

# Exploring Our Forest

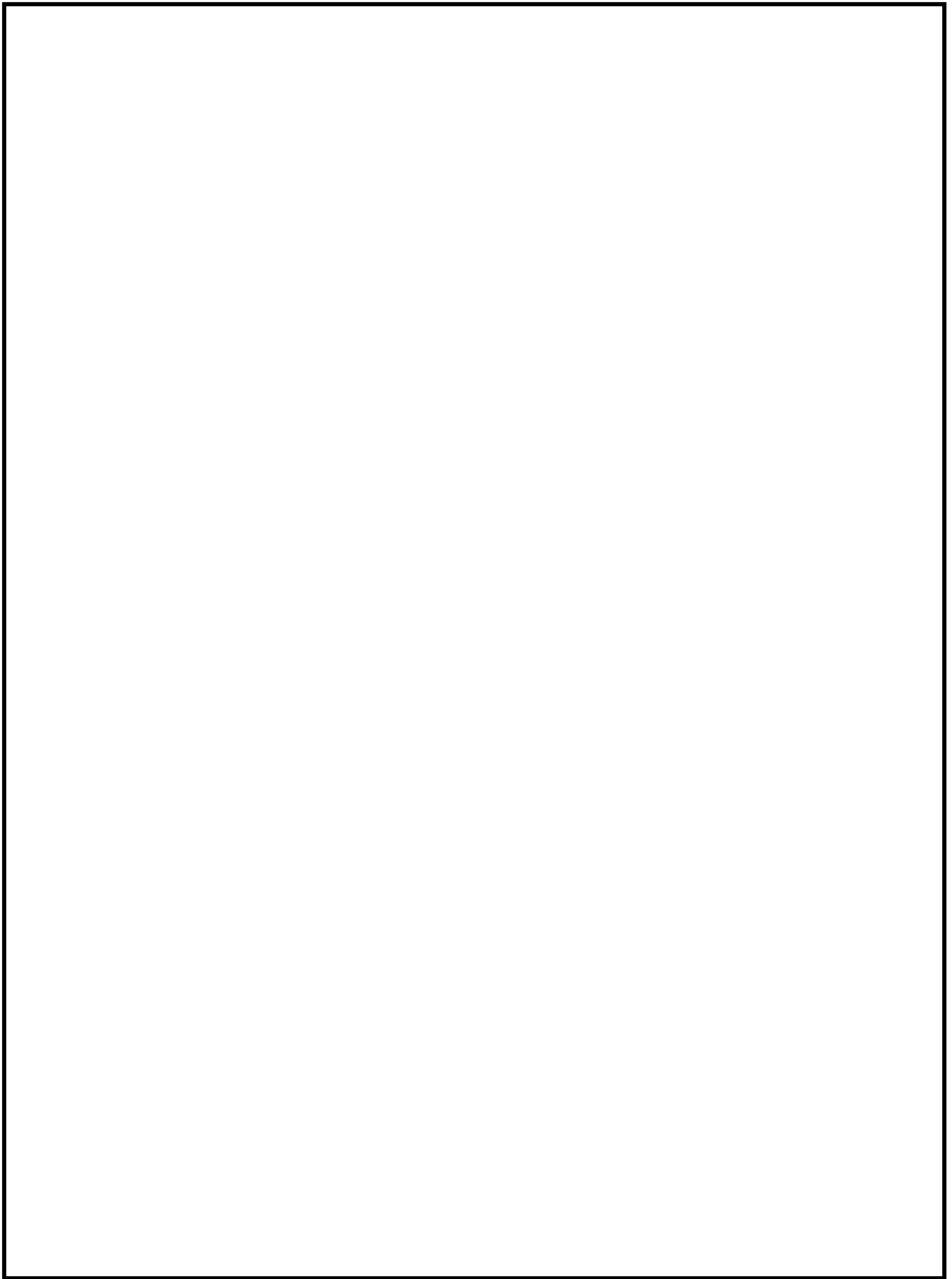
Western Newfoundland Model Forest Educational CD ROM

## Curriculum Guide and Index



Prepared by:

Dan Murphy  
Itinerant-Outdoor Education  
School District 3  
Corner Brook-Deer Lake-St. Barbe



# Exploring Our Forest

## Western Newfoundland Model Forest Educational CD ROM

### About This CD ROM



#### **Background**

The Western Newfoundland Model Forest educational CD ROM is an initiative of the Education Working Group of the Western Newfoundland Model Forest. It was completed in 1999 through Environment Canada's Science Horizons program.

#### **The Education Working Group**

The main functions of the Education Working Group of the Western Newfoundland Model Forest include:

- involving the educational system – including public schools, technical institutions and universities – in the Model Forest process.
- promoting increased awareness and understanding of the dynamics of forest ecosystems and environmentally sustainable forest practices through developing tools for continuing education and community education.

