Ontario’s Woodland Caribou Conservation Plan Progress Report
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- Ontario’s Woodland Caribou Conservation Plan identifies actions to be implemented over time with the long-term goal of conserving and recovering woodland caribou populations in a healthy boreal forest. This progress report provides an update on achievements made since the release of the plan in 2009.

- Some key considerations in achieving the long-term goal of caribou recovery have included the potential social and economic impacts of the plan, as well as its effect on northern communities. Since 2008, we have met with the public in communities across Ontario, such as Dryden, Thunder Bay, Hearst, Timmins, Cochrane and Toronto, as well as with resource development sectors, conservation and environmental organizations, and Aboriginal communities. Our objective is to build a common understanding about how implementing the plan will help protect and recover caribou populations, while continuing to support sustainable economic development activities and opportunities in the North.

Balancing Caribou Protection with Economic Development

- Through forest management planning, Ontario ensures that Crown forests will remain healthy in the future to provide the variety of benefits we currently enjoy from them such as timber and commercial products, wildlife habitats, and recreational opportunities.

- Forest management planning and Ontario's Caribou Conservation Plan share many goals including the maintenance of a continuous and predictable supply of mature conifer forest through forest renewal. Responsible forest management will provide both quality caribou habitat and a reliable source of wood for the forestry sector.
Three case studies indicate that caribou will live in areas that were previously logged. The three areas, which were clear-cut between 1952 and 1970, were replanted with pine or pine and spruce, and are once again high-value conifer forests. Each has seen the return of caribou in both summer and winter.

Since 2009, six forest management plans now incorporate new caribou conservation and recovery actions from the conservation plan. Projections show the future 10-year wood supply provided by forests using new caribou conservation direction not only exceeded the average annual harvest from 2000 to 2009, but have room to grow over the harvest levels of the past decade if demand increases.

Managing road density is also a key consideration in both forest management planning and caribou conservation. Objectives shared by both are to reduce landscape fragmentation, reduce loss of productive forest land base, limit predator travel corridors, and support renewal of harvested areas to mature tracts of continuous forest habitat.

Aboriginal Traditional Knowledge

Ontario recognizes the close relationship that Aboriginal peoples have with the land. Their knowledge and insight contributes to building a clearer picture of what is needed to protect and recover caribou populations across the province. So far, 10 First Nation and Aboriginal communities have participated in caribou conservation activities. When available, Aboriginal Traditional Knowledge will be incorporated into implementation of the Caribou Conservation Plan.

Next Steps

A provincial State of the Caribou Resource Report will be produced in 2014. This will support a requirement under The Endangered Species Act, 2007 to undertake a full review of progress towards achieving protection and recovery within five years of the release of the plan.

Ontario will continue to implement the Caribou Conservation Plan, ensuring our northern forests are managed to provide both quality caribou habitat and social, economic and environmental benefits for all Ontarians.

Ongoing Science and Research

The Ministry of Natural Resources is collaborating with the University of Guelph, the Canadian Forest Service and the forest industry on one of the most comprehensive research programs in Canada to generate new knowledge about caribou and their habitat. The study clarifies the key factors that affect caribou populations, including habitat, roads, power corridors, and predators.

Video cameras installed around the necks of 15 caribou are being used to learn more about the species than ever before. At regular intervals throughout the day, the ‘caribou cams’ record 15 seconds of footage that tells researchers about the habitats caribou are using, the food they are eating, and what happens when calves are born.

For the first time, data about Ontario’s caribou is now being housed in one place and shared, supporting planning decisions and helping researchers better understand caribou needs.
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Cover photo: Ted Armstrong
Introduction

In 2009, the Ontario Ministry of Natural Resources released Ontario’s Woodland Caribou Conservation Plan (Plan) which identifies actions and initiatives that we are taking to conserve and recover Woodland Caribou populations in a healthy boreal forest. The Plan was developed with the advice of an independent science review panel. Its goal for the protection and recovery of forest-dwelling Woodland Caribou in Ontario is to:

- Maintain self-sustaining, genetically-connected local populations of Woodland Caribou where they currently exist;
- Improve security and connections among isolated mainland local populations; and,
- Facilitate the return of caribou to strategic areas near their current extent of occurrence.

The Plan applies to the areas of continuous and discontinuous caribou distribution (Figure 1). Caribou can freely move within suitable habitat throughout the area of continuous distribution, and can be expected to occur anywhere within it over time. In the area of discontinuous distribution, habitat is less capable of supporting caribou and they do not occur in great numbers, but it is still important as it supports the movement of caribou between the Lake Superior coast and areas further north.

