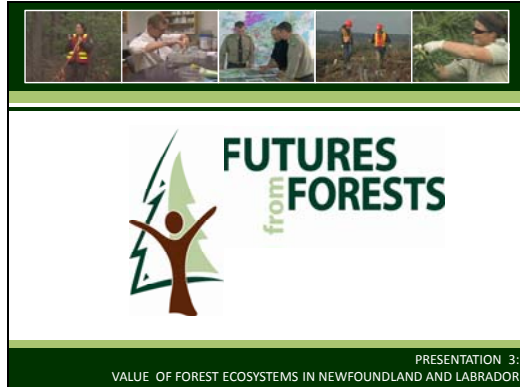


# PRESENTATION 3 – VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

Slide 1



•Futures from Forests binder contains **discussion questions** and **suggested activities** to accompany this presentation

•**Student worksheets:**

- “Value of Forest Ecosystems in Newfoundland and Labrador” accompanies this PowerPoint presentation
- “Forest Values” worksheet can be used before or after this PowerPoint presentation

•**Case Studies** “Rumbles in the Lumber Industry” and “Taking the Paper out of Newspaper” can be used as an extension to this Power Point presentation

Slide 2




•**Discussion Questions:**

- How do you value the forests?
- Why are they important?
- How do your forest values differ from other people’s forest values?
- List two values under each of the three headings provided in this slide


Slide 3

FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

# What **value** can be found in our forests?



ECONOMIC VALUES



Slide 4

FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

## PULP AND PAPER

ECONOMIC VALUE OF THE FORESTS

- Trees suitable for paper production (pulp wood) include balsam fir and black spruce. After harvesting, trees are processed into chips
- Chips are refined through thermo-mechanical processing, ground into pulp and sent through a series of rollers, pressers and dryers
- End product is newsprint (paper used for newspaper), most of which is sold to foreign markets. \$350,000,000 worth of newsprint was produced in NL in 2008

Photos: Department of Natural Resources, Corner Brook Pulp and Paper, VisiCraft

- For more information on forest products, see forest products association of Canada <http://www.fpac.ca/en/>
- North American demand for newsprint is declining and this has had a significant impact on the pulp and paper industry in Canada. The **Case Study** “Taking the Paper out of Newspaper” can be used as an extension to the PowerPoint

Slide 5

FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

## LUMBER/SAWMILLING INDUSTRY

ECONOMIC VALUE OF THE FORESTS

- Sawmills traditionally used softwoods but are increasingly using hardwoods
- Sawmills in NL produce around 130 million board feet annually - enough to build a line of lumber around the equator!
- Lumber is the primary construction material for new homes in Canada. New home construction in NL consumes around 50 million board feet annually

Photos: Department of Natural Resources, Forintec, VisiCraft

Slide 6

FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

### VALUE-ADDED INDUSTRY

**ECONOMIC VALUE OF THE FORESTS**

- Value-added (secondary) manufacturing is the process that leads to a higher valued product. For example, a piece of birch is more valuable as kitchen cabinets than as firewood.
- The value of a product increases as it proceeds through the various stages of manufacture and distribution. Forest related value-added manufacturing contributes around \$60 million annually to the economy of NL.
- Products include hardwood and softwood products such as flooring, kitchen cabinets, stair treads, moldings, furniture, siding, laminates, fencing and engineered products.

Photos: Department of Natural Resources, Corner Brook Pulp and Paper, VEGCAN

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FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

### OTHER FOREST RELATED ECONOMIC ACTIVITY

**ECONOMIC VALUE OF THE FORESTS**

- Tourism/Recreation
  - Outfitters offering hunting or fishing expeditions
  - Hiking, cross country skiing, camping
  - Eco-tourism
- Bio-Fuels – using the forest for energy
  - Wood pellets, briquettes made of sawmill by-products (wood chips, sawdust etc.)
- Specialty Items
  - Christmas wreaths
  - Sap wine, berry jams, nutraceuticals
  - Wood-turned bowls, cottage furniture

Photos: Department of Natural Resources, Department of Environment and Conservation, VEGCAN

- For more information on non-timber forest products, see [www.fromouratlanticwoods.com](http://www.fromouratlanticwoods.com)
- For a copy of a report compiled by MUN Botanical Gardens on non timber forest products, see [http://www.nr.gov.nl.ca/nr/plans/final\\_report\\_ntfp.pdf](http://www.nr.gov.nl.ca/nr/plans/final_report_ntfp.pdf)
- Nutraceuticals are natural, bioactive chemical compounds (substances that have an effect on living organisms) that have health promoting, disease preventing or medicinal properties. Some of NL's shrubs and berries provide health related benefits to those who consume them. An example is the anti-oxidant qualities of blueberries


Slide 8

FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

**What value can be found in our forests?**

**VALUE**

ECOLOGICAL VALUES



• **Ecological value** can be broadly defined as the level of benefits that the natural ecosystem (made up of a variety of things including water, soil, vegetation, microorganisms, animals etc.) provides to support other life forms. To humans, ecological benefits may be cleaner air and water. To nonhuman species, these ecological benefits might be the provision of food and shelter needed to survive.