The Western Newfoundland Model Forest CD ROM is one such tool. Essentially, it is a multimedia application which focuses on forestry issues, practices and studies and links them to Newfoundland and Labrador's education curriculum. The main audiences are both elementary and high school students, as well as the general public. The product is a self-contained application that runs off a PC based CD ROM. The use of pictures, sounds, videos and 3- D Terrain Modeling create a new and interesting learning environment that will be of use to primary/elementary, junior, and high school teachers. Copies of the CD can be obtained from:

Western Newfoundland Model Forest Inc.  
P.O. Box 68  
Forest Centre  
Sir Wilfred Grenfell College  
University Drive  
Corner Brook, Newfoundland  
A2H 6C3  
Telephone (709) 637-7300  
Facsimile (709) 634-0255  
Web Page: [www.wnmf.com](http://www.wnmf.com)

## Curriculum Connections (Newfoundland and Labrador)

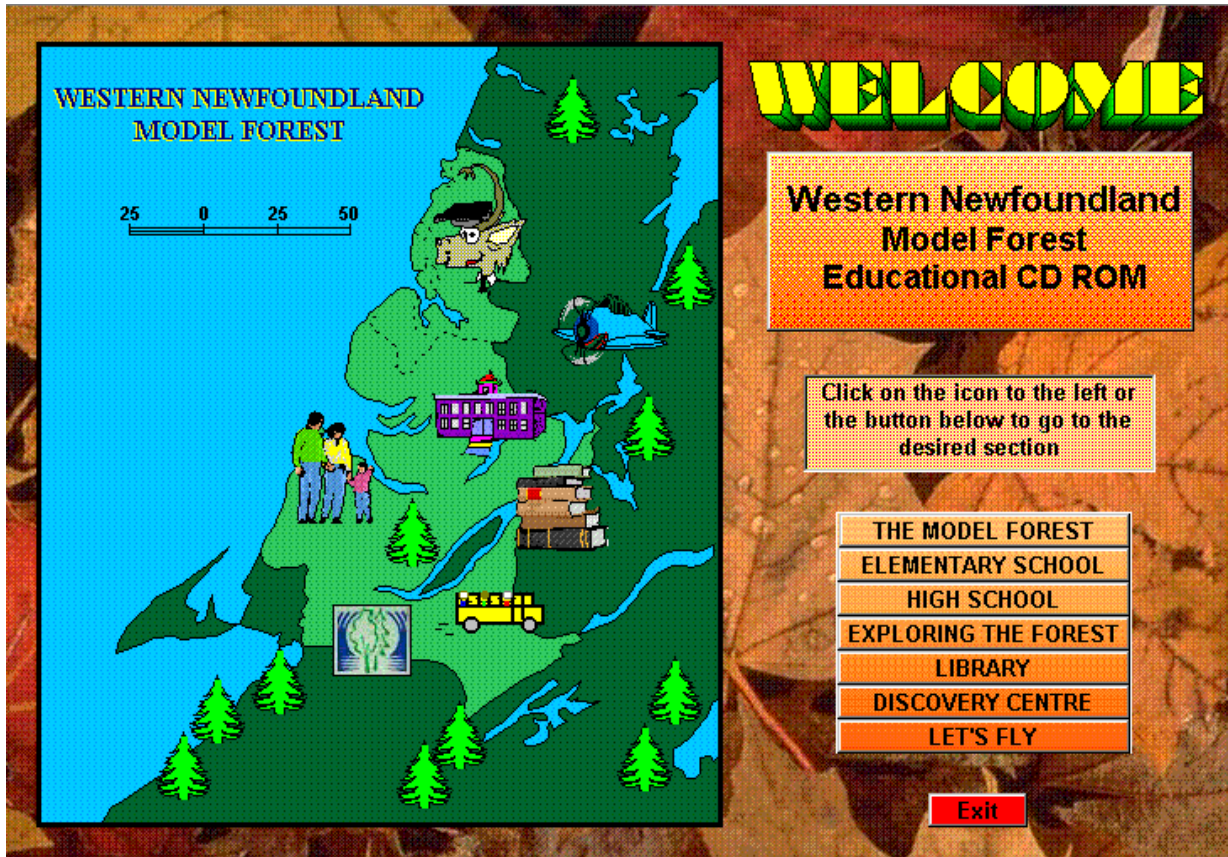
**Audience**    High School (Levels 1,2 & 3)  
                     Junior High (7,8 & 9)  
                     Primary/Elementary

### Correlation with curriculum outcomes (Senior High)

High            = material can be used to fulfill many outcomes in many topics  
 Medium        = material can be used to fulfill outcomes in a few topics  
 Low             = material can be used to fulfill supplement outcomes

Subject	High	Medium	Low
Biology 3201			
Environmental Science 3205			
Science~Technology~Society 2206			
World Geography 3202			
Global Issues 3205			
Biology 2201			
Physical Science 2205			
Canadian Geography 1202			
Science 1206			

# Index (By Path)



This is the front end of the CD ROM “Exploring our Forests.” Main topics are accessed by clicking the icon on the left of the screen or the button. The index is divided up into seven (7) topics, each corresponding to a choice on the front end.