There are two ecotypes of caribou in Ontario. The forest-tundra Woodland Caribou have not experienced the same degree of overlap with human development and disturbance as forest-dwelling Woodland Caribou, and are currently not considered at risk in Ontario. In this report, the terms Woodland Caribou and caribou both refer to the forest-dwelling ecotype.

Implementation of the Plan involves a variety of conservation actions that will:

- Improve our understanding of caribou through science and research;
- Ensure that areas are managed where caribou occur through an ecosystem-based range management approach;
- Improve planning and resource management approaches to help maintain and recover caribou on the landscape;
- Support stewardship activities that increase awareness and conservation practices for caribou; and,
- Integrate Aboriginal Traditional Knowledge by developing partnerships with Aboriginal peoples to increase mutual knowledge and understanding of caribou.

We are pleased to provide this update on our accomplishments achieved since the release of the Plan.
The Big Picture
Ontario’s Woodland Caribou Conservation Plan is one of several key documents that recognize the importance of managing natural resources with regard for implications to natural ecosystems. They include:
- Cervid Ecological Framework (2009)
- Forest Management Planning Manual for Ontario’s Crown Forests (2009) and a number of supporting forest management guides
- Our Sustainable Future – A Renewed Call to Action (2011)

We are moving towards a more complementary approach to habitat and population management, which will benefit the wide range of wildlife species in the boreal forest.

Enhance Caribou Science (Plan Section 1.0)
We are collaborating with the University of Guelph, Trent University, the Canadian Forest Service, and the forest industry on one of the most comprehensive research programs in Canada to generate new knowledge about caribou and their habitat.

Collaborative Provincial Caribou Research Program
We are investing in extensive caribou research and monitoring to improve our understanding of how and why caribou respond to human activities, and to evaluate the effectiveness of some of the caribou conservation actions outlined in the Plan. Following a province-wide survey of key stakeholders including government, industry, academia, and non-governmental and tourism organizations, and two workshops, a broad range of caribou issues and questions were identified. We also assessed key research components and determined the study areas to create our collaborative provincial caribou research program.

The collaborative research program focuses on a four-year study undertaken by the Ministry of Natural Resources, the University of Guelph, Trent University, and the Canadian Forest Service. The study is designed to develop a better understanding of the key factors that influence caribou population dynamics (e.g., habitat, linear features, and predation). In addition, this study is supported by the Forest Ecosystem Science Co-operative and its member organizations, and the Natural Sciences and Engineering Research Council of Canada.

The study is assessing caribou’s use of previously-logged areas and how caribou populations are influenced by linear features (e.g., roads, power corridors), predation (e.g., wolves), and the pattern and condition of forest habitat in three large areas in northern Ontario (Figure 2). Approximately 150 satellite-tracked GPS collars have been placed on caribou (50 collars per study area), and one GPS collar per pack has been placed on wolves in each of the three study areas. The area by Pickle Lake has little logging, few roads, and is predominantly affected by natural disturbances such as fire. The central research area, by Auden, has been logged since the 1940’s, has an extensive road network and has higher moose and wolf populations. The level of human disturbance in the eastern area, near Cochrane, is intermediate to the other study areas and it is situated in a different type of landscape. Comparing these areas will help researchers determine whether caribou responses to different factors vary among environments. Results of this work will also contribute to other areas including: biodiversity, forest management, and land use planning in Ontario’s far north.
Early results from the forest habitat analysis indicate that pine, spruce, and other conifers have successfully regenerated in the central research area (by Auden), particularly in areas harvested between 1945 and 1960. In addition, many old roads in this area still exist, but are covered by thick alder growth and no longer function as travel corridors. This has important implications regarding direct human disturbance of caribou and travel by predators.

Wolf collar data have helped to outline specific wolf pack territories in each of the research areas. Wolf packs move extensively within their own territories but rarely stray into those of other packs. To date, wolves have primarily killed moose although some caribou have been taken.

Caribou have less restricted movement patterns than wolves and make use of a broad range of habitat types at different times of the year. Analyses of videos from video cameras on collared caribou will better our understanding of their habitat selection and summer diet and other aspects of caribou behaviour previously unknown.