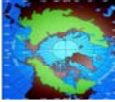


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FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

**CLIMATE REGULATION**

ECOLOGICAL VALUE OF THE FORESTS

- The broad green mantle of boreal forest lying across the top of Canada helps to moderate temperatures and increase atmospheric moisture throughout the year.
- Without intact and naturally functioning boreal forests, many parts of Canada would be hotter and drier, affecting food production and water supplies.
- Trees reduce wind infiltration and provide shade, thus offering protection from the elements during summer and winter




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FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

**CARBON STORAGE ABILITY**

ECOLOGICAL VALUE OF THE FORESTS

- The Boreal Forest is the world's largest terrestrial storehouse of carbon. The forests and peat lands store an estimated 67 billion tonnes of carbon in Canada alone - almost eight times the amount of carbon produced worldwide in the year 2000
- This is largely because of the Boreal climates, as cold temperatures reduce decomposition rates, building deep organic soils over centuries
- Carbon storage capacity can be damaged if peat lands dry out or forests are disturbed, such as through insects or fire

Sources: Canadian Boreal Forest Initiative; <http://www.sciencedaily.com/releases/2006/09/0609024175538.htm>

• **Terrestrial** – land based.

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FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

**WATER CYCLING AND SOIL STABILIZATION**

• Healthy forests help keep streams clean and water quality high by:

- promoting soils that provide natural filtration
- providing vegetative cover that minimizes soil erosion and sediment runoff

• Trees and plants reduce erosion by holding the soil in place and by absorbing much of the excess water.

• Forests act as reservoirs, providing natural flood control

Photos: Department of Natural Resources, Department of Environment and Conservation

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FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

**REDUCING AIR POLLUTION**

• Leaves take in carbon dioxide as a part of photosynthesis, a process that converts carbon dioxide into organic material by reducing the gas to carbohydrates. These carbohydrates are the "food" that provides a tree with energy to live and grow

• Trees help cleanse the air by acting like air filters: intercepting airborne particles, reducing heat, and absorbing pollutants such as carbon monoxide, sulphur dioxide, and nitrogen dioxide

• Trees remove this air pollution by lowering air temperature, through respiration, and by retaining particulates

Photos and information: Natural Resources Canada

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FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

**ANIMAL HABITATS**

• A *habitat* is the ecological or environmental area that is inhabited by a particular species.

• Boreal forests provide animals with food, shelter, protection from predators, and a place to raise their young

• Did you know?

- 40% of North America's waterfowl breed in the Canadian Boreal
- Labrador is home to the world's largest migratory caribou herd, the George River Herd, estimated at 385,000 animals

Sources: Department of Natural Resources, Department of Environment and Conservation

•For further information about Newfoundland and Labrador's wildlife, go to <http://www.env.gov.nl.ca/env/wildlife/publications.htm> where you will find fact sheets on a number of species found in the province.

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FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

What **value** can be found in our forests?

• VALUE

SOCIAL/CULTURAL VALUES



Slide 15

FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

SOCIAL/CULTURAL VALUE OF THE FORESTS

- Employment, income, or a 'way of life'
- Recreation: Fishing, hunting, camping, hiking
- Spiritual importance
- Historical significance/a 'sense of place'


Photos: Department of Natural Resources; Department of Environment and Conservation

There are many other social/cultural values of the forests. Ask students to come up with some of their own.

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FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

SOCIAL/CULTURAL VALUE OF THE FORESTS



"I feel that we have opened up a new vision of the forest, not only in scientific terms, but also in terms of how we view forests from an affective, moral and spiritual perspective"

Father John McCarthy, Jesuit Priest and ecologist

•Discussion questions:

- In what ways might the forest be considered to have spiritual value?
- What do you think Father John McCarthy means by this quote?
- Do the forests hold spiritual, affective (emotional) or moral value to you? Why/why not?

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FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR

**Forest Ecosystems are very valuable!**



ECONOMIC	ECOLOGICAL	SOCIAL
<ul style="list-style-type: none"><li>• Pulp and Paper industry</li><li>• Sawmill industry</li><li>• Value Added industry</li><li>• Tourism</li><li>• Craft industry</li><li>• Other</li></ul>	<ul style="list-style-type: none"><li>• Climate regulation</li><li>• Water cycle</li><li>• Reducing air pollution</li><li>• Soil stabilizers</li><li>• Animal habitats</li></ul>	<ul style="list-style-type: none"><li>• Recreation</li><li>• Historical significance</li><li>• Spiritual connections</li><li>• Sense of place</li></ul>

Photo: Department of Natural Resources

•This slide provides an overview of what has been covered earlier in the presentation.

Slide 18

FUTURES FROM FORESTS: VALUE OF FOREST ECOSYSTEMS IN NEWFOUNDLAND AND LABRADOR



Newfoundland  
Labrador

Canada

Model Forest  
OF FOREST ECOSYSTEMS & COMMUNITIES

Natural Resources  
Canada

Resources naturelles  
Canada

Kruger  
Publication  
Révisé

Canadian Institute of Forestry  
Institut forestier du Canada

Sustainable  
Development  
Goals