The Model Forest .....	2
Elementary School .....	6
High School .....	8
Exploring the Forest .....	14
Library .....	16
Discovery Centre .....	17
Let’s Fly .....	18



# Model Forest

**WESTERN NEWFOUNDLAND MODEL FOREST**  
An Initiative For Sustainable Development

**PARTNERSHIP** **GOALS**

**CANADIAN MODEL FOREST**

**INTERNATIONAL MODEL FOREST**

Menu

In 1992, the Government of Canada, through the Canadian Forest Service, launched the Canadian Model Forest Program to help balance the demands we place on our forests today with the needs of tomorrow's generation. A model forest serves as a demonstration of partners working together to achieve sustainable forest management.

The Western Newfoundland Model Forest (WNMF), one of 11 model forests in Canada,

**General Manager: Jim Taylor**  
jtaylor@wnmf.com

**Communications Officer: Sheila Robinson**  
srobinson@wnmf.com

Legend:  
 - Western Newfoundland Model Forest  
 - ACAP Study Area  
 - Model River Study Area  
 - Lakes  
 - Model Forest Boundary  
 - Gros Morne National Park Southern Boundary  
 - Trans Canada Highway

## 👉 Partnership

A list of the seventeen (17) Western Newfoundland Model Forest partners (1998) and their mailing addresses (text)

## 👉 Goals

A detailed overview of the goals and objectives of the Western Newfoundland Model Forest (text)

## 👉 Canadian Model Forest

### 👉 Model Forest Network Map

Description of Canadian Model Forest Network and an interactive map showing the location of the eleven (11) model forests across Canada (text, image)

### 👉 Sharing Knowledge

Description of knowledge transfer between Model Forests across Canada (text)

👉 **Partnerships**

Description of partnerships in the Model Forest Network (text)

👉 **International Model Forests**

👉 **Mexico**

Description (text and map)

👉 **United States**

Description (text and map)

👉 **Russia**

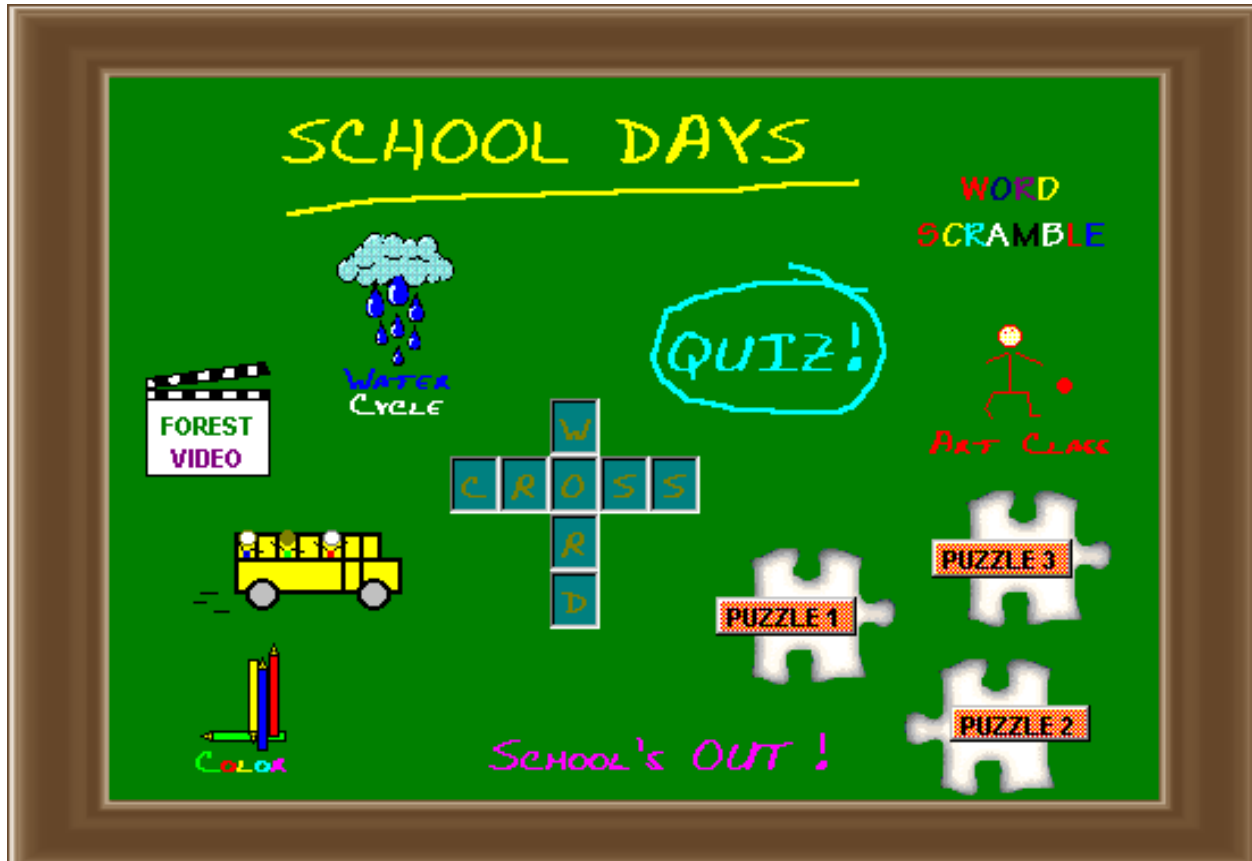
Description (text and map)

👉 **Other Countries**

Description (text and map)



# Elementary



 **Colour**

Interactive Colouring Activity (image)

 **Crossword**

Interactive Crossword Puzzle (text, image)

 **Puzzle 1**

Interactive puzzle, assemble picture of a pine marten (image)

 **Puzzle 2**

Interactive puzzle, assemble picture of a caribou herd (image)

 **Puzzle 3**

Interactive puzzle, assemble picture of an eagle (image)

 **Word Scramble**

Interactive word scramble game (text)

 **Quiz**

Interactive quiz with questions relating to the forest (text, image)

☞ **Art Gallery**

A series of thirty six (36) drawings produced by grade 3 students at St. Stephen's Primary School in Stephenville and C.C. Loughlin Elementary in Corner Brook. The drawings express "What the forest means to me."