As research continues, it will address key recommendations from the independent Caribou Science Review Panel, and contribute to the Plan's implementation by:

- Determining levels of human disturbance that caribou can tolerate;
- Developing a Population Viability Analysis model based on caribou reproduction and mortality;
- Assessing caribou re-occupancy of previously logged areas;
- Developing guidance on how to enhance regeneration of logged areas suitable for caribou;
- Evaluating caribou summer and winter diet and nutritional value;
- Developing recommendations for caribou habitat including protected areas, road (i.e., linear feature) density and disturbance, and habitat selection;
- Identifying best population health measures;
- Assessing caribou-wolf relationships;
- Evaluating the effectiveness of indirectly and directly influencing predator densities; and,
- Assessing road use and road decommissioning strategies.

Persistence is the survival of a population over a specific amount of time, and is an expression of probability. A species is considered at risk of extinction if it is unlikely to continue to persist.

Caribou Cams
We’ve successfully installed 15 “caribou cams” (video cameras around the necks of selected caribou) that we are using to learn more about the species than ever before. At regular intervals throughout the day, cameras record 15 seconds of footage that researchers can use to learn more about the habitats caribou are using, the food they are eating, and even what happens when calves are born.

Study Highlights

What
Assessing:
- How caribou are affected by linear features (e.g., roads, power corridors);
- How caribou populations are influenced by their predators (e.g., wolves); and,
- Pattern and condition of forest habitat

Where
In previously-logged and un-logged areas:
- Pickle Lake – little logging, few roads, and predominantly affected by natural disturbances such as fire;
- Auden – logged since the 1940’s with an extensive road network and higher moose and wolf populations; and,
- Cochrane – intermediate levels of road networks compared to those in the central area but situated in a landscape with fewer forest fires

How
- Data is now being analyzed on wolf and caribou movements in the three research areas, and field work is on-going to examine their habitat use and diet selection.
- Field investigations of caribou mortality sites and locations where wolves have killed prey are also providing important information about causes of death and the extent to which wolves rely on caribou as a source of food.
The Provincial Caribou Database

For years, we collected information on caribou and their habitat. As a result, a Provincial Caribou Database which stores, manages, and integrates caribou inventory and monitoring data from all past, current, and future sources was possible as part of the Plan's implementation (Figure 3). Types of information contained in the database include:

- Caribou observations from historical surveys;
- Surveys of calving areas;
- Surveys of the number of calves that survive and will add to a population (i.e., recruitment);
- Areas where caribou habitat were surveyed; and,
- Areas searched for caribou during surveys.

The centralized database provides valuable information about caribou, and areas of importance to caribou in Ontario. It is also an important component of the long-term monitoring process required to effectively track range occupancy. Information in the database identifies areas surveyed for caribou; their presence or absence in areas observed during surveys, as well as collaring data collected. This provides opportunities to identify important areas for caribou such as calving sites, nursery areas, wintering areas, travel routes, and seasonal movement patterns and help to ensure appropriate protection measures are put in place for caribou and their habitat during resource management planning. The database also helps identify gaps in survey coverage and helps direct further research.

Development of this database was a major step forward in ensuring that we can assess past monitoring efforts, track potential changes through time, and implement effective policies to ensure persistence of caribou in Ontario. Development activities such as forestry, mining and mineral exploration, and renewable energy projects are moving forward rapidly, which require readily-available, comprehensive information about caribou. Together with the Far North Caribou Project (completed in 2011), the database is being used to assist in the preparation of community based land use plans and resource management planning throughout the province.

Historical information from all past caribou surveys are already within the database and will be kept current by ensuring any new data and information that we collect or receive is promptly entered.

The Provincial Caribou Database is accessible through the Ontario Geospatial Data Exchange.

For the first time, data about Ontario’s caribou is now being housed and shared in one place; supporting planning decisions and helping to better understand, protect and recover caribou.

Figure 3. An example of the type of data stored in the Provincial Caribou Database – Seasonal distribution of caribou in Ontario (1880-2011).
Where do caribou occur?
The Provincial Caribou Database tracks areas surveyed for caribou including locations where caribou were not found. This is an important feature of the database that allows us to identify gaps in survey coverage, and areas with no record of caribou observation. This map shows where caribou have been found across Ontario, with the darkest green areas being the most recently found caribou locations.

Adopt a Range Management Approach
(Plan Section 2.0)

Under our new range management approach every factor, activity and action with the potential to impact caribou and their habitat are being considered. This is a far more effective method to managing the landscape – not just for caribou but for activities on the landscape as well.

