Ecological Principles for Sustainable Forestry on BC's Coast

A CUT ABOVE

Report Summary

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The coastal temperate rainforests of British Columbia are immensely rich and unique natural environments. In the past, these forests ranged from central California to southern Alaska. To date, half their range has been profoundly altered by industrial forestry, farming, and the development of cities. What remains pristine is almost all within the central and north coast of British Columbia and southeast Alaska. ►

Home to more than 3000 distinct runs of wild Pacific salmon, this region boasts some of the world's greatest diversity of terrestrial and marine life. Grizzly bears, bald eagles, and countless other species feed on nutrient-rich salmon carcasses in a complex and interdependent cycle that nourishes the entire ecosystem. For thousands of years, coastal First Nations have enjoyed thriving cultures based on the bounty of this region.

Unfortunately, the current style of industrial forestry practiced on the coast threatens the health and function of the coastal rainforests, as well as the biological and cultural diversity of the region. The majority of life in coastal rainforests is in some way associated with the forest, meaning the diversity of life hinges on the maintenance of healthy forests of different ages and types. Conventional industrial forestry has timber production as its fundamental goal. Forest practices based on this goal often result in managed forests that are too fragmented and simplified to sustain the productivity and biological diversity of coastal rainforests in the long term.

What is being done?

First Nations, environmental groups, logging companies and labour unions, as well as the federal, provincial and municipal governments and the non-native communities of coastal British Columbia, are involved in a confusing array of negotiations over land-use practices, treaties and tenure agreements. The resolution of these processes will have profound consequences for the cultural and biological diversity of the region.

Fundamental to resolving this conflict is the following question: Can logging continue in the region without degrading the rainforests that remain? The David Suzuki Foundation believes the answer is yes – but only if industrial clear-cut logging is replaced by a type of forestry that sustains the health and diversity of the remaining coastal rainforests, and allows for the survival of all native species that depend on them.

The David Suzuki Foundation has developed a set of principles to guide forest managers in developing and carrying out innovative forest practices that allow ecologically sustainable harvesting of timber. Drafted with the help of an advisory team of leaders in the field of ecological sustainability, these guiding principles outline a fundamentally different approach to forest management and planning than the current industrial model. These principles are presented in *A Cut Above: Ecological Principles for Sustainable Forest Management on BC's Coast*. This report provides an ecological rationale for each principle, as well as examples of "best practices" drawn from existing frameworks in other jurisdictions to provide realistic models of how the principles can be applied on the ground. The report also details relevant "current practices" and key areas of ecological uncertainty that exist regarding each principle.

What are the guiding principles?

Principle 1

Make the well-being of the lands and waters the fundamental goal of management.

The management of forests must put *ecosystems first*, above short-term economic imperatives. Ensuring the well-being of the lands and waters means maintaining the health and diversity of life, maintaining the productivity of soils, forests, and rivers, and maintaining the capacity of forest ecosystems to deal with and adapt to change. Healthy and functional forests are fundamental to maintaining cultures and economies. Without maintaining the well-being of the lands and waters, the values that forests provide (e.g., clean water, fish habitat, places of spiritual value) disappear in the long term.

Principle 2

Plan forest practices in a hierarchy, starting with the "big picture" level.

Ecologically sound decisions and plans are best made by integrating the many different levels that provide the planning context for a specific area (i.e., the region, the sub-region, the landscape, and the forest site in question). In the big picture, it is best to decide what the broad management objectives will be for the region and ensure all decisions regarding management at each level are consistent with that general direction. This process ensures that the sum of many small local decisions does not cumulatively result in ecological disasters at the regional level.

Principle 3

Establish a rate-of-cut that sustains the integrity of the forest.

Nature affords the luxury of harvesting within limits. Taking more than what nature can provide risks permanent damage to the forests and rivers, and to their capacity to provide for future generations. One need only to look at the northern cod fishery on Canada's east coast to understand the dire consequences of not setting an ecologically sustainable rate of harvesting: resource collapse, a devastated economy, and a lost way of life. It is therefore critical to establish a rate-of-cut in a way that resembles spending the interest and not the capital of a bank account. The rate-of-cut is a key variable that affects almost all other management decisions. If it is set too high, it is impossible to make sustainable decisions regarding where not to harvest (e.g., streamsides) and determining what types of cutting are appropriate. It is therefore important that the rate-of-cut be low enough to make ecologically sound decisions for the entire ecosystem.

Principle 4

Ensure local knowledge and control are central to decision-making and planning.

