



Ecosystem-based management in the Great Bear Rainforest

The Great Bear Rainforest represents a new, more holistic approach to conservation.

The Great Bear Rainforest, one of the world's greatest ecological treasures, is part of the largest coastal temperate rainforest remaining on Earth. Home to salmon and eagles, wolves and bears, this vast and extraordinarily intact landscape is also home to more than 30,000 people.

The conservation challenge in the Great Bear Rainforest is echoed in landscapes around the world from the Amazon basin to the Great Barrier Reef: how to integrate the needs of the natural system with the needs of the people who depend upon that natural system for their livelihoods and their way of life.

The Great Bear Rainforest is a vital natural, cultural and economic resource for First Nations, coastal communities and British Columbia. To be successful here, conservation must step beyond its traditional boundaries. It must go beyond the preservation of individual parks or preserves and protect the ecological integrity of the entire system while at the same time respecting indigenous cultures and strengthening local economies. To be successful here, conservation must be sustainable—ecologically and economically.



The Great Bear Rainforest sustains an incredible quantity and diversity of species.

The Great Bear Rainforest represents a new, more holistic approach to conservation. In this unique and threatened wilderness in British Columbia, people have come together to create two unprecedented breakthroughs.

The first is the quadrupling in size of protected areas (parks and other highly-protected biological reserves) to secure many of the most sensitive and intact valleys and islands in the Great Bear Rainforest region. By any standard, this enormous commitment of wild lands to protected status stands out as one of the greatest events in the history of wildlife conservation.



Under ecosystem-based management, large-scale industrial timber harvesting will be replaced with more selective, carefully managed forestry.

THE SCIENCE OF ECOSYSTEM-BASED MANAGEMENT

The scientific literature behind ecosystem-based management is broad and well-grounded, with roots in conservation biology and ecology. This integrated approach to conservation and socioeconomic health across large landscapes is emerging at many places around the world—including the Canadian boreal forest, the Amazon and the Great Barrier Reef—as the next step forward in sustainable management. Guidelines for implementing ecosystem-based management have been detailed for the Great Bear Rainforest in the Ecosystem-based Management Planning Handbook and tested in two pilot projects in First Nations' territories on the coast. To find out more about the scientific and management framework for ecosystem-based management in the Great Bear Rainforest see the website for the Coast Information Team at www.citbc.org.

The second, and in many respects the bolder breakthrough, is the commitment by the people of the Great Bear Rainforest to build a new, more sustainable relationship with the forest itself. This new relationship is described as ecosystem-based management (or EBM).

Ecosystem-based management is an approach to natural resource management that integrates ecological, economic and social principles to safeguard the long-term ecological sustainability, natural diversity and productivity of natural systems. This management process is driven by explicit goals, executed by sound policies and practices, and designed to adapt to ongoing research and monitoring. On the ground, it means establishing a comprehensive protected areas network within a well-managed working landscape. It means a new approach to conservation and economic activities throughout the whole of the Great Bear Rainforest.

The economic challenges facing the people of the Great Bear Rainforest are as important as the conservation challenges. Over the last several years, it has become apparent that the forest cannot sustain historic levels of resource extraction such as industrial logging. Major buyers of coastal wood products have refused to continue purchasing old-growth wood that is harvested unsustainably.

Ecosystem-based management is the commitment of the timber industry and coastal communities to sustainable management practices for timber and other natural and cultural resources of the Great Bear Rainforest. Together with appropriate ecotourism, sustainable fisheries management and other new enterprises, the economy of the Great Bear Rainforest is being “re-built to last” through the EBM principles crafted by the people who live and work there.

Principles and practice

In 2001—as part of a commitment to pursue new land use solutions in the Great Bear Rainforest—First Nations, governments, industry and environmental organizations agreed to think beyond conventional industrial land management models in order to pursue a strategy that meshes ecological conservation and community sustainability. The coastal consensus also established the Coast Information Team (CIT). For several years, this team of independent scientists worked under the leadership of the concerned organizations to provide the best available science to support the implementation of the new model of ecosystem-based management within the Great Bear Rainforest.

The new model emerges from the work of the CIT - which connected broad principles of ecosystem-based management with a tangible and rigorous scientific framework for implementation. It includes the development of new laws, policies and regulations that will direct the sustainable and cautious use of resources at all scales from broad landscapes to individual plants.

- At the landscape level, a network of new and existing protected areas, extending over five million acres to span all of the habitat types within the Great Bear Rainforest region, will protect a critical core of ecologically and culturally significant areas from logging and other industrial uses. These areas provide the most secure habitat for sensitive native plants and animals—such as the white Spirit Bear—and safeguard many of the most productive salmon streams, unique natural features, and irreplaceable ecological and cultural legacies.
- At the watershed level, such as a 20,000-acre river valley, management plans will set aside reserves where little or no resource extraction takes place. These reserves will maintain wildlife habitat and travel corridors, protect waterways and preserve specific values such as threatened species, sensitive soils, and cultural, scenic and recreation areas.
- At the site level, such as a 250-acre timber stand, forest harvesters will design their logging plans to retain individual trees, or groups of trees, to maintain key habitat features (such as streamside forest cover, trees for nesting, rare plants or bear and wolf den sites). Logging plans will also seek to sustain ecological processes by, for example, leaving large fallen trees in rivers where they form pools and side channels necessary for salmon.

