensive over more than a century. Island ecosystems ecological reserves. However, once again logging and grazing have altered most of these areas. There are no feral animals and fewer introduced plants. Hunted animals can easily recolonize from nearby mountains. Three of the reserves have had illegal grazing even after fencing and posting.

**Queen Charlotte Lowlands**

Most of the low areas of Graham Island are part of a provincial park of muskeg, "rainforest" and sandy beach. The three ecological reserves studied are near or within the park. So far, they have not been managed differently from the park. Exceptions are that camping is prohibited within ecological

**Southern Interior Valleys**

Conditions in the six ecological reserves studied in the Interior were more varied. Since there is more land and less population, less disturbed valley lands have been easier to make into reserves and a primitive research lab has been established, by permit, in one of the reserves.

Clearing took place at all of these areas in the early 1900s. Rapid growth of forest has covered signs of former roads, buildings and grazing. Only one introduced plant, a European dune grass, has been able to establish itself. A remarkable number of mainland animals did not exist on the Queen Charlotte Islands. Several of these species were introduced 80 years ago. Deer, which on these islands have no predators other than humans, are thought to be over-populated. Through selective browsing they are changing forest composition.

All-terrain vehicles illegally use the wide beaches and wreck dunes.
Clam gathering, both personal and commercial, goes on in better weather. Marine pollution is a growing problem and is difficult to track to its sources.

Regional Problems

An ecological reserve shares the fate of the lands around it. Natural barriers, such as water, and constructed barriers like fences screen out only a few unwanted changes. The smaller the natural area and the closer it is to houses and resource extraction, the more vulnerable it is to being altered like the rest of the land in its region.

The least disturbed ecological reserves have buffers along their boundaries. These include provincial parks, recreation areas, unallocated public lands and undeveloped private lands. These areas also fill in natural units like watersheds. This decreases the chances of encroachment of incompatible uses. Over half of the reserves studied do not have permanent buffers but most of these have adjacent areas that haven’t been developed. If these areas ever are developed the ecological reserves will have more problems than they do today.

We need to find legal ways to maintain the wildness of these adjacent lands. Hopefully this can be done through participation of neighbours in planning and not with more bureaucratic red tape. For example, a promising Oregon bill gives landowners tax credits for preserving riparian ecosystems.

Most of the people problems on reserves involve a handful of local individuals. Sometimes, people don’t know that the land is an ecological reserve. More often, they have hazy or distorted understandings of what a nature preserve should be. One spring afternoon, I argued with a group of marijuana growers (who had formerly developed hidden plots within a reserve) that it was damaging to introduce and cultivate any new plant in an ecological reserve.

The discussions about what should be acceptable within a reserve are ongoing and political. The rhine huggy club on the Queen Charlottes elected to openly violate part of Rose Spit Ecological Reserve and to press for its cancellation. However, its leadership did ask members to keep on a few tracks in the dunes to decrease damage.

The effects of establishing ecological reserves on local communities are not always considered. Lack of local participation in planning has resulted in resentment and misinformation. It’s hard for people to respect a new government sign banning hunting on lands that have been used for years. Conflicts often occur on only a small portion of a reserve.

Land needs of Native communities pose the greatest dilemma in use conflicts. With few treaties made, modern land claims unresolved, and pressures for increased economic prosperity, disputed lands that are ecological reserves are often the most readily available for expansion. Also, some traditional hunting and harvesting patterns have continued in a few ecological reserves.

While interviewing a preserve’s Indian neighbours we looked at a map of Graham Island showing the tiny Indian neighbours, we looked at a map of ecological reserve, surrounded by a larger recreational park, with the majority of the island allocated to corporate logging. Native and scientist/conservation land conflicts are over a few crumbs. Solutions will involve reworking the whole loaf.

Solutions

There are many ways that scientists,
administrators, planners, educators and local people can protect and re-
store these undeveloped landscapes. Each area needs more research: species
lists, historical research, field notes taken all-year-round, visits to remote
and rarely seen parts of reserves, mapping and boundary marking. Thrashing
out preservation objectives for each reserve should encourage better com-
unication between government agencies and local and environmental

groups.

Active rehabilitation must be done: eradicating or controlling exotic spec-
ces, fencing, reworking roadbeds, reintroducing native species and restor-
ing fuel levels and wildfire patterns. With less delicate reserves, trails could
provide access for education groups. Since it is getting expensive to create
new government offices, much of this work will need to be done by provincial
agencies already working in the area such as the Forest Service, Parks
Branch, Ministry of Environment.

A "volunteer warden" program has recently been created to keep track of
problems in some of the reserves. It is too early to judge its effectiveness,
which will vary with the individuals involved and what they encounter. Partici-
pation of local people, whether as lone guardians, committees or clubs, in
planning and management is definitely a key to controlling any on-going de-
struction.

Protecting the spectrum of natural communities in these regions will re-
quire more ecological reserves and the expansion of existing ones. Funds for
purchasing private lands must be allo-
cated. Land donations as tax breaks
are already being encouraged. Estab-
lishing new reserves should be made
easier, not more difficult. Boundaries
of proposals should be taken more seri-
ously and not be hacked by other
government departments. Scientific
concern for the preservation of natural
diversity must somehow become a
widely discussed political and economic
issue.

Protecting the natural wealth in
these ecological reserves won’t be
easy. Irretrievable losses are rarely
noticed and lost options are poorly
understood. A system of not-so-wild
ecological reserves is better than none
at all but we owe it to ourselves and
the future to protect and restore these
places so carefully as we know how.
There’s a lot of work to be done.

Note: A copy of the Executive Summary
of Fragments, referred to in this article,
is available for $1.00. The complete re-
port is available for $15.00.
287 Downey St.
San Francisco CA 94117 USA
The report is published by University
Microfilms.