A Range Management Approach

As part of the Plan, we are implementing a range management approach that takes a broad geographic perspective when making resource management decisions that affect caribou and their habitat. This approach follows a decision-making loop, starting with setting objectives for caribou recovery and assessing the condition of caribou populations and habitat. These objectives, along with the information on range condition (population and habitat), aid in resource management planning including forestry, mining, land use planning, and other activities. After decisions are made, monitoring the condition of the range helps to determine if objectives for caribou recovery are being met. The range approach ensures consideration of cumulative effects when evaluating natural resource development and land use planning proposals. This approach is an on-going five-year cycle that allows for incorporation of new science and re-evaluation of management decisions.

Provincial Caribou Technical Committee

The Caribou Conservation Plan is science-based. To ensure continuous scientific and technical input and advice, we established the Provincial Caribou Technical Committee to review and suggest improvements to our conservation and recovery actions.

The “Provincial Caribou Technical Committee” is a standing committee whose purpose is to provide scientific and technical advice on implementation of the Plan. This builds upon the successful role of the Caribou Science Review Panel in providing advice on the development of the Plan. Members are recognized scientific and technical experts in their field (including caribou ecology, forest ecology, conservation biology, and forest management), and who collectively represent an important source of advice and ideas. The committee has met several times since 2010, and has provided insight on a range of actions including: Integrated Range Assessments, the Caribou Screening Tool, and the collaborative provincial caribou research program.
We are currently developing a Range Management Policy that will:

- Guide implementation of the caribou range management approach;
- Provide a consistent framework for management and conservation of caribou habitat at the landscape level;
- Provide guidance on planning direction contained in the Plan; and,
- Provide a framework for operational caribou recovery guidance to support the implementation of a range management approach.

Specifically, this policy will include direction on how to:

- Delineate caribou ranges;
- Conduct integrated range assessments;
- Manage the amount and arrangement of caribou habitat;
- Land use plan and manage in the Far North, on Crown Land, in Parks and Protected Areas;
- Screen development proposals and manage cumulative disturbances;
- Manage range condition to sustain caribou;
- Manage roads and other linear features;
- Consider and plan for mineral exploration and development in a range; and,
- Work and share information with those interested in or affected by actions to manage caribou ranges.

**Preliminary Caribou Range Delineation**

Caribou are found across the northern boreal forest. Caribou ranges were defined by science-based criteria on where caribou are today and where they are expected to return as best management practices are followed. By managing within these ranges, we can ensure that caribou will continue to live across Ontario’s boreal forest.

In Ontario, *forest-dwelling Woodland Caribou* are distributed across the boreal forest in the area of continuous distribution noted in the Plan. While they will not occupy portions within this area for periods of time, when the habitat is of unsuitable age and quality, caribou occur across the entire boreal landscape.

It is assumed that there are no physically or genetically isolated local caribou populations in Ontario so their ranges are mapped as adjacent to one another. This area of continuous caribou distribution has been sub-divided into smaller caribou ranges which provide the scale and context for habitat and population monitoring and assessment, cumulative impact assessment, setting population-based management objectives, and supporting resource management decisions. Caribou ranges were created based on strict adherence to scientific criteria that includes animal movement and habitat use patterns, habitat supply, critical habitat features, ecological characteristics and risk factors.

Preliminary caribou ranges have been revised since publication of the Plan. There are currently eight preliminary ranges along the southern boundary of continuous distribution (including the Lake Superior Coastal Range) (Figure 4). Ranges for the Far North Planning Area have yet to be developed.

Each range will undergo periodic evaluation to determine if any boundary adjustments are required using new information obtained through various research studies and Integrated Range Assessments such as population surveys, assessments of population health, animal movement patterns, seasonal habitat selection, Aboriginal traditional knowledge, and related research studies. Boundaries will be reviewed as new information is acquired, with a formal review as part of the 5-year “State of the Caribou Resource Report” in 2014.

Range boundaries are publicly available through the Ontario Geospatial Data Exchange.
Improve Planning  
(Plan Section 3.0)

Initial Cumulative Disturbance Assessment for All Caribou Ranges

The cumulative effect of our resource development activities has a major influence on our success at caribou conservation. For the first time, we have assembled a comprehensive snap-shot of habitat condition across Ontario for all caribou ranges which is critical to effective resource management planning.

The Plan considers the additive influence of individual habitat disturbances that, when combined together, cause significant change to landscape-level ecological functions for caribou habitat, and/or to the probability of caribou living or persisting in a particular area (Figure 5).