At the regional and community level, these ecosystem-based management plans will be matched with socio-economic plans that aim to generate income, enhance the health of cultures and communities, and provide for sustainable livelihoods.



Fishing is an important part of the economy of the region. Techniques used range from traditional low-impact methods to more intensive technologies.

Managing for sustainability

In the Great Bear Rainforest, the establishment of a new and extensive protected areas network is in itself a globally-significant conservation outcome. But even the largest protected area can become degraded over time if human activities in surrounding areas are not managed well. Maintaining ecological integrity over such a vast area is not a question of protecting individual sites or species. It is a matter of preserving functions, flows and processes, of acknowledging the web of relationships among living organisms, natural processes and human activities.

For this reason, the aims of ecosystem-based management are not served by efforts to apply a rigid and uniform regime across a diverse ecological, cultural and economic landscape. Instead, ecosystem-based management in the Great Bear Rainforest involves a cumulative approach to risk management so that overall ecological risk is low.

This management approach begins with establishing an ecological baseline: the range of natural variation in healthy, functioning ecosystems. Activities that depart significantly from this natural variation—and therefore present a risk to ecological integrity—may be undertaken at a small scale within individual forest stands, but must be offset by ecological protection and lower-risk activities elsewhere.

The result is that, across the landscape, the overall risk to biodiversity and ecological integrity remains low. This approach enables a focus on economic and community development objectives in areas that can best sustain them, and provides for greater environmental protection in sensitive areas. Applied over the whole of the Great Bear Rainforest, ecosystem-based management unites conservation and community stability in the natural rhythms of the rainforest.

An Active Partnership

Protecting the Great Bear Rainforest means meshing the dynamic, living systems of natural environments and human communities. Ecosystem-based management must therefore be adaptable—it must be able to respond to changing conditions and adapt over time.

In this region, conservation and management practices also must provide for the active engagement of all parties—First Nations whose traditional territories extend over the entire Great Bear Rainforest, as well as governments, industry, conservation interests, local communities and other stakeholders.

COLLABORATIVE INITIATIVES

Before significant investments flow to conservation endowments in the Great Bear Rainforest, the conservation sector will ensure the following benchmarks are in place as a foundation for successful ecosystem-based management:

- A formal ecosystem-based management working group is established and appropriately funded to oversee the transition to the new management regime.
- A clear operational transition framework, including provisions for phasing in new management requirements, has been finalized and endorsed by First Nations, government, industry and environmental organizations.
- An initial suite of legal and regulatory objectives is in place to guide forest companies and other resource users as they begin implementation of ecosystem-based management.

Contributions and investments from donors will support the conservation sector's participation in the further science and planning work needed to ensure protection of biodiversity and to set the stage for implementing ecosystem-based management.

ECOSYSTEM-BASED MANAGEMENT AND FSC

The ecosystem-based management system envisioned for the Great Bear Rainforest will include sustainable forestry practices as rigorous as those required by the Forest Stewardship Council (FSC). The two systems differ in the scale at which they are to be applied. In the Great Bear Rainforest, Ecosystem-based management will apply principles similar to FSC across a much broader scale.

In the Great Bear, EBM will extend the concepts of sustainable forestry to include cumulative risk management over millions of acres. Ultimately, EBM will extend to all aspects of economic activity—not just forestry—on land, in freshwater ecosystems, and in the marine waters that make up the Great Bear Rainforest.

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Under ecosystem-based management, the people of the Great Bear Rainforest can unite in the establishment of co-adaptive management as the primary process for planning, design, implementation, monitoring and assessment. Through this collaborative process, the parties will formally structure activities to gather knowledge, test assumptions, measure results and improve future planning and management techniques.

Implementing a bold vision

In itself, ecosystem-based management will not address every threat to ecosystem integrity, and will not resolve all the complex issues facing First Nations and other communities. It is, however, the first effort to apply integrated concepts across such a large and complex natural and social landscape. It is also the first large-scale effort to expand ecosystem-based management into a broader policy and legislative context concerned equally with the health of ecosystems and human communities.

Moving 21 million acres towards ecosystem-based management is no trivial undertaking and there are many who have grave concerns about its potential limitations. This is a new way of thinking about land use that is not without risk.

Ecosystem-based management is an effort to manage the risk of resource use in the Great Bear Rainforest and ensure that, taken as a whole, those uses do not accumulate into regional degradation.

The challenge is enormous. But the opportunity is extraordinary. The application of ecosystem-based management in the Great Bear Rainforest presents the world with its best chance yet to realize the vision of integrated, large-scale conservation and community development.

A coalition of four environmental non-governmental organizations—Greenpeace Canada, Sierra Club of Canada-British Columbia Chapter, ForestEthics and Rainforest Action Network—has engaged with a diverse range of stakeholders to work towards consensus for the long-term preservation of the Great Bear Rainforest. These groups have also been working with a coalition of Canadian and U.S. philanthropic foundations to support conservation and community development opportunities.

The Nature Conservancy was asked to assist in the Great Bear Rainforest project by leading the capital campaign and to help develop the capacity of British Columbia-based organizations to sustain this work into the future.