☞ **Bus**

A photo trip through the Western Newfoundland Model Forest (text & images)

☞ **Forest Video**

Wood harvesting in the 1930's (14 video clips)

☞ **Let's Explore**

Questions (text)

Projects (text)

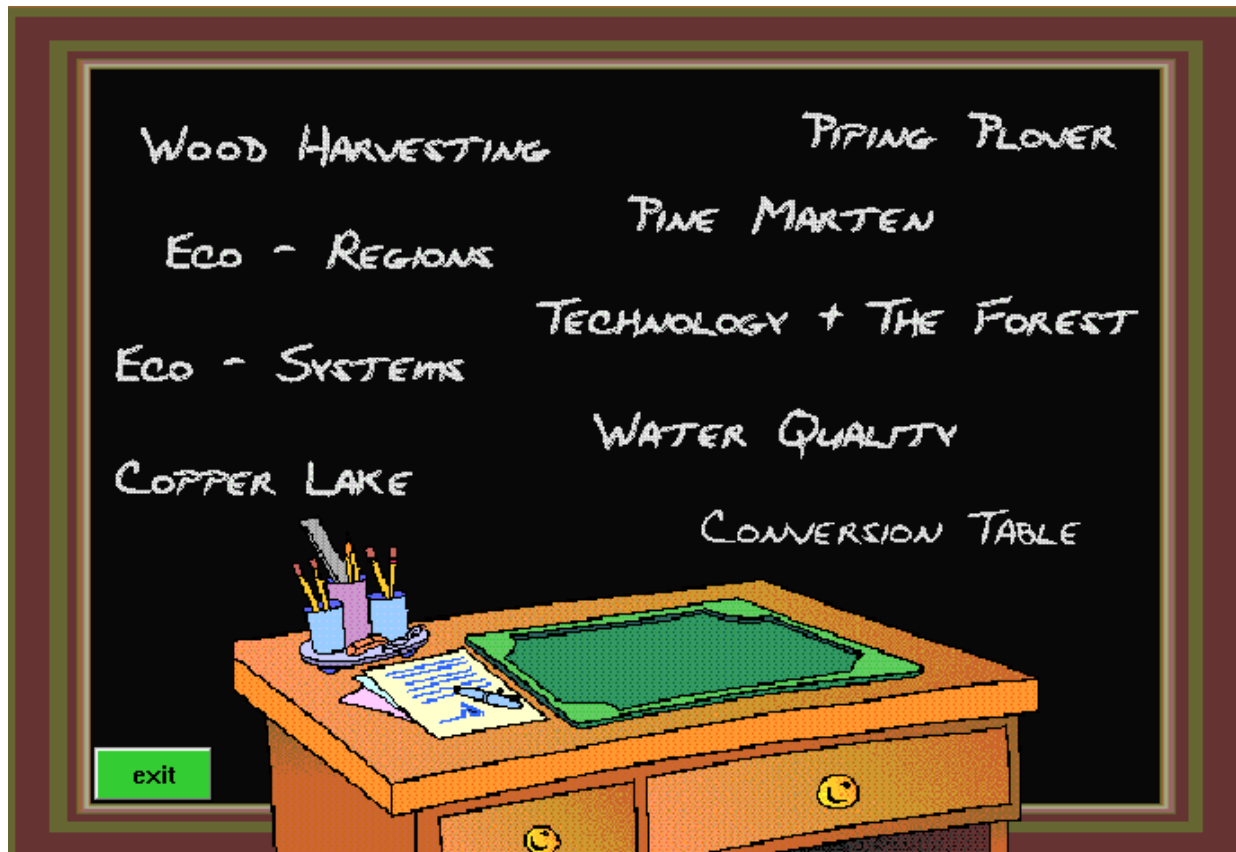
☞ **Water Cycle**

An interactive overview of the water (text, images)

☞ **Let's Explore**

Water cycle activity (text)

# 👉 High School



## 👉 Wood Harvesting

### 👉 Forest Production

#### 👉 Traditional Forest Products

History of Forestry (text)

#### 👉 Modern Forest Products

How We use Wood Today (text)

#### 👉 Pulp and Paper

Pulp and Paper Mills (text)

#### 👉 Lumber

Lumber Production (text)

#### 👉 Secondary Wood Products

List of Secondary Wood Products (text)

#### 👉 Christmas Trees

Christmas Tree Growing in Newfoundland (text)