The cumulative disturbance assessments for each range, completed in May 2010, are a snap-shot of the current footprint of disturbances (i.e., areas that have been converted into non-forest, and areas of young forest less than 36 years). The amount of disturbance in a caribou range influences population levels (i.e., population growth) and consequently the more disturbances in a range the more risk there is to caribou. The disturbance footprint includes all disturbances that have occurred in the last 36 years including natural (e.g., burns, insect mortality, blow down, snow damage) and anthropogenic (e.g., roads, forest harvest, mining).

We have recently completed estimates of the amount of habitat that would occur naturally (as a result of natural disturbances such as wildfire and forest growth) in each caribou range. The cumulative impact assessment includes comparisons of the current landscape compared to these natural levels. Based on these comparisons the report ranks each range (low, medium, and high) for range condition regarding caribou persistence.

These assessments provide the context for assessing on-going disturbance, habitat, population, and trends in each caribou range. These first estimates of range populations and trends based on historic surveys provide a starting point for future and more robust estimates.
Cumulative Effects and Caribou

In the Plan, a cumulative effect is the influence of individual habitat disturbances added together over time. When combined, individual habitat disturbances cause significant change at the landscape level, affecting caribou habitat, its functions, and the probability of caribou living or persisting in a particular area. Through implementation of the Plan, we are developing new policy and technical tools for managing the effects of cumulative disturbances at the caribou range level.

Integrated Range Assessments

While all forest-dwelling Woodland Caribou are classified as “Threatened” throughout Ontario, some ranges are facing greater challenges than others. Integrated Range Assessments describe the unique risks and management opportunities in each range and allow resource development to adjust practices to sustain caribou on the landscape.

We have monitored caribou populations across Ontario and applied GPS collars to caribou in certain parts of Ontario. Population monitoring is used to support caribou recovery objectives, as part of the Plan’s implementation, and to carry out population and habitat monitoring that supports Integrated Range Assessments. This assessment of each caribou range (a major component of the Range Management Approach) includes aerial surveys (e.g., Figure 6), caribou collaring, measuring landscape disturbances, and assessing the amount and arrangement of habitat. To estimate the likelihood of caribou sustainability in a range and inform subsequent management decisions, information on range population size and trend, cumulative disturbances, current habitat availability and arrangement, and prospects for habitat renewal are combined. This also helps ensure that disturbance levels do not exceed the acceptable level of thresholds for caribou within that range.

It takes over one year of field work to fully assess the condition of a caribou range. As discussed later in this report, Integrated Range Assessments for the Nipigon and Kesagami ranges were completed during the winter of 2009-10, and reports for these two ranges are currently being finalized. Once the reports are completed they will be made available to the public. Integrated Range Assessment reports will include an assessment of habitat condition, the amount of disturbance in the range, and caribou population size and trend. Winter field work on the Pagwachuan and Brightsand Ranges has also been completed and is undergoing analysis. New planning tools that use this information to support caribou recovery through resource management decision-making are also being developed and implemented.
MNR has monitored caribou populations across Ontario using various methods, such as aerial surveys and attaching GPS collars to individual caribou. Population monitoring is used to determine our success at achieving caribou recovery objectives, implementing various components of the Plan, and carrying out population and habitat monitoring that support Integrated Range Assessments. Because caribou are distributed sparsely across large areas of land and are difficult to detect in dense conifer forest, it is necessary to use a variety of methods to estimate their numbers in a particular range and determine whether those numbers are increasing or decreasing.

- Minimum Live Body Count is the minimum number of caribou counted during an aerial survey of a range. As many animals go undetected using this method, the total number of caribou is likely more than the count indicates;
- The ratio of calves to adult females is an indicator of whether the population is declining, stable, or increasing
- Changes in how parts of a range are occupied are indicators of whether the range is receding at larger scales

As Integrated Range Assessments are completed, all of these estimates will be discussed in detail for each range.

Caribou Screening Tool

The caribou screening tool allows resource managers to work collaboratively with our biologists to screen activities for their potential effect on caribou habitat. The tool can compare multiple scenarios and alternatives to effectively assess and manage planned activities.

