

# Coastal Montane Biodiversity



Les Peterson

## Introduction

The Coastal Montane Biodiversity Project is a comprehensive, integrated study of biodiversity in the high-elevation forests of coastal British Columbia. The general goal of the project is to provide foresters and biologists with new information concerning biodiversity as an aid to making the management decisions necessary for long-term health and sustainability of coastal montane ecosystems. Biodiversity is studied through an integrated approach to inventory, research, and adaptive management.

Some goals for the project include:

- ◆ Establishing lines of extension directly from researchers to resource managers.
- ◆ Modifying or creating policies or guidelines to better conserve and manage biodiversity.
- ◆ Providing training and experience through universities and colleges.
- ◆ Using data collected for multiple purposes.



Les Peterson



Jeffrey Joy

## Rationale

Four critical issues facing forest management in British Columbia provided the impetus for studying biodiversity in coastal montane ecosystems:

- ◆ Depletion of timber in low-elevation forests, and consequent increase in timber extraction at higher elevations.
- ◆ Implementation of the Forest Practices Code.
- ◆ Lack of knowledge about higher-elevation forests and how they and the species in them respond to management actions.
- ◆ Increased criticism from society about how forests are managed.



Jeffrey Joy



Harry van Oort



The study area is located in the montane forests and alpine tundra surrounding Mt. Cain and Maquilla Peak, near the community of Woss, British Columbia on Northern Vancouver Island.

## Products and Extension

Product development and extension of results to professionals, academics, and the general public will take place through:

- ◆ Peer-reviewed publications
- ◆ Species-specific research reports
- ◆ Modeling species-environment relationships
- ◆ Biodiversity modeling
- ◆ Ecosystem and habitat mapping
- ◆ Presentations at workshops and conferences
- ◆ World-wide web site <http://www.res.for.gov.bc.ca/projects/cmbp/>
- ◆ Presentations in local communities

## Project Overview

A comprehensive study of biodiversity in the high-elevation forests of coastal British Columbia

A collaborative effort of the B.C. Ministry of Forests, the B.C. Ministry of Environment, Lands and Parks, the forest industry, universities, and the private sector.

Background photo: Les Peterson

# Coastal Montane Biodiversity Project

## Project Goal

Sustaining Biodiversity in Coastal Montane Ecosystems

## Adaptive Management

Adaptive management is a systematic, rigorous approach for learning from management actions. Results from adaptive management tests of the Forest Practices Code in coastal montane ecosystems contribute to sustaining biodiversity. Adaptive management is driven by research, although results from adaptive management may also assist in developing and refining research questions.

## Research Priorities and Initiatives

Research priorities are driven by the results of biodiversity inventory, and by concerns about meeting the objectives of the Forest Practices Code. Research is facilitated through partnership with universities, the forest industry, and local communities. Important objectives for research are; to address the needs of sensitive species, to recommend alternative methods for maintaining biodiversity, to determine appropriate variables to monitor changes in biodiversity, and to modify the Forest Practices Code and component guidebooks where necessary to ensure applicability in coastal montane ecosystems.

Current research initiatives in coastal montane ecosystems include:

### Ecology of Coastal Montane Cavity-Nesting Birds

- ◆ Population Dynamics
- ◆ Movements
- ◆ Nest Structure Characteristics
- ◆ Nest Site Characteristics

### Ecology of Coastal Montane Arthropods

- ◆ Forest Pest Flight Patterns and Relationships to Corridors
- ◆ Role of Arthropod Guilds in Ecological Processes
- ◆ Arboreal Habitat Colonization Rates (Oribatid Mites)
- ◆ Seasonal Differences in Species Presence and Abundance

### Ecology of Coastal Montane Bats

- ◆ Elevational Distribution of Bat Species
- ◆ Bat Habitat Use of Different Montane Ecosystems
- ◆ Roosting Requirements of Montane Bats
- ◆ Roost Site Selection

### Ecological Processes and Forest Management

- ◆ Role of Corridors in Ecological Processes
- ◆ Size and Distribution of Wildlife Tree Patches
- ◆ Effects of Riparian Management
- ◆ Landscape-Level Fragmentation Processes
- ◆ Modeling Impacts on Biological Diversity

## Biodiversity Inventory

Biodiversity inventory provides an assessment of species presence in coastal montane ecosystems. This information contributes to a biodiversity database, and aids in setting priorities for research.

Components of operational inventory include:

#### Plants:

Lichens, Bryophytes, Vascular Plants

#### Invertebrates:

Spiders, Insects, Mites, Millipedes, Crustaceans

#### Vertebrates:

Birds, Mammals, Amphibians, Reptiles

#### Habitat Structure:

Coarse Woody Debris, Wildlife Trees, Bear Dens, Terrestrial Ecosystem Mapping (TEM)

## Forest Practices Code Implementation Issues

Concerns about present and future implementation of the Forest Practices Code set priorities for research projects and adaptive management tests in coastal montane ecosystems.

Specific components of the Forest Practices Code under assessment include:

#### Biodiversity Guidebook

#### Riparian Management Guidebook

#### Higher-Level Plans Guidebook

#### Managing Identified Wildlife Guidebook

#### Credits:

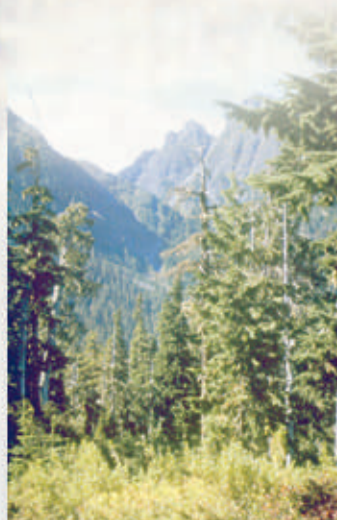
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