### 👉 Value Added Forest Products

Overview of Value Added Products (text)

☞ **Days Gone By**

Wood Harvesting in the 1930's (14 video clips)

Questions (text)

Projects (text)

☞ **Equipment**

Types of Equipment used to Harvest Trees (text, images & video)

☞ **What is a tree**

☞ **Leaf**

Leaf Function (text & image)

☞ **Roots**

Root Function (text & image)

☞ **Trunk**

Trunk Function (text & image)

☞ **Crown**

☞ **Cambium**

Description (text)

☞ **Bark**

Description (text)

☞ **Annual Rings**

Description (text)

☞ **Heart Wood**

Description (text)

☞ **Sap Wood**

Description (text)

☞ **Eco-Regions**

☞ **Ecoregions of Newfoundland and Labrador**

Description of Each Region (text & image (map))

Fact sheet

☞ **Eco-Systems**

☞ **Barrens**

☞ **Alpine Heath**

Description (text)

☞ **Empetrum Heath**

Description (text)

☞ **Moss Heath**

Description (text)

☞ **Kalmia Heath**

Description (text)

☞ **Limestone Heath**

Description (text)

☞ **Serpentine Heath**

Description (text)

☞ **Wetlands**

☞ **Bogs**

Description (text & image)

☞ **Fens**

Description (text & image)

☞ **Marshes**

Description (text & image)

☞ **Swamps**

Description (text & image)

☞ **Shallow Water Wetlands**

Description (text & image)

☞ **Freshwater**

☞ **Introduction**

Introduction (text)

☞ **Rivers and Streams**

Overview (text)

☞ **Abiotic Factors Influencing a Pond**

Description (text)

☞ **Food Chains in Ponds and Streams**

Description (text)

☞ **Macro-invertebrates**

Description (text)

☞ **Forest**

Description with Emphasis on Adaptation (text)

☞ **Ocean**

☞ **Splash Zone**

Description (text)

☞ **Upper Shore**

Description (text)

☞ **Middle Shore**

Description (text)

☞ **Lower Shore**

Description (text)

☞ **Subtidal Zone**  
Description (text)

☞ **Copper Lake**

☞ **Download Report**  
Downloads “Copper Lake Buffer Zone Study” to disk

☞ **Preface**  
(Text & image)

☞ **Introduction**  
(Text & image)

☞ **Materials and Methods**

☞ **Study Area** (Text & embedded images)

☞ **Forest Harvesting and Buffer Strips** (Text & embedded images)

☞ **Habitat Surveys** (Text)

☞ **Physical Habitat Monitoring** (Text & embedded images)

☞ **Biological Monitoring** (Text & embedded images)

☞ **Special Projects** (Text & embedded images)

☞ **Results To Date**

☞ **Habitat Surveys** (Text)

☞ **Physical Habitat Monitoring** (Text)

☞ **Biological Monitoring** (Text)

☞ **Special Projects** (Text)

☞ **Future Research** (Text)

☞ **Appendix** (Text)

☞ **Let’s Explore**

☞ **Questions** (Text)

☞ **Piping Plover**

☞ **General Description**  
(Text & images)

☞ **Distribution and Status**  
(Text & images)

☞ **Newfoundland Piping Plover**  
(Text & images)

☞ **Habitat/Feeding/Breeding**  
(Text & images)

☞ **Endangered/Threats**  
(Text & images)

☞ **Piping Plover Homepage**  
Link to Environment Canada Web Site

☞ **Pine Marten**  
Status of the Newfoundland Pine Marten, habitat, food, snaring and trapping, Pine Marten Study (text, images & video)

☞ **Technology & The Forest**

☞ **Remote Sensing and Forestry**

☞ **Image 1**  
Satellite Image (Bay of Islands, Grand Lake)

☞ **Image 2**  
Satellite Image (North shore of Grand Lake)

☞ **Canadian Centre for Remote Sensing**  
Canadian Centre for Remote Sensing (Hot key to CCRS website and tutorial)

☞ **Lets Explore**  
Questions and Projects relating to Remote Sensing (text)

☞ **Geographic Information Systems**  
Overview of GIS (text and Image)  
Hot keys to Arc Info, Spans, and Cars homepages

☞ **Global Positioning Systems**

☞ **What is GPS**  
Description of what GPS is (text)

☞ **Levels of Service**  
Civilian and Military use (text)

☞ **Determining your Position**  
Description of how a GPS unit Determines Position on the Planet (text)

☞ **Navigating with GPS**  
Description of how GPS is used to Navigate and Make Maps. List of forest related Applications (text)

☞ **Let's Explore**  
Questions and Projects (text)

☞ **New Harvesting Equipment**  
Description of Walking Technology (text, images, video clips)

☞ **Technology in the Harvester**

☞ **Right click seat**

Enter harvester cab (image)

☞ **Click right joystick**

Description of harvester cutting a tree (text, images, video clips, sound)

☞ **Click left joystick**

Evolution of harvest technology (text, images, video, sound)

☞ **Click small LCD screen**

Description of Total Machine Control using computers. (text, image, video clips, sound)

☞ **Click large LCD screen**

Description of Measurement and Control System that uses a computer and sensors on cutting head (text, images, video clips, sound)