The caribou screening tool is an analytical tool to support the resource management decision-making process. The tool is based on the context of how proposals may affect:
(i) The current footprint of disturbances within a range;
(ii) The amount of habitat currently in the range compared to estimates of natural levels of habitat; and,
(iii) The proximity of the proposal to important caribou areas including calving areas, nursery areas, etc.
The caribou screening tool, as part of the on-going range management, will track resource development proposals as they are approved and will provide real-time estimates of cumulative disturbances. In other words, the condition of a range (i.e., disturbance levels and habitat amounts) will constantly be updated as new resource development proposals are considered and approved and will provide real-time range conditions. During 2012 we will conduct a pilot project which will include testing and further development of the screening tool in the Nipigon and Kesagami ranges (started June 2011).

**How much habitat is enough?**

Determining the amount of suitable habitat required to maintain self-sustaining caribou populations is challenging. We use new science and analyses to inform resource planners on how much of the range should be maintained or planned toward a condition that is suitable for caribou to use.

Satellite images and forest resource inventory maps are used to identify all types of disturbances within a range (e.g., natural: fire, insect infestations, wind blowdown; and human-caused: forest harvest, roads, mineral exploration). As these pieces are brought together, a picture emerges of all these disturbances and what it could mean for caribou that are sensitive to large amounts of disturbance on the landscape.

We also use computer models to simulate how Ontario’s boreal forest might grow, burn, and grow back again without any human intervention or management. Models create maps that show a variety of possibilities of what might happen naturally. This simulated range of natural variation informs resource managers on how much caribou habitat to provide. Because models are based in a geographic information system the arrangement of caribou habitat can also be measured and used to inform resource managers on how to manage habitat now and in the future.

**Enhance Caribou Habitat (Plan Section 4.0)**

**Improve Forest Management Planning**

Forest management planning and Ontario’s caribou conservation plan have many compatible goals. These include a continuous and predictable supply of mature forest that provides quality caribou habitat and multiple social, economic and environmental benefits to Ontario.

The forest management planning system for our Crown forests is based on a forest policy and legal framework that has sustainability, public involvement, Aboriginal involvement, and adaptive management as key elements. Through our forest management planning process, forest managers ensure that the Crown forests of Ontario will remain healthy in the future to provide sustainable benefits such as timber and commercial products, wildlife habitat, and recreation opportunities for the people of Ontario. Forest Management Plans include both socio-economic and biodiversity objectives, with the long-term viability and sustainability of forest-based communities and businesses second only to the sustainability of forest ecosystems.

Forest management and Ontario’s caribou conservation plan share many goals. Ontario’s forest industry requires a continuous and predictable wood supply with a high conifer component – also an important requirement for caribou. By renewing large, even-aged tracts of forest, effective silviculture provides for efficient harvesting blocks for the forest industry into the future, while supporting caribou habitat needs in the medium term. The arrangement of these areas allows for a compact and cost-effective access road network that minimizes the amount of cumulative disturbance within a caribou range. Both forest management and caribou habitat management require the ability and flexibility to use the entire forest landscape to provide these social, economic and environmental benefits.
Some Forest Management Plans in Northwestern Ontario have already had specific caribou-based objectives in place for almost 20 years by following the Forest Management Guidelines for the Conservation of Woodland Caribou, while in other parts of Ontario caribou objectives are being implemented for the first time. We are working with planning teams across Ontario to provide training on how to apply new direction for caribou while ensuring that all objectives for social, economic and environmental values are maintained in each Forest Management Plan. Ontario’s forest management planning system also has a variety of tools to assess the effectiveness of forestry operations in meeting these objectives on the ground, and mechanisms in place to adapt practices if required.

Caribou and Wood Supply
Consideration of social, economic and environmental concerns in the context of long-term caribou survival is a guiding principle of the Plan. Since 2009, six Forest Management Plans in Ontario have incorporated new caribou conservation and recovery actions from the Plan. These forests meet a wide range of social, economic and biological objectives including providing a supply of wood for the forest sector. Historically, wood supply in northern Ontario has typically exceeded the industrial demand and MNR has a wood supply strategy to improve how this supply is utilized to create socio-economic benefits. The graph below shows the future 10-year wood supply provided by forests using new caribou conservation direction not only exceed the average annual harvest from 2000 to 2009 but have room to grow over the harvest levels of the past decade should demand increase. Data for this graph comes from 2000-2009 forest management unit annual reports and the long-term management direction of forest management plans endorsed since 2010.
Woodland Caribou in the New Forest
Will caribou return to previously logged areas? Yes. Our investments in science-based assessments suggest that good forest management is good for caribou. Three case studies: Lucy Lake, Castlewood Lake, and South Allely Lake forests were all clearcut between 1952 and 1970. Each one was planted with pine, or pine and spruce. Today, each is once again an even-aged, high-value conifer forest — and each has seen the return of caribou, both in summer and winter.

