

Saskatchewan Forest Habitat Project

Sharing
The Source
of Timber
and
Wildlife

Funding Partners

The following agencies are partners in the Saskatchewan Forest Habitat Project:
Saskatchewan Natural Resources
Weyerhaeuser Canada (Saskatchewan Division)
The Saskatchewan Wildlife Federation
Wildlife Habitat Canada
Prince Albert National Park
Forestry Canada through the Canada-Saskatchewan Partnership Agreement in Forestry
The Federation of Saskatchewan Indian Nations.



Saskatchewan
Forest Habitat Project



P.O. Box 1720, Prince Albert, Saskatchewan, S6V 5T3 Phone (306) 953-1794

An Integrated Approach to Forest Management

If trees were the only things that grew in the forest, its management would be fairly simple. Trees gather nutrients from the soil, and their timber yield can be measured to the nearest cubic metre.

But the boreal forest of central and northern Saskatchewan is home to almost 250 species of birds and mammals. Each wildlife species has evolved its own life

requirements, and each has its role in the balance of nature. This relationship of soil, air, plants and animals is called forest ecology.

In the past, forest land managers tended to operate in two camps: Foresters, who dealt with wood supply, roads and heavy equipment; and wildlife biologists,

who conducted surveys and argued that the animals needed more habitat and protection from unlimited road access.

Because the two groups did not always communicate effectively with each other, wildlife and timber decisions were made independently, and overall management of these interlocking resources suffered.

The Saskatchewan Forest Habitat Project (SFHP) is a joint effort by industry, governments, conservation groups, and First Nations peoples to conserve and wisely use our forest's renewable resources. To succeed, they must develop and implement long-term integrated plans that satisfy pre-determined wildlife and timber objectives.

Timber Objectives

Forest companies like Weyerhaeuser Canada need a sustainable supply of trees. These trees are either sawn into lumber, or processed into pulp and paper. Essential to our northern economy, this regulated harvest can simulate the natural regeneration of forest stands.

When planning to extract an annual supply of timber over a full forest growth cycle, there are many things to consider. Haul road networks, cutblock designs, site preparation for forest renewal, planting, seeding, stand tending, and projections of future timber volumes in managed and unmanaged stands, are all part of the exercise. Also there to contend with are fires, insects and disease.

With all these variables in motion, it's vital that companies be able to identify where, when, and how much wood they want to harvest. Based on quotas, or

annual allowable cuts, these cutting plans are detailed on forest inventory maps and submitted to the provincial government for approval.

In addition to annual harvesting and forest renewal plans, forest companies in Saskatchewan prepare for the future by stating their timber objectives in five-year operating plans, and 20-year management plans.



Four Winds Prairie Photography

Wildlife Objectives

The life requirements of a wildlife species are satisfied by its natural habitat. Previous research studies in Saskatchewan and elsewhere have identified these needs.

Using a system developed by the U.S. Fish and Wildlife Service, tracts of forest can be evaluated to determine their habitat value to various wildlife species. These values are expressed as habitat units for moose, pileated

woodpeckers, or whatever "indicator species" are selected.

Depending on the existing structure of the forest, timber harvesting and forest renewal operations can be designed to increase, stabilize, or decrease the supply of habitat for any indicator species, and others that have similar needs.

Because the amount of habitat in a mapped area can be measured at any point in time, habitat units can be used to set long-term wildlife objectives for each indicator species. Simply put, if enough habitat types are maintained throughout a forest growth cycle of 80 to 100 years, a variety of plant communities and wildlife species will prosper.

This cause and effect relationship between commercial forest operations and the supply of various wildlife habitats, is a key element of integrated forest management.

Better Understanding of Forest Ecosystems

Wildlife Indicator Species

To represent the mixture of habitat types that together support almost 250 kinds of forest birds and mammals, the SFHP selected six wildlife indicator species. Each indicator species has habitat requirements that represent the general needs of a larger group of animals.

By managing areas of land to supply these needs, which range from recently disturbed sites, to old-growth forest, a rich variety of vegetation and wildlife communities always exist. These measures of biological diversity are important landmarks in the maintenance of healthy and life-sustaining forest ecosystems.

Forest Renewal

On forest lands leased by Weyerhaeuser Canada, all harvested areas are renewed - either by natural regeneration, or by tree planting programs. To provide selected trees with more space to grow, stand thinning or more space may be undertaken. By cleaning up after logging, these prescriptions can be altered to produce stands that meet integrated wildlife habitat and timber supply objectives.



Weyerhaeuser Canada

Indicator Species and Integrated Forest Management



Pile of Bones Productions

Moose: Seek areas of new forest growth to obtain food, and rely on older forest for shelter and escape from predators. Cows often give birth in thick cover near water. Clearcuts, if properly designed, enhance forest habitat for moose, deer and elk.



Four Winds Prairie Photography

Woodland Caribou: Winter in treed muskeg, and feed on lichens that grow in jackpine stands older than 60 years. Migrate along traditional travel corridors, where they are susceptible to hunting pressure. Are now listed as rare in Saskatchewan.



Four Winds Prairie Photography

Beaver: Require an adequate water supply, and winter food within 200 metres of water. When not controlled by trapping or predators, beaver populations expand, cause flooding, and destroy supplies of timber. Their habitat is shared by other aquatic furbearers.

Snowshoe Hare: Thrive in thick shrub cover. Hares (bush rabbits) often destroy seedlings planted to renew conifer forests. To reduce the supply of hare habitat, older forest can be left along the edge of these plantations. Snowshoe hares are an important prey species.



Prince Albert National Park

Pileated Woodpecker: Require large dead or dying trees (snags) to dig a new nesting cavity each spring. Forage for insects on decaying logs and stumps. Breeding pairs need substantial areas of undisturbed mature forest to establish their nesting territories.