☞ **Water Quality**

☞ **Why**

Why test Water Quality (text)

☞ **How**

☞ **Sampling Equipment**

Description of Various Sampling Equipment (text)

☞ **Finding a Suitable Sample Site**

Description of Sample Site (text)

☞ **Taking the Sample**

Method used to Sample Water (text)

☞ **In the Lab**

How the Water Sample is Analyzed (text)

☞ **The Report**

Sample report from the Copper Lake Buffer Zone Study (table)

☞ **Let's Explore**

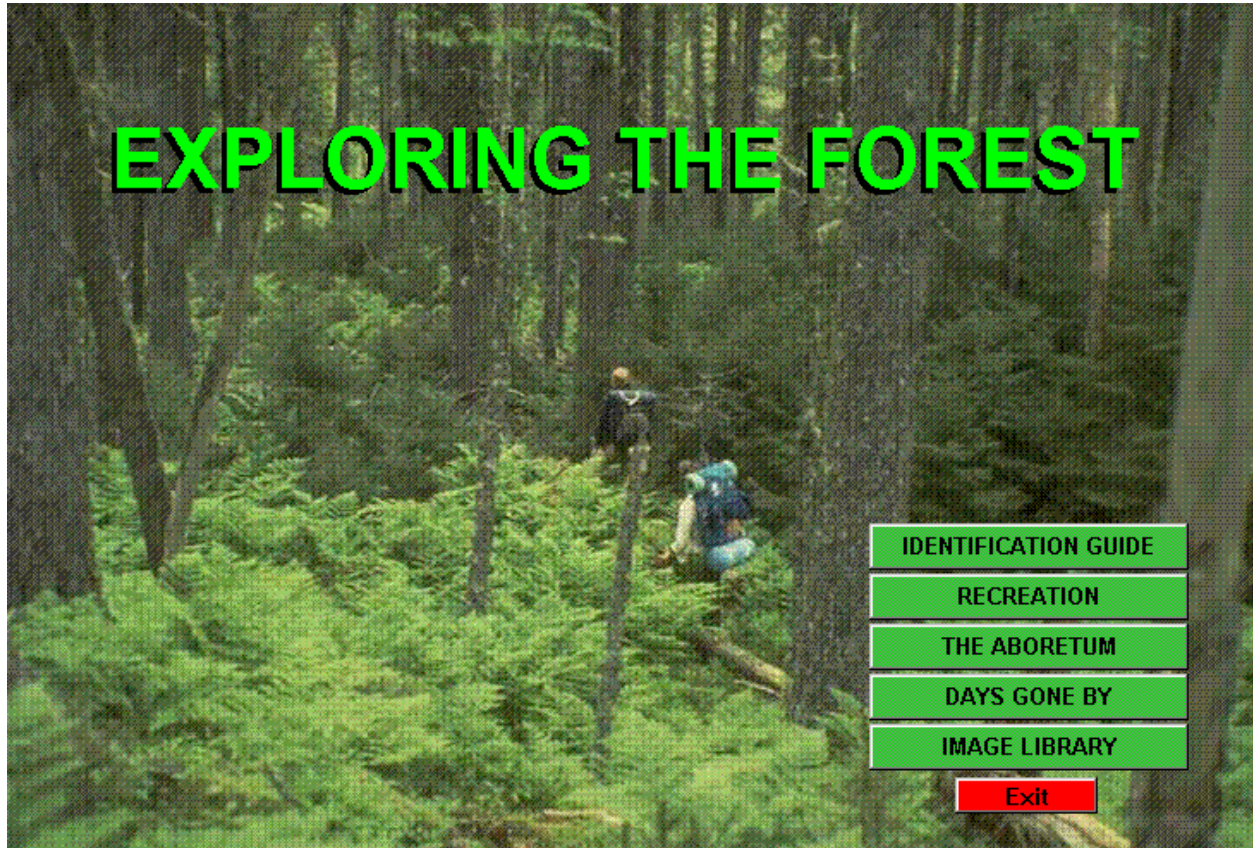
Questions and Activities (text)

☞ **Conversion Table**

Conversion Table (interactive)



# Exploring the Forest



## Identification guide

### Animals

Description of seventeen (17) most common animals found in the Western Newfoundland Model Forest (text & images)

### Fish

Description of seven (7) most common fish found in the Western Newfoundland Model Forest (text & images)

#### Fish Anatomy

Parts of a fish (text & labeled diagram)

### Plants

Description of a representative sample of twenty one (21) common plants found in the Western Newfoundland Model Forest (text & images)

### Birds

Description of a representative sample of twenty nine (29) common birds found in the Western Newfoundland Model Forest (text, images, sound)

## **Recreation**

### **Canoeing**

Description of five (5) canoe routes within the boundaries of the Western Newfoundland Model Forest (text, images & interactive map)

### **Hiking**

Description of seven (7) hiking trails within the boundaries of the Western Newfoundland Model Forest (text, images & map)

### **Mountain Biking**

Description of five (5) mountain bike trails within the boundaries of the Western Newfoundland Model Forest (text, images & map)