Lucy Lake, east of Lake Nipigon, is carpeted in feather moss, with few shrubs and abundant lichen (a caribou winter food).

Castlewood Lake, near the northeast end of Lake Nipigon, has few shrubs, shallow sandy soil, and abundant lichen growth.

South Allely Lake, east of Ignace, is a jack pine forest with lichen-rich growth on the floor.

While ongoing research is needed to determine what types of forest management practices will encourage the return of caribou, these case studies indicate that caribou will live in forests that were previously logged. In all three areas, forest management practices maintained the condition of the landscape and created new forests similar to what would have occurred naturally. Moreover, the surrounding landscape contained alternative habitat features such as swamps and fens that may have helped caribou remain in the vicinity.
Road Planning

In many situations, road density management is an objective of both forest management and caribou conservation. Primary objectives are to reduce landscape fragmentation, reduce the effectiveness of predator travel corridors, reduce the loss of productive forest landbase, and enhance the return of harvested areas to mature tracts of continuous forest habitat. Strategic roads planning in Forest Management Plans fully considers all interests, including stakeholder, public access to business opportunities, fishing, and hunting.

As part of the Plan’s implementation, we are researching road and linear feature density thresholds that will assess direct (e.g., predators) and indirect (e.g., human disturbance, habitat loss) effects of different linear feature densities against caribou population parameters and trends, as well as the effectiveness of various road decommissioning options. The research supports the development of interim policy interpretation and decision-making criteria for road and linear feature planning and management.

Manage the Wildlife Community (Plan Section 5.0)

We consider the broader wildlife community such as moose, deer, wolves, and bears as we work to protect and recover caribou to self-sustaining populations. By using a variety of tools to manage appropriate balances in habitat and wildlife conditions we can ensure successful conservation.

The Plan contains a number of conservation actions to manage other wildlife species that can impact on caribou survival. Caribou live in a very sensitive balance with predators (e.g., Gray Wolf, Black Bear) in the boreal forest, and their numbers decline with higher predator numbers. Research has shown that increasing some cervid populations (such as deer, moose, and elk), will also lead to an increase in population of caribou predators. By managing the habitat to reduce suitability for other cervids the capacity of the landscape to support predators is also reduced.

Several actions have been initiated with other wildlife management programs to address broader wildlife management related to caribou protection and recovery. These include:

- Implementing new hunting seasons for White-tailed Deer across all northern Wildlife Management Units (areas used to manage wildlife populations);
- Asking hunters about the number of White-tailed Deer seen while hunting Moose in northern Ontario to help monitor relative deer distribution and abundance;
- Modifying the provincial caribou database to include information on caribou killed through human activity;
- Developing guidance for setting Moose population objectives in areas where caribou are the primary management focus;
- Developing Ontario’s Cervid Ecological Framework to provide a strategic framework to improve coordinated cervid management decisions; and,
- Collaborating with Pukaskwa National Park (Parks Canada) on a review of the feasibility of caribou translocations to augment the caribou population in the vicinity of Pukaskwa National Park.

Progress will continue on a number of these actions to manage the broader wildlife community with caribou considerations in mind.

Focus on Geographic Priority Areas (Plan Section 6.0)

Caribou ranges were prioritized for integrated range assessments based on criteria such as: existing caribou information; anticipated development pressure; and logistical considerations (Figure 7). Assessments will be conducted on each range along the southern boundary of continuous distribution by 2014. Integrated Range Assessments for Far North ranges will be completed within five years of their initial delineation. Boundaries will be revised as new information is gained from Integrated Range Assessments, with a formal review as part of the management recommendations for improvement and documented in the 2014 “State of the Caribou Resource Report.”
Since the beginning of development of the Plan in 2008, we have met with the public in communities across Ontario such as Dryden, Thunder Bay, Hearst, Timmins, Cochrane and Toronto, conservation and environmental organizations, resource development sectors, and Aboriginal Communities to discuss how best to protect our Woodland Caribou. The goal is to build a common understanding about how implementation of the Plan will help protect and recover the caribou, and mitigate potential impacts on opportunities for resource development activities and communities. It is also to increase awareness of caribou ecology and conservation practices. This progress report allows us to share information about the significant progress in implementing caribou conservation and recovery actions. We will continue to make results of research and monitoring activities available as implementation continues.