Local communities have the most at stake with respect to how forests are managed. Logging, especially unsustainable logging, affects their

viewscapes, traditional use of local areas, and employment, especially in other sectors like fishing and tourism. Input from these communities in planning forest management is key for sustainability, as it is they that must live with the consequences of unsustainable practices. First Nations people are especially important in this regard. Their traditional knowledge has evolved for thousands of years with the natural systems that form the basis of their cultures. The respect for life and the natural world that defines these cultures is a critical ingredient of sustainability. The meaningful and respectful incorporation of local and traditional knowledge into the control and decision-making processes of forest management will go a long way in ensuring that management decisions sustain the well-being of forests, waters, and the people who live in the area.

Principle 5

Conserve all native plants and animals.

This principle is about respecting the complex connections and interdependency of all life within a healthy ecosystem. Given these interconnections, keeping the desired values of forests (e.g., fish habitat, hunting grounds) means conserving all the components of a forest – from mushrooms and lichens to salmon and grizzly bears. Only by conserving all the components can we ensure the health of the whole ecosystem. However, the inventory of the diversity of life in coastal rainforests is far from complete. It is therefore important, when developing forest practices, to combine an ecosystem-level approach with single-species approaches that address the needs of species that deserve special attention (e.g., rare or endangered species).

Principle 6

Protect rivers, streams, lakes, and marine shores.

Streams and other waterbodies carry the lifeblood of forests – water. Streams and other waterbodies, along with the forests on their shores, are vital for the health of the entire ecosystem and the diversity of all life associated with forests, including salmon. It is in these streamside forests where the nutrients of the sea, carried by salmon, are transferred onto the land by bears, eagles, and other creatures –

a transfer of nutrients that is immensely important for the productivity and diversity of life associated with forests. It is here where spruce and cedar grow to legendary proportions. These areas represent approximately seven per cent of the harvestable land base on British Columbia's central and north coast, and generally the most desired timber. Comprising the rich, flat valley bottoms and the forests near estuaries, these areas are especially targeted by logging companies for the extraction of timber. Logging and road-building can have extremely negative impacts on these areas, including the loss of fish habitat and water quality.

Principle 7

Focus on what to retain rather than what to remove.

What is left behind following forest harvesting is critical for ecological sustainability. Focusing on what to retain ensures what the forest can continue to provide habitat for plants, animals, and other species that depend on the forest for survival. At the landscape level, this means retaining no-harvesting areas to protect important cultural values, streamside areas, unstable slopes, and habitat for endangered and rare species. At the level of a particular site, it means retaining wetlands, wildlife trees, downed wood, and dead standing trees to provide a lifeboat for forest-dependent species while the forest regenerates. A focus on what to retain must also consider how long to retain structural elements of the forest (e.g., large old trees and downed wood). In particular, it is about ensuring rotations are based on the ecology of an area, rather than on the economics of harvesting. This means establishing rotations that are long enough to allow the development of old-growth forests.

Principle 8

Restore degraded landscapes, forests, and sites.

Forest practices that focus solely on the extraction of timber can lead to the degradation of forests (e.g., deteriorated water quality, lost wildlife habitat, decreased biological diversity). It is therefore important to incorporate ecological restoration into the decision-making processes of forest management, so that forest managers are continually prompted to restore forests and rivers with degraded productivity and diversity. This includes restoring fish habitat, mitigating the impacts of badly constructed roads, and adding complexity to forests simplified by industrial forestry through logging streamside areas and steep or unstable slopes and the creation of monocultures.

Principle 9

Acknowledge uncertainty, act cautiously, and monitor the consequences of forest practices.

There is much scientific ignorance about how forests work and the ecological consequences of forest practices. Given this ignorance, it is critical that forest managers act cautiously when designing and implementing forest practices. This means giving the benefit of the doubt to the ecosystem, especially when forest practices can negatively affect the way the forest ecosystem works, as well as its capacity to support various forms of life and adapt to change. It is vitally important to monitor the ecological consequences of various forest practices to prevent repeating past mistakes and to continually improve forest management.

Conclusion

A choice exists. Logging does not need to be about simply extracting value from the forest, and leaving forests with barely enough or no capacity to sustain their productivity and life in all its forms. Forest management can be respectful and sustainable. These principles outline how to achieve sustainability – for the forests, water, plants, animals and other organisms, as well as for the cultures that depend on functional, productive and diverse forests.

For the full version of A Cut Above, *please contact the David Suzuki Foundation.*

The David Suzuki Foundation is committed to researching the root causes of environmental crises, identifying solutions and then working to bring about fundamental change. Our success depends on the volunteer energy and generous support of our 30,000 members.

David Suzuki Foundation

Finding solutions

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Photographs by Ian McAllister and Bill Beese
Printed on Genesis text 100% post-consumer recycled paper by Western Printers and Lithographers