## **The Arboretum**

A interactive tour of the Bottom Brook Arboretum. Included is background information on the project, a downloadable tour guide, and a virtual tour which includes 22 stops (text, images, map & downloadable file)

## **Days Gone By**

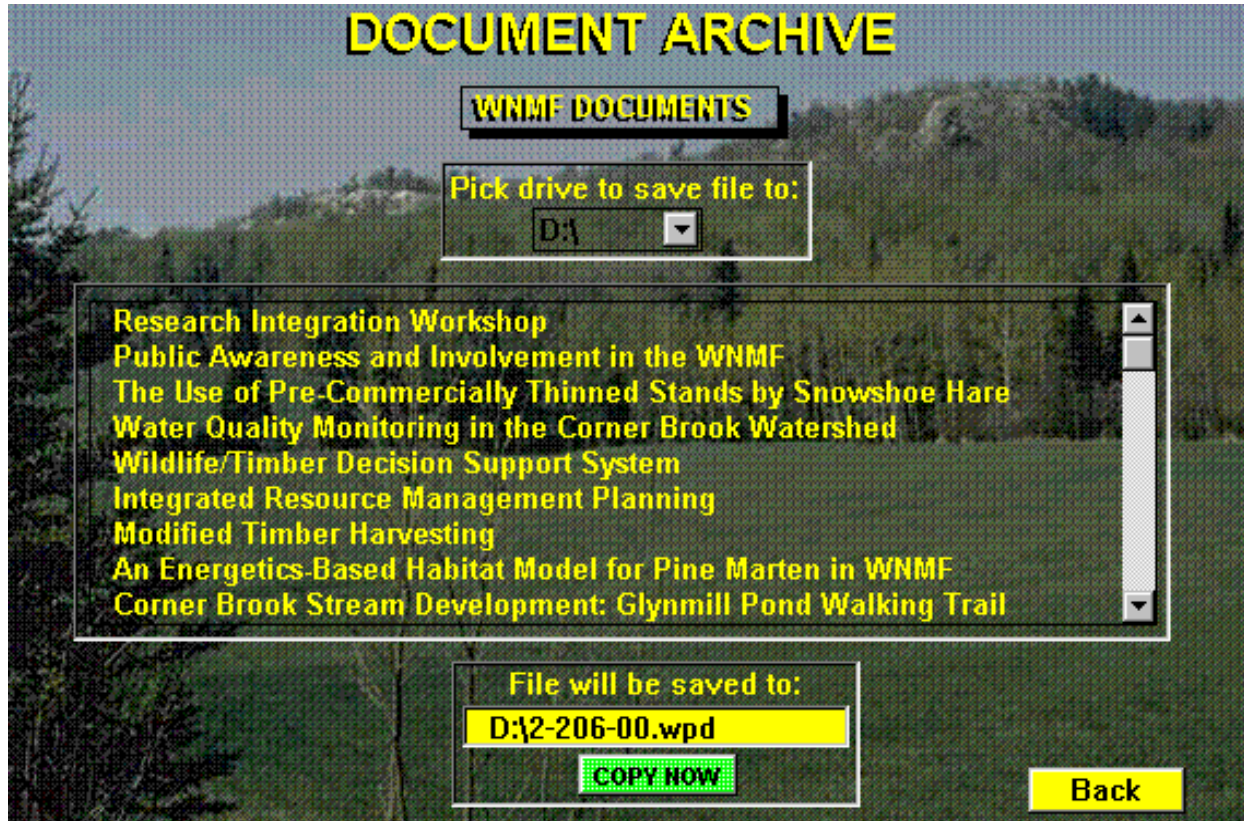
Wood harvesting in the 1930's (14 video clips)

## **Image Library**

Three pages of selected images of the Western Newfoundland Model Forest (Images)