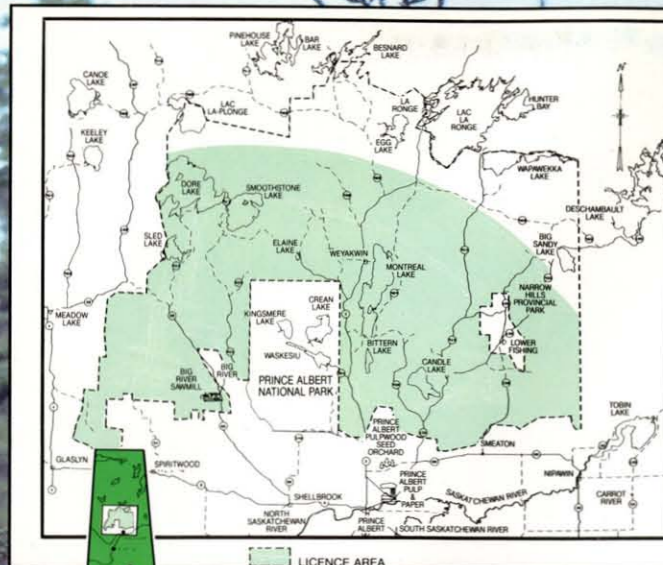
Prince Albert National Park

Ovenbird: Nest and forage for insects on forest floor in aspen and mixedwood stands. Prefer habitat with sparse understorey vegetation and dense canopy cover. Are quick to abandon sites disturbed by fire and logging. Represent the warbler family of migrant songbirds.



Mike Hopak / Cornell Laboratory of Ornithology

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In Saskatchewan, where the provincially-owned forest is leased to companies like Weyerhaeuser, its care or management is a joint responsibility. This formal arrangement is called a Forest Management Licence Agreement (FMLA).

The Weyerhaeuser Canada (Saskatchewan Division) FMLA covers 50,000 square kilometres of core and reserve timber supply areas in central Saskatchewan.

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Integrated Timber
and
Forest Wildlife Objectives

A New Spirit of Co-operation

Growing the Forest Through Time

Because the forest is alive and growing, its managers must be able to predict how it will change over time. This natural process is known as forest succession.

For example, an opening created by logging in a mixedwood forest, will provide excellent feeding habitat for moose and snowshoe hare for about 20 years. As it grows older, and shade-tolerant vegetation begins to take root, this same stand will supply the habitat requirements of other species like ovenbirds and pileated woodpeckers.

To better understand forest ecosystems, the SFHP has developed computer tools, or models, that simulate forest succession. When linked to computerized resource supply maps, these models allow forest managers to predict future volumes of

commercial timber, and future habitat values, in a variety of managed and natural stands.

Because timber and wildlife managers are setting objectives that will be realized during forest growth cycles of 80 to 100 years, accurate timber and habitat supply projections are essential.

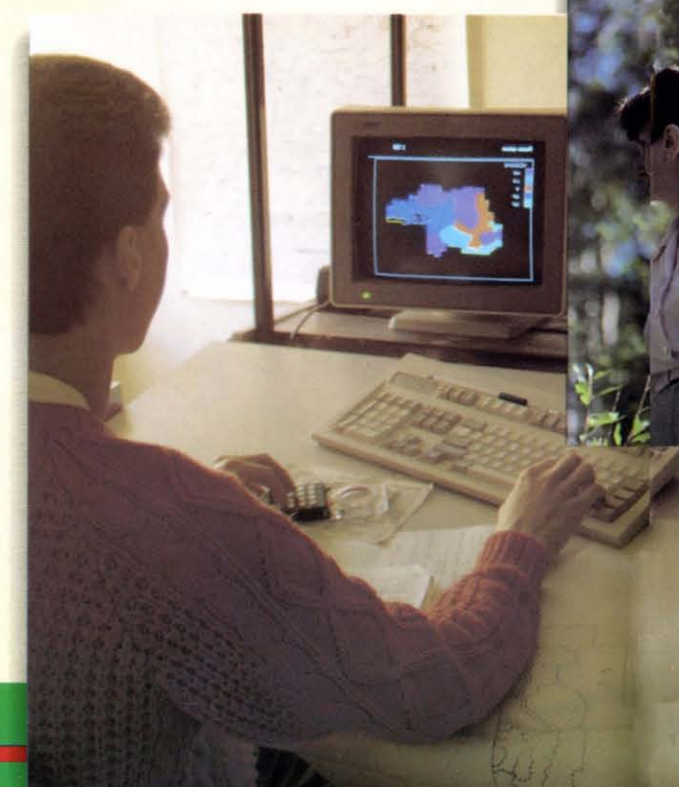
Integrated Forest Management Plans

When the goals of timber managers and wildlife managers are spelled out and depicted on the same maps, the process of integrating these objectives can begin. This new spirit of co-operation will be expressed in many ways.

Site-specific decisions will be based on the timber and wildlife objectives for that area. In some cases, instead of displacing wildlife with large clearcuts, segments of large stands may be harvested at 15 or 20 year intervals. The resulting mixture of new growth, closely bordered by standing forest, will satisfy the food and cover requirements of many forest wildlife species. For other species, larger cutover areas will provide suitable habitat.

On a grander scale, by ensuring that enough habitat units for moose, pileated woodpeckers, and the other forest indicator species are retained in harvesting plans, or supplied as the forest grows older, timber and wildlife managers will be able to satisfy shared objectives over vast areas of the commercial forest.

While there are bound to be some trade-offs, the fundamental principles of maintaining wildlife habitat diversity, and supplying corporate timber requirements on an ongoing, cost-competitive basis, will be respected. To guide these decisions, the various costs associated with integrated forest management are being determined.



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