We are also supporting individuals and groups involved in caribou stewardship activities through the Species at Risk Stewardship Fund. Since 2009, 14 projects have been provided over $750,000 in funding. The Ministry fund is intended to encourage greater public involvement, provide financial support to individuals and organizations in supporting activities, and protect and recover species at risk and their habitats in Ontario. Examples of caribou conservation activities funded by the Species at Risk Stewardship Fund include:

- Collection of Aboriginal Traditional Knowledge;
- Identification of caribou habitat in land use planning exercises;
- Calving surveys;
- Determination of caribou habitat use and movement; and,
- Development of educational products for students.

Creating caribou habitat through prescribed burning

In 2011, a prescribed burn took place within part of the Hearst District Forest with funding from the Species at Risk Stewardship Fund. Re-planting of the burnt area this spring with black and white spruce will convert the once mixed wood stand to an even-aged spruce dominated stand, providing ideal habitat for Woodland Caribou in the future. Prescribed burning is a cost-efficient tool that can be used to manage less desirable species, such as balsam fir and trembling aspen, and help bring back stands to historical compositions of pure conifer.
Integrate Aboriginal Traditional Knowledge (Plan Section 8.0)

Knowledge and insight from Ontario’s Aboriginal peoples helps build a clearer picture of what is needed to protect and recover caribou populations across the province. So far, ten First Nation and Aboriginal communities have participated in caribou conservation and recovery activities. Building on this experience and Aboriginal Traditional Knowledge are vital to the success of the Plan.

As part of the Plan, we are developing knowledge partnerships with Aboriginal peoples. Where possible and deemed appropriate by Aboriginal communities, this knowledge will be incorporated into conservation actions. Participation and involvement of Aboriginal peoples will enhance prospects for successful conservation and recovery of Woodland Caribou in Ontario and we remain committed to incorporating Aboriginal Traditional Knowledge in decision-making where available.

We have supported caribou conservation and recovery activities in more than ten First Nation and Aboriginal communities. This work is carried out by community members, where it is presented and used in resource planning activities:

- Lac Seul First Nation is developing processes to preserve traditional knowledge in the community and determining how to apply it to our implementation of the Plan. We are working with the community to better understand and respect how traditional laws and practices of environmental conservation have sustained the ecosystems in which caribou occur.
- Attawapiskat First Nation is marrying its traditional ecological knowledge with existing scientific data about caribou to propose conservation measures and strengthen our understanding of caribou in the James Bay lowlands.
- Cat Lake, Slate Falls, Mishkeegogamang, and Eabametoong First Nations are identifying critical habitat for caribou in their areas. Local knowledge supports caribou protection and stewardship, and also helps in land use planning.
- Using Aboriginal trappers’ knowledge of the land, the First Nations of Whitesand, Eabametoong, Mishkeegogamang,

and the community of Namaygoosisagun are collecting information on caribou habitat and travel patterns throughout Wabakimi Provincial Park. Trappers complete diaries and map sightings of any species at risk to get a better picture of how these animals move around and use the landscape.

- Anishinaabeg of Kabapikotawangag Resource Council Inc. is facilitating the gathering of community information about local species at risk, including cultural significance, changes over time, known locations of the target species and their suitable habitat types.
- Slate Falls First Nation is surveying its community elders regarding their traditional knowledge of Woodland Caribou and other species of interest.

We will continue to provide opportunities for incorporating Aboriginal Traditional Knowledge into caribou recovery and meeting any constitutional obligations that may exist with respect to Aboriginal and Treaty rights.
What’s Next?

The Caribou Conservation Plan is a long-term plan that includes a wide range of recovery actions which will be implemented over time. This progress report describes a number of actions and accomplishments that have been achieved to date in implementing the Plan.

Some examples of publications to look for in the future include:
- Initial Cumulative Disturbance Assessment Report
- Caribou Range Delineation and Rationale Report
- Integrated Range Assessment Reports
- Best Management Practices for Caribou Conservation

The Endangered Species Act, 2007 requires a review of the progress towards achieving protection and recovery within five years of publishing the Plan. We intend to produce a provincial State of the Caribou Resource Report in 2014.

For more information:
Visit the species at risk website at:
ontario.ca/speciesatrisk
Contact your Ministry of Natural Resources district office
Contact the Natural Resources Information Centre
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TTY 1-866-686-6072
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