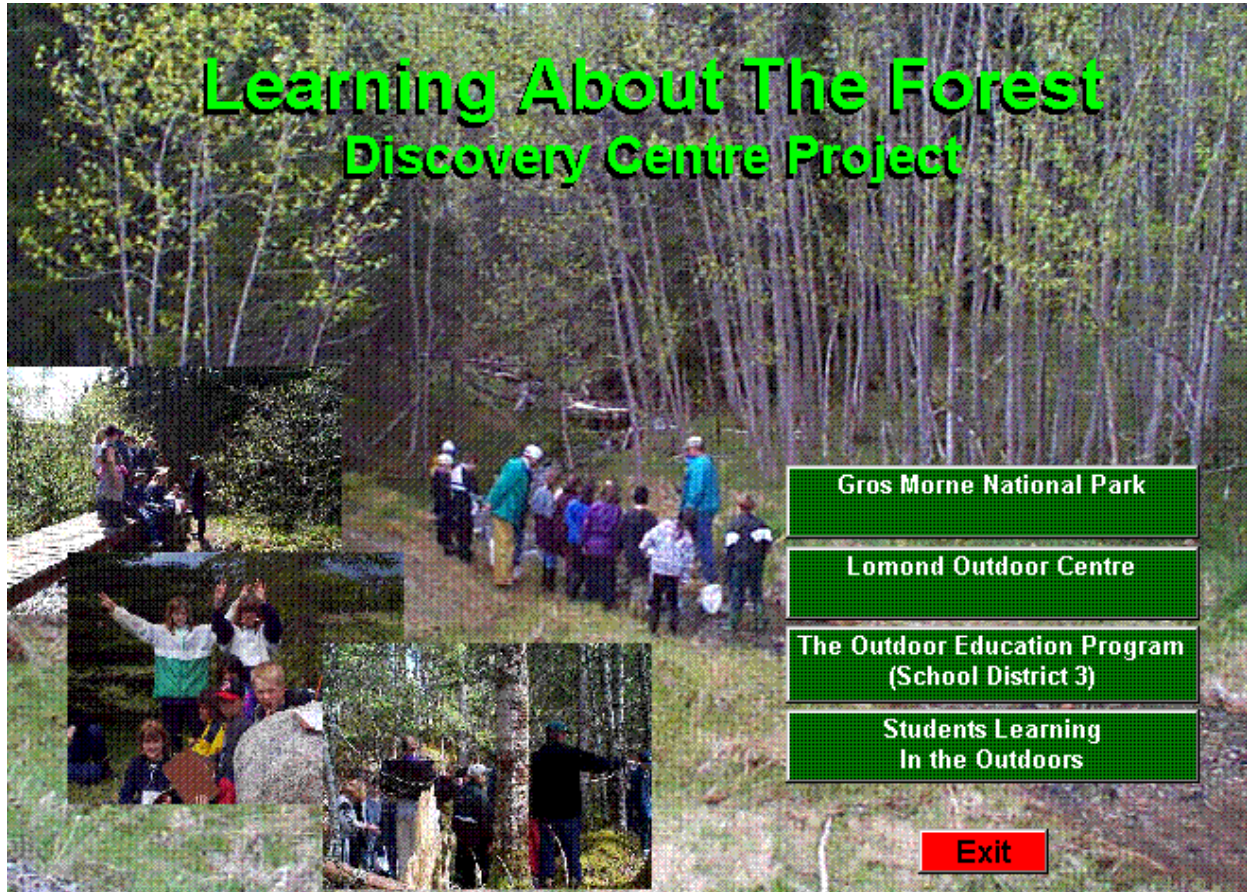


# Library



Compendium (one page outlines) of forty seven (47) Model Forest Projects. Compendiums can be downloaded from the CD-ROM and printed. A complete list is available on the WNMF homepage. Complete hard copies of all reports are available from the Western Newfoundland Model Forest office.

# 👉 Discovery Centre



## 👉 Gros Morne National Park

Gros Morne National Park (text)

Gros Morne National Park (Hot key to GMNP Web site)

## 👉 Lomond Outdoor Centre

Lomond: A Resettled Community (text)

The Perfect Setting to Learn about the Forest (text)

## 👉 Outdoor Education Curriculum (School District 3)

### 👉 Our Curriculum

List of Modules (text)

Adobe (Hot Key to Adobe Web Site)

Forest Activities (pdf)

## 👉 Students Learning in the Outdoors


Students Learning (images)

# ☞ Let's Fly

**Exit**

## Pine Marten Study Area

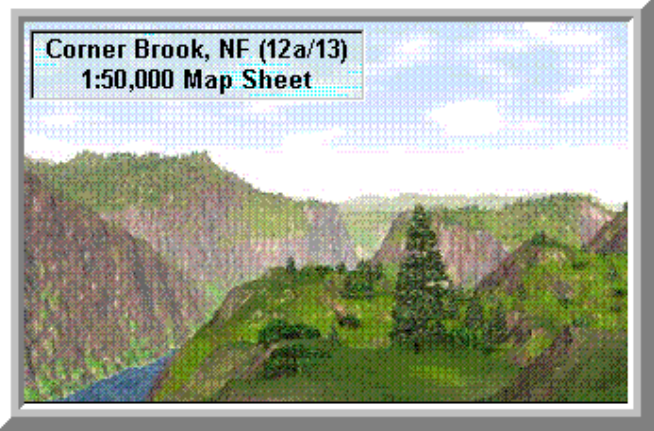
(Grand Lake, Glover Island and Surrounding Area)

<b>Satellite Images</b> Image #1 Image #2  <b>Forest Inventory Maps</b>	<b>Fly Overs</b> Flight One Flight Two Flight Three Flight Four Flight Five	 <p><b>Stop Flight</b></p>
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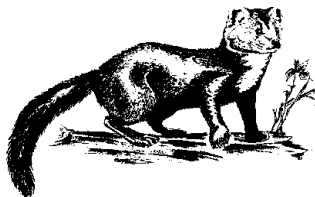
The digital file used to create the 3-D terrain and the Satellite Images were obtained from The Newfoundland Forest Service in Corner Brook, NF.

The files were generated from a Landsat Thematic Mapper (TM) image acquired August 4, 1995. A "color infrared" composite image is shown which includes TM bands 2, 3, and 4. These bands record energy in the green, red, and near infrared regions of the electromagnetic spectrum.

Corner Brook, NF (12a/13)  
1:50,000 Map Sheet



Satellite images (Grand Lake)  
Forest inventory maps (Grand Lake)  
3D Fly Overs (Grand Lake)



Newfoundland